APPENDIX K

TRANSPORTATION REPORTS

Traffic Study

for the:

Northern Gateway Logistics Center Project

In the City of Menifee

October 2023

Kimley»Horn

TRAFFIC STUDY

FOR THE PROPOSED

NORTHERN GATEWAY LOGISTICS CENTER PROJECT

IN THE CITY OF MENIFEE

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October 2023

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FOR THE PROPOSED
NORTHERN GATEWAY LOGISTICS CENTER PROJECT
IN THE CITY OF MENIFEE

INTRODUCTION

Purpose and Study Objectives

This traffic study has been prepared to address the traffic-related effects of the proposed Northern Gateway Logistics Center Project in the City of Menifee. This traffic study has been conducted in accordance with the City of Menifee *LOS Traffic Study Guidelines* (October 2020), and in accordance with the City of Menifee *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled* (January 2022).

This report includes a description of existing traffic conditions in the surrounding area, estimated project trip generation and distribution, future traffic growth, and an assessment of project-related effects on the roadway system. Where necessary, circulation system improvements have been identified to address project-related effects at the study locations.

Project Overview

The Northern Gateway Logistics Center Project involves the construction of two warehouse buildings totaling approximately 398,252 square feet (SF). The site is approximately 20.17 acres and is generally bounded by vacant land to the north and south, Barnett Road to the east, and Evans Road to the west. The proposed project site is currently vacant.

A copy of the project site plan is provided on **Figure 2.**

Vehicular access provisions for the project site would consist of one full-movement truck/auto driveway and two full-movement auto driveways on Evans Road, and one full-movement truck/auto driveway on Barnett Road.

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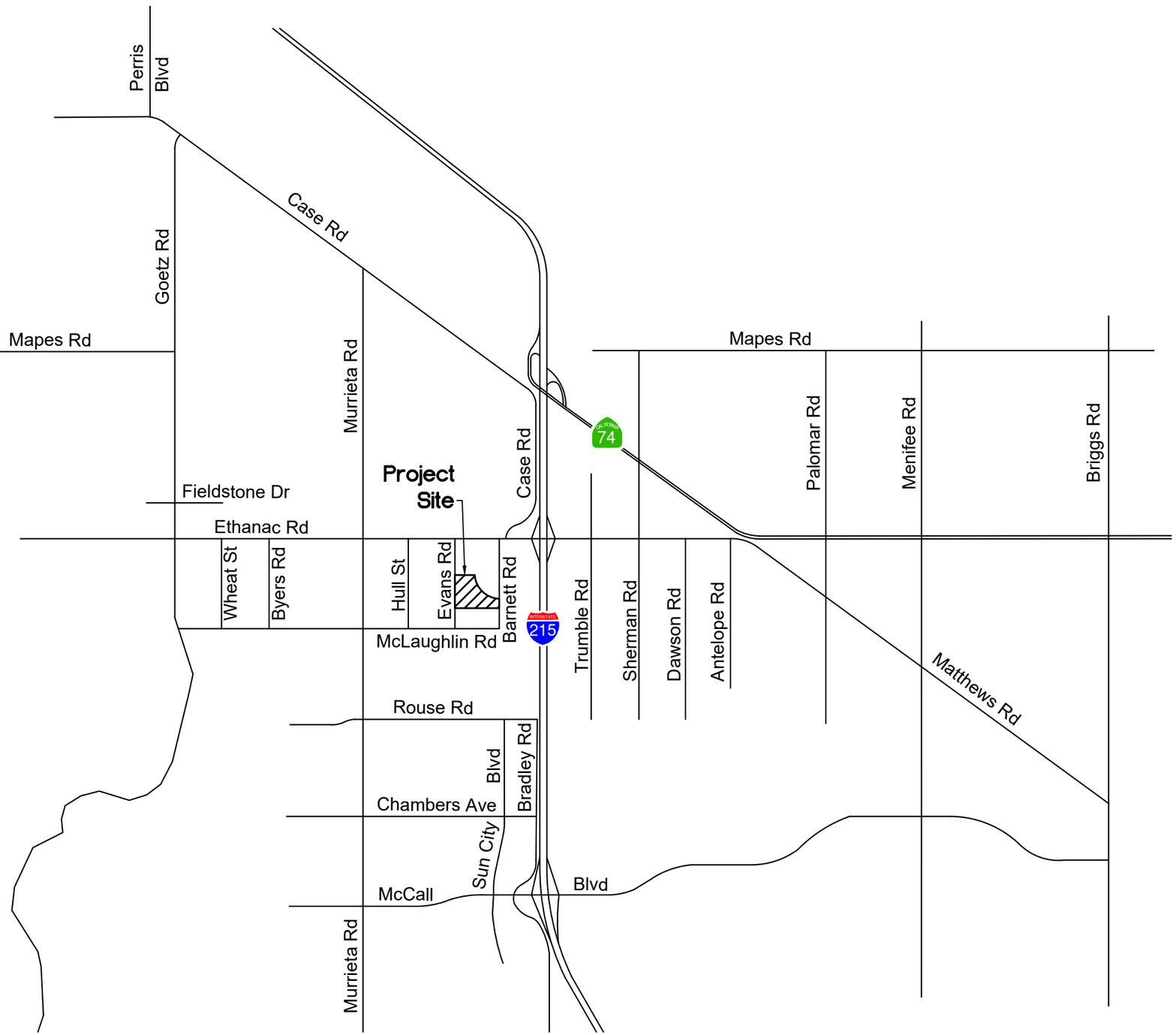

LEGEND:

= Project Site

FIGURE 1
VICINITY MAP

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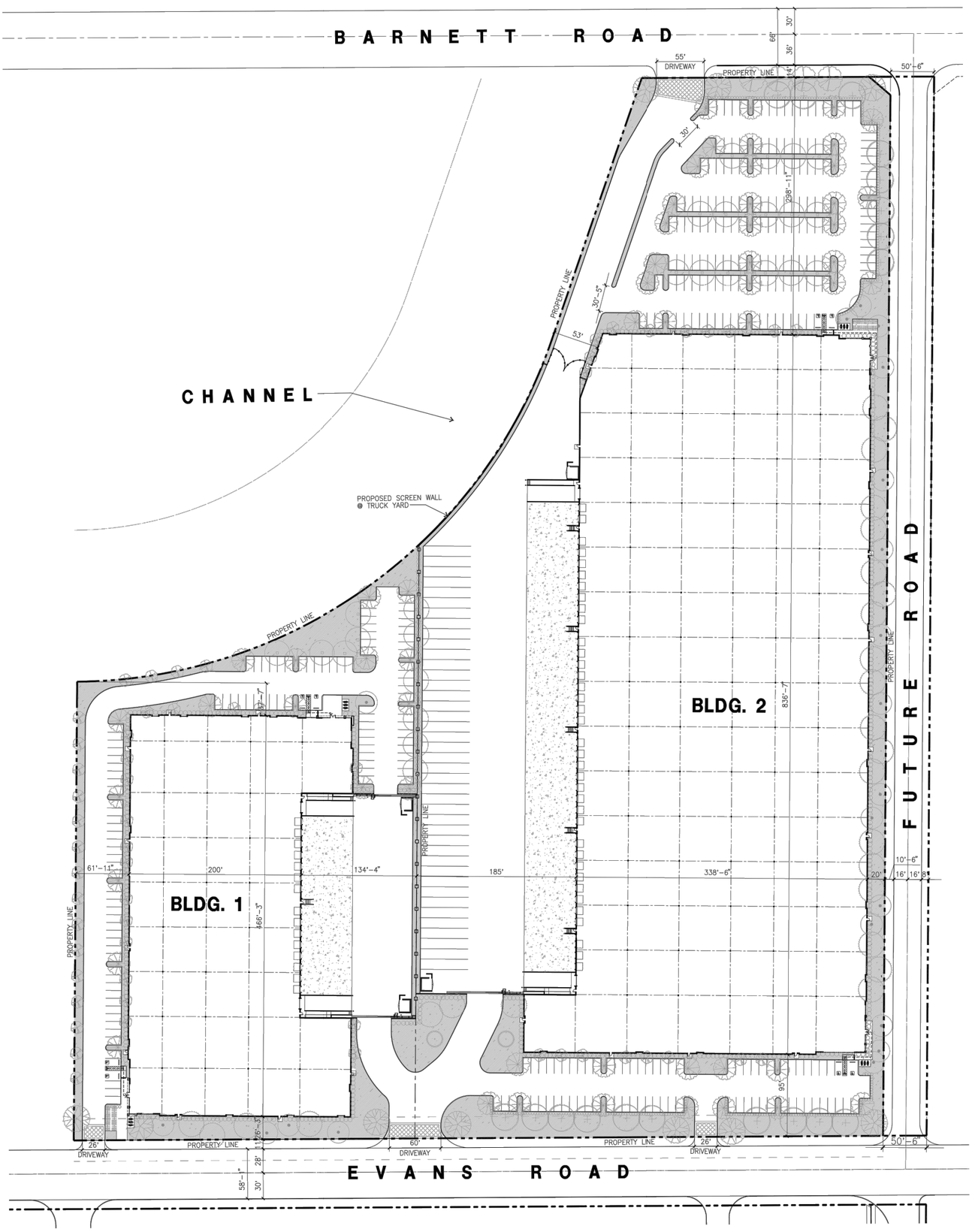

FIGURE 2
SITE PLAN

ANALYSIS SCENARIOS AND METHODOLOGY

Analysis Scenarios

In accordance with the City of Menifee *LOS Traffic Study Guidelines*, the project will be evaluated in the morning and evening peak hours for the following conditions:

- Existing Conditions
- Existing Plus Project
- Opening Year 2025 Cumulative
- Opening Year 2025 Cumulative Plus Project

Study Locations

The study locations were established in consultation with City staff through the Scoping Agreement process (Traffic Scoping/Study Application of the City of Menifee *LOS Traffic Study Guidelines*). A copy of the approved Scope of Study Form is provided in ***Appendix A***.

Study Intersections:

1. Evans Road at Ethanac Road
2. Barnett Road/Case Road at Ethanac Road
3. I-215 SB Ramps at Ethanac Road
4. I-215 NB Ramps at Ethanac Road

Study Roadway Segments:

1. Ethanac Road: Evans Road to Case Road
2. Ethanac Road: Case Road to I-215 SB Ramps
3. Ethanac Road: I-215 SB Ramps to I-215 NB Ramps

Existing lane configurations and traffic control at the study intersections are shown on **Figure 3**.

Intersection Analysis – HCM Methodology

Peak hour intersection operations were evaluated using the methodology outlined in the Transportation Resource Board (TRB) Highway Capacity Manual (HCM 6th Edition), consistent with the requirements of the City of Menifee. The intersection analysis was conducted using the Vistro software program and using the input parameters specified in the City of Menifee *LOS Traffic Study Guidelines*.

Per the HCM Methodology, Level of Service (LOS) for signalized intersections is defined in terms of average vehicle delay. Specifically, LOS criteria are stated in terms of the average control delay per vehicle during the peak hours. The average control delay includes initial deceleration delay, queue move-up time, and final acceleration time in addition to the stop delay.

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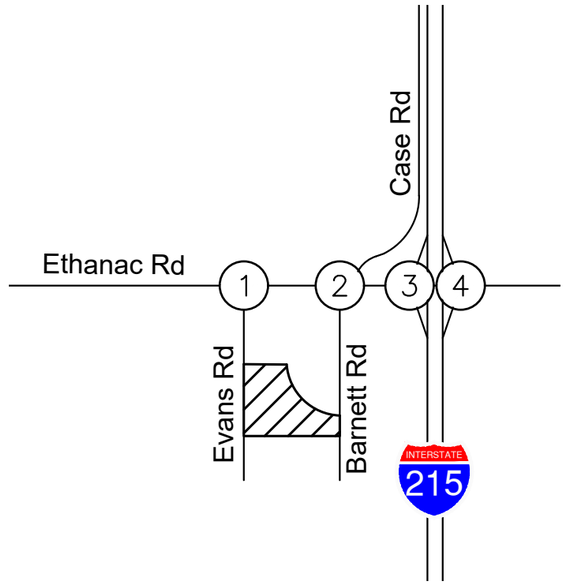

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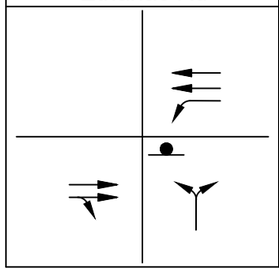	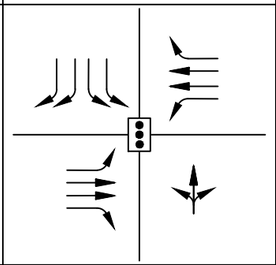	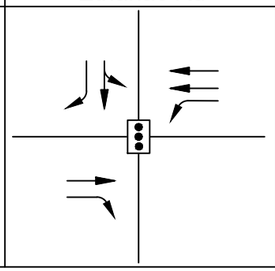	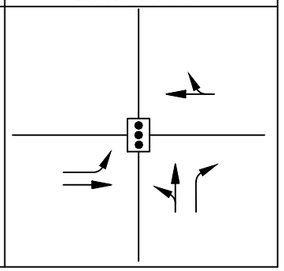

LEGEND:
= Project Site
= Study Intersection
= Turn or Through Lane
= Signal
= Stop Sign

FIGURE 3
EXISTING LANE CONFIGURATION AND TRAFFIC CONTROL

The procedure for unsignalized intersection analysis determines the average total delay, expressed in seconds of delay per vehicle, for left turns from the major street and from the stop-controlled minor street traffic stream. Delay values are calculated based on the relationship between traffic on the major street and the availability of acceptable "gaps" in this stream through which conflicting traffic movements can be made.

The charts on the following page provide a description of the operating characteristics of each Level of Service and average seconds of delay for signalized and unsignalized intersections.

LEVEL OF SERVICE DEFINITIONS	
Level of Service	**Description**
A	No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turns are made easily and nearly all drivers find freedom of operation.
B	This service level represents stable operation, where an occasional approach phase is fully utilized, and a substantial number are approaching full use. Many drivers begin to feel restricted within platoons of vehicles.
C	This level still represents stable operating conditions. Occasionally drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted but not objectionably so.
D	This level encompasses a zone of increasing restriction, approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak period; however, enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.
E	Capacity occurs at the upper end of this service level. It represents the most vehicles that any particular intersection approach can accommodate. Full utilization of every signal cycle is seldom attained no matter how great the demand.
F	This level describes forced flow operations at low speeds, where volumes exceed capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially, and stoppages may occur for short or long periods of time due to the congestion. In the extreme case, both speed and volume can drop to zero.

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED AND UNSIGNALIZED INTERSECTIONS		
Level of Service	**Signalized Intersection (Average delay per vehicle, in seconds)** [1]	**Unsignalized Intersections (Average delay per vehicle, in seconds)** [2]
A	≤ 10	0 – 10
B	> 10 – 20	> 10 – 15
C	> 20 – 35	> 15 – 25
D	> 35 – 55	> 25 – 35
E	> 55 – 80	> 35 – 50
F	> 80	> 50

[1] Source: Highway Capacity Manual (HCM 6th Edition), Exhibit 18-4.
[2] Source: Highway Capacity Manual (HCM 6th Edition), Exhibits 19-1 and 20-2.

Roadway Analysis – HCM Methodology

Roadway Level of Service analysis was conducted based on the City of Menifee roadway capacity thresholds presented in the following chart.

CITY OF MENIFEE ROADWAY CAPACITY

Roadway Classification	No. of Lanes	Maximum Two-Way Traffic Volume (ADT)		
		Service Level C	Service Level D	Service Level 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

Notes:
(1) Ramp Capacity is given as a one-way traffic volume.

Source: City of Menifee Engineering Department, LOS Traffic Study Guidelines, October 2020

Consistent with the City of Menifee roadway capacity thresholds, the roadway LOS was determined based on the Highway Capacity Manual (HCM) methodology. Per the HCM methodology, Level of Service (LOS) for roadway segments is defined in terms of Volume-to-Capacity Ratios. The roadway analysis calculation returns a volume-to-capacity (V/C) ratio that translates into a corresponding Level of Service (LOS) measure, ranging from LOS A, representing uncongested, free flowing conditions, to LOS F, representing severely congested, over-capacity conditions. A summary description of each Level of Service and the corresponding V/C ratio is provided in the chart on the following page.

Roadway Level of Service Thresholds	
Level of Service	**Volume-to-Capacity Ratios**
A	0.00 - 0.60
B	0.61 - 0.70
C	0.71 - 0.80
D	0.81 - 0.90
E	0.91 - 1.00
F	> 1.00

Level of Service Standards and Measure of Significance

The City of Menifee *LOS Traffic Study Guidelines* (October 2020) establishes minimum Level of Service standards, which has identified LOS D as the threshold for acceptable operating conditions for intersections, except at constrained locations in close proximity to I-215, where LOS E is accepted during peak hours.

Study intersections and roadway segments are considered to have a project-related effect when any of the following occurs between the "without project" and the "plus project" conditions:

- 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 an unacceptable LOS (LOS E or LOS F)
- 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. This type of effect would be considered a cumulative effect in which the project would be required to contribute a fair share payment toward reducing the effect.

Per the City of Menifee *LOS Traffic Study Guidelines* (October 2020), project-related effects shall be clearly identified as direct or cumulative in the traffic study report. Only feasible improvements shall be recommended in the traffic study report. Analysis of the recommended improvements shall be provided to demonstrate the proposed improvement will reduce the project effect to meet LOS standards.

General Plan Circulation Map

The Cities of Menifee and Perris provide roadway designations for the roadway system serving the project site and the surrounding vicinity. A copy of the City of Menifee and City of Perris Roadway Network is provided on **Figures 4** and **5**, respectively.

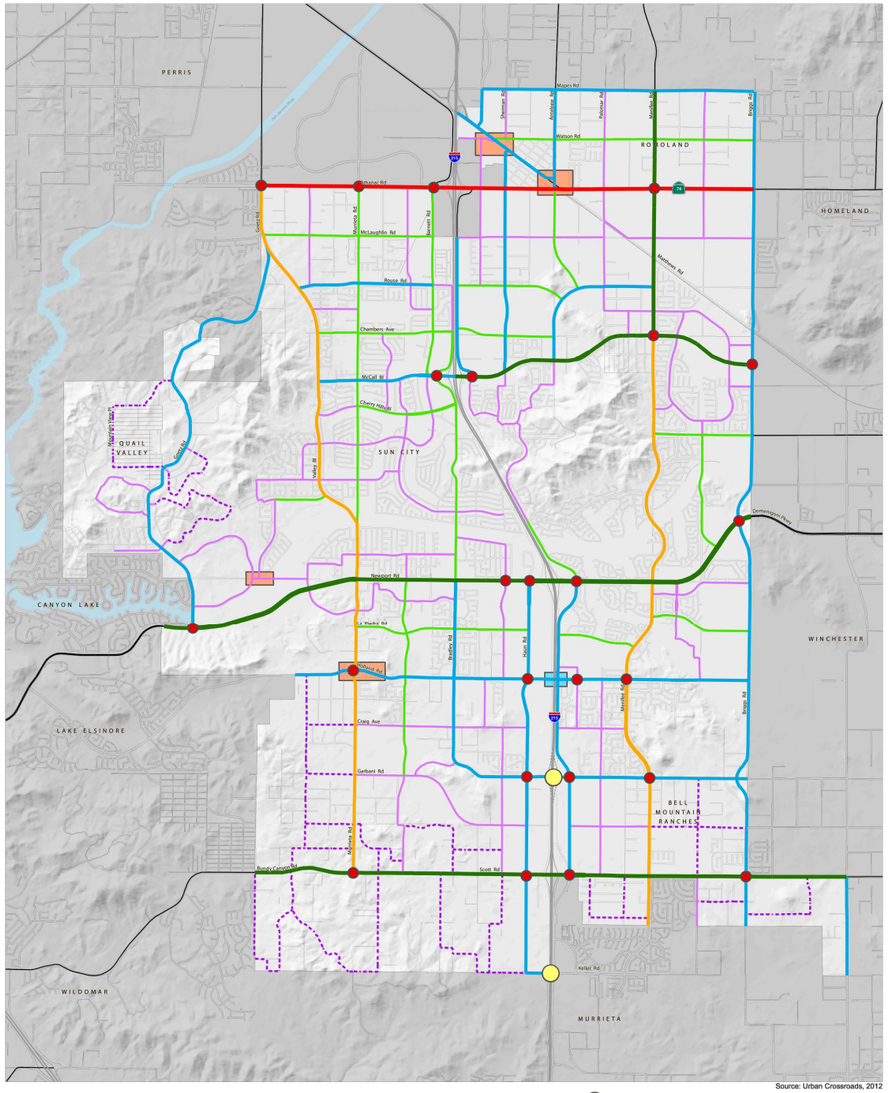

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FIGURE 4
CITY OF MENIFEE – ROADWAY NETWORK

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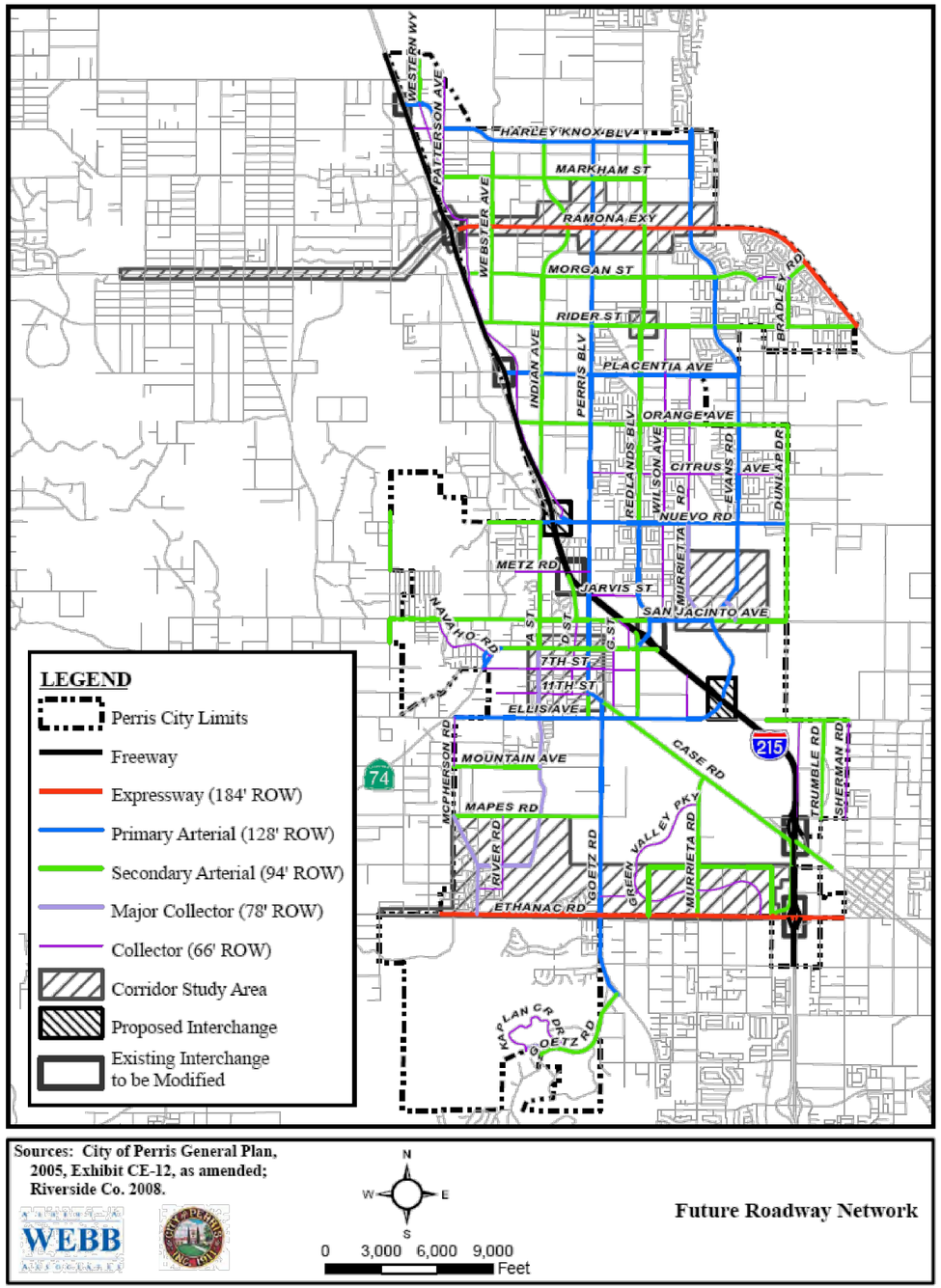

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FIGURE 5
CITY OF PERRIS - ROADWAY NETWORK

EXISTING TRAFFIC CONDITIONS

Existing Street System

Regional access to the project site is provided primarily by the Interstate 215 (I-215) Freeway, located approximately half a mile east of the project site. In addition, State Route 74 (SR-74) is located approximately 1.5 miles northeast of the project site. The following provides a description of the roadways surrounding the project site.

Evans Road is a north-south roadway with one lane in each direction. Evans Road is currently unpaved. In the City of Menifee General Plan, Evans Road is designated as a Collector.

Barnett Road is a north-south undivided roadway with one lane in each direction. Barnett Road is currently paved. In the City of Menifee General Plan, Barnett Road is designated as a Secondary Roadway.

Case Road is an east-west undivided roadway with one lane in each direction. Case Road also runs north-south parallel to the I-215 freeway and terminates with Ethanac Road. The posted speed limit is 55 miles per hour (mph), and on-street parking is prohibited on both sides. In the City of Perris General Plan, Case Road is designated as a Secondary Arterial.

Ethanac Road is an east-west divided roadway with two lanes in each direction. The posted speed limit is 50 mph, and on-street parking is prohibited on both sides. Ethanac Road is currently paved. In both Cities of Menifee and Perris General Plans, Ethanac Road is designated as an Expressway.

Existing Transit Service

Transit service to the City of Menifee is provided by Riverside Transit Agency (RTA), which serves the City of Riverside and surrounding cities. Currently, there is no bus stop located near the project area. The closest RTA bus stop to the project site is located on the north side of the Case Road and Ethanac Road intersection. Descriptions of the bus routes serving the project are provided below.

RTA Route 61 operates in the City of Menifee, traveling along Murrieta Road and McCall Boulevard in the project vicinity. Route 61 operates on weekdays from approximately 4:40 AM to 8:15 PM with approximately 1-hour headways and weekends from approximately 6:50 AM to 7:30 PM with 1-hour headways.

RTA Route 74 operates in the City of Menifee, traveling along Ethanac Road and Murrieta Road in the project vicinity. Route 74 operates on weekdays from approximately 5:30 AM to 8:00 PM with approximately 1-hour headways, Weekends from approximately 6:00 AM to 8:00 PM with 1-hour headways.

Existing Traffic Volumes

Existing morning peak period (7:00 to 9:00 AM) and evening peak period (4:00 to 6:00 PM) turning movement and daily roadway traffic counts were collected for all study intersections and study roadway segments. The counts were completed in December 2022 and February 2023. Passenger car equivalent (PCE) factors, were then applied to the truck types, based on number of axles (1.5 PCE for 2-axle trucks, 2.0 PCE for 3-axle trucks, and 3.0 PCE for 4+-axle trucks) to determine the total existing PCE volumes. Existing morning and evening peak hour volumes are presented on **Figure 6**. Peak hour intersection traffic count worksheets and daily roadway volume worksheets are provided in ***Appendix B***.

Peak Hour Operation Conditions

Intersection Level of Service analysis was conducted for the morning and evening peak hours using the analysis procedures and assumptions described previously in this report. The results of the intersection analysis for Existing Conditions are shown on **Table 1**. Copies of Existing Conditions intersection analysis worksheets are provided in ***Appendix C***.

Review of this table indicates the study intersections currently operate at an acceptable LOS.

Daily Roadway Operating Conditions

The roadway segment analysis was conducted using the analysis procedures and assumptions described previously in this report. The results of the roadway analysis for Existing Conditions are shown on **Table 2.** Review of this table indicates the study roadway segments currently operate at an acceptable Level of Service.

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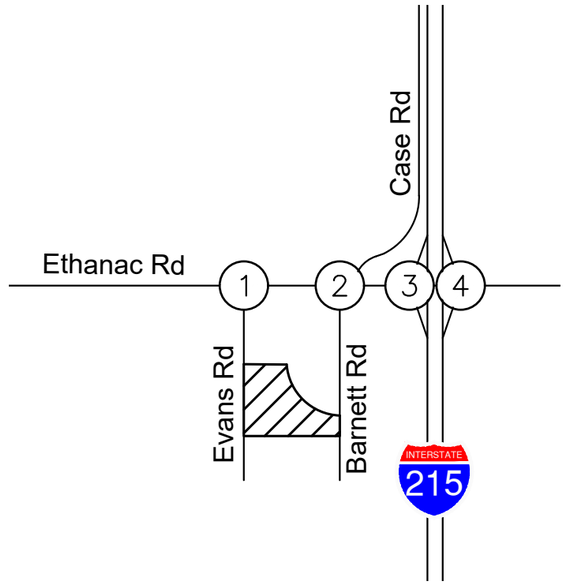

1. Evans Rd at Ethanac Rd	2. Barnett Rd/Case Rd at Ethanac Rd	3. I-215 SB Ramps at Ethanac Rd	4. I-215 NB Ramps at Ethanac Rd
←506/760 ←2/2 980/653→ 1/0↘ 4/1↑	71/123↖ 19/54← 322/431↙ 312/357↑ 392/562← 71/81↖ 145/162↘ 780/471→ 25/24↘ 28/24↑ 27/30↑ 135/82↑	259/365↖ 1/3← 113/154↙ 591/739← 108/89↖ 726/643→ 485/365↘	168/148↑ 436/401← 233/254↗ 610/564→ 271/395↑ 0/2↑ 133/200↑

Note: Volumes reflect PCE adjustments.

LEGEND:

= Project Site

X = Study Intersection

XX/YY = AM/PM Volumes

FIGURE 6
EXISTING TRAFFIC VOLUMES

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TABLE 1
SUMMARY OF INTERSECTION OPERATION
EXISTING CONDITIONS

Int. #	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Evans Road at Ethanac Road	U	12.2	B	10.5	B
2	Barnett Road/Case Road at Ethanac Road	S	31.4	C	33.1	C
3	I-215 SB Ramps at Ethanac Road	S	22.3	C	27.1	C
4	I-215 NB Ramps at Ethanac Road	S	29.0	C	33.3	C

Notes:
- **Bold and Shaded** values indicate intersections operating at an unacceptable Level of Service

- Delay values for signalized intersections represent the sum of average vehicle delay on all intersection approaches.

- Delay values for unsignalized intersections represent the average vehicle delay on the worst (highest delay) intersection approach.

S = Signalized
U = Unsignalized

TABLE 2
SUMMARY OF ROADWAY SEGMENT ANALYSIS
EXISTING CONDITIONS

Roadway	Segment	Existing Configuration	Existing ADT	LOS E Capacitiy[1]	V/C	LOS
Ethanac Road	Evans Road to Case Road	4-Lane Arterial	16,845	37,000	0.455	A
	Case Road to I-215 SB Ramps	4-Lane Arterial	24,114	37,000	0.652	B
	I-215 SB Ramps to I-215 NB Ramps	3-Lane Arterial	19,929	27,750	0.718	C

Notes: [1] Source: City of Menifee Engineering Department, LOS Traffic Study Guidelines, October 2020

ADT = Average Daily Traffic
V / C = Volume to Capacity
LOS = Level of Service

PROJECT TRAFFIC

Project Trip Generation

Trip generation estimates for the project are based on daily and peak hourly trip generation rates obtained from the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition). ITE trip generation estimates for the project are based on the trip generation rate for Warehousing (Land Use 150).

Passenger vehicle and truck mix assumptions were applied to the project land uses based on the ITE Trip Generation Manual (10th Edition, Supplement) and the City of Fontana Truck Trip Generation Study. Passenger car equivalent (PCE) factors were then applied to the truck types, based on number of axles (1.5 PCE for 2-axle trucks, 2.0 PCE for 3-axle trucks, and 3.0 PCE for 4+-axle trucks) to determine the total PCE volumes to be generated by the project. The trip generation rates, PCE factors, and the resulting trip generation estimates for the project are summarized on **Table 3**. Based on Table 3, the total project is estimated to generate 961 daily PCE trips, with 96 PCE trips (73 inbound and 23 outbound) in the morning peak hour and 101 PCE trips (28 inbound and 73 outbound) in the evening peak hour.

Trip Distribution and Assignment

Project trip distribution assumptions for the project site were developed considering the proposed site use, and routes to and from the freeway system. Trip distribution assumptions for the proposed project are shown on **Figure 7**. Trip distribution percentages at each study intersection were applied to the project trip generation to determine the project trips through each intersection. The resulting project-related peak hour trips are shown on **Figure 8**.

Project trip assignment volumes at the project driveways under Existing Plus Project and Opening Year 2025 Cumulative Plus Project conditions are provided in ***Appendix D***.

TABLE 3
SUMMARY OF PROJECT TRIP GENERATION
NORTHERN GATEWAY LOGISTICS CENTER PROJECT

TRIP GENERATION RATES [1]

ITE Land Use	ITE Code	Unit	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Warehousing	150	KSF	1.71	0.131	0.039	0.170	0.050	0.130	0.180

PROJECT TRIP GENERATION

Project Land Use		Quantity	Unit	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Warehousing		398.252	KSF	681	52	16	68	20	52	72
Passenger Vehicles	73.00%			497	38	12	50	15	38	53
Trucks	27.00%			184	14	4	18	5	14	19

PASSENGER CAR EQUIVALENTS (PCE)

Vehicle Type	Vehicle Mix [2,3]	Daily Vehicles	PCE Factor	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Passenger Vehicles	73.00%	497	1.0	497	38	12	50	15	38	53
2-Axle Trucks	4.57%	31	1.5	47	4	1	5	1	4	5
3-Axle Trucks	6.13%	42	2.0	84	6	2	8	2	6	8
4+ Axle Trucks	16.30%	111	3.0	333	25	8	33	10	25	35
Total Proposed Project Truck PCE Trips				464	35	11	46	13	35	48
Total Proposed Project PCE Trips				**961**	**73**	**23**	**96**	**28**	**73**	**101**

[1] Source: Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition

[2] Passenger Vehicles and Truck splits taken from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition Supplement.

[3] Truck mix percentages were calculated based on a ratio between the ITE truck splits and the Truck Trip Generation Study - City of Fontana, August 2003

PCE = Passenger Car Equivalent

KSF = Thousand Square Feet

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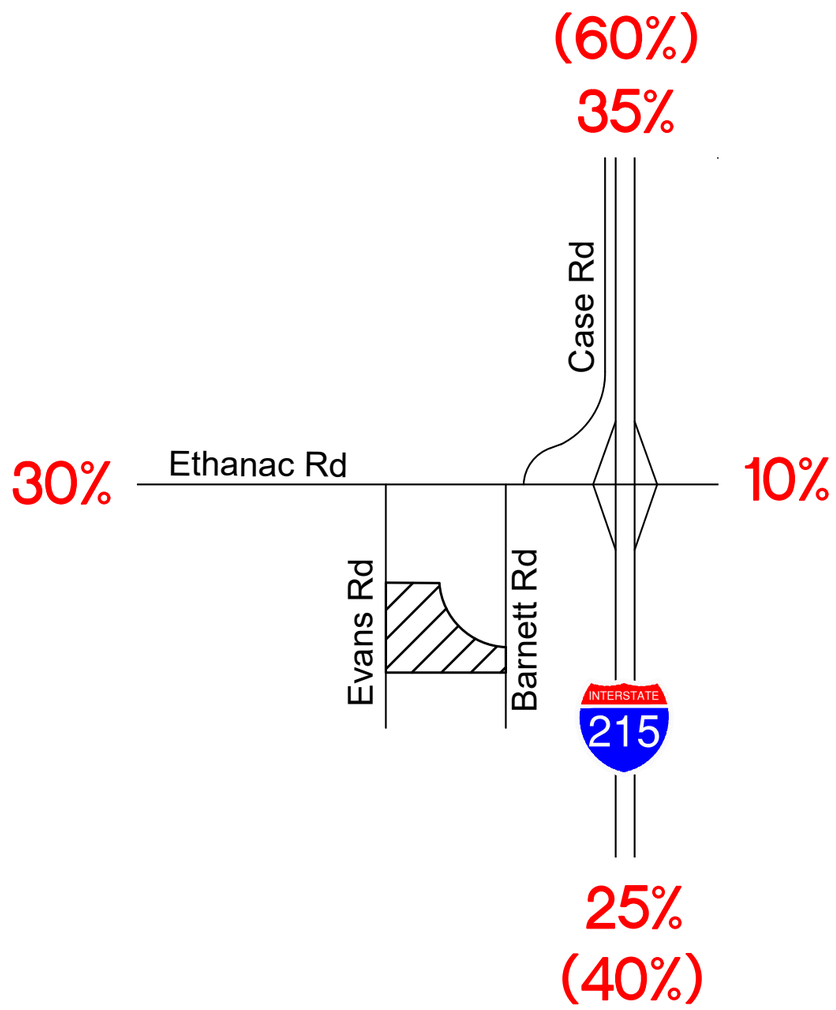

LEGEND:

= Project Site

XX% = Passenger Car Trip Distribution Percentage

(XX%) = Truck Trip Distribution Percentage

FIGURE 7
PROJECT TRIP DISTRIBUTION

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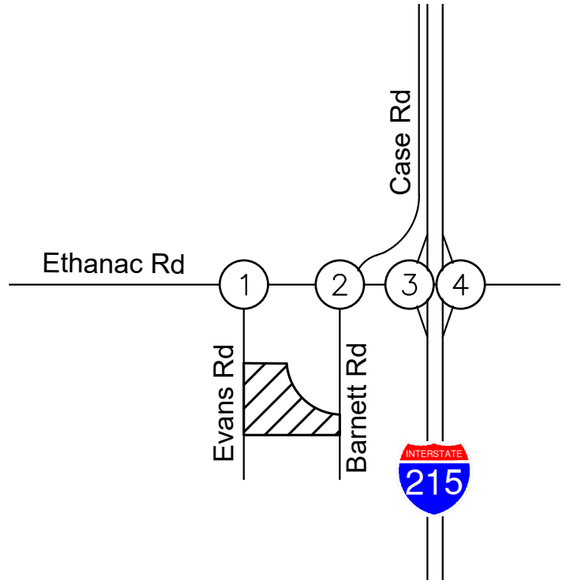

1. Evans Rd at Ethanac Rd	2. Barnett Rd/Case Rd at Ethanac Rd	3. I-215 SB Ramps at Ethanac Rd	4. I-215 NB Ramps at Ethanac Rd
35/14 ← 11/5 → 4/11 ↑ 11/35 ↑	35/14 ← 27/10 ← 11/35 → 8/27 ↑	34/13 ← 28/11 ← 12/38 → 7/24 ↓	4/2 ← 11/34 ↑ 1/4 → 24/9 ↑

Note: Volumes reflect PCE adjustments.

LEGEND:

= Project Site

X = Study Intersection

XX/YY = AM/PM Volumes

FIGURE 8
PROJECT-RELATED TRAFFIC VOLUMES

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EXISTING PLUS PROJECT

Project-related traffic was added to the existing traffic volumes, and the resulting traffic volumes at the study locations are shown on **Figure 9**.

Peak Hour Operating Conditions

Intersection Level of Service analysis was conducted for the morning and evening peak hours for the Existing Plus Project conditions. The results of the intersection analysis are shown on **Table 4**. Intersection analysis worksheets are provided in ***Appendix C***.

Review of this table indicates that, with the addition of project traffic, all study intersections would continue to operate at an acceptable Level of Service.

Daily Roadway Operating Conditions

Roadway Level of Service analysis was conducted based on the roadway capacities presented previously in this report. The results of the roadway analysis for Existing Plus Project conditions are shown on **Table 5.** Review of this table indicates that, with the addition of project traffic, the study roadway segments would continue to operate at an acceptable Level of Service on a daily basis.

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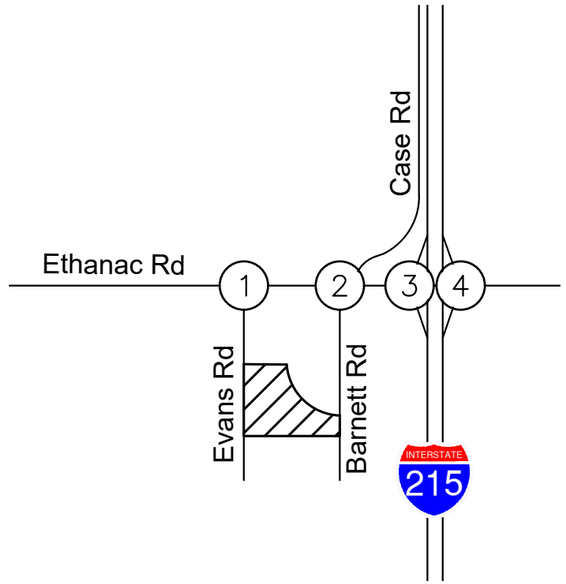

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Note: Volumes reflect PCE adjustments.

LEGEND:

= Project Site

X = Study Intersection

XX/YY = AM/PM Volumes

FIGURE 9
EXISTING PLUS PROJECT TRAFFIC VOLUMES

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TABLE 4
SUMMARY OF INTERSECTION OPERATION
EXISTING PLUS PROJECT

Int. #	Intersection	Traffic Control	AM Peak Hour						PM Peak Hour					
			Without Project		With Project		Change in Delay	Project-Related Effect?	Without Project		With Project		Change in Delay	Project-Related Effect?
			Delay	LOS	Delay	LOS			Delay	LOS	Delay	LOS		
1	Evans Road at Ethanac Road	U	12.2	B	35.0	D	22.8	No	10.5	B	24.8	C	14.3	No
2	Barnett Road/Case Road at Ethanac Road	S	31.4	C	32.2	C	0.8	No	33.1	C	34.0	C	0.9	No
3	I-215 SB Ramps at Ethanac Road	S	22.3	C	24.1	C	1.8	No	27.1	C	28.4	C	1.3	No
4	I-215 NB Ramps at Ethanac Road	S	29.0	C	30.6	C	1.6	No	33.3	C	34.6	C	1.3	No

Notes:
- **Bold and Shaded** values indicate intersections operating at an unacceptable Level of Service

- Delay values for signalized intersections represent the sum of average vehicle delay on all intersection approaches.

- Delay values for unsignalized intersections represent the average vehicle delay on the worst (highest delay) intersection approach.

S = Signalized
U = Unsignalized

TABLE 5
SUMMARY OF ROADWAY SEGMENT ANALYSIS
EXISTING PLUS PROJECT

Roadway	Segment	Existing Configuration	Existing ADT	Project ADT	Existing Plus Project ADT	LOS E Capacitiy[1]	V/C	LOS
Ethanac Road	Evans Road to Case Road	4-Lane Arterial	16,845	452	17,297	37,000	0.467	A
	Case Road to I-215 SB Ramps	4-Lane Arterial	24,114	812	24,926	37,000	0.674	B
	I-215 SB Ramps to I-215 NB Ramps	3-Lane Arterial	19,929	431	20,360	27,750	0.734	C

Notes: [1] Source: City of Menifee Engineering Department, LOS Traffic Study Guidelines, October 2020
ADT = Average Daily Traffic
V / C = Volume to Capacity
LOS = Level of Service

FUTURE CONDITIONS WITHOUT PROJECT

Opening Year 2025 Cumulative Conditions

The project Opening Year is anticipated to be Year 2025. Based on consultation with City staff, an ambient annual growth rate of 2.0% per year was applied to existing traffic volumes to develop Opening Year 2025 Base forecasts.

Cumulative Projects

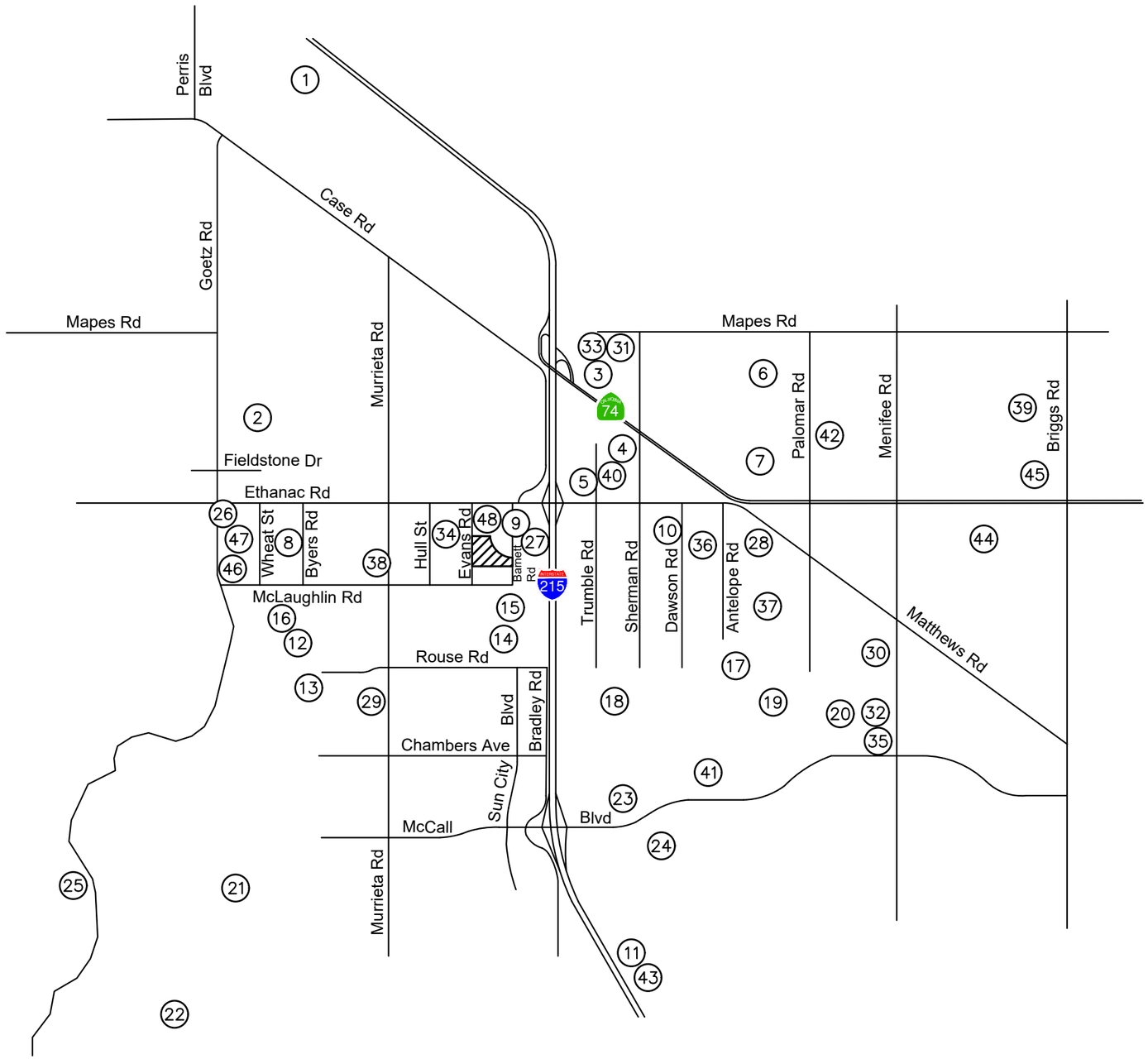
Cumulative Projects consists of development projects that have been approved but are not yet constructed/occupied, and projects that are in various stages of the application and approval process but have not yet been approved. The locations of the Cumulative Projects are shown on **Figure 10**.

Trip Generation

Trip generation information for the Cumulative Projects was obtained from approved traffic studies, where available; or was developed by Kimley-Horn if approved traffic studies were not available. A summary of Cumulative Projects in the project vicinity and the trip generation associated with each is provided on **Table 6**.

Trip Distribution and Assignment

Likewise, trip distribution and assignment for the Cumulative Projects were either obtained from approved traffic studies, where available; or were developed by Kimley-Horn if approved traffic studies were not available. Trip distribution assumptions for Cumulative Projects are provided in ***Appendix E***. Traffic volumes associated with the Cumulative Projects were compiled for each of the study intersections and are shown on **Figure 11**. The Cumulative Projects traffic volumes were added to the Opening Year 2025 Base traffic volumes. Traffic volumes for Opening Year 2025 Cumulative are shown on **Figure 12**.



NOT TO SCALE

LEGEND:

= Project Site

(X) = Cumulative Project

FIGURE 10
LOCATION OF CUMULATIVE PROJECTS

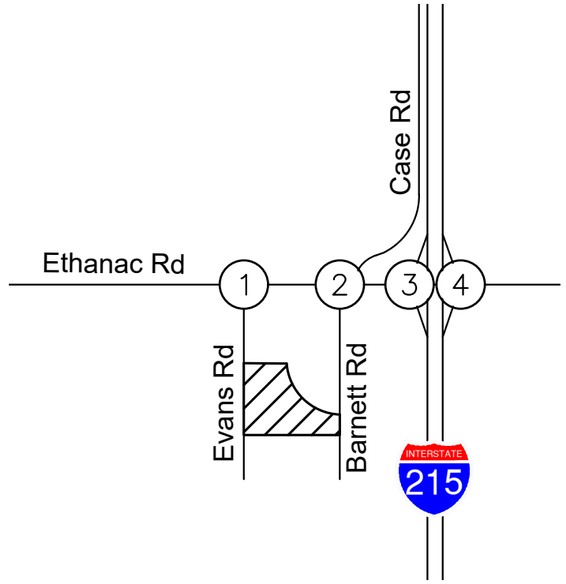
Kimley»Horn

TABLE 6
SUMMARY OF CUMULATIVE PROJECTS

Proj #	Location	Land Use	Quantity	Units	Trip Generation Estimates						
						AM Peak Hour			PM Peak Hour		
					Daily	In	Out	Total	In	Out	Total
1	Industrial Warehouse Building	Warehousing	2,300.000	KSF	5,546	419	125	544	160	416	576
2	Green Valley	Single-Family Detached Housing	623	DU	5,881	115	346	461	389	228	617
		Multifamily Housing (Mid-Rise)	842	DU	4,580	79	224	303	226	145	371
3	On-Deck	Convenience Market w/ Gasoline Pumps	6	Fueling Position	1,935	62	62	124	69	69	138
		Pass-by Trips (AM: 63%, PM:66%)				-39	-39	-78	-46	-46	-91
		Hotel	108	Room	903	30	21	51	33	32	65
		Quality Restaurant	5.500	KSF	461	3	1	4	29	14	43
		Pass-by Trips (PM:44%)							-13	-6	-19
		Fast-Food Restaurant w/o Drive-thru	3.000	KSF	1,039	45	30	75	43	43	86
		Automated Car Wash	4.500	KSF	734	26	15	41	32	32	64
		Sub Total			5,072	127	90	217	148	138	286
4	Paragon Framing	High-Cube Short-Term Storage	5.000	KSF	7	0	0	0	0	0	0
		General Office Building	5.454	KSF	53	5	1	6	1	5	6
5	Perris Travel Center	Gasoline Station w/ Convenience Market	16	Fueling Position	3,286	102	98	200	114	110	224
6	MR-27 LLC (Rancon)	Single-Family Detached Housing	172	DU	1,624	32	95	127	107	63	170
7	Motte Country Plaza	Shopping Center	4.888	KSF	185	3	2	5	9	10	19
		Pass-by Trips (PM:34%)							-3	-3	-6
		Sub Total			185	3	2	5	6	7	13
8	Capstone Warehouse	Warehousing	700.037	KSF	4,716	517	122	639	343	536	879
9	Ethanac Square	Automated Car Wash	2.080	KSF	339	12	7	19	15	15	30
		Convenience Market w/ Gasoline Pumps	4	Fueling Position	1,290	42	42	84	46	46	92
10	Menifee Commerce Center	Warehousing	1,640.130	KSF	9,474	964	249	1,213	633	999	1,632
11	Villago Villas	Multifamily Housing (Low-Rise)	24	DU	176	3	8	11	8	5	13
12	Cimarron Ridge	Single-Family Detached Housing	756	DU	7,137	140	420	560	472	277	749
13	Valley Blvd Tract Map	Single-Family Detached Housing	68	DU	642	13	38	51	42	25	67
14	Sagewood (DR Horton)	Single-Family Detached Housing	174	DU	1,643	32	97	129	109	64	173
15	McLaughlin Village	Single-Family Detached Housing	126	DU	1,189	23	70	93	79	46	125
16	TTM 38128	Single-Family Detached Housing	96	DU	906	18	53	71	60	35	95
17	Talavera (KB Homes)	Single-Family Detached Housing	173	DU	1,633	32	96	128	108	63	171
18	Legado	Single-Family Detached Housing	1,022	DU	9,648	189	567	756	638	374	1,012
19	Underwood (KB Homes)	Single-Family Detached Housing	543	DU	5,126	100	301	401	339	199	538
20	Remington/McCall Mesa	Single-Family Detached Housing	264	DU	2,492	49	147	196	165	97	262
21	Stonegate (Enclave)	Single-Family Detached Housing	177	DU	1,671	33	98	131	110	65	175
22	Skyview (Woodside Homes)	Single-Family Detached Housing	246	DU	2,322	46	137	183	154	90	244
23	McCall-Encanto Gas Station	Gasoline Station w/ Convenience Market	12	Fueling Position	2,464	76	73	149	86	82	168
24	McCall Plaza	Convenience Market w/ Gasoline Pumps	2	Fueling Position	645	21	21	42	23	23	46
		Pass-by Trips (AM: 63%, PM:66%)				-13	-13	-26	-15	-15	-30
		Shopping Center	1	KSF	38	1	0	1	2	2	4
		Quality Restaurant	3.100	KSF	260	2	0	2	16	8	24
		Pass-by Trips (PM:44%)							-7	-4	-11
		Fast-Food Restaurant w/o Drive-thru	3.2	KSF	1,108	48	32	80	45	45	90
		Automated Car Wash	2.080	KSF	339	12	7	19	15	15	30
		Sub Total			2,390	71	47	118	79	74	153
25	Quail Hills	Single-Family Detached Housing	152	DU	1,435	28	84	112	95	56	151
26	Goetz/Ethanac Commercial	Convenience Market w/ Gasoline Pumps	8	Fueling Position	2,580	83	83	166	92	92	184
		Pass-by Trips (AM: 63%, PM:66%)				-52	-52	-105	-61	-61	-121
		Discount Home Furnishing Superstore	3	KSF	58	1	1	2	2	2	4
		Shopping Center	7.040	KSF	266	4	3	7	13	14	27
		Pass-by Trips (PM:34%) Retail Only							-4	-5	-9
		Sub Total			2,904	36	35	70	42	43	84
27	Barnett Warehouse	Warehousing	251.780	KSF	607	46	14	60	17	45	62
28	Nova Battery Storage	General Light Industrial	3.10	Employees	16	3	1	4	1	3	4
29	Vista Ridge Aparments	Multifamily Housing (Mid-Rise)	30	DU	163	3	8	11	8	5	13
30	LDW TTM 38346	Multifamily Housing (Mid-Rise)	162	DU	881	15	43	58	43	28	71
31	Mapes and Sherman Warehouse	Warehousing	277.578	KSF	669	51	15	66	19	50	69
32	The Village at Junipero	Multifamily Housing (Mid-Rise)	240	DU	1,306	23	64	87	64	41	105
33	United Carports Warehouse	Warehousing	58.643	KSF	141	11	3	14	4	11	15
34	Northern Gateway Commerce Center	Warehousing	1,316.741	KSF	3,176	243	71	314	93	242	335
35	McCall Square	Shopping Center	84.200	KSF	3,179	49	30	79	154	167	321
		Mini-Warehouse	150.541	KSF	218	8	6	14	11	12	23
36	Motte Business Center	High-Cube Fulfillment Center - Non-Sort	1,138.638	KSF	2,308	156	37	193	79	125	204
37	McLaughlin San Jacinto Warehouses	Warehousing	491.467	KSF	1,185	89	27	116	34	89	123
38	Ares Warehouse on Murrieta	Warehousing	551.685	KSF	1,330	100	30	130	38	100	138
39	TR 38133	Single-Family Detached Housing	145	DU	1,369	27	80	107	90	53	143
40	Trumble and Watson Warehouse	Warehousing	327.631	KSF	790	60	18	78	23	59	82
41	Cypress and Sands Apartments	Multifamily Housing (Mid-Rise)	136	DU	740	13	36	49	36	23	59
42	TR 38132	Multifamily Housing (Mid-Rise)	173	DU	941	16	46	62	46	30	76
43	Kensington Apartments	Multifamily Housing (Mid-Rise)	221	DU	1,202	21	59	80	59	38	97
44	Menifee Valley SP (Brookfield)	Multifamily Housing (Mid-Rise)	1,711	DU	9,308	161	455	616	459	294	753
45	Harvest Glen Marketplace	Convenience Market w/ Gasoline Pumps	16	Fueling Position	5,160	166	166	332	184	184	368
		Pass-by Trips (AM: 63%, PM:66%)				-105	-105	-209	-121	-121	-243
		Fast-Food Restaurant w/ Drive-thru	1.102	KSF	519	23	22	45	19	17	36
		Fast-Food Restaurant w/o Drive-thru	3.268	KSF	1,131	49	33	82	46	46	92
		Automated Car Wash	3.000	KSF	489	17	10	27	21	21	42
		Sub Total			7,299	150	126	277	149	147	295
46	Corsica Business Park	Warehousing	265.821	KSF	642	49	14	63	18	49	67
47	Wheat Warehouse	Warehousing	86.676	KSF	208	15	3	18	5	15	20
48	Ethanac and Evans Warehouse	Warehousing	137.896	KSF	331	25	7	32	9	25	34
Total Project Trips					123,840	4,640	4,865	9,505	6,232	5,953	12,185

DU = Dwelling Unit, KSF = 1,000 square feet, FP = Fueling Position

NOT TO SCALE



1. Evans Rd at Ethanac Rd	2. Barnett Rd/Case Rd at Ethanac Rd	3. I-215 SB Ramps at Ethanac Rd	4. I-215 NB Ramps at Ethanac Rd
←692/912 ←309/242 708/960→ 32/32↘ 30/50↑ 183/290↑	9/3↙ ←946/1071 ←47/80 822/1185→ 69/65↑	509/575↙ 278/185↘ ←485/578 ←95/283 477/719→ 414/532↘	↑95/283 ←157/327 452/653↑ 303/251→ 423/534↑ 278/185↑

Note: Volumes reflect PCE adjustments.

LEGEND:

= Project Site

X = Study Intersection

XX/YY = AM/PM Volumes

FIGURE 11
CUMULATIVE PROJECTS TRAFFIC VOLUMES

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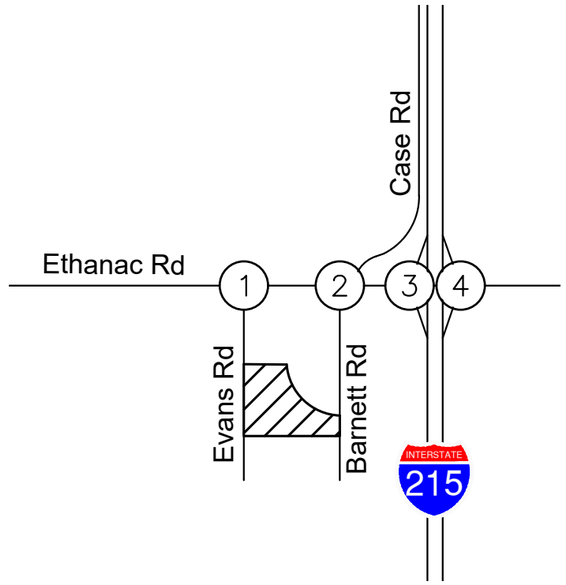
NOT TO SCALE



1. Evans Rd at Ethanac Rd	2. Barnett Rd/Case Rd at Ethanac Rd	3. I-215 SB Ramps at Ethanac Rd	4. I-215 NB Ramps at Ethanac Rd
←1218/1702 ←311/244 1727/1639→ 33/32↘ 30/50↑ 187/291↑	83/131↙ 20/56← 335/448↘ 324/371↑ ←1354/1655 ←121/164 151/168↑ 1633/1675→ 26/25↘ 29/25↑ 28/31↑ 209/150↑	778/955↙ 1/3← 396/345↘ ←1100/1347 ←207/376 1232/1388→ 918/912↘	↑270/437 ←610/744 694/917↑ 937/838→ 705/945↑ 0/2↑ 416/393↑

Note: Volumes reflect PCE adjustments.

LEGEND:
= Project Site
= Study Intersection
XX/YY = AM/PM Volumes

FIGURE 12
OPENING YEAR 2025 CUMULATIVE TRAFFIC VOLUMES

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Peak Hour Operating Conditions

Intersection Level of Service analysis was conducted for Opening Year 2025 Cumulative conditions, and the results are shown on **Table 7**. Intersection analysis worksheets for this condition are provided in ***Appendix C***. Review of this table indicates that, with the addition of ambient growth and cumulative projects traffic, the following intersections would operate at an unacceptable Level of Service under Opening Year 2025 conditions:

- #1 – Evans Road at Ethanac Road: AM & PM – LOS F
- #3 – I-215 SB Ramps at Ethanac Road: AM & PM – LOS F
- #4 – I-215 NB Ramps at Ethanac Road: AM & PM – LOS F

The Level of Service for an unsignalized intersection is reported based on the single approach movement with the highest delay, which in this case, would be the northbound approach for intersection #1. The side street traffic at this intersection experiences delay during the peak hours while waiting for an acceptable gap in traffic on Ethanac Road. While the side street approach operates at a deficient Level of Service based on the highest delay approach, the overall intersection delay would be acceptable. Any queuing that occurs on the side street is contained on the minor intersection approach and does not impact the progression of traffic on the main arterial.

Daily Roadway Operating Conditions

Roadway Level of Service analysis was conducted based on the roadway capacities presented previously in this report. The results of the roadway analysis for Opening Year 2025 Cumulative conditions are shown on **Table 8.** Review of this table indicates that the following study roadway segments would operate at an unacceptable Level of Service on a daily basis:

- Ethanac Road: Evans Road to Case Road – LOS E
- Ethanac Road: Case Road to I-215 SB Ramps – LOS F
- Ethanac Road: I-215 SB Ramps to I-215 NB Ramps – LOS F

TABLE 7
SUMMARY OF INTERSECTION OPERATION
OPENING YEAR 2025 CUMULATIVE

Int. #	Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Evans Road at Ethanac Road	U	>180	**F**	>180	**F**
2	Barnett Road/Case Road at Ethanac Road	S	46.0	D	47.7	D
3	I-215 SB Ramps at Ethanac Road	S	175.8	**F**	342.4	**F**
4	I-215 NB Ramps at Ethanac Road	S	195.9	**F**	365.8	**F**

Notes:
- **Bold and Shaded** values indicate intersections operating at an unacceptable Level of Service
- Delay values for signalized intersections represent the sum of average vehicle delay on all intersection approaches.
- Delay values for unsignalized intersections represent the average vehicle delay on the worst (highest delay) intersection approach.

S = Signalized
U = Unsignalized

TABLE 8
SUMMARY OF ROADWAY SEGMENT ANALYSIS
OPENING YEAR 2025 CUMULATIVE

Roadway	Segment	Existing ADT	Opening Year 2025 Base ADT	Cumulative Projects	Opening Year 2025 Cumulative ADT	LOS E Capacitiy[1]	V/C	LOS
Ethanac Road	Evans Road to Case Road	16,845	17,519	19,348	36,867	37,000	0.996	**E**
	Case Road to I-215 SB Ramps	24,114	25,079	19,348	44,427	37,000	1.201	**F**
	I-215 SB Ramps to I-215 NB Ramps	19,929	20,726	13,500	34,226	27,750	1.233	**F**

Notes: [1] Source: City of Menifee Engineering Department, LOS Traffic Study Guidelines, October 2020
ADT = Average Daily Traffic
V / C = Volume to Capacity
LOS = Level of Service

FUTURE CONDITIONS WITH PROJECT

Opening Year 2025 Cumulative Plus Project

Project-related traffic for the Northern Gateway Logistics Center project was added to the Opening Year 2025 Cumulative traffic volumes, and the resulting "Plus Project" traffic volumes are shown on **Figure 13**.

Peak Hour Operating Conditions

Intersection Level of Service analysis was conducted for the Opening Year 2025 Cumulative Plus Project condition. The results are shown on **Table 9**. Copies of the intersection analysis worksheets are provided in ***Appendix C***. Review of Table 9 indicates that, with the addition of project traffic, the following intersections would operate at an unacceptable Level of Service under Opening Year 2025 Cumulative Plus Project conditions:

- #1 – Evans Road at Ethanac Road: AM & PM – LOS F
- #3 – I-215 SB Ramps at Ethanac Road: AM & PM – LOS F
- #4 – I-215 NB Ramps at Ethanac Road: AM & PM – LOS F

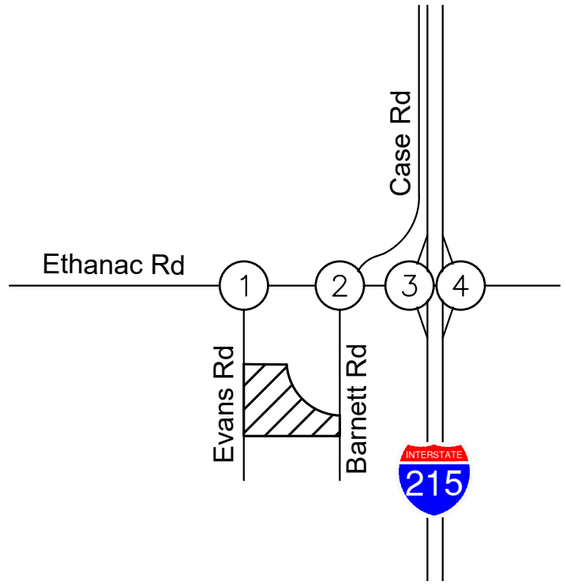
Recommended improvements for the study intersections where there is a project-related effect are presented in the Recommended Improvements section of this report. Copies of intersection analysis worksheets are provided in ***Appendix C***.

Daily Roadway Operating Conditions

Roadway Level of Service analysis was conducted based on the roadway capacities presented previously in this report. The results of the roadway analysis for Opening Year 2025 Cumulative Plus Project conditions are shown on **Table 10.** Review of this table indicates that the following study roadway segments would operate at an unacceptable Level of Service on a daily basis:

- Ethanac Road: Evans Road to Case Road – LOS F
- Ethanac Road: Case Road to I-215 SB Ramps – LOS F
- Ethanac Road: I-215 SB Ramps to I-215 NB Ramps – LOS F

NOT TO SCALE



1. Evans Rd at Ethanac Rd	2. Barnett Rd/Case Rd at Ethanac Rd	3. I-215 SB Ramps at Ethanac Rd	4. I-215 NB Ramps at Ethanac Rd
←1218/1702 ←346/258 1727/1639→ 44/37↘ 34/61↑ 198/326↑	83/131↙ 20/56← 335/448↙ 324/371↑ ←1389/1669 ←148/174 151/168↗ 1644/1710→ 26/25↘ 29/25↑ 28/31↑ 217/177↑	812/968↙ 1/3← 396/345↙ ←1128/1358 ←207/376 1244/1426→ 925/936↘	↑270/437 ←614/746 705/951↗ 938/842→ 729/954↑ 0/2↑ 416/393↑

Note: Volumes reflect PCE adjustments.

LEGEND:

= Project Site

X = Study Intersection

XX/YY = AM/PM Volumes

FIGURE 13
OPENING YEAR 2025 CUMULATIVE PLUS PROJECT TRAFFIC VOLUMES

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TABLE 9
SUMMARY OF INTERSECTION OPERATION
OPENING YEAR 2025 CUMULATIVE PLUS PROJECT

Int. #	Intersection	Traffic Control	AM Peak Hour						PM Peak Hour					
			Without Project		With Project		Change in Delay	Project-Related Effect?	Without Project		With Project		Change in Delay	Project-Related Effect?
			Delay	LOS	Delay	LOS			Delay	LOS	Delay	LOS		
1	Evans Road at Ethanac Road	U	>180	**F**	>180	**F**	-	**Yes**	>180	**F**	>180	**F**	-	**Yes**
2	Barnett Road/Case Road at Ethanac Road	S	46.0	D	51.8	D	5.8	No	47.7	D	54.7	D	7.0	No
3	I-215 SB Ramps at Ethanac Road	S	175.8	**F**	199.6	**F**	23.8	**Yes**	342.4	**F**	383.2	**F**	40.8	**Yes**
4	I-215 NB Ramps at Ethanac Road	S	195.9	**F**	204.4	**F**	8.5	**Yes**	365.8	**F**	375.0	**F**	9.2	**Yes**

Notes:
- **Bold and Shaded** values indicate intersections operating at an unacceptable Level of Service

- Delay values for signalized intersections represent the sum of average vehicle delay on all intersection approaches.

- Delay values for unsignalized intersections represent the average vehicle delay on the worst (highest delay) intersection approach.

S = Signalized
U = Unsignalized

TABLE 10
SUMMARY OF ROADWAY SEGMENT ANALYSIS
OPENING YEAR 2025 CUMULATIVE PLUS PROJECT

Roadway	Segment	Opening Year 2025 Cumulative ADT	Project ADT	Opening Year 2025 Plus Project ADT	LOS E Capacitiy[1]	V/C	LOS
Ethanac Road	Evans Road to Case Road	36,867	452	37,319	37,000	1.009	**F**
	Case Road to I-215 SB Ramps	44,427	812	45,239	37,000	1.223	**F**
	I-215 SB Ramps to I-215 NB Ramps	34,226	431	34,657	27,750	1.249	**F**

Notes: [1] Source: City of Menifee Engineering Department, LOS Traffic Study Guidelines, October 2020
ADT = Average Daily Traffic
V / C = Volume to Capacity
LOS = Level of Service

TRAFFIC SIGNAL WARRANT ANALYSIS

Traffic signal warrant analyses were conducted for the following unsignalized intersection:

- #1 – Evans Road at Ethanac Road

Signal warrants were based on the 2014 California Manual on Uniform Traffic Control Devices (CA MUTCD). The warrants were conducted using Warrant 3 (Peak Hour Warrant) for the following conditions:

- Existing Plus Project
- Opening Year 2025 Cumulative
- Opening Year 2025 Cumulative Plus Project

Traffic signal warrant analysis worksheets are provided in ***Appendix F***. Based on the signal warrant analysis, Signal Warrant 3 was met under the following conditions:

- Opening Year 2025 Cumulative
    - #1 – Evans Road at Ethanac Road: AM & PM

- Opening Year 2025 Cumulative Plus Project
    - #1 – Evans Road at Ethanac Road: AM & PM

The CA MUTCD specifically states that, "The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal." The reference document goes on to state a number of other factors to take into account when considering a signal for a specific location, including whether or not a signal would improve the overall safety of the intersection, whether it would benefit or disrupt progressive traffic flow, and consideration of site-specific characteristics such as queuing, signal spacing, and overall delay to the main street through movements. The decision to install a traffic signal should be based on engineering judgement, and not solely upon satisfying a single peak hour warrant.

RECOMMENDED IMPROVEMENTS

Based on the City of Menifee *LOS Traffic Study Guidelines* (October 2020), under Opening Year 2025 Cumulative Plus Project Conditions, the project would cause a project-related effect at the following intersections:

- #1 – Evans Road at Ethanac Road (Cumulative effect)
- #3 – I-215 SB Ramps at Ethanac Road (Cumulative effect)
- #4 – I-215 NB Ramps at Ethanac Road (Cumulative effect)

Implementation of the following improvements under Opening Year 2025 Cumulative Plus Project conditions are recommended to address the project-related effect at the study intersections:

<u>#1 – Evans Road at Ethanac Road:</u>

- Install traffic signal (City DIF)
- Add protected westbound left-turn phasing
- Modify northbound approach to provide dedicated left-turn and right-turn lanes

<u>#3 – I-215 SB Ramps at Ethanac Road (Regional TUMF):</u>

- Add 2nd eastbound through lane
- Add 2nd westbound left-turn lane
- Modify southbound approach to provide one left-turn, one right-turn, and one shared left/through/right lane
- Add dedicated eastbound right-turn lane

<u>#4 – I-215 NB Ramps at Ethanac Road (Regional TUMF):</u>

- Add 2nd eastbound through lane
- Add 2nd westbound through lane
- Add a dedicated westbound right-turn lane
- Add 2nd eastbound left-turn lane
- Add 2nd northbound left-turn lane

A summary of the intersection operation before and after implementation of the recommended improvements is provided on **Table 11**. A copy of the Regional TUMF Program improvements for the Ethanac Road/I-215 freeway interchange is provided in ***Appendix G***.

Based on the City of Menifee *LOS Traffic Study Guidelines* (October 2020), under Opening Year 2025 Cumulative Plus Project Conditions, the project would cause a project-related effect at the following roadway sections:

- Ethanac Road: Evans Road to Case Road (Cumulative effect)
- Ethanac Road: Case Road to I-215 SB Ramps (Cumulative effect)
- Ethanac Road: I-215 SB Ramps to I-215 NB Ramps (Cumulative effect)

Roadway improvements are recommended to address deficient roadway segments. A summary of the roadway analysis after implementation of the recommended roadway improvements is provided on **Table 12.**

The project fair share proportion for non-programmed improvements at deficient study intersections and roadway segments under Opening Year 2025 Cumulative Plus Project conditions is shown on **Table 13**. The proposed project will pay fair share for non-programmed improvements at deficient study intersections. For programmed improvements, the developer will pay into the regional transportation fee program.

TABLE 11
SUMMARY OF INTERSECTION OPERATION
WITH RECOMMENDED IMPROVEMENTS

Int. #	Intersection	Improvements	Peak Hour	Proposed Traffic Control	OPENING YEAR 2025 CUMULATIVE PLUS PROJECT					
					Without Project		With Project		With Improvements	
					Delay	LOS	Delay	LOS	Delay	LOS
1	Evans Road at Ethanac Road	•Install traffic signal •Add protected westbound left-turn phasing •Modify northbound approach to provide dedicated left-turn and right-turn lanes	AM	S	>180	**F**	>180	**F**	33.3	C
			PM	S	>180	**F**	>180	**F**	34.8	C
3	I-215 SB Ramps at Ethanac Road	•Add 2nd eastbound through lane •Add 2nd westbound left-turn lane •Modify southbound approach to provide one left-turn, one right-turn, and one shared left/through/right lane •Add dedicated eastbound right-turn lane	AM	S	175.8	**F**	199.6	**F**	26.3	C
			PM	S	342.4	**F**	383.2	**F**	51.6	D
4	I-215 NB Ramps at Ethanac Road	•Add 2nd eastbound through lane •Add 2nd westbound through lane •Add a dedicated westbound right-turn lane •Add 2nd eastbound left-turn lane •Add 2nd northbound left-turn lane	AM	S	195.9	**F**	204.4	**F**	34.3	C
			PM	S	365.8	**F**	375.0	**F**	47.0	D

Notes:
- **Bold and Shaded** values indicate intersections operating at an unacceptable Level of Service
- Delay values for signalized intersections represent the sum of average vehicle delay on all intersection approaches.

S = Signalized
U = Unsignalized

TABLE 12
SUMMARY OF ROADWAY SEGMENT ANALYSIS WITH RECOMMENDED IMPROVEMENTS
OPENING YEAR 2025 CUMULATIVE PLUS PROJECT

Roadway	Segment	Existing Configuration	Recommended Configuration	Opening Year 2025 Cumulative ADT	Project ADT	Opening Year 2025 Plus Project ADT	Recommended LOS E Capacitiy[1]	V/C	LOS
Ethanac Road	Evans Road to Case Road	4-Lane Arterial	6-Lane Urban Arterial	36,867	452	37,319	56,300	0.663	B
	Case Road to I-215 SB Ramps	4-Lane Arterial	6-Lane Urban Arterial	44,427	812	45,239	56,300	0.804	C
	I-215 SB Ramps to I-215 NB Ramps	3-Lane Arterial	6-Lane Urban Arterial	34,226	431	34,657	56,300	0.616	B

Notes: [1] Source: City of Menifee Engineering Department, LOS Traffic Study Guidelines, October 2020
ADT = Average Daily Traffic
V / C = Volume to Capacity
LOS = Level of Service

TABLE 13
SUMMARY OF PROJECT FAIR SHARE - OPENING YEAR 2025 CUMULATIVE

Int. #	Intersection	AM Peak Hour					PM Peak Hour				
		Total Volume		Total	Project		Total Volume		Total	Project	
		2023	2025	Growth	Trips	%-age	2023	2025	Growth	Trips	%-age
1	Evans Rd at Ethanac Rd	1,493	3,567	2,074	61	2.9%	1,416	4,023	2,607	65	2.5%
3	I-215 SB Ramps at Ethanac Rd	2,283	4,713	2,430	81	3.3%	2,358	5,412	3,054	86	2.8%
4	I-215 NB Ramps at Ethanac Rd	1,851	3,672	1,821	40	2.2%	1,964	4,325	2,361	49	2.1%

Roadway	Segment	Daily Traffic				
		Total Volume		Total	Project	Fair Share
		2023	2025	Growth	Trips	%-age
Ethanac Road	Evans Road to Case Road	16,845	36,867	20,022	452	2.3%
	Case Road to I-215 SB Ramps	24,114	44,427	20,313	812	4.0%
	I-215 SB Ramps to I-215 NB Ramps	19,929	34,226	14,297	431	3.0%

Notes:
- Fair Share percentage is to be applied to non-programmed improvements

SITE ACCESS AND CIRCULATION

The project site plan presented on Figure 2 (previously referenced) indicates that vehicular access provisions for the project site would consist of one full-movement truck/auto driveway (60-feet wide) and two full-movement auto driveways (26-feet wide each) on Evans Road, and one full-movement truck/auto driveway (55-feet wide) on Barnett Road. All driveways would provide access to standard car parking stalls. On-site drive aisles would provide two-way circulation on site. The project site would include 354 passenger car stalls and 41 trailer stalls.

STORAGE CAPACITY AT LEFT-TURN POCKETS

Queue lengths at the left-turn pockets were assessed at the following locations under Existing, Existing Plus Project, Opening Year 2025 Cumulative, Opening Year 2025 Cumulative Plus Project, and Opening Year 2025 Cumulative Plus Project Plus Recommended Improvements conditions:

- Evans Road at Ethanac Road (#1)
  - Northbound Left Turn
  - Westbound Left Turn

- Barnett Road/Case Road at Ethanac Road (#2)
  - Westbound Left Turn

- I-215 NB Ramps at Ethanac Road (#4)
  - Eastbound Left Turn

Results of the left-turning queuing analysis are summarized in **Table 14**. Based on the results of the queuing analysis, it is recommended that the following existing left-turn pockets are extended at the intersections below:

- Evans Road at Ethanac Road: NBL Turn Pocket extended to 75 feet, and WBL Turn Pocket extended to 475 feet with Recommended Improvements

- Barnett Road/Case Road at Ethanac Road: WBL Turn Pocket extended to 250 feet

- I-215 NB Ramps at Ethanac Road: EBL Turn Pocket extended to 525 feet with Recommended Improvements

The left-turn pocket capacities are provided in the intersection analysis worksheets in ***Appendix C*** of this report.

TABLE 14
SUMMARY OF LEFT-TURN POCKET STORAGE CAPACITY

Intersection	Left-Turn Movement	Storage Capacity (ft/ln)	Peak Hour	Peak Hour Queue Length (ft/ln)									
				Existing		Existing Plus Project		Opening Year 2025 Cumulative		Opening Year 2025 Cumulative Plus Project		Opening Year 2025 Cumulative Plus Project Plus Recommended Improvements	
				50th Percentile	95th Percentile	50th Percentile	95th Percentile	50th Percentile	95th Percentile	50th Percentile	95th Percentile	50th Percentile	95th Percentile
Evans Road at Ethanac Road (#1)	NBL	--	AM	N/A[1]	0	N/A[1]	5	N/A[1]	797	N/A[1]	850	25	45
			PM	N/A[1]	0	N/A[1]	10	N/A[1]	1169	N/A[1]	1333	39	70
	WBL	100	AM	N/A[1]	0	N/A[1]	5	N/A[1]	302	N/A[1]	394	324	471
			PM	N/A[1]	0	N/A[1]	1	N/A[1]	143	N/A[1]	164	227	351
Barnett Rd/Case Rd at Ethanac Rd (#2)	WBL	170	AM	62	112	84	151	102	184	123	214	--	--
			PM	69	123	77	138	134	229	142	240	--	--
I-215 NB Ramps at Ethanac Road (#4)	EBL	190	AM	191	305	201	317	1154	1758	1191	1818	264	398
			PM	203	319	229	353	1889	2963	1961	3078	360	516

Notes:
[1] 50th percentile queue not reported for unsignalized intersections

SITE ADJACENT ROADWAY IMPROVEMENTS

The project would construct the following site adjacent roadway improvements:

- **Evans Road**

  Construction along the Project frontage to its ultimate half width as a 2-Lane Industrial Collector (78-foot right-of-way). Based on conversation with City of Menifee staff, the intersection of Ethanac Road and Evans Road would be signalized.

- **Barnett Road**

  Construction along the Project frontage to its ultimate half width as a 4-Lane Secondary (100-foot right-of-way).

FINDINGS AND CONCLUSIONS

- The proposed Northern Gateway Logistics Center Project will involve the construction of two warehouse buildings totaling approximately 398,252 square feet.

- The project is estimated to generate 961 PCE trips daily, with 96 PCE trips in the morning peak hour and 101 PCE trips in the evening peak hour.

- Vehicular access provisions for the site would consist of three driveways (including one truck/auto driveway) on Evans Road and one truck/auto driveway on Barnett Road.

- The project opening year is anticipated to be Year 2025. The Opening Year 2025 Cumulative condition includes a 2% ambient annual growth rate. With the addition of ambient growth and Cumulative Projects traffic, the following intersections would operate at an unacceptable Level of Service:

    - #1 – Evans Road at Ethanac Road
    - #3 – I-215 SB Ramps at Ethanac Road
    - #4 – I-215 NB Ramps at Ethanac Road

- Project traffic was added to Opening Year 2025 traffic volumes to establish the conditions for Opening Year 2025 Cumulative Plus Project condition. Under this condition, the following intersections continue to operate at an unacceptable Level of Service:

    - #1 – Evans Road at Ethanac Road
    - #3 – I-215 SB Ramps at Ethanac Road
    - #4 – I-215 NB Ramps at Ethanac Road

- Based on the City of Menifee *LOS Traffic Study Guidelines* (October 2020), under Opening Year 2025 Cumulative Plus Project Conditions, the project-would cause a project-related effect at the following intersections:

    - #1 – Evans Road at Ethanac Road (Cumulative effect)
    - #3 – I-215 SB Ramps at Ethanac Road (Cumulative effect)
    - #4 – I-215 NB Ramps at Ethanac Road (Cumulative effect)

- Under Opening Year 2025 Cumulative Plus Project conditions, the following study roadway segments would operate at an unacceptable Level of Service on a daily basis:

    - Ethanac Road: Evans Road to Case Road
    - Ethanac Road: Case Road to I-215 SB Ramps
    - Ethanac Road: I-215 SB Ramps to I-215 NB Ramps

- Recommended improvements under applicable Opening Year 2025 Cumulative Plus Project condition were provided to address the project's effect at study intersections and roadway segments.

APPENDIX **A**

APPROVED SCOPING AGREEMENT

CITY OF MENIFEE

MEMORANDUM

PUBLIC WORKS/ENGINEERING DEPARTMENT

DATE: **August 1, 2023**

TO: **Trevor Briggs, Kimley-Horn and Associates, Inc.**

FROM: **Stephen Manganiello, Contract Traffic Engineer**

CC: **Haile Ford, Senior Engineer**

SUBJECT: **PCM23-026 Menifee Northern Gateway logistics Center - Scoping Agreement Review 2**

Traffic Engineering has completed the review of the Menifee Northern Gateway logistics Center Scoping Agreement, dated July 25, 2023, and have no additional comments.

If you have any questions on these comments please contact Stephen Manganiello, Contract Traffic Engineer, at stephen.manganiello@stctraffic.com.

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: Northern Gateway Logistics Center Project Schedule: _____(if applicable)

Project Description: 398,252 SF Warehouse

Name of Owner: _____

Signature: _____ Phone #: _____

Mailing Address: _____ FAX number: _____

_____ Email Address: _____

Name of Applicant: Lovett Industrial Contact: Luke Sarmiento

Authorized Signature: _____ Phone #: (562) 922-5784

Mailing Address: 120 Newport Center Dr. FAX number: _____

Suite 217, Newport Beach, CA 92660 Email Address: luke.sarmiento@lovettindustrial.com

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

07-25-2023

Date

Civil Engineer's Stamp

Trevor Briggs, P.E.

Printed Name

Kimley-Horn and Associates, Inc

Firm Name

3801 University Avenue, Suite 300, Riverside, CA 92501

Address

714-786-6117

Phone Number

Fax

trevor.briggs@kimley-horn.com

Email Address

1/21/2014

SCOPING AGREEMENT FOR TRAFFIC IMPACT ANALYSIS

This letter acknowledges the City Menifee Engineering Department requirements for the traffic impact analysis of the following project. The analysis must follow the latest City Traffic Impact Analysis Guidelines dated January 2020

Case No.
Related Cases -
SP No. -
EIR No. -
GPA No. -
CZ No. -

Project Name: Northern Gateway Logistics Center Project
Project Location: Between Evans Road and Barnett Road North of McLaughlin Road
Project Description: 398,252 square feet of warehouse/industrial buildings with 354 vehicular parking stalls and 41 trailer stalls **(See Attachment A)**

	Consultant	Developer
Name:	Kimley-Horn and Associates, Inc.	Lovett Industrial, LLC
Address:	3801 University Ave, Suite 300, Riverside, CA 92501	120 Newport Center Dr. Suite 217, Newport Beach, CA 92660
Telephone:	714-786-6117	(562) 922-5784

A. Trip Generation Source: ITE *Trip Generation Manual,* most recent edition (11th Edition)

Existing Land Use	Vacant	Proposed Land Use	Warehouse/Industrial
Existing Zoning	EDC	Proposed Zoning	EDC
Total Daily Trips	- N/A		961 Daily PCE trips

See Attachment B

	In	Out	Total
AM Trips	73	23	96
PM Trips	28	73	101

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: (See attached exhibit for detailed assignment)

	N	S	E	W
PC	35%	25%	10%	30%
Truck	60%	40%	0%	0%

See Attachment C

C. Background Traffic

Project Completion Year: 2025 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 Existing + Ambient Growth + Cumulative Projects + Project

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. **See Attachment C**
2.
3.
4.
5.
6.
7.
8.

F. Study Roadway Segments: **See Attachment C**

1.
2.
3.
4.
5.
6.
7.
8.

G. Other Jurisdictional Impacts

Is this project within any other Agency's Sphere of Influence or one-mile radius of boundaries? ☒ Yes ☐ No

If so, name of Jurisdiction: Perris

H. Site Plan (please attach a legible 11'X17' copy) **See Attachment A**

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)

Analyze all project driveways for required intersection geometry and lane configurations, storage for truck queuing, traffic control, sight distance, and operations. Will include site access and internal circulation, including truck turning movements, turning radius, roadway widths, and parking. VMT Analysis study will be performed. Additional coordination will be required for truck routes due to Ethanac Road no longer being a truck route in the westbound direction. Will include queuing analysis for left-turn pockets at study intersections where the project is adding traffic.

Recommended by:

Trevor Briggs, P.E.
Consultant's Representative — Date: 07-25-2023

Scoping Agreement Submitted on — Date: 06-15-2023

Scoping Agreement Resubmitted on — Date: 07-25-2023

Approved Scoping Agreement:

City of Menifee
Engineering Department — Date

cc: Community Services Department

NOT TO SCALE

ATTACHMENT A
SITE PLAN

Kimley»Horn

ATTACHMENT B

SUMMARY OF PROJECT TRIP GENERATION

NORTHERN GATEWAY LOGISTICS CENTER PROJECT

TRIP GENERATION RATES [1]

ITE Land Use	ITE Code	Unit	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Warehousing	150	KSF	1.71	0.131	0.039	0.170	0.050	0.130	0.180

PROJECT TRIP GENERATION

Project Land Use		Quantity	Unit	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Warehousing		398.252	KSF	681	52	16	68	20	52	72
Passenger Vehicles	73.00%			497	38	12	50	15	38	53
Trucks	27.00%			184	14	4	18	5	14	19

PASSENGER CAR EQUIVALENTS (PCE)

Vehicle Type	Vehicle Mix [2,3]	Daily Vehicles	PCE Factor	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Passenger Vehicles	73.00%	497	1.0	497	38	12	50	15	38	53
2-Axle Trucks	4.57%	31	1.5	47	4	1	5	1	4	5
3-Axle Trucks	6.13%	42	2.0	84	6	2	8	2	6	8
4+ Axle Trucks	16.30%	111	3.0	333	25	8	33	10	25	35
Total Proposed Project Truck PCE Trips				464	35	11	46	13	35	48
Total Proposed Project PCE Trips				**961**	**73**	**23**	**96**	**28**	**73**	**101**

[1] Source: Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition

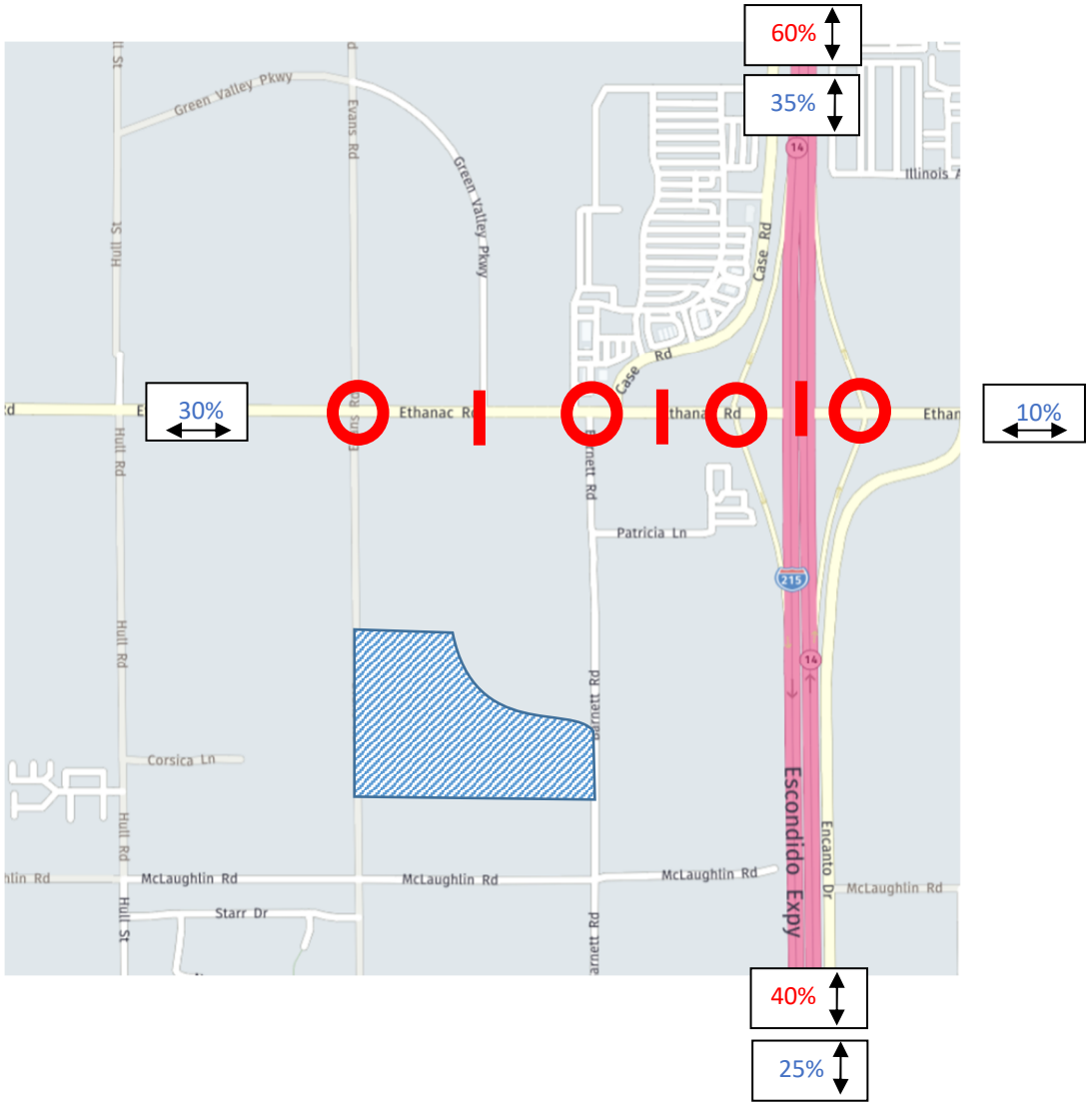
[2] Passenger Vehicles and Truck splits taken from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition Supplement.

[3] Truck mix percentages were calculated based on a ratio between the ITE truck splits and the Truck Trip Generation Study - City of Fontana, August 2003

PCE = Passenger Car Equivalent

KSF = Thousand Square Feet

ATTACHMENT C
PROJECT STUDY AREA AND TRIP DISTRIBUTION RATES



PROJECT SITE

STUDY INTERSECTION

STUDY ROADWAY SEGMENT

YY% **PASSENGER CAR TRIP DISTRIBUTION**

YY% **TRUCK TRIP DISTRIBUTION**

ATTACHMENT C
PROJECT STUDY AREA

Study Intersections

1. Evans Road at Ethanac Road
2. Barnett Road/Case Road at Ethanac Road
3. I-215 SB Ramps at Ethanac Road
4. I-215 NB Ramps at Ethanac Road

Study Roadway Segments

1. Ethanac Road: Evans Road to Case Road
2. Ethanac Road: Case Road to I-215 SB Ramps
3. Ethanac Road: I-215 SB Ramps to I-215 NB Ramps

ATTACHMENT D:

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.

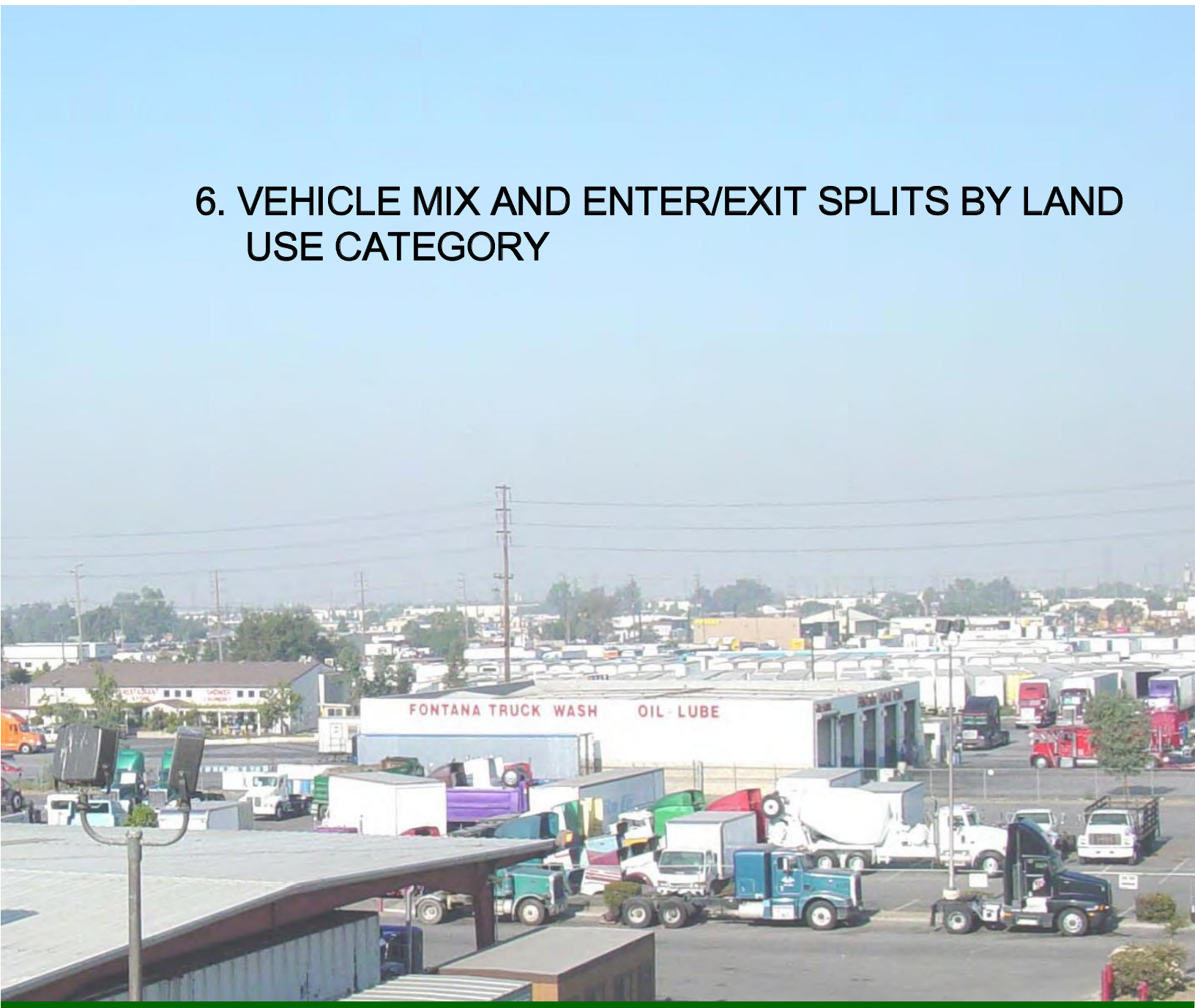
Source: Riverside County Transportation Department

ATTACHMENT E
Truck Trip Generation Study

City of Fontana
County of San Bernardino
State of California

August 2003

6. VEHICLE MIX AND ENTER/EXIT SPLITS BY LAND USE CATEGORY



VEHICLE MIX AND ENTER/EXIT SPLITS BY LAND USE CATEGORY (Cont'd)

Classification: Heavy Warehouse

	Recommended Large Truck Mix (%)							
	Lge 2 Ax	3 Axle	4+ Axle	Total				
	16.95	22.71	60.34	100				
	Pass Veh	Lge 2 Ax	3 Axle	4+ Axle	Total			
	79.57	3.46	4.64	12.33	100			
	Site Entering & Exiting							
	a.m.				p.m.			
	Total Enter	Total Exit	Large Truck Enter	Large Truck Exit	Total Enter	Total Exit	Large Truck Enter	Large Truck Exit
Split	85.66	14.34	46.38	53.62	46.01	53.99	56.58	43.42
	Street Entering & Exiting							
	a.m.				p.m.			
	Total Enter	Total Exit	Large Truck Enter	Large Truck Exit	Total Enter	Total Exit	Large Truck Enter	Large Truck Exit
Split	50.94	49.06	45.00	55.00	30.72	69.28	45.76	54.24

C Appendix: Truck Trips as Percent of Total Vehicle Trips

	Truck Trips as Percentage of Total Vehicle Trips				
Land Use Code, Land Use Name, and Time Period	# Sites	Wtd Avg	Lowest	Highest	Std Dev
110 General Light Industrial					
Weekday	28	8%	0%	29%	8%
Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	27	3%	0%	50%	12%
Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	27	2%	0%	20%	4%
Weekday, AM Peak Hour of Generator	28	4%	0%	100%	21%
Weekday, PM Peak Hour of Generator	27	7%	0%	29%	9%
130 Industrial Park					
Weekday	3	15%	10%	16%	3%
Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	3	12%	10%	13%	1%
Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	3	10%	3%	13%	5%
Weekday, AM Peak Hour of Generator	3	6%	4%	8%	2%
Weekday, PM Peak Hour of Generator	3	10%	7%	13%	3%
140 Manufacturing					
Weekday	17	10%	0%	35%	10%
Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	17	8%	0%	50%	17%
Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	16	7%	0%	80%	24%
Weekday, AM Peak Hour of Generator	17	2%	0%	37%	9%
Weekday, PM Peak Hour of Generator	17	6%	0%	42%	14%

	Truck Trips as Percentage of Total Vehicle Trips				
Land Use Code, Land Use Name, and Time Period	# Sites	Wtd Avg	Lowest	Highest	Std Dev
150 Warehousing					
Weekday	12	27%	0%	65%	21%
Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	21	13%	0%	71%	22%
Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	23	15%	0%	87%	20%
Weekday, AM Peak Hour of Generator	24	22%	0%	100%	26%
151 Mini-Warehouse					
Weekday	6	6%	0%	8%	3%
Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	5	0%	0%	0%	0%
Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	6	0%	0%	0%	0%
Weekday, AM Peak Hour of Generator	6	4%	0%	15%	6%
Weekday, PM Peak Hour of Generator	6	5%	0%	50%	20%
154 High-Cube Transload and Short-Term Storage Warehouse					
Weekday	57	16%	3%	52%	11%
Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	90	20%	0%	90%	21%
Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	91	16%	0%	65%	17%
Weekday, AM Peak Hour of Generator	12	12%	4%	39%	12%
Weekday, PM Peak Hour of Generator	13	14%	2%	25%	7%
155 High-Cube Fulfillment Center Warehouse (Non-Sort)					
Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	11	9%	1%	49%	18%
Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	11	7%	2%	100%	31%

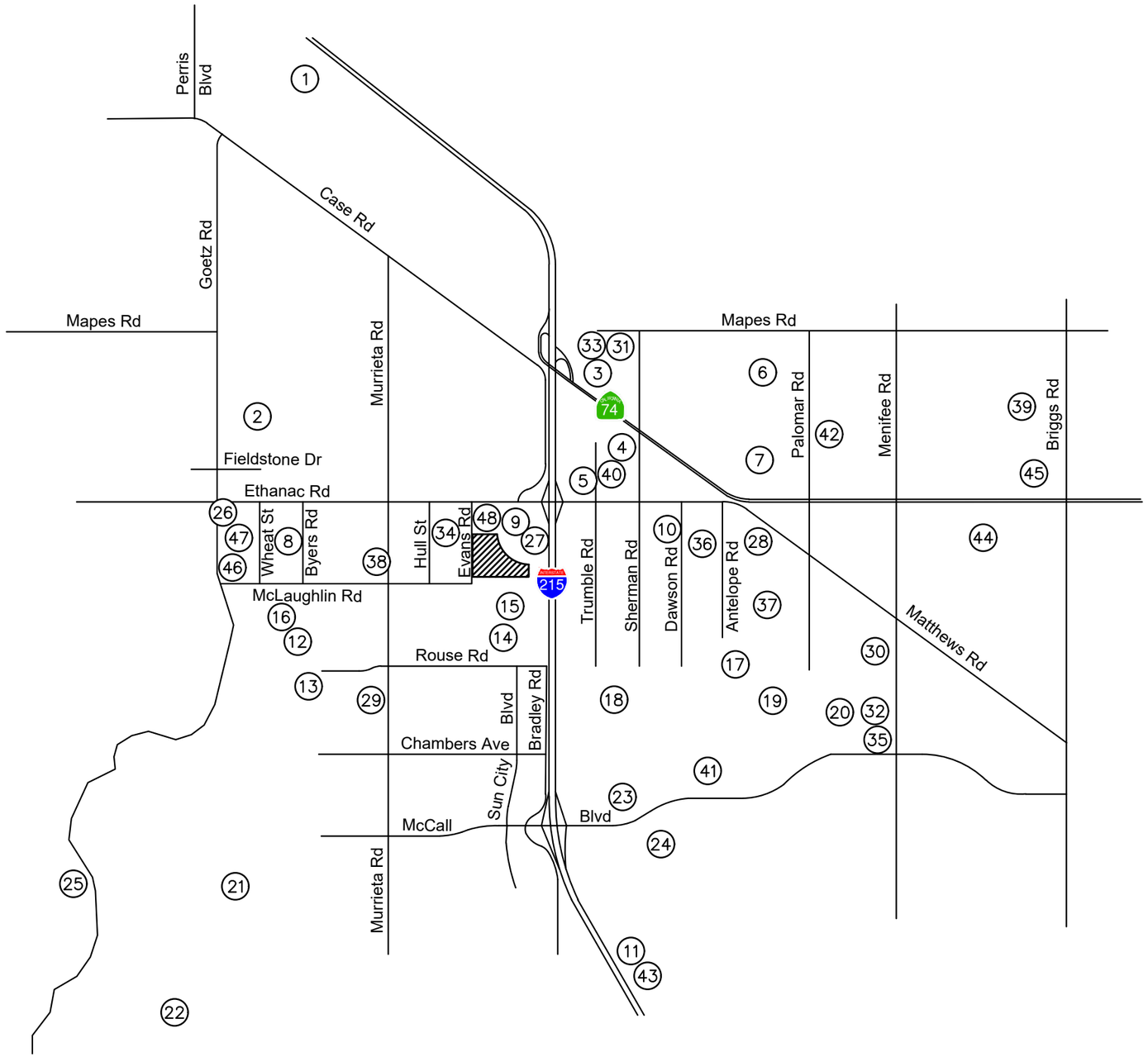
Land Use Code, Land Use Name, and Time Period	Truck Trips as Percentage of Total Vehicle Trips				
	# Sites	Wtd Avg	Lowest	Highest	Std Dev
155 High-Cube Fulfillment Center Warehouse (Sort)					
Weekday	1	3%	—	—	N.A.
Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	2	2%	1%	2%	N.A.
Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	2	2%	1%	6%	N.A.
156 High-Cube Parcel Hub Warehouse					
Weekday	1	9%	—	—	N.A.
Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	1	5%	—	—	N.A.
Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	1	1%	—	—	N.A.
157 High-Cube Cold Storage Warehouse					
Weekday	4	35%	32%	39%	3%
Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	5	27%	18%	46%	13%
Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	5	23%	0%	45%	16%
170 Utility					
Weekday	13	2%	0%	17%	5%
Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	12	0%	0%	0%	0%
Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	12	1%	0%	2%	1%
Weekday, AM Peak Hour of Generator	13	1%	0%	22%	6%
Weekday, PM Peak Hour of Generator	13	2%	0%	50%	16%

ATTACHMENT F
SUMMARY OF CUMULATIVE PROJECTS

Proj #	Location	Land Use	Quantity	Units	Trip Generation Estimates						
						AM Peak Hour			PM Peak Hour		
					Daily	In	Out	Total	In	Out	Total
1	Industrial Warehouse Building	Warehousing	2,300.000	KSF	5,546	419	125	544	160	416	576
2	Green Valley	Single-Family Detached Housing	623	DU	5,881	115	346	461	389	228	617
		Multifamily Housing (Mid-Rise)	842	DU	4,580	79	224	303	226	145	371
3	On-Deck	Convenience Market w/ Gasoline Pumps	6	Fueling Position	1,935	62	62	124	69	69	138
		Pass-by Trips (AM: 63%, PM:66%)				-39	-39	-78	-46	-46	-91
		Hotel	108	Room	903	30	21	51	33	32	65
		Quality Restaurant	5.500	KSF	461	3	1	4	29	14	43
		Pass-by Trips (PM:44%)							-13	-6	-19
		Fast-Food Restaurant w/o Drive-thru	3.000	KSF	1,039	45	30	75	43	43	86
		Automated Car Wash	4.500	KSF	734	26	15	41	32	32	64
		Sub Total			5,072	127	90	217	148	138	286
4	Paragon Framing	High-Cube Short-Term Storage	5.000	KSF	7	0	0	0	0	0	0
		General Office Building	5.454	KSF	53	5	1	6	1	5	6
5	Perris Travel Center	Gasoline Station w/ Convenience Market	16	Fueling Position	3,286	102	98	200	114	110	224
6	MR-27 LLC (Rancon)	Single-Family Detached Housing	172	DU	1,624	32	95	127	107	63	170
7	Motte Country Plaza	Shopping Center	4.888	KSF	185	3	2	5	9	10	19
		Pass-by Trips (PM:34%)							-3	-3	-6
		Sub Total			185	3	2	5	6	7	13
8	Capstone Warehouse	Warehousing	700.037	KSF	4,716	517	122	639	343	536	879
9	Ethanac Square	Automated Car Wash	2.080	KSF	339	12	7	19	15	15	30
		Convenience Market w/ Gasoline Pumps	4	Fueling Position	1,290	42	42	84	46	46	92
10	Menifee Commerce Center	Warehousing	1,640.130	KSF	9,474	964	249	1,213	633	999	1,632
11	Villago Villas	Multifamily Housing (Low-Rise)	24	DU	176	3	8	11	8	5	13
12	Cimarron Ridge	Single-Family Detached Housing	756	DU	7,137	140	420	560	472	277	749
13	Valley Blvd Tract Map	Single-Family Detached Housing	68	DU	642	13	38	51	42	25	67
14	Sagewood (DR Horton)	Single-Family Detached Housing	174	DU	1,643	32	97	129	109	64	173
15	McLaughlin Village	Single-Family Detached Housing	126	DU	1,189	23	70	93	79	46	125
16	TTM 38128	Single-Family Detached Housing	96	DU	906	18	53	71	60	35	95
17	Talavera (KB Homes)	Single-Family Detached Housing	173	DU	1,633	32	96	128	108	63	171
18	Legado	Single-Family Detached Housing	1,022	DU	9,648	189	567	756	638	374	1,012
19	Underwood (KB Homes)	Single-Family Detached Housing	543	DU	5,126	100	301	401	339	199	538
20	Remington/McCall Mesa	Single-Family Detached Housing	264	DU	2,492	49	147	196	165	97	262
21	Stonegate (Enclave)	Single-Family Detached Housing	177	DU	1,671	33	98	131	110	65	175
22	Skyview (Woodside Homes)	Single-Family Detached Housing	246	DU	2,322	46	137	183	154	90	244
23	McCall-Encanto Gas Station	Gasoline Station w/ Convenience Market	12	Fueling Position	2,464	76	73	149	86	82	168
24	McCall Plaza	Convenience Market w/ Gasoline Pumps	2	Fueling Position	645	21	21	42	23	23	46
		Pass-by Trips (AM: 63%, PM:66%)				-13	-13	-26	-15	-15	-30
		Shopping Center	1	KSF	38	1	0	1	2	2	4
		Quality Restaurant	3.100	KSF	260	2	0	2	16	8	24
		Pass-by Trips (PM:44%)							-7	-4	-11
		Fast-Food Restaurant w/o Drive-thru	3.2	KSF	1,108	48	32	80	45	45	90
		Automated Car Wash	2.080	KSF	339	12	7	19	15	15	30
		Sub Total			2,390	71	47	118	79	74	153
25	Quail Hills	Single-Family Detached Housing	152	DU	1,435	28	84	112	95	56	151
26	Goetz/Ethanac Commercial	Convenience Market w/ Gasoline Pumps	8	Fueling Position	2,580	83	83	166	92	92	184
		Pass-by Trips (AM: 63%, PM:66%)				-52	-52	-105	-61	-61	-121
		Discount Home Furnishing Superstore	3	KSF	58	1	1	2	2	2	4
		Shopping Center	7.040	KSF	266	4	3	7	13	14	27
		Pass-by Trips (PM:34%) Retail Only							-4	-5	-9
		Sub Total			2,904	36	35	70	42	43	84
27	Barnett Warehouse	Warehousing	251.780	KSF	607	46	14	60	17	45	62
28	Nova Battery Storage	General Light Industrial	3.10	Employees	16	3	1	4	1	3	4
29	Vista Ridge Aparments	Multifamily Housing (Mid-Rise)	30	DU	163	3	8	11	8	5	13
30	LDW TTM 38346	Multifamily Housing (Mid-Rise)	162	DU	881	15	43	58	43	28	71
31	Mapes and Sherman Warehouse	Warehousing	277.578	KSF	669	51	15	66	19	50	69
32	The Village at Junipero	Multifamily Housing (Mid-Rise)	240	DU	1,306	23	64	87	64	41	105
33	United Carports Warehouse	Warehousing	58.643	KSF	141	11	3	14	4	11	15
34	Northern Gateway Commerce Center	Warehousing	1,316.741	KSF	3,176	243	71	314	93	242	335
35	McCall Square	Shopping Center	84.200	KSF	3,179	49	30	79	154	167	321
		Mini-Warehouse	150.541	KSF	218	8	6	14	11	12	23
36	Motte Business Center	High-Cube Fulfillment Center - Non-Sort	1,138.638	KSF	2,308	156	37	193	79	125	204
37	McLaughlin San Jacinto Warehouses	Warehousing	491.467	KSF	1,185	89	27	116	34	89	123
38	Ares Warehouse on Murrieta	Warehousing	551.685	KSF	1,330	100	30	130	38	100	138
39	TR 38133	Single-Family Detached Housing	145	DU	1,369	27	80	107	90	53	143
40	Trumble and Watson Warehouse	Warehousing	327.631	KSF	790	60	18	78	23	59	82
41	Cypress and Sands Apartments	Multifamily Housing (Mid-Rise)	136	DU	740	13	36	49	36	23	59
42	TR 38132	Multifamily Housing (Mid-Rise)	173	DU	941	16	46	62	46	30	76
43	Kensington Apartments	Multifamily Housing (Mid-Rise)	221	DU	1,202	21	59	80	59	38	97
44	Menifee Valley SP (Brookfield)	Multifamily Housing (Mid-Rise)	1,711	DU	9,308	161	455	616	459	294	753
45	Harvest Glen Marketplace	Convenience Market w/ Gasoline Pumps	16	Fueling Position	5,160	166	166	332	184	184	368
		Pass-by Trips (AM: 63%, PM:66%)				-105	-105	-209	-121	-121	-243
		Fast-Food Restaurant w/ Drive-thru	1.102	KSF	519	23	22	45	19	17	36
		Fast-Food Restaurant w/o Drive-thru	3.268	KSF	1,131	49	33	82	46	46	92
		Automated Car Wash	3.000	KSF	489	17	10	27	21	21	42
		Sub Total			7,299	150	126	277	149	147	295
46	Corsica Business Park	Warehousing	265.821	KSF	642	49	14	63	18	49	67
47	Wheat Warehouse	Warehousing	86.676	KSF	208	15	3	18	5	15	20
48	Ethanac and Evans Warehouse	Warehousing	137.896	KSF	331	25	7	32	9	25	34
Total Project Trips					123,840	4,640	4,865	9,505	6,232	5,953	12,185

DU = Dwelling Unit, KSF = 1,000 square feet, FP = Fueling Position

NOT TO SCALE



LEGEND:

= Project Site

X = Cumulative Project

ATTACHMENT G
LOCATION OF CUMULATIVE PROJECTS

Kimley»Horn

APPENDIX **B**

TRAFFIC COUNT DATA SHEETS

APPENDIX B-1

TRAFFIC COUNT DATA SHEETS–
INTERSECTION COUNTS

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

City of Menifee
N/S: Evans Road
E/W: Ethanac Road
Weather: Clear

File Name : 04_MEN_Evans_Eth AM
Site Code : 10823147
Start Date : 2/15/2023
Page No : 1

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

	Ethanac Road Westbound			Evans Road Northbound			Ethanac Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	2	88	90	0	0	0	179	1	180	270
07:15 AM	0	92	92	0	3	3	229	0	229	324
07:30 AM	0	92	92	0	0	0	290	1	291	383
07:45 AM	1	142	143	0	0	0	218	0	218	361
Total	3	414	417	0	3	3	916	2	918	1338
08:00 AM	0	153	153	0	0	0	203	0	203	356
08:15 AM	1	121	122	0	0	0	157	0	157	279
08:30 AM	2	96	98	0	1	1	131	1	132	231
08:45 AM	0	100	100	0	1	1	134	0	134	235
Total	3	470	473	0	2	2	625	1	626	1101
Grand Total	6	884	890	0	5	5	1541	3	1544	2439
Apprch %	0.7	99.3		0	100		99.8	0.2		
Total %	0.2	36.2	36.5	0	0.2	0.2	63.2	0.1	63.3	
Passenger Vehicles	4	813	817	0	4	4	1455	2	1457	2278
% Passenger Vehicles	66.7	92	91.8	0	80	80	94.4	66.7	94.4	93.4
Large 2 Axle Vehicles	2	47	49	0	1	1	55	1	56	106
% Large 2 Axle Vehicles	33.3	5.3	5.5	0	20	20	3.6	33.3	3.6	4.3
3 Axle Vehicles	0	13	13	0	0	0	13	0	13	26
% 3 Axle Vehicles	0	1.5	1.5	0	0	0	0.8	0	0.8	1.1
4+ Axle Trucks	0	11	11	0	0	0	18	0	18	29
% 4+ Axle Trucks	0	1.2	1.2	0	0	0	1.2	0	1.2	1.2

	Ethanac Road Westbound			Evans Road Northbound			Ethanac Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	0	92	92	0	**3**	**3**	229	0	229	324
07:30 AM	0	92	92	0	0	0	**290**	**1**	**291**	**383**
07:45 AM	**1**	142	143	0	0	0	218	0	218	361
08:00 AM	0	**153**	**153**	0	0	0	203	0	203	356
Total Volume	1	479	480	0	3	3	940	1	941	1424
% App. Total	0.2	99.8		0	100		99.9	0.1		
PHF	.250	.783	.784	.000	.250	.250	.810	.250	.808	.930

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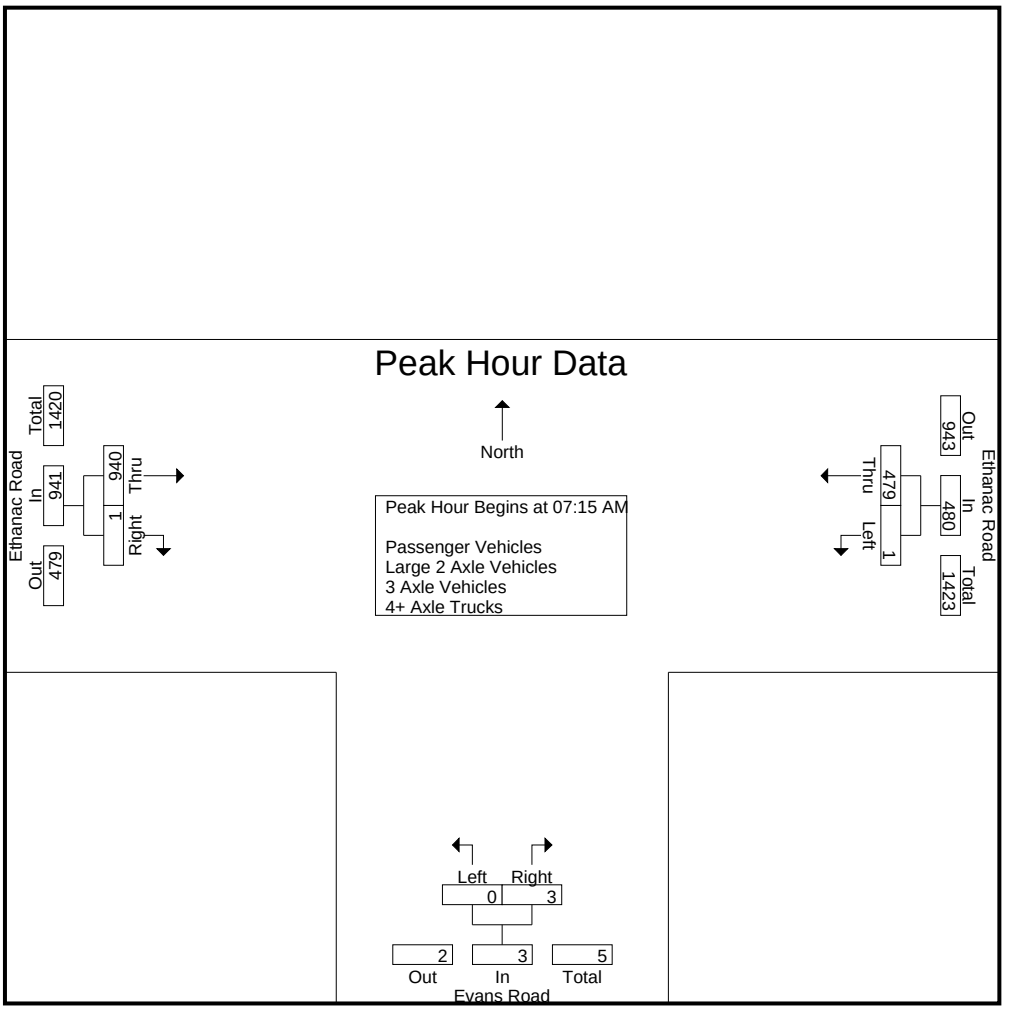

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			07:00 AM			07:15 AM		
+0 mins.	1	142	143	0	0	0	229	0	229
+15 mins.	0	**153**	**153**	0	**3**	**3**	**290**	**1**	**291**
+30 mins.	1	121	122	0	0	0	218	0	218
+45 mins.	**2**	96	98	0	0	0	203	0	203
Total Volume	4	512	516	0	3	3	940	1	941
% App. Total	0.8	99.2		0	100		99.9	0.1	
PHF	.500	.837	.843	.000	.250	.250	.810	.250	.808

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Start Date : 2/15/2023
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Groups Printed- Passenger Vehicles

	Ethanac Road Westbound			Evans Road Northbound			Ethanac Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	2	82	84	0	0	0	169	0	169	253
07:15 AM	0	77	77	0	2	2	216	0	216	295
07:30 AM	0	79	79	0	0	0	277	1	278	357
07:45 AM	0	137	137	0	0	0	203	0	203	340
Total	2	375	377	0	2	2	865	1	866	1245
08:00 AM	0	146	146	0	0	0	198	0	198	344
08:15 AM	0	113	113	0	0	0	150	0	150	263
08:30 AM	2	91	93	0	1	1	123	1	124	218
08:45 AM	0	88	88	0	1	1	119	0	119	208
Total	2	438	440	0	2	2	590	1	591	1033
Grand Total	4	813	817	0	4	4	1455	2	1457	2278
Apprch %	0.5	99.5		0	100		99.9	0.1		
Total %	0.2	35.7	35.9	0	0.2	0.2	63.9	0.1	64	

	Ethanac Road Westbound			Evans Road Northbound			Ethanac Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	0	77	77	0	**2**	**2**	216	0	216	295
07:30 AM	0	79	79	0	0	0	**277**	**1**	**278**	**357**
07:45 AM	0	137	137	0	0	0	203	0	203	340
08:00 AM	0	**146**	**146**	0	0	0	198	0	198	344
Total Volume	0	439	439	0	2	2	894	1	895	1336
% App. Total	0	100		0	100		99.9	0.1		
PHF	.000	.752	.752	.000	.250	.250	.807	.250	.805	.936

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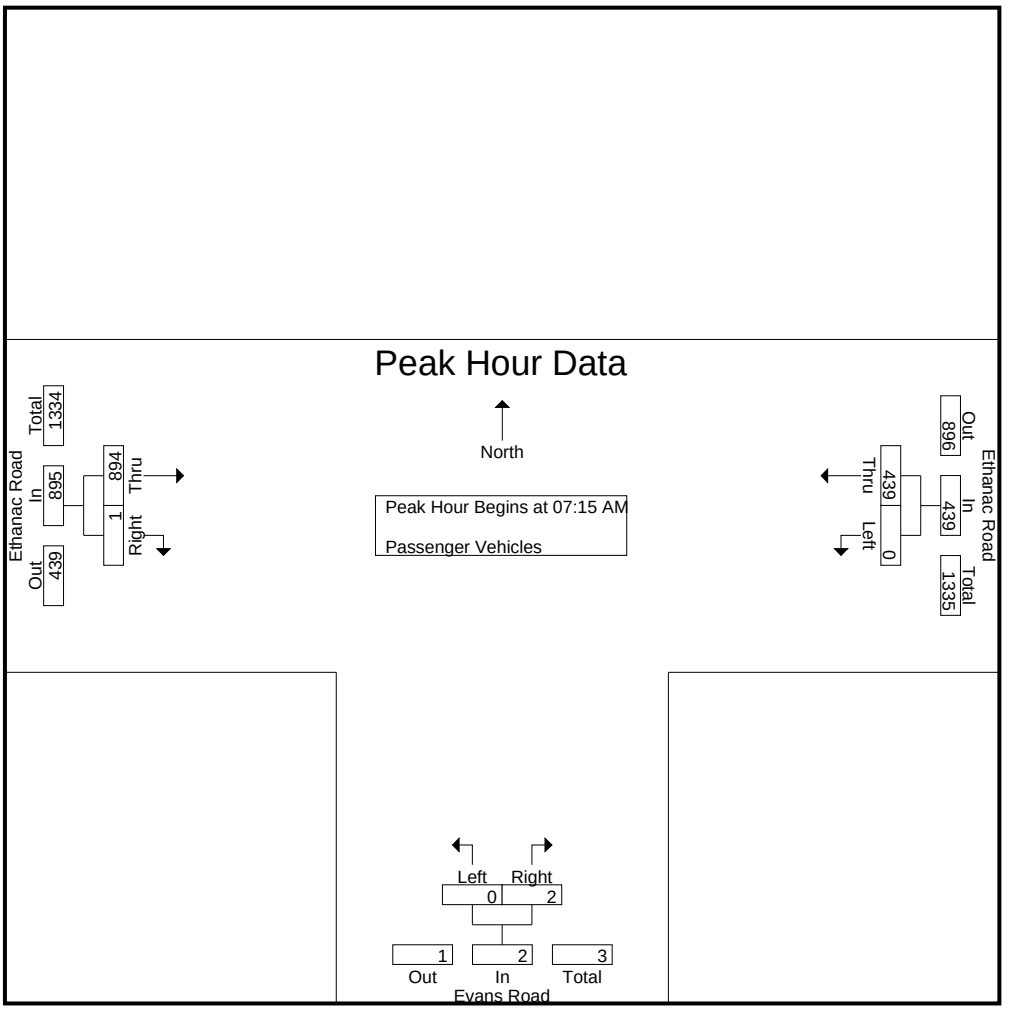
Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	0	77	77	0	**2**	**2**	216	0	216
+15 mins.	0	79	79	0	0	0	**277**	**1**	**278**
+30 mins.	0	137	137	0	0	0	203	0	203
+45 mins.	0	**146**	**146**	0	0	0	198	0	198
Total Volume	0	439	439	0	2	2	894	1	895
% App. Total	0	100		0	100		99.9	0.1	
PHF	.000	.752	.752	.000	.250	.250	.807	.250	.805

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File Name : 04_MEN_Evans_Eth AM
Site Code : 10823147
Start Date : 2/15/2023
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Ethanac Road Westbound			Evans Road Northbound			Ethanac Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	2	2	0	0	0	7	1	8	10
07:15 AM	0	7	7	0	1	1	7	0	7	15
07:30 AM	0	13	13	0	0	0	7	0	7	20
07:45 AM	1	5	6	0	0	0	13	0	13	19
Total	1	27	28	0	1	1	34	1	35	64
08:00 AM	0	7	7	0	0	0	2	0	2	9
08:15 AM	1	3	4	0	0	0	3	0	3	7
08:30 AM	0	3	3	0	0	0	5	0	5	8
08:45 AM	0	7	7	0	0	0	11	0	11	18
Total	1	20	21	0	0	0	21	0	21	42
Grand Total	2	47	49	0	1	1	55	1	56	106
Apprch %	4.1	95.9		0	100		98.2	1.8		
Total %	1.9	44.3	46.2	0	0.9	0.9	51.9	0.9	52.8	

	Ethanac Road Westbound			Evans Road Northbound			Ethanac Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	0	7	7	0	**1**	**1**	7	0	7	15
07:30 AM	0	**13**	**13**	0	0	0	7	0	7	**20**
07:45 AM	**1**	5	6	0	0	0	**13**	0	**13**	19
08:00 AM	0	7	7	0	0	0	2	0	2	9
Total Volume	1	32	33	0	1	1	29	0	29	63
% App. Total	3	97		0	100		100	0		
PHF	.250	.615	.635	.000	.250	.250	.558	.000	.558	.788

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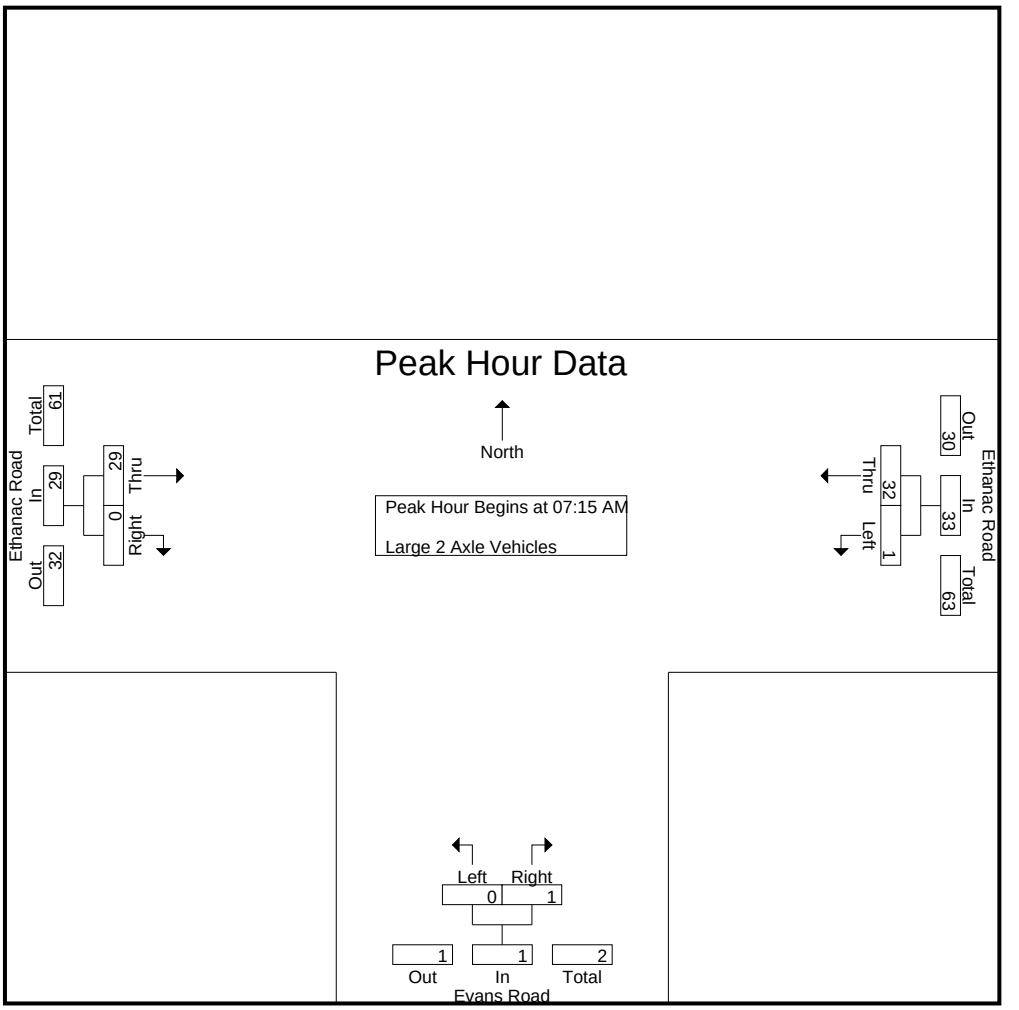

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	0	7	7	0	**1**	**1**	7	0	7
+15 mins.	0	**13**	**13**	0	0	0	7	0	7
+30 mins.	**1**	5	6	0	0	0	**13**	0	**13**
+45 mins.	0	7	7	0	0	0	2	0	2
Total Volume	1	32	33	0	1	1	29	0	29
% App. Total	3	97		0	100		100	0	
PHF	.250	.615	.635	.000	.250	.250	.558	.000	.558

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City of Menifee
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File Name : 04_MEN_Evans_Eth AM
Site Code : 10823147
Start Date : 2/15/2023
Page No : 1

Groups Printed- 3 Axle Vehicles

	Ethanac Road Westbound			Evans Road Northbound			Ethanac Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	3	3	0	0	0	1	0	1	4
07:15 AM	0	5	5	0	0	0	2	0	2	7
07:30 AM	0	0	0	0	0	0	3	0	3	3
07:45 AM	0	0	0	0	0	0	2	0	2	2
Total	0	8	8	0	0	0	8	0	8	16
08:00 AM	0	0	0	0	0	0	2	0	2	2
08:15 AM	0	2	2	0	0	0	1	0	1	3
08:30 AM	0	0	0	0	0	0	1	0	1	1
08:45 AM	0	3	3	0	0	0	1	0	1	4
Total	0	5	5	0	0	0	5	0	5	10
Grand Total	0	13	13	0	0	0	13	0	13	26
Apprch %	0	100		0	0		100	0		
Total %	0	50	50	0	0	0	50	0	50	

	Ethanac Road Westbound			Evans Road Northbound			Ethanac Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	0	**5**	**5**	0	0	0	2	0	2	**7**
07:30 AM	0	0	0	0	0	0	**3**	0	**3**	3
07:45 AM	0	0	0	0	0	0	2	0	2	2
08:00 AM	0	0	0	0	0	0	2	0	2	2
Total Volume	0	5	5	0	0	0	9	0	9	14
% App. Total	0	100		0	0		100	0		
PHF	.000	.250	.250	.000	.000	.000	.750	.000	.750	.500

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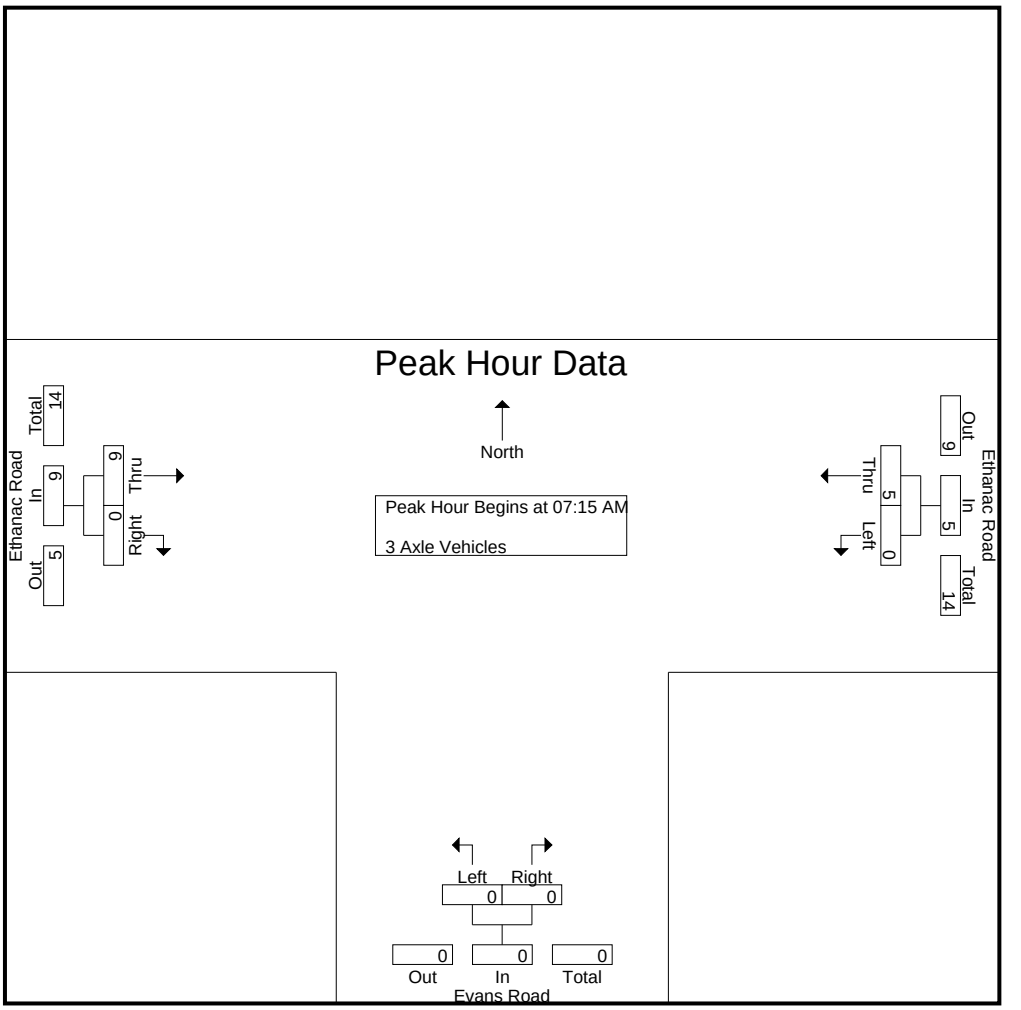

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	0	**5**	**5**	0	0	0	2	0	2
+15 mins.	0	0	0	0	0	0	**3**	0	**3**
+30 mins.	0	0	0	0	0	0	2	0	2
+45 mins.	0	0	0	0	0	0	2	0	2
Total Volume	0	5	5	0	0	0	9	0	9
% App. Total	0	100		0	0		100	0	
PHF	.000	.250	.250	.000	.000	.000	.750	.000	.750

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City of Menifee
N/S: Evans Road
E/W: Ethanac Road
Weather: Clear

File Name : 04_MEN_Evans_Eth AM
Site Code : 10823147
Start Date : 2/15/2023
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Groups Printed- 4+ Axle Trucks

	Ethanac Road Westbound			Evans Road Northbound			Ethanac Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	1	0	0	0	2	0	2	3
07:15 AM	0	3	3	0	0	0	4	0	4	7
07:30 AM	0	0	0	0	0	0	3	0	3	3
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	4	4	0	0	0	9	0	9	13
08:00 AM	0	0	0	0	0	0	1	0	1	1
08:15 AM	0	3	3	0	0	0	3	0	3	6
08:30 AM	0	2	2	0	0	0	2	0	2	4
08:45 AM	0	2	2	0	0	0	3	0	3	5
Total	0	7	7	0	0	0	9	0	9	16
Grand Total	0	11	11	0	0	0	18	0	18	29
Apprch %	0	100		0	0		100	0		
Total %	0	37.9	37.9	0	0	0	62.1	0	62.1	

	Ethanac Road Westbound			Evans Road Northbound			Ethanac Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	0	**3**	**3**	0	0	0	**4**	0	**4**	**7**
07:30 AM	0	0	0	0	0	0	3	0	3	3
07:45 AM	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	1	0	1	1
Total Volume	0	3	3	0	0	0	8	0	8	11
% App. Total	0	100		0	0		100	0		
PHF	.000	.250	.250	.000	.000	.000	.500	.000	.500	.393

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N/S: Evans Road
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File Name : 04_MEN_Evans_Eth AM
Site Code : 10823147
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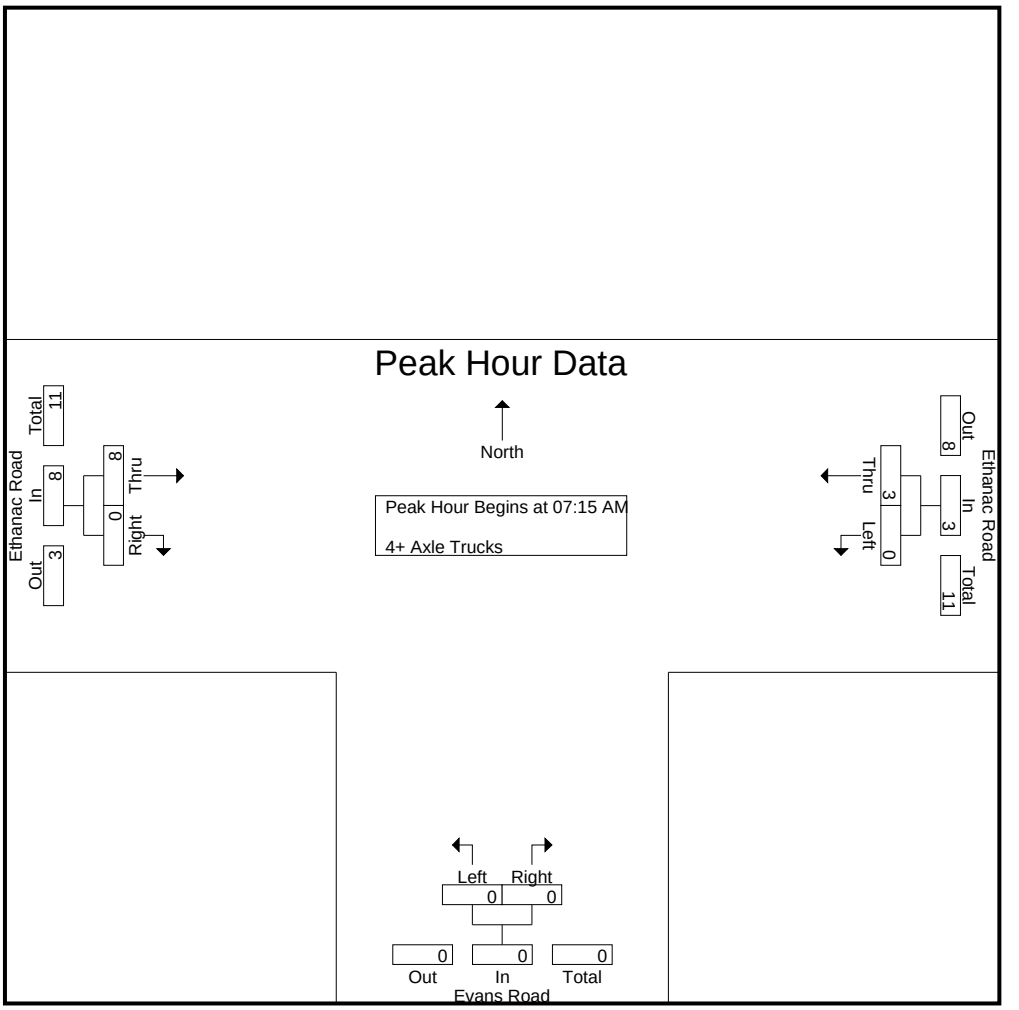

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	0	**3**	**3**	0	0	0	**4**	0	**4**
+15 mins.	0	0	0	0	0	0	3	0	3
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	1	0	1
Total Volume	0	3	3	0	0	0	8	0	8
% App. Total	0	100		0	0		100	0	
PHF	.000	.250	.250	.000	.000	.000	.500	.000	.500

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City of Menifee
N/S: Evans Road
E/W: Ethanac Road
Weather: Clear

File Name : 04_MEN_Evans_Eth PM
Site Code : 10823147
Start Date : 2/15/2023
Page No : 1

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

	Ethanac Road Westbound			Evans Road Northbound			Ethanac Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	175	175	0	0	0	172	0	172	347
04:15 PM	1	202	203	0	1	1	133	0	133	337
04:30 PM	0	179	179	0	1	1	164	0	164	344
04:45 PM	1	168	169	0	0	0	167	0	167	336
Total	2	724	726	0	2	2	636	0	636	1364
05:00 PM	1	177	178	0	0	0	149	0	149	327
05:15 PM	0	205	205	0	0	0	162	0	162	367
05:30 PM	2	158	160	0	0	0	151	0	151	311
05:45 PM	0	148	148	0	1	1	167	0	167	316
Total	3	688	691	0	1	1	629	0	629	1321
Grand Total	5	1412	1417	0	3	3	1265	0	1265	2685
Apprch %	0.4	99.6		0	100		100	0		
Total %	0.2	52.6	52.8	0	0.1	0.1	47.1	0	47.1	
Passenger Vehicles	5	1340	1345	0	3	3	1222	0	1222	2570
% Passenger Vehicles	100	94.9	94.9	0	100	100	96.6	0	96.6	95.7
Large 2 Axle Vehicles	0	39	39	0	0	0	38	0	38	77
% Large 2 Axle Vehicles	0	2.8	2.8	0	0	0	3	0	3	2.9
3 Axle Vehicles	0	31	31	0	0	0	1	0	1	32
% 3 Axle Vehicles	0	2.2	2.2	0	0	0	0.1	0	0.1	1.2
4+ Axle Trucks	0	2	2	0	0	0	4	0	4	6
% 4+ Axle Trucks	0	0.1	0.1	0	0	0	0.3	0	0.3	0.2

	Ethanac Road Westbound			Evans Road Northbound			Ethanac Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	179	179	0	**1**	**1**	164	0	164	344
04:45 PM	**1**	168	169	0	0	0	**167**	0	**167**	336
05:00 PM	1	177	178	0	0	0	149	0	149	327
05:15 PM	0	**205**	**205**	0	0	0	162	0	162	**367**
Total Volume	2	729	731	0	1	1	642	0	642	1374
% App. Total	0.3	99.7		0	100		100	0		
PHF	.500	.889	.891	.000	.250	.250	.961	.000	.961	.936

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City of Menifee
N/S: Evans Road
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Weather: Clear

File Name : 04_MEN_Evans_Eth PM
Site Code : 10823147
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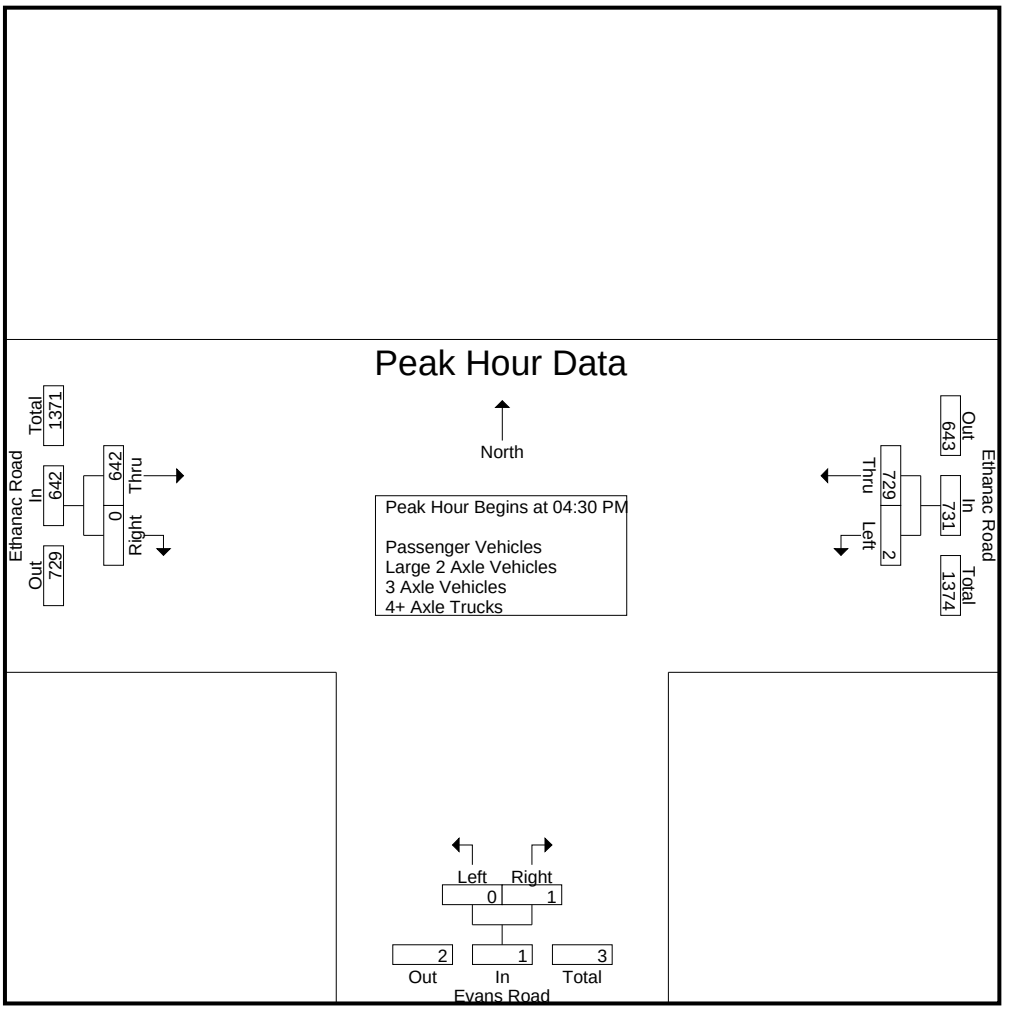

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:00 PM			04:30 PM		
+0 mins.	0	179	179	0	0	0	164	0	164
+15 mins.	**1**	168	169	0	**1**	**1**	**167**	0	**167**
+30 mins.	1	177	178	0	1	1	149	0	149
+45 mins.	0	**205**	**205**	0	0	0	162	0	162
Total Volume	2	729	731	0	2	2	642	0	642
% App. Total	0.3	99.7		0	100		100	0	
PHF	.500	.889	.891	.000	.500	.500	.961	.000	.961

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City of Menifee
N/S: Evans Road
E/W: Ethanac Road
Weather: Clear

File Name : 04_MEN_Evans_Eth PM
Site Code : 10823147
Start Date : 2/15/2023
Page No : 1

Groups Printed- Passenger Vehicles

	Ethanac Road Westbound			Evans Road Northbound			Ethanac Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	163	163	0	0	0	161	0	161	324
04:15 PM	1	187	188	0	1	1	127	0	127	316
04:30 PM	0	172	172	0	1	1	162	0	162	335
04:45 PM	1	159	160	0	0	0	163	0	163	323
Total	2	681	683	0	2	2	613	0	613	1298
05:00 PM	1	166	167	0	0	0	142	0	142	309
05:15 PM	0	192	192	0	0	0	157	0	157	349
05:30 PM	2	154	156	0	0	0	148	0	148	304
05:45 PM	0	147	147	0	1	1	162	0	162	310
Total	3	659	662	0	1	1	609	0	609	1272
Grand Total	5	1340	1345	0	3	3	1222	0	1222	2570
Apprch %	0.4	99.6		0	100		100	0		
Total %	0.2	52.1	52.3	0	0.1	0.1	47.5	0	47.5	

	Ethanac Road Westbound			Evans Road Northbound			Ethanac Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	172	172	0	**1**	**1**	162	0	162	335
04:45 PM	**1**	159	160	0	0	0	**163**	0	**163**	323
05:00 PM	1	166	167	0	0	0	142	0	142	309
05:15 PM	0	**192**	**192**	0	0	0	157	0	157	**349**
Total Volume	2	689	691	0	1	1	624	0	624	1316
% App. Total	0.3	99.7		0	100		100	0		
PHF	.500	.897	.900	.000	.250	.250	.957	.000	.957	.943

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City of Menifee
N/S: Evans Road
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Site Code : 10823147
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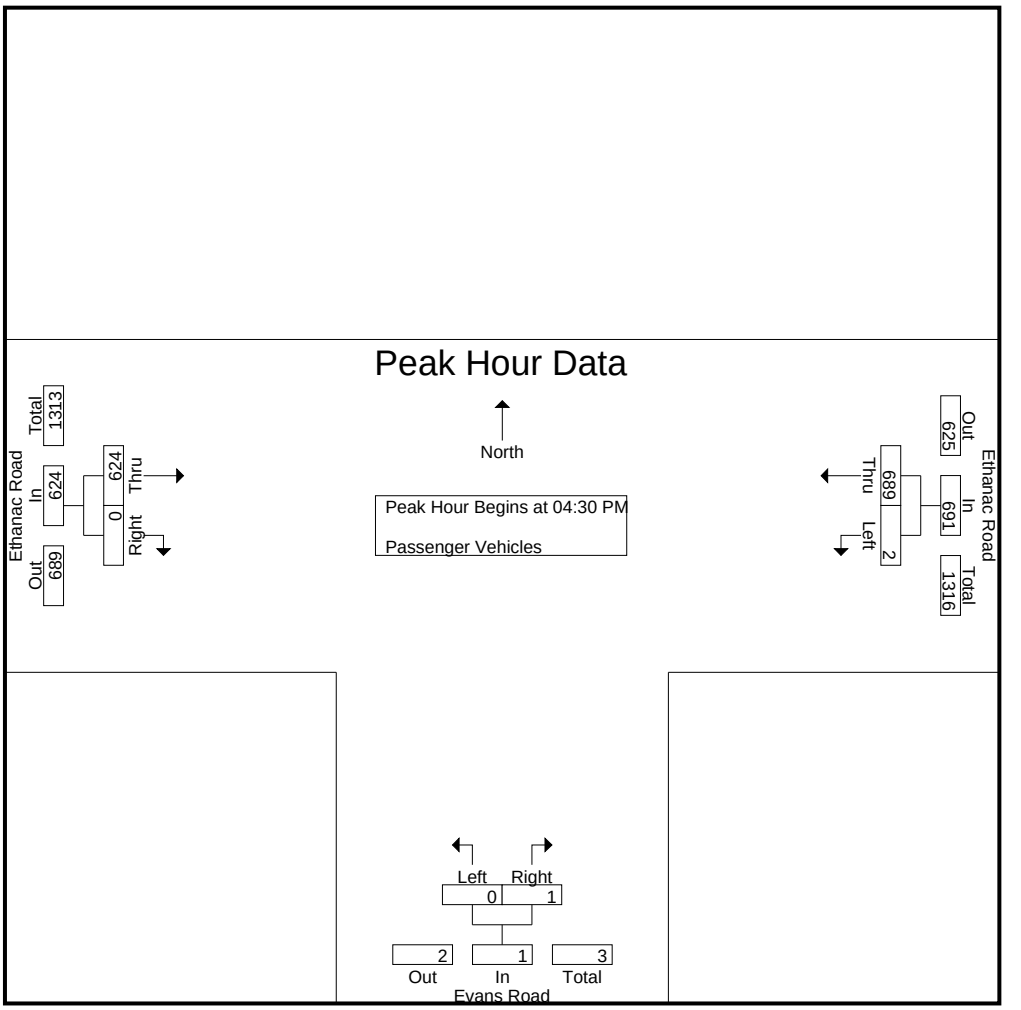

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	172	172	0	**1**	**1**	162	0	162
+15 mins.	**1**	159	160	0	0	0	**163**	0	**163**
+30 mins.	1	166	167	0	0	0	142	0	142
+45 mins.	0	**192**	**192**	0	0	0	157	0	157
Total Volume	2	689	691	0	1	1	624	0	624
% App. Total	0.3	99.7		0	100		100	0	
PHF	.500	.897	.900	.000	.250	.250	.957	.000	.957

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City of Menifee
N/S: Evans Road
E/W: Ethanac Road
Weather: Clear

File Name : 04_MEN_Evans_Eth PM
Site Code : 10823147
Start Date : 2/15/2023
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Ethanac Road Westbound			Evans Road Northbound			Ethanac Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	10	10	0	0	0	9	0	9	19
04:15 PM	0	4	4	0	0	0	6	0	6	10
04:30 PM	0	6	6	0	0	0	2	0	2	8
04:45 PM	0	5	5	0	0	0	4	0	4	9
Total	0	25	25	0	0	0	21	0	21	46
05:00 PM	0	3	3	0	0	0	7	0	7	10
05:15 PM	0	6	6	0	0	0	4	0	4	10
05:30 PM	0	4	4	0	0	0	2	0	2	6
05:45 PM	0	1	1	0	0	0	4	0	4	5
Total	0	14	14	0	0	0	17	0	17	31
Grand Total	0	39	39	0	0	0	38	0	38	77
Apprch %	0	100		0	0		100	0		
Total %	0	50.6	50.6	0	0	0	49.4	0	49.4	

	Ethanac Road Westbound			Evans Road Northbound			Ethanac Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	**6**	**6**	0	0	0	2	0	2	8
04:45 PM	0	5	5	0	0	0	4	0	4	9
05:00 PM	0	3	3	0	0	0	**7**	0	**7**	**10**
05:15 PM	0	6	6	0	0	0	4	0	4	10
Total Volume	0	20	20	0	0	0	17	0	17	37
% App. Total	0	100		0	0		100	0		
PHF	.000	.833	.833	.000	.000	.000	.607	.000	.607	.925

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City of Menifee
N/S: Evans Road
E/W: Ethanac Road
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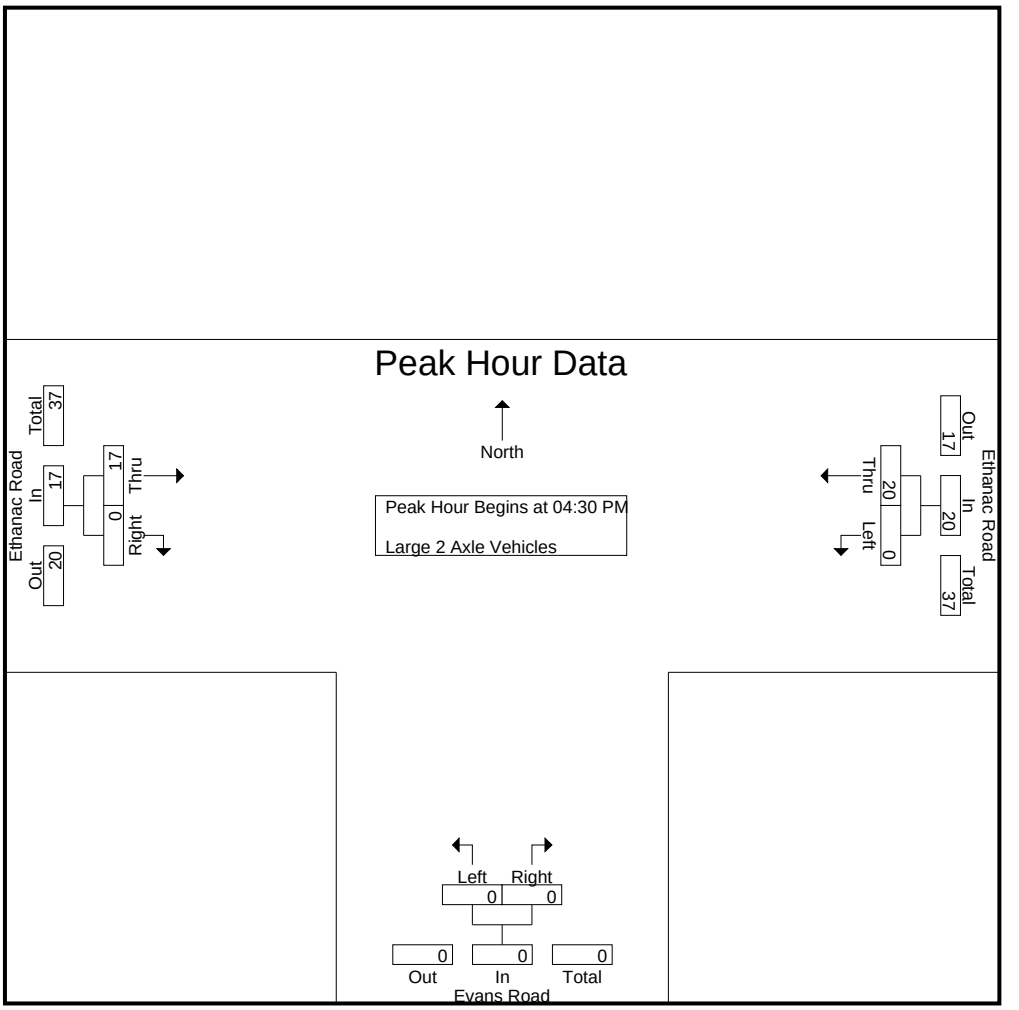

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	**6**	**6**	0	0	0	2	0	2
+15 mins.	0	5	5	0	0	0	4	0	4
+30 mins.	0	3	3	0	0	0	**7**	0	**7**
+45 mins.	0	6	6	0	0	0	4	0	4
Total Volume	0	20	20	0	0	0	17	0	17
% App. Total	0	100		0	0		100	0	
PHF	.000	.833	.833	.000	.000	.000	.607	.000	.607

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City of Menifee
N/S: Evans Road
E/W: Ethanac Road
Weather: Clear

File Name : 04_MEN_Evans_Eth PM
Site Code : 10823147
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Groups Printed- 3 Axle Vehicles

	Ethanac Road Westbound			Evans Road Northbound			Ethanac Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	2	2	0	0	0	1	0	1	3
04:15 PM	0	10	10	0	0	0	0	0	0	10
04:30 PM	0	1	1	0	0	0	0	0	0	1
04:45 PM	0	3	3	0	0	0	0	0	0	3
Total	0	16	16	0	0	0	1	0	1	17
05:00 PM	0	8	8	0	0	0	0	0	0	8
05:15 PM	0	7	7	0	0	0	0	0	0	7
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	15	15	0	0	0	0	0	0	15
Grand Total	0	31	31	0	0	0	1	0	1	32
Apprch %	0	100		0	0		100	0		
Total %	0	96.9	96.9	0	0	0	3.1	0	3.1	

	Ethanac Road Westbound			Evans Road Northbound			Ethanac Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	1	1	0	0	0	0	0	0	1
04:45 PM	0	3	3	0	0	0	0	0	0	3
05:00 PM	0	**8**	**8**	0	0	0	0	0	0	**8**
05:15 PM	0	7	7	0	0	0	0	0	0	7
Total Volume	0	19	19	0	0	0	0	0	0	19
% App. Total	0	100		0	0		0	0		
PHF	.000	.594	.594	.000	.000	.000	.000	.000	.000	.594

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City of Menifee
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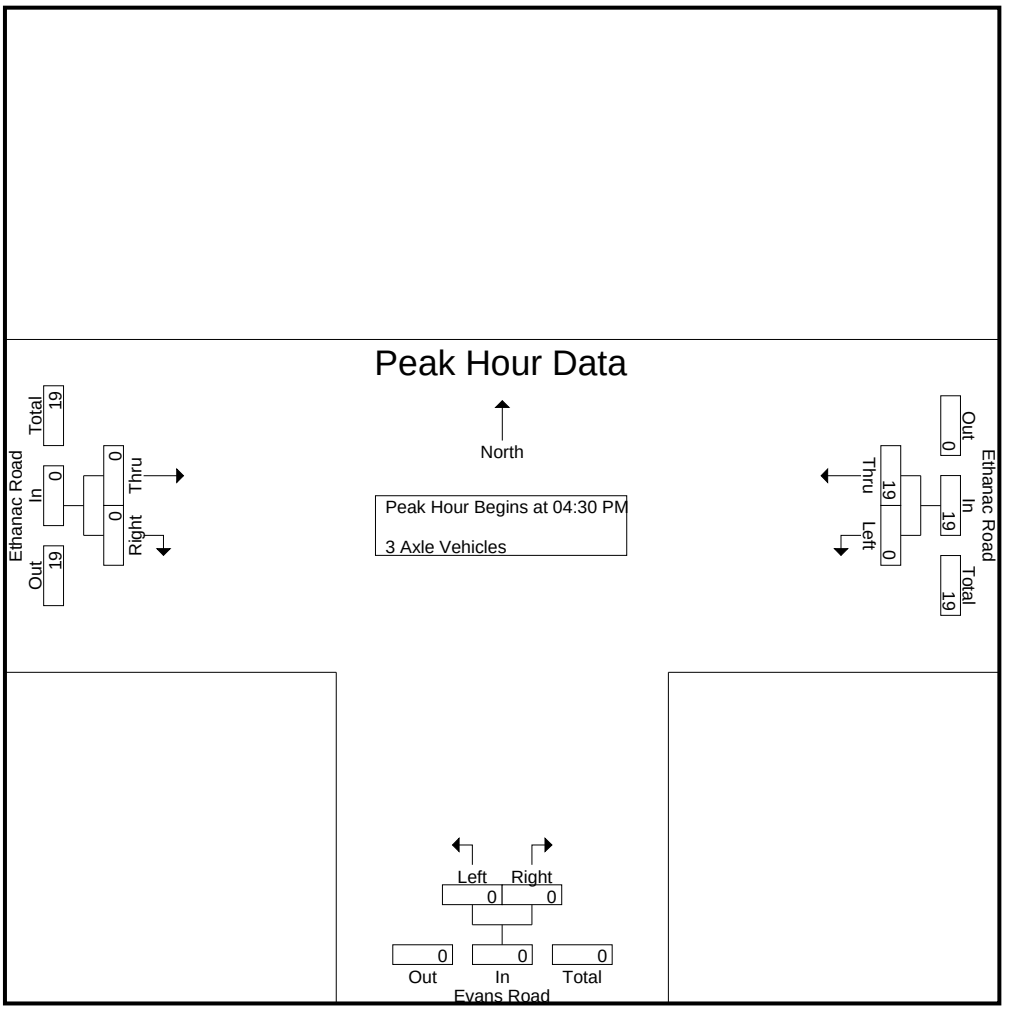

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	1	1	0	0	0	0	0	0
+15 mins.	0	3	3	0	0	0	0	0	0
+30 mins.	0	**8**	**8**	0	0	0	0	0	0
+45 mins.	0	7	7	0	0	0	0	0	0
Total Volume	0	19	19	0	0	0	0	0	0
% App. Total	0	100		0	0		0	0	
PHF	.000	.594	.594	.000	.000	.000	.000	.000	.000

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City of Menifee
N/S: Evans Road
E/W: Ethanac Road
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Groups Printed- 4+ Axle Trucks

	Ethanac Road Westbound			Evans Road Northbound			Ethanac Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	1	0	1	1
04:15 PM	0	1	1	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	1	0	0	0	0	0	0	1
Total	0	2	2	0	0	0	1	0	1	3
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	1	0	1	1
05:30 PM	0	0	0	0	0	0	1	0	1	1
05:45 PM	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	3	0	3	3
Grand Total	0	2	2	0	0	0	4	0	4	6
Apprch %	0	100		0	0		100	0		
Total %	0	33.3	33.3	0	0	0	66.7	0	66.7	

	Ethanac Road Westbound			Evans Road Northbound			Ethanac Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	**1**	**1**	0	0	0	0	0	0	**1**
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	**1**	0	**1**	1
Total Volume	0	1	1	0	0	0	1	0	1	2
% App. Total	0	100		0	0		100	0		
PHF	.000	.250	.250	.000	.000	.000	.250	.000	.250	.500

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City of Menifee
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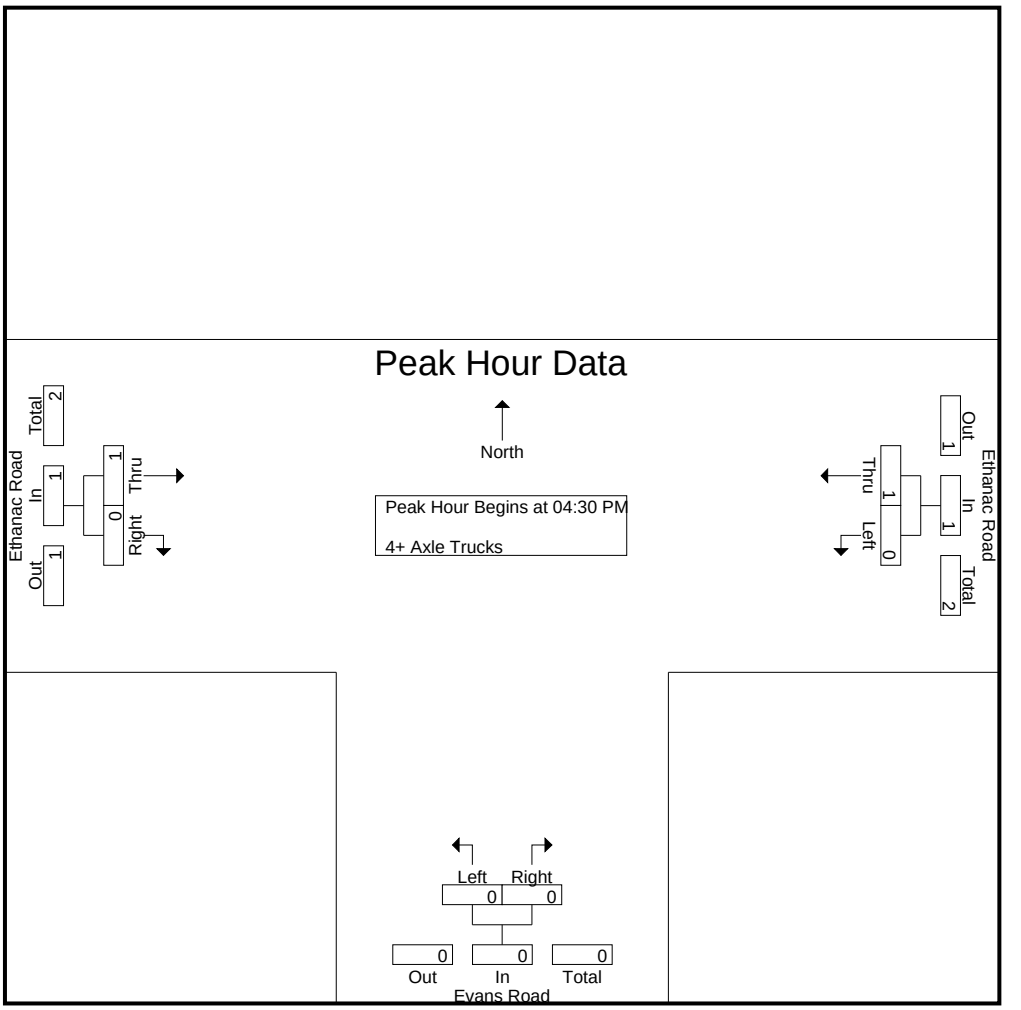

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	**1**	**1**	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	**1**	0	**1**
Total Volume	0	1	1	0	0	0	1	0	1
% App. Total	0	100		0	0		100	0	
PHF	.000	.250	.250	.000	.000	.000	.250	.000	.250

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City of Menifee
N/S: Case Road/Barnett Road
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_Bar_Eth AM
Site Code : 10823147
Start Date : 2/15/2023
Page No : 1

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

	Case Road Southbound				Ethanac Road Westbound				Barnett Road Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	49	2	11	62	22	88	45	155	4	2	21	27	30	134	4	168	412
07:15 AM	59	0	13	72	22	69	60	151	5	2	35	42	28	170	10	208	473
07:30 AM	78	3	18	99	8	67	68	143	10	10	32	52	32	236	2	270	564
07:45 AM	80	6	19	105	13	107	91	211	3	4	14	21	36	191	10	237	574
Total	266	11	61	338	65	331	264	660	22	18	102	142	126	731	26	883	2023
08:00 AM	85	10	20	115	11	126	86	223	3	10	31	44	47	148	2	197	579
08:15 AM	68	12	17	97	14	102	81	197	4	5	10	19	32	121	5	158	471
08:30 AM	74	9	12	95	6	84	63	153	4	8	23	35	30	97	5	132	415
08:45 AM	88	9	25	122	5	78	78	161	2	2	13	17	33	87	6	126	426
Total	315	40	74	429	36	390	308	734	13	25	77	115	142	453	18	613	1891
Grand Total	581	51	135	767	101	721	572	1394	35	43	179	257	268	1184	44	1496	3914
Apprch %	75.7	6.6	17.6		7.2	51.7	41		13.6	16.7	69.6		17.9	79.1	2.9		
Total %	14.8	1.3	3.4	19.6	2.6	18.4	14.6	35.6	0.9	1.1	4.6	6.6	6.8	30.3	1.1	38.2	
Passenger Vehicles	538	50	133	721	62	659	553	1274	25	41	134	200	261	1124	40	1425	3620
% Passenger Vehicles	92.6	98	98.5	94	61.4	91.4	96.7	91.4	71.4	95.3	74.9	77.8	97.4	94.9	90.9	95.3	92.5
Large 2 Axle Vehicles	32	0	2	34	30	34	16	80	8	2	33	43	7	31	3	41	198
% Large 2 Axle Vehicles	5.5	0	1.5	4.4	29.7	4.7	2.8	5.7	22.9	4.7	18.4	16.7	2.6	2.6	6.8	2.7	5.1
3 Axle Vehicles	2	0	0	2	2	14	0	16	1	0	3	4	0	12	0	12	34
% 3 Axle Vehicles	0.3	0	0	0.3	2	1.9	0	1.1	2.9	0	1.7	1.6	0	1	0	0.8	0.9
4+ Axle Trucks	9	1	0	10	7	14	3	24	1	0	9	10	0	17	1	18	62
% 4+ Axle Trucks	1.5	2	0	1.3	6.9	1.9	0.5	1.7	2.9	0	5	3.9	0	1.4	2.3	1.2	1.6

	Case Road Southbound				Ethanac Road Westbound				Barnett Road Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	59	0	13	72	**22**	69	60	151	5	2	**35**	42	28	170	**10**	208	473
07:30 AM	78	3	18	99	8	67	68	143	**10**	**10**	32	**52**	32	**236**	2	**270**	564
07:45 AM	80	6	19	105	13	107	**91**	211	3	4	14	21	36	191	10	237	574
08:00 AM	**85**	**10**	**20**	**115**	11	**126**	86	**223**	3	10	31	44	**47**	148	2	197	**579**
Total Volume	302	19	70	391	54	369	305	728	21	26	112	159	143	745	24	912	2190
% App. Total	77.2	4.9	17.9		7.4	50.7	41.9		13.2	16.4	70.4		15.7	81.7	2.6		
PHF	.888	.475	.875	.850	.614	.732	.838	.816	.525	.650	.800	.764	.761	.789	.600	.844	.946

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City of Menifee
N/S: Case Road/Barnett Road
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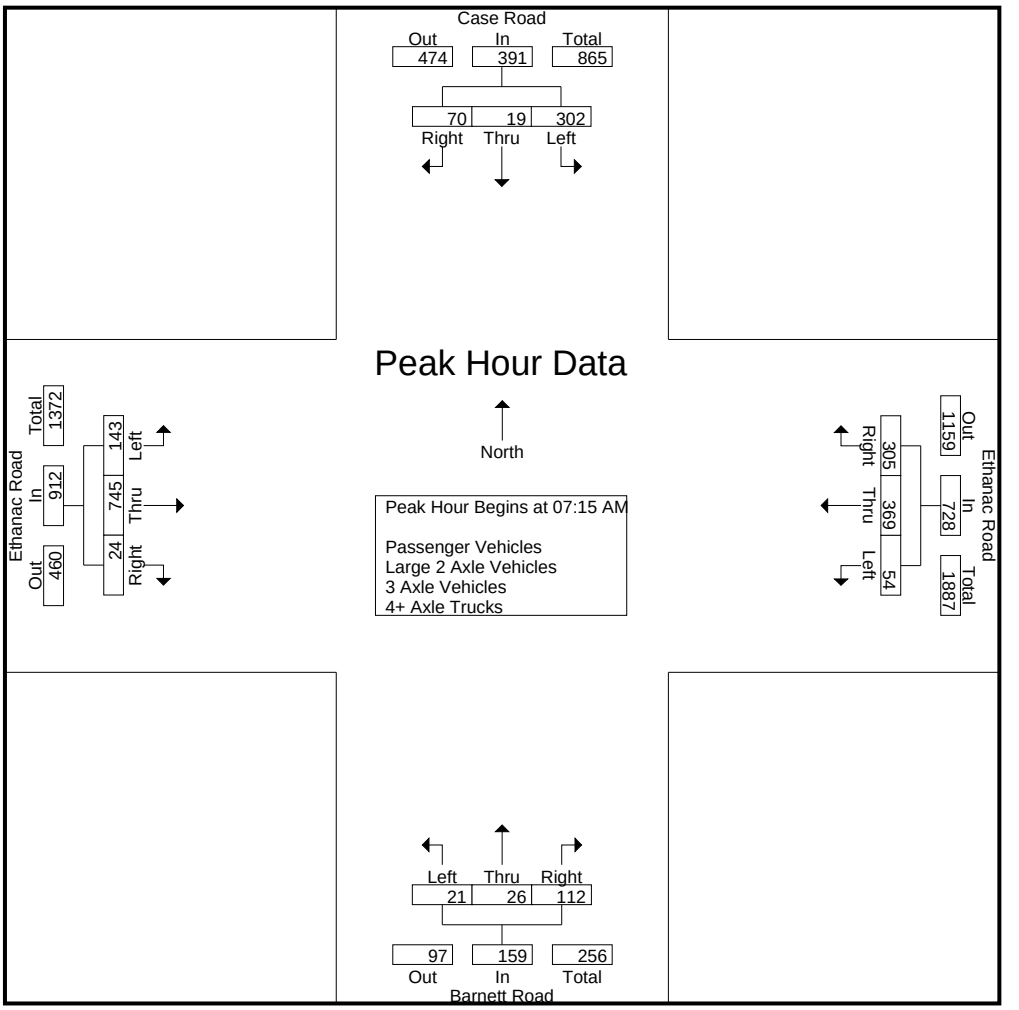
Weather: Clear

File Name : 05_MEN_Bar_Eth AM
Site Code : 10823147
Start Date : 2/15/2023
Page No : 2



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

	08:00 AM				07:45 AM				07:15 AM				07:15 AM			
+0 mins.	85	10	20	115	13	107	**91**	211	5	2	**35**	42	28	170	**10**	208
+15 mins.	68	**12**	17	97	11	**126**	86	**223**	**10**	**10**	32	**52**	32	**236**	2	**270**
+30 mins.	74	9	12	95	**14**	102	81	197	3	4	14	21	36	191	10	237
+45 mins.	**88**	9	**25**	**122**	6	84	63	153	3	10	31	44	**47**	148	2	197
Total Volume	315	40	74	429	44	419	321	784	21	26	112	159	143	745	24	912
% App. Total	73.4	9.3	17.2		5.6	53.4	40.9		13.2	16.4	70.4		15.7	81.7	2.6	
PHF	.895	.833	.740	.879	.786	.831	.882	.879	.525	.650	.800	.764	.761	.789	.600	.844

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City of Menifee
N/S: Case Road/Barnett Road
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Weather: Clear

File Name : 05_MEN_Bar_Eth AM
Site Code : 10823147
Start Date : 2/15/2023
Page No : 1

Groups Printed- Passenger Vehicles

	Case Road Southbound				Ethanac Road Westbound				Barnett Road Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	43	2	11	56	8	80	43	131	4	2	16	22	30	130	4	164	373
07:15 AM	56	0	13	69	9	57	57	123	3	2	21	26	27	162	8	197	415
07:30 AM	72	3	18	93	4	58	67	129	3	8	24	35	32	225	2	259	516
07:45 AM	73	6	18	97	10	103	87	200	2	4	10	16	35	177	10	222	535
Total	244	11	60	315	31	298	254	583	12	16	71	99	124	694	24	842	1839
08:00 AM	78	10	19	107	10	123	84	217	3	10	25	38	46	143	2	191	553
08:15 AM	62	12	17	91	13	91	79	183	4	5	9	18	30	117	4	151	443
08:30 AM	70	8	12	90	3	79	60	142	4	8	16	28	29	91	4	124	384
08:45 AM	84	9	25	118	5	68	76	149	2	2	13	17	32	79	6	117	401
Total	294	39	73	406	31	361	299	691	13	25	63	101	137	430	16	583	1781
Grand Total	538	50	133	721	62	659	553	1274	25	41	134	200	261	1124	40	1425	3620
Apprch %	74.6	6.9	18.4		4.9	51.7	43.4		12.5	20.5	67		18.3	78.9	2.8		
Total %	14.9	1.4	3.7	19.9	1.7	18.2	15.3	35.2	0.7	1.1	3.7	5.5	7.2	31	1.1	39.4	

	Case Road Southbound				Ethanac Road Westbound				Barnett Road Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	56	0	13	69	9	57	57	123	**3**	2	21	26	27	162	8	197	415
07:30 AM	72	3	18	93	4	58	67	129	3	8	24	35	32	**225**	2	**259**	516
07:45 AM	73	6	18	97	**10**	103	**87**	200	2	4	10	16	35	177	**10**	222	535
08:00 AM	**78**	**10**	**19**	**107**	10	**123**	84	**217**	3	**10**	**25**	**38**	**46**	143	2	191	**553**
Total Volume	279	19	68	366	33	341	295	669	11	24	80	115	140	707	22	869	2019
% App. Total	76.2	5.2	18.6		4.9	51	44.1		9.6	20.9	69.6		16.1	81.4	2.5		
PHF	.894	.475	.895	.855	.825	.693	.848	.771	.917	.600	.800	.757	.761	.786	.550	.839	.913

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City of Menifee
N/S: Case Road/Barnett Road
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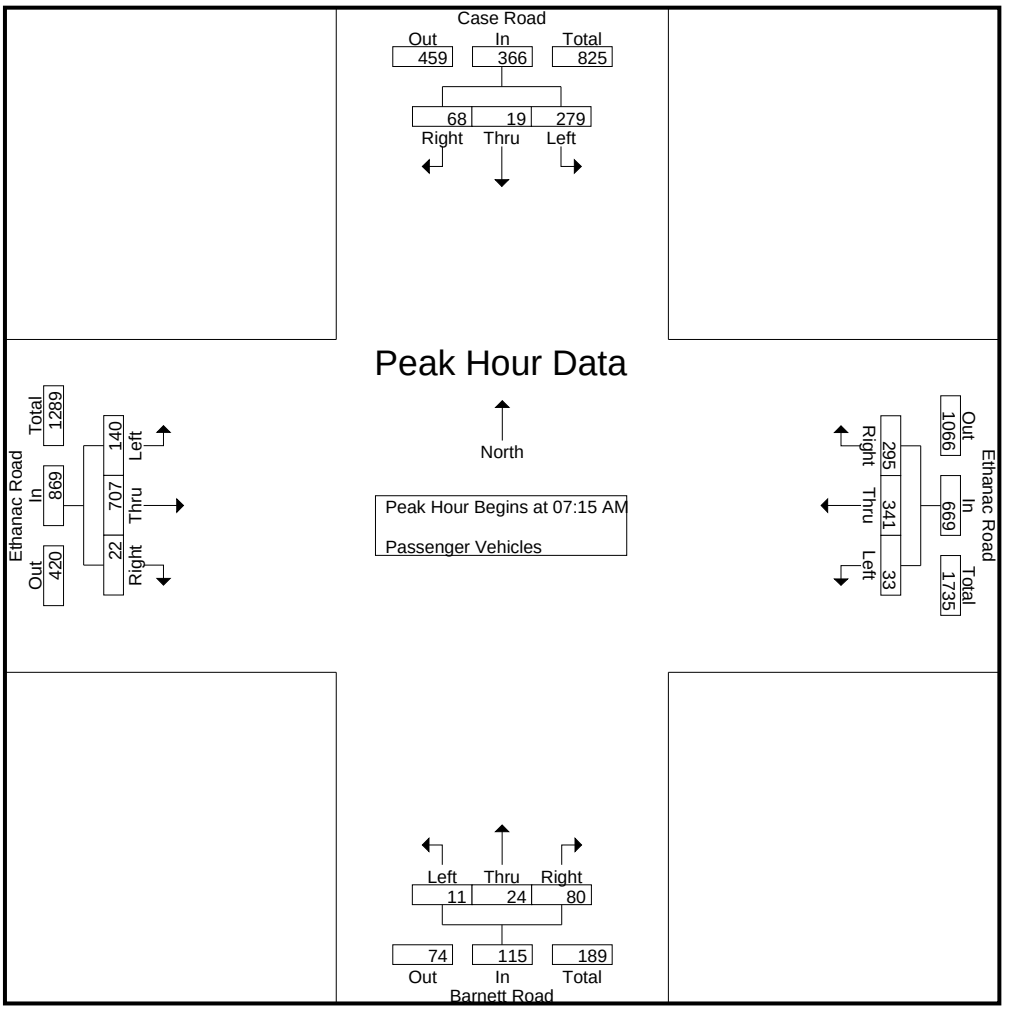
Weather: Clear

File Name : 05_MEN_Bar_Eth AM
Site Code : 10823147
Start Date : 2/15/2023



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	56	0	13	69	9	57	57	123	**3**	2	21	26	27	162	8	197
+15 mins.	72	3	18	93	4	58	67	129	3	8	24	35	32	**225**	2	**259**
+30 mins.	73	6	18	97	**10**	103	**87**	200	2	4	10	16	35	177	**10**	222
+45 mins.	**78**	**10**	**19**	**107**	10	**123**	84	**217**	3	**10**	**25**	**38**	**46**	143	2	191
Total Volume	279	19	68	366	33	341	295	669	11	24	80	115	140	707	22	869
% App. Total	76.2	5.2	18.6		4.9	51	44.1		9.6	20.9	69.6		16.1	81.4	2.5	
PHF	.894	.475	.895	.855	.825	.693	.848	.771	.917	.600	.800	.757	.761	.786	.550	.839

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City of Menifee
N/S: Case Road/Barnett Road
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_Bar_Eth AM
Site Code : 10823147
Start Date : 2/15/2023
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Case Road Southbound				Ethanac Road Westbound				Barnett Road Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	4	0	0	4	11	3	1	15	0	0	4	4	0	2	0	2	25
07:15 AM	1	0	0	1	10	4	3	17	1	0	12	13	1	4	2	7	38
07:30 AM	4	0	0	4	3	8	1	12	6	2	7	15	0	5	0	5	36
07:45 AM	5	0	1	6	3	4	3	10	1	0	3	4	1	10	0	11	31
Total	14	0	1	15	27	19	8	54	8	2	26	36	2	21	2	25	130
08:00 AM	6	0	1	7	0	3	2	5	0	0	4	4	1	3	0	4	20
08:15 AM	5	0	0	5	0	5	2	7	0	0	0	0	2	0	0	2	14
08:30 AM	4	0	0	4	3	4	3	10	0	0	3	3	1	4	1	6	23
08:45 AM	3	0	0	3	0	3	1	4	0	0	0	0	1	3	0	4	11
Total	18	0	1	19	3	15	8	26	0	0	7	7	5	10	1	16	68
Grand Total	32	0	2	34	30	34	16	80	8	2	33	43	7	31	3	41	198
Apprch %	94.1	0	5.9		37.5	42.5	20		18.6	4.7	76.7		17.1	75.6	7.3		
Total %	16.2	0	1	17.2	15.2	17.2	8.1	40.4	4	1	16.7	21.7	3.5	15.7	1.5	20.7	

	Case Road Southbound				Ethanac Road Westbound				Barnett Road Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	1	0	0	1	**10**	4	**3**	**17**	1	0	**12**	13	**1**	4	**2**	7	**38**
07:30 AM	4	0	0	4	3	**8**	1	12	**6**	**2**	7	**15**	0	5	0	5	36
07:45 AM	5	0	**1**	6	3	4	3	10	1	0	3	4	1	**10**	0	**11**	31
08:00 AM	**6**	0	1	**7**	0	3	2	5	0	0	4	4	1	3	0	4	20
Total Volume	16	0	2	18	16	19	9	44	8	2	26	36	3	22	2	27	125
% App. Total	88.9	0	11.1		36.4	43.2	20.5		22.2	5.6	72.2		11.1	81.5	7.4		
PHF	.667	.000	.500	.643	.400	.594	.750	.647	.333	.250	.542	.600	.750	.550	.250	.614	.822

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City of Menifee
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File Name : 05_MEN_Bar_Eth AM
Site Code : 10823147
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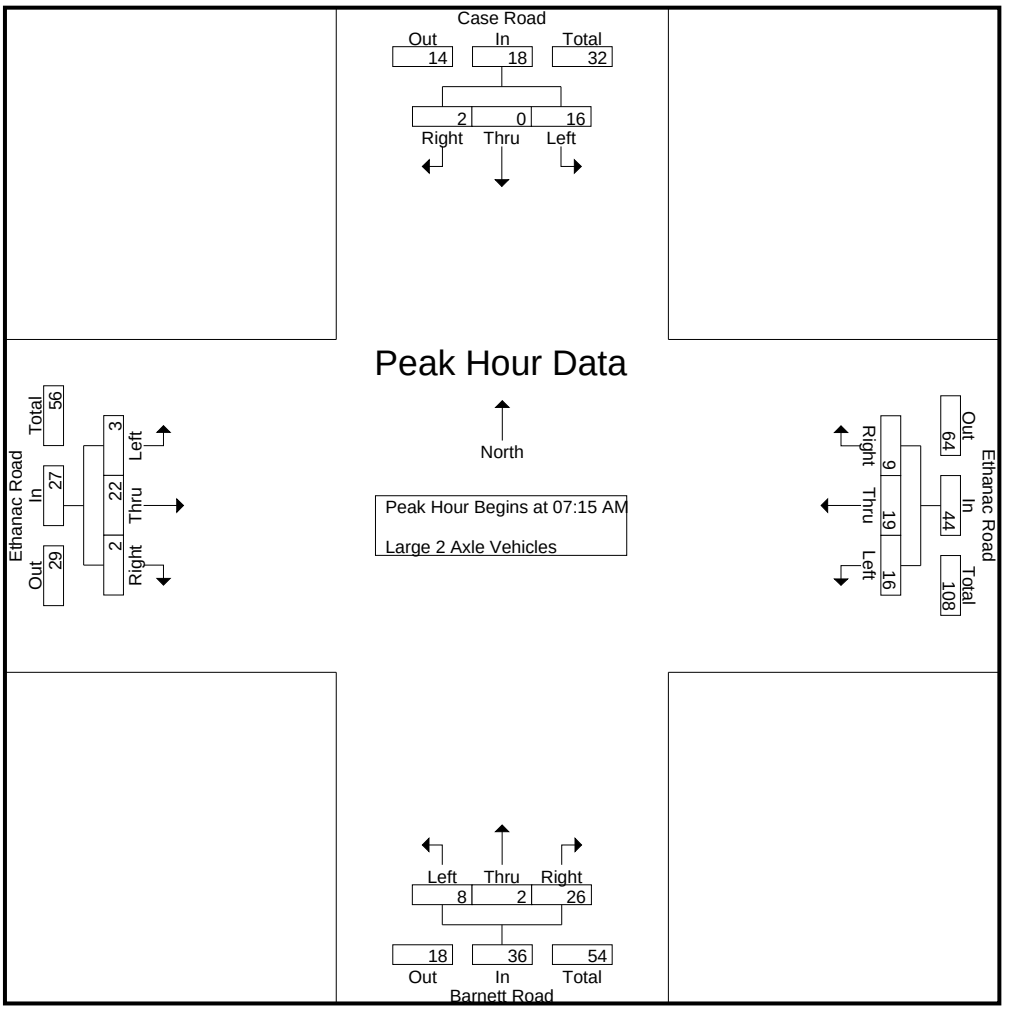

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	1	0	0	1	**10**	4	**3**	**17**	1	0	**12**	13	**1**	4	**2**	7
+15 mins.	4	0	0	4	3	**8**	1	12	**6**	**2**	7	**15**	0	5	0	5
+30 mins.	5	0	**1**	6	3	4	3	10	1	0	3	4	1	**10**	0	**11**
+45 mins.	**6**	0	1	**7**	0	3	2	5	0	0	4	4	1	3	0	4
Total Volume	16	0	2	18	16	19	9	44	8	2	26	36	3	22	2	27
% App. Total	88.9	0	11.1		36.4	43.2	20.5		22.2	5.6	72.2		11.1	81.5	7.4	
PHF	.667	.000	.500	.643	.400	.594	.750	.647	.333	.250	.542	.600	.750	.550	.250	.614

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City of Menifee
N/S: Case Road/Barnett Road
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_Bar_Eth AM
Site Code : 10823147
Start Date : 2/15/2023
Page No : 1

Groups Printed- 3 Axle Vehicles

	Case Road Southbound				Ethanac Road Westbound				Barnett Road Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	1	3	0	4	0	0	1	1	0	1	0	1	6
07:15 AM	1	0	0	1	1	5	0	6	0	0	1	1	0	0	0	0	8
07:30 AM	0	0	0	0	0	0	0	0	1	0	1	2	0	2	0	2	4
07:45 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	4	0	4	5
Total	2	0	0	2	2	8	0	10	1	0	3	4	0	7	0	7	23
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
08:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:45 AM	0	0	0	0	0	4	0	4	0	0	0	0	0	1	0	1	5
Total	0	0	0	0	0	6	0	6	0	0	0	0	0	5	0	5	11
Grand Total	2	0	0	2	2	14	0	16	1	0	3	4	0	12	0	12	34
Apprch %	100	0	0		12.5	87.5	0		25	0	75		0	100	0		
Total %	5.9	0	0	5.9	5.9	41.2	0	47.1	2.9	0	8.8	11.8	0	35.3	0	35.3	

	Case Road Southbound				Ethanac Road Westbound				Barnett Road Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**1**	0	0	**1**	**1**	**5**	0	**6**	0	0	**1**	1	0	0	0	0	**8**
07:30 AM	0	0	0	0	0	0	0	0	**1**	0	1	**2**	0	2	0	2	4
07:45 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	**4**	0	**4**	5
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
Total Volume	2	0	0	2	1	5	0	6	1	0	2	3	0	8	0	8	19
% App. Total	100	0	0		16.7	83.3	0		33.3	0	66.7		0	100	0		
PHF	.500	.000	.000	.500	.250	.250	.000	.250	.250	.000	.500	.375	.000	.500	.000	.500	.594

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City of Menifee
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File Name : 05_MEN_Bar_Eth AM
Site Code : 10823147
Start Date : 2/15/2023
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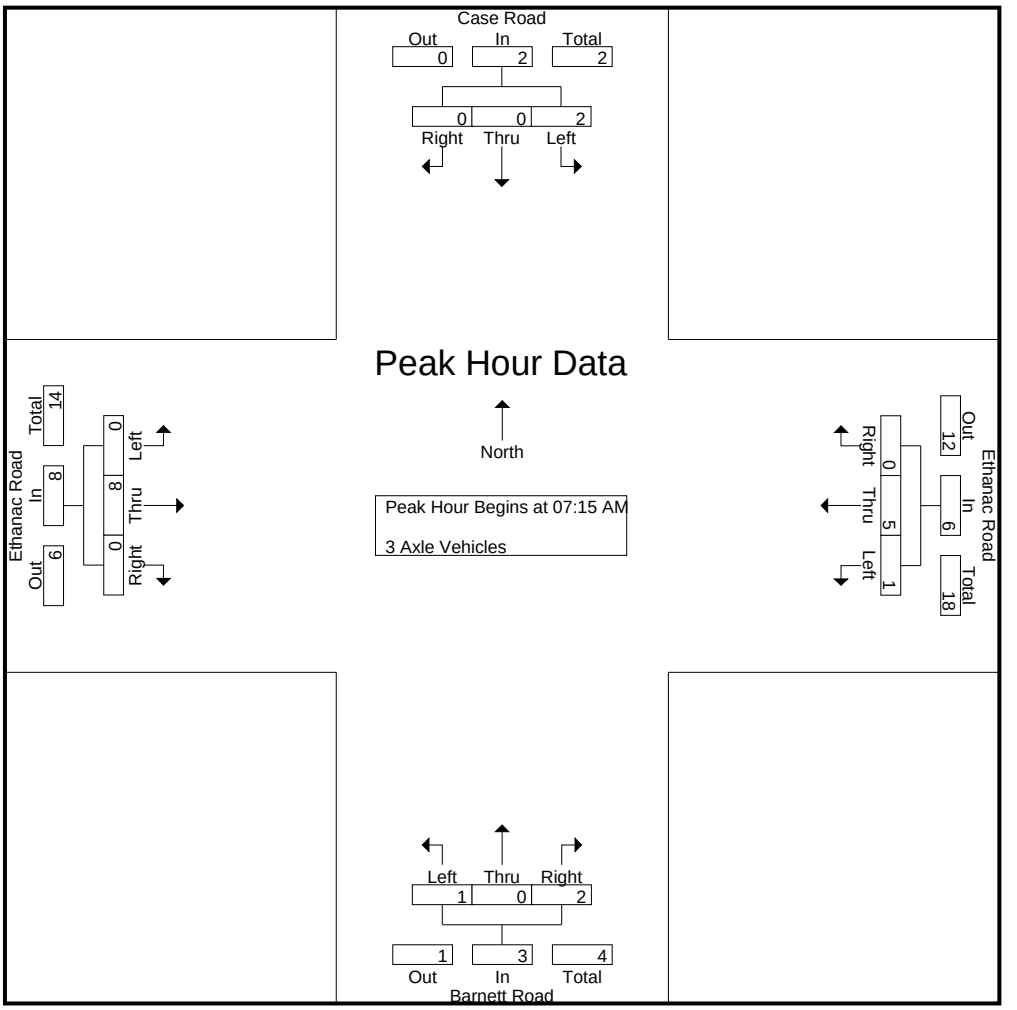

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	**1**	0	0	**1**	**1**	**5**	0	**6**	0	0	**1**	1	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	**1**	0	1	**2**	0	2	0	2
+30 mins.	1	0	0	1	0	0	0	0	0	0	0	0	0	**4**	0	**4**
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
Total Volume	2	0	0	2	1	5	0	6	1	0	2	3	0	8	0	8
% App. Total	100	0	0		16.7	83.3	0		33.3	0	66.7		0	100	0	
PHF	.500	.000	.000	.500	.250	.250	.000	.250	.250	.000	.500	.375	.000	.500	.000	.500

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City of Menifee
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File Name : 05_MEN_Bar_Eth AM
Site Code : 10823147
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Groups Printed- 4+ Axle Trucks

	Case Road Southbound				Ethanac Road Westbound				Barnett Road Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	2	0	0	2	2	2	1	5	0	0	0	0	0	1	0	1	8
07:15 AM	1	0	0	1	2	3	0	5	1	0	1	2	0	4	0	4	12
07:30 AM	2	0	0	2	1	1	0	2	0	0	0	0	0	4	0	4	8
07:45 AM	1	0	0	1	0	0	1	1	0	0	1	1	0	0	0	0	3
Total	6	0	0	6	5	6	2	13	1	0	2	3	0	9	0	9	31
08:00 AM	1	0	0	1	1	0	0	1	0	0	2	2	0	0	0	0	4
08:15 AM	1	0	0	1	1	4	0	5	0	0	1	1	0	3	1	4	11
08:30 AM	0	1	0	1	0	1	0	1	0	0	4	4	0	1	0	1	7
08:45 AM	1	0	0	1	0	3	1	4	0	0	0	0	0	4	0	4	9
Total	3	1	0	4	2	8	1	11	0	0	7	7	0	8	1	9	31
Grand Total	9	1	0	10	7	14	3	24	1	0	9	10	0	17	1	18	62
Apprch %	90	10	0		29.2	58.3	12.5		10	0	90		0	94.4	5.6		
Total %	14.5	1.6	0	16.1	11.3	22.6	4.8	38.7	1.6	0	14.5	16.1	0	27.4	1.6	29	

	Case Road Southbound				Ethanac Road Westbound				Barnett Road Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	1	0	0	1	**2**	**3**	0	**5**	**1**	0	1	**2**	0	**4**	0	**4**	**12**
07:30 AM	**2**	0	0	**2**	1	1	0	2	0	0	0	0	0	4	0	4	8
07:45 AM	1	0	0	1	0	0	**1**	1	0	0	1	1	0	0	0	0	3
08:00 AM	1	0	0	1	1	0	0	1	0	0	**2**	2	0	0	0	0	4
Total Volume	5	0	0	5	4	4	1	9	1	0	4	5	0	8	0	8	27
% App. Total	100	0	0		44.4	44.4	11.1		20	0	80		0	100	0		
PHF	.625	.000	.000	.625	.500	.333	.250	.450	.250	.000	.500	.625	.000	.500	.000	.500	.563

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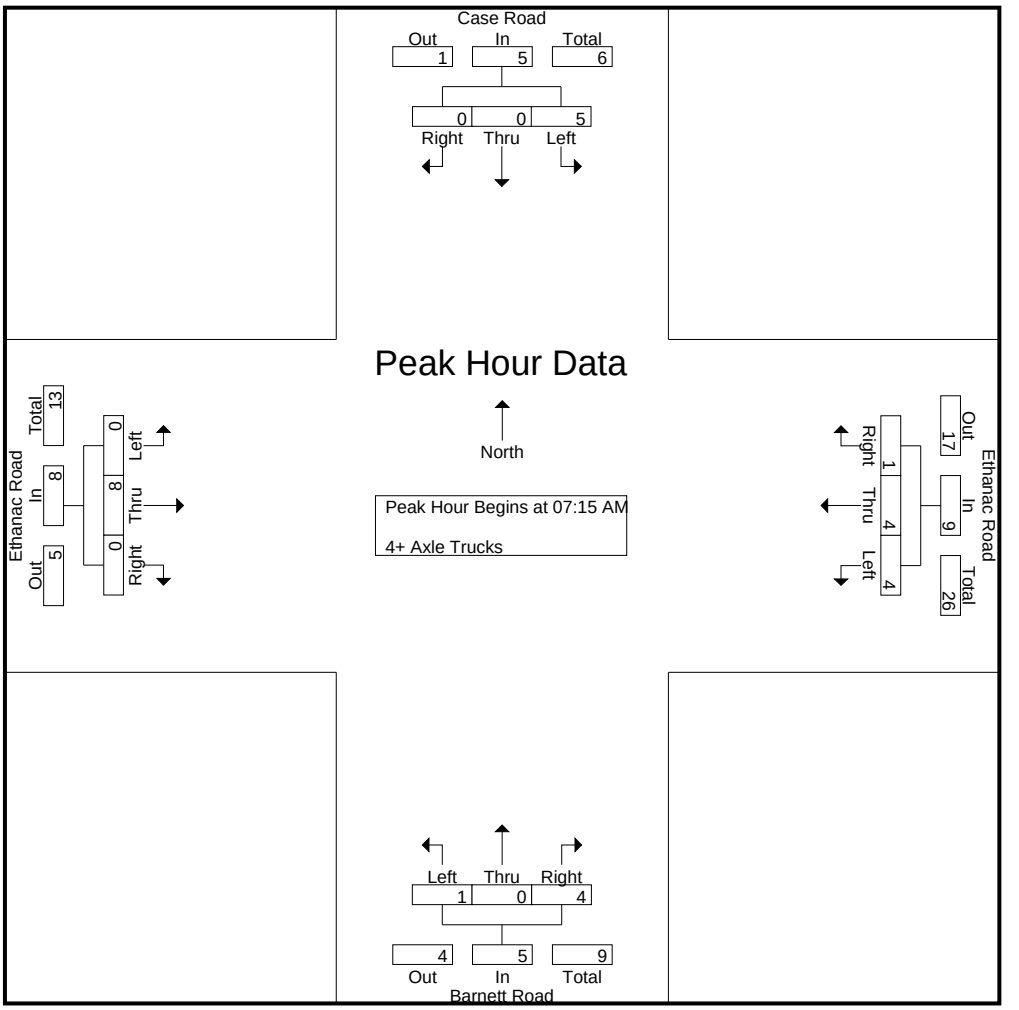
City of Menifee
N/S: Case Road/Barnett Road
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_Bar_Eth AM
Site Code : 10823147
Start Date : 2/15/2023



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	1	0	0	1	**2**	**3**	0	**5**	**1**	0	1	**2**	0	**4**	0	**4**
+15 mins.	**2**	0	0	**2**	1	1	0	2	0	0	0	0	0	4	0	4
+30 mins.	1	0	0	1	0	0	**1**	1	0	0	1	1	0	0	0	0
+45 mins.	1	0	0	1	1	0	0	1	0	0	**2**	2	0	0	0	0
Total Volume	5	0	0	5	4	4	1	9	1	0	4	5	0	8	0	8
% App. Total	100	0	0		44.4	44.4	11.1		20	0	80		0	100	0	
PHF	.625	.000	.000	.625	.500	.333	.250	.450	.250	.000	.500	.625	.000	.500	.000	.500

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City of Menifee
N/S: Case Road/Barnett Road
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Weather: Clear

File Name : 05_MEN_Bar_Eth PM
Site Code : 10823147
Start Date : 2/15/2023
Page No : 1

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

	Case Road Southbound				Ethanac Road Westbound				Barnett Road Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	91	13	22	126	15	129	90	234	6	12	15	33	40	131	7	178	571
04:15 PM	115	16	33	164	14	150	79	243	11	7	10	28	43	90	5	138	573
04:30 PM	93	15	28	136	18	133	92	243	7	4	16	27	38	117	6	161	567
04:45 PM	109	19	23	151	13	113	84	210	3	11	19	33	61	103	5	169	563
Total	408	63	106	577	60	525	345	930	27	34	60	121	182	441	23	646	2274
05:00 PM	105	14	37	156	27	155	90	272	6	5	26	37	38	99	4	141	606
05:15 PM	97	13	33	143	11	152	80	243	9	9	17	35	33	133	6	172	593
05:30 PM	117	6	28	151	22	118	102	242	5	5	7	17	29	126	5	160	570
05:45 PM	96	8	30	134	13	100	81	194	7	4	11	22	41	109	3	153	503
Total	415	41	128	584	73	525	353	951	27	23	61	111	141	467	18	626	2272
Grand Total	823	104	234	1161	133	1050	698	1881	54	57	121	232	323	908	41	1272	4546
Apprch %	70.9	9	20.2		7.1	55.8	37.1		23.3	24.6	52.2		25.4	71.4	3.2		
Total %	18.1	2.3	5.1	25.5	2.9	23.1	15.4	41.4	1.2	1.3	2.7	5.1	7.1	20	0.9	28	
Passenger Vehicles	813	103	230	1146	121	998	695	1814	52	56	102	210	320	878	37	1235	4405
% Passenger Vehicles	98.8	99	98.3	98.7	91	95	99.6	96.4	96.3	98.2	84.3	90.5	99.1	96.7	90.2	97.1	96.9
Large 2 Axle Vehicles	7	0	3	10	3	22	2	27	0	1	7	8	3	26	2	31	76
% Large 2 Axle Vehicles	0.9	0	1.3	0.9	2.3	2.1	0.3	1.4	0	1.8	5.8	3.4	0.9	2.9	4.9	2.4	1.7
3 Axle Vehicles	1	0	1	2	3	29	1	33	1	0	4	5	0	2	0	2	42
% 3 Axle Vehicles	0.1	0	0.4	0.2	2.3	2.8	0.1	1.8	1.9	0	3.3	2.2	0	0.2	0	0.2	0.9
4+ Axle Trucks	2	1	0	3	6	1	0	7	1	0	8	9	0	2	2	4	23
% 4+ Axle Trucks	0.2	1	0	0.3	4.5	0.1	0	0.4	1.9	0	6.6	3.9	0	0.2	4.9	0.3	0.5

	Case Road Southbound				Ethanac Road Westbound				Barnett Road Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	109	**19**	23	151	13	113	84	210	3	**11**	19	33	**61**	103	5	169	563
05:00 PM	105	14	**37**	**156**	**27**	**155**	90	**272**	6	5	**26**	**37**	38	99	4	141	**606**
05:15 PM	97	13	33	143	11	152	80	243	**9**	9	17	35	33	**133**	**6**	**172**	593
05:30 PM	**117**	6	28	151	22	118	**102**	242	5	5	7	17	29	126	5	160	570
Total Volume	428	52	121	601	73	538	356	967	23	30	69	122	161	461	20	642	2332
% App. Total	71.2	8.7	20.1		7.5	55.6	36.8		18.9	24.6	56.6		25.1	71.8	3.1		
PHF	.915	.684	.818	.963	.676	.868	.873	.889	.639	.682	.663	.824	.660	.867	.833	.933	.962

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City of Menifee
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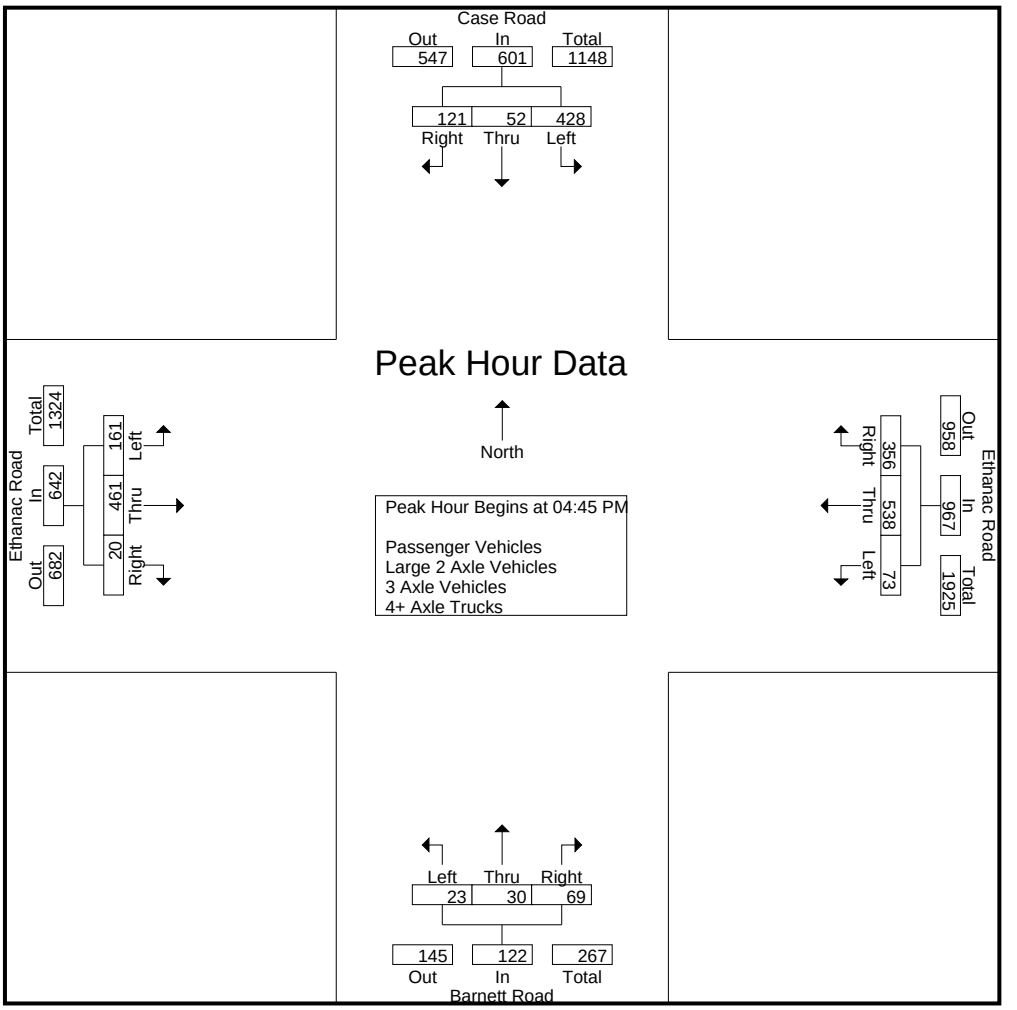
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_Bar_Eth PM
Site Code : 10823147
Start Date : 2/15/2023



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

	04:15 PM				04:15 PM				04:30 PM				04:00 PM			
+0 mins.	**115**	16	33	**164**	14	150	79	243	7	4	16	27	40	**131**	**7**	**178**
+15 mins.	93	15	28	136	18	133	**92**	243	3	**11**	19	33	43	90	5	138
+30 mins.	109	**19**	23	151	13	113	84	210	6	5	**26**	**37**	38	117	6	161
+45 mins.	105	14	**37**	156	**27**	**155**	90	**272**	**9**	9	17	35	**61**	103	5	169
Total Volume	422	64	121	607	72	551	345	968	25	29	78	132	182	441	23	646
% App. Total	69.5	10.5	19.9		7.4	56.9	35.6		18.9	22	59.1		28.2	68.3	3.6	
PHF	.917	.842	.818	.925	.667	.889	.938	.890	.694	.659	.750	.892	.746	.842	.821	.907

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City of Menifee
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Weather: Clear

File Name : 05_MEN_Bar_Eth PM
Site Code : 10823147
Start Date : 2/15/2023
Page No : 1

Groups Printed- Passenger Vehicles

	Case Road Southbound				Ethanac Road Westbound				Barnett Road Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	90	13	22	125	14	122	90	226	6	11	10	27	40	124	7	171	549
04:15 PM	113	16	31	160	12	140	78	230	10	7	9	26	42	86	4	132	548
04:30 PM	92	15	28	135	15	128	92	235	7	4	13	24	37	117	6	160	554
04:45 PM	109	19	23	151	11	109	84	204	3	11	17	31	60	99	5	164	550
Total	404	63	104	571	52	499	344	895	26	33	49	108	179	426	22	627	2201
05:00 PM	104	14	36	154	26	144	90	260	5	5	22	32	38	94	3	135	581
05:15 PM	95	13	33	141	8	140	79	227	9	9	15	33	33	128	6	167	568
05:30 PM	117	5	27	149	22	117	102	241	5	5	6	16	29	124	4	157	563
05:45 PM	93	8	30	131	13	98	80	191	7	4	10	21	41	106	2	149	492
Total	409	40	126	575	69	499	351	919	26	23	53	102	141	452	15	608	2204
Grand Total	813	103	230	1146	121	998	695	1814	52	56	102	210	320	878	37	1235	4405
Apprch %	70.9	9	20.1		6.7	55	38.3		24.8	26.7	48.6		25.9	71.1	3		
Total %	18.5	2.3	5.2	26	2.7	22.7	15.8	41.2	1.2	1.3	2.3	4.8	7.3	19.9	0.8	28	

	Case Road Southbound				Ethanac Road Westbound				Barnett Road Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	109	**19**	23	151	11	109	84	204	3	**11**	17	31	**60**	99	5	164	550
05:00 PM	104	14	**36**	**154**	**26**	**144**	90	**260**	5	5	**22**	32	38	94	3	135	**581**
05:15 PM	95	13	33	141	8	140	79	227	**9**	9	15	**33**	33	**128**	**6**	**167**	568
05:30 PM	**117**	5	27	149	22	117	**102**	241	5	5	6	16	29	124	4	157	563
Total Volume	425	51	119	595	67	510	355	932	22	30	60	112	160	445	18	623	2262
% App. Total	71.4	8.6	20		7.2	54.7	38.1		19.6	26.8	53.6		25.7	71.4	2.9		
PHF	.908	.671	.826	.966	.644	.885	.870	.896	.611	.682	.682	.848	.667	.869	.750	.933	.973

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City of Menifee
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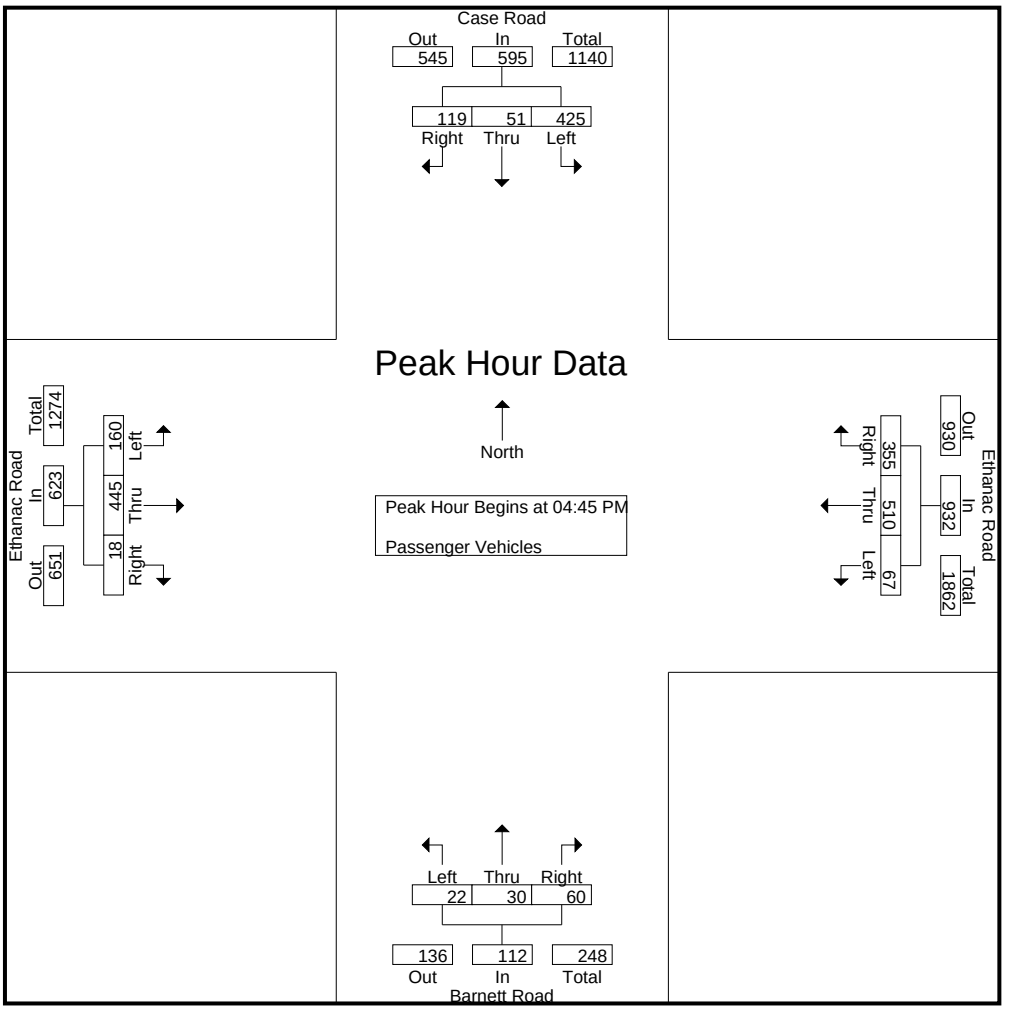
File Name : 05_MEN_Bar_Eth PM
Site Code : 10823147
Start Date : 2/15/2023
Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	109	**19**	23	151	11	109	84	204	3	**11**	17	31	**60**	99	5	164
+15 mins.	104	14	**36**	**154**	**26**	**144**	90	**260**	5	5	**22**	32	38	94	3	135
+30 mins.	95	13	33	141	8	140	79	227	**9**	9	15	**33**	33	**128**	**6**	**167**
+45 mins.	**117**	5	27	149	22	117	**102**	241	5	5	6	16	29	124	4	157
Total Volume	425	51	119	595	67	510	355	932	22	30	60	112	160	445	18	623
% App. Total	71.4	8.6	20		7.2	54.7	38.1		19.6	26.8	53.6		25.7	71.4	2.9	
PHF	.908	.671	.826	.966	.644	.885	.870	.896	.611	.682	.682	.848	.667	.869	.750	.933

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City of Menifee
N/S: Case Road/Barnett Road
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_Bar_Eth PM
Site Code : 10823147
Start Date : 2/15/2023
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Case Road Southbound				Ethanac Road Westbound				Barnett Road Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	0	0	1	0	5	0	5	0	1	2	3	0	5	0	5	14
04:15 PM	1	0	2	3	2	1	0	3	0	0	0	0	1	4	1	6	12
04:30 PM	0	0	0	0	0	5	0	5	0	0	2	2	1	0	0	1	8
04:45 PM	0	0	0	0	0	2	0	2	0	0	1	1	1	4	0	5	8
Total	2	0	2	4	2	13	0	15	0	1	5	6	3	13	1	17	42
05:00 PM	0	0	0	0	0	3	0	3	0	0	2	2	0	5	0	5	10
05:15 PM	2	0	0	2	1	4	1	6	0	0	0	0	0	4	0	4	12
05:30 PM	0	0	1	1	0	1	0	1	0	0	0	0	0	2	0	2	4
05:45 PM	3	0	0	3	0	1	1	2	0	0	0	0	0	2	1	3	8
Total	5	0	1	6	1	9	2	12	0	0	2	2	0	13	1	14	34
Grand Total	7	0	3	10	3	22	2	27	0	1	7	8	3	26	2	31	76
Apprch %	70	0	30		11.1	81.5	7.4		0	12.5	87.5		9.7	83.9	6.5		
Total %	9.2	0	3.9	13.2	3.9	28.9	2.6	35.5	0	1.3	9.2	10.5	3.9	34.2	2.6	40.8	

	Case Road Southbound				Ethanac Road Westbound				Barnett Road Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	2	0	2	0	0	1	1	**1**	4	0	**5**	8
05:00 PM	0	0	0	0	0	3	0	3	0	0	**2**	**2**	0	**5**	0	5	10
05:15 PM	**2**	0	0	**2**	**1**	**4**	**1**	**6**	0	0	0	0	0	4	0	4	**12**
05:30 PM	0	0	**1**	1	0	1	0	1	0	0	0	0	0	2	0	2	4
Total Volume	2	0	1	3	1	10	1	12	0	0	3	3	1	15	0	16	34
% App. Total	66.7	0	33.3		8.3	83.3	8.3		0	0	100		6.2	93.8	0		
PHF	.250	.000	.250	.375	.250	.625	.250	.500	.000	.000	.375	.375	.250	.750	.000	.800	.708

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File Name : 05_MEN_Bar_Eth PM
Site Code : 10823147
Start Date : 2/15/2023
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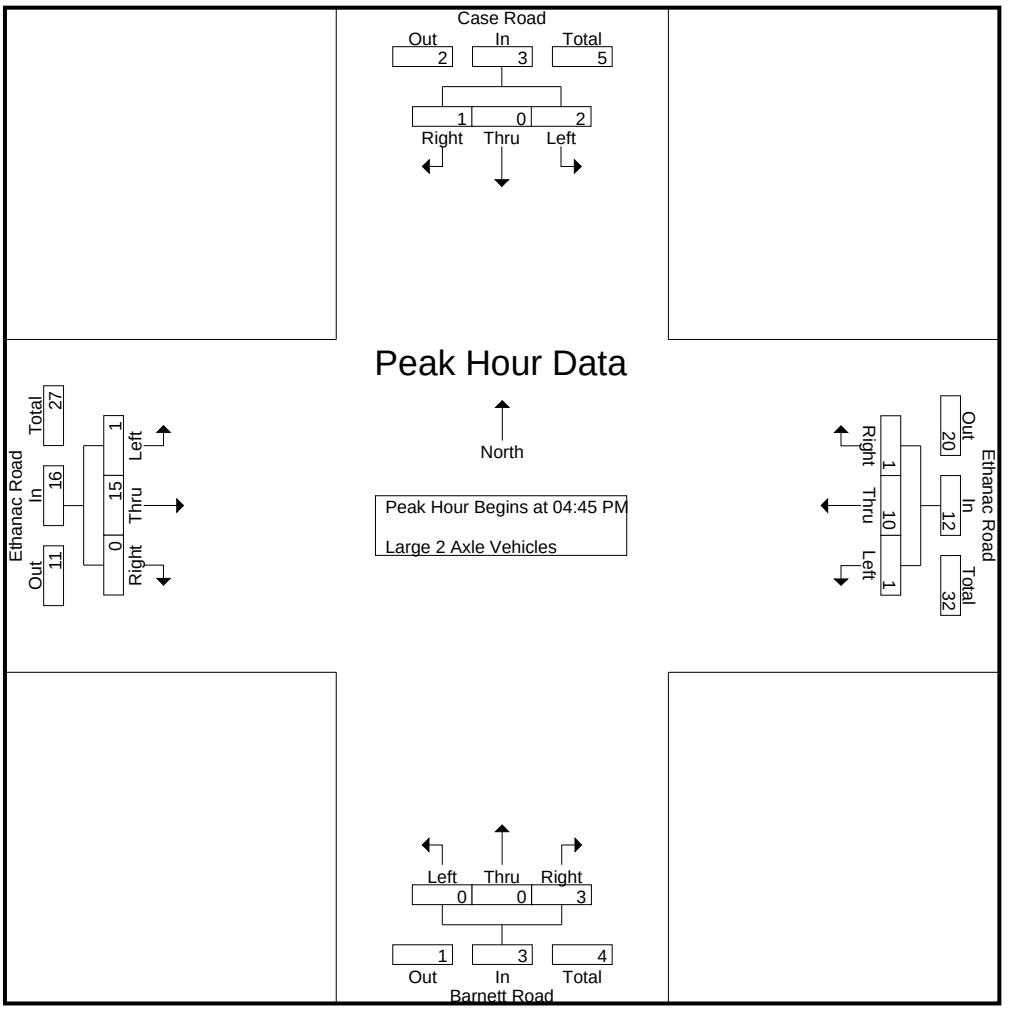

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	0	0	0	0	0	2	0	2	0	0	1	1	**1**	4	0	**5**
+15 mins.	0	0	0	0	0	3	0	3	0	0	**2**	**2**	0	**5**	0	5
+30 mins.	**2**	0	0	**2**	**1**	**4**	**1**	**6**	0	0	0	0	0	4	0	4
+45 mins.	0	0	**1**	1	0	1	0	1	0	0	0	0	0	2	0	2
Total Volume	2	0	1	3	1	10	1	12	0	0	3	3	1	15	0	16
% App. Total	66.7	0	33.3		8.3	83.3	8.3		0	0	100		6.2	93.8	0	
PHF	.250	.000	.250	.375	.250	.625	.250	.500	.000	.000	.375	.375	.250	.750	.000	.800

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City of Menifee
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E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_Bar_Eth PM
Site Code : 10823147
Start Date : 2/15/2023
Page No : 1

Groups Printed- 3 Axle Vehicles

	Case Road Southbound				Ethanac Road Westbound				Barnett Road Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	2	0	2	0	0	2	2	0	1	0	1	5
04:15 PM	0	0	0	0	0	9	1	10	0	0	0	0	0	0	0	0	10
04:30 PM	1	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
04:45 PM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	2
Total	1	0	0	1	1	12	1	14	0	0	3	3	0	1	0	1	19
05:00 PM	0	0	1	1	0	8	0	8	1	0	0	1	0	0	0	0	10
05:15 PM	0	0	0	0	2	8	0	10	0	0	0	0	0	0	0	0	10
05:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
05:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
Total	0	0	1	1	2	17	0	19	1	0	1	2	0	1	0	1	23
Grand Total	1	0	1	2	3	29	1	33	1	0	4	5	0	2	0	2	42
Apprch %	50	0	50		9.1	87.9	3		20	0	80		0	100	0		
Total %	2.4	0	2.4	4.8	7.1	69	2.4	78.6	2.4	0	9.5	11.9	0	4.8	0	4.8	

	Case Road Southbound				Ethanac Road Westbound				Barnett Road Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	2
05:00 PM	0	0	**1**	**1**	0	**8**	0	8	**1**	0	0	**1**	0	0	0	0	**10**
05:15 PM	0	0	0	0	**2**	8	0	**10**	0	0	0	0	0	0	0	0	10
05:30 PM	0	0	0	0	0	0	0	0	0	0	**1**	1	0	0	0	0	1
Total Volume	0	0	1	1	3	17	0	20	1	0	1	2	0	0	0	0	23
% App. Total	0	0	100		15	85	0		50	0	50		0	0	0		
PHF	.000	.000	.250	.250	.375	.531	.000	.500	.250	.000	.250	.500	.000	.000	.000	.000	.575

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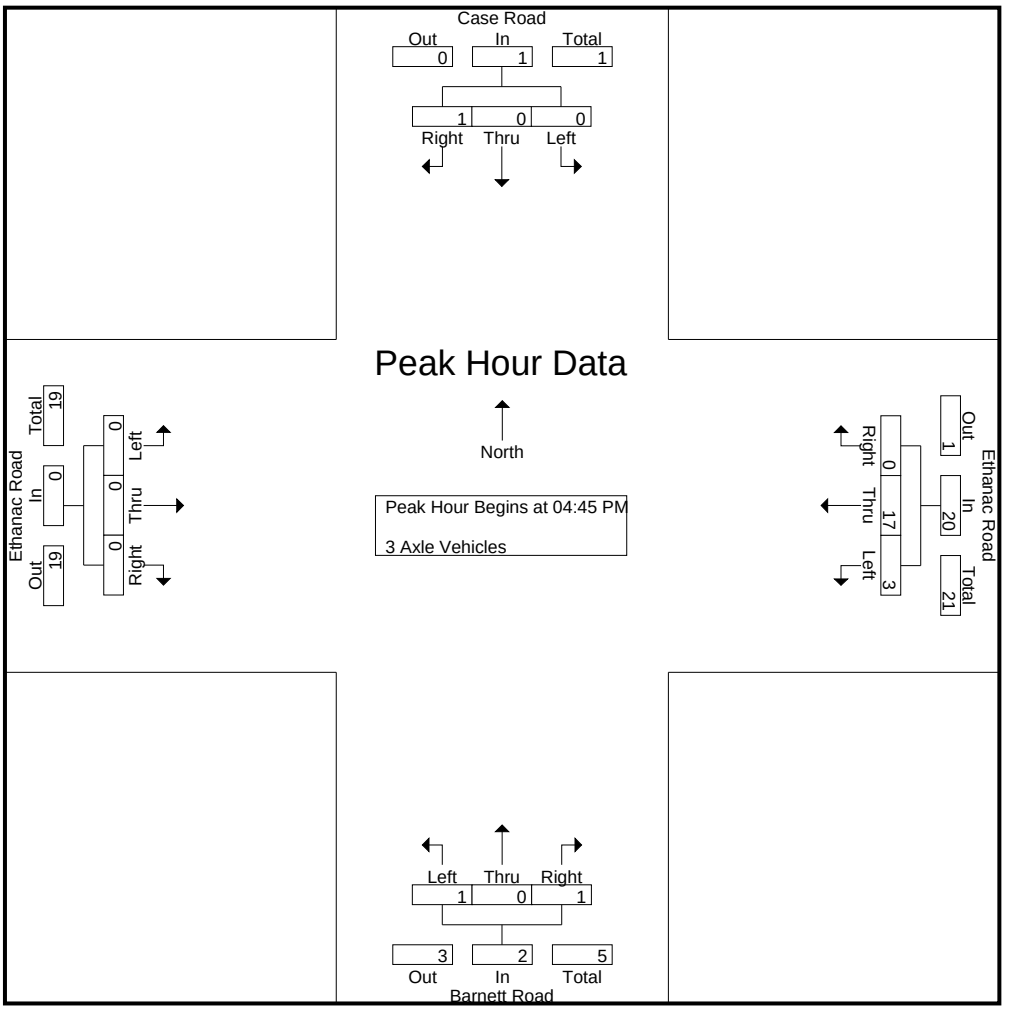
City of Menifee
N/S: Case Road/Barnett Road
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_Bar_Eth PM
Site Code : 10823147
Start Date : 2/15/2023



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0
+15 mins.	0	0	**1**	**1**	0	**8**	0	8	**1**	0	0	**1**	0	0	0	0
+30 mins.	0	0	0	0	**2**	8	0	**10**	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	**1**	1	0	0	0	0
Total Volume	0	0	1	1	3	17	0	20	1	0	1	2	0	0	0	0
% App. Total	0	0	100		15	85	0		50	0	50		0	0	0	
PHF	.000	.000	.250	.250	.375	.531	.000	.500	.250	.000	.250	.500	.000	.000	.000	.000

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City of Menifee
N/S: Case Road/Barnett Road
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_Bar_Eth PM
Site Code : 10823147
Start Date : 2/15/2023
Page No : 1

Groups Printed- 4+ Axle Trucks

	Case Road Southbound				Ethanac Road Westbound				Barnett Road Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	1	0	0	1	0	0	1	1	0	1	0	1	3
04:15 PM	1	0	0	1	0	0	0	0	1	0	1	2	0	0	0	0	3
04:30 PM	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	3
04:45 PM	0	0	0	0	1	1	0	2	0	0	1	1	0	0	0	0	3
Total	1	0	0	1	5	1	0	6	1	0	3	4	0	1	0	1	12
05:00 PM	1	0	0	1	1	0	0	1	0	0	2	2	0	0	1	1	5
05:15 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	1	0	1	3
05:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Total	1	1	0	2	1	0	0	1	0	0	5	5	0	1	2	3	11
Grand Total	2	1	0	3	6	1	0	7	1	0	8	9	0	2	2	4	23
Apprch %	66.7	33.3	0		85.7	14.3	0		11.1	0	88.9		0	50	50		
Total %	8.7	4.3	0	13	26.1	4.3	0	30.4	4.3	0	34.8	39.1	0	8.7	8.7	17.4	

	Case Road Southbound				Ethanac Road Westbound				Barnett Road Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	**1**	**1**	0	**2**	0	0	1	1	0	0	0	0	3
05:00 PM	**1**	0	0	**1**	1	0	0	1	0	0	**2**	**2**	0	0	**1**	**1**	**5**
05:15 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	**1**	0	1	3
05:30 PM	0	**1**	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
Total Volume	1	1	0	2	2	1	0	3	0	0	5	5	0	1	2	3	13
% App. Total	50	50	0		66.7	33.3	0		0	0	100		0	33.3	66.7		
PHF	.250	.250	.000	.500	.500	.250	.000	.375	.000	.000	.625	.625	.000	.250	.500	.750	.650

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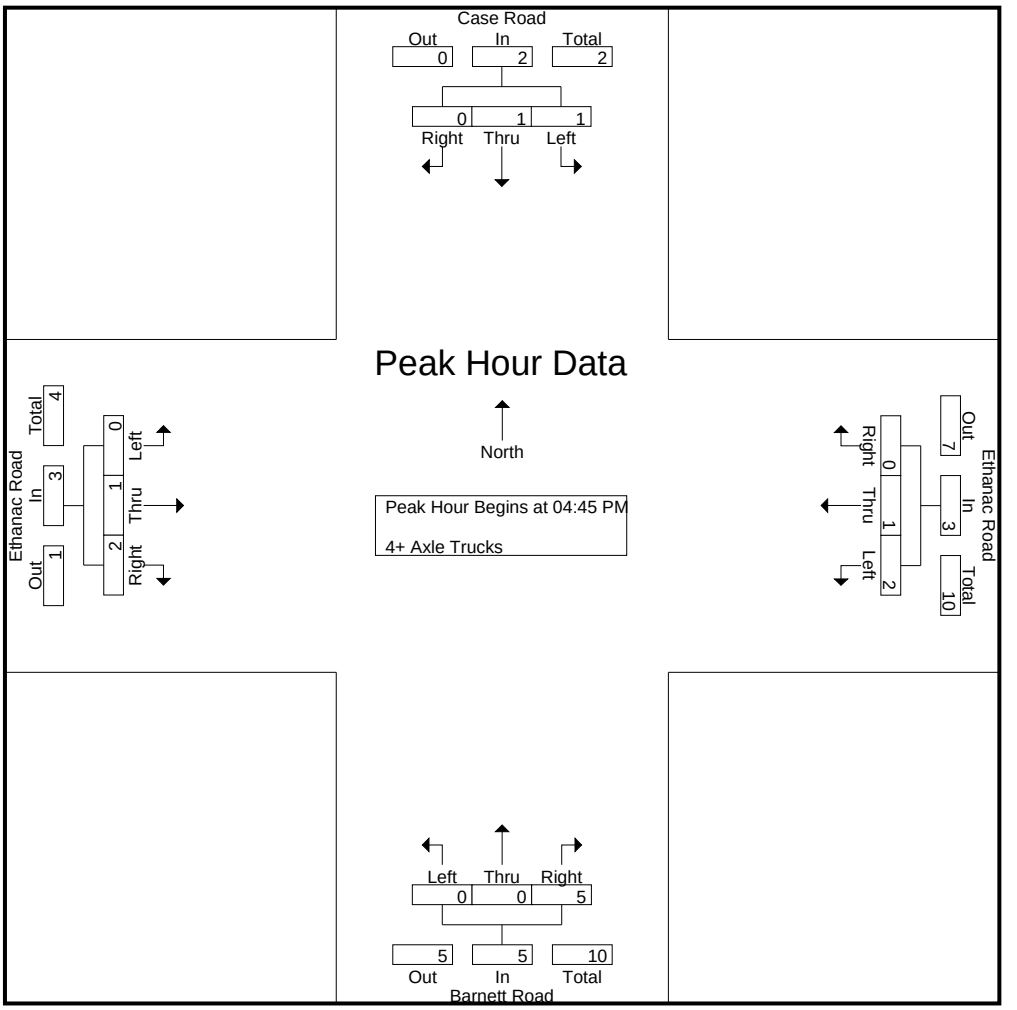
City of Menifee
N/S: Case Road/Barnett Road
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_Bar_Eth PM
Site Code : 10823147
Start Date : 2/15/2023
Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	0	0	0	0	**1**	**1**	0	**2**	0	0	1	1	0	0	0	0
+15 mins.	**1**	0	0	**1**	1	0	0	1	0	0	**2**	**2**	0	0	**1**	**1**
+30 mins.	0	0	0	0	0	0	0	0	0	0	2	2	0	**1**	0	1
+45 mins.	0	**1**	0	1	0	0	0	0	0	0	0	0	0	0	1	1
Total Volume	1	1	0	2	2	1	0	3	0	0	5	5	0	1	2	3
% App. Total	50	50	0		66.7	33.3	0		0	0	100		0	33.3	66.7	
PHF	.250	.250	.000	.500	.500	.250	.000	.375	.000	.000	.625	.625	.000	.250	.500	.750

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City of Menifee
N/S: I-215 Southbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_215S_Etha AM
Site Code : 221054
Start Date : 12/1/2022
Page No : 1

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

	I-215 Southbound Off Ramp Southbound				Ethanac Road Westbound				I-215 Southbound On Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	28	1	48	77	18	89	0	107	0	0	0	0	0	124	72	196	380
07:15 AM	21	0	66	87	25	88	0	113	0	0	0	0	0	174	111	285	485
07:30 AM	29	0	55	84	20	116	0	136	0	0	0	0	0	197	150	347	567
07:45 AM	29	1	63	93	15	175	0	190	0	0	0	0	0	176	105	281	564
Total	107	2	232	341	78	468	0	546	0	0	0	0	0	671	438	1109	1996
08:00 AM	27	0	56	83	22	186	0	208	0	0	0	0	0	153	91	244	535
08:15 AM	18	1	65	84	20	146	0	166	0	0	0	0	0	150	69	219	469
08:30 AM	17	1	72	90	28	136	0	164	0	0	0	0	0	112	99	211	465
08:45 AM	25	0	61	86	25	102	0	127	0	0	0	0	0	100	61	161	374
Total	87	2	254	343	95	570	0	665	0	0	0	0	0	515	320	835	1843
Grand Total	194	4	486	684	173	1038	0	1211	0	0	0	0	0	1186	758	1944	3839
Apprch %	28.4	0.6	71.1		14.3	85.7	0		0	0	0		0	61	39		
Total %	5.1	0.1	12.7	17.8	4.5	27	0	31.5	0	0	0	0	0	30.9	19.7	50.6	
Passenger Vehicles	175	3	426	604	122	990	0	1112	0	0	0	0	0	1119	692	1811	3527
% Passenger Vehicles	90.2	75	87.7	88.3	70.5	95.4	0	91.8	0	0	0	0	0	94.4	91.3	93.2	91.9
Large 2 Axle Vehicles	11	0	43	54	26	27	0	53	0	0	0	0	0	50	45	95	202
% Large 2 Axle Vehicles	5.7	0	8.8	7.9	15	2.6	0	4.4	0	0	0	0	0	4.2	5.9	4.9	5.3
3 Axle Vehicles	4	1	6	11	21	11	0	32	0	0	0	0	0	9	14	23	66
% 3 Axle Vehicles	2.1	25	1.2	1.6	12.1	1.1	0	2.6	0	0	0	0	0	0.8	1.8	1.2	1.7
4+ Axle Trucks	4	0	11	15	4	10	0	14	0	0	0	0	0	8	7	15	44
% 4+ Axle Trucks	2.1	0	2.3	2.2	2.3	1	0	1.2	0	0	0	0	0	0.7	0.9	0.8	1.1

	I-215 Southbound Off Ramp Southbound				Ethanac Road Westbound				I-215 Southbound On Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	21	0	**66**	87	**25**	88	0	113	0	0	0	0	0	174	111	285	485
07:30 AM	**29**	0	55	84	20	116	0	136	0	0	0	0	0	**197**	**150**	**347**	**567**
07:45 AM	29	**1**	63	**93**	15	175	0	190	0	0	0	0	0	176	105	281	564
08:00 AM	27	0	56	83	22	**186**	0	**208**	0	0	0	0	0	153	91	244	535
Total Volume	106	1	240	347	82	565	0	647	0	0	0	0	0	700	457	1157	2151
% App. Total	30.5	0.3	69.2		12.7	87.3	0		0	0	0		0	60.5	39.5		
PHF	.914	.250	.909	.933	.820	.759	.000	.778	.000	.000	.000	.000	.000	.888	.762	.834	.948

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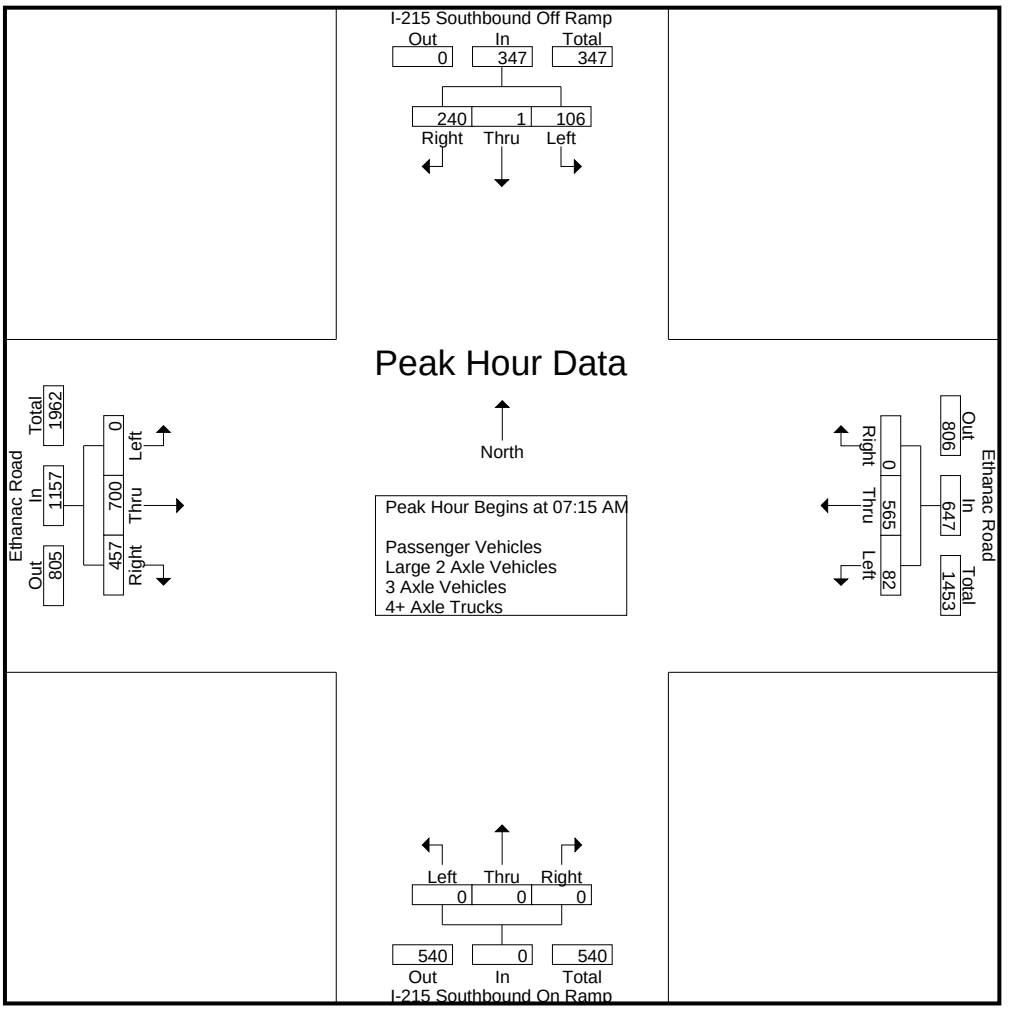
City of Menifee
N/S: I-215 Southbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_215S_Etha AM
Site Code : 221054
Start Date : 12/1/2022



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

	07:45 AM				07:45 AM				07:00 AM				07:15 AM			
+0 mins.	**29**	**1**	63	**93**	15	175	0	190	0	0	0	0	0	174	111	285
+15 mins.	27	0	56	83	22	**186**	0	**208**	0	0	0	0	0	**197**	**150**	**347**
+30 mins.	18	1	65	84	20	146	0	166	0	0	0	0	0	176	105	281
+45 mins.	17	1	**72**	90	**28**	136	0	164	0	0	0	0	0	153	91	244
Total Volume	91	3	256	350	85	643	0	728	0	0	0	0	0	700	457	1157
% App. Total	26	0.9	73.1		11.7	88.3	0		0	0	0		0	60.5	39.5	
PHF	.784	.750	.889	.941	.759	.864	.000	.875	.000	.000	.000	.000	.000	.888	.762	.834

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City of Menifee
N/S: I-215 Southbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_215S_Etha AM
Site Code : 221054
Start Date : 12/1/2022
Page No : 1

Groups Printed- Passenger Vehicles

	I-215 Southbound Off Ramp Southbound				Ethanac Road Westbound				I-215 Southbound On Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	23	1	37	61	13	86	0	99	0	0	0	0	0	119	66	185	345
07:15 AM	19	0	51	70	12	83	0	95	0	0	0	0	0	159	103	262	427
07:30 AM	27	0	52	79	13	108	0	121	0	0	0	0	0	190	135	325	525
07:45 AM	26	1	56	83	10	167	0	177	0	0	0	0	0	166	96	262	522
Total	95	2	196	293	48	444	0	492	0	0	0	0	0	634	400	1034	1819
08:00 AM	26	0	51	77	16	178	0	194	0	0	0	0	0	144	84	228	499
08:15 AM	16	1	58	75	15	142	0	157	0	0	0	0	0	141	62	203	435
08:30 AM	15	0	69	84	24	130	0	154	0	0	0	0	0	104	89	193	431
08:45 AM	23	0	52	75	19	96	0	115	0	0	0	0	0	96	57	153	343
Total	80	1	230	311	74	546	0	620	0	0	0	0	0	485	292	777	1708
Grand Total	175	3	426	604	122	990	0	1112	0	0	0	0	0	1119	692	1811	3527
Apprch %	29	0.5	70.5		11	89	0		0	0	0		0	61.8	38.2		
Total %	5	0.1	12.1	17.1	3.5	28.1	0	31.5	0	0	0	0	0	31.7	19.6	51.3	

	I-215 Southbound Off Ramp Southbound				Ethanac Road Westbound				I-215 Southbound On Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	19	0	51	70	12	83	0	95	0	0	0	0	0	159	103	262	427
07:30 AM	**27**	0	52	79	13	108	0	121	0	0	0	0	0	**190**	**135**	**325**	**525**
07:45 AM	26	**1**	**56**	**83**	10	167	0	177	0	0	0	0	0	166	96	262	522
08:00 AM	26	0	51	77	**16**	**178**	0	**194**	0	0	0	0	0	144	84	228	499
Total Volume	98	1	210	309	51	536	0	587	0	0	0	0	0	659	418	1077	1973
% App. Total	31.7	0.3	68		8.7	91.3	0		0	0	0		0	61.2	38.8		
PHF	.907	.250	.938	.931	.797	.753	.000	.756	.000	.000	.000	.000	.000	.867	.774	.828	.940

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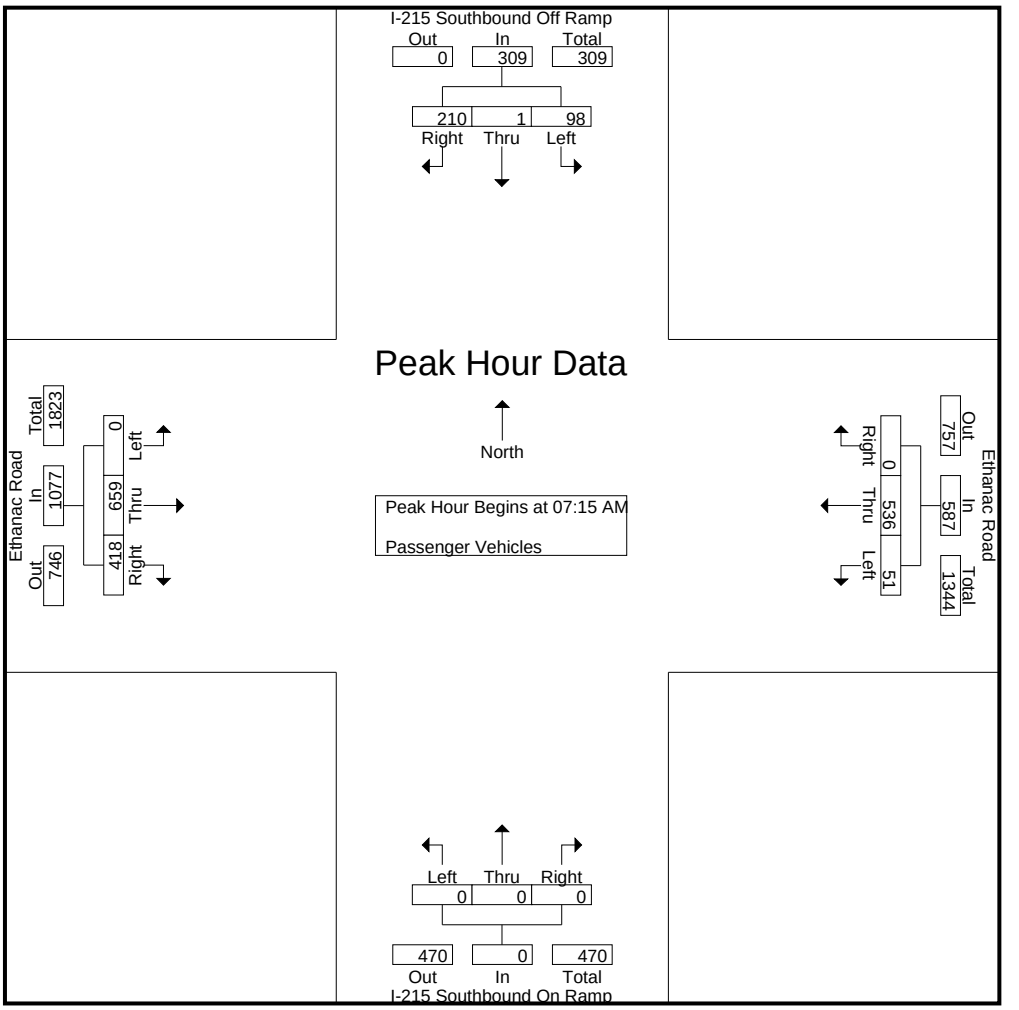
City of Menifee
N/S: I-215 Southbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_215S_Etha AM
Site Code : 221054
Start Date : 12/1/2022



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	19	0	51	70	12	83	0	95	0	0	0	0	0	159	103	262
+15 mins.	**27**	0	52	79	13	108	0	121	0	0	0	0	0	**190**	**135**	**325**
+30 mins.	26	**1**	**56**	**83**	10	167	0	177	0	0	0	0	0	166	96	262
+45 mins.	26	0	51	77	**16**	**178**	0	**194**	0	0	0	0	0	144	84	228
Total Volume	98	1	210	309	51	536	0	587	0	0	0	0	0	659	418	1077
% App. Total	31.7	0.3	68		8.7	91.3	0		0	0	0		0	61.2	38.8	
PHF	.907	.250	.938	.931	.797	.753	.000	.756	.000	.000	.000	.000	.000	.867	.774	.828

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City of Menifee
N/S: I-215 Southbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_215S_Etha AM
Site Code : 221054
Start Date : 12/1/2022

Groups Printed- Large 2 Axle Vehicles

	I-215 Southbound Off Ramp Southbound				Ethanac Road Westbound				I-215 Southbound On Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	3	0	8	11	2	2	0	4	0	0	0	0	0	4	3	7	22
07:15 AM	1	0	15	16	5	2	0	7	0	0	0	0	0	13	5	18	41
07:30 AM	0	0	2	2	5	5	0	10	0	0	0	0	0	6	11	17	29
07:45 AM	2	0	5	7	3	5	0	8	0	0	0	0	0	7	7	14	29
Total	6	0	30	36	15	14	0	29	0	0	0	0	0	30	26	56	121
08:00 AM	1	0	4	5	4	4	0	8	0	0	0	0	0	8	4	12	25
08:15 AM	1	0	3	4	2	1	0	3	0	0	0	0	0	6	6	12	19
08:30 AM	2	0	1	3	3	5	0	8	0	0	0	0	0	3	7	10	21
08:45 AM	1	0	5	6	2	3	0	5	0	0	0	0	0	3	2	5	16
Total	5	0	13	18	11	13	0	24	0	0	0	0	0	20	19	39	81
Grand Total	11	0	43	54	26	27	0	53	0	0	0	0	0	50	45	95	202
Apprch %	20.4	0	79.6		49.1	50.9	0		0	0	0		0	52.6	47.4		
Total %	5.4	0	21.3	26.7	12.9	13.4	0	26.2	0	0	0	0	0	24.8	22.3	47	

	I-215 Southbound Off Ramp Southbound				Ethanac Road Westbound				I-215 Southbound On Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	1	0	**15**	**16**	**5**	2	0	7	0	0	0	0	0	**13**	5	**18**	**41**
07:30 AM	0	0	2	2	5	**5**	0	**10**	0	0	0	0	0	6	**11**	17	29
07:45 AM	**2**	0	5	7	3	5	0	8	0	0	0	0	0	7	7	14	29
08:00 AM	1	0	4	5	4	4	0	8	0	0	0	0	0	8	4	12	25
Total Volume	4	0	26	30	17	16	0	33	0	0	0	0	0	34	27	61	124
% App. Total	13.3	0	86.7		51.5	48.5	0		0	0	0		0	55.7	44.3		
PHF	.500	.000	.433	.469	.850	.800	.000	.825	.000	.000	.000	.000	.000	.654	.614	.847	.756

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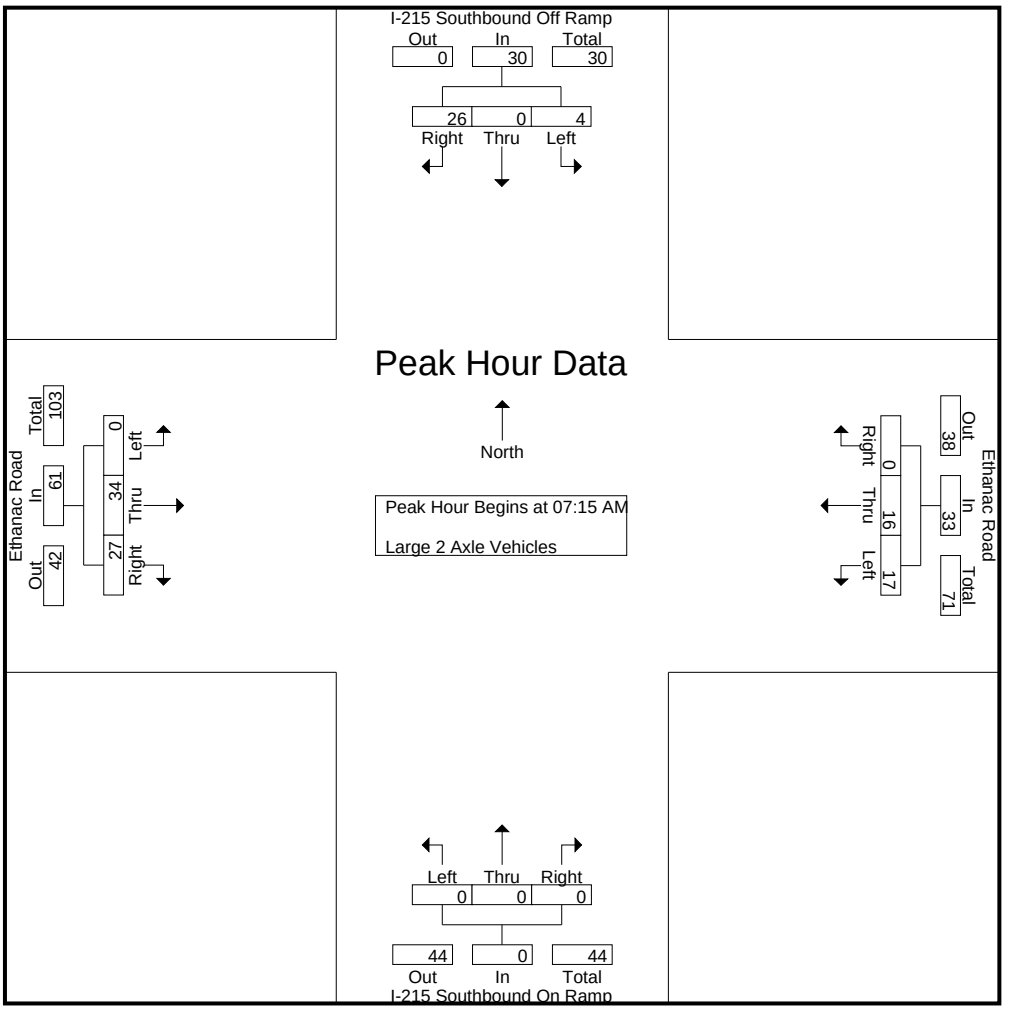
City of Menifee
N/S: I-215 Southbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_215S_Etha AM
Site Code : 221054
Start Date : 12/1/2022
Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	1	0	**15**	**16**	**5**	2	0	7	0	0	0	0	0	**13**	5	**18**
+15 mins.	0	0	2	2	5	**5**	0	**10**	0	0	0	0	0	6	**11**	17
+30 mins.	**2**	0	5	7	3	5	0	8	0	0	0	0	0	7	7	14
+45 mins.	1	0	4	5	4	4	0	8	0	0	0	0	0	8	4	12
Total Volume	4	0	26	30	17	16	0	33	0	0	0	0	0	34	27	61
% App. Total	13.3	0	86.7		51.5	48.5	0		0	0	0		0	55.7	44.3	
PHF	.500	.000	.433	.469	.850	.800	.000	.825	.000	.000	.000	.000	.000	.654	.614	.847

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City of Menifee
N/S: I-215 Southbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_215S_Etha AM
Site Code : 221054
Start Date : 12/1/2022

Groups Printed- 3 Axle Vehicles

	I-215 Southbound Off Ramp Southbound				Ethanac Road Westbound				I-215 Southbound On Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	0	0	1	3	1	0	4	0	0	0	0	0	0	1	1	6
07:15 AM	0	0	0	0	7	2	0	9	0	0	0	0	0	1	3	4	13
07:30 AM	2	0	0	2	1	3	0	4	0	0	0	0	0	0	4	4	10
07:45 AM	1	0	2	3	2	2	0	4	0	0	0	0	0	3	1	4	11
Total	4	0	2	6	13	8	0	21	0	0	0	0	0	4	9	13	40
08:00 AM	0	0	0	0	1	1	0	2	0	0	0	0	0	1	2	3	5
08:15 AM	0	0	1	1	3	0	0	3	0	0	0	0	0	2	0	2	6
08:30 AM	0	1	1	2	1	1	0	2	0	0	0	0	0	2	3	5	9
08:45 AM	0	0	2	2	3	1	0	4	0	0	0	0	0	0	0	0	6
Total	0	1	4	5	8	3	0	11	0	0	0	0	0	5	5	10	26
Grand Total	4	1	6	11	21	11	0	32	0	0	0	0	0	9	14	23	66
Apprch %	36.4	9.1	54.5		65.6	34.4	0		0	0	0		0	39.1	60.9		
Total %	6.1	1.5	9.1	16.7	31.8	16.7	0	48.5	0	0	0	0	0	13.6	21.2	34.8	

	I-215 Southbound Off Ramp Southbound				Ethanac Road Westbound				I-215 Southbound On Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	**7**	2	0	**9**	0	0	0	0	0	1	3	**4**	**13**
07:30 AM	**2**	0	0	2	1	**3**	0	4	0	0	0	0	0	0	**4**	4	10
07:45 AM	1	0	**2**	**3**	2	2	0	4	0	0	0	0	0	**3**	1	4	11
08:00 AM	0	0	0	0	1	1	0	2	0	0	0	0	0	1	2	3	5
Total Volume	3	0	2	5	11	8	0	19	0	0	0	0	0	5	10	15	39
% App. Total	60	0	40		57.9	42.1	0		0	0	0		0	33.3	66.7		
PHF	.375	.000	.250	.417	.393	.667	.000	.528	.000	.000	.000	.000	.000	.417	.625	.938	.750

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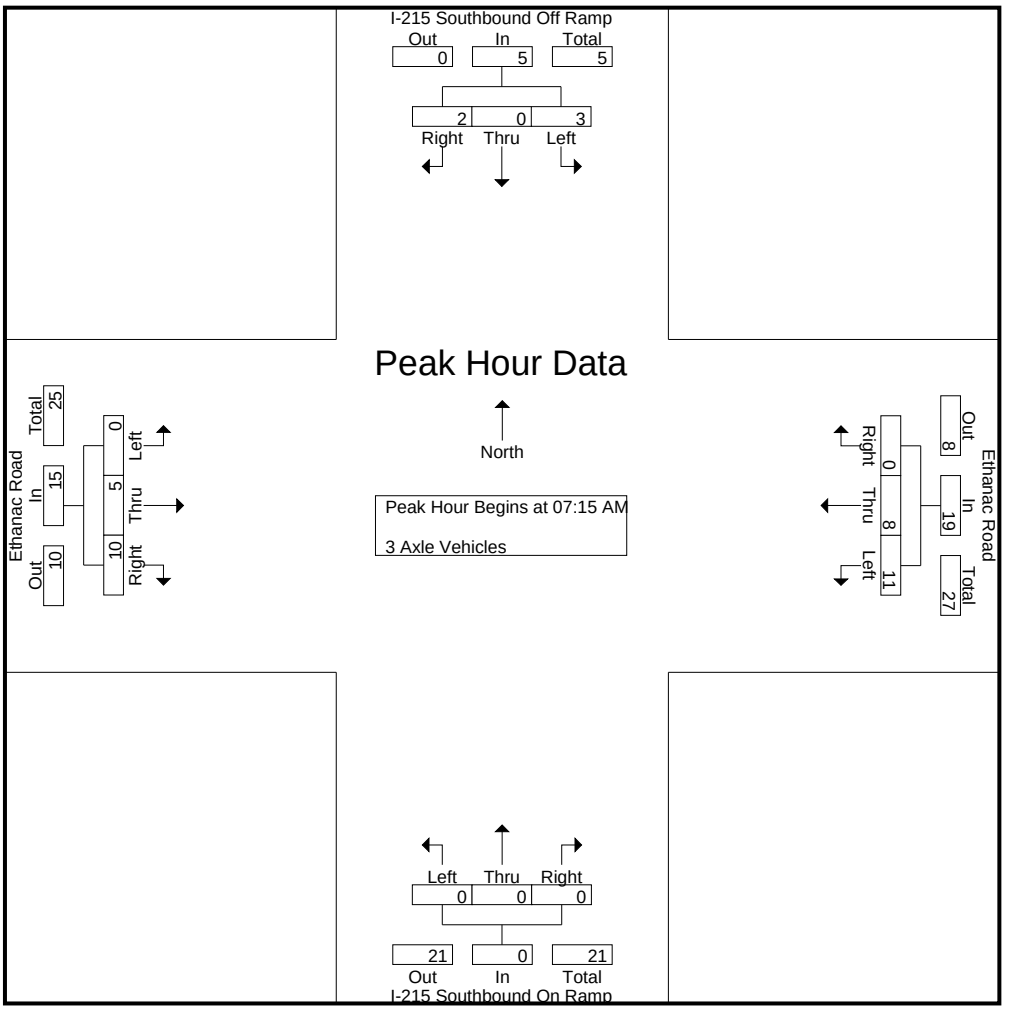
City of Menifee
N/S: I-215 Southbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_215S_Etha AM
Site Code : 221054
Start Date : 12/1/2022



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	**7**	2	0	**9**	0	0	0	0	0	1	3	**4**
+15 mins.	**2**	0	0	2	1	**3**	0	4	0	0	0	0	0	0	**4**	4
+30 mins.	1	0	**2**	**3**	2	2	0	4	0	0	0	0	0	**3**	1	4
+45 mins.	0	0	0	0	1	1	0	2	0	0	0	0	0	1	2	3
Total Volume	3	0	2	5	11	8	0	19	0	0	0	0	0	5	10	15
% App. Total	60	0	40		57.9	42.1	0		0	0	0		0	33.3	66.7	
PHF	.375	.000	.250	.417	.393	.667	.000	.528	.000	.000	.000	.000	.000	.417	.625	.938

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City of Menifee
N/S: I-215 Southbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_215S_Etha AM
Site Code : 221054
Start Date : 12/1/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

	I-215 Southbound Off Ramp Southbound				Ethanac Road Westbound				I-215 Southbound On Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	0	3	4	0	0	0	0	0	0	0	0	0	1	2	3	7
07:15 AM	1	0	0	1	1	1	0	2	0	0	0	0	0	1	0	1	4
07:30 AM	0	0	1	1	1	0	0	1	0	0	0	0	0	1	0	1	3
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	2
Total	2	0	4	6	2	2	0	4	0	0	0	0	0	3	3	6	16
08:00 AM	0	0	1	1	1	3	0	4	0	0	0	0	0	0	1	1	6
08:15 AM	1	0	3	4	0	3	0	3	0	0	0	0	0	1	1	2	9
08:30 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	3	0	3	4
08:45 AM	1	0	2	3	1	2	0	3	0	0	0	0	0	1	2	3	9
Total	2	0	7	9	2	8	0	10	0	0	0	0	0	5	4	9	28
Grand Total	4	0	11	15	4	10	0	14	0	0	0	0	0	8	7	15	44
Apprch %	26.7	0	73.3		28.6	71.4	0		0	0	0		0	53.3	46.7		
Total %	9.1	0	25	34.1	9.1	22.7	0	31.8	0	0	0	0	0	18.2	15.9	34.1	

	I-215 Southbound Off Ramp Southbound				Ethanac Road Westbound				I-215 Southbound On Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**1**	0	0	**1**	**1**	1	0	2	0	0	0	0	0	**1**	0	**1**	4
07:30 AM	0	0	**1**	1	1	0	0	1	0	0	0	0	0	1	0	1	3
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	**1**	1	2
08:00 AM	0	0	1	1	1	**3**	0	**4**	0	0	0	0	0	0	1	1	**6**
Total Volume	1	0	2	3	3	5	0	8	0	0	0	0	0	2	2	4	15
% App. Total	33.3	0	66.7		37.5	62.5	0		0	0	0		0	50	50		
PHF	.250	.000	.500	.750	.750	.417	.000	.500	.000	.000	.000	.000	.000	.500	.500	1.00	.625

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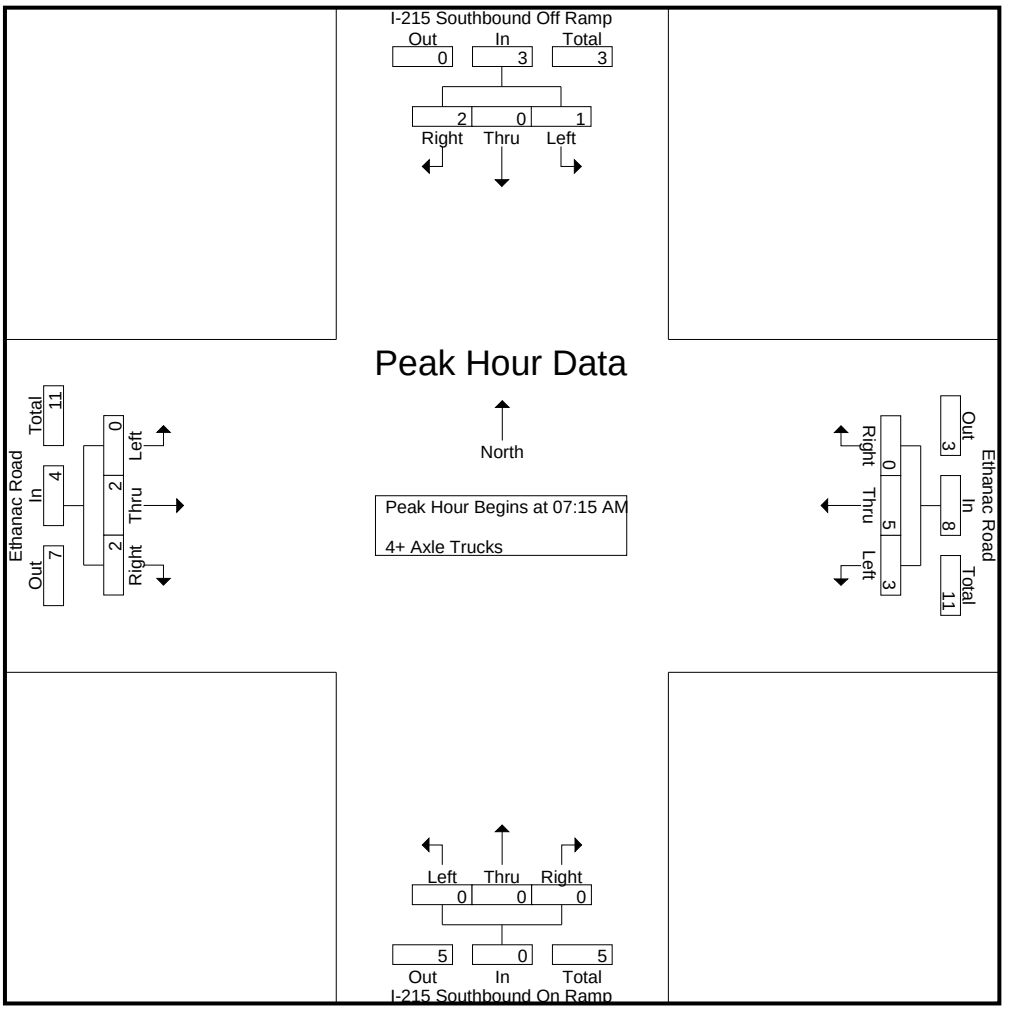
City of Menifee
N/S: I-215 Southbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_215S_Etha AM
Site Code : 221054
Start Date : 12/1/2022



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	**1**	0	0	**1**	**1**	1	0	2	0	0	0	0	0	**1**	0	**1**
+15 mins.	0	0	**1**	1	1	0	0	1	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	**1**	1
+45 mins.	0	0	1	1	1	**3**	0	**4**	0	0	0	0	0	0	1	1
Total Volume	1	0	2	3	3	5	0	8	0	0	0	0	0	2	2	4
% App. Total	33.3	0	66.7		37.5	62.5	0		0	0	0		0	50	50	
PHF	.250	.000	.500	.750	.750	.417	.000	.500	.000	.000	.000	.000	.000	.500	.500	1.000

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City of Menifee
N/S: I-215 Southbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_215S_Etha PM
Site Code : 221054
Start Date : 12/1/2022
Page No : 1

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

	I-215 Southbound Off Ramp Southbound				Ethanac Road Westbound				I-215 Southbound On Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	41	3	89	133	32	180	0	212	0	0	0	0	0	155	86	241	586
04:15 PM	37	1	91	129	16	192	0	208	0	0	0	0	0	142	86	228	565
04:30 PM	38	2	85	125	22	193	0	215	0	0	0	0	0	146	93	239	579
04:45 PM	41	0	83	124	16	167	0	183	0	0	0	0	0	162	92	254	561
Total	157	6	348	511	86	732	0	818	0	0	0	0	0	605	357	962	2291
05:00 PM	35	0	95	130	26	176	0	202	0	0	0	0	0	157	81	238	570
05:15 PM	36	1	90	127	25	187	0	212	0	0	0	0	0	168	88	256	595
05:30 PM	30	1	83	114	23	190	0	213	0	0	0	0	0	140	87	227	554
05:45 PM	38	0	78	116	19	127	0	146	0	0	0	0	0	150	82	232	494
Total	139	2	346	487	93	680	0	773	0	0	0	0	0	615	338	953	2213
Grand Total	296	8	694	998	179	1412	0	1591	0	0	0	0	0	1220	695	1915	4504
Apprch %	29.7	0.8	69.5		11.3	88.7	0		0	0	0		0	63.7	36.3		
Total %	6.6	0.2	15.4	22.2	4	31.3	0	35.3	0	0	0	0	0	27.1	15.4	42.5	
Passenger Vehicles	284	7	673	964	176	1371	0	1547	0	0	0	0	0	1173	679	1852	4363
% Passenger Vehicles	95.9	87.5	97	96.6	98.3	97.1	0	97.2	0	0	0	0	0	96.1	97.7	96.7	96.9
Large 2 Axle Vehicles	6	0	11	17	3	17	0	20	0	0	0	0	0	38	10	48	85
% Large 2 Axle Vehicles	2	0	1.6	1.7	1.7	1.2	0	1.3	0	0	0	0	0	3.1	1.4	2.5	1.9
3 Axle Vehicles	2	0	4	6	0	21	0	21	0	0	0	0	0	7	1	8	35
% 3 Axle Vehicles	0.7	0	0.6	0.6	0	1.5	0	1.3	0	0	0	0	0	0.6	0.1	0.4	0.8
4+ Axle Trucks	4	1	6	11	0	3	0	3	0	0	0	0	0	2	5	7	21
% 4+ Axle Trucks	1.4	12.5	0.9	1.1	0	0.2	0	0.2	0	0	0	0	0	0.2	0.7	0.4	0.5

	I-215 Southbound Off Ramp Southbound				Ethanac Road Westbound				I-215 Southbound On Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	38	**2**	85	125	22	**193**	0	**215**	0	0	0	0	0	146	**93**	239	579
04:45 PM	**41**	0	83	124	16	167	0	183	0	0	0	0	0	162	92	254	561
05:00 PM	35	0	**95**	**130**	**26**	176	0	202	0	0	0	0	0	157	81	238	570
05:15 PM	36	1	90	127	25	187	0	212	0	0	0	0	0	**168**	88	**256**	**595**
Total Volume	150	3	353	506	89	723	0	812	0	0	0	0	0	633	354	987	2305
% App. Total	29.6	0.6	69.8		11	89	0		0	0	0		0	64.1	35.9		
PHF	.915	.375	.929	.973	.856	.937	.000	.944	.000	.000	.000	.000	.000	.942	.952	.964	.968

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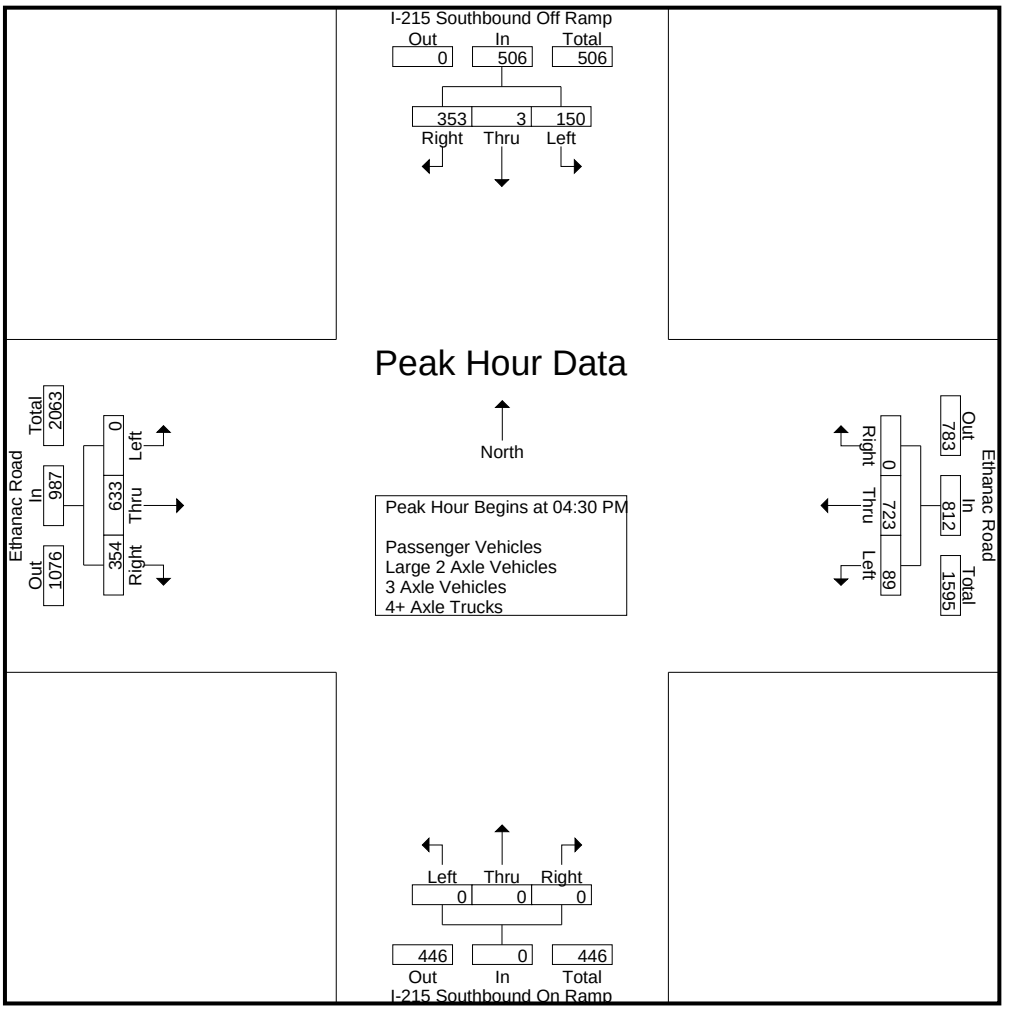
City of Menifee
N/S: I-215 Southbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_215S_Etha PM
Site Code : 221054
Start Date : 12/1/2022



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

	04:00 PM				04:00 PM				04:00 PM				04:30 PM			
+0 mins.	**41**	**3**	89	**133**	**32**	180	0	212	0	0	0	0	0	146	**93**	239
+15 mins.	37	1	**91**	129	16	192	0	208	0	0	0	0	0	162	92	254
+30 mins.	38	2	85	125	22	**193**	0	**215**	0	0	0	0	0	157	81	238
+45 mins.	41	0	83	124	16	167	0	183	0	0	0	0	0	**168**	88	**256**
Total Volume	157	6	348	511	86	732	0	818	0	0	0	0	0	633	354	987
% App. Total	30.7	1.2	68.1		10.5	89.5	0		0	0	0		0	64.1	35.9	
PHF	.957	.500	.956	.961	.672	.948	.000	.951	.000	.000	.000	.000	.000	.942	.952	.964

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City of Menifee
N/S: I-215 Southbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_215S_Etha PM
Site Code : 221054
Start Date : 12/1/2022
Page No : 1

Groups Printed- Passenger Vehicles

	I-215 Southbound Off Ramp Southbound				Ethanac Road Westbound				I-215 Southbound On Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	39	2	89	130	31	174	0	205	0	0	0	0	0	148	86	234	569
04:15 PM	34	1	87	122	16	185	0	201	0	0	0	0	0	134	83	217	540
04:30 PM	37	2	84	123	22	188	0	210	0	0	0	0	0	136	91	227	560
04:45 PM	41	0	80	121	16	166	0	182	0	0	0	0	0	159	91	250	553
Total	151	5	340	496	85	713	0	798	0	0	0	0	0	577	351	928	2222
05:00 PM	33	0	90	123	26	172	0	198	0	0	0	0	0	155	79	234	555
05:15 PM	34	1	85	120	25	177	0	202	0	0	0	0	0	165	84	249	571
05:30 PM	29	1	81	111	23	185	0	208	0	0	0	0	0	132	84	216	535
05:45 PM	37	0	77	114	17	124	0	141	0	0	0	0	0	144	81	225	480
Total	133	2	333	468	91	658	0	749	0	0	0	0	0	596	328	924	2141
Grand Total	284	7	673	964	176	1371	0	1547	0	0	0	0	0	1173	679	1852	4363
Apprch %	29.5	0.7	69.8		11.4	88.6	0		0	0	0		0	63.3	36.7		
Total %	6.5	0.2	15.4	22.1	4	31.4	0	35.5	0	0	0	0	0	26.9	15.6	42.4	

	I-215 Southbound Off Ramp Southbound				Ethanac Road Westbound				I-215 Southbound On Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	37	**2**	84	**123**	22	**188**	0	**210**	0	0	0	0	0	136	**91**	227	560
04:45 PM	**41**	0	80	121	16	166	0	182	0	0	0	0	0	159	91	**250**	553
05:00 PM	33	0	**90**	123	**26**	172	0	198	0	0	0	0	0	155	79	234	555
05:15 PM	34	1	85	120	25	177	0	202	0	0	0	0	0	**165**	84	249	**571**
Total Volume	145	3	339	487	89	703	0	792	0	0	0	0	0	615	345	960	2239
% App. Total	29.8	0.6	69.6		11.2	88.8	0		0	0	0		0	64.1	35.9		
PHF	.884	.375	.942	.990	.856	.935	.000	.943	.000	.000	.000	.000	.000	.932	.948	.960	.980

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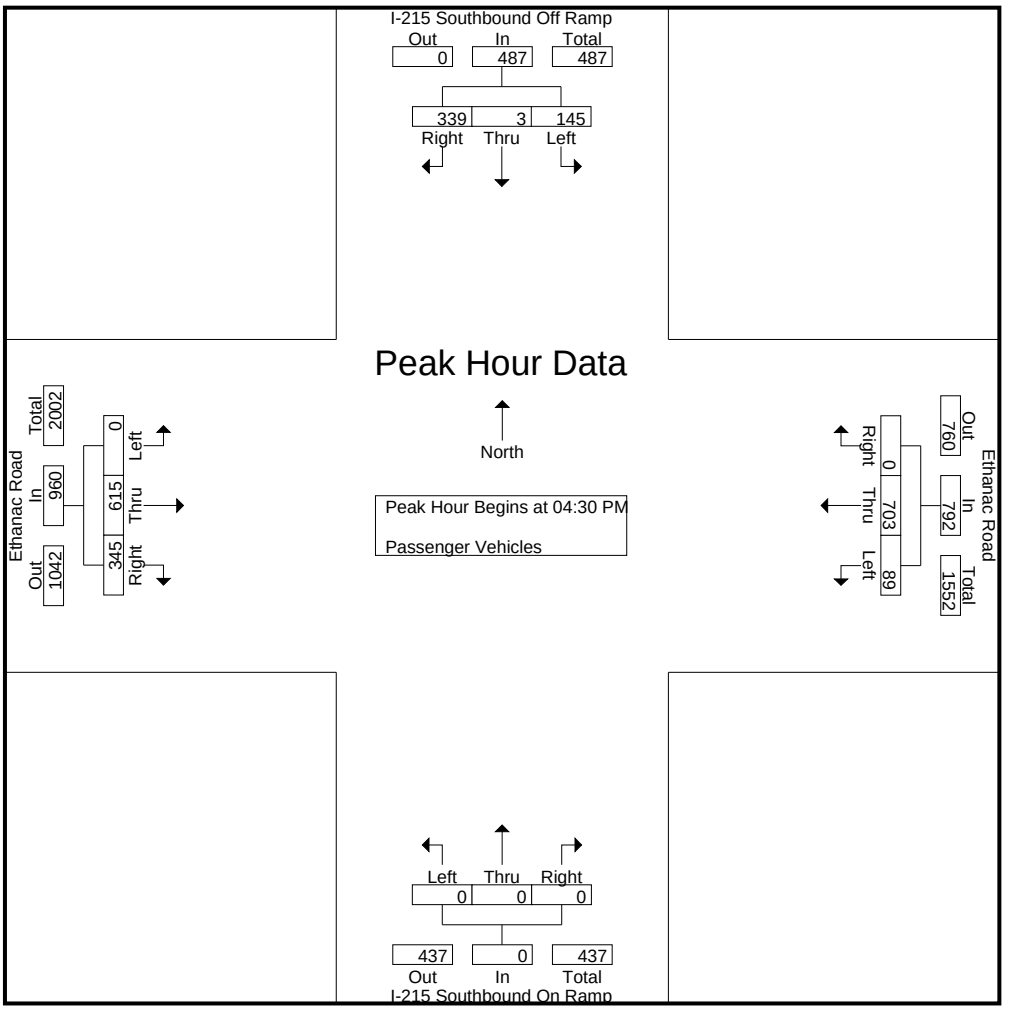
City of Menifee
N/S: I-215 Southbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_215S_Etha PM
Site Code : 221054
Start Date : 12/1/2022



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	37	**2**	84	**123**	22	**188**	0	**210**	0	0	0	0	0	136	**91**	227
+15 mins.	**41**	0	80	121	16	166	0	182	0	0	0	0	0	159	91	**250**
+30 mins.	33	0	**90**	123	**26**	172	0	198	0	0	0	0	0	155	79	234
+45 mins.	34	1	85	120	25	177	0	202	0	0	0	0	0	**165**	84	249
Total Volume	145	3	339	487	89	703	0	792	0	0	0	0	0	615	345	960
% App. Total	29.8	0.6	69.6		11.2	88.8	0		0	0	0		0	64.1	35.9	
PHF	.884	.375	.942	.990	.856	.935	.000	.943	.000	.000	.000	.000	.000	.932	.948	.960

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

City of Menifee
N/S: I-215 Southbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_215S_Etha PM
Site Code : 221054
Start Date : 12/1/2022

Groups Printed- Large 2 Axle Vehicles

	I-215 Southbound Off Ramp Southbound				Ethanac Road Westbound				I-215 Southbound On Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	1	2	0	3	0	0	0	0	0	4	0	4	7
04:15 PM	0	0	1	1	0	2	0	2	0	0	0	0	0	5	2	7	10
04:30 PM	1	0	1	2	0	3	0	3	0	0	0	0	0	8	1	9	14
04:45 PM	0	0	3	3	0	0	0	0	0	0	0	0	0	3	1	4	7
Total	1	0	5	6	1	7	0	8	0	0	0	0	0	20	4	24	38
05:00 PM	1	0	2	3	0	3	0	3	0	0	0	0	0	2	0	2	8
05:15 PM	2	0	2	4	0	5	0	5	0	0	0	0	0	3	3	6	15
05:30 PM	1	0	2	3	0	1	0	1	0	0	0	0	0	7	2	9	13
05:45 PM	1	0	0	1	2	1	0	3	0	0	0	0	0	6	1	7	11
Total	5	0	6	11	2	10	0	12	0	0	0	0	0	18	6	24	47
Grand Total	6	0	11	17	3	17	0	20	0	0	0	0	0	38	10	48	85
Apprch %	35.3	0	64.7		15	85	0		0	0	0		0	79.2	20.8		
Total %	7.1	0	12.9	20	3.5	20	0	23.5	0	0	0	0	0	44.7	11.8	56.5	

	I-215 Southbound Off Ramp Southbound				Ethanac Road Westbound				I-215 Southbound On Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	1	0	1	2	0	3	0	3	0	0	0	0	0	**8**	1	**9**	14
04:45 PM	0	0	**3**	3	0	0	0	0	0	0	0	0	0	3	1	4	7
05:00 PM	1	0	2	3	0	3	0	3	0	0	0	0	0	2	0	2	8
05:15 PM	**2**	0	2	**4**	0	**5**	0	**5**	0	0	0	0	0	3	**3**	6	**15**
Total Volume	4	0	8	12	0	11	0	11	0	0	0	0	0	16	5	21	44
% App. Total	33.3	0	66.7		0	100	0		0	0	0		0	76.2	23.8		
PHF	.500	.000	.667	.750	.000	.550	.000	.550	.000	.000	.000	.000	.000	.500	.417	.583	.733

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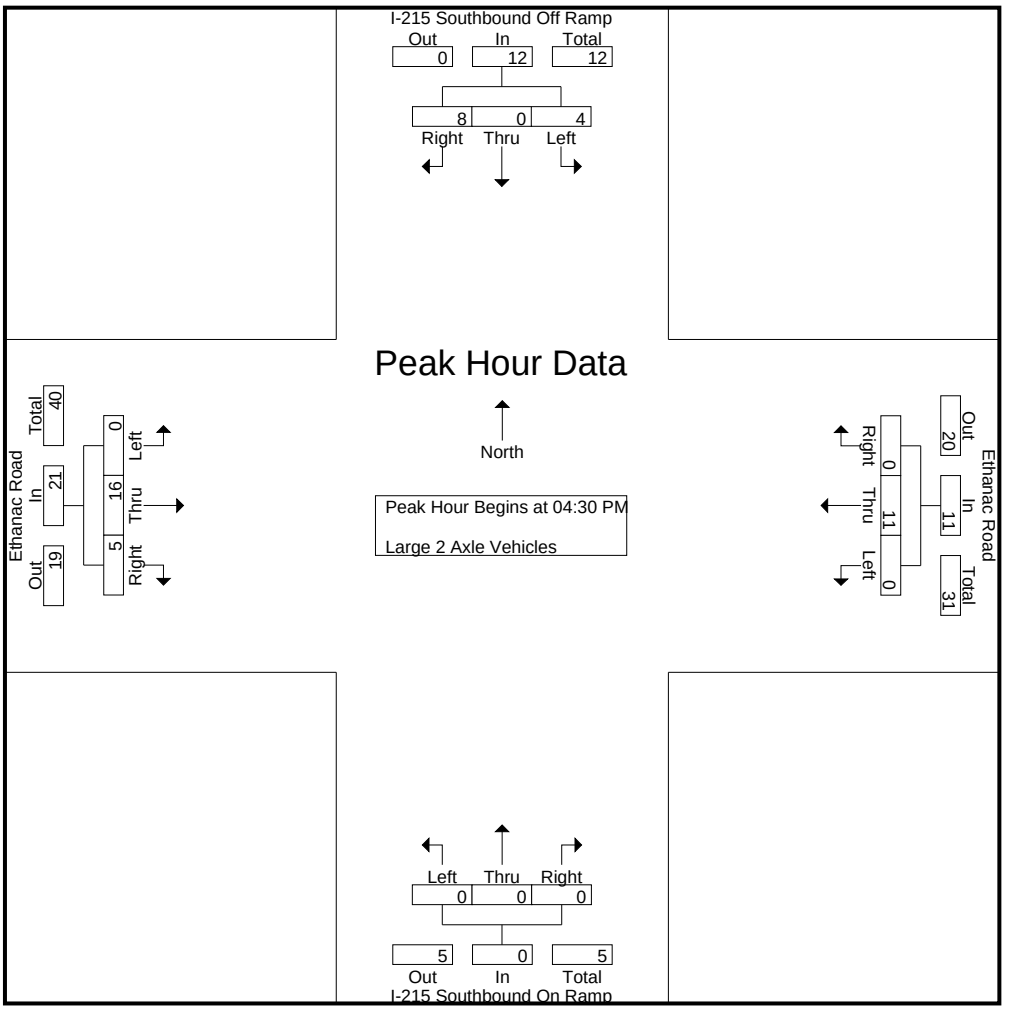
City of Menifee
N/S: I-215 Southbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_215S_Etha PM
Site Code : 221054
Start Date : 12/1/2022



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	1	0	1	2	0	3	0	3	0	0	0	0	0	**8**	1	**9**
+15 mins.	0	0	**3**	3	0	0	0	0	0	0	0	0	0	3	1	4
+30 mins.	1	0	2	3	0	3	0	3	0	0	0	0	0	2	0	2
+45 mins.	**2**	0	2	**4**	0	**5**	0	**5**	0	0	0	0	0	3	**3**	6
Total Volume	4	0	8	12	0	11	0	11	0	0	0	0	0	16	5	21
% App. Total	33.3	0	66.7		0	100	0		0	0	0		0	76.2	23.8	
PHF	.500	.000	.667	.750	.000	.550	.000	.550	.000	.000	.000	.000	.000	.500	.417	.583

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City of Menifee
N/S: I-215 Southbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_215S_Etha PM
Site Code : 221054
Start Date : 12/1/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

	I-215 Southbound Off Ramp Southbound				Ethanac Road Westbound				I-215 Southbound On Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	0	0	1	0	3	0	3	0	0	0	0	0	3	0	3	7
04:15 PM	1	0	0	1	0	5	0	5	0	0	0	0	0	1	1	2	8
04:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	2	0	0	2	0	11	0	11	0	0	0	0	0	6	1	7	20
05:00 PM	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	3
05:15 PM	0	0	1	1	0	5	0	5	0	0	0	0	0	0	0	0	6
05:30 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	1	0	1	4
05:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
Total	0	0	4	4	0	10	0	10	0	0	0	0	0	1	0	1	15
Grand Total	2	0	4	6	0	21	0	21	0	0	0	0	0	7	1	8	35
Apprch %	33.3	0	66.7		0	100	0		0	0	0		0	87.5	12.5		
Total %	5.7	0	11.4	17.1	0	60	0	60	0	0	0	0	0	20	2.9	22.9	

	I-215 Southbound Off Ramp Southbound				Ethanac Road Westbound				I-215 Southbound On Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	**2**	0	**2**	4
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	**3**	**3**	0	0	0	0	0	0	0	0	0	0	0	0	3
05:15 PM	0	0	1	1	0	**5**	0	**5**	0	0	0	0	0	0	0	0	**6**
Total Volume	0	0	4	4	0	8	0	8	0	0	0	0	0	2	0	2	14
% App. Total	0	0	100		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.333	.333	.000	.400	.000	.400	.000	.000	.000	.000	.000	.250	.000	.250	.583

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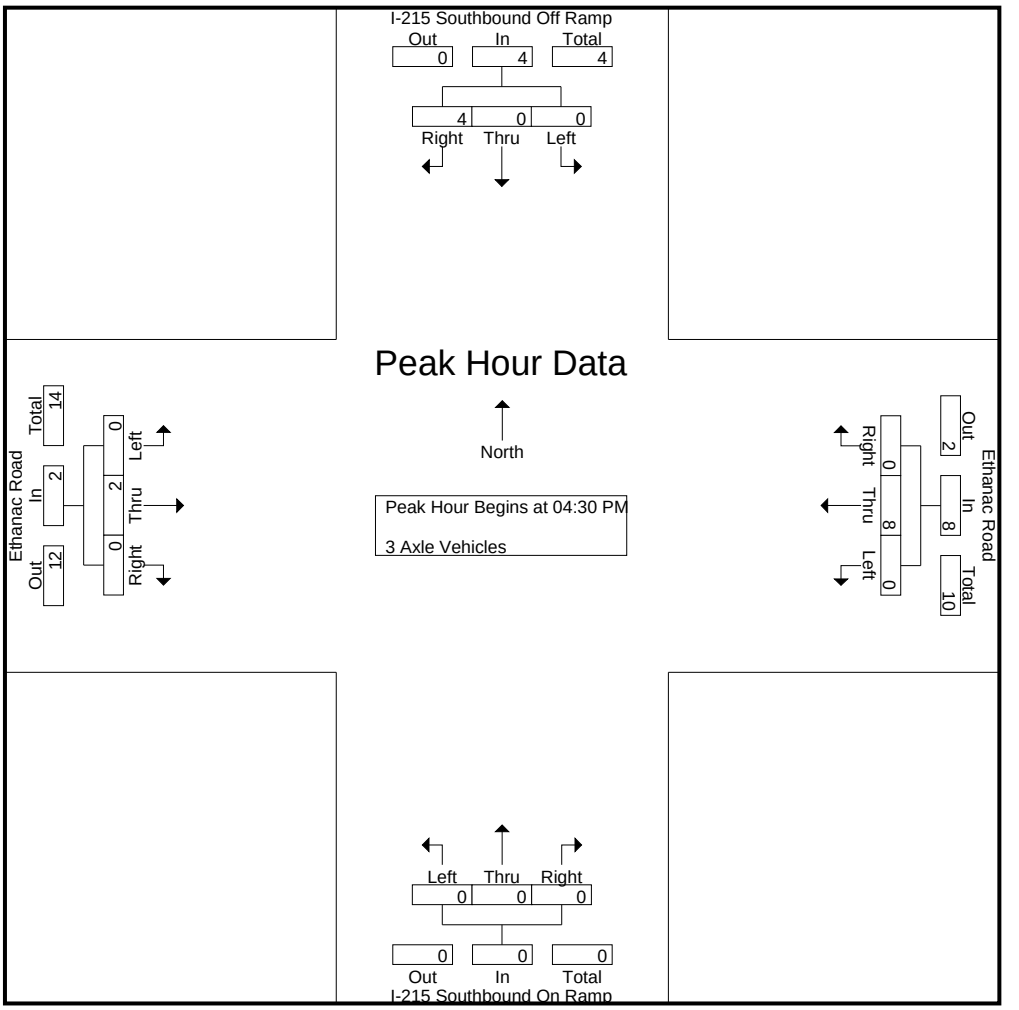
City of Menifee
N/S: I-215 Southbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_215S_Etha PM
Site Code : 221054
Start Date : 12/1/2022



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	**2**	0	**2**
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	**3**	**3**	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	1	1	0	**5**	0	**5**	0	0	0	0	0	0	0	0
Total Volume	0	0	4	4	0	8	0	8	0	0	0	0	0	2	0	2
% App. Total	0	0	100		0	100	0		0	0	0		0	100	0	
PHF	.000	.000	.333	.333	.000	.400	.000	.400	.000	.000	.000	.000	.000	.250	.000	.250

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City of Menifee
N/S: I-215 Southbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_215S_Etha PM
Site Code : 221054
Start Date : 12/1/2022

Groups Printed- 4+ Axle Trucks

	I-215 Southbound Off Ramp Southbound				Ethanac Road Westbound				I-215 Southbound On Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	1	0	2	0	1	0	1	0	0	0	0	0	0	0	0	3
04:15 PM	2	0	3	5	0	0	0	0	0	0	0	0	0	2	0	2	7
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	1	3	7	0	1	0	1	0	0	0	0	0	2	1	3	11
05:00 PM	1	0	0	1	0	1	0	1	0	0	0	0	0	0	2	2	4
05:15 PM	0	0	2	2	0	0	0	0	0	0	0	0	0	0	1	1	3
05:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	2
05:45 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	0	3	4	0	2	0	2	0	0	0	0	0	0	4	4	10
Grand Total	4	1	6	11	0	3	0	3	0	0	0	0	0	2	5	7	21
Apprch %	36.4	9.1	54.5		0	100	0		0	0	0		0	28.6	71.4		
Total %	19	4.8	28.6	52.4	0	14.3	0	14.3	0	0	0	0	0	9.5	23.8	33.3	

	I-215 Southbound Off Ramp Southbound				Ethanac Road Westbound				I-215 Southbound On Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	**1**	0	0	1	0	**1**	0	**1**	0	0	0	0	0	0	**2**	**2**	**4**
05:15 PM	0	0	**2**	**2**	0	0	0	0	0	0	0	0	0	0	1	1	3
Total Volume	1	0	2	3	0	1	0	1	0	0	0	0	0	0	4	4	8
% App. Total	33.3	0	66.7		0	100	0		0	0	0		0	0	100		
PHF	.250	.000	.250	.375	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.500	.500	.500

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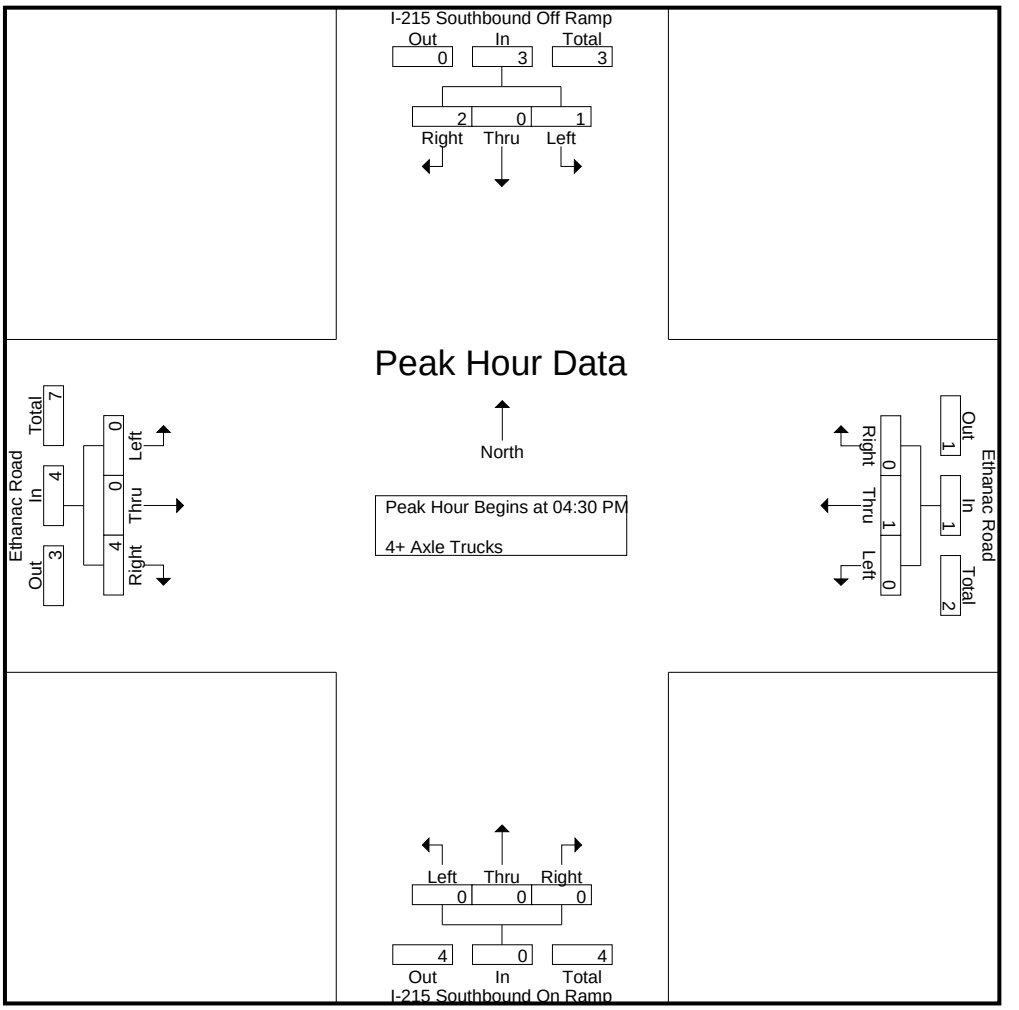
City of Menifee
N/S: I-215 Southbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 05_MEN_215S_Etha PM
Site Code : 221054
Start Date : 12/1/2022



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	**1**	0	0	1	0	**1**	0	**1**	0	0	0	0	0	0	**2**	**2**
+45 mins.	0	0	**2**	**2**	0	0	0	0	0	0	0	0	0	0	1	1
Total Volume	1	0	2	3	0	1	0	1	0	0	0	0	0	0	4	4
% App. Total	33.3	0	66.7		0	100	0		0	0	0		0	0	100	
PHF	.250	.000	.250	.375	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.500	.500

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City of Menifee
N/S: I-215 Northbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 06_MEN_215N_Etha AM
Site Code : 221054
Start Date : 12/1/2022
Page No : 1

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

	I-215 Northbound On Ramp Southbound				Ethanac Road Westbound				I-215 Northbound Off Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	62	28	90	44	0	32	76	49	99	0	148	314
07:15 AM	0	0	0	0	0	75	32	107	48	0	32	80	67	149	0	216	403
07:30 AM	0	0	0	0	0	88	39	127	71	0	23	94	52	168	0	220	441
07:45 AM	0	0	0	0	0	128	39	167	75	0	35	110	42	138	0	180	457
Total	0	0	0	0	0	353	138	491	238	0	122	360	210	554	0	764	1615
08:00 AM	0	0	0	0	0	114	36	150	58	0	35	93	53	137	0	190	433
08:15 AM	0	0	0	0	0	115	19	134	61	2	49	112	43	100	0	143	389
08:30 AM	0	0	0	0	0	74	25	99	65	0	33	98	65	58	0	123	320
08:45 AM	0	0	0	0	0	67	26	93	49	1	22	72	50	80	0	130	295
Total	0	0	0	0	0	370	106	476	233	3	139	375	211	375	0	586	1437
Grand Total	0	0	0	0	0	723	244	967	471	3	261	735	421	929	0	1350	3052
Apprch %	0	0	0		0	74.8	25.2		64.1	0.4	35.5		31.2	68.8	0		
Total %	0	0	0	0	0	23.7	8	31.7	15.4	0.1	8.6	24.1	13.8	30.4	0	44.2	
Passenger Vehicles	0	0	0	0	0	658	217	875	438	2	234	674	384	883	0	1267	2816
% Passenger Vehicles	0	0	0	0	0	91	88.9	90.5	93	66.7	89.7	91.7	91.2	95	0	93.9	92.3
Large 2 Axle Vehicles	0	0	0	0	0	36	15	51	13	1	10	24	23	29	0	52	127
% Large 2 Axle Vehicles	0	0	0	0	0	5	6.1	5.3	2.8	33.3	3.8	3.3	5.5	3.1	0	3.9	4.2
3 Axle Vehicles	0	0	0	0	0	24	3	27	11	0	13	24	4	11	0	15	66
% 3 Axle Vehicles	0	0	0	0	0	3.3	1.2	2.8	2.3	0	5	3.3	1	1.2	0	1.1	2.2
4+ Axle Trucks	0	0	0	0	0	5	9	14	9	0	4	13	10	6	0	16	43
% 4+ Axle Trucks	0	0	0	0	0	0.7	3.7	1.4	1.9	0	1.5	1.8	2.4	0.6	0	1.2	1.4

	I-215 Northbound On Ramp Southbound				Ethanac Road Westbound				I-215 Northbound Off Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	75	32	107	48	0	32	80	**67**	149	0	216	403
07:30 AM	0	0	0	0	0	88	**39**	127	71	0	23	94	52	**168**	0	**220**	441
07:45 AM	0	0	0	0	0	**128**	39	**167**	**75**	0	**35**	**110**	42	138	0	180	**457**
08:00 AM	0	0	0	0	0	114	36	150	58	0	35	93	53	137	0	190	433
Total Volume	0	0	0	0	0	405	146	551	252	0	125	377	214	592	0	806	1734
% App. Total	0	0	0		0	73.5	26.5		66.8	0	33.2		26.6	73.4	0		
PHF	.000	.000	.000	.000	.000	.791	.936	.825	.840	.000	.893	.857	.799	.881	.000	.916	.949

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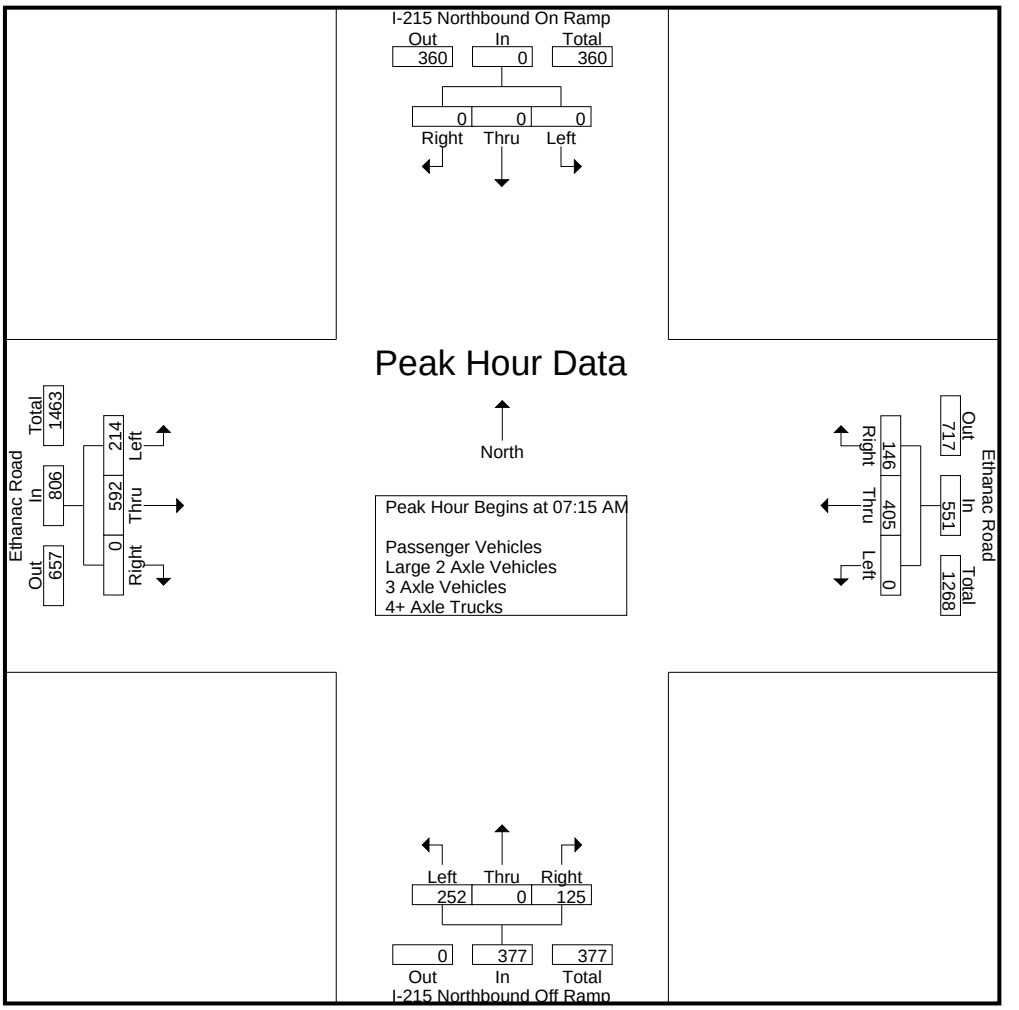
City of Menifee
N/S: I-215 Northbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 06_MEN_215N_Etha AM
Site Code : 221054
Start Date : 12/1/2022
Page No : 2



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

	07:00 AM				07:30 AM				07:45 AM				07:15 AM			
+0 mins.	0	0	0	0	0	88	**39**	127	**75**	0	35	110	**67**	149	0	216
+15 mins.	0	0	0	0	0	**128**	39	**167**	58	0	35	93	52	**168**	0	**220**
+30 mins.	0	0	0	0	0	114	36	150	61	**2**	**49**	**112**	42	138	0	180
+45 mins.	0	0	0	0	0	115	19	134	65	0	33	98	53	137	0	190
Total Volume	0	0	0	0	0	445	133	578	259	2	152	413	214	592	0	806
% App. Total	0	0	0		0	77	23		62.7	0.5	36.8		26.6	73.4	0	
PHF	.000	.000	.000	.000	.000	.869	.853	.865	.863	.250	.776	.922	.799	.881	.000	.916

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City of Menifee
N/S: I-215 Northbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 06_MEN_215N_Etha AM
Site Code : 221054
Start Date : 12/1/2022
Page No : 1

Groups Printed- Passenger Vehicles

	I-215 Northbound On Ramp Southbound				Ethanac Road Westbound				I-215 Northbound Off Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	55	27	82	40	0	26	66	42	94	0	136	284
07:15 AM	0	0	0	0	0	62	29	91	42	0	32	74	59	145	0	204	369
07:30 AM	0	0	0	0	0	81	37	118	67	0	20	87	46	163	0	209	414
07:45 AM	0	0	0	0	0	116	31	147	71	0	33	104	39	131	0	170	421
Total	0	0	0	0	0	314	124	438	220	0	111	331	186	533	0	719	1488
08:00 AM	0	0	0	0	0	107	28	135	55	0	31	86	49	128	0	177	398
08:15 AM	0	0	0	0	0	108	19	127	58	1	44	103	41	91	0	132	362
08:30 AM	0	0	0	0	0	68	23	91	62	0	29	91	60	54	0	114	296
08:45 AM	0	0	0	0	0	61	23	84	43	1	19	63	48	77	0	125	272
Total	0	0	0	0	0	344	93	437	218	2	123	343	198	350	0	548	1328
Grand Total	0	0	0	0	0	658	217	875	438	2	234	674	384	883	0	1267	2816
Apprch %	0	0	0		0	75.2	24.8		65	0.3	34.7		30.3	69.7	0		
Total %	0	0	0	0	0	23.4	7.7	31.1	15.6	0.1	8.3	23.9	13.6	31.4	0	45	

	I-215 Northbound On Ramp Southbound				Ethanac Road Westbound				I-215 Northbound Off Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	62	29	91	42	0	32	74	**59**	145	0	204	369
07:30 AM	0	0	0	0	0	81	**37**	118	67	0	20	87	46	**163**	0	**209**	414
07:45 AM	0	0	0	0	0	**116**	31	**147**	**71**	0	**33**	**104**	39	131	0	170	**421**
08:00 AM	0	0	0	0	0	107	28	135	55	0	31	86	49	128	0	177	398
Total Volume	0	0	0	0	0	366	125	491	235	0	116	351	193	567	0	760	1602
% App. Total	0	0	0		0	74.5	25.5		67	0	33		25.4	74.6	0		
PHF	.000	.000	.000	.000	.000	.789	.845	.835	.827	.000	.879	.844	.818	.870	.000	.909	.951

Counts Unlimited, Inc.
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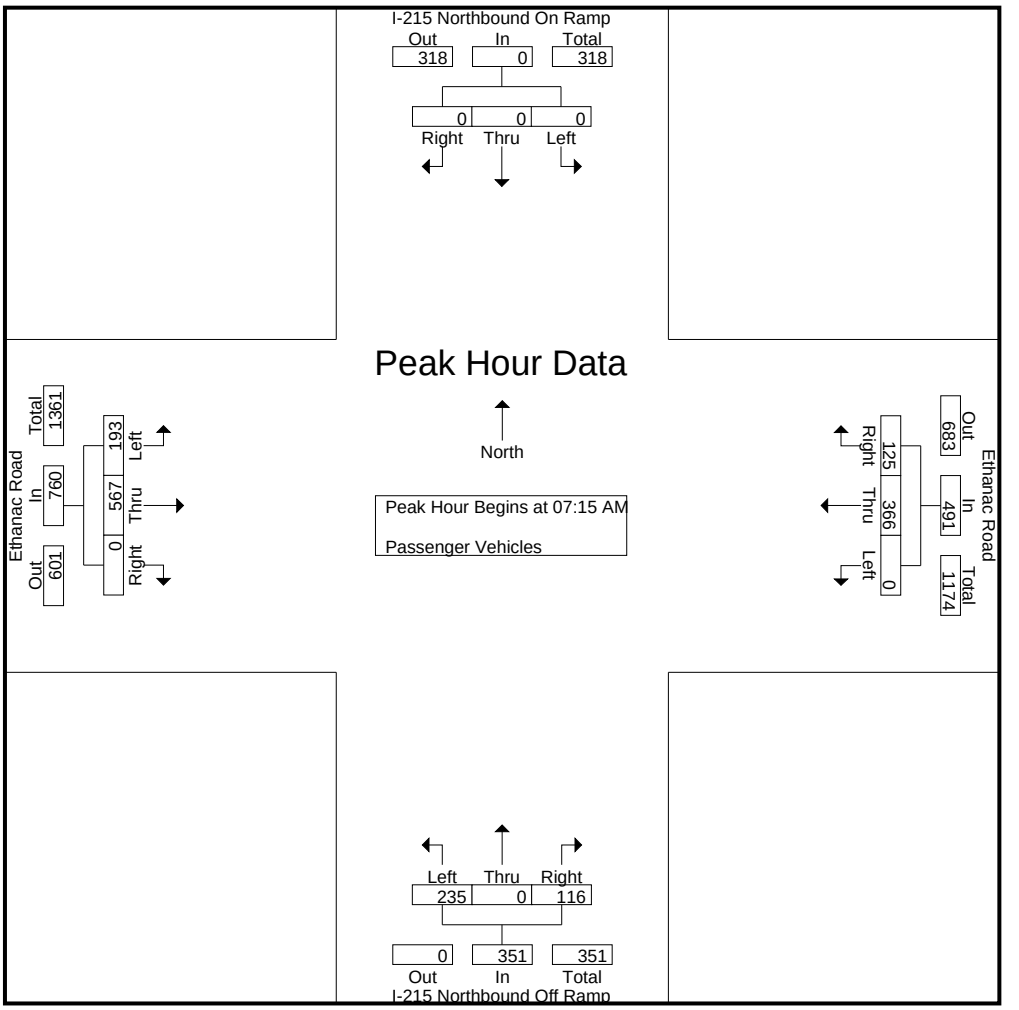
City of Menifee
N/S: I-215 Northbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 06_MEN_215N_Etha AM
Site Code : 221054
Start Date : 12/1/2022
Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	62	29	91	42	0	32	74	**59**	145	0	204
+15 mins.	0	0	0	0	0	81	**37**	118	67	0	20	87	46	**163**	0	**209**
+30 mins.	0	0	0	0	0	**116**	31	**147**	**71**	0	**33**	**104**	39	131	0	170
+45 mins.	0	0	0	0	0	107	28	135	55	0	31	86	49	128	0	177
Total Volume	0	0	0	0	0	366	125	491	235	0	116	351	193	567	0	760
% App. Total	0	0	0		0	74.5	25.5		67	0	33		25.4	74.6	0	
PHF	.000	.000	.000	.000	.000	.789	.845	.835	.827	.000	.879	.844	.818	.870	.000	.909

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City of Menifee
N/S: I-215 Northbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 06_MEN_215N_Etha AM
Site Code : 221054
Start Date : 12/1/2022
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	I-215 Northbound On Ramp Southbound				Ethanac Road Westbound				I-215 Northbound Off Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	1	0	1	3	0	2	5	6	3	0	9	15
07:15 AM	0	0	0	0	0	9	1	10	2	0	0	2	5	3	0	8	20
07:30 AM	0	0	0	0	0	3	1	4	2	0	2	4	4	1	0	5	13
07:45 AM	0	0	0	0	0	9	7	16	2	0	1	3	2	6	0	8	27
Total	0	0	0	0	0	22	9	31	9	0	5	14	17	13	0	30	75
08:00 AM	0	0	0	0	0	3	3	6	0	0	1	1	2	8	0	10	17
08:15 AM	0	0	0	0	0	5	0	5	0	1	2	3	0	5	0	5	13
08:30 AM	0	0	0	0	0	4	2	6	3	0	1	4	3	1	0	4	14
08:45 AM	0	0	0	0	0	2	1	3	1	0	1	2	1	2	0	3	8
Total	0	0	0	0	0	14	6	20	4	1	5	10	6	16	0	22	52
Grand Total	0	0	0	0	0	36	15	51	13	1	10	24	23	29	0	52	127
Apprch %	0	0	0		0	70.6	29.4		54.2	4.2	41.7		44.2	55.8	0		
Total %	0	0	0	0	0	28.3	11.8	40.2	10.2	0.8	7.9	18.9	18.1	22.8	0	40.9	

	I-215 Northbound On Ramp Southbound				Ethanac Road Westbound				I-215 Northbound Off Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	**9**	1	10	**2**	0	0	2	**5**	3	0	8	20
07:30 AM	0	0	0	0	0	3	1	4	2	0	**2**	**4**	4	1	0	5	13
07:45 AM	0	0	0	0	0	9	**7**	**16**	2	0	1	3	2	6	0	8	**27**
08:00 AM	0	0	0	0	0	3	3	6	0	0	1	1	2	**8**	0	**10**	17
Total Volume	0	0	0	0	0	24	12	36	6	0	4	10	13	18	0	31	77
% App. Total	0	0	0		0	66.7	33.3		60	0	40		41.9	58.1	0		
PHF	.000	.000	.000	.000	.000	.667	.429	.563	.750	.000	.500	.625	.650	.563	.000	.775	.713

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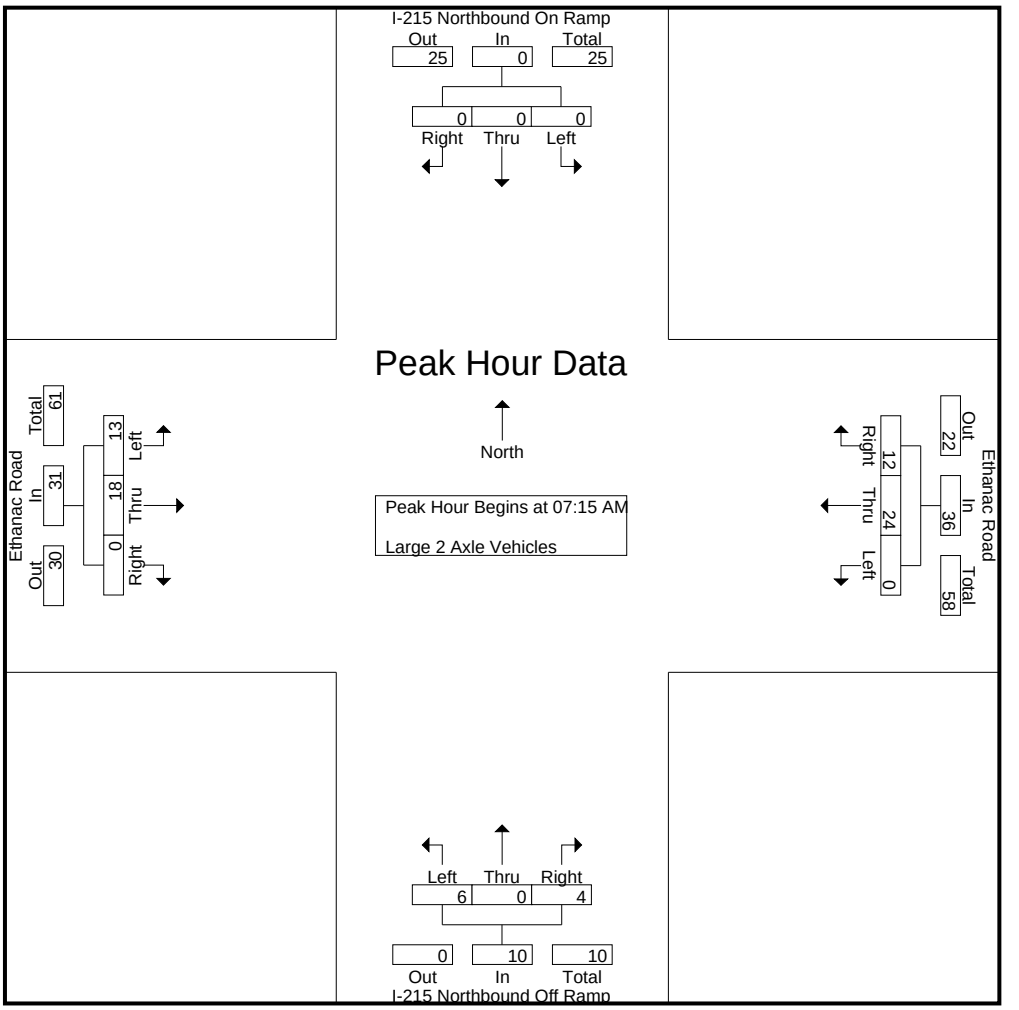
City of Menifee
N/S: I-215 Northbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 06_MEN_215N_Etha AM
Site Code : 221054
Start Date : 12/1/2022



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	**9**	1	10	**2**	0	0	2	**5**	3	0	8
+15 mins.	0	0	0	0	0	3	1	4	2	0	**2**	**4**	4	1	0	5
+30 mins.	0	0	0	0	0	9	**7**	**16**	2	0	1	3	2	6	0	8
+45 mins.	0	0	0	0	0	3	3	6	0	0	1	1	2	**8**	0	**10**
Total Volume	0	0	0	0	0	24	12	36	6	0	4	10	13	18	0	31
% App. Total	0	0	0		0	66.7	33.3		60	0	40		41.9	58.1	0	
PHF	.000	.000	.000	.000	.000	.667	.429	.563	.750	.000	.500	.625	.650	.563	.000	.775

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City of Menifee
N/S: I-215 Northbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 06_MEN_215N_Etha AM
Site Code : 221054
Start Date : 12/1/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

	I-215 Northbound On Ramp Southbound				Ethanac Road Westbound				I-215 Northbound Off Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	6	0	6	1	0	2	3	0	1	0	1	10
07:15 AM	0	0	0	0	0	2	0	2	3	0	0	3	2	0	0	2	7
07:30 AM	0	0	0	0	0	4	0	4	1	0	1	2	0	3	0	3	9
07:45 AM	0	0	0	0	0	1	0	1	1	0	1	2	1	1	0	2	5
Total	0	0	0	0	0	13	0	13	6	0	4	10	3	5	0	8	31
08:00 AM	0	0	0	0	0	4	2	6	1	0	2	3	1	1	0	2	11
08:15 AM	0	0	0	0	0	2	0	2	1	0	2	3	0	2	0	2	7
08:30 AM	0	0	0	0	0	2	0	2	0	0	3	3	0	2	0	2	7
08:45 AM	0	0	0	0	0	3	1	4	3	0	2	5	0	1	0	1	10
Total	0	0	0	0	0	11	3	14	5	0	9	14	1	6	0	7	35
Grand Total	0	0	0	0	0	24	3	27	11	0	13	24	4	11	0	15	66
Apprch %	0	0	0		0	88.9	11.1		45.8	0	54.2		26.7	73.3	0		
Total %	0	0	0	0	0	36.4	4.5	40.9	16.7	0	19.7	36.4	6.1	16.7	0	22.7	

	I-215 Northbound On Ramp Southbound				Ethanac Road Westbound				I-215 Northbound Off Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	2	0	2	**3**	0	0	**3**	**2**	0	0	2	7
07:30 AM	0	0	0	0	0	**4**	0	4	1	0	1	2	0	**3**	0	**3**	9
07:45 AM	0	0	0	0	0	1	0	1	1	0	1	2	1	1	0	2	5
08:00 AM	0	0	0	0	0	4	**2**	**6**	1	0	**2**	3	1	1	0	2	**11**
Total Volume	0	0	0	0	0	11	2	13	6	0	4	10	4	5	0	9	32
% App. Total	0	0	0		0	84.6	15.4		60	0	40		44.4	55.6	0		
PHF	.000	.000	.000	.000	.000	.688	.250	.542	.500	.000	.500	.833	.500	.417	.000	.750	.727

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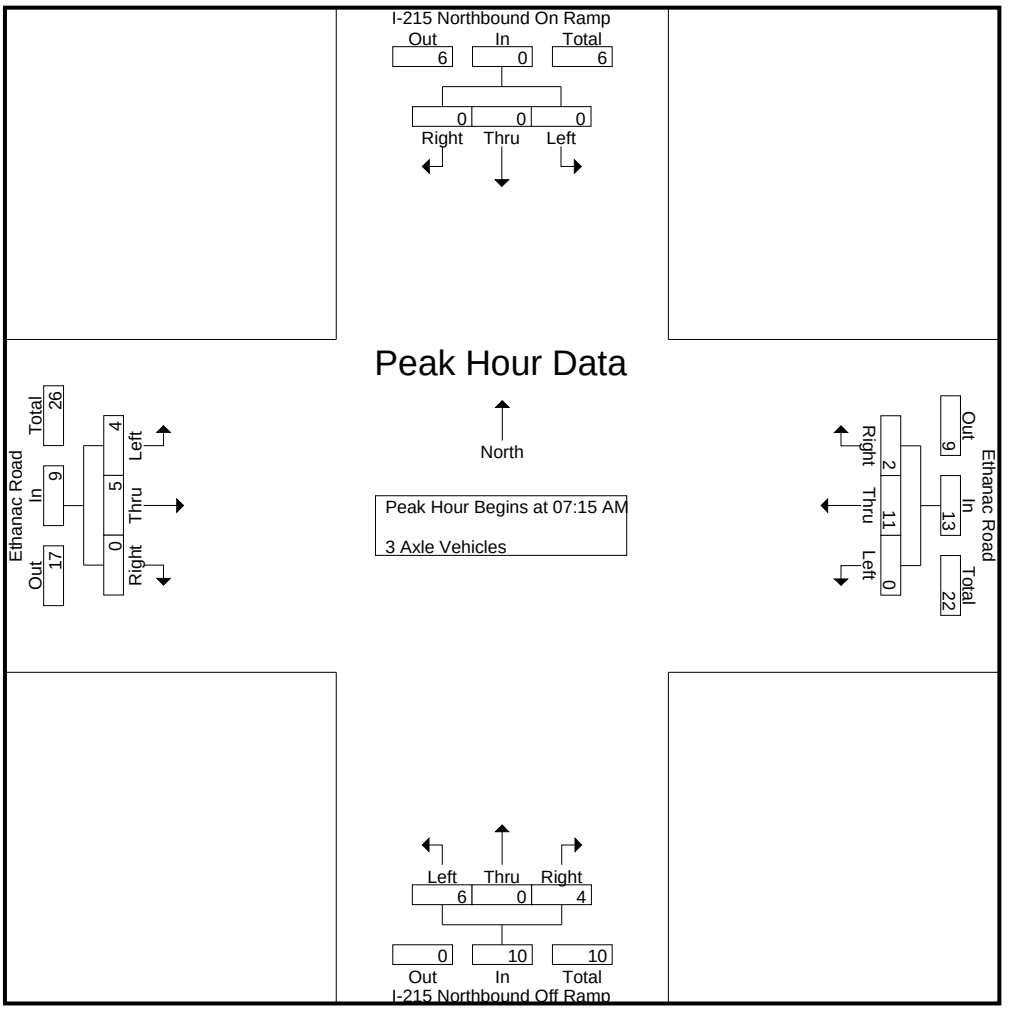
City of Menifee
N/S: I-215 Northbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 06_MEN_215N_Etha AM
Site Code : 221054
Start Date : 12/1/2022



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	2	0	2	**3**	0	0	**3**	**2**	0	0	2
+15 mins.	0	0	0	0	0	**4**	0	4	1	0	1	2	0	**3**	0	**3**
+30 mins.	0	0	0	0	0	1	0	1	1	0	1	2	1	1	0	2
+45 mins.	0	0	0	0	0	4	**2**	**6**	1	0	**2**	3	1	1	0	2
Total Volume	0	0	0	0	0	11	2	13	6	0	4	10	4	5	0	9
% App. Total	0	0	0		0	84.6	15.4		60	0	40		44.4	55.6	0	
PHF	.000	.000	.000	.000	.000	.688	.250	.542	.500	.000	.500	.833	.500	.417	.000	.750

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City of Menifee
N/S: I-215 Northbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 06_MEN_215N_Etha AM
Site Code : 221054
Start Date : 12/1/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

	I-215 Northbound On Ramp Southbound				Ethanac Road Westbound				I-215 Northbound Off Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	1	1	0	0	2	2	1	1	0	2	5
07:15 AM	0	0	0	0	0	2	2	4	1	0	0	1	1	1	0	2	7
07:30 AM	0	0	0	0	0	0	1	1	1	0	0	1	2	1	0	3	5
07:45 AM	0	0	0	0	0	2	1	3	1	0	0	1	0	0	0	0	4
Total	0	0	0	0	0	4	5	9	3	0	2	5	4	3	0	7	21
08:00 AM	0	0	0	0	0	0	3	3	2	0	1	3	1	0	0	1	7
08:15 AM	0	0	0	0	0	0	0	0	2	0	1	3	2	2	0	4	7
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	3
08:45 AM	0	0	0	0	0	1	1	2	2	0	0	2	1	0	0	1	5
Total	0	0	0	0	0	1	4	5	6	0	2	8	6	3	0	9	22
Grand Total	0	0	0	0	0	5	9	14	9	0	4	13	10	6	0	16	43
Apprch %	0	0	0		0	35.7	64.3		69.2	0	30.8		62.5	37.5	0		
Total %	0	0	0	0	0	11.6	20.9	32.6	20.9	0	9.3	30.2	23.3	14	0	37.2	

	I-215 Northbound On Ramp Southbound				Ethanac Road Westbound				I-215 Northbound Off Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	**2**	2	**4**	1	0	0	1	1	**1**	0	2	**7**
07:30 AM	0	0	0	0	0	0	1	1	1	0	0	1	**2**	1	0	**3**	5
07:45 AM	0	0	0	0	0	2	1	3	1	0	0	1	0	0	0	0	4
08:00 AM	0	0	0	0	0	0	**3**	3	**2**	0	**1**	**3**	1	0	0	1	7
Total Volume	0	0	0	0	0	4	7	11	5	0	1	6	4	2	0	6	23
% App. Total	0	0	0		0	36.4	63.6		83.3	0	16.7		66.7	33.3	0		
PHF	.000	.000	.000	.000	.000	.500	.583	.688	.625	.000	.250	.500	.500	.500	.000	.500	.821

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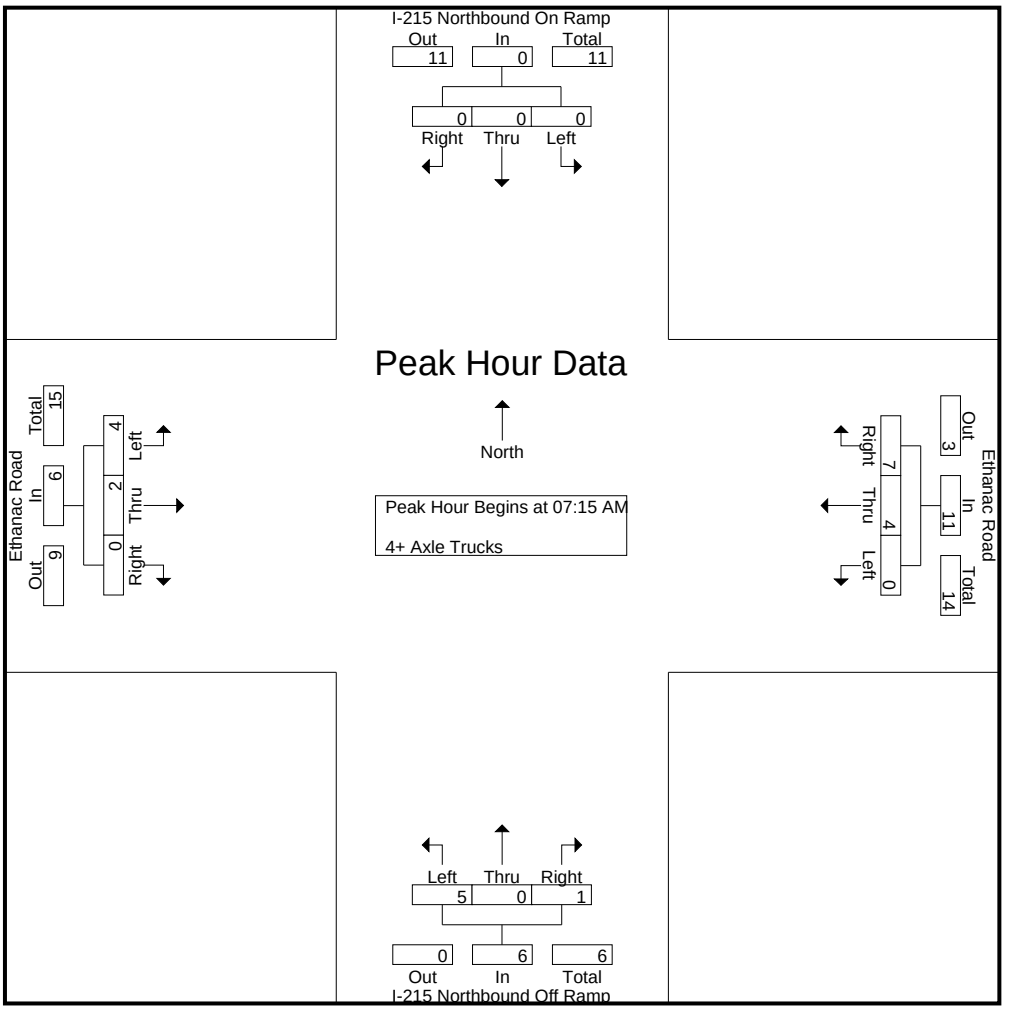
City of Menifee
N/S: I-215 Northbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 06_MEN_215N_Etha AM
Site Code : 221054
Start Date : 12/1/2022



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	**2**	2	**4**	1	0	0	1	1	**1**	0	2
+15 mins.	0	0	0	0	0	0	1	1	1	0	0	1	**2**	1	0	**3**
+30 mins.	0	0	0	0	0	2	1	3	1	0	0	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	**3**	3	**2**	0	**1**	**3**	1	0	0	1
Total Volume	0	0	0	0	0	4	7	11	5	0	1	6	4	2	0	6
% App. Total	0	0	0		0	36.4	63.6		83.3	0	16.7		66.7	33.3	0	
PHF	.000	.000	.000	.000	.000	.500	.583	.688	.625	.000	.250	.500	.500	.500	.000	.500

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City of Menifee
N/S: I-215 Northbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 06_MEN_215N_Etha PM
Site Code : 221054
Start Date : 12/1/2022
Page No : 1

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

	I-215 Northbound On Ramp Southbound				Ethanac Road Westbound				I-215 Northbound Off Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	96	40	136	114	1	43	158	69	142	0	211	505
04:15 PM	0	0	0	0	0	99	35	134	93	1	49	143	59	117	0	176	453
04:30 PM	0	0	0	0	0	119	31	150	100	0	44	144	60	151	0	211	505
04:45 PM	0	0	0	0	0	84	32	116	75	0	55	130	58	137	0	195	441
Total	0	0	0	0	0	398	138	536	382	2	191	575	246	547	0	793	1904
05:00 PM	0	0	0	0	0	103	29	132	121	0	40	161	52	132	0	184	477
05:15 PM	0	0	0	0	0	102	26	128	109	0	40	149	51	134	0	185	462
05:30 PM	0	0	0	0	0	86	33	119	103	0	43	146	52	116	0	168	433
05:45 PM	0	0	0	0	0	66	20	86	57	1	45	103	46	147	0	193	382
Total	0	0	0	0	0	357	108	465	390	1	168	559	201	529	0	730	1754
Grand Total	0	0	0	0	0	755	246	1001	772	3	359	1134	447	1076	0	1523	3658
Apprch %	0	0	0		0	75.4	24.6		68.1	0.3	31.7		29.3	70.7	0		
Total %	0	0	0	0	0	20.6	6.7	27.4	21.1	0.1	9.8	31	12.2	29.4	0	41.6	
Passenger Vehicles	0	0	0	0	0	745	232	977	732	3	332	1067	434	1042	0	1476	3520
% Passenger Vehicles	0	0	0	0	0	98.7	94.3	97.6	94.8	100	92.5	94.1	97.1	96.8	0	96.9	96.2
Large 2 Axle Vehicles	0	0	0	0	0	8	8	16	16	0	21	37	8	24	0	32	85
% Large 2 Axle Vehicles	0	0	0	0	0	1.1	3.3	1.6	2.1	0	5.8	3.3	1.8	2.2	0	2.1	2.3
3 Axle Vehicles	0	0	0	0	0	2	5	7	22	0	4	26	3	7	0	10	43
% 3 Axle Vehicles	0	0	0	0	0	0.3	2	0.7	2.8	0	1.1	2.3	0.7	0.7	0	0.7	1.2
4+ Axle Trucks	0	0	0	0	0	0	1	1	2	0	2	4	2	3	0	5	10
% 4+ Axle Trucks	0	0	0	0	0	0	0.4	0.1	0.3	0	0.6	0.4	0.4	0.3	0	0.3	0.3

	I-215 Northbound On Ramp Southbound				Ethanac Road Westbound				I-215 Northbound Off Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	96	**40**	136	**114**	**1**	43	**158**	**69**	142	0	**211**	**505**
04:15 PM	0	0	0	0	0	99	35	134	93	1	49	143	59	117	0	176	453
04:30 PM	0	0	0	0	0	**119**	31	**150**	100	0	44	144	60	**151**	0	211	505
04:45 PM	0	0	0	0	0	84	32	116	75	0	**55**	130	58	137	0	195	441
Total Volume	0	0	0	0	0	398	138	536	382	2	191	575	246	547	0	793	1904
% App. Total	0	0	0		0	74.3	25.7		66.4	0.3	33.2		31	69	0		
PHF	.000	.000	.000	.000	.000	.836	.863	.893	.838	.500	.868	.910	.891	.906	.000	.940	.943

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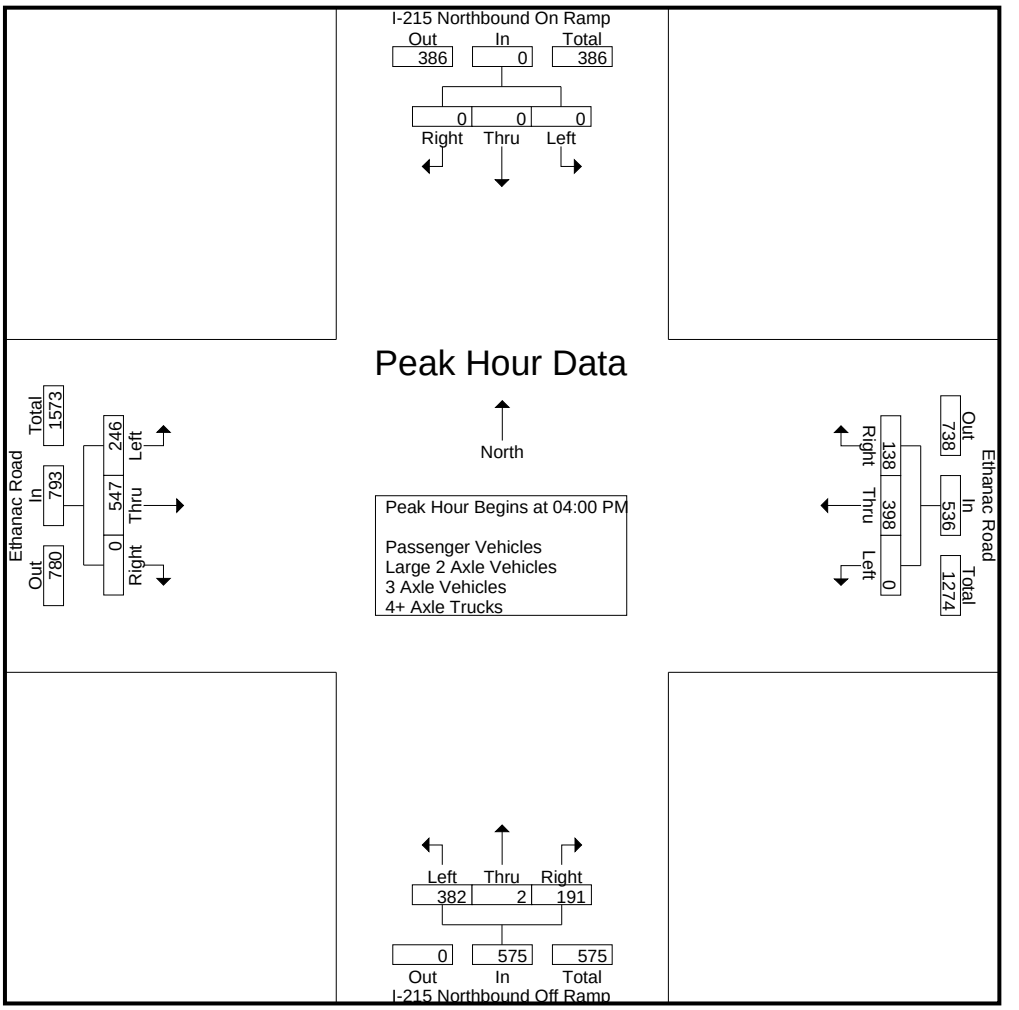
City of Menifee
N/S: I-215 Northbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 06_MEN_215N_Etha PM
Site Code : 221054
Start Date : 12/1/2022



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

	04:00 PM				04:00 PM				04:45 PM				04:00 PM			
+0 mins.	0	0	0	0	0	96	**40**	136	75	0	**55**	130	**69**	142	0	**211**
+15 mins.	0	0	0	0	0	99	35	134	**121**	0	40	**161**	59	117	0	176
+30 mins.	0	0	0	0	0	**119**	31	**150**	109	0	40	149	60	**151**	0	211
+45 mins.	0	0	0	0	0	84	32	116	103	0	43	146	58	137	0	195
Total Volume	0	0	0	0	0	398	138	536	408	0	178	586	246	547	0	793
% App. Total	0	0	0		0	74.3	25.7		69.6	0	30.4		31	69	0	
PHF	.000	.000	.000	.000	.000	.836	.863	.893	.843	.000	.809	.910	.891	.906	.000	.940

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City of Menifee
N/S: I-215 Northbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 06_MEN_215N_Etha PM
Site Code : 221054
Start Date : 12/1/2022
Page No : 1

Groups Printed- Passenger Vehicles

	I-215 Northbound On Ramp Southbound				Ethanac Road Westbound				I-215 Northbound Off Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	95	38	133	109	1	39	149	67	133	0	200	482
04:15 PM	0	0	0	0	0	96	28	124	85	1	47	133	56	110	0	166	423
04:30 PM	0	0	0	0	0	119	31	150	99	0	42	141	58	148	0	206	497
04:45 PM	0	0	0	0	0	83	29	112	74	0	51	125	57	135	0	192	429
Total	0	0	0	0	0	393	126	519	367	2	179	548	238	526	0	764	1831
05:00 PM	0	0	0	0	0	101	29	130	115	0	34	149	51	128	0	179	458
05:15 PM	0	0	0	0	0	101	26	127	100	0	38	138	50	132	0	182	447
05:30 PM	0	0	0	0	0	85	32	117	98	0	40	138	49	112	0	161	416
05:45 PM	0	0	0	0	0	65	19	84	52	1	41	94	46	144	0	190	368
Total	0	0	0	0	0	352	106	458	365	1	153	519	196	516	0	712	1689
Grand Total	0	0	0	0	0	745	232	977	732	3	332	1067	434	1042	0	1476	3520
Apprch %	0	0	0		0	76.3	23.7		68.6	0.3	31.1		29.4	70.6	0		
Total %	0	0	0	0	0	21.2	6.6	27.8	20.8	0.1	9.4	30.3	12.3	29.6	0	41.9	

	I-215 Northbound On Ramp Southbound				Ethanac Road Westbound				I-215 Northbound Off Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	95	**38**	133	**109**	**1**	39	**149**	**67**	133	0	200	482
04:15 PM	0	0	0	0	0	96	28	124	85	1	47	133	56	110	0	166	423
04:30 PM	0	0	0	0	0	**119**	31	**150**	99	0	42	141	58	**148**	0	**206**	**497**
04:45 PM	0	0	0	0	0	83	29	112	74	0	**51**	125	57	135	0	192	429
Total Volume	0	0	0	0	0	393	126	519	367	2	179	548	238	526	0	764	1831
% App. Total	0	0	0		0	75.7	24.3		67	0.4	32.7		31.2	68.8	0		
PHF	.000	.000	.000	.000	.000	.826	.829	.865	.842	.500	.877	.919	.888	.889	.000	.927	.921

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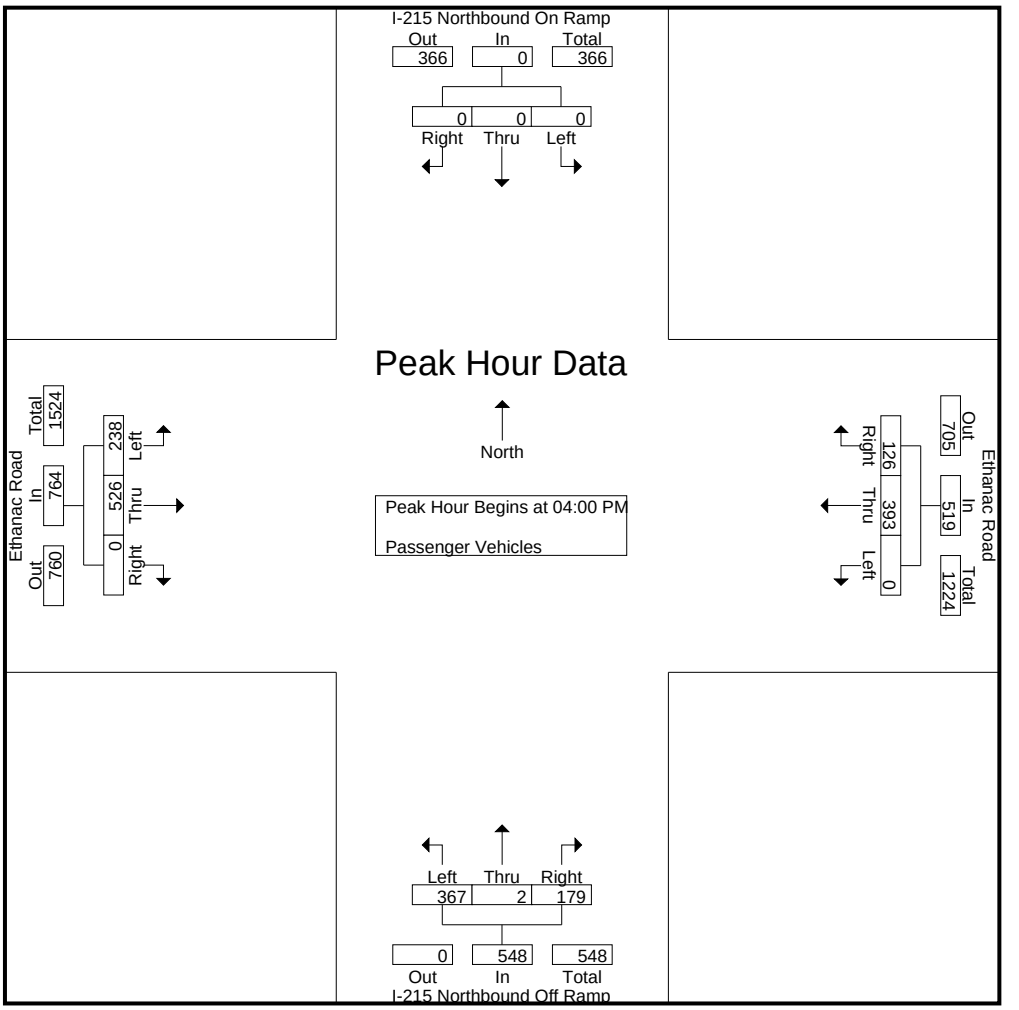
City of Menifee
N/S: I-215 Northbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 06_MEN_215N_Etha PM
Site Code : 221054
Start Date : 12/1/2022



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

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	95	**38**	133	**109**	**1**	39	**149**	**67**	133	0	200
+15 mins.	0	0	0	0	0	96	28	124	85	1	47	133	56	110	0	166
+30 mins.	0	0	0	0	0	**119**	31	**150**	99	0	42	141	58	**148**	0	**206**
+45 mins.	0	0	0	0	0	83	29	112	74	0	**51**	125	57	135	0	192
Total Volume	0	0	0	0	0	393	126	519	367	2	179	548	238	526	0	764
% App. Total	0	0	0		0	75.7	24.3		67	0.4	32.7		31.2	68.8	0	
PHF	.000	.000	.000	.000	.000	.826	.829	.865	.842	.500	.877	.919	.888	.889	.000	.927

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City of Menifee
N/S: I-215 Northbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 06_MEN_215N_Etha PM
Site Code : 221054
Start Date : 12/1/2022
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	I-215 Northbound On Ramp Southbound				Ethanac Road Westbound				I-215 Northbound Off Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	3	0	3	6	0	5	0	5	11
04:15 PM	0	0	0	0	0	3	4	7	2	0	1	3	1	4	0	5	15
04:30 PM	0	0	0	0	0	0	0	0	1	0	1	2	2	2	0	4	6
04:45 PM	0	0	0	0	0	1	2	3	0	0	3	3	1	2	0	3	9
Total	0	0	0	0	0	4	6	10	6	0	8	14	4	13	0	17	41
05:00 PM	0	0	0	0	0	2	0	2	4	0	6	10	1	3	0	4	16
05:15 PM	0	0	0	0	0	1	0	1	3	0	2	5	1	2	0	3	9
05:30 PM	0	0	0	0	0	0	1	1	3	0	3	6	2	4	0	6	13
05:45 PM	0	0	0	0	0	1	1	2	0	0	2	2	0	2	0	2	6
Total	0	0	0	0	0	4	2	6	10	0	13	23	4	11	0	15	44
Grand Total	0	0	0	0	0	8	8	16	16	0	21	37	8	24	0	32	85
Apprch %	0	0	0		0	50	50		43.2	0	56.8		25	75	0		
Total %	0	0	0	0	0	9.4	9.4	18.8	18.8	0	24.7	43.5	9.4	28.2	0	37.6	

	I-215 Northbound On Ramp Southbound				Ethanac Road Westbound				I-215 Northbound Off Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	**3**	0	**3**	**6**	0	**5**	0	**5**	11
04:15 PM	0	0	0	0	0	**3**	**4**	**7**	2	0	1	3	1	4	0	5	**15**
04:30 PM	0	0	0	0	0	0	0	0	1	0	1	2	**2**	2	0	4	6
04:45 PM	0	0	0	0	0	1	2	3	0	0	3	3	1	2	0	3	9
Total Volume	0	0	0	0	0	4	6	10	6	0	8	14	4	13	0	17	41
% App. Total	0	0	0		0	40	60		42.9	0	57.1		23.5	76.5	0		
PHF	.000	.000	.000	.000	.000	.333	.375	.357	.500	.000	.667	.583	.500	.650	.000	.850	.683

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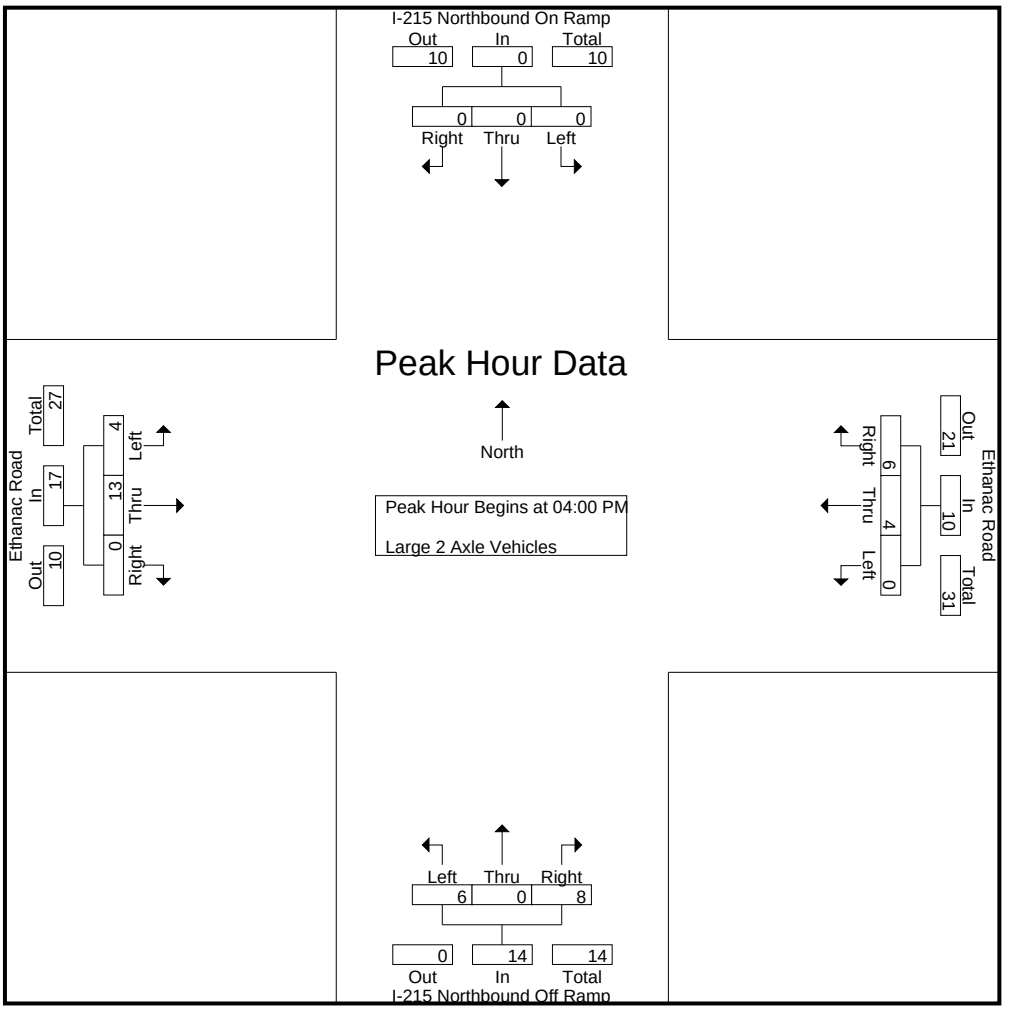
City of Menifee
N/S: I-215 Northbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 06_MEN_215N_Etha PM
Site Code : 221054
Start Date : 12/1/2022



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

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	**3**	0	**3**	**6**	0	**5**	0	**5**
+15 mins.	0	0	0	0	0	**3**	**4**	**7**	2	0	1	3	1	4	0	5
+30 mins.	0	0	0	0	0	0	0	0	1	0	1	2	**2**	2	0	4
+45 mins.	0	0	0	0	0	1	2	3	0	0	3	3	1	2	0	3
Total Volume	0	0	0	0	0	4	6	10	6	0	8	14	4	13	0	17
% App. Total	0	0	0		0	40	60		42.9	0	57.1		23.5	76.5	0	
PHF	.000	.000	.000	.000	.000	.333	.375	.357	.500	.000	.667	.583	.500	.650	.000	.850

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City of Menifee
N/S: I-215 Northbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 06_MEN_215N_Etha PM
Site Code : 221054
Start Date : 12/1/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

	I-215 Northbound On Ramp Southbound				Ethanac Road Westbound				I-215 Northbound Off Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	1	2	3	1	0	1	2	1	3	0	4	9
04:15 PM	0	0	0	0	0	0	2	2	6	0	0	6	1	2	0	3	11
04:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	2
04:45 PM	0	0	0	0	0	0	1	1	1	0	1	2	0	0	0	0	3
Total	0	0	0	0	0	1	5	6	8	0	3	11	2	6	0	8	25
05:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	6
05:30 PM	0	0	0	0	0	1	0	1	2	0	0	2	1	0	0	1	4
05:45 PM	0	0	0	0	0	0	0	0	5	0	1	6	0	1	0	1	7
Total	0	0	0	0	0	1	0	1	14	0	1	15	1	1	0	2	18
Grand Total	0	0	0	0	0	2	5	7	22	0	4	26	3	7	0	10	43
Apprch %	0	0	0		0	28.6	71.4		84.6	0	15.4		30	70	0		
Total %	0	0	0	0	0	4.7	11.6	16.3	51.2	0	9.3	60.5	7	16.3	0	23.3	

	I-215 Northbound On Ramp Southbound				Ethanac Road Westbound				I-215 Northbound Off Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	**1**	**2**	**3**	1	0	**1**	2	**1**	**3**	0	**4**	9
04:15 PM	0	0	0	0	0	0	2	2	**6**	0	0	**6**	1	2	0	3	**11**
04:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	2
04:45 PM	0	0	0	0	0	0	1	1	1	0	1	2	0	0	0	0	3
Total Volume	0	0	0	0	0	1	5	6	8	0	3	11	2	6	0	8	25
% App. Total	0	0	0		0	16.7	83.3		72.7	0	27.3		25	75	0		
PHF	.000	.000	.000	.000	.000	.250	.625	.500	.333	.000	.750	.458	.500	.500	.000	.500	.568

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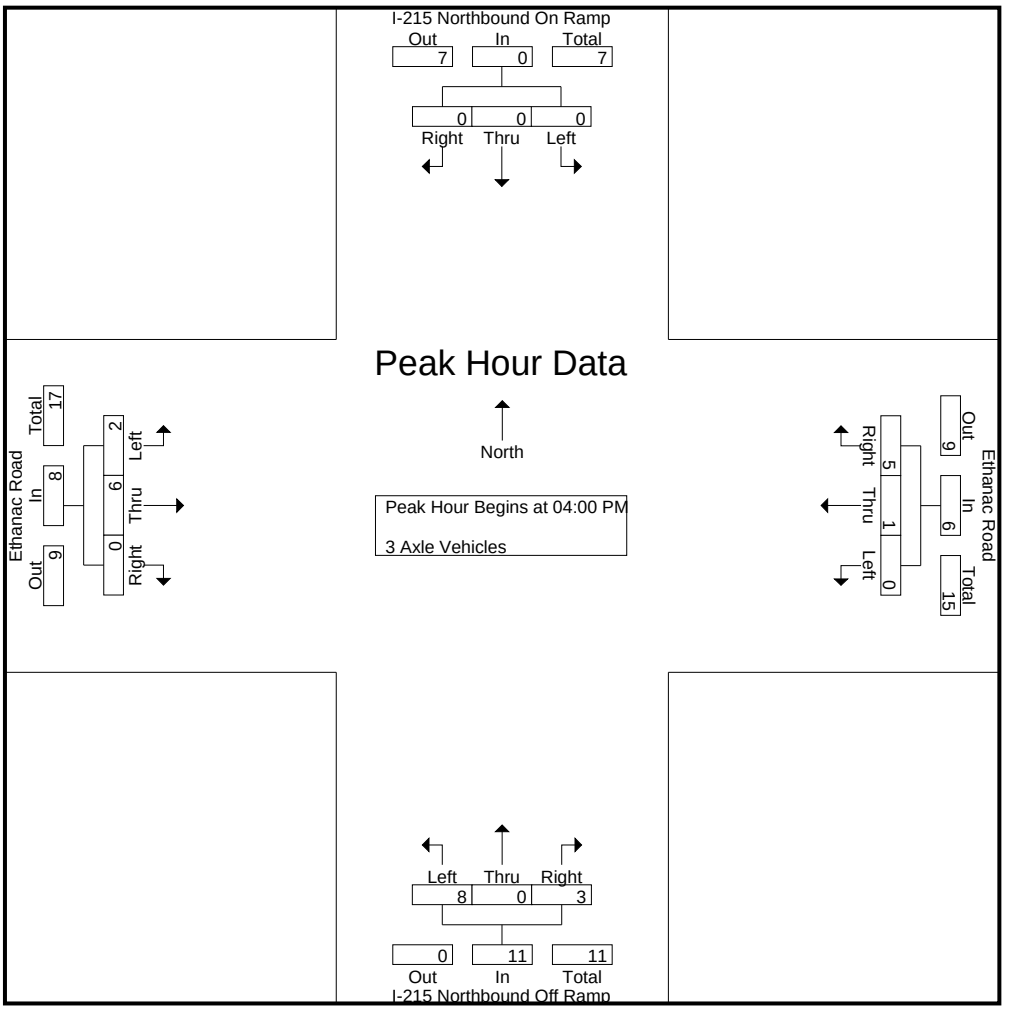
City of Menifee
N/S: I-215 Northbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 06_MEN_215N_Etha PM
Site Code : 221054
Start Date : 12/1/2022



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

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	**1**	**2**	**3**	1	0	**1**	2	**1**	**3**	0	**4**
+15 mins.	0	0	0	0	0	0	2	2	**6**	0	0	**6**	1	2	0	3
+30 mins.	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1
+45 mins.	0	0	0	0	0	0	1	1	1	0	1	2	0	0	0	0
Total Volume	0	0	0	0	0	1	5	6	8	0	3	11	2	6	0	8
% App. Total	0	0	0		0	16.7	83.3		72.7	0	27.3		25	75	0	
PHF	.000	.000	.000	.000	.000	.250	.625	.500	.333	.000	.750	.458	.500	.500	.000	.500

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City of Menifee
N/S: I-215 Northbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 06_MEN_215N_Etha PM
Site Code : 221054
Start Date : 12/1/2022

Groups Printed- 4+ Axle Trucks

	I-215 Northbound On Ramp Southbound				Ethanac Road Westbound				I-215 Northbound Off Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	1	1	0	2	3
04:15 PM	0	0	0	0	0	0	1	1	0	0	1	1	1	1	0	2	4
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	1	1	0	1	2	2	2	0	4	7
05:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	1	0	1	2	0	1	0	1	3
Grand Total	0	0	0	0	0	0	1	1	2	0	2	4	2	3	0	5	10
Apprch %	0	0	0		0	0	100		50	0	50		40	60	0		
Total %	0	0	0	0	0	0	10	10	20	0	20	40	20	30	0	50	

	I-215 Northbound On Ramp Southbound				Ethanac Road Westbound				I-215 Northbound Off Ramp Northbound				Ethanac Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	**1**	0	0	**1**	**1**	**1**	0	**2**	3
04:15 PM	0	0	0	0	0	0	**1**	**1**	0	0	**1**	1	1	1	0	2	**4**
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	1	1	0	1	2	2	2	0	4	7
% App. Total	0	0	0		0	0	100		50	0	50		50	50	0		
PHF	.000	.000	.000	.000	.000	.000	.250	.250	.250	.000	.250	.500	.500	.500	.000	.500	.438

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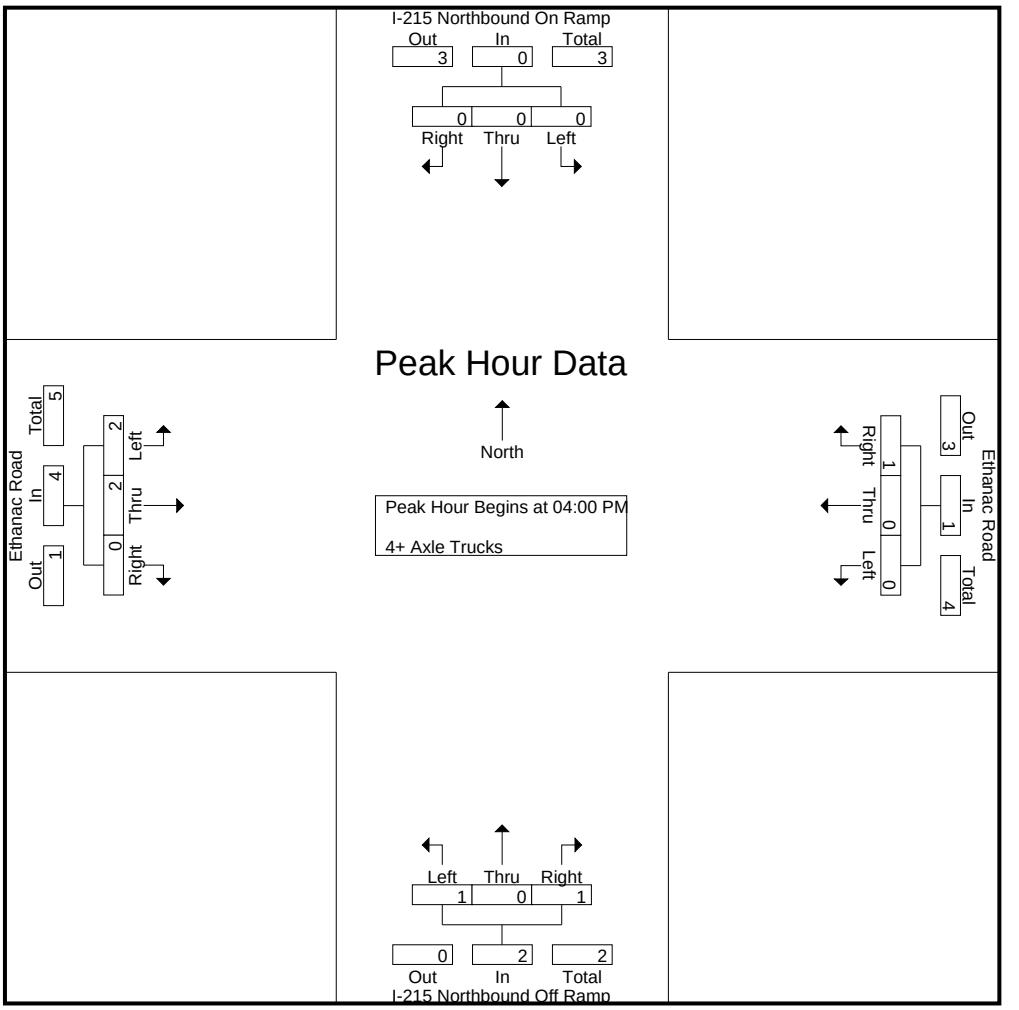
City of Menifee
N/S: I-215 Northbound Ramps
E/W: Ethanac Road
Weather: Clear

File Name : 06_MEN_215N_Etha PM
Site Code : 221054
Start Date : 12/1/2022



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

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	**1**	0	0	**1**	**1**	**1**	0	**2**
+15 mins.	0	0	0	0	0	0	**1**	**1**	0	0	**1**	1	1	1	0	2
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	1	1	0	1	2	2	2	0	4
% App. Total	0	0	0		0	0	100		50	0	50		50	50	0	
PHF	.000	.000	.000	.000	.000	.000	.250	.250	.250	.000	.250	.500	.500	.500	.000	.500

APPENDIX B-2

TRAFFIC COUNT DATA
SHEETS–
ROADWAY SEGMENT ADT COUNTS

Counts Unlimited, Inc.

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

City of Menifee
Ethanac Road
B/ Evans Road - Case Road
24 Hour Directional Classification Count

MEN005
Site Code: 108-23147

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/15/23	0	24	3	0	0	1	0	0	0	0	0	0	0	28
01:00	0	14	5	0	2	0	0	0	0	0	0	0	0	21
02:00	0	17	5	1	2	0	0	0	1	0	0	0	0	26
03:00	0	54	14	1	3	0	0	0	0	0	0	0	0	72
04:00	0	160	44	1	16	1	0	1	1	0	0	0	0	224
05:00	1	219	84	6	27	**21**	0	10	2	1	0	0	0	371
06:00	3	313	86	**8**	**41**	15	0	16	7	0	0	0	0	489
07:00	**15**	**602**	**140**	4	30	6	**6**	**17**	9	1	**1**	**2**	**1**	**834**
08:00	4	442	114	4	24	7	0	14	7	**2**	1	0	0	619
09:00	0	321	68	4	24	7	1	8	8	0	0	0	0	441
10:00	1	291	85	3	21	4	1	6	**14**	1	0	0	1	428
11:00	3	364	81	5	20	10	0	5	10	0	0	1	0	499
12 PM	2	409	104	**4**	25	7	0	5	4	1	**1**	**1**	**2**	565
13:00	2	378	93	2	24	**17**	**1**	8	**13**	0	0	1	0	539
14:00	4	385	105	2	21	6	1	9	5	1	0	0	0	539
15:00	**11**	421	**123**	4	25	8	1	11	3	1	0	0	1	609
16:00	4	**445**	109	4	**31**	4	0	**13**	1	**2**	1	0	1	**615**
17:00	9	442	115	0	26	2	0	12	2	0	1	0	0	609
18:00	2	341	97	3	22	1	0	4	2	0	0	0	0	472
19:00	3	250	45	1	12	0	0	1	3	0	0	0	0	315
20:00	0	158	32	0	8	0	0	2	1	0	0	0	0	201
21:00	1	127	17	0	7	2	0	0	0	0	0	0	0	154
22:00	1	69	18	0	0	0	0	0	0	0	0	0	0	88
23:00	2	33	10	1	2	0	0	0	0	0	0	0	0	48
Total	68	6279	1597	58	413	119	11	142	93	10	5	5	6	8806
Percent	0.8%	71.3%	18.1%	0.7%	4.7%	1.4%	0.1%	1.6%	1.1%	0.1%	0.1%	0.1%	0.1%	
AM Peak	07:00	07:00	07:00	06:00	06:00	05:00	07:00	07:00	10:00	08:00	07:00	07:00	07:00	07:00
Vol.	15	602	140	8	41	21	6	17	14	2	1	2	1	834
PM Peak	15:00	16:00	15:00	12:00	16:00	13:00	13:00	16:00	13:00	16:00	12:00	12:00	12:00	16:00
Vol.	11	445	123	4	31	17	1	13	13	2	1	1	2	615
Grand Total	68	6279	1597	58	413	119	11	142	93	10	5	5	6	8806
Percent	0.8%	71.3%	18.1%	0.7%	4.7%	1.4%	0.1%	1.6%	1.1%	0.1%	0.1%	0.1%	0.1%	

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City of Menifee
Ethanac Road
B/ Evans Road - Case Road
24 Hour Directional Classification Count

MEN005
Site Code: 108-23147

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/15/23	0	53	11	0	1	0	0	0	1	0	0	0	0	66
01:00	0	31	7	0	1	0	0	0	1	0	0	0	0	40
02:00	0	22	5	0	0	0	0	0	0	0	0	0	0	27
03:00	1	21	6	0	2	1	0	0	0	0	0	0	0	31
04:00	0	42	15	0	6	0	0	0	0	0	0	0	0	63
05:00	1	79	44	1	13	0	0	0	1	0	0	0	0	139
06:00	2	140	60	4	**32**	7	0	5	3	1	0	0	0	254
07:00	1	237	71	5	30	5	2	**16**	4	**3**	**2**	1	0	377
08:00	**6**	**283**	**120**	**6**	21	1	4	15	7	0	0	**2**	0	**465**
09:00	2	193	91	5	24	7	0	9	**11**	2	0	0	**1**	345
10:00	2	205	74	5	27	2	1	12	9	0	0	0	0	337
11:00	3	243	82	2	27	**9**	**7**	15	7	0	1	0	1	397
12 PM	7	315	93	5	30	**11**	3	12	**9**	1	0	0	0	486
13:00	7	389	123	**6**	**56**	4	2	15	4	2	0	1	**2**	611
14:00	7	344	96	3	47	4	0	17	5	2	**1**	**2**	2	530
15:00	8	431	141	1	48	4	2	15	3	1	0	1	1	656
16:00	5	431	**146**	4	36	9	2	**29**	1	**5**	1	1	0	670
17:00	**9**	**445**	139	2	52	7	3	8	5	2	1	0	0	**673**
18:00	4	419	100	1	35	3	**4**	11	1	2	1	0	0	581
19:00	3	334	70	5	23	2	0	4	3	0	1	0	0	445
20:00	1	233	60	2	15	1	0	5	0	0	0	0	0	317
21:00	1	203	44	4	12	0	0	2	1	0	0	0	0	267
22:00	1	125	19	0	3	0	0	1	1	0	0	0	0	150
23:00	0	87	17	0	6	0	0	2	0	0	0	0	0	112
Total	71	5305	1634	61	547	77	30	193	77	21	8	8	7	8039
Percent	0.9%	66.0%	20.3%	0.8%	6.8%	1.0%	0.4%	2.4%	1.0%	0.3%	0.1%	0.1%	0.1%	
AM Peak	08:00	08:00	08:00	08:00	06:00	11:00	11:00	07:00	09:00	07:00	07:00	08:00	09:00	08:00
Vol.	6	283	120	6	32	9	7	16	11	3	2	2	1	465
PM Peak	17:00	17:00	16:00	13:00	13:00	12:00	18:00	16:00	12:00	16:00	14:00	14:00	13:00	17:00
Vol.	9	445	146	6	56	11	4	29	9	5	1	2	2	673
Grand Total	71	5305	1634	61	547	77	30	193	77	21	8	8	7	8039
Percent	0.9%	66.0%	20.3%	0.8%	6.8%	1.0%	0.4%	2.4%	1.0%	0.3%	0.1%	0.1%	0.1%	

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City of Menifee
Ethanac Road
B/ Evans Road - Case Road
24 Hour Directional Classification Count

MEN005
Site Code: 108-23147

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/15/23	0	77	14	0	1	1	0	0	1	0	0	0	0	94
01:00	0	45	12	0	3	0	0	0	1	0	0	0	0	61
02:00	0	39	10	1	2	0	0	0	1	0	0	0	0	53
03:00	1	75	20	1	5	1	0	0	0	0	0	0	0	103
04:00	0	202	59	1	22	1	0	1	1	0	0	0	0	287
05:00	2	298	128	7	40	21	0	10	3	1	0	0	0	510
06:00	5	453	146	**12**	**73**	**22**	0	21	10	1	0	0	0	743
07:00	**16**	**839**	211	9	60	11	**8**	**33**	13	**4**	**3**	**3**	**1**	**1211**
08:00	10	725	**234**	10	45	8	4	29	14	2	1	2	0	1084
09:00	2	514	159	9	48	14	1	17	19	2	0	0	1	786
10:00	3	496	159	8	48	6	2	18	**23**	1	0	0	1	765
11:00	6	607	163	7	47	19	7	20	17	0	1	1	1	896
12 PM	9	724	197	**9**	55	18	3	17	13	2	1	1	**2**	1051
13:00	9	767	216	8	**80**	**21**	3	23	**17**	2	0	**2**	2	1150
14:00	11	729	201	5	68	10	1	26	10	3	1	2	2	1069
15:00	**19**	852	**264**	5	73	12	3	26	6	2	0	1	2	1265
16:00	9	876	255	8	67	13	2	**42**	2	**7**	**2**	1	1	**1285**
17:00	18	**887**	254	2	78	9	3	20	7	2	2	0	0	1282
18:00	6	760	197	4	57	4	**4**	15	3	2	1	0	0	1053
19:00	6	584	115	6	35	2	0	5	6	0	1	0	0	760
20:00	1	391	92	2	23	1	0	7	1	0	0	0	0	518
21:00	2	330	61	4	19	2	0	2	1	0	0	0	0	421
22:00	2	194	37	0	3	0	0	1	1	0	0	0	0	238
23:00	2	120	27	1	8	0	0	2	0	0	0	0	0	160
Total	139	11584	3231	119	960	196	41	335	170	31	13	13	13	16845
Percent	0.8%	68.8%	19.2%	0.7%	5.7%	1.2%	0.2%	2.0%	1.0%	0.2%	0.1%	0.1%	0.1%	
AM Peak	07:00	07:00	08:00	06:00	06:00	06:00	07:00	07:00	10:00	07:00	07:00	07:00	07:00	07:00
Vol.	16	839	234	12	73	22	8	33	23	4	3	3	1	1211
PM Peak	15:00	17:00	15:00	12:00	13:00	13:00	18:00	16:00	13:00	16:00	16:00	13:00	12:00	16:00
Vol.	19	887	264	9	80	21	4	42	17	7	2	2	2	1285
Grand Total	139	11584	3231	119	960	196	41	335	170	31	13	13	13	16845
Percent	0.8%	68.8%	19.2%	0.7%	5.7%	1.2%	0.2%	2.0%	1.0%	0.2%	0.1%	0.1%	0.1%	

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City of Menifee
Ethanac Road
B/ Case Road - Interstate 215 Southbound
24 Hour Directional Classification Count

MEN006
Site Code: 108-23147

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/15/23	0	52	7	0	2	1	0	0	1	0	0	0	0	63
01:00	0	29	9	1	2	0	0	0	6	0	0	0	0	47
02:00	0	30	8	1	2	0	0	0	2	0	0	0	0	43
03:00	0	78	18	1	3	1	0	1	3	0	0	0	0	105
04:00	0	194	58	1	31	1	0	3	5	0	**2**	0	0	295
05:00	2	273	112	**9**	38	16	0	18	9	0	2	0	0	479
06:00	1	389	120	5	**61**	**20**	**3**	21	11	2	0	0	1	634
07:00	4	469	127	7	52	9	2	28	12	1	2	0	1	714
08:00	**8**	488	**157**	6	48	6	2	**32**	13	3	2	**3**	**2**	**770**
09:00	2	425	133	3	49	7	1	25	9	4	0	1	0	659
10:00	6	393	140	6	47	5	0	22	**25**	1	0	0	0	645
11:00	3	**508**	143	5	39	14	2	14	16	**6**	1	1	1	753
12 PM	7	532	167	4	48	8	**5**	16	12	1	1	**4**	1	806
13:00	6	506	147	5	39	**9**	4	20	**23**	2	1	0	1	763
14:00	**8**	488	139	**7**	49	9	2	19	5	**7**	1	1	0	735
15:00	7	537	**175**	6	**53**	9	0	22	7	4	**4**	0	1	**825**
16:00	2	529	150	5	37	9	0	**25**	6	3	2	0	0	768
17:00	6	**568**	153	1	37	5	1	16	5	2	0	0	**2**	796
18:00	5	497	137	3	27	2	2	12	1	3	0	0	1	690
19:00	2	389	76	3	21	2	0	16	6	0	0	0	0	515
20:00	2	270	53	0	14	2	0	5	1	0	0	0	0	347
21:00	0	178	38	0	9	2	0	2	5	0	0	0	0	234
22:00	0	126	28	0	4	0	0	0	5	0	0	0	0	163
23:00	0	76	13	1	2	1	0	0	1	0	0	0	0	94
Total	71	8024	2308	80	714	138	24	317	189	39	18	10	11	11943
Percent	0.6%	67.2%	19.3%	0.7%	6.0%	1.2%	0.2%	2.7%	1.6%	0.3%	0.2%	0.1%	0.1%	
AM Peak	08:00	11:00	08:00	05:00	06:00	06:00	06:00	08:00	10:00	11:00	04:00	08:00	08:00	08:00
Vol.	8	508	157	9	61	20	3	32	25	6	2	3	2	770
PM Peak	14:00	17:00	15:00	14:00	15:00	13:00	12:00	16:00	13:00	14:00	15:00	12:00	17:00	15:00
Vol.	8	568	175	7	53	9	5	25	23	7	4	4	2	825
Grand Total	71	8024	2308	80	714	138	24	317	189	39	18	10	11	11943
Percent	0.6%	67.2%	19.3%	0.7%	6.0%	1.2%	0.2%	2.7%	1.6%	0.3%	0.2%	0.1%	0.1%	

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City of Menifee
Ethanac Road
B/ Case Road - Interstate 215 Southbound
24 Hour Directional Classification Count

MEN006
Site Code: 108-23147

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/15/23	0	71	18	0	2	0	0	0	0	0	0	0	0	91
01:00	2	204	93	2	42	4	1	9	4	0	0	0	0	361
02:00	7	293	129	6	**69**	8	1	24	10	1	1	0	0	549
03:00	6	476	201	10	52	9	3	22	9	0	1	0	0	789
04:00	5	416	168	**11**	49	6	1	14	12	2	**2**	0	0	686
05:00	1	350	123	1	38	7	0	9	13	0	0	1	**2**	545
06:00	8	397	140	3	41	8	**8**	12	12	1	0	1	2	633
07:00	4	426	154	8	51	**13**	5	20	13	5	0	1	2	702
08:00	**10**	557	152	8	39	11	2	**25**	**17**	3	1	**2**	2	829
09:00	8	568	173	6	59	5	6	13	6	4	0	2	1	851
10:00	10	563	184	7	58	6	4	19	5	0	0	0	1	857
11:00	7	**633**	**220**	6	60	7	4	19	2	**8**	0	1	1	**968**
12 PM	**13**	**646**	**177**	5	48	**12**	**10**	**25**	**7**	**5**	0	0	0	**948**
13:00	9	614	164	2	**53**	9	5	9	2	1	0	0	0	868
14:00	7	561	132	**8**	35	7	2	15	1	0	**1**	0	0	769
15:00	4	359	92	4	18	2	0	5	2	1	0	0	**1**	488
16:00	2	314	68	5	16	1	0	4	2	0	0	0	0	412
17:00	1	193	46	0	5	0	0	0	3	0	0	0	0	248
18:00	0	145	20	0	4	0	0	1	1	0	0	**1**	0	172
19:00	0	94	12	0	4	0	0	0	3	0	0	0	0	113
20:00	0	66	14	0	4	1	0	0	2	0	0	0	0	87
21:00	0	48	12	0	1	2	0	0	3	0	0	0	0	66
22:00	1	38	6	0	1	0	0	0	2	0	0	0	0	48
23:00	0	60	17	2	6	2	0	1	3	0	0	0	0	91
Total	105	8092	2515	94	755	120	52	246	134	31	6	9	12	12171
Percent	0.9%	66.5%	20.7%	0.8%	6.2%	1.0%	0.4%	2.0%	1.1%	0.3%	0.0%	0.1%	0.1%	
AM Peak	08:00	11:00	11:00	04:00	02:00	07:00	06:00	08:00	08:00	11:00	04:00	08:00	05:00	11:00
Vol.	10	633	220	11	69	13	8	25	17	8	2	2	2	968
PM Peak	12:00	12:00	12:00	14:00	13:00	12:00	12:00	12:00	12:00	12:00	14:00	18:00	15:00	12:00
Vol.	13	646	177	8	53	12	10	25	7	5	1	1	1	948
Grand Total	105	8092	2515	94	755	120	52	246	134	31	6	9	12	12171
Percent	0.9%	66.5%	20.7%	0.8%	6.2%	1.0%	0.4%	2.0%	1.1%	0.3%	0.0%	0.1%	0.1%	

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B/ Case Road - Interstate 215 Southbound
24 Hour Directional Classification Count

MEN006
Site Code: 108-23147

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
02/15/23	0	123	25	0	4	1	0	0	1	0	0	0	0	154
01:00	2	233	102	3	44	4	1	9	10	0	0	0	0	408
02:00	7	323	137	7	71	8	1	24	12	1	1	0	0	592
03:00	6	554	219	11	55	10	3	23	12	0	1	0	0	894
04:00	5	610	226	12	80	7	1	17	17	2	**4**	0	0	981
05:00	3	623	235	10	76	23	0	27	22	0	2	1	2	1024
06:00	9	786	260	8	102	**28**	**11**	33	23	3	0	1	3	1267
07:00	8	895	281	**15**	103	22	7	48	25	6	2	1	3	1416
08:00	**18**	1045	309	14	87	17	4	**57**	**30**	6	3	**5**	**4**	1599
09:00	10	993	306	9	**108**	12	7	38	15	8	0	3	1	1510
10:00	16	956	324	13	105	11	4	41	30	1	0	0	1	1502
11:00	10	**1141**	**363**	11	99	21	6	33	18	**14**	1	2	2	**1721**
12 PM	**20**	**1178**	**344**	9	**96**	**20**	**15**	**41**	19	6	1	**4**	1	**1754**
13:00	15	1120	311	7	92	18	9	29	**25**	3	1	0	1	1631
14:00	15	1049	271	**15**	84	16	4	34	6	**7**	2	1	0	1504
15:00	11	896	267	10	71	11	0	27	9	5	**4**	0	**2**	1313
16:00	4	843	218	10	53	10	0	29	8	3	2	0	0	1180
17:00	7	761	199	1	42	5	1	16	8	2	0	0	2	1044
18:00	5	642	157	3	31	2	2	13	2	3	0	1	1	862
19:00	2	483	88	3	25	2	0	16	9	0	0	0	0	628
20:00	2	336	67	0	18	3	0	5	3	0	0	0	0	434
21:00	0	226	50	0	10	4	0	2	8	0	0	0	0	300
22:00	1	164	34	0	5	0	0	0	7	0	0	0	0	211
23:00	0	136	30	3	8	3	0	1	4	0	0	0	0	185
Total	176	16116	4823	174	1469	258	76	563	323	70	24	19	23	24114
Percent	0.7%	66.8%	20.0%	0.7%	6.1%	1.1%	0.3%	2.3%	1.3%	0.3%	0.1%	0.1%	0.1%	
AM Peak	08:00	11:00	11:00	07:00	09:00	06:00	06:00	08:00	08:00	11:00	04:00	08:00	08:00	11:00
Vol.	18	1141	363	15	108	28	11	57	30	14	4	5	4	1721
PM Peak	12:00	12:00	12:00	14:00	12:00	12:00	12:00	12:00	13:00	14:00	15:00	12:00	15:00	12:00
Vol.	20	1178	344	15	96	20	15	41	25	7	4	4	2	1754
Grand Total	176	16116	4823	174	1469	258	76	563	323	70	24	19	23	24114
Percent	0.7%	66.8%	20.0%	0.7%	6.1%	1.1%	0.3%	2.3%	1.3%	0.3%	0.1%	0.1%	0.1%	

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City of Perris
Ethanac Road
B/ Interstate 215 Southbound - Interstate 215 Northbound
24 Hour Directional Classification Count

PER002
Site Code: 108-221054

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/01/22	0	80	6	0	1	0	0	0	4	**1**	0	0	0	92
01:00	0	62	4	0	0	0	0	0	2	0	1	0	0	69
02:00	0	49	10	0	1	0	0	1	1	0	0	0	0	62
03:00	1	41	6	0	0	1	0	0	1	0	0	0	0	50
04:00	0	88	13	0	0	3	**1**	0	1	0	0	0	0	106
05:00	0	178	52	0	6	1	0	1	2	0	**3**	0	0	243
06:00	**3**	271	97	0	14	4	0	1	9	0	1	0	0	400
07:00	0	388	**163**	2	21	8	0	2	7	0	2	0	0	593
08:00	1	**558**	149	**5**	**26**	6	0	**12**	7	0	1	0	**1**	**766**
09:00	1	410	139	0	24	6	0	5	7	0	1	0	0	593
10:00	2	315	148	1	18	**9**	0	6	**14**	1	1	0	0	515
11:00	0	320	99	1	24	4	1	3	14	0	0	0	0	466
12 PM	**6**	352	131	2	19	4	0	4	7	0	**1**	0	0	526
13:00	1	417	128	1	**24**	4	0	6	**14**	0	0	0	0	595
14:00	2	458	147	0	18	8	0	7	10	0	1	0	0	651
15:00	3	538	**168**	3	23	**12**	0	**9**	6	0	1	0	0	763
16:00	3	516	166	**5**	19	4	0	7	7	0	0	0	0	727
17:00	3	**583**	150	4	24	4	0	3	7	0	0	0	0	**778**
18:00	3	581	147	0	14	2	0	1	0	0	0	0	0	748
19:00	0	382	88	0	11	1	0	1	3	0	0	0	0	486
20:00	0	283	57	0	15	2	0	0	0	0	1	0	0	358
21:00	4	231	33	0	5	1	0	0	2	0	0	0	0	276
22:00	0	182	19	0	4	0	0	0	2	0	0	0	0	207
23:00	1	139	22	0	1	2	0	0	3	0	0	0	0	168
Total	34	7422	2142	24	312	86	2	69	130	2	14	0	1	10238
Percent	0.3%	72.5%	20.9%	0.2%	3.0%	0.8%	0.0%	0.7%	1.3%	0.0%	0.1%	0.0%	0.0%	
AM Peak	06:00	08:00	07:00	08:00	08:00	10:00	04:00	08:00	10:00	00:00	05:00		08:00	08:00
Vol.	3	558	163	5	26	9	1	12	14	1	3		1	766
PM Peak	12:00	17:00	15:00	16:00	13:00	15:00		15:00	13:00		12:00			17:00
Vol.	6	583	168	5	24	12		9	14		1			778
Grand Total	34	7422	2142	24	312	86	2	69	130	2	14	0	1	10238
Percent	0.3%	72.5%	20.9%	0.2%	3.0%	0.8%	0.0%	0.7%	1.3%	0.0%	0.1%	0.0%	0.0%	

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City of Perris
Ethanac Road
B/ Interstate 215 Southbound - Interstate 215 Northbound
24 Hour Directional Classification Count

PER002
Site Code: 108-221054

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/01/22	0	73	5	0	0	0	0	0	1	**1**	0	0	0	80
01:00	0	46	5	0	1	0	0	0	1	1	0	0	0	54
02:00	0	30	5	0	0	0	0	1	0	0	0	0	0	36
03:00	0	28	4	0	1	0	0	0	0	0	0	**2**	0	35
04:00	0	39	10	0	1	1	0	0	0	0	**1**	0	0	52
05:00	**1**	119	29	0	3	0	0	0	2	0	1	0	0	155
06:00	0	134	52	0	14	4	0	0	6	0	0	0	0	210
07:00	0	217	78	3	19	12	0	**20**	6	0	0	0	0	355
08:00	0	419	120	**4**	**22**	10	0	20	**8**	0	0	0	0	603
09:00	0	**433**	**153**	2	15	7	0	13	6	0	0	1	0	**630**
10:00	0	285	138	2	16	7	0	12	8	1	1	0	0	470
11:00	0	327	121	1	2	**15**	0	3	8	0	0	0	0	477
12 PM	2	411	140	0	6	4	**7**	2	**11**	0	0	0	0	583
13:00	0	448	125	2	12	7	3	2	6	**1**	0	0	0	606
14:00	**4**	430	152	2	13	6	2	1	10	0	0	0	0	620
15:00	0	563	152	3	10	3	1	**5**	7	0	0	0	0	744
16:00	3	**644**	**175**	3	**20**	7	0	1	4	0	**3**	0	0	**860**
17:00	3	614	158	3	8	8	2	2	1	0	0	0	0	799
18:00	1	625	107	2	6	**13**	3	2	1	0	0	**1**	0	761
19:00	3	456	102	1	7	4	0	1	0	0	0	0	0	574
20:00	1	321	34	**6**	1	0	0	1	2	0	0	0	0	366
21:00	0	256	32	2	3	1	0	0	2	0	0	0	0	296
22:00	0	171	28	1	3	1	0	0	1	0	0	0	0	205
23:00	0	102	16	1	0	1	0	0	0	0	0	0	0	120
Total	18	7191	1941	38	183	111	18	86	91	4	6	4	0	9691
Percent	0.2%	74.2%	20.0%	0.4%	1.9%	1.1%	0.2%	0.9%	0.9%	0.0%	0.1%	0.0%	0.0%	
AM Peak	05:00	09:00	09:00	08:00	08:00	11:00		07:00	08:00	00:00	04:00	03:00		09:00
Vol.	1	433	153	4	22	15		20	8	1	1	2		630
PM Peak	14:00	16:00	16:00	20:00	16:00	18:00	12:00	15:00	12:00	13:00	16:00	18:00		16:00
Vol.	4	644	175	6	20	13	7	5	11	1	3	1		860
Grand Total	18	7191	1941	38	183	111	18	86	91	4	6	4	0	9691
Percent	0.2%	74.2%	20.0%	0.4%	1.9%	1.1%	0.2%	0.9%	0.9%	0.0%	0.1%	0.0%	0.0%	

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City of Perris
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B/ Interstate 215 Southbound - Interstate 215 Northbound
24 Hour Directional Classification Count

PER002
Site Code: 108-221054

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/01/22	0	153	11	0	1	0	0	0	5	**2**	0	0	0	172
01:00	0	108	9	0	1	0	0	0	3	1	1	0	0	123
02:00	0	79	15	0	1	0	0	2	1	0	0	0	0	98
03:00	1	69	10	0	1	1	0	0	1	0	0	**2**	0	85
04:00	0	127	23	0	1	4	**1**	0	1	0	1	0	0	158
05:00	1	297	81	0	9	1	0	1	4	0	**4**	0	0	398
06:00	**3**	405	149	0	28	8	0	1	15	0	1	0	0	610
07:00	0	605	241	5	40	**20**	0	22	13	0	2	0	0	948
08:00	1	**977**	269	**9**	**48**	16	0	**32**	15	0	1	0	**1**	**1369**
09:00	1	843	**292**	2	39	13	0	18	13	0	1	1	0	1223
10:00	2	600	286	3	34	16	0	18	**22**	2	2	0	0	985
11:00	0	647	220	2	26	19	1	6	22	0	0	0	0	943
12 PM	**8**	763	271	2	25	8	**7**	6	18	0	1	0	0	1109
13:00	1	865	253	3	36	11	3	8	**20**	**1**	0	0	0	1201
14:00	6	888	299	2	31	14	2	8	20	0	1	0	0	1271
15:00	3	1101	320	6	33	**15**	1	**14**	13	0	1	0	0	1507
16:00	6	1160	**341**	**8**	**39**	11	0	8	11	0	**3**	0	0	**1587**
17:00	6	1197	308	7	32	12	2	5	8	0	0	0	0	1577
18:00	4	**1206**	254	2	20	15	3	3	1	0	0	**1**	0	1509
19:00	3	838	190	1	18	5	0	2	3	0	0	0	0	1060
20:00	1	604	91	6	16	2	0	1	2	0	1	0	0	724
21:00	4	487	65	2	8	2	0	0	4	0	0	0	0	572
22:00	0	353	47	1	7	1	0	0	3	0	0	0	0	412
23:00	1	241	38	1	1	3	0	0	3	0	0	0	0	288
Total	52	14613	4083	62	495	197	20	155	221	6	20	4	1	19929
Percent	0.3%	73.3%	20.5%	0.3%	2.5%	1.0%	0.1%	0.8%	1.1%	0.0%	0.1%	0.0%	0.0%	
AM Peak	06:00	08:00	09:00	08:00	08:00	07:00	04:00	08:00	10:00	00:00	05:00	03:00	08:00	08:00
Vol.	3	977	292	9	48	20	1	32	22	2	4	2	1	1369
PM Peak	12:00	18:00	16:00	16:00	16:00	15:00	12:00	15:00	13:00	13:00	16:00	18:00		16:00
Vol.	8	1206	341	8	39	15	7	14	20	1	3	1		1587
Grand Total	52	14613	4083	62	495	197	20	155	221	6	20	4	1	19929
Percent	0.3%	73.3%	20.5%	0.3%	2.5%	1.0%	0.1%	0.8%	1.1%	0.0%	0.1%	0.0%	0.0%	

Existing Peak Hour Volumes - Classification Counts

1 **Evans Rd at Ethanac Rd**

	AM Peak Hour Volumes									PM Peak Hour Volumes								
		Truck Volumes							Total		Truck Volumes							Total
	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume
NL	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
NT	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
NR	2	1	0	0	1	33.3%	2	2.0	4	1	0	0	0	0	0.0%	0	0.0	1
SL	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
ST	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
SR	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
EL	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
ET	894	29	9	8	46	4.9%	86	1.9	980	624	17	0	1	18	2.8%	29	1.6	653
ER	1	0	0	0	0	0.0%	0	0.0	1	0	0	0	0	0	0.0%	0	0.0	0
WL	0	1	0	0	1	100.0%	2	2.0	2	2	0	0	0	0	0.0%	0	0.0	2
WT	439	32	5	3	40	8.4%	67	1.7	506	689	20	19	1	40	5.5%	71	1.8	760
WR	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
									1,493									1,416
North Leg Volumes																		
Approach	0	0	0	0	0		0		0	0	0	0	0	0		0		0
Depart	0	0	0	0	0		0		0	0	0	0	0	0		0		0
Total	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
South Leg Volumes																		
Approach	2	1	0	0	1		2		4	1	0	0	0	0		0		1
Depart	1	1	0	0	1		2		3	2	0	0	0	0		0		2
Total	3	2	0	0	2	40.0%	4	2.0	7	3	0	0	0	0	0.0%	0	0.0	3
East Leg Volumes																		
Approach	439	33	5	3	41		69		508	691	20	19	1	40		71		762
Depart	896	30	9	8	47		88		984	625	17	0	1	18		29		654
Total	1,335	63	14	11	88	6.2%	157	1.8	1,492	1,316	37	19	2	58	4.2%	100	1.7	1,416
West Leg Volumes																		
Approach	895	29	9	8	46		86		981	624	17	0	1	18		29		653
Depart	439	32	5	3	40		67		506	689	20	19	1	40		71		760
Total	1,334	61	14	11	86	6.1%	153	1.8	1,487	1,313	37	19	2	58	4.2%	100	1.7	1,413
All Legs																		
Approach	1,336	63	14	11	88		157		1,493	1,316	37	19	2	58		100		1,416
Depart	1,336	63	14	11	88		157		1,493	1,316	37	19	2	58		100		1,416
Total	2,672	126	28	22	176	6.2%	314	1.8	2,986	2,632	74	38	4	116	4.2%	200	1.7	2,832

Existing Peak Hour Volumes - Classification Counts

2 **Barnett Rd/Case Rd at Ethanac Rd**

	AM Peak Hour Volumes									PM Peak Hour Volumes								
		Truck Volumes							Total		Truck Volumes							Total
	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume
NL	11	8	1	1	10	47.6%	17	1.7	28	22	0	1	0	1	4.3%	2	2.0	24
NT	24	2	0	0	2	7.7%	3	1.5	27	30	0	0	0	0	0.0%	0	0.0	30
NR	80	26	2	4	32	28.6%	55	1.7	135	60	3	1	5	9	13.0%	22	2.4	82
SL	279	16	2	5	23	7.6%	43	1.9	322	425	2	0	1	3	0.7%	6	2.0	431
ST	19	0	0	0	0	0.0%	0	0.0	19	51	0	0	1	1	1.9%	3	3.0	54
SR	68	2	0	0	2	2.9%	3	1.5	71	119	1	1	0	2	1.7%	4	2.0	123
EL	140	3	0	0	3	2.1%	5	1.7	145	160	1	0	0	1	0.6%	2	2.0	162
ET	707	22	8	8	38	5.1%	73	1.9	780	445	15	0	1	16	3.5%	26	1.6	471
ER	22	2	0	0	2	8.3%	3	1.5	25	18	0	0	2	2	10.0%	6	3.0	24
WL	33	16	1	4	21	38.9%	38	1.8	71	67	1	3	2	6	8.2%	14	2.3	81
WT	341	19	5	4	28	7.6%	51	1.8	392	510	10	17	1	28	5.2%	52	1.9	562
WR	295	9	0	1	10	3.3%	17	1.7	312	355	1	0	0	1	0.3%	2	2.0	357
									2,327									2,401
North Leg Volumes																		
Approach	366	18	2	5	25		46		412	595	3	1	2	6		13		608
Depart	459	14	0	1	15		25		484	545	2	0	0	2		4		549
Total	825	32	2	6	40	4.6%	71	1.8	896	1,140	5	1	2	8	0.7%	17	2.1	1,157
South Leg Volumes																		
Approach	115	36	3	5	44		75		190	112	3	2	5	10		24		136
Depart	74	18	1	4	23		41		115	136	1	3	5	9		23		159
Total	189	54	4	9	67	26.2%	116	1.7	305	248	4	5	10	19	7.1%	47	2.5	295
East Leg Volumes																		
Approach	669	44	6	9	59		106		775	932	12	20	3	35		68		1,000
Depart	1,066	64	12	17	93		171		1,237	930	20	1	7	28		54		984
Total	1,735	108	18	26	152	8.1%	277	1.8	2,012	1,862	32	21	10	63	3.3%	122	1.9	1,984
West Leg Volumes																		
Approach	869	27	8	8	43		81		950	623	16	0	3	19		34		657
Depart	420	29	6	5	40		71		491	651	11	19	1	31		58		709
Total	1,289	56	14	13	83	6.0%	152	1.8	1,441	1,274	27	19	4	50	3.8%	92	1.8	1,366
All Legs																		
Approach	2,019	125	19	27	171		308		2,327	2,262	34	23	13	70		139		2,401
Depart	2,019	125	19	27	171		308		2,327	2,262	34	23	13	70		139		2,401
Total	4,038	250	38	54	342	7.8%	616	1.8	4,654	4,524	68	46	26	140	3.0%	278	2.0	4,802

Existing Peak Hour Volumes - Classification Counts

3 **I-215 SB Ramps at Ethanac Road**

	AM Peak Hour Volumes									PM Peak Hour Volumes								
		Truck Volumes							Total		Truck Volumes							Total
	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume
NL	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
NT	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
NR	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
SL	98	4	3	1	8	7.5%	15	1.9	113	145	4	0	1	5	3.3%	9	1.8	154
ST	1	0	0	0	0	0.0%	0	0.0	1	3	0	0	0	0	0.0%	0	0.0	3
SR	210	26	2	2	30	12.5%	49	1.6	259	339	8	4	2	14	4.0%	26	1.9	365
EL	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
ET	659	34	5	2	41	5.9%	67	1.6	726	615	16	2	0	18	2.8%	28	1.6	643
ER	418	27	10	2	39	8.5%	67	1.7	485	345	5	0	4	9	2.5%	20	2.2	365
WL	51	17	11	3	31	37.8%	57	1.8	108	89	0	0	0	0	0.0%	0	0.0	89
WT	536	16	8	5	29	5.1%	55	1.9	591	703	11	8	1	20	2.8%	36	1.8	739
WR	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
									2,283									2,358
North Leg Volumes																		
Approach	309	30	5	3	38		64		373	487	12	4	3	19		35		522
Depart	0	0	0	0	0		0		0	0	0	0	0	0		0		0
Total	309	30	5	3	38	11.0%	64	1.7	373	487	12	4	3	19	3.8%	35	1.8	522
South Leg Volumes																		
Approach	0	0	0	0	0		0		0	0	0	0	0	0		0		0
Depart	470	44	21	5	70		124		594	437	5	0	4	9		20		457
Total	470	44	21	5	70	13.0%	124	1.8	594	437	5	0	4	9	2.0%	20	2.2	457
East Leg Volumes																		
Approach	587	33	19	8	60		112		699	792	11	8	1	20		36		828
Depart	757	38	8	3	49		82		839	760	20	2	1	23		37		797
Total	1,344	71	27	11	109	7.5%	194	1.8	1,538	1,552	31	10	2	43	2.7%	73	1.7	1,625
West Leg Volumes																		
Approach	1,077	61	15	4	80		134		1,211	960	21	2	4	27		48		1,008
Depart	746	42	10	7	59		104		850	1,042	19	12	3	34		62		1,104
Total	1,823	103	25	11	139	7.1%	238	1.7	2,061	2,002	40	14	7	61	3.0%	110	1.8	2,112
All Legs																		
Approach	1,973	124	39	15	178		310		2,283	2,239	44	14	8	66		119		2,358
Depart	1,973	124	39	15	178		310		2,283	2,239	44	14	8	66		119		2,358
Total	3,946	248	78	30	356	8.3%	620	1.7	4,566	4,478	88	28	16	132	2.9%	238	1.8	4,716

Existing Peak Hour Volumes - Classification Counts

4 **I-215 NB Ramps at Ethanac Road**

	AM Peak Hour Volumes									PM Peak Hour Volumes								
		Truck Volumes							Total		Truck Volumes							Total
	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume	Passenger Vehicles	2-Axle 1.5	3-Axle 2.0	4-Axle 3.0	Total Trucks	Truck %-age	PCE	Average PCE	PCE Volume
NL	235	6	6	5	17	6.7%	36	2.1	271	367	6	8	1	15	3.9%	28	1.9	395
NT	0	0	0	0	0	0.0%	0	0.0	0	2	0	0	0	0	0.0%	0	0.0	2
NR	116	4	4	1	9	7.2%	17	1.9	133	179	8	3	1	12	6.3%	21	1.8	200
SL	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
ST	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
SR	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
EL	193	13	4	4	21	9.8%	40	1.9	233	238	4	2	2	8	3.3%	16	2.0	254
ET	567	18	5	2	25	4.2%	43	1.7	610	526	13	6	2	21	3.8%	38	1.8	564
ER	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
WL	0	0	0	0	0	0.0%	0	0.0	0	0	0	0	0	0	0.0%	0	0.0	0
WT	366	24	11	4	39	9.6%	70	1.8	436	393	4	1	0	5	1.3%	8	1.6	401
WR	125	12	2	7	21	14.4%	43	2.0	168	126	6	5	1	12	8.7%	22	1.8	148
									1,851									1,964
North Leg Volumes																		
Approach	0	0	0	0	0		0		0	0	0	0	0	0		0		0
Depart	318	25	6	11	42		83		401	366	10	7	3	20		38		404
Total	318	25	6	11	42	11.7%	83	2.0	401	366	10	7	3	20	5.2%	38	1.9	404
South Leg Volumes																		
Approach	351	10	10	6	26		53		404	548	14	11	2	27		49		597
Depart	0	0	0	0	0		0		0	0	0	0	0	0		0		0
Total	351	10	10	6	26	6.9%	53	2.0	404	548	14	11	2	27	4.7%	49	1.8	597
East Leg Volumes																		
Approach	491	36	13	11	60		113		604	519	10	6	1	17		30		549
Depart	683	22	9	3	34		60		743	705	21	9	3	33		59		764
Total	1,174	58	22	14	94	7.4%	173	1.8	1,347	1,224	31	15	4	50	3.9%	89	1.8	1,313
West Leg Volumes																		
Approach	760	31	9	6	46		83		843	764	17	8	4	29		54		818
Depart	601	30	17	9	56		106		707	760	10	9	1	20		36		796
Total	1,361	61	26	15	102	7.0%	189	1.9	1,550	1,524	27	17	5	49	3.1%	90	1.8	1,614
All Legs																		
Approach	1,602	77	32	23	132		249		1,851	1,831	41	25	7	73		133		1,964
Depart	1,602	77	32	23	132		249		1,851	1,831	41	25	7	73		133		1,964
Total	3,204	154	64	46	264	7.6%	498	1.9	3,702	3,662	82	50	14	146	3.8%	266	1.8	3,928

APPENDIX **C**

INTERSECTION ANALYSIS
WORKSHEETS

APPENDIX C-1

INTERSECTION ANALYSIS
WORKSHEETS –
EXISTING CONDITIONS

Menifee NG Logistics Center Project

Vistro File: K:\...\Menifee Lovett_AM.vistro
Report File: K:\...\1. EX AM.pdf

Scenario 1 EX AM
8/9/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Evans Rd at Ethanac Rd	Two-way stop	HCM 6th Edition	NB Right	0.008	12.2	B
2	Barnett Rd/Case Rd at Ethanac Rd	Signalized	HCM 6th Edition	WB Left	0.506	31.4	C
3	I-215 SB Ramps at Ethanac Rd	Signalized	HCM 6th Edition	WB Left	0.734	22.3	C
4	I-215 NB Ramps at Ethanac Rd	Signalized	HCM 6th Edition	EB Left	0.651	29.0	C

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

Intersection Level Of Service Report
Intersection 1: Evans Rd at Ethanac Rd

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Evans Rd		Ethanac Rd		Ethanac Rd	
Approach	Northbound		Eastbound		Westbound	
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	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Evans Rd		Ethanac Rd		Ethanac Rd	
Base Volume Input [veh/h]	0	4	980	1	2	506
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	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	4	980	1	2	506
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	263	0	1	136
Total Analysis Volume [veh/h]	0	4	1054	1	2	544
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]	29.37	12.25	0.00	0.00	10.41	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]	0.60	0.60	0.00	0.00	0.23	0.00
d_A, Approach Delay [s/veh]	12.25		0.00		0.04	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.04					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Barnett Rd/Case Rd at Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	31.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.506

Intersection Setup

Name	Barnett Rd			Case Rd			Ethanac Rd			Ethanac Rd		
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	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	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	100.00
Speed [mph]	55.00			55.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Barnett Rd			Case Rd			Ethanac Rd			Ethanac Rd		
Base Volume Input [veh/h]	28	27	135	322	19	71	145	780	25	71	392	312
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	27	135	322	19	71	145	780	25	71	392	312
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	7	36	85	5	19	38	206	7	19	104	82
Total Analysis Volume [veh/h]	30	29	143	340	20	75	153	825	26	75	414	330
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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	7	10	0	7	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	31	0	0	30	0	19	47	0	12	40	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	2	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	7	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	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]	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]	17	14	14	14	12	67	67	6	61	61
g / C, Green / Cycle	0.14	0.12	0.12	0.12	0.10	0.55	0.55	0.05	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.12	0.10	0.03	0.03	0.08	0.23	0.02	0.04	0.11	0.20
s, saturation flow rate [veh/h]	1678	3514	1720	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	233	422	206	194	184	2003	894	98	1831	817
d1, Uniform Delay [s]	50.60	51.44	47.82	47.83	52.89	15.48	12.15	55.99	16.52	18.39
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.45	3.68	0.58	0.62	9.28	0.63	0.06	11.61	0.29	1.48
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	0.87	0.81	0.24	0.24	0.83	0.41	0.03	0.76	0.23	0.40
d, Delay for Lane Group [s/veh]	60.04	55.12	48.41	48.45	62.17	16.11	12.21	67.61	16.81	19.87
Lane Group LOS	E	E	D	D	E	B	B	E	B	B
Critical Lane Group	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	6.28	4.98	1.31	1.23	4.85	6.08	0.31	2.49	3.03	5.58
50th-Percentile Queue Length [ft/ln]	157.07	124.56	32.76	30.83	121.13	152.07	7.68	62.16	75.69	139.48
95th-Percentile Queue Length [veh/ln]	10.39	8.64	2.36	2.22	8.46	10.13	0.55	4.48	5.45	9.45
95th-Percentile Queue Length [ft/ln]	259.83	216.07	58.97	55.49	211.38	253.20	13.82	111.90	136.24	236.32

Movement, Approach, & Intersection Results

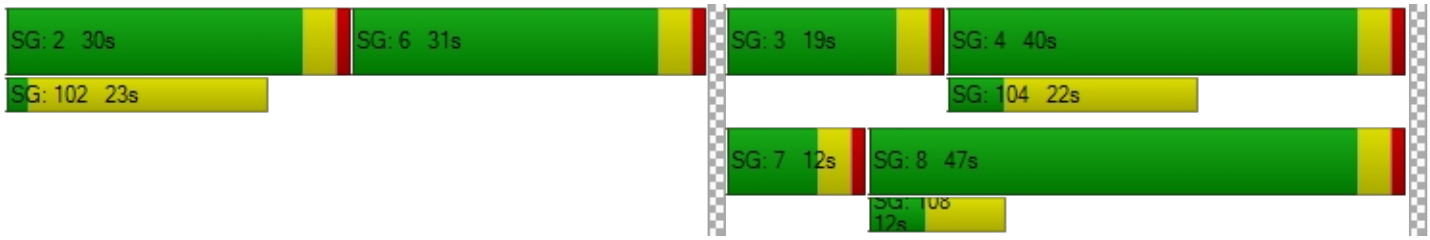
d_M, Delay for Movement [s/veh]	60.04	60.04	60.04	55.12	48.41	48.43	62.17	16.11	12.21	67.61	16.81	19.87
Movement LOS	E	E	E	E	D	D	E	B	B	E	B	B
d_A, Approach Delay [s/veh]	60.04			53.66			23.03			22.69		
Approach LOS	E			D			C			C		
d_I, Intersection Delay [s/veh]	31.37											
Intersection LOS	C											
Intersection V/C	0.506											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	6.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	54.15	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.019	2.654	2.883	0.000
Crosswalk LOS	B	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]	450	433	717	600
d_b, Bicycle Delay [s]	36.04	36.82	24.70	29.40
l_b,int, Bicycle LOS Score for Intersection	1.893	2.277	2.388	2.235
Bicycle LOS	A	B	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 3: I-215 SB Ramps at Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	22.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.734

Intersection Setup

Name	I-215 SB On Ramp			I-215 SB Off Ramp			Ethanac Rd			Ethanac Rd		
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	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	I-215 SB On Ramp			I-215 SB Off Ramp			Ethanac Rd			Ethanac Rd		
Base Volume Input [veh/h]	0	0	0	113	1	259	0	726	485	108	591	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	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	113	1	259	0	726	485	108	591	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9470	0.9470	0.9470	1.0000	0.9470	0.9470	0.9470	0.9470	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	30	0	68	0	192	128	29	156	0
Total Analysis Volume [veh/h]	0	0	0	119	1	273	0	767	512	114	624	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	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	10	0	0	10	0	7	10	0
Maximum Green [s]	0	0	0	0	30	0	0	30	0	30	30	0
Amber [s]	0.0	0.0	0.0	0.0	4.3	0.0	0.0	4.7	0.0	3.0	4.7	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	0	0	0	44	0	0	65	0	11	76	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	14	0	0	10	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	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	3.3	0.0	0.0	3.7	0.0	2.0	3.7	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		C	R	C	R	L	C
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		5.30	5.30	5.70	5.70	4.00	5.70
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]		3.30	3.30	3.70	3.70	2.00	3.70
g_i, Effective Green Time [s]		23	23	73	73	9	86
g / C, Green / Cycle		0.19	0.19	0.61	0.61	0.08	0.72
(v / s)_i Volume / Saturation Flow Rate		0.07	0.17	0.40	0.32	0.06	0.17
s, saturation flow rate [veh/h]		1810	1615	1900	1615	1810	3618
c, Capacity [veh/h]		345	308	1152	979	142	2597
d1, Uniform Delay [s]		42.10	47.31	15.60	13.62	54.41	5.78
k, delay calibration		0.11	0.11	0.50	0.50	0.11	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.60	8.50	3.05	2.00	10.19	0.22
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		0.35	0.89	0.67	0.52	0.81	0.24
d, Delay for Lane Group [s/veh]		42.70	55.80	18.66	15.62	64.60	6.00
Lane Group LOS		D	E	B	B	E	A
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		3.07	8.43	12.96	7.53	3.68	2.19
50th-Percentile Queue Length [ft/ln]		76.76	210.70	324.01	188.19	91.91	54.65
95th-Percentile Queue Length [veh/ln]		5.53	13.19	18.86	12.03	6.62	3.93
95th-Percentile Queue Length [ft/ln]		138.17	329.73	471.61	300.68	165.43	98.37

Movement, Approach, & Intersection Results

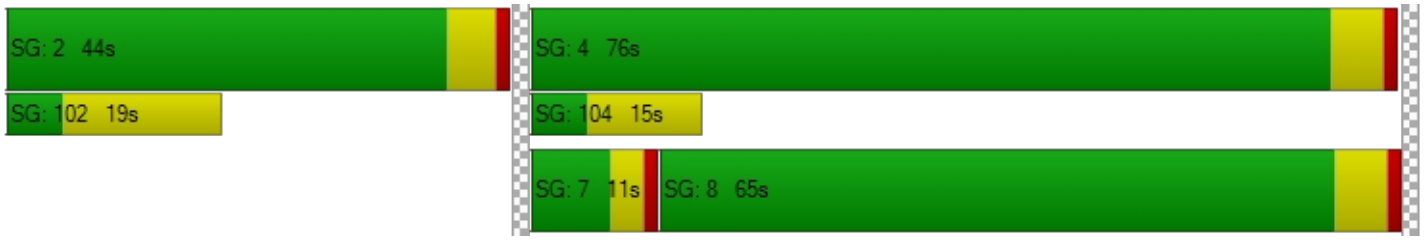
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	42.70	42.70	55.80	0.00	18.66	15.62	64.60	6.00	0.00
Movement LOS				D	D	E		B	B	E	A	
d_A, Approach Delay [s/veh]	0.00			51.80			17.44			15.05		
Approach LOS	A			D			B			B		
d_I, Intersection Delay [s/veh]	22.31											
Intersection LOS	C											
Intersection V/C	0.734											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	51.34
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.147	0.000	2.806
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	645	988	1172
d_b, Bicycle Delay [s]	60.00	27.54	15.35	10.29
l_b,int, Bicycle LOS Score for Intersection	4.132	2.208	3.670	2.168
Bicycle LOS	D	B	D	B

Sequence

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



Intersection Level Of Service Report
Intersection 4: I-215 NB Ramps at Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	29.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.651

Intersection Setup

Name	I-215 NB Off Ramp			I-215 NB On Ramp			Ethanac Rd			Ethanac Rd		
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	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name	I-215 NB Off Ramp			I-215 NB On Ramp			Ethanac Rd			Ethanac Rd		
Base Volume Input [veh/h]	271	0	133	0	0	0	233	610	0	0	436	168
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	271	0	133	0	0	0	233	610	0	0	436	168
Peak Hour Factor	0.9480	0.9480	0.9480	1.0000	1.0000	1.0000	0.9480	0.9480	1.0000	1.0000	0.9480	0.9480
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]	71	0	35	0	0	0	61	161	0	0	115	44
Total Analysis Volume [veh/h]	286	0	140	0	0	0	246	643	0	0	460	177
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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	1.00

Phasing & Timing

Control Type	Split	Split	Split	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												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	7	10	0	0	10	0
Maximum Green [s]	0	30	0	0	0	0	30	30	0	0	30	0
Amber [s]	0.0	4.3	0.0	0.0	0.0	0.0	3.0	4.7	0.0	0.0	4.7	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
Split [s]	0	38	0	0	0	0	26	82	0	0	56	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
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	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	3.3	0.0	0.0	0.0	0.0	2.0	3.7	0.0	0.0	3.7	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		L	C	C
C, Cycle Length [s]	120	120		120	120	120
L, Total Lost Time per Cycle [s]	5.30	5.30		4.00	5.70	5.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.30	3.30		2.00	3.70	3.70
g_i, Effective Green Time [s]	21	21		18	88	65
g / C, Green / Cycle	0.18	0.18		0.15	0.73	0.54
(v / s)_i Volume / Saturation Flow Rate	0.16	0.09		0.14	0.34	0.35
s, saturation flow rate [veh/h]	1810	1615		1810	1900	1811
c, Capacity [veh/h]	324	289		279	1385	981
d1, Uniform Delay [s]	48.01	44.26		49.70	6.65	19.42
k, delay calibration	0.13	0.11		0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	9.15	1.25		9.00	1.12	3.32
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	0.88	0.48		0.88	0.46	0.65
d, Delay for Lane Group [s/veh]	57.17	45.52		58.70	7.77	22.75
Lane Group LOS	E	D		E	A	C
Critical Lane Group	Yes	No		Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	8.91	3.75		7.65	5.50	12.16
50th-Percentile Queue Length [ft/ln]	222.86	93.79		191.18	137.46	303.93
95th-Percentile Queue Length [veh/ln]	13.81	6.75		12.18	9.34	17.88
95th-Percentile Queue Length [ft/ln]	345.28	168.82		304.56	233.60	446.88

Movement, Approach, & Intersection Results

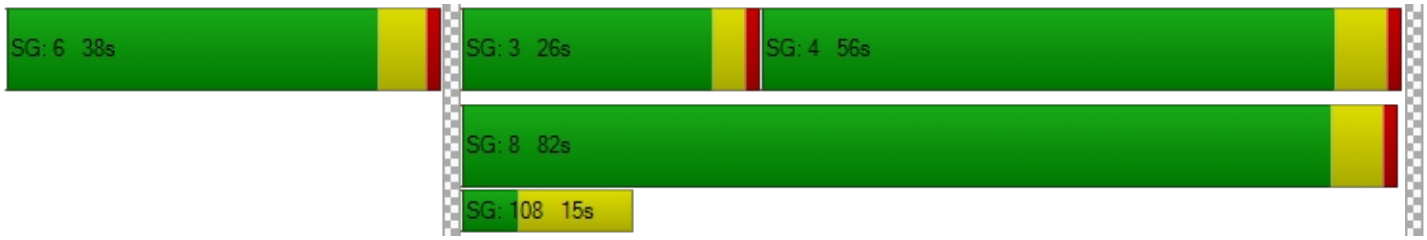
d_M, Delay for Movement [s/veh]	57.17	57.17	45.52	0.00	0.00	0.00	58.70	7.77	0.00	0.00	22.75	22.75
Movement LOS	E	E	D				E	A			C	C
d_A, Approach Delay [s/veh]	53.34			0.00			21.87			22.75		
Approach LOS	D			A			C			C		
d_I, Intersection Delay [s/veh]	29.02											
Intersection LOS	C											
Intersection V/C	0.651											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.163	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]	545	0	1272	838
d_b, Bicycle Delay [s]	31.76	60.00	7.96	20.24
l_b,int, Bicycle LOS Score for Intersection	2.263	4.132	3.026	2.611
Bicycle LOS	B	D	C	B

Sequence

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



Menifee NG Logistics Center Project

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Report File: K:\...\1. EX PM.pdf

Scenario 1 EX PM
8/9/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Evans Rd at Ethanac Rd	Two-way stop	HCM 6th Edition	NB Right	0.002	10.5	B
2	Barnett Rd/Case Rd at Ethanac Rd	Signalized	HCM 6th Edition	WB Left	0.533	33.1	C
3	I-215 SB Ramps at Ethanac Rd	Signalized	HCM 6th Edition	WB Left	0.796	27.1	C
4	I-215 NB Ramps at Ethanac Rd	Signalized	HCM 6th Edition	EB Left	0.690	33.3	C

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

Intersection Level Of Service Report
Intersection 1: Evans Rd at Ethanac Rd

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Evans Rd		Ethanac Rd		Ethanac Rd	
Approach	Northbound		Eastbound		Westbound	
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	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Evans Rd		Ethanac Rd		Ethanac Rd	
Base Volume Input [veh/h]	0	1	653	0	2	760
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	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	653	0	2	760
Peak Hour Factor	0.9360	0.9360	0.9360	0.9360	0.9360	0.9360
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	174	0	1	203
Total Analysis Volume [veh/h]	0	1	698	0	2	812
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	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	22.42	10.52	0.00	0.00	8.97	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.00
95th-Percentile Queue Length [ft/ln]	0.12	0.12	0.00	0.00	0.17	0.00
d_A, Approach Delay [s/veh]	10.52		0.00		0.02	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.02					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Barnett Rd/Case Rd at Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	33.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.533

Intersection Setup

Name	Barnett Rd			Case Rd			Ethanac Rd			Ethanac Rd		
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	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	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	100.00
Speed [mph]	55.00			55.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Barnett Rd			Case Rd			Ethanac Rd			Ethanac Rd		
Base Volume Input [veh/h]	24	30	82	431	54	123	162	471	24	81	562	357
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	30	82	431	54	123	162	471	24	81	562	357
Peak Hour Factor	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620
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]	6	8	21	112	14	32	42	122	6	21	146	93
Total Analysis Volume [veh/h]	25	31	85	448	56	128	168	490	25	84	584	371
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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	7	10	0	7	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	31	0	33	30	0	29	26	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	2	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	7	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	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]	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]	12	18	18	18	13	67	67	7	61	61
g / C, Green / Cycle	0.10	0.15	0.15	0.15	0.11	0.55	0.55	0.06	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.08	0.13	0.05	0.05	0.09	0.14	0.02	0.05	0.16	0.23
s, saturation flow rate [veh/h]	1704	3514	1770	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	170	535	269	246	201	2003	894	110	1823	814
d1, Uniform Delay [s]	53.00	49.43	45.60	45.62	52.30	13.82	12.14	55.49	17.62	19.18
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.80	3.58	0.80	0.88	8.93	0.29	0.06	10.33	0.47	1.84
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	0.83	0.84	0.36	0.36	0.84	0.24	0.03	0.76	0.32	0.46
d, Delay for Lane Group [s/veh]	62.79	53.01	46.39	46.50	61.23	14.11	12.20	65.83	18.08	21.02
Lane Group LOS	E	D	D	D	E	B	B	E	B	C
Critical Lane Group	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.46	6.49	2.52	2.32	5.29	3.21	0.30	2.74	4.55	6.55
50th-Percentile Queue Length [ft/ln]	111.46	162.25	62.93	58.00	132.15	80.35	7.38	68.52	113.73	163.64
95th-Percentile Queue Length [veh/ln]	7.92	10.67	4.53	4.18	9.06	5.79	0.53	4.93	8.05	10.74
95th-Percentile Queue Length [ft/ln]	198.03	266.70	113.27	104.40	226.41	144.64	13.28	123.34	201.18	268.54

Movement, Approach, & Intersection Results

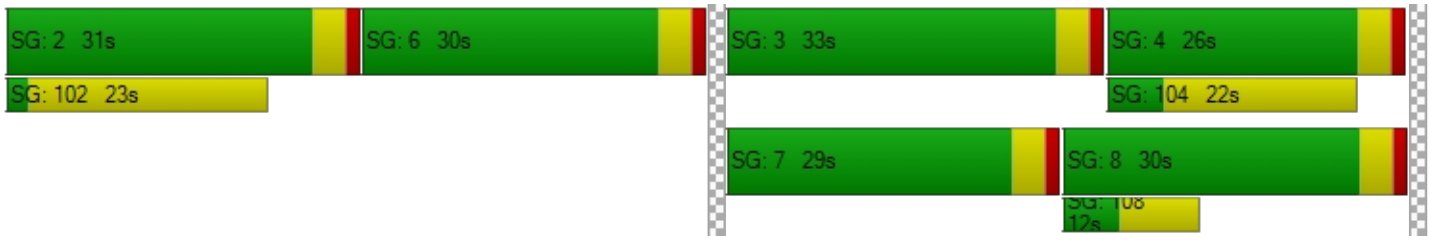
d_M, Delay for Movement [s/veh]	62.79	62.79	62.79	53.01	46.39	46.47	61.23	14.11	12.20	65.83	18.08	21.02
Movement LOS	E	E	E	D	D	D	E	B	B	E	B	C
d_A, Approach Delay [s/veh]	62.79			51.10			25.63			22.99		
Approach LOS	E			D			C			C		
d_I, Intersection Delay [s/veh]	33.08											
Intersection LOS	C											
Intersection V/C	0.533											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	6.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	54.15	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.004	2.745	2.855	0.000
Crosswalk LOS	B	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]	433	450	433	367
d_b, Bicycle Delay [s]	36.82	36.04	36.82	40.02
l_b,int, Bicycle LOS Score for Intersection	1.792	2.602	2.123	2.417
Bicycle LOS	A	B	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 3: I-215 SB Ramps at Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	27.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.796

Intersection Setup

Name	I-215 SB On Ramp			I-215 SB Off Ramp			Ethanac Rd			Ethanac Rd		
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	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	I-215 SB On Ramp			I-215 SB Off Ramp			Ethanac Rd			Ethanac Rd		
Base Volume Input [veh/h]	0	0	0	154	3	365	0	643	365	89	739	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	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	154	3	365	0	643	365	89	739	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.8890	0.8890	0.8890	1.0000	0.8890	0.8890	0.8890	0.8890	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	43	1	103	0	181	103	25	208	0
Total Analysis Volume [veh/h]	0	0	0	173	3	411	0	723	411	100	831	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	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	10	0	0	10	0	7	10	0
Maximum Green [s]	0	0	0	0	30	0	0	30	0	30	30	0
Amber [s]	0.0	0.0	0.0	0.0	4.3	0.0	0.0	4.7	0.0	3.0	4.7	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	0	0	0	50	0	0	59	0	11	70	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	14	0	0	10	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	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	3.3	0.0	0.0	3.7	0.0	2.0	3.7	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		C	R	C	R	L	C
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		5.30	5.30	5.70	5.70	4.00	5.70
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]		3.30	3.30	3.70	3.70	2.00	3.70
g_i, Effective Green Time [s]		33	33	64	64	8	76
g / C, Green / Cycle		0.28	0.28	0.53	0.53	0.07	0.63
(v / s)_i Volume / Saturation Flow Rate		0.10	0.25	0.38	0.25	0.06	0.23
s, saturation flow rate [veh/h]		1811	1615	1900	1615	1810	3618
c, Capacity [veh/h]		501	447	1005	854	126	2285
d1, Uniform Delay [s]		34.78	42.11	21.51	17.87	54.97	10.57
k, delay calibration		0.11	0.21	0.50	0.50	0.11	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.42	14.25	4.44	1.94	10.66	0.45
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		0.35	0.92	0.72	0.48	0.79	0.36
d, Delay for Lane Group [s/veh]		35.19	56.37	25.95	19.81	65.64	11.02
Lane Group LOS		D	E	C	B	E	B
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		4.07	13.11	15.13	7.02	3.25	4.70
50th-Percentile Queue Length [ft/ln]		101.73	327.78	378.19	175.50	81.33	117.61
95th-Percentile Queue Length [veh/ln]		7.32	19.05	21.51	11.37	5.86	8.26
95th-Percentile Queue Length [ft/ln]		183.12	476.24	537.65	284.13	146.39	206.54

Movement, Approach, & Intersection Results

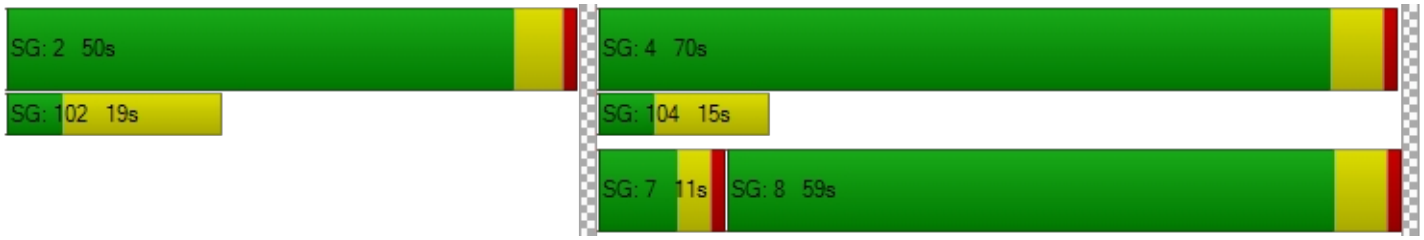
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	35.19	35.19	56.37	0.00	25.95	19.81	65.64	11.02	0.00
Movement LOS				D	D	E		C	B	E	B	
d_A, Approach Delay [s/veh]	0.00			50.02			23.73			16.88		
Approach LOS	A			D			C			B		
d_I, Intersection Delay [s/veh]	27.14											
Intersection LOS	C											
Intersection V/C	0.796											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	51.34
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.242	0.000	2.889
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	745	888	1072
d_b, Bicycle Delay [s]	60.00	23.63	18.54	12.93
l_b,int, Bicycle LOS Score for Intersection	4.132	2.528	3.431	2.328
Bicycle LOS	D	B	C	B

Sequence

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



Intersection Level Of Service Report
Intersection 4: I-215 NB Ramps at Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	33.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.690

Intersection Setup

Name	I-215 NB Off Ramp			I-215 NB On Ramp			Ethanac Rd			Ethanac Rd		
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	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name	I-215 NB Off Ramp			I-215 NB On Ramp			Ethanac Rd			Ethanac Rd		
Base Volume Input [veh/h]	395	2	200	0	0	0	254	564	0	0	401	148
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	395	2	200	0	0	0	254	564	0	0	401	148
Peak Hour Factor	0.9680	0.9680	0.9680	1.0000	1.0000	1.0000	0.9680	0.9680	1.0000	1.0000	0.9680	0.9680
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]	102	1	52	0	0	0	66	146	0	0	104	38
Total Analysis Volume [veh/h]	408	2	207	0	0	0	262	583	0	0	414	153
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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	1.00

Phasing & Timing

Control Type	Split	Split	Split	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												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	7	10	0	0	10	0
Maximum Green [s]	0	30	0	0	0	0	30	30	0	0	30	0
Amber [s]	0.0	4.3	0.0	0.0	0.0	0.0	3.0	4.7	0.0	0.0	4.7	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
Split [s]	0	59	0	0	0	0	26	61	0	0	35	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
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	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	3.3	0.0	0.0	0.0	0.0	2.0	3.7	0.0	0.0	3.7	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		L	C	C
C, Cycle Length [s]	120	120		120	120	120
L, Total Lost Time per Cycle [s]	5.30	5.30		4.00	5.70	5.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.30	3.30		2.00	3.70	3.70
g_i, Effective Green Time [s]	30	30		20	79	55
g / C, Green / Cycle	0.25	0.25		0.16	0.66	0.46
(v / s)_i Volume / Saturation Flow Rate	0.23	0.13		0.14	0.31	0.31
s, saturation flow rate [veh/h]	1810	1615		1810	1900	1814
c, Capacity [veh/h]	453	404		295	1250	837
d1, Uniform Delay [s]	43.59	38.67		49.12	10.13	25.33
k, delay calibration	0.11	0.11		0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	6.99	1.00		8.80	1.25	4.39
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	0.90	0.51		0.89	0.47	0.68
d, Delay for Lane Group [s/veh]	50.58	39.67		57.91	11.38	29.72
Lane Group LOS	D	D		E	B	C
Critical Lane Group	Yes	No		Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	12.25	5.20		8.11	6.82	12.68
50th-Percentile Queue Length [ft/ln]	306.20	130.11		202.64	170.39	317.03
95th-Percentile Queue Length [veh/ln]	17.99	8.95		12.77	11.10	18.52
95th-Percentile Queue Length [ft/ln]	449.69	223.64		319.37	277.42	463.04

Movement, Approach, & Intersection Results

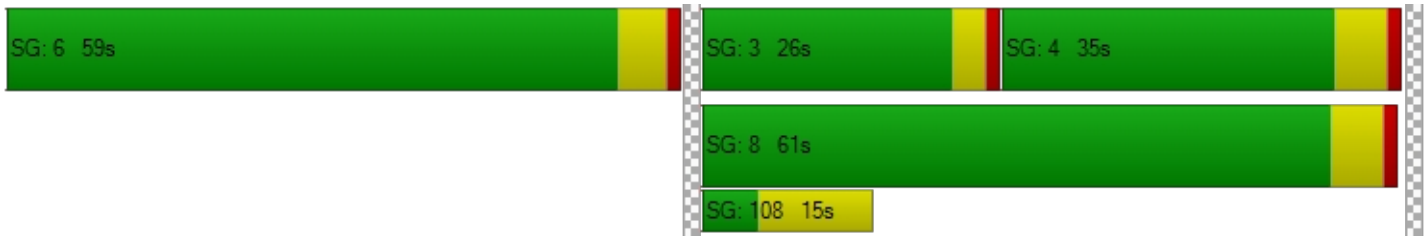
d_M, Delay for Movement [s/veh]	50.58	50.58	39.67	0.00	0.00	0.00	57.91	11.38	0.00	0.00	29.72	29.72
Movement LOS	D	D	D				E	B			C	C
d_A, Approach Delay [s/veh]	46.92			0.00			25.81			29.72		
Approach LOS	D			A			C			C		
d_I, Intersection Delay [s/veh]	33.32											
Intersection LOS	C											
Intersection V/C	0.690											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.256	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]	895	0	922	488
d_b, Bicycle Delay [s]	18.32	60.00	17.44	34.28
l_b,int, Bicycle LOS Score for Intersection	2.578	4.132	2.954	2.495
Bicycle LOS	B	D	C	B

Sequence

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



APPENDIX C-2

INTERSECTION ANALYSIS
WORKSHEETS –
EXISTING PLUS PROJECT

Menifee NG Logistics Center Project

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Report File: K:\...\2. EX WP AM.pdf

Scenario 2 EX WP AM
8/9/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Evans Rd at Ethanac Rd	Two-way stop	HCM 6th Edition	NB Left	0.032	35.0	D
2	Barnett Rd/Case Rd at Ethanac Rd	Signalized	HCM 6th Edition	WB Left	0.511	32.2	C
3	I-215 SB Ramps at Ethanac Rd	Signalized	HCM 6th Edition	WB Left	0.767	24.1	C
4	I-215 NB Ramps at Ethanac Rd	Signalized	HCM 6th Edition	EB Left	0.673	30.6	C

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

Intersection Level Of Service Report
Intersection 1: Evans Rd at Ethanac Rd

Control Type:	Two-way stop	Delay (sec / veh):	35.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.032

Intersection Setup

Name	Evans Rd		Ethanac Rd		Ethanac Rd	
Approach	Northbound		Eastbound		Westbound	
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	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Evans Rd		Ethanac Rd		Ethanac Rd	
Base Volume Input [veh/h]	0	4	980	1	2	506
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	11	0	11	35	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]	4	15	980	12	37	506
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	4	263	3	10	136
Total Analysis Volume [veh/h]	4	16	1054	13	40	544
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	0.03	0.03	0.01	0.00	0.06	0.01
d_M, Delay for Movement [s/veh]	35.00	13.06	0.00	0.00	10.80	0.00
Movement LOS	D	B	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.21	0.21	0.00	0.00	0.19	0.00
95th-Percentile Queue Length [ft/ln]	5.16	5.16	0.00	0.00	4.82	0.00
d_A, Approach Delay [s/veh]	17.45		0.00		0.74	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.47					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 2: Barnett Rd/Case Rd at Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	32.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.511

Intersection Setup

Name	Barnett Rd			Case Rd			Ethanac Rd			Ethanac Rd		
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	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	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	100.00
Speed [mph]	55.00			55.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Barnett Rd			Case Rd			Ethanac Rd			Ethanac Rd		
Base Volume Input [veh/h]	28	27	135	322	19	71	145	780	25	71	392	312
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	8	0	0	0	0	11	0	27	35	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	27	143	322	19	71	145	791	25	98	427	312
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	7	38	85	5	19	38	209	7	26	113	82
Total Analysis Volume [veh/h]	30	29	151	340	20	75	153	836	26	104	451	330
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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	7	10	0	7	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	31	0	0	30	0	19	47	0	12	40	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	2	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	7	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	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]	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]	17	14	14	14	12	64	64	9	60	60
g / C, Green / Cycle	0.14	0.12	0.12	0.12	0.10	0.53	0.53	0.07	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.13	0.10	0.03	0.03	0.08	0.23	0.02	0.06	0.12	0.20
s, saturation flow rate [veh/h]	1675	3514	1720	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	241	422	206	194	184	1918	856	131	1813	809
d1, Uniform Delay [s]	50.30	51.44	47.82	47.83	52.89	17.22	13.46	54.74	17.05	18.76
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.46	3.68	0.58	0.62	9.29	0.72	0.07	10.11	0.33	1.52
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	0.87	0.81	0.24	0.24	0.83	0.44	0.03	0.79	0.25	0.41
d, Delay for Lane Group [s/veh]	59.75	55.12	48.41	48.45	62.17	17.94	13.52	64.86	17.38	20.28
Lane Group LOS	E	E	D	D	E	B	B	E	B	C
Critical Lane Group	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	6.52	4.98	1.31	1.23	4.85	6.63	0.33	3.36	3.38	5.65
50th-Percentile Queue Length [ft/ln]	163.06	124.56	32.76	30.83	121.14	165.76	8.21	84.04	84.54	141.34
95th-Percentile Queue Length [veh/ln]	10.71	8.64	2.36	2.22	8.46	10.85	0.59	6.05	6.09	9.55
95th-Percentile Queue Length [ft/ln]	267.77	216.07	58.97	55.49	211.40	271.33	14.79	151.27	152.18	238.82

Movement, Approach, & Intersection Results

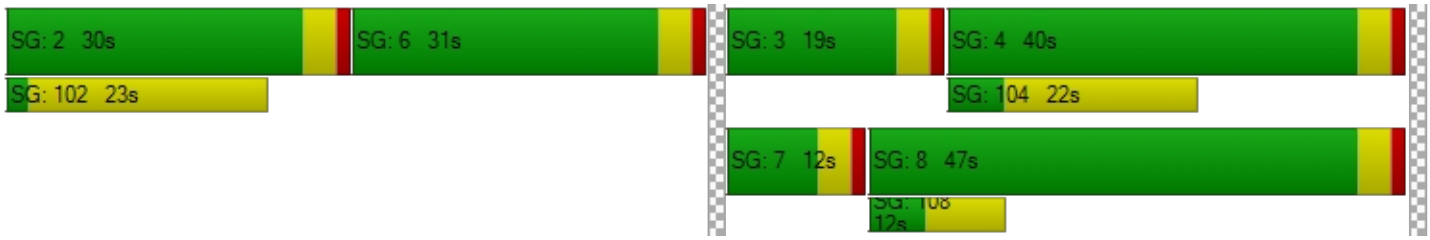
d_M, Delay for Movement [s/veh]	59.75	59.75	59.75	55.12	48.41	48.43	62.17	17.94	13.52	64.86	17.38	20.28
Movement LOS	E	E	E	E	D	D	E	B	B	E	B	C
d_A, Approach Delay [s/veh]	59.75			53.66			24.49			24.04		
Approach LOS	E			D			C			C		
d_I, Intersection Delay [s/veh]	32.23											
Intersection LOS	C											
Intersection V/C	0.511											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	6.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	54.15	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.052	2.654	2.896	0.000
Crosswalk LOS	B	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]	450	433	717	600
d_b, Bicycle Delay [s]	36.04	36.82	24.70	29.40
l_b,int, Bicycle LOS Score for Intersection	1.906	2.277	2.397	2.290
Bicycle LOS	A	B	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 3: I-215 SB Ramps at Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	24.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.767

Intersection Setup

Name	I-215 SB On Ramp			I-215 SB Off Ramp			Ethanac Rd			Ethanac Rd		
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	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	I-215 SB On Ramp			I-215 SB Off Ramp			Ethanac Rd			Ethanac Rd		
Base Volume Input [veh/h]	0	0	0	113	1	259	0	726	485	108	591	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	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	2.00
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	34	0	12	7	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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	113	1	293	0	738	492	108	619	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9470	0.9470	0.9470	1.0000	0.9470	0.9470	0.9470	0.9470	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	30	0	77	0	195	130	29	163	0
Total Analysis Volume [veh/h]	0	0	0	119	1	309	0	779	520	114	654	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	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	10	0	0	10	0	7	10	0
Maximum Green [s]	0	0	0	0	30	0	0	30	0	30	30	0
Amber [s]	0.0	0.0	0.0	0.0	4.3	0.0	0.0	4.7	0.0	3.0	4.7	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	0	0	0	44	0	0	65	0	11	76	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	14	0	0	10	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	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	3.3	0.0	0.0	3.7	0.0	2.0	3.7	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		C	R	C	R	L	C
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		5.30	5.30	5.70	5.70	4.00	5.70
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]		3.30	3.30	3.70	3.70	2.00	3.70
g_i, Effective Green Time [s]		25	25	70	70	9	84
g / C, Green / Cycle		0.21	0.21	0.58	0.58	0.08	0.70
(v / s)_i Volume / Saturation Flow Rate		0.07	0.19	0.41	0.32	0.06	0.18
s, saturation flow rate [veh/h]		1810	1615	1900	1615	1810	3618
c, Capacity [veh/h]		384	343	1111	944	142	2518
d1, Uniform Delay [s]		39.87	46.04	17.56	15.28	54.41	6.77
k, delay calibration		0.11	0.14	0.50	0.50	0.11	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.46	11.09	3.71	2.31	10.19	0.25
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		0.31	0.90	0.70	0.55	0.81	0.26
d, Delay for Lane Group [s/veh]		40.33	57.12	21.26	17.59	64.60	7.02
Lane Group LOS		D	E	C	B	E	A
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		2.97	9.73	14.41	8.31	3.68	2.61
50th-Percentile Queue Length [ft/ln]		74.19	243.34	360.29	207.83	91.91	65.26
95th-Percentile Queue Length [veh/ln]		5.34	14.85	20.64	13.04	6.62	4.70
95th-Percentile Queue Length [ft/ln]		133.55	371.26	515.93	326.05	165.43	117.48

Movement, Approach, & Intersection Results

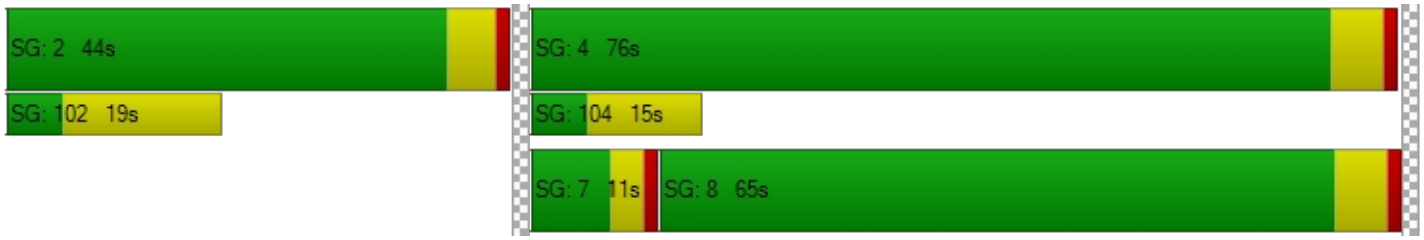
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	40.33	40.33	57.12	0.00	21.26	17.59	64.60	7.02	0.00
Movement LOS				D	D	E		C	B	E	A	
d_A, Approach Delay [s/veh]	0.00			52.42			19.79			15.57		
Approach LOS	A			D			B			B		
d_I, Intersection Delay [s/veh]	24.10											
Intersection LOS	C											
Intersection V/C	0.767											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	51.34
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.165	0.000	2.823
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	645	988	1172
d_b, Bicycle Delay [s]	60.00	27.54	15.35	10.29
l_b,int, Bicycle LOS Score for Intersection	4.132	2.267	3.703	2.193
Bicycle LOS	D	B	D	B

Sequence

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



Intersection Level Of Service Report
Intersection 4: I-215 NB Ramps at Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	30.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.673

Intersection Setup

Name	I-215 NB Off Ramp			I-215 NB On Ramp			Ethanac Rd			Ethanac Rd		
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	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name	I-215 NB Off Ramp			I-215 NB On Ramp			Ethanac Rd			Ethanac Rd		
Base Volume Input [veh/h]	271	0	133	0	0	0	233	610	0	0	436	168
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	2.00	2.00	0.00	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	11	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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	295	0	133	0	0	0	244	611	0	0	440	168
Peak Hour Factor	0.9480	0.9480	0.9480	1.0000	1.0000	1.0000	0.9480	0.9480	1.0000	1.0000	0.9480	0.9480
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]	78	0	35	0	0	0	64	161	0	0	116	44
Total Analysis Volume [veh/h]	311	0	140	0	0	0	257	645	0	0	464	177
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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	1.00

Phasing & Timing

Control Type	Split	Split	Split	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												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	7	10	0	0	10	0
Maximum Green [s]	0	30	0	0	0	0	30	30	0	0	30	0
Amber [s]	0.0	4.3	0.0	0.0	0.0	0.0	3.0	4.7	0.0	0.0	4.7	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
Split [s]	0	38	0	0	0	0	26	82	0	0	56	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
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	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	3.3	0.0	0.0	0.0	0.0	2.0	3.7	0.0	0.0	3.7	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		L	C	C
C, Cycle Length [s]	120	120		120	120	120
L, Total Lost Time per Cycle [s]	5.30	5.30		4.00	5.70	5.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.30	3.30		2.00	3.70	3.70
g_i, Effective Green Time [s]	23	23		19	86	63
g / C, Green / Cycle	0.19	0.19		0.16	0.72	0.52
(v / s)_i Volume / Saturation Flow Rate	0.17	0.09		0.14	0.34	0.35
s, saturation flow rate [veh/h]	1810	1615		1810	1900	1812
c, Capacity [veh/h]	348	311		289	1360	947
d1, Uniform Delay [s]	47.25	42.84		49.37	7.33	21.15
k, delay calibration	0.17	0.11		0.12	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	11.50	1.02		9.63	1.19	3.88
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	0.89	0.45		0.89	0.47	0.68
d, Delay for Lane Group [s/veh]	58.74	43.86		59.00	8.52	25.03
Lane Group LOS	E	D		E	A	C
Critical Lane Group	Yes	No		Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	9.89	3.67		8.03	5.98	13.02
50th-Percentile Queue Length [ft/ln]	247.21	91.76		200.70	149.44	325.46
95th-Percentile Queue Length [veh/ln]	15.05	6.61		12.67	9.99	18.94
95th-Percentile Queue Length [ft/ln]	376.13	165.16		316.87	249.69	473.40

Movement, Approach, & Intersection Results

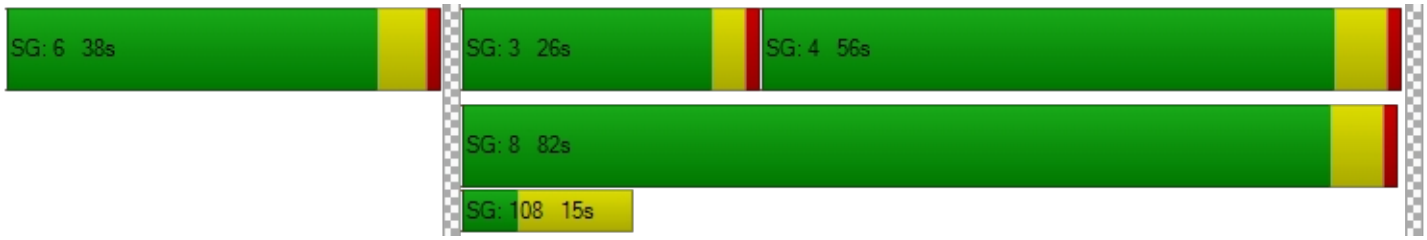
d_M, Delay for Movement [s/veh]	58.74	58.74	43.86	0.00	0.00	0.00	59.00	8.52	0.00	0.00	25.03	25.03
Movement LOS	E	E	D				E	A			C	C
d_A, Approach Delay [s/veh]	54.12			0.00			22.90			25.03		
Approach LOS	D			A			C			C		
d_I, Intersection Delay [s/veh]	30.65											
Intersection LOS	C											
Intersection V/C	0.673											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.175	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]	545	0	1272	838
d_b, Bicycle Delay [s]	31.76	60.00	7.96	20.24
l_b,int, Bicycle LOS Score for Intersection	2.304	4.132	3.048	2.617
Bicycle LOS	B	D	C	B

Sequence

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



Menifee NG Logistics Center Project

Vistro File: K:\...\Menifee Lovett_PM.vistro
Report File: K:\...\2. EX WP PM.pdf

Scenario 2 EX WP PM
8/9/2023

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Evans Rd at Ethanac Rd	Two-way stop	HCM 6th Edition	NB Left	0.062	24.8	C
2	Barnett Rd/Case Rd at Ethanac Rd	Signalized	HCM 6th Edition	WB Left	0.550	34.0	C
3	I-215 SB Ramps at Ethanac Rd	Signalized	HCM 6th Edition	WB Left	0.833	28.4	C
4	I-215 NB Ramps at Ethanac Rd	Signalized	HCM 6th Edition	EB Left	0.716	34.6	C

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

Intersection Level Of Service Report
Intersection 1: Evans Rd at Ethanac Rd

Control Type:	Two-way stop	Delay (sec / veh):	24.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.062

Intersection Setup

Name	Evans Rd		Ethanac Rd		Ethanac Rd	
Approach	Northbound		Eastbound		Westbound	
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	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Evans Rd		Ethanac Rd		Ethanac Rd	
Base Volume Input [veh/h]	0	1	653	0	2	760
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	35	0	5	14	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]	11	36	653	5	16	760
Peak Hour Factor	0.9360	0.9360	0.9360	0.9360	0.9360	0.9360
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	10	174	1	4	203
Total Analysis Volume [veh/h]	12	38	698	5	17	812
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	0.06	0.06	0.01	0.00	0.02	0.01
d_M, Delay for Movement [s/veh]	24.77	11.72	0.00	0.00	9.06	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.41	0.41	0.00	0.00	0.06	0.00
95th-Percentile Queue Length [ft/ln]	10.17	10.17	0.00	0.00	1.44	0.00
d_A, Approach Delay [s/veh]	14.85		0.00		0.19	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.57					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 2: Barnett Rd/Case Rd at Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	34.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.550

Intersection Setup

Name	Barnett Rd			Case Rd			Ethanac Rd			Ethanac Rd		
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	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	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	100.00
Speed [mph]	55.00			55.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Barnett Rd			Case Rd			Ethanac Rd			Ethanac Rd		
Base Volume Input [veh/h]	24	30	82	431	54	123	162	471	24	81	562	357
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	27	0	0	0	0	35	0	10	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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	30	109	431	54	123	162	506	24	91	576	357
Peak Hour Factor	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620
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]	6	8	28	112	14	32	42	131	6	24	150	93
Total Analysis Volume [veh/h]	25	31	113	448	56	128	168	526	25	95	599	371
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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	7	10	0	7	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	31	0	33	30	0	29	26	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	2	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	7	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	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]	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]	14	18	18	18	13	64	64	8	58	58
g / C, Green / Cycle	0.12	0.15	0.15	0.15	0.11	0.53	0.53	0.07	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.10	0.13	0.05	0.05	0.09	0.15	0.02	0.05	0.17	0.23
s, saturation flow rate [veh/h]	1688	3514	1770	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	199	535	269	246	200	1913	854	123	1758	785
d1, Uniform Delay [s]	51.90	49.43	45.60	45.62	52.30	15.58	13.52	55.02	19.00	20.58
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.72	3.58	0.80	0.88	8.94	0.36	0.06	9.87	0.53	2.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.85	0.84	0.36	0.36	0.84	0.27	0.03	0.77	0.34	0.47
d, Delay for Lane Group [s/veh]	61.62	53.01	46.39	46.50	61.24	15.94	13.59	64.89	19.53	22.62
Lane Group LOS	E	D	D	D	E	B	B	E	B	C
Critical Lane Group	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.31	6.49	2.52	2.32	5.29	3.75	0.32	3.07	4.91	6.86
50th-Percentile Queue Length [ft/ln]	132.64	162.25	62.93	58.00	132.16	93.82	7.92	76.83	122.77	171.53
95th-Percentile Queue Length [veh/ln]	9.08	10.67	4.53	4.18	9.06	6.76	0.57	5.53	8.55	11.16
95th-Percentile Queue Length [ft/ln]	227.08	266.70	113.27	104.40	226.42	168.88	14.26	138.29	213.63	278.92

Movement, Approach, & Intersection Results

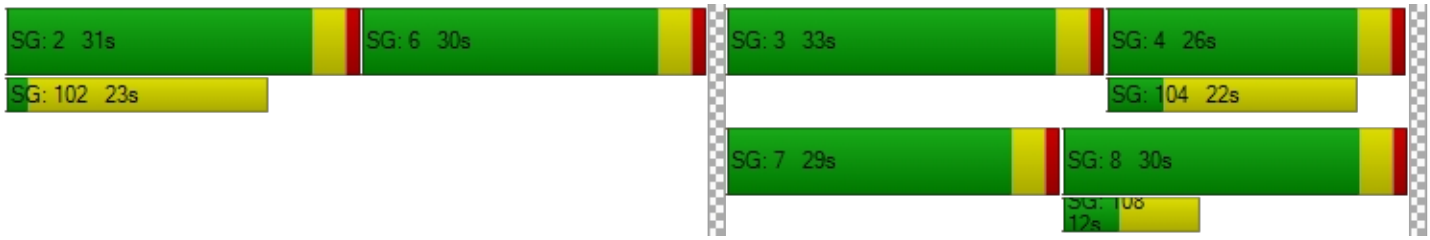
d_M, Delay for Movement [s/veh]	61.62	61.62	61.62	53.01	46.39	46.47	61.24	15.94	13.59	64.89	19.53	22.62
Movement LOS	E	E	E	D	D	D	E	B	B	E	B	C
d_A, Approach Delay [s/veh]	61.62			51.10			26.44			24.65		
Approach LOS	E			D			C			C		
d_I, Intersection Delay [s/veh]	34.03											
Intersection LOS	C											
Intersection V/C	0.550											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	6.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	54.15	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.038	2.745	2.869	0.000
Crosswalk LOS	B	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]	433	450	433	367
d_b, Bicycle Delay [s]	36.82	36.04	36.82	40.02
l_b,int, Bicycle LOS Score for Intersection	1.838	2.602	2.153	2.438
Bicycle LOS	A	B	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 3: I-215 SB Ramps at Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	28.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.833

Intersection Setup

Name	I-215 SB On Ramp			I-215 SB Off Ramp			Ethanac Rd			Ethanac Rd		
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	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	I-215 SB On Ramp			I-215 SB Off Ramp			Ethanac Rd			Ethanac Rd		
Base Volume Input [veh/h]	0	0	0	154	3	365	0	643	365	89	739	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	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	2.00
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	13	0	38	24	0	11	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	154	3	378	0	681	389	89	750	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.8890	0.8890	0.8890	1.0000	0.8890	0.8890	0.8890	0.8890	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	43	1	106	0	192	109	25	211	0
Total Analysis Volume [veh/h]	0	0	0	173	3	425	0	766	438	100	844	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	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	10	0	0	10	0	7	10	0
Maximum Green [s]	0	0	0	0	30	0	0	30	0	30	30	0
Amber [s]	0.0	0.0	0.0	0.0	4.3	0.0	0.0	4.7	0.0	3.0	4.7	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	0	0	0	50	0	0	59	0	11	70	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	14	0	0	10	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	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	3.3	0.0	0.0	3.7	0.0	2.0	3.7	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		C	R	C	R	L	C
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		5.30	5.30	5.70	5.70	4.00	5.70
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]		3.30	3.30	3.70	3.70	2.00	3.70
g_i, Effective Green Time [s]		34	34	63	63	8	75
g / C, Green / Cycle		0.28	0.28	0.52	0.52	0.07	0.62
(v / s)_i Volume / Saturation Flow Rate		0.10	0.26	0.40	0.27	0.06	0.23
s, saturation flow rate [veh/h]		1811	1615	1900	1615	1810	3618
c, Capacity [veh/h]		516	460	989	841	126	2255
d1, Uniform Delay [s]		33.98	41.64	23.12	18.93	54.97	11.10
k, delay calibration		0.11	0.23	0.50	0.50	0.11	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.39	15.21	5.91	2.31	10.66	0.48
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		0.34	0.92	0.77	0.52	0.79	0.37
d, Delay for Lane Group [s/veh]		34.37	56.85	29.03	21.24	65.64	11.57
Lane Group LOS		C	E	C	C	E	B
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		4.01	13.65	17.25	7.86	3.25	4.96
50th-Percentile Queue Length [ft/ln]		100.30	341.25	431.34	196.44	81.33	123.95
95th-Percentile Queue Length [veh/ln]		7.22	19.71	24.07	12.45	5.86	8.61
95th-Percentile Queue Length [ft/ln]		180.55	492.73	601.65	311.36	146.39	215.24

Movement, Approach, & Intersection Results

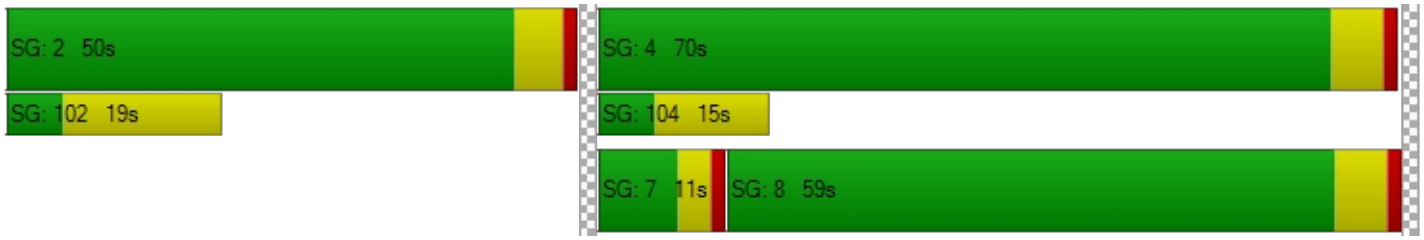
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	34.37	34.37	56.85	0.00	29.03	21.24	65.64	11.57	0.00
Movement LOS				C	C	E		C	C	E	B	
d_A, Approach Delay [s/veh]	0.00			50.27			26.19			17.30		
Approach LOS	A			D			C			B		
d_I, Intersection Delay [s/veh]	28.40											
Intersection LOS	C											
Intersection V/C	0.833											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	51.34
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.248	0.000	2.911
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	745	888	1072
d_b, Bicycle Delay [s]	60.00	23.63	18.54	12.93
l_b,int, Bicycle LOS Score for Intersection	4.132	2.551	3.546	2.338
Bicycle LOS	D	B	D	B

Sequence

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



Intersection Level Of Service Report
Intersection 4: I-215 NB Ramps at Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	34.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.716

Intersection Setup

Name	I-215 NB Off Ramp			I-215 NB On Ramp			Ethanac Rd			Ethanac Rd		
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	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name	I-215 NB Off Ramp			I-215 NB On Ramp			Ethanac Rd			Ethanac Rd		
Base Volume Input [veh/h]	395	2	200	0	0	0	254	564	0	0	401	148
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	2.00	2.00	0.00	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]	9	0	0	0	0	0	34	4	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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	404	2	200	0	0	0	288	568	0	0	403	148
Peak Hour Factor	0.9680	0.9680	0.9680	1.0000	1.0000	1.0000	0.9680	0.9680	1.0000	1.0000	0.9680	0.9680
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]	104	1	52	0	0	0	74	147	0	0	104	38
Total Analysis Volume [veh/h]	417	2	207	0	0	0	298	587	0	0	416	153
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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	1.00

Phasing & Timing

Control Type	Split	Split	Split	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												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	7	10	0	0	10	0
Maximum Green [s]	0	30	0	0	0	0	30	30	0	0	30	0
Amber [s]	0.0	4.3	0.0	0.0	0.0	0.0	3.0	4.7	0.0	0.0	4.7	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
Split [s]	0	59	0	0	0	0	26	61	0	0	35	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
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	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	3.3	0.0	0.0	0.0	0.0	2.0	3.7	0.0	0.0	3.7	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		L	C	C
C, Cycle Length [s]	120	120		120	120	120
L, Total Lost Time per Cycle [s]	5.30	5.30		4.00	5.70	5.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.30	3.30		2.00	3.70	3.70
g_i, Effective Green Time [s]	31	31		22	78	52
g / C, Green / Cycle	0.25	0.25		0.18	0.65	0.44
(v / s)_i Volume / Saturation Flow Rate	0.23	0.13		0.16	0.31	0.31
s, saturation flow rate [veh/h]	1810	1615		1810	1900	1814
c, Capacity [veh/h]	462	412		331	1241	792
d1, Uniform Delay [s]	43.30	38.17		47.94	10.45	27.74
k, delay calibration	0.11	0.11		0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	7.01	0.95		8.81	1.30	5.55
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	0.91	0.50		0.90	0.47	0.72
d, Delay for Lane Group [s/veh]	50.31	39.11		56.76	11.75	33.30
Lane Group LOS	D	D		E	B	C
Critical Lane Group	Yes	No		Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	12.50	5.16		9.17	7.03	13.63
50th-Percentile Queue Length [ft/ln]	312.55	129.02		229.31	175.76	340.73
95th-Percentile Queue Length [veh/ln]	18.30	8.89		14.14	11.38	19.68
95th-Percentile Queue Length [ft/ln]	457.52	222.17		353.48	284.48	492.09

Movement, Approach, & Intersection Results

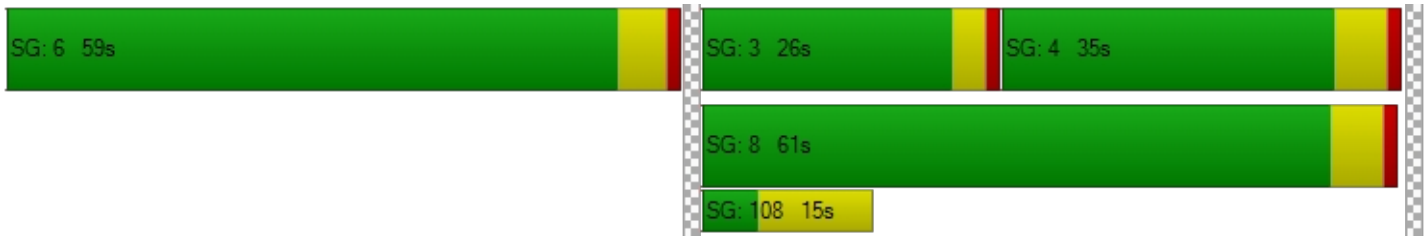
d_M, Delay for Movement [s/veh]	50.31	50.31	39.11	0.00	0.00	0.00	56.76	11.75	0.00	0.00	33.30	33.30
Movement LOS	D	D	D				E	B			C	C
d_A, Approach Delay [s/veh]	46.61			0.00			26.90			33.30		
Approach LOS	D			A			C			C		
d_I, Intersection Delay [s/veh]	34.58											
Intersection LOS	C											
Intersection V/C	0.716											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.261	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]	895	0	922	488
d_b, Bicycle Delay [s]	18.32	60.00	17.44	34.28
l_b,int, Bicycle LOS Score for Intersection	2.593	4.132	3.020	2.498
Bicycle LOS	B	D	C	B

Sequence

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



APPENDIX C-3

INTERSECTION ANALYSIS WORKSHEETS – OPENING YEAR 2025 CUMULATIVE

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Evans Rd at Ethanac Rd	Two-way stop	HCM 6th Edition	NB Right	0.755	10,000.0	F
2	Barnett Rd/Case Rd at Ethanac Rd	Signalized	HCM 6th Edition	NB Right	0.818	46.0	D
3	I-215 SB Ramps at Ethanac Rd	Signalized	HCM 6th Edition	SB Right	1.517	175.8	F
4	I-215 NB Ramps at Ethanac Rd	Signalized	HCM 6th Edition	NB Left	1.342	195.9	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: Evans Rd at Ethanac Rd

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.755

Intersection Setup

Name	Evans Rd		Ethanac Rd		Ethanac Rd	
Approach	Northbound		Eastbound		Westbound	
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	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Evans Rd		Ethanac Rd		Ethanac Rd	
Base Volume Input [veh/h]	0	4	980	1	2	506
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	30	183	708	32	309	692
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]	30	187	1727	33	311	1218
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	50	464	9	84	327
Total Analysis Volume [veh/h]	32	201	1857	35	334	1310
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	0.76	0.02	0.00	1.04	0.01
d_M, Delay for Movement [s/veh]	10000.00	10000.00	0.00	0.00	99.40	0.00
Movement LOS	F	F	A	A	F	A
95th-Percentile Queue Length [veh/ln]	31.87	31.87	0.00	0.00	12.10	0.00
95th-Percentile Queue Length [ft/ln]	796.67	796.67	0.00	0.00	302.44	0.00
d_A, Approach Delay [s/veh]	10000.00		0.00		20.19	
Approach LOS	F		A		C	
d_I, Intersection Delay [s/veh]	627.01					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 2: Barnett Rd/Case Rd at Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	46.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.818

Intersection Setup

Name	Barnett Rd			Case Rd			Ethanac Rd			Ethanac Rd		
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	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	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	100.00
Speed [mph]	55.00			55.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Barnett Rd			Case Rd			Ethanac Rd			Ethanac Rd		
Base Volume Input [veh/h]	28	27	135	322	19	71	145	780	25	71	392	312
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	69	0	0	9	0	822	0	47	946	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	28	209	335	20	83	151	1633	26	121	1354	324
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	7	55	89	5	22	40	432	7	32	358	86
Total Analysis Volume [veh/h]	31	30	221	354	21	88	160	1726	27	128	1431	342
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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	7	10	0	7	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	14	0	0	30	0	16	65	0	11	60	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	2	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	7	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	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]	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	15	15	15	12	58	58	10	56	56
g / C, Green / Cycle	0.18	0.12	0.12	0.12	0.10	0.48	0.48	0.09	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.17	0.10	0.03	0.03	0.09	0.48	0.02	0.07	0.40	0.21
s, saturation flow rate [veh/h]	1661	3514	1711	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	291	434	211	200	186	1739	776	158	1682	751
d1, Uniform Delay [s]	49.15	51.25	47.65	47.65	52.98	30.95	16.46	53.80	28.41	21.79
k, delay calibration	0.22	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	27.66	3.78	0.66	0.70	10.95	19.91	0.08	9.55	5.62	1.99
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	0.97	0.82	0.27	0.27	0.86	0.99	0.03	0.81	0.85	0.46
d, Delay for Lane Group [s/veh]	76.82	55.04	48.31	48.35	63.93	50.86	16.54	63.35	34.04	23.77
Lane Group LOS	E	E	D	D	E	D	B	E	C	C
Critical Lane Group	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	10.20	5.19	1.50	1.42	5.15	27.15	0.39	4.09	17.92	6.50
50th-Percentile Queue Length [ft/ln]	255.07	129.68	37.49	35.44	128.85	678.79	9.74	102.18	448.10	162.57
95th-Percentile Queue Length [veh/ln]	15.44	8.92	2.70	2.55	8.88	35.70	0.70	7.36	24.87	10.68
95th-Percentile Queue Length [ft/ln]	386.03	223.06	67.48	63.79	221.93	892.43	17.54	183.92	621.69	267.12

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	76.82	76.82	76.82	55.04	48.31	48.34	63.93	50.86	16.54	63.35	34.04	23.77
Movement LOS	E	E	E	E	D	D	E	D	B	E	C	C
d_A, Approach Delay [s/veh]	76.82			53.46			51.47			34.16		
Approach LOS	E			D			D			C		
d_I, Intersection Delay [s/veh]	46.02											
Intersection LOS	D											
Intersection V/C	0.818											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	6.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	54.15	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.139	2.671	3.408	0.000
Crosswalk LOS	B	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]	167	433	1017	933
d_b, Bicycle Delay [s]	50.42	36.82	14.50	17.07
l_b,int, Bicycle LOS Score for Intersection	2.025	2.324	3.138	3.128
Bicycle LOS	B	B	C	C

Sequence

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

Intersection Level Of Service Report
Intersection 3: I-215 SB Ramps at Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	175.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.517

Intersection Setup

Name	I-215 SB On Ramp			I-215 SB Off Ramp			Ethanac Rd			Ethanac Rd		
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	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	I-215 SB On Ramp			I-215 SB Off Ramp			Ethanac Rd			Ethanac Rd		
Base Volume Input [veh/h]	0	0	0	113	1	259	0	726	485	108	591	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	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0400	1.0400	1.0400	1.0000	1.0400	1.0400	1.0400	1.0400	1.0000
In-Process Volume [veh/h]	0	0	0	278	0	509	0	477	414	95	485	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	396	1	778	0	1232	918	207	1100	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9470	0.9470	0.9470	1.0000	0.9470	0.9470	0.9470	0.9470	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	105	0	205	0	325	242	55	290	0
Total Analysis Volume [veh/h]	0	0	0	418	1	822	0	1301	969	219	1162	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	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	10	0	0	10	0	7	10	0
Maximum Green [s]	0	0	0	0	30	0	0	30	0	30	30	0
Amber [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	0	0	0	41	0	0	62	0	17	79	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	14	0	0	10	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	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	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		C	R	C	R	L	C
C, Cycle Length [s]		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
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]		2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		37	37	54	54	17	75
g / C, Green / Cycle		0.31	0.31	0.45	0.45	0.14	0.63
(v / s)_i Volume / Saturation Flow Rate		0.23	0.51	0.68	0.60	0.12	0.32
s, saturation flow rate [veh/h]		1810	1615	1900	1615	1810	3618
c, Capacity [veh/h]		558	498	861	732	250	2261
d1, Uniform Delay [s]		37.35	41.50	32.80	32.80	50.68	12.43
k, delay calibration		0.27	0.50	0.50	0.50	0.11	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		5.11	301.73	235.70	155.01	9.33	0.84
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		0.75	1.65	1.51	1.32	0.88	0.51
d, Delay for Lane Group [s/veh]		42.46	343.23	268.49	187.80	60.02	13.27
Lane Group LOS		D	F	F	F	E	B
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		11.42	55.77	79.16	50.87	6.86	7.72
50th-Percentile Queue Length [ft/ln]		285.46	1394.20	1978.89	1271.78	171.41	192.90
95th-Percentile Queue Length [veh/ln]		16.96	86.62	120.09	75.17	11.15	12.27
95th-Percentile Queue Length [ft/ln]		424.00	2165.40	3002.18	1879.37	278.77	306.79

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	42.46	42.46	343.23	0.00	268.49	187.80	60.02	13.27	0.00
Movement LOS				D	D	F		F	F	E	B	
d_A, Approach Delay [s/veh]	0.00			241.68			234.05			20.68		
Approach LOS	A			F			F			C		
d_I, Intersection Delay [s/veh]	175.75											
Intersection LOS	F											
Intersection V/C	1.517											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	51.34
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.560	0.000	3.406
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	617	967	1250
d_b, Bicycle Delay [s]	60.00	28.70	16.02	8.44
l_b,int, Bicycle LOS Score for Intersection	4.132	3.607	5.305	2.699
Bicycle LOS	D	D	F	B

Sequence

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

Intersection Level Of Service Report
Intersection 4: I-215 NB Ramps at Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	195.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.342

Intersection Setup

Name	I-215 NB Off Ramp			I-215 NB On Ramp			Ethanac Rd			Ethanac Rd		
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	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name	I-215 NB Off Ramp			I-215 NB On Ramp			Ethanac Rd			Ethanac Rd		
Base Volume Input [veh/h]	271	0	133	0	0	0	233	610	0	0	436	168
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0400	1.0400	1.0400	1.0000	1.0000	1.0000	1.0400	1.0400	1.0000	1.0000	1.0400	1.0400
In-Process Volume [veh/h]	423	0	278	0	0	0	452	303	0	0	157	95
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	705	0	416	0	0	0	694	937	0	0	610	270
Peak Hour Factor	0.9480	0.9480	0.9480	1.0000	1.0000	1.0000	0.9480	0.9480	1.0000	1.0000	0.9480	0.9480
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]	186	0	110	0	0	0	183	247	0	0	161	71
Total Analysis Volume [veh/h]	744	0	439	0	0	0	732	988	0	0	643	285
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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	1.00

Phasing & Timing

Control Type	Split	Split	Split	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												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	7	10	0	0	10	0
Maximum Green [s]	0	30	0	0	0	0	30	30	0	0	30	0
Amber [s]	0.0	4.3	0.0	0.0	0.0	0.0	3.0	4.7	0.0	0.0	4.7	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
Split [s]	0	37	0	0	0	0	36	83	0	0	47	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
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	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	3.3	0.0	0.0	0.0	0.0	2.0	3.7	0.0	0.0	3.7	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		L	C	C
C, Cycle Length [s]	120	120		120	120	120
L, Total Lost Time per Cycle [s]	5.30	5.30		4.00	5.70	5.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.30	3.30		2.00	3.70	3.70
g_i, Effective Green Time [s]	32	32		32	77	41
g / C, Green / Cycle	0.26	0.26		0.27	0.64	0.34
(v / s)_i Volume / Saturation Flow Rate	0.41	0.27		0.40	0.52	0.51
s, saturation flow rate [veh/h]	1810	1615		1810	1900	1802
c, Capacity [veh/h]	478	427		483	1224	620
d1, Uniform Delay [s]	44.15	44.15		44.00	15.83	39.35
k, delay calibration	0.50	0.45		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	260.52	48.81		243.11	5.77	231.66
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	1.56	1.03		1.52	0.81	1.50
d, Delay for Lane Group [s/veh]	304.67	92.96		287.11	21.60	271.01
Lane Group LOS	F	F		F	C	F
Critical Lane Group	Yes	No		Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	48.21	17.94		46.18	18.57	57.01
50th-Percentile Queue Length [ft/ln]	1205.25	448.45		1154.39	464.26	1425.13
95th-Percentile Queue Length [veh/ln]	73.69	25.32		70.32	25.64	86.43
95th-Percentile Queue Length [ft/ln]	1842.29	633.10		1757.92	640.95	2160.77

Movement, Approach, & Intersection Results

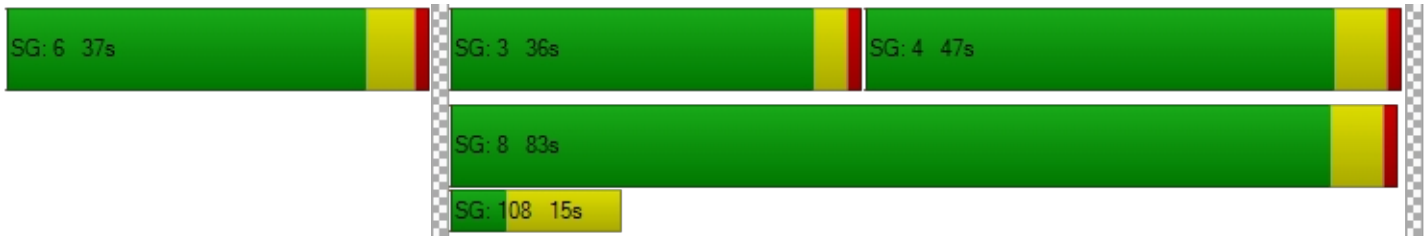
d_M, Delay for Movement [s/veh]	304.67	304.67	92.96	0.00	0.00	0.00	287.11	21.60	0.00	0.00	271.01	271.01
Movement LOS	F	F	F				F	C			F	F
d_A, Approach Delay [s/veh]	226.10			0.00			134.60			271.01		
Approach LOS	F			A			F			F		
d_I, Intersection Delay [s/veh]	195.90											
Intersection LOS	F											
Intersection V/C	1.342											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.532	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]	528	0	1288	688
d_b, Bicycle Delay [s]	32.49	60.00	7.60	25.81
l_b,int, Bicycle LOS Score for Intersection	3.512	4.132	4.398	3.091
Bicycle LOS	D	D	E	C

Sequence

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



Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Evans Rd at Ethanac Rd	Two-way stop	HCM 6th Edition	NB Left	26.161	10,000.0	F
2	Barnett Rd/Case Rd at Ethanac Rd	Signalized	HCM 6th Edition	NB Right	0.836	47.7	D
3	I-215 SB Ramps at Ethanac Rd	Signalized	HCM 6th Edition	SB Right	1.985	342.4	F
4	I-215 NB Ramps at Ethanac Rd	Signalized	HCM 6th Edition	EB Left	1.762	365.8	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: Evans Rd at Ethanac Rd

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	26.161

Intersection Setup

Name	Evans Rd		Ethanac Rd		Ethanac Rd	
Approach	Northbound		Eastbound		Westbound	
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	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Evans Rd		Ethanac Rd		Ethanac Rd	
Base Volume Input [veh/h]	0	1	653	0	2	760
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	50	290	960	32	242	912
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]	50	291	1639	32	244	1702
Peak Hour Factor	0.9360	0.9360	0.9360	0.9360	0.9360	0.9360
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	78	438	9	65	455
Total Analysis Volume [veh/h]	53	311	1751	34	261	1818
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	26.16	1.08	0.02	0.00	0.74	0.02
d_M, Delay for Movement [s/veh]	10000.00	10000.00	0.00	0.00	39.50	0.00
Movement LOS	F	F	A	A	E	A
95th-Percentile Queue Length [veh/ln]	46.75	46.75	0.00	0.00	5.72	0.00
95th-Percentile Queue Length [ft/ln]	1168.73	1168.73	0.00	0.00	143.10	0.00
d_A, Approach Delay [s/veh]	10000.00		0.00		4.96	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	863.37					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 2: Barnett Rd/Case Rd at Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	47.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.836

Intersection Setup

Name	Barnett Rd			Case Rd			Ethanac Rd			Ethanac Rd		
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	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	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	100.00
Speed [mph]	55.00			55.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Barnett Rd			Case Rd			Ethanac Rd			Ethanac Rd		
Base Volume Input [veh/h]	24	30	82	431	54	123	162	471	24	81	562	357
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	65	0	0	3	0	1185	0	80	1071	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	31	150	448	56	131	168	1675	25	164	1655	371
Peak Hour Factor	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620
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]	6	8	39	116	15	34	44	435	6	43	430	96
Total Analysis Volume [veh/h]	26	32	156	466	58	136	175	1741	26	170	1720	386
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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	7	10	0	7	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	14	0	0	25	0	15	67	0	14	66	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	2	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	7	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	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]	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]	13	18	18	18	11	60	60	13	62	62
g / C, Green / Cycle	0.11	0.15	0.15	0.15	0.09	0.50	0.50	0.11	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.13	0.13	0.06	0.06	0.10	0.48	0.02	0.09	0.48	0.24
s, saturation flow rate [veh/h]	1674	3514	1767	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	176	536	270	246	170	1800	803	202	1863	832
d1, Uniform Delay [s]	53.68	49.68	45.70	45.73	54.37	29.21	15.40	52.29	26.90	18.55
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	107.32	4.49	0.86	0.96	40.20	14.78	0.07	9.20	9.18	1.86
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	1.21	0.87	0.37	0.38	1.03	0.97	0.03	0.84	0.92	0.46
d, Delay for Lane Group [s/veh]	161.00	54.18	46.56	46.69	94.57	43.99	15.47	61.49	36.08	20.40
Lane Group LOS	F	D	D	D	F	D	B	E	D	C
Critical Lane Group	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	10.34	6.84	2.66	2.46	6.85	25.46	0.36	5.36	22.63	6.70
50th-Percentile Queue Length [ft/ln]	258.52	171.08	66.41	61.50	171.27	636.39	8.98	134.02	565.72	167.40
95th-Percentile Queue Length [veh/ln]	16.77	11.13	4.78	4.43	11.27	33.73	0.65	9.16	30.43	10.94
95th-Percentile Queue Length [ft/ln]	419.28	278.33	119.54	110.70	281.72	843.25	16.17	228.95	760.76	273.49

Movement, Approach, & Intersection Results

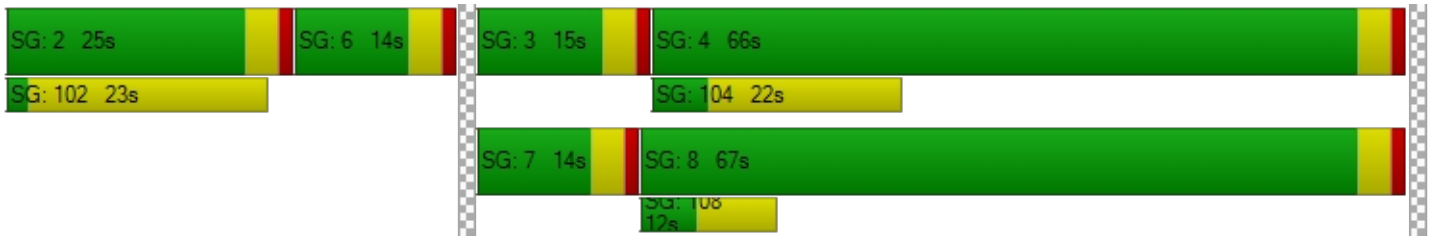
d_M, Delay for Movement [s/veh]	161.00	161.00	161.00	54.18	46.56	46.65	94.57	43.99	15.47	61.49	36.08	20.40
Movement LOS	F	F	F	D	D	D	F	D	B	E	D	C
d_A, Approach Delay [s/veh]	161.00			51.96			48.17			35.32		
Approach LOS	F			D			D			D		
d_I, Intersection Delay [s/veh]	47.66											
Intersection LOS	D											
Intersection V/C	0.836											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	6.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	54.15	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.148	2.763	3.506	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]	167	350	1050	1033
d_b, Bicycle Delay [s]	50.42	40.84	13.54	14.02
l_b,int, Bicycle LOS Score for Intersection	1.913	2.649	3.162	3.437
Bicycle LOS	A	B	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 3: I-215 SB Ramps at Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	342.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.985

Intersection Setup

Name	I-215 SB On Ramp			I-215 SB Off Ramp			Ethanac Rd			Ethanac Rd		
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	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	I-215 SB On Ramp			I-215 SB Off Ramp			Ethanac Rd			Ethanac Rd		
Base Volume Input [veh/h]	0	0	0	154	3	365	0	643	365	89	739	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	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0400	1.0400	1.0400	1.0000	1.0400	1.0400	1.0400	1.0400	1.0000
In-Process Volume [veh/h]	0	0	0	185	0	575	0	719	532	283	578	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	345	3	955	0	1388	912	376	1347	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.8890	0.8890	0.8890	1.0000	0.8890	0.8890	0.8890	0.8890	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	97	1	269	0	390	256	106	379	0
Total Analysis Volume [veh/h]	0	0	0	388	3	1074	0	1561	1026	423	1515	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	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	10	0	0	10	0	7	10	0
Maximum Green [s]	0	0	0	0	30	0	0	30	0	30	30	0
Amber [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	0	0	0	33	0	0	71	0	16	87	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	14	0	0	10	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	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	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		C	R	C	R	L	C
C, Cycle Length [s]		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
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]		2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		29	29	49	49	30	83
g / C, Green / Cycle		0.24	0.24	0.41	0.41	0.25	0.69
(v / s)_i Volume / Saturation Flow Rate		0.22	0.67	0.82	0.64	0.23	0.42
s, saturation flow rate [veh/h]		1810	1615	1900	1615	1810	3618
c, Capacity [veh/h]		437	390	773	657	455	2502
d1, Uniform Delay [s]		44.01	45.50	35.60	35.60	43.85	9.81
k, delay calibration		0.35	0.50	0.50	0.50	0.18	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		17.73	795.48	463.70	260.39	13.39	1.10
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		0.89	2.75	2.02	1.56	0.93	0.61
d, Delay for Lane Group [s/veh]		61.74	840.98	499.30	295.99	57.24	10.91
Lane Group LOS		E	F	F	F	E	B
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		12.98	97.42	120.36	65.21	13.36	8.83
50th-Percentile Queue Length [ft/ln]		324.59	2435.42	3008.95	1630.37	334.05	220.83
95th-Percentile Queue Length [veh/ln]		18.89	153.56	190.91	100.56	19.36	13.71
95th-Percentile Queue Length [ft/ln]		472.32	3838.89	4772.66	2513.92	483.92	342.69

Movement, Approach, & Intersection Results

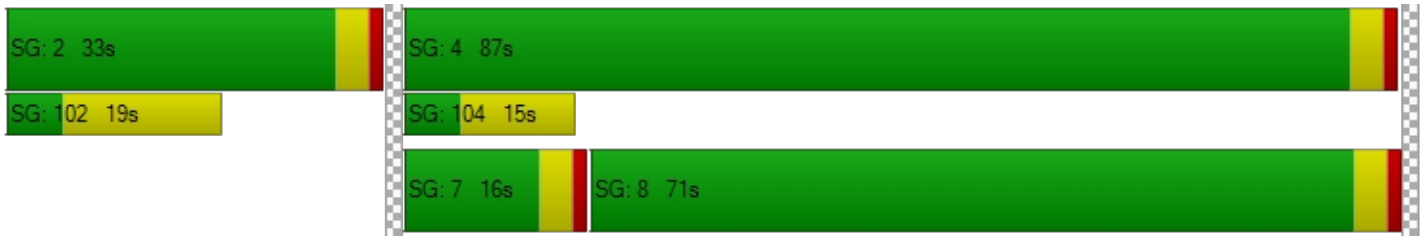
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	61.74	61.74	840.98	0.00	499.30	295.99	57.24	10.91	0.00
Movement LOS				E	E	F		F	F	E	B	
d_A, Approach Delay [s/veh]	0.00			633.01			418.67			21.02		
Approach LOS	A			F			F			C		
d_I, Intersection Delay [s/veh]	342.44											
Intersection LOS	F											
Intersection V/C	1.985											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	51.34
I_p,int, Pedestrian LOS Score for Intersection	0.000	2.670	0.000	3.725
Crosswalk LOS	F	B	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	483	1117	1383
d_b, Bicycle Delay [s]	60.00	34.50	11.70	5.70
I_b,int, Bicycle LOS Score for Intersection	4.132	3.977	5.828	3.158
Bicycle LOS	D	D	F	C

Sequence

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



Intersection Level Of Service Report
Intersection 4: I-215 NB Ramps at Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	365.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.762

Intersection Setup

Name	I-215 NB Off Ramp			I-215 NB On Ramp			Ethanac Rd			Ethanac Rd		
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	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name	I-215 NB Off Ramp			I-215 NB On Ramp			Ethanac Rd			Ethanac Rd		
Base Volume Input [veh/h]	395	2	200	0	0	0	254	564	0	0	401	148
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0400	1.0400	1.0400	1.0000	1.0000	1.0000	1.0400	1.0400	1.0000	1.0000	1.0400	1.0400
In-Process Volume [veh/h]	534	0	185	0	0	0	653	251	0	0	327	283
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	945	2	393	0	0	0	917	838	0	0	744	437
Peak Hour Factor	0.9680	0.9680	0.9680	1.0000	1.0000	1.0000	0.9680	0.9680	1.0000	1.0000	0.9680	0.9680
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]	244	1	101	0	0	0	237	216	0	0	192	113
Total Analysis Volume [veh/h]	976	2	406	0	0	0	947	866	0	0	769	451
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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	1.00

Phasing & Timing

Control Type	Split	Split	Split	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												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	7	10	0	0	10	0
Maximum Green [s]	0	30	0	0	0	0	30	30	0	0	30	0
Amber [s]	0.0	4.3	0.0	0.0	0.0	0.0	3.0	4.7	0.0	0.0	4.7	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
Split [s]	0	37	0	0	0	0	34	83	0	0	49	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
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	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	3.3	0.0	0.0	0.0	0.0	2.0	3.7	0.0	0.0	3.7	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		L	C	C
C, Cycle Length [s]	120	120		120	120	120
L, Total Lost Time per Cycle [s]	5.30	5.30		4.00	5.70	5.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.30	3.30		2.00	3.70	3.70
g_i, Effective Green Time [s]	32	32		30	77	43
g / C, Green / Cycle	0.26	0.26		0.25	0.64	0.36
(v / s)_i Volume / Saturation Flow Rate	0.54	0.25		0.52	0.46	0.68
s, saturation flow rate [veh/h]	1810	1615		1810	1900	1784
c, Capacity [veh/h]	478	427		452	1224	644
d1, Uniform Delay [s]	44.15	43.40		45.00	13.96	38.35
k, delay calibration	0.50	0.39		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	477.84	28.29		499.52	3.47	408.85
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	2.05	0.95		2.09	0.71	1.90
d, Delay for Lane Group [s/veh]	521.99	71.68		544.52	17.43	447.20
Lane Group LOS	F	E		F	B	F
Critical Lane Group	Yes	No		Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	77.07	14.72		75.56	14.02	90.73
50th-Percentile Queue Length [ft/ln]	1926.87	368.03		1889.05	350.45	2268.19
95th-Percentile Queue Length [veh/ln]	120.89	21.01		118.50	20.16	142.84
95th-Percentile Queue Length [ft/ln]	3022.24	525.34		2962.50	503.95	3570.89

Movement, Approach, & Intersection Results

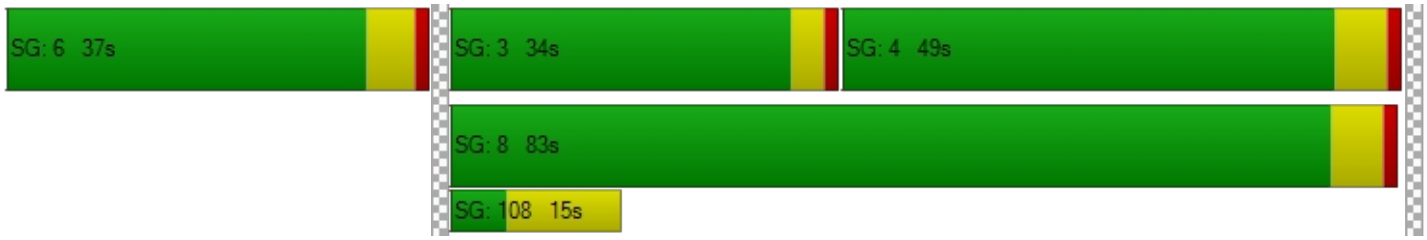
d_M, Delay for Movement [s/veh]	521.99	521.99	71.68	0.00	0.00	0.00	544.52	17.43	0.00	0.00	447.20	447.20
Movement LOS	F	F	E				F	B			F	F
d_A, Approach Delay [s/veh]	389.89			0.00			292.75			447.20		
Approach LOS	F			A			F			F		
d_I, Intersection Delay [s/veh]	365.85											
Intersection LOS	F											
Intersection V/C	1.762											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.630	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]	528	0	1288	722
d_b, Bicycle Delay [s]	32.49	60.00	7.60	24.51
l_b,int, Bicycle LOS Score for Intersection	3.843	4.132	4.551	3.573
Bicycle LOS	D	D	E	D

Sequence

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



APPENDIX C-4

INTERSECTION ANALYSIS WORKSHEETS – OPENING YEAR 2025 CUMULATIVE PLUS PROJECT

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Evans Rd at Ethanac Rd	Two-way stop	HCM 6th Edition	NB Right	0.808	10,000.0	F
2	Barnett Rd/Case Rd at Ethanac Rd	Signalized	HCM 6th Edition	NB Right	0.842	51.8	D
3	I-215 SB Ramps at Ethanac Rd	Signalized	HCM 6th Edition	SB Right	1.550	199.6	F
4	I-215 NB Ramps at Ethanac Rd	Signalized	HCM 6th Edition	NB Left	1.365	204.4	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: Evans Rd at Ethanac Rd

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.808

Intersection Setup

Name	Evans Rd		Ethanac Rd		Ethanac Rd	
Approach	Northbound		Eastbound		Westbound	
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	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Evans Rd		Ethanac Rd		Ethanac Rd	
Base Volume Input [veh/h]	0	4	980	1	2	506
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	30	183	708	32	309	692
Site-Generated Trips [veh/h]	4	11	0	11	35	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]	34	198	1727	44	346	1218
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	53	464	12	93	327
Total Analysis Volume [veh/h]	37	213	1857	47	372	1310
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	0.81	0.02	0.00	1.17	0.01
d_M, Delay for Movement [s/veh]	10000.00	10000.00	0.00	0.00	142.64	0.00
Movement LOS	F	F	A	A	F	A
95th-Percentile Queue Length [veh/ln]	34.01	34.01	0.00	0.00	15.77	0.00
95th-Percentile Queue Length [ft/ln]	850.17	850.17	0.00	0.00	394.18	0.00
d_A, Approach Delay [s/veh]	10000.00		0.00		31.55	
Approach LOS	F		A		D	
d_I, Intersection Delay [s/veh]	665.55					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 2: Barnett Rd/Case Rd at Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	51.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.842

Intersection Setup

Name	Barnett Rd			Case Rd			Ethanac Rd			Ethanac Rd		
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	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	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	100.00
Speed [mph]	55.00			55.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Barnett Rd			Case Rd			Ethanac Rd			Ethanac Rd		
Base Volume Input [veh/h]	28	27	135	322	19	71	145	780	25	71	392	312
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	69	0	0	9	0	822	0	47	946	0
Site-Generated Trips [veh/h]	0	0	8	0	0	0	0	11	0	27	35	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	28	217	335	20	83	151	1644	26	148	1389	324
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	7	57	89	5	22	40	434	7	39	367	86
Total Analysis Volume [veh/h]	31	30	229	354	21	88	160	1738	27	156	1468	342
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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	7	10	0	7	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	14	0	0	30	0	16	65	0	11	60	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	2	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	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]	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	15	15	15	12	56	56	12	56	56
g / C, Green / Cycle	0.18	0.12	0.12	0.12	0.10	0.46	0.46	0.10	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.17	0.10	0.03	0.03	0.09	0.48	0.02	0.09	0.41	0.21
s, saturation flow rate [veh/h]	1660	3514	1711	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	291	434	211	200	186	1680	750	187	1682	751
d1, Uniform Delay [s]	49.44	51.25	47.65	47.65	52.99	32.14	17.51	52.78	28.90	21.79
k, delay calibration	0.23	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	34.89	3.78	0.66	0.70	10.98	31.47	0.09	9.25	6.58	1.99
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	1.00	0.82	0.27	0.27	0.86	1.03	0.04	0.83	0.87	0.46
d, Delay for Lane Group [s/veh]	84.33	55.04	48.31	48.35	63.96	63.61	17.60	62.03	35.48	23.77
Lane Group LOS	F	E	D	D	E	F	B	E	D	C
Critical Lane Group	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	11.06	5.19	1.50	1.42	5.16	29.42	0.41	4.94	18.87	6.50
50th-Percentile Queue Length [ft/ln]	276.52	129.68	37.49	35.44	128.89	735.47	10.13	123.38	471.72	162.56
95th-Percentile Queue Length [veh/ln]	16.52	8.92	2.70	2.55	8.88	39.35	0.73	8.58	25.99	10.68
95th-Percentile Queue Length [ft/ln]	412.88	223.06	67.48	63.79	221.98	983.70	18.24	214.47	649.81	267.11

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	84.33	84.33	84.33	55.04	48.31	48.34	63.96	63.61	17.60	62.03	35.48	23.77
Movement LOS	F	F	F	E	D	D	E	F	B	E	D	C
d_A, Approach Delay [s/veh]	84.33			53.46			62.99			35.55		
Approach LOS	F			D			E			D		
d_I, Intersection Delay [s/veh]	51.76											
Intersection LOS	D											
Intersection V/C	0.842											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	6.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	54.15	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.172	2.671	3.421	0.000
Crosswalk LOS	B	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]	167	433	1017	933
d_b, Bicycle Delay [s]	50.42	36.82	14.50	17.07
l_b,int, Bicycle LOS Score for Intersection	2.038	2.324	3.148	3.182
Bicycle LOS	B	B	C	C

Sequence

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

Intersection Level Of Service Report
Intersection 3: I-215 SB Ramps at Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	199.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.550

Intersection Setup

Name	I-215 SB On Ramp			I-215 SB Off Ramp			Ethanac Rd			Ethanac Rd		
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	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	I-215 SB On Ramp			I-215 SB Off Ramp			Ethanac Rd			Ethanac Rd		
Base Volume Input [veh/h]	0	0	0	113	1	259	0	726	485	108	591	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	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0400	1.0400	1.0400	1.0000	1.0400	1.0400	1.0400	1.0400	1.0000
In-Process Volume [veh/h]	0	0	0	278	0	509	0	477	414	95	485	0
Site-Generated Trips [veh/h]	0	0	0	0	0	34	0	12	7	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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	396	1	812	0	1244	925	207	1128	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9470	0.9470	0.9470	1.0000	0.9470	0.9470	0.9470	0.9470	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	105	0	214	0	328	244	55	298	0
Total Analysis Volume [veh/h]	0	0	0	418	1	857	0	1314	977	219	1191	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	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	10	0	0	10	0	7	10	0
Maximum Green [s]	0	0	0	0	30	0	0	30	0	30	30	0
Amber [s]	0.0	0.0	0.0	0.0	4.3	0.0	0.0	4.7	0.0	3.0	4.7	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	0	0	0	41	0	0	62	0	17	79	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	14	0	0	10	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	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	3.3	0.0	0.0	3.7	0.0	2.0	3.7	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		C	R	C	R	L	C
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		5.30	5.30	5.70	5.70	4.00	5.70
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]		3.30	3.30	3.70	3.70	2.00	3.70
g_i, Effective Green Time [s]		36	36	53	53	17	73
g / C, Green / Cycle		0.30	0.30	0.44	0.44	0.14	0.61
(v / s)_i Volume / Saturation Flow Rate		0.23	0.53	0.69	0.60	0.12	0.33
s, saturation flow rate [veh/h]		1810	1615	1900	1615	1810	3618
c, Capacity [veh/h]		538	480	834	709	250	2210
d1, Uniform Delay [s]		38.53	42.15	33.65	33.65	50.68	13.55
k, delay calibration		0.27	0.50	0.50	0.50	0.11	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		6.07	360.99	264.38	178.65	9.33	0.95
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		0.78	1.78	1.57	1.38	0.88	0.54
d, Delay for Lane Group [s/veh]		44.60	403.14	298.03	212.30	60.02	14.50
Lane Group LOS		D	F	F	F	E	B
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		11.73	61.76	83.48	54.06	6.86	8.44
50th-Percentile Queue Length [ft/ln]		293.30	1543.90	2086.94	1351.61	171.41	211.01
95th-Percentile Queue Length [veh/ln]		17.35	96.78	127.82	80.87	11.15	13.20
95th-Percentile Queue Length [ft/ln]		433.73	2419.43	3195.49	2021.80	278.77	330.12

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	44.60	44.60	403.14	0.00	298.03	212.30	60.02	14.50	0.00
Movement LOS				D	D	F		F	F	E	B	
d_A, Approach Delay [s/veh]	0.00			285.41			261.47			21.57		
Approach LOS	A			F			F			C		
d_I, Intersection Delay [s/veh]	199.64											
Intersection LOS	F											
Intersection V/C	1.550											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	51.34
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.577	0.000	3.423
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	595	938	1222
d_b, Bicycle Delay [s]	60.00	29.61	16.91	9.09
l_b,int, Bicycle LOS Score for Intersection	4.132	3.665	5.340	2.723
Bicycle LOS	D	D	F	B

Sequence

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

Intersection Level Of Service Report
Intersection 4: I-215 NB Ramps at Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	204.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.365

Intersection Setup

Name	I-215 NB Off Ramp			I-215 NB On Ramp			Ethanac Rd			Ethanac Rd		
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	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name	I-215 NB Off Ramp			I-215 NB On Ramp			Ethanac Rd			Ethanac Rd		
Base Volume Input [veh/h]	271	0	133	0	0	0	233	610	0	0	436	168
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0400	1.0400	1.0400	1.0000	1.0000	1.0000	1.0400	1.0400	1.0000	1.0000	1.0400	1.0400
In-Process Volume [veh/h]	423	0	278	0	0	0	452	303	0	0	157	95
Site-Generated Trips [veh/h]	24	0	0	0	0	0	11	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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	729	0	416	0	0	0	705	938	0	0	614	270
Peak Hour Factor	0.9480	0.9480	0.9480	1.0000	1.0000	1.0000	0.9480	0.9480	1.0000	1.0000	0.9480	0.9480
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]	192	0	110	0	0	0	186	247	0	0	162	71
Total Analysis Volume [veh/h]	769	0	439	0	0	0	744	989	0	0	648	285
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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	1.00

Phasing & Timing

Control Type	Split	Split	Split	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												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	7	10	0	0	10	0
Maximum Green [s]	0	30	0	0	0	0	30	30	0	0	30	0
Amber [s]	0.0	4.3	0.0	0.0	0.0	0.0	3.0	4.7	0.0	0.0	4.7	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
Split [s]	0	37	0	0	0	0	36	83	0	0	47	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
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	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	3.3	0.0	0.0	0.0	0.0	2.0	3.7	0.0	0.0	3.7	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		L	C	C
C, Cycle Length [s]	120	120		120	120	120
L, Total Lost Time per Cycle [s]	5.30	5.30		4.00	5.70	5.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.30	3.30		2.00	3.70	3.70
g_i, Effective Green Time [s]	32	32		32	77	41
g / C, Green / Cycle	0.26	0.26		0.27	0.64	0.34
(v / s)_i Volume / Saturation Flow Rate	0.42	0.27		0.41	0.52	0.52
s, saturation flow rate [veh/h]	1810	1615		1810	1900	1803
c, Capacity [veh/h]	478	427		483	1224	620
d1, Uniform Delay [s]	44.15	44.15		44.00	15.84	39.35
k, delay calibration	0.50	0.45		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	283.54	48.81		254.02	5.80	235.02
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	1.61	1.03		1.54	0.81	1.50
d, Delay for Lane Group [s/veh]	327.69	92.96		298.02	21.65	274.37
Lane Group LOS	F	F		F	C	F
Critical Lane Group	Yes	No		Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	51.27	17.94		47.64	18.61	57.60
50th-Percentile Queue Length [ft/ln]	1281.69	448.45		1190.93	465.37	1440.00
95th-Percentile Queue Length [veh/ln]	78.73	25.32		72.72	25.69	87.42
95th-Percentile Queue Length [ft/ln]	1968.17	633.10		1818.10	642.27	2185.55

Movement, Approach, & Intersection Results

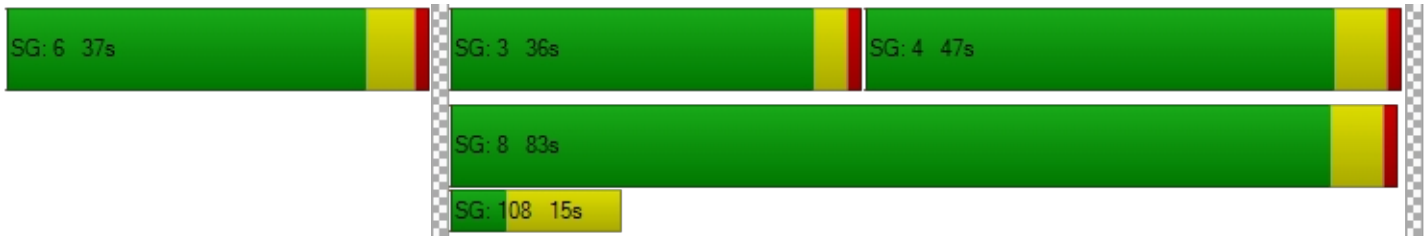
d_M, Delay for Movement [s/veh]	327.69	327.69	92.96	0.00	0.00	0.00	298.02	21.65	0.00	0.00	274.37	274.37
Movement LOS	F	F	F				F	C			F	F
d_A, Approach Delay [s/veh]	242.39			0.00			140.30			274.37		
Approach LOS	F			A			F			F		
d_I, Intersection Delay [s/veh]	204.42											
Intersection LOS	F											
Intersection V/C	1.365											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.544	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]	528	0	1288	688
d_b, Bicycle Delay [s]	32.49	60.00	7.60	25.81
l_b,int, Bicycle LOS Score for Intersection	3.553	4.132	4.419	3.099
Bicycle LOS	D	D	E	C

Sequence

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



Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Evans Rd at Ethanac Rd	Two-way stop	HCM 6th Edition	NB Left	41.517	10,000.0	F
2	Barnett Rd/Case Rd at Ethanac Rd	Signalized	HCM 6th Edition	NB Right	0.869	54.7	D
3	I-215 SB Ramps at Ethanac Rd	Signalized	HCM 6th Edition	SB Right	2.022	383.2	F
4	I-215 NB Ramps at Ethanac Rd	Signalized	HCM 6th Edition	EB Left	1.789	375.0	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: Evans Rd at Ethanac Rd

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	41.517

Intersection Setup

Name	Evans Rd		Ethanac Rd		Ethanac Rd	
Approach	Northbound		Eastbound		Westbound	
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	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Evans Rd		Ethanac Rd		Ethanac Rd	
Base Volume Input [veh/h]	0	1	653	0	2	760
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	50	290	960	32	242	912
Site-Generated Trips [veh/h]	11	35	0	5	14	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]	61	326	1639	37	258	1702
Peak Hour Factor	0.9360	0.9360	0.9360	0.9360	0.9360	0.9360
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	87	438	10	69	455
Total Analysis Volume [veh/h]	65	348	1751	40	276	1818
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	41.52	1.21	0.02	0.00	0.79	0.02
d_M, Delay for Movement [s/veh]	10000.00	10000.00	0.00	0.00	44.56	0.00
Movement LOS	F	F	A	A	E	A
95th-Percentile Queue Length [veh/ln]	53.32	53.32	0.00	0.00	6.55	0.00
95th-Percentile Queue Length [ft/ln]	1333.03	1333.03	0.00	0.00	163.64	0.00
d_A, Approach Delay [s/veh]	10000.00		0.00		5.87	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	963.77					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 2: Barnett Rd/Case Rd at Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	54.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.869

Intersection Setup

Name	Barnett Rd			Case Rd			Ethanac Rd			Ethanac Rd		
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	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	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	100.00
Speed [mph]	55.00			55.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Barnett Rd			Case Rd			Ethanac Rd			Ethanac Rd		
Base Volume Input [veh/h]	24	30	82	431	54	123	162	471	24	81	562	357
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	65	0	0	3	0	1185	0	80	1071	0
Site-Generated Trips [veh/h]	0	0	27	0	0	0	0	35	0	10	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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	31	177	448	56	131	168	1710	25	174	1669	371
Peak Hour Factor	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620	0.9620
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]	6	8	46	116	15	34	44	444	6	45	434	96
Total Analysis Volume [veh/h]	26	32	184	466	58	136	175	1778	26	181	1735	386
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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	7	10	0	7	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	14	0	0	25	0	15	67	0	14	66	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	2	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	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]	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]	13	18	18	18	11	59	59	14	62	62
g / C, Green / Cycle	0.11	0.15	0.15	0.15	0.09	0.49	0.49	0.12	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.15	0.13	0.06	0.06	0.10	0.49	0.02	0.10	0.48	0.24
s, saturation flow rate [veh/h]	1667	3514	1767	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	176	536	270	246	170	1777	793	213	1863	832
d1, Uniform Delay [s]	53.68	49.68	45.70	45.73	54.37	30.52	15.78	51.91	27.12	18.55
k, delay calibration	0.14	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	180.25	4.49	0.86	0.96	40.20	21.45	0.08	9.17	9.91	1.86
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	1.38	0.87	0.37	0.38	1.03	1.00	0.03	0.85	0.93	0.46
d, Delay for Lane Group [s/veh]	233.93	54.18	46.56	46.69	94.57	51.97	15.86	61.08	37.03	20.40
Lane Group LOS	F	D	D	D	F	F	B	E	D	C
Critical Lane Group	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	13.85	6.84	2.66	2.46	6.85	28.31	0.37	5.69	23.16	6.70
50th-Percentile Queue Length [ft/ln]	346.36	171.08	66.41	61.50	171.27	707.70	9.13	142.36	578.96	167.40
95th-Percentile Queue Length [veh/ln]	22.32	11.13	4.78	4.43	11.27	37.05	0.66	9.61	31.05	10.94
95th-Percentile Queue Length [ft/ln]	558.09	278.33	119.54	110.70	281.72	926.17	16.43	240.19	776.26	273.49

Movement, Approach, & Intersection Results

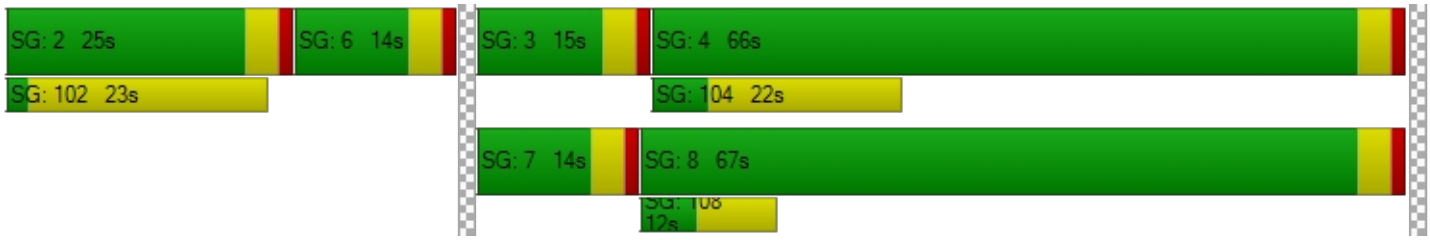
d_M, Delay for Movement [s/veh]	233.93	233.93	233.93	54.18	46.56	46.65	94.57	51.97	15.86	61.08	37.03	20.40
Movement LOS	F	F	F	D	D	D	F	F	B	E	D	C
d_A, Approach Delay [s/veh]	233.93			51.96			55.27			36.13		
Approach LOS	F			D			E			D		
d_I, Intersection Delay [s/veh]	54.69											
Intersection LOS	D											
Intersection V/C	0.869											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	6.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	54.15	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.183	2.763	3.520	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]	167	350	1050	1033
d_b, Bicycle Delay [s]	50.42	40.84	13.54	14.02
l_b,int, Bicycle LOS Score for Intersection	1.959	2.649	3.192	3.459
Bicycle LOS	A	B	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 3: I-215 SB Ramps at Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	383.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.022

Intersection Setup

Name	I-215 SB On Ramp			I-215 SB Off Ramp			Ethanac Rd			Ethanac Rd		
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	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			45.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name	I-215 SB On Ramp			I-215 SB Off Ramp			Ethanac Rd			Ethanac Rd		
Base Volume Input [veh/h]	0	0	0	154	3	365	0	643	365	89	739	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	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0400	1.0400	1.0400	1.0000	1.0400	1.0400	1.0400	1.0400	1.0000
In-Process Volume [veh/h]	0	0	0	185	0	575	0	719	532	283	578	0
Site-Generated Trips [veh/h]	0	0	0	0	0	13	0	38	24	0	11	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	345	3	968	0	1426	936	376	1358	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.8890	0.8890	0.8890	1.0000	0.8890	0.8890	0.8890	0.8890	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	97	1	272	0	401	263	106	382	0
Total Analysis Volume [veh/h]	0	0	0	388	3	1089	0	1604	1053	423	1528	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	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	10	0	0	10	0	7	10	0
Maximum Green [s]	0	0	0	0	30	0	0	30	0	30	30	0
Amber [s]	0.0	0.0	0.0	0.0	4.3	0.0	0.0	4.7	0.0	3.0	4.7	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	0	0	0	35	0	0	57	0	28	85	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	14	0	0	10	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	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	3.3	0.0	0.0	3.7	0.0	2.0	3.7	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		C	R	C	R	L	C
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		5.30	5.30	5.70	5.70	4.00	5.70
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]		3.30	3.30	3.70	3.70	2.00	3.70
g_i, Effective Green Time [s]		30	30	45	45	30	79
g / C, Green / Cycle		0.25	0.25	0.37	0.37	0.25	0.66
(v / s)_i Volume / Saturation Flow Rate		0.22	0.67	0.84	0.65	0.23	0.42
s, saturation flow rate [veh/h]		1810	1615	1900	1615	1810	3618
c, Capacity [veh/h]		448	400	713	606	457	2391
d1, Uniform Delay [s]		43.34	45.15	37.49	37.49	43.78	11.95
k, delay calibration		0.33	0.50	0.50	0.50	0.11	0.50
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		14.37	783.06	567.00	338.84	8.54	1.32
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		0.87	2.72	2.25	1.74	0.93	0.64
d, Delay for Lane Group [s/veh]		57.71	828.21	604.49	376.33	52.32	13.27
Lane Group LOS		E	F	F	F	D	B
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		12.52	98.37	131.73	73.57	12.74	10.38
50th-Percentile Queue Length [ft/ln]		313.00	2459.35	3293.32	1839.20	318.51	259.40
95th-Percentile Queue Length [veh/ln]		18.32	155.23	209.65	115.37	18.59	15.66
95th-Percentile Queue Length [ft/ln]		458.08	3880.81	5241.29	2884.17	464.86	391.47

Movement, Approach, & Intersection Results

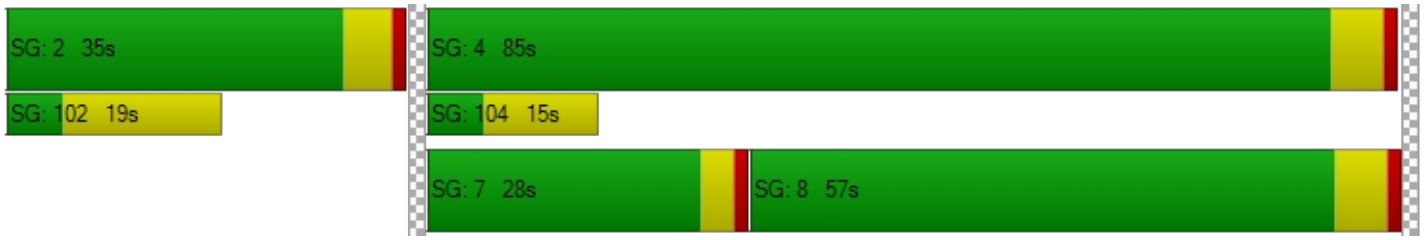
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	57.71	57.71	828.21	0.00	604.49	376.33	52.32	13.27	0.00
Movement LOS				E	E	F		F	F	D	B	
d_A, Approach Delay [s/veh]	0.00			624.65			514.07			21.74		
Approach LOS	A			F			F			C		
d_I, Intersection Delay [s/veh]	383.17											
Intersection LOS	F											
Intersection V/C	2.022											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	51.34
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.677	0.000	3.748
Crosswalk LOS	F	B	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	495	855	1322
d_b, Bicycle Delay [s]	60.00	33.98	19.67	6.90
l_b,int, Bicycle LOS Score for Intersection	4.132	4.002	5.944	3.169
Bicycle LOS	D	D	F	C

Sequence

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



Intersection Level Of Service Report
Intersection 4: I-215 NB Ramps at Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	375.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.789

Intersection Setup

Name	I-215 NB Off Ramp			I-215 NB On Ramp			Ethanac Rd			Ethanac Rd		
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	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name	I-215 NB Off Ramp			I-215 NB On Ramp			Ethanac Rd			Ethanac Rd		
Base Volume Input [veh/h]	395	2	200	0	0	0	254	564	0	0	401	148
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0400	1.0400	1.0400	1.0000	1.0000	1.0000	1.0400	1.0400	1.0000	1.0000	1.0400	1.0400
In-Process Volume [veh/h]	534	0	185	0	0	0	653	251	0	0	327	283
Site-Generated Trips [veh/h]	9	0	0	0	0	0	34	4	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	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	954	2	393	0	0	0	951	842	0	0	746	437
Peak Hour Factor	0.9680	0.9680	0.9680	1.0000	1.0000	1.0000	0.9680	0.9680	1.0000	1.0000	0.9680	0.9680
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]	246	1	101	0	0	0	246	217	0	0	193	113
Total Analysis Volume [veh/h]	986	2	406	0	0	0	982	870	0	0	771	451
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
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	1.00

Phasing & Timing

Control Type	Split	Split	Split	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												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	7	10	0	0	10	0
Maximum Green [s]	0	30	0	0	0	0	30	30	0	0	30	0
Amber [s]	0.0	4.3	0.0	0.0	0.0	0.0	3.0	4.7	0.0	0.0	4.7	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
Split [s]	0	38	0	0	0	0	35	82	0	0	47	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
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	10	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	3.3	0.0	0.0	0.0	0.0	2.0	3.7	0.0	0.0	3.7	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		L	C	C
C, Cycle Length [s]	120	120		120	120	120
L, Total Lost Time per Cycle [s]	5.30	5.30		4.00	5.70	5.70
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.30	3.30		2.00	3.70	3.70
g_i, Effective Green Time [s]	33	33		31	76	41
g / C, Green / Cycle	0.27	0.27		0.26	0.64	0.34
(v / s)_i Volume / Saturation Flow Rate	0.55	0.25		0.54	0.46	0.69
s, saturation flow rate [veh/h]	1810	1615		1810	1900	1784
c, Capacity [veh/h]	493	440		467	1208	614
d1, Uniform Delay [s]	43.65	42.42		44.50	14.68	39.35
k, delay calibration	0.50	0.37		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	458.74	22.20		502.56	3.72	451.52
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	2.00	0.92		2.10	0.72	1.99
d, Delay for Lane Group [s/veh]	502.39	64.62		547.06	18.40	490.87
Lane Group LOS	F	E		F	B	F
Critical Lane Group	Yes	No		Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	76.86	13.93		78.45	14.64	93.91
50th-Percentile Queue Length [ft/ln]	1921.53	348.30		1961.24	366.10	2347.86
95th-Percentile Queue Length [veh/ln]	120.51	20.05		123.13	20.92	148.28
95th-Percentile Queue Length [ft/ln]	3012.71	501.34		3078.32	523.00	3706.92

Movement, Approach, & Intersection Results

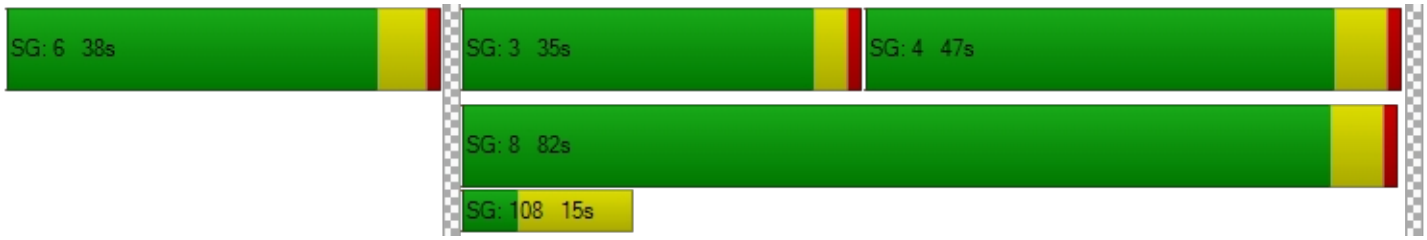
d_M, Delay for Movement [s/veh]	502.39	502.39	64.62	0.00	0.00	0.00	547.06	18.40	0.00	0.00	490.87	490.87
Movement LOS	F	F	E				F	B			F	F
d_A, Approach Delay [s/veh]	374.89			0.00			298.72			490.87		
Approach LOS	F			A			F			F		
d_I, Intersection Delay [s/veh]	375.04											
Intersection LOS	F											
Intersection V/C	1.789											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	0.00	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.635	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]	545	0	1272	688
d_b, Bicycle Delay [s]	31.76	60.00	7.96	25.81
l_b,int, Bicycle LOS Score for Intersection	3.860	4.132	4.615	3.576
Bicycle LOS	D	D	E	D

Sequence

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



APPENDIX C-5

INTERSECTION ANALYSIS WORKSHEETS – OPENING YEAR 2025 CUMULATIVE PLUS PROJECT WITH IMPROVEMENTS

Option 1: Install Traffic Signal. Add NBL and NBR Turn Lanes. Add Protected WBL Turn Phasing.

Number	1					
Intersection	Evans Rd at Ethanac Rd					
Control Type	Signalized					
Analysis Method	HCM 6th Edition					
Name	Evans Rd		Ethanac Rd		Ethanac Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Base Volume Input [veh/h]	0	4	980	1	2	506
Total Analysis Volume [veh/h]	37	213	1857	47	372	1310

Intersection Settings

Cycle Length [s]	120					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Semi-actuated					
Lost time [s]	0.00					
Control Type	Permissive	Permissive	Permissive	Permissive	Protected	Permissive
Signal Group	3	0	2	0	1	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	0	10	0	7	10
Maximum Green [s]	30	0	30	0	30	30
Amber [s]	3.0	0.0	3.0	0.0	3.0	3.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0
Split [s]	21	0	68	0	31	99
Walk [s]	5	0	5	0	0	5
Pedestrian Clearance [s]	10	0	10	0	0	10
Delayed Vehicle Green [s]	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	2.0	2.0
Minimum Recall	No		No		No	No
Maximum Recall	No		No		No	No
Pedestrian Recall	No		No		No	No
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

Lane Group Calculations

g / C, Green / Cycle	0.14	0.14	0.54	0.54	0.22	0.79
(v / s)_i Volume / Saturation Flow Rate	0.02	0.13	0.50	0.51	0.21	0.36
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900
Arrival type	3		3		3	
s, saturation flow rate [veh/h]	1810	1615	1900	1884	1810	3618
c, Capacity [veh/h]	256	229	1022	1014	399	2864
X, volume / capacity	0.14	0.93	0.93	0.94	0.93	0.46
d, Delay for Lane Group [s/veh]	45.38	66.27	41.43	42.83	68.90	4.61
Lane Group LOS	D	E	D	D	E	A

Critical Lane Group	No	Yes	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.99	7.29	26.59	27.08	12.95	3.45
50th-Percentile Queue Length [ft/ln]	24.75	182.19	664.71	676.88	323.67	86.16
95th-Percentile Queue Length [veh/ln]	1.78	11.71	35.04	35.61	18.85	6.20
95th-Percentile Queue Length [ft/ln]	44.55	292.87	876.12	890.22	471.19	155.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.38	66.27	42.11	42.83	68.90	4.61
Movement LOS	D	E	D	D	E	A
Critical Movement	No	No	No	No	Yes	No
d_A, Approach Delay [s/veh]	63.17		42.13		18.83	
Approach LOS	E		D		B	
d_I, Intersection Delay [s/veh]	33.29					
Intersection LOS	C					
Intersection V/C	0.843					

Option 1: Install Traffic Signal. Add NBL and NBR Turn Lanes. Add Protected WBL Turn Phasing.

Number	1					
Intersection	Evans Rd at Ethanac Rd					
Control Type	Signalized					
Analysis Method	HCM 6th Edition					
Name	Evans Rd		Ethanac Rd		Ethanac Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Base Volume Input [veh/h]	0	1	653	0	2	760
Total Analysis Volume [veh/h]	65	348	1751	40	276	1818

Intersection Settings

Cycle Length [s]	120					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Semi-actuated					
Lost time [s]	0.00					
Control Type	Permissive	Permissive	Permissive	Permissive	Protected	Permissive
Signal Group	3	0	2	0	1	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	7	0	10	0	7	10
Maximum Green [s]	30	0	30	0	30	30
Amber [s]	3.0	0.0	3.0	0.0	3.0	3.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0
Split [s]	32	0	64	0	24	88
Walk [s]	5	0	5	0	0	5
Pedestrian Clearance [s]	10	0	10	0	0	10
Delayed Vehicle Green [s]	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	2.0	2.0
Minimum Recall	No		No		No	No
Maximum Recall	No		No		No	No
Pedestrian Recall	No		No		No	No
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

Lane Group Calculations

g / C, Green / Cycle	0.23	0.23	0.50	0.50	0.17	0.70
(v / s)_i Volume / Saturation Flow Rate	0.04	0.22	0.47	0.48	0.15	0.50
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900
Arrival type	3		3		3	
s, saturation flow rate [veh/h]	1810	1615	1900	1885	1810	3618
c, Capacity [veh/h]	416	371	957	949	302	2545
X, volume / capacity	0.16	0.94	0.94	0.94	0.92	0.71
d, Delay for Lane Group [s/veh]	37.10	71.72	45.17	46.51	64.34	12.34
Lane Group LOS	D	E	D	D	E	B

Critical Lane Group	No	Yes	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.56	12.83	26.15	26.57	9.08	11.72
50th-Percentile Queue Length [ft/ln]	38.94	320.78	653.85	664.29	227.06	292.95
95th-Percentile Queue Length [veh/ln]	2.80	18.71	34.54	35.03	14.03	17.33
95th-Percentile Queue Length [ft/ln]	70.08	467.64	863.52	875.64	350.63	433.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.10	71.72	45.82	46.51	64.34	12.34
Movement LOS	D	E	D	D	E	B
Critical Movement	No	Yes	No	No	No	No
d_A, Approach Delay [s/veh]	66.27		45.84		19.20	
Approach LOS	E		D		B	
d_I, Intersection Delay [s/veh]	34.82					
Intersection LOS	C					
Intersection V/C	0.843					

Option 1: Add 2nd EBT and WBL Turn Lanes. Modify SB Approach to dedicated SBL, SBR, and SB-Shared Lanes. Dedicated EBR Turn Lane.

Number	3											
Intersection	I-215 SB Ramps at Ethanac Rd											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name	I-215 SB On Ramp			I-215 SB Off Ramp			Ethanac Rd			Ethanac Rd		
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	113	1	259	0	726	485	108	591	0
Total Analysis Volume [veh/h]	0	0	0	418	1	857	0	1314	977	219	1191	0

Intersection Settings

Cycle Length [s]	120											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	16.00											
Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	2	0	0	8	8	7	4	0
Auxiliary Signal Groups									2,8			
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	10	0	0	10	10	7	10	0
Maximum Green [s]	0	0	0	0	30	0	0	30	30	30	30	0
Amber [s]	0.0	0.0	0.0	0.0	4.3	0.0	0.0	4.7	4.7	3.0	4.7	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0	0.0
Split [s]	0	0	0	0	59	0	0	49	49	12	61	0
Walk [s]	0	0	0	0	5	0	0	5	5	0	5	0
Pedestrian Clearance [s]	0	0	0	0	14	0	0	10	10	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]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall					No			No	No	No	No	
Maximum Recall					No			No	No	No	No	
Pedestrian Recall					No			No	No	No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle		0.33	0.33	0.33	0.46	0.84	0.08	0.58
(v / s)_i Volume / Saturation Flow Rate		0.23	0.27	0.26	0.36	0.60	0.06	0.33
so, Base Saturation Flow per Lane [pc/h/ln]		1900	1900	1900	1900	1900	1900	1900
Arrival type	3	3			3		3	
s, saturation flow rate [veh/h]		1810	1616	1615	3618	1615	3514	3618
c, Capacity [veh/h]		603	568	538	1663	1357	289	2081
X, volume / capacity		0.69	0.76	0.79	0.79	0.72	0.76	0.57
d, Delay for Lane Group [s/veh]		36.15	39.56	39.90	31.43	7.20	57.94	17.29
Lane Group LOS		D	D	D	C	A	E	B

Critical Lane Group				No	Yes	No	No	Yes	Yes	No		
50th-Percentile Queue Length [veh/ln]				10.40	11.53	11.34	15.56	5.06	3.29	9.52		
50th-Percentile Queue Length [ft/ln]				259.96	288.30	283.42	389.03	126.47	82.29	237.94		
95th-Percentile Queue Length [veh/ln]				15.69	17.10	16.86	22.03	8.75	5.92	14.58		
95th-Percentile Queue Length [ft/ln]				392.17	427.53	421.46	550.77	218.69	148.11	364.43		

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	36.15	39.56	39.73	0.00	31.43	7.20	57.94	17.29	0.00
Movement LOS				D	D	D		C	A	E	B	
Critical Movement				No	No	No		No	No	Yes	No	
d_A, Approach Delay [s/veh]	0.00			38.55			21.10			23.60		
Approach LOS	A			D			C			C		
d_I, Intersection Delay [s/veh]	26.28											
Intersection LOS	C											
Intersection V/C	0.835											

Option 1: Add 2nd EBT and WBL Turn Lanes. Modify SB Approach to dedicated SBL, SBR, and SB-Shared Lanes. Dedicated EBR Turn Lane.

Number	3											
Intersection	I-215 SB Ramps at Ethanac Rd											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name	I-215 SB On Ramp			I-215 SB Off Ramp			Ethanac Rd			Ethanac Rd		
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	154	3	365	0	643	365	89	739	0
Total Analysis Volume [veh/h]	0	0	0	388	3	1089	0	1604	1053	423	1528	0

Intersection Settings

Cycle Length [s]	120											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	16.00											
Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	2	0	0	8	8	7	4	0
Auxiliary Signal Groups									2,8			
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	10	0	0	10	10	7	10	0
Maximum Green [s]	0	0	0	0	30	0	0	30	30	30	30	0
Amber [s]	0.0	0.0	0.0	0.0	4.3	0.0	0.0	4.7	4.7	3.0	4.7	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0	0.0
Split [s]	0	0	0	0	44	0	0	58	58	18	76	0
Walk [s]	0	0	0	0	5	0	0	5	5	0	5	0
Pedestrian Clearance [s]	0	0	0	0	14	0	0	10	10	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]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall					No			No	No	No	No	
Maximum Recall					No			No	No	No	No	
Pedestrian Recall					No			No	No	No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle		0.32	0.32	0.32	0.41	0.78	0.14	0.59
(v / s)_i Volume / Saturation Flow Rate		0.21	0.37	0.31	0.44	0.65	0.12	0.42
so, Base Saturation Flow per Lane [pc/h/ln]		1900	1900	1900	1900	1900	1900	1900
Arrival type	3	3			3		3	
s, saturation flow rate [veh/h]		1810	1616	1615	3618	1615	3514	3618
c, Capacity [veh/h]		584	551	521	1482	1259	502	2119
X, volume / capacity		0.66	1.09	0.95	1.08	0.84	0.84	0.72
d, Delay for Lane Group [s/veh]		37.42	105.46	64.11	84.47	15.06	54.06	19.98
Lane Group LOS		D	F	E	F	B	D	B

Critical Lane Group			No	Yes	No	Yes	No	Yes	No			
50th-Percentile Queue Length [veh/ln]			9.78	25.67	17.05	30.07	13.15	6.23	13.88			
50th-Percentile Queue Length [ft/ln]			244.42	641.80	426.18	751.63	328.70	155.70	346.97			
95th-Percentile Queue Length [veh/ln]			14.90	35.87	23.82	41.35	19.09	10.32	19.99			
95th-Percentile Queue Length [ft/ln]			372.61	896.73	595.46	1033.77	477.36	258.02	499.71			

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	37.42	105.46	86.72	0.00	84.47	15.06	54.06	19.98	0.00
Movement LOS				D	F	F		F	B	D	B	
Critical Movement				No	Yes	No		No	No	No	No	
d_A, Approach Delay [s/veh]	0.00			73.84			56.96			27.37		
Approach LOS	A			E			E			C		
d_I, Intersection Delay [s/veh]	51.58											
Intersection LOS	D											
Intersection V/C	1.078											

Option 1: Add 2nd EBT, WBT, EBL, and NBL Turn Lanes. Add a dedicated WBR Turn Lane.

Number	4											
Intersection	I-215 NB Ramps at Ethanac Rd											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name	I-215 NB Off Ramp			I-215 NB On Ramp			Ethanac Rd			Ethanac Rd		
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]	271	0	133	0	0	0	233	610	0	0	436	168
Total Analysis Volume [veh/h]	769	0	439	0	0	0	744	989	0	0	648	285

Intersection Settings

Cycle Length [s]	120											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	1.00											
Control Type	Split	Split	Split	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												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	7	10	0	0	10	0
Maximum Green [s]	0	30	0	0	0	0	30	30	0	0	30	0
Amber [s]	0.0	4.3	0.0	0.0	0.0	0.0	3.0	4.7	0.0	0.0	4.7	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
Split [s]	0	55	0	0	0	0	35	65	0	0	30	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	10	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]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.30	0.30	0.30		0.24	0.61	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.21	0.21	0.27		0.21	0.27	0.18	0.18
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900		1900	1900	1900	1900
Arrival type	3			3	3		3	
s, saturation flow rate [veh/h]	1810	1810	1615		3514	3618	3618	1615
c, Capacity [veh/h]	550	550	491		839	2187	1202	537
X, volume / capacity	0.70	0.70	0.89		0.89	0.45	0.54	0.53
d, Delay for Lane Group [s/veh]	38.56	38.56	50.13		47.49	13.59	34.32	36.21
Lane Group LOS	D	D	D		D	B	C	D

Critical Lane Group	No	No	Yes				Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	9.85	9.85	13.25				10.58	6.58	7.57	6.94
50th-Percentile Queue Length [ft/ln]	246.28	246.28	331.16				264.46	164.44	189.16	173.41
95th-Percentile Queue Length [veh/ln]	15.00	15.00	19.22				15.91	10.78	12.08	11.26
95th-Percentile Queue Length [ft/ln]	374.97	374.97	480.38				397.81	269.60	301.94	281.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.56	38.56	50.13	0.00	0.00	0.00	47.49	13.59	0.00	0.00	34.32	36.21
Movement LOS	D	D	D				D	B			C	D
Critical Movement	No	No	Yes				No	No			No	No
d_A, Approach Delay [s/veh]	42.76			0.00			28.14			34.90		
Approach LOS	D			A			C			C		
d_I, Intersection Delay [s/veh]	34.33											
Intersection LOS	C											
Intersection V/C	0.668											

Option 1: Add 2nd EBT, WBT, EBL, and NBL Turn Lanes. Add a dedicated WBR Turn Lane.

Number	4											
Intersection	I-215 NB Ramps at Ethanac Rd											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name	I-215 NB Off Ramp			I-215 NB On Ramp			Ethanac Rd			Ethanac Rd		
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]	395	2	200	0	0	0	254	564	0	0	401	148
Total Analysis Volume [veh/h]	986	2	406	0	0	0	982	870	0	0	771	451

Intersection Settings

Cycle Length [s]	120											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Semi-actuated											
Lost time [s]	1.00											
Control Type	Split	Split	Split	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												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	7	10	0	0	10	0
Maximum Green [s]	0	30	0	0	0	0	30	30	0	0	30	0
Amber [s]	0.0	4.3	0.0	0.0	0.0	0.0	3.0	4.7	0.0	0.0	4.7	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
Split [s]	0	40	0	0	0	0	39	80	0	0	41	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	10	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]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.29	0.29	0.29		0.29	0.62	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.27	0.27	0.25		0.28	0.24	0.21	0.28
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900		1900	1900	1900	1900
Arrival type	3			3	3		3	
s, saturation flow rate [veh/h]	1810	1810	1615		3514	3618	3618	1615
c, Capacity [veh/h]	520	520	464		1026	2246	1070	478
X, volume / capacity	0.95	0.95	0.87		0.96	0.39	0.72	0.94
d, Delay for Lane Group [s/veh]	66.52	66.47	55.27		48.16	11.86	42.01	70.66
Lane Group LOS	E	E	E		D	B	D	E

Critical Lane Group	Yes	No	No		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	17.28	17.27	12.83		14.41	5.22	10.27	16.21
50th-Percentile Queue Length [ft/ln]	431.94	431.79	320.78		360.20	130.45	256.65	405.33
95th-Percentile Queue Length [veh/ln]	24.09	24.09	18.71		20.63	8.96	15.52	22.82
95th-Percentile Queue Length [ft/ln]	602.36	602.18	467.65		515.83	224.11	388.02	570.41

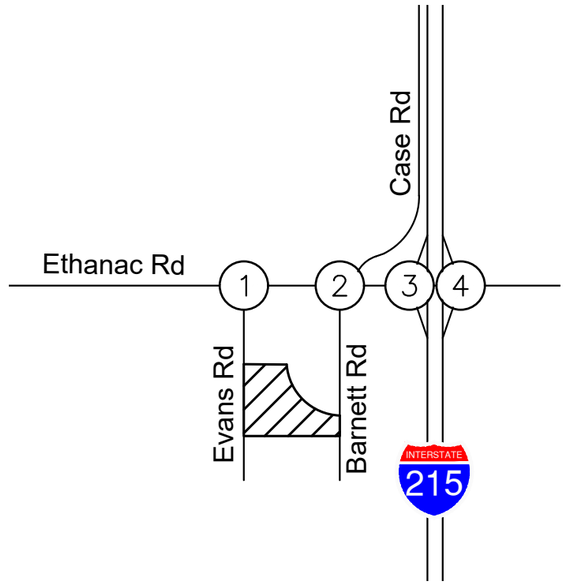
Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	66.50	66.47	55.27	0.00	0.00	0.00	48.16	11.86	0.00	0.00	42.01	70.66
Movement LOS	E	E	E				D	B			D	E
Critical Movement	No	No	No				No	No			No	Yes
d_A, Approach Delay [s/veh]	63.23			0.00			31.11			52.59		
Approach LOS	E			A			C			D		
d_I, Intersection Delay [s/veh]	47.00											
Intersection LOS	D											
Intersection V/C	0.839											

APPENDIX D

PROJECT TRIP DISTRIBUTION

NOT TO SCALE



1. Evans Rd at Ethanac Rd	2. Barnett Rd/Case Rd at Ethanac Rd	3. I-215 SB Ramps at Ethanac Rd	4. I-215 NB Ramps at Ethanac Rd
35% 30% (30%) (35%)	35% 35% (35%) (35%)	35% 35% (45%) (25%)	10% (35%) (10%) 25%

LEGEND:

= Project Site

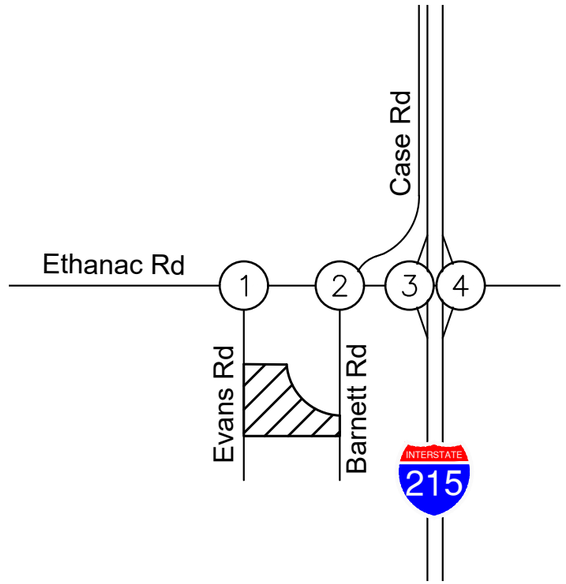
= Study Intersection

XX%(YY%) = Inbound (Outbound) Passenger Car Distribution

APPENDIX D-1
PROJECT PASSENGER CAR TRAFFIC DISTRIBUTION

Kimley»Horn

NOT TO SCALE



1. Evans Rd at Ethanac Rd	2. Barnett Rd/Case Rd at Ethanac Rd	3. I-215 SB Ramps at Ethanac Rd	4. I-215 NB Ramps at Ethanac Rd
60% (60%)	60% 40% (60%) (40%)	60% 40% (60%) (40%)	(60%) 40%

LEGEND:

= Project Site

X = Study Intersection

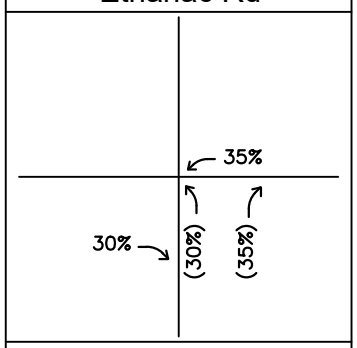
XX%(YY%) = Inbound (Outbound) Truck Distribution

APPENDIX D-2
PROJECT TRUCK TRAFFIC DISTRIBUTION

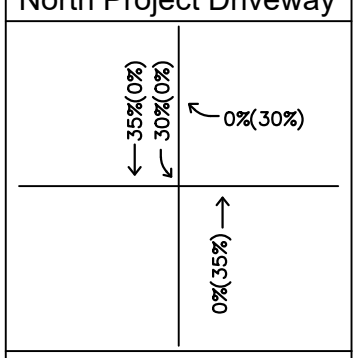
Kimley»Horn

NOT TO SCALE

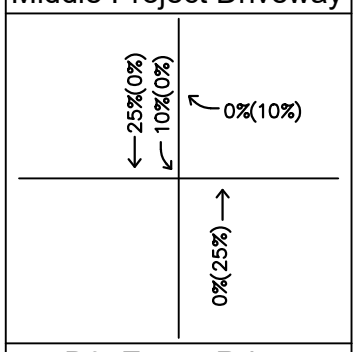
1. Evans Rd at Ethanac Rd



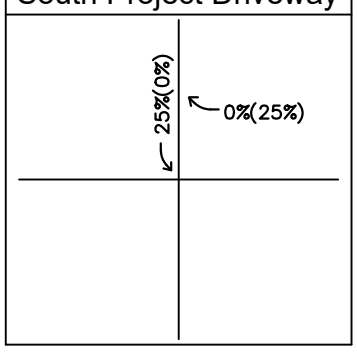
D1. Evans Rd at North Project Driveway

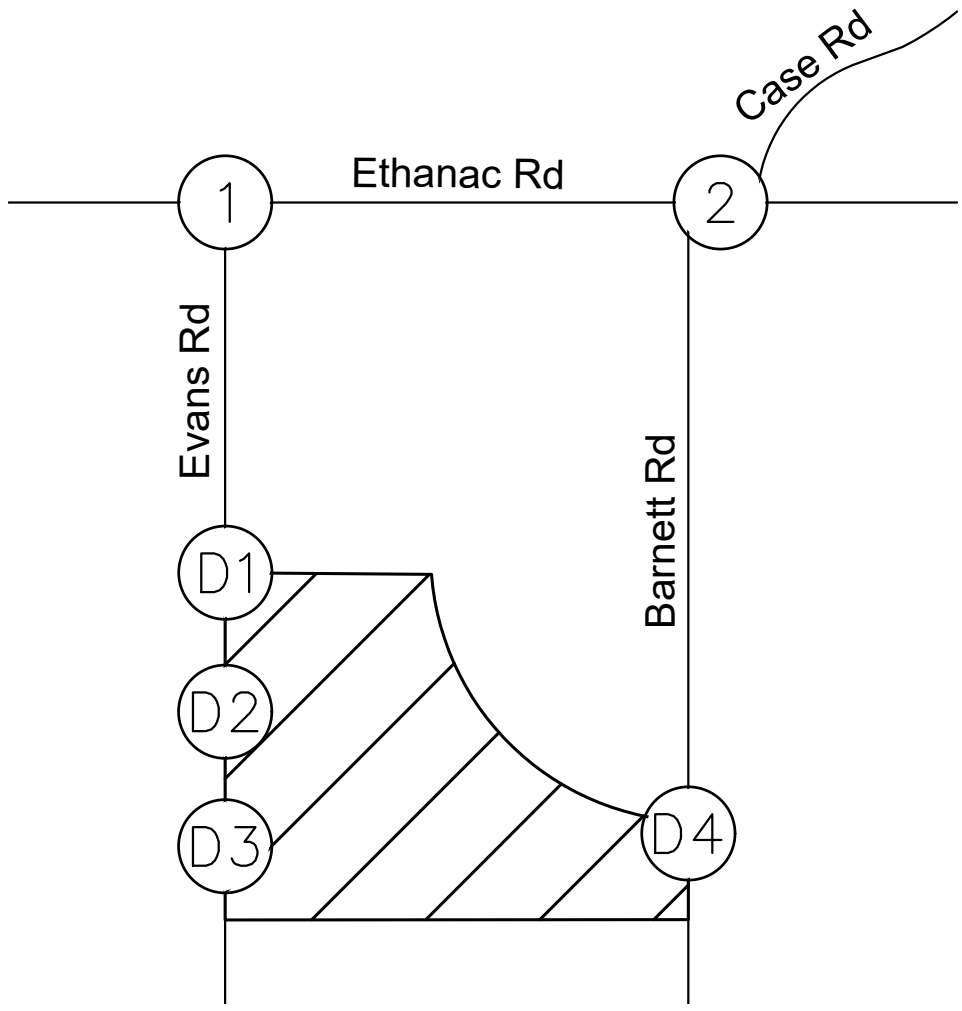


D2. Evans Rd at Middle Project Driveway

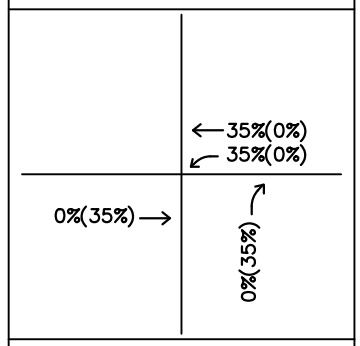


D3. Evans Rd at South Project Driveway

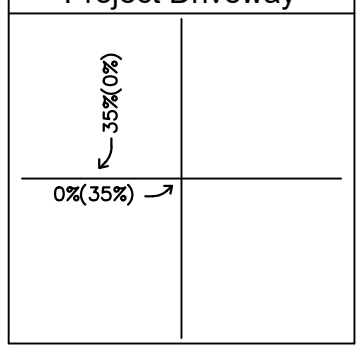




2. Barnett Rd/Case Rd at Ethanac Rd



D4. Barnett Rd at Project Driveway



LEGEND:

= Project Site

XX% = Passenger Car Inbound Trip Distribution Percentage

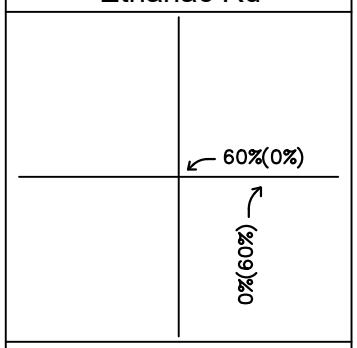
(YY%) = Passenger Car Outbound Trip Distribution Percentage

APPENDIX D-3
DRIVEWAY PASSENGER CAR TRIP DISTRIBUTION

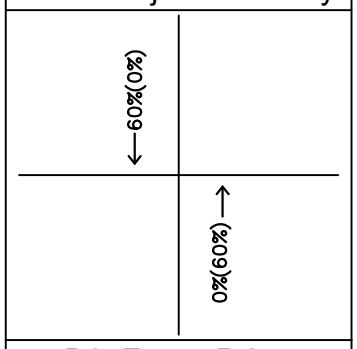
Kimley»Horn

NOT TO SCALE

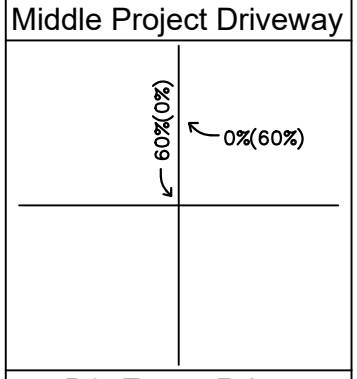
1. Evans Rd at Ethanac Rd



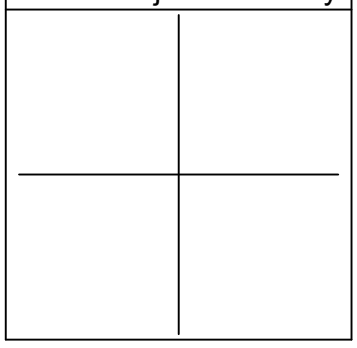
D1. Evans Rd at North Project Driveway

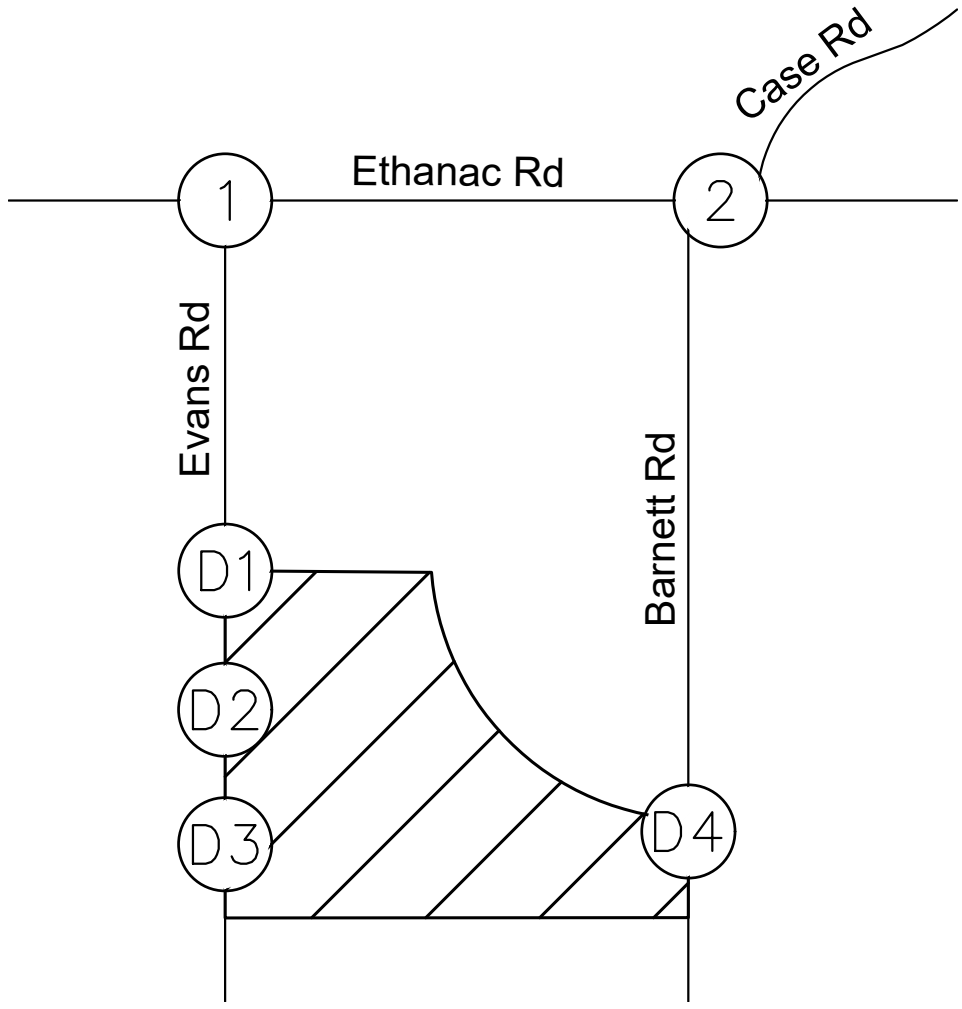


D2. Evans Rd at Middle Project Driveway

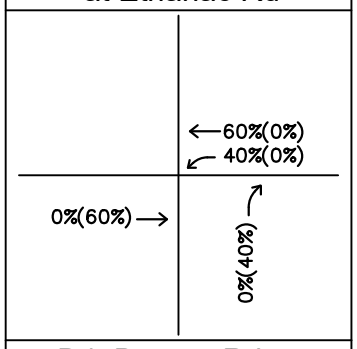


D3. Evans Rd at South Project Driveway

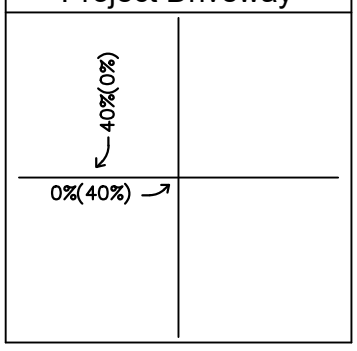




2. Barnett Rd/Case Rd at Ethanac Rd



D4. Barnett Rd at Project Driveway



LEGEND:

= Project Site

XX% = Truck Inbound Trip Distribution Percentage

(YY%) = Truck Outbound Trip Distribution Percentage

APPENDIX D-4
DRIVEWAY TRUCK TRIP DISTRIBUTION

Kimley»Horn

APPENDIX E

CUMULATIVE PROJECTS INFORMATION

CUMULATIVE PROJECTS - DISTRIBUTION

TOTAL OF ALL CUMULATIVE PROJECTS

AM Peak Hour

1	Evans Rd at Ethanac Rd	23	0	138	0	0	0	0	577	16	93	252	0
2	Barnett Rd/Case Rd at Ethanac Rd	0	0	69	0	0	0	0	646	0	47	299	0
3	I-215 SB Ramps at Ethanac Rd	0	0	0	278	0	170	0	364	351	95	177	0
4	I-215 NB Ramps at Ethanac Rd	170	0	278	0	0	0	351	291	0	0	102	95

PM Peak Hour

		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Evans Rd at Ethanac Rd	22	0	130	0	0	0	0	429	27	160	638	0
2	Barnett Rd/Case Rd at Ethanac Rd	0	0	65	0	0	0	0	494	0	80	718	0
3	I-215 SB Ramps at Ethanac Rd	0	0	0	185	0	393	0	285	275	283	407	0
4	I-215 NB Ramps at Ethanac Rd	393	0	185	0	0	0	275	195	0	0	297	283

CUMULATIVE PROJECTS - HAND ENTERED FROM TRAFFIC STUDIES

AM Peak Hour

		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Evans Rd at Ethanac Rd	7	0	45	0	0	0	0	131	16	216	440	0
2	Barnett Rd/Case Rd at Ethanac Rd	0	0	0	0	0	9	0	176	0	0	647	0
3	I-215 SB Ramps at Ethanac Rd	0	0	0	0	0	339	0	113	63	0	308	0
4	I-215 NB Ramps at Ethanac Rd	253	0	0	0	0	0	101	12	0	0	55	0

PM Peak Hour

		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Evans Rd at Ethanac Rd	28	0	160	0	0	0	0	531	5	82	274	0
2	Barnett Rd/Case Rd at Ethanac Rd	0	0	0	0	0	3	0	691	0	0	353	0
3	I-215 SB Ramps at Ethanac Rd	0	0	0	0	0	182	0	434	257	0	171	0
4	I-215 NB Ramps at Ethanac Rd	141	0	0	0	0	0	378	56	0	0	30	0

TOTAL CUMULATIVE PROJECTS TRAFFIC

AM Peak Hour

		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Evans Rd at Ethanac Rd	30	0	183	0	0	0	0	708	32	309	692	0
2	Barnett Rd/Case Rd at Ethanac Rd	0	0	69	0	0	9	0	822	0	47	946	0
3	I-215 SB Ramps at Ethanac Rd	0	0	0	278	0	509	0	477	414	95	485	0
4	I-215 NB Ramps at Ethanac Rd	423	0	278	0	0	0	452	303	0	0	157	95

PM Peak Hour

		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Evans Rd at Ethanac Rd	50	0	290	0	0	0	0	960	32	242	912	0
2	Barnett Rd/Case Rd at Ethanac Rd	0	0	65	0	0	3	0	1,185	0	80	1,071	0
3	I-215 SB Ramps at Ethanac Rd	0	0	0	185	0	575	0	719	532	283	578	0
4	I-215 NB Ramps at Ethanac Rd	534	0	185	0	0	0	653	251	0	0	327	283

Enter only in blue cells	Yellow cells calculate

Int. #:	1	Evans Rd at Ethanac Rd

Y

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	0	0	0	0	0	0	0	16	93	252	0
AM Out		23	0	138	0	0	0	0	577	0	0	0	0
AM Tot		23	0	138	0	0	0	0	577	16	93	252	0
PM In		0	0	0	0	0	0	0	0	27	160	638	0
PM Out		22	0	130	0	0	0	0	429	0	0	0	0
PM Tot		22	0	130	0	0	0	0	429	27	160	638	0

Zone #	1	1

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	419	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	125	0	0	0	0	0	0	0	0	0	0	0	0
PM In	160	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	416	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	2	11, 17, 18, 19, 20, 23, 24, 32, 41, 43, 35

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	634	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	1,434	0	0	0	0	0	0	0	0	0	0	0	0
PM In	1,747	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	1,175	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	3	21, 22, 25

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	107	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	319	0	0	0	0	0	0	0	0	0	0	0	0
PM In	359	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	211	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	4	6, 7, 42, 44, 45, 39

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	389	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	804	0	0	0	0	0	0	0	0	0	0	0	0
PM In	857	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	593	0	0	0	0	0	0	0	0	0	0	0	0

Int. #:	1	Evans Rd at Ethanac Rd

Zone #	5	2, 8, 26, 34, 38

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											50%	
Y	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	330	0	0	0	0	0	0	0	0	0	0	165	0
AM Out	635	0	0	0	0	0	0	0	317	0	0	0	0
PM In	695	0	0	0	0	0	0	0	0	0	0	347	0
PM Out	516	0	0	0	0	0	0	0	258	0	0	0	0

Zone #	6	5, '10, 28, 30, 36, 37, 40

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	1,389	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	473	0	0	0	0	0	0	0	0	0	0	0	0
PM In	927	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	1,413	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	7	'9, 14, 15, 27

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In									10%	60%		
Y	10%	0%	60%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	10%	60%	0%	0%
PM Out	10%	0%	60%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	155	0	0	0	0	0	0	0	0	16	93	0	0
AM Out	230	23	0	138	0	0	0	0	0	0	0	0	0
PM In	266	0	0	0	0	0	0	0	0	27	160	0	0
PM Out	216	22	0	130	0	0	0	0	0	0	0	0	0

Zone #	8	3, 4, 31, 33

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	194	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	109	0	0	0	0	0	0	0	0	0	0	0	0
PM In	172	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	204	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	9	12, 13, 16, 29

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											50%	
Y	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	174	0	0	0	0	0	0	0	0	0	0	87	0
AM Out	519	0	0	0	0	0	0	0	260	0	0	0	0
PM In	582	0	0	0	0	0	0	0	0	0	0	291	0
PM Out	342	0	0	0	0	0	0	0	171	0	0	0	0

Enter only in blue cells	Yellow cells calculate

Int. #:	2	Barnett Rd/Case Rd at Ethanac Rd

Y

TOTAL CUMULATIVE PROJECTS TRAFFIC

Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	0	0	0	0	0	0	0	0	47	299	0
AM Out		0	0	69	0	0	0	0	646	0	0	0	0
AM Tot		0	0	69	0	0	0	0	646	0	47	299	0
PM In		0	0	0	0	0	0	0	0	0	80	718	0
PM Out		0	0	65	0	0	0	0	494	0	0	0	0
PM Tot		0	0	65	0	0	0	0	494	0	80	718	0

Zone #	1	1

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	419	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	125	0	0	0	0	0	0	0	0	0	0	0	0
PM In	160	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	416	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	2	11, 17, 18, 19, 20, 23, 24, 32, 41, 43, 35

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	634	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	1,434	0	0	0	0	0	0	0	0	0	0	0	0
PM In	1,747	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	1,175	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	3	21, 22, 25

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	107	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	319	0	0	0	0	0	0	0	0	0	0	0	0
PM In	359	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	211	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	4	6, 7, 42, 44, 45, 39

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	389	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	804	0	0	0	0	0	0	0	0	0	0	0	0
PM In	857	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	593	0	0	0	0	0	0	0	0	0	0	0	0

Int. #:	2	Barnett Rd/Case Rd at Ethanac Rd

Zone #	5	2, 8, 26, 34, 38

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											50%	
Y	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	330	0	0	0	0	0	0	0	0	0	0	165	0
AM Out	635	0	0	0	0	0	0	0	317	0	0	0	0
PM In	695	0	0	0	0	0	0	0	0	0	0	347	0
PM Out	516	0	0	0	0	0	0	0	258	0	0	0	0

Zone #	6	5, '10, 28, 30, 36, 37, 40

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	1,389	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	473	0	0	0	0	0	0	0	0	0	0	0	0
PM In	927	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	1,413	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	7	'9, 14, 15, 27

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In										30%	30%	
Y	0%	0%	30%	0%	0%	0%	0%	30%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	30%	30%	0%
PM Out	0%	0%	30%	0%	0%	0%	0%	30%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	155	0	0	0	0	0	0	0	0	0	47	47	0
AM Out	230	0	0	69	0	0	0	0	69	0	0	0	0
PM In	266	0	0	0	0	0	0	0	0	0	80	80	0
PM Out	216	0	0	65	0	0	0	0	65	0	0	0	0

Zone #	8	3, 4, 31, 33

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
Y	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	194	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	109	0	0	0	0	0	0	0	0	0	0	0	0
PM In	172	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	204	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	9	12, 13, 16, 29

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In											50%	
Y	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	174	0	0	0	0	0	0	0	0	0	0	87	0
AM Out	519	0	0	0	0	0	0	0	260	0	0	0	0
PM In	582	0	0	0	0	0	0	0	0	0	0	291	0
PM Out	342	0	0	0	0	0	0	0	171	0	0	0	0

Enter only in blue cells	Yellow cells calculate

Int. #:	3	I-215 SB Ramps at Ethanac Rd

N

TOTAL CUMULATIVE PROJECTS TRAFFIC													
Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		0	0	0	278	0	170	0	0	0	0	177	0
AM Out		0	0	0	0	0	0	0	364	351	95	0	0
AM Tot		0	0	0	278	0	170	0	364	351	95	177	0
PM In		0	0	0	185	0	393	0	0	0	0	407	0
PM Out		0	0	0	0	0	0	0	285	275	283	0	0
PM Tot		0	0	0	185	0	393	0	285	275	283	407	0

Zone #	1	1

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
N	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	419	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	125	0	0	0	0	0	0	0	0	0	0	0	0
PM In	160	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	416	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	2	11, 17, 18, 19, 20, 23, 24, 32, 41, 43, 35

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
N	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	634	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	1,434	0	0	0	0	0	0	0	0	0	0	0	0
PM In	1,747	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	1,175	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	3	21, 22, 25

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
N	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	107	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	319	0	0	0	0	0	0	0	0	0	0	0	0
PM In	359	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	211	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	4	6, 7, 42, 44, 45, 39

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
N	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	389	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	804	0	0	0	0	0	0	0	0	0	0	0	0
PM In	857	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	593	0	0	0	0	0	0	0	0	0	0	0	0

Int. #:	3	I-215 SB Ramps at Ethanac Rd

Zone #	5	2, 8, 26, 34, 38

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In						24%					26%	
N	0%	0%	0%	0%	0%	0%	0%	26%	24%	0%	0%	0%
AM Out								26%	24%			
PM In	0%	0%	0%	0%	0%	24%	0%	0%	0%	0%	26%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	26%	24%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	330	0	0	0	0	0	79	0	0	0	0	86	0
AM Out	635	0	0	0	0	0	0	0	165	152	0	0	0
PM In	695	0	0	0	0	0	167	0	0	0	0	181	0
PM Out	516	0	0	0	0	0	0	0	134	124	0	0	0

Zone #	6	5, '10, 28, 30, 36, 37, 40

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In				20%								
N	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	0%
AM Out										20%		
PM In	0%	0%	0%	20%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	1,389	0	0	0	278	0	0	0	0	0	0	0	0
AM Out	473	0	0	0	0	0	0	0	0	0	95	0	0
PM In	927	0	0	0	185	0	0	0	0	0	0	0	0
PM Out	1,413	0	0	0	0	0	0	0	0	0	283	0	0

Zone #	7	'9, 14, 15, 27

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In						30%					30%	
N	0%	0%	0%	0%	0%	0%	0%	30%	30%	0%	0%	0%
AM Out								30%	30%			
PM In	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	30%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	30%	30%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	155	0	0	0	0	0	47	0	0	0	0	47	0
AM Out	230	0	0	0	0	0	0	0	69	69	0	0	0
PM In	266	0	0	0	0	0	80	0	0	0	0	80	0
PM Out	216	0	0	0	0	0	0	0	65	65	0	0	0

Zone #	8	3, 4, 31, 33

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
N	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	194	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	109	0	0	0	0	0	0	0	0	0	0	0	0
PM In	172	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	204	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	9	12, 13, 16, 29

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In						25%					25%	
N	0%	0%	0%	0%	0%	0%	0%	25%	25%	0%	0%	0%
AM Out								25%	25%			
PM In	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%	25%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	25%	25%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	174	0	0	0	0	0	44	0	0	0	0	44	0
AM Out	519	0	0	0	0	0	0	0	130	130	0	0	0
PM In	582	0	0	0	0	0	146	0	0	0	0	146	0
PM Out	342	0	0	0	0	0	0	0	86	86	0	0	0

Enter only in blue cells	Yellow cells calculate

Int. #:	4	I-215 NB Ramps at Ethanac Rd

N

TOTAL CUMULATIVE PROJECTS TRAFFIC													
Pk Hr		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In		170	0	278	0	0	0	0	278	0	0	7	0
AM Out		0	0	0	0	0	0	351	13	0	0	95	95
AM Tot		170	0	278	0	0	0	351	291	0	0	102	95
PM In		393	0	185	0	0	0	0	185	0	0	14	0
PM Out		0	0	0	0	0	0	275	10	0	0	283	283
PM Tot		393	0	185	0	0	0	275	195	0	0	297	283

Zone #	1	1

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
N	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	419	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	125	0	0	0	0	0	0	0	0	0	0	0	0
PM In	160	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	416	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	2	11, 17, 18, 19, 20, 23, 24, 32, 41, 43, 35

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
N	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	634	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	1,434	0	0	0	0	0	0	0	0	0	0	0	0
PM In	1,747	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	1,175	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	3	21, 22, 25

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
N	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	107	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	319	0	0	0	0	0	0	0	0	0	0	0	0
PM In	359	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	211	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	4	6, 7, 42, 44, 45, 39

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
N	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	389	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	804	0	0	0	0	0	0	0	0	0	0	0	0
PM In	857	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	593	0	0	0	0	0	0	0	0	0	0	0	0

Int. #:	4	I-215 NB Ramps at Ethanac Rd

Zone #	5	2, 8, 26, 34, 38

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	24%										2%	
N	0%	0%	0%	0%	0%	0%	24%	2%	0%	0%	0%	0%
AM Out							24%	2%				
PM In	24%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%
PM Out	0%	0%	0%	0%	0%	0%	24%	2%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	330	79	0	0	0	0	0	0	0	0	0	7	0
AM Out	635	0	0	0	0	0	0	152	13	0	0	0	0
PM In	695	167	0	0	0	0	0	0	0	0	0	14	0
PM Out	516	0	0	0	0	0	0	124	10	0	0	0	0

Zone #	6	5, '10, 28, 30, 36, 37, 40

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In			20%					20%				
N	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	20%
AM Out											20%	20%
PM In	0%	0%	20%	0%	0%	0%	0%	20%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	20%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	1,389	0	0	278	0	0	0	0	278	0	0	0	0
AM Out	473	0	0	0	0	0	0	0	0	0	0	95	95
PM In	927	0	0	185	0	0	0	0	185	0	0	0	0
PM Out	1,413	0	0	0	0	0	0	0	0	0	0	283	283

Zone #	7	'9, 14, 15, 27

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	30%											
N	0%	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%
AM Out							30%					
PM In	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	155	47	0	0	0	0	0	0	0	0	0	0	0
AM Out	230	0	0	0	0	0	0	69	0	0	0	0	0
PM In	266	80	0	0	0	0	0	0	0	0	0	0	0
PM Out	216	0	0	0	0	0	0	65	0	0	0	0	0

Zone #	8	3, 4, 31, 33

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In												
N	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AM Out												
PM In	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	194	0	0	0	0	0	0	0	0	0	0	0	0
AM Out	109	0	0	0	0	0	0	0	0	0	0	0	0
PM In	172	0	0	0	0	0	0	0	0	0	0	0	0
PM Out	204	0	0	0	0	0	0	0	0	0	0	0	0

Zone #	9	12, 13, 16, 29

Pk Hr	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	25%											
N	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%
AM Out							25%					
PM In	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PM Out	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%

Pk Hr	T Gen	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM In	174	44	0	0	0	0	0	0	0	0	0	0	0
AM Out	519	0	0	0	0	0	0	130	0	0	0	0	0
PM In	582	146	0	0	0	0	0	0	0	0	0	0	0
PM Out	342	0	0	0	0	0	0	86	0	0	0	0	0

CUMULATIVE PROJECTS - HAND ENTERED FROM TRAFFIC STUDIES

Cumulative Project #34 - Northern Gateway Commerce Center

AM Peak Hour

		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Evans Rd at Ethanac Rd	6	0	39	0	0	0	0	20	12	195	0	0
2	Barnett Rd/Case Rd at Ethanac Rd	0	0	0	0	0	9	0	59	0	0	186	0
3	I-215 SB Ramps at Ethanac Rd	0	0	0	0	0	109	0	40	19	0	77	0
4	I-215 NB Ramps at Ethanac Rd	66	0	0	0	0	0	37	3	0	0	11	0

PM Peak Hour

		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Evans Rd at Ethanac Rd	24	0	139	0	0	0	0	68	3	74	0	0
2	Barnett Rd/Case Rd at Ethanac Rd	0	0	0	0	0	3	0	207	0	0	71	0
3	I-215 SB Ramps at Ethanac Rd	0	0	0	0	0	43	0	137	70	0	28	0
4	I-215 NB Ramps at Ethanac Rd	25	0	0	0	0	0	126	11	0	0	3	0

CUMULATIVE PROJECTS - HAND ENTERED FROM TRAFFIC STUDIES

Cumulative Project #8 - Capstone Warehouse

AM Peak Hour

		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Evans Rd at Ethanac Rd	0	0	0	0	0	0	0	96	0	0	385	0
2	Barnett Rd/Case Rd at Ethanac Rd	0	0	0	0	0	0	0	96	0	0	385	0
3	I-215 SB Ramps at Ethanac Rd	0	0	0	0	0	188	0	60	36	0	197	0
4	I-215 NB Ramps at Ethanac Rd	158	0	0	0	0	0	52	8	0	0	39	0

PM Peak Hour

		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Evans Rd at Ethanac Rd	0	0	0	0	0	0	0	409	0	0	255	0
2	Barnett Rd/Case Rd at Ethanac Rd	0	0	0	0	0	0	0	409	0	0	255	0
3	I-215 SB Ramps at Ethanac Rd	0	0	0	0	0	125	0	251	158	0	130	0
4	I-215 NB Ramps at Ethanac Rd	105	0	0	0	0	0	211	40	0	0	25	0

CUMULATIVE PROJECTS - HAND ENTERED FROM TRAFFIC STUDIES

Cumulative Projects #46,47,48 - Corsica Business Park, Wheat Warehouse, Ethanac and Evans Warehouse

AM Peak Hour

		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Evans Rd at Ethanac Rd	1	0	6	0	0	0	0	15	4	21	55	0
2	Barnett Rd/Case Rd at Ethanac Rd	0	0	0	0	0	0	0	21	0	0	76	0
3	I-215 SB Ramps at Ethanac Rd	0	0	0	0	0	42	0	13	8	0	34	0
4	I-215 NB Ramps at Ethanac Rd	29	0	0	0	0	0	12	1	0	0	5	0

PM Peak Hour

		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Evans Rd at Ethanac Rd	4	0	21	0	0	0	0	54	2	8	19	0
2	Barnett Rd/Case Rd at Ethanac Rd	0	0	0	0	0	0	0	75	0	0	27	0
3	I-215 SB Ramps at Ethanac Rd	0	0	0	0	0	14	0	46	29	0	13	0
4	I-215 NB Ramps at Ethanac Rd	11	0	0	0	0	0	41	5	0	0	2	0

APPENDIX F

TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2000 MUTCD)

MAJOR STREET: **Ethanac Road** EB WB # OF APPROACH LANES: **2**

MINOR STREET: **Evans Road** NB SB # OF APPROACH LANES: **1**

CITY, STATE: **Menifee, CA**

COMMENTS: Signal Warrant Study, Existing Plus Project

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **N**

	MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
			MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES			**600**	**150**		**900**	**75**		**480**	**120**		**720**	**60**			
06:00 AM TO 07:00 AM	0	0														
07:00 AM TO 08:00 AM	1,535	19	Y			Y			Y			Y				
08:00 AM TO 09:00 AM	0	0														
09:00 AM TO 10:00 AM	0	0														
10:00 AM TO 11:00 AM	0	0														
11:00 AM TO 12:00 PM	0	0														
12:00 PM TO 01:00 PM	0	0														
01:00 PM TO 02:00 PM	0	0														
02:00 PM TO 03:00 PM	0	0														
03:00 PM TO 04:00 PM	0	0														
04:00 PM TO 05:00 PM	1,434	47	Y			Y			Y			Y				
05:00 PM TO 06:00 PM	0	0														
06:00 PM TO 07:00 PM	0	0														
07:00 PM TO 08:00 PM	0	0														
08:00 PM TO 09:00 PM	0	0														
09:00 PM TO 10:00 PM	0	0														
	2,969	66	2	0	**0**	2	0	**0**	2	0	**0**	2	0	**0**	**0**	**0**
			8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
			NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**NOT SATISFIED**

08/16/23

Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2000 MUTCD)

MAJOR STREET: **Ethanac Road** EB WB # OF APPROACH LANES: **2**

MINOR STREET: **Evans Road** NB SB # OF APPROACH LANES: **1**

CITY, STATE: **Menifee, CA**

COMMENTS: Signal Warrant Study, Opening Year 2025 Cumulative

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**
85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **N**

			MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
					MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES					**600**	**150**		**900**	**75**		**480**	**120**		**720**	**60**			
06:00 AM	TO	07:00 AM	0	0														
07:00 AM	TO	08:00 AM	3,289	217	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
08:00 AM	TO	09:00 AM	0	0														
09:00 AM	TO	10:00 AM	0	0														
10:00 AM	TO	11:00 AM	0	0														
11:00 AM	TO	12:00 PM	0	0														
12:00 PM	TO	01:00 PM	0	0														
01:00 PM	TO	02:00 PM	0	0														
02:00 PM	TO	03:00 PM	0	0														
03:00 PM	TO	04:00 PM	0	0														
04:00 PM	TO	05:00 PM	3,617	341	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
05:00 PM	TO	06:00 PM	0	0														
06:00 PM	TO	07:00 PM	0	0														
07:00 PM	TO	08:00 PM	0	0														
08:00 PM	TO	09:00 PM	0	0														
09:00 PM	TO	10:00 PM	0	0														
			6,906	558	2	2	**2**	2	2	**2**	2	2	**2**	2	2	**2**	**2**	**2**
					8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
					NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**SATISFIED**

08/16/23
Kimley-Horn and Associates

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2000 MUTCD)

MAJOR STREET: **Ethanac Road** EB WB # OF APPROACH LANES: **2**

MINOR STREET: **Evans Road** NB SB # OF APPROACH LANES: **1**

CITY, STATE: **Menifee, CA**

COMMENTS: Signal Warrant Study, Opening Year 2025 Cumulative Plus Project

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): **N**
85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): **N**

			MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
					MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES					**600**	**150**		**900**	**75**		**480**	**120**		**720**	**60**			
06:00 AM	TO	07:00 AM	0	0														
07:00 AM	TO	08:00 AM	3,335	232	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
08:00 AM	TO	09:00 AM	0	0														
09:00 AM	TO	10:00 AM	0	0														
10:00 AM	TO	11:00 AM	0	0														
11:00 AM	TO	12:00 PM	0	0														
12:00 PM	TO	01:00 PM	0	0														
01:00 PM	TO	02:00 PM	0	0														
02:00 PM	TO	03:00 PM	0	0														
03:00 PM	TO	04:00 PM	0	0														
04:00 PM	TO	05:00 PM	3,636	387	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
05:00 PM	TO	06:00 PM	0	0														
06:00 PM	TO	07:00 PM	0	0														
07:00 PM	TO	08:00 PM	0	0														
08:00 PM	TO	09:00 PM	0	0														
09:00 PM	TO	10:00 PM	0	0														
			6,971	619	2	2	**2**	2	2	**2**	2	2	**2**	2	2	**2**	**2**	**2**
					8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
					NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**SATISFIED**

08/16/23
Kimley-Horn and Associates

APPENDIX G

TUMF REGIONAL PROGRAM

TRANSPORTATION UNIFORM MITIGATION FEE NEXUS STUDY 2016 UPDATE

FINAL REPORT

Prepared for the Western Riverside Council of Governments

In Cooperation with

The City of Banning
The City of Beaumont
The City of Calimesa
The City of Canyon Lake
The City of Corona
The City of Eastvale
The City of Hemet
The City of Jurupa Valley
The City of Lake Elsinore
The City of Menifee
The City of Moreno Valley
The City of Murrieta
The City of Norco
The City of Perris
The City of Riverside
The City of San Jacinto
The City of Temecula
The City of Wildomar
The County of Riverside
Eastern Municipal Water District
March Joint Powers Authority
Morongo Band of Mission Indians
Riverside County Superintendent of Schools
Riverside Transit Agency
Western Municipal Water District

Prepared by WSP

As adopted by the WRCOG Executive Committee, July 10, 2017

Table 4.4 - TUMF Network Cost Estimates

AREA PLAN DIST	CITY	STREETNAME	SEGMENTFROM	SEGMENTTO	MILES	TOTAL COST	MAXIMUM TUMF SHARE
Central	Menifee	Ethanac	Goetz	Murrieta	0.99	$0	$0
Central	Menifee	Ethanac	Murrieta	I-215	0.90	$0	$0
Central	Menifee	Ethanac	I-215	interchange	0.00	$17,897,000	$15,766,000
Central	Menifee	Ethanac	Sherman	Matthews	0.61	$1,617,000	$1,617,000
Central	Menifee	Ethanac	BNSF San Jacinto Branch	railroad crossing	0.00	$36,980,000	$33,018,000
Central	Menifee	Menifee	SR-74 (Pinacate)	Simpson	2.49	$0	$0
Central	Menifee	Menifee	Salt Creek	bridge	0.00	$0	$0
Central	Menifee	Menifee	Simpson	Aldergate	0.64	$0	$0
Central	Menifee	Menifee	Aldergate	Newport	0.98	$0	$0
Central	Menifee	Menifee	Newport	Holland	1.07	$0	$0
Central	Menifee	Menifee	Holland	Garbani	1.03	$0	$0
Central	Menifee	Menifee	Garbani	Scott	1.00	$2,635,000	$2,635,000
Central	Menifee	Menifee/Whitewood	Scott	Murrieta City Limit	0.53	$0	$0
Central	Menifee	Newport	Goetz	Murrieta	1.81	$0	$0
Central	Menifee	Newport	Murrieta	I-215	2.05	$5,405,000	$5,405,000
Central	Menifee	Newport	I-215	Menifee	0.95	$0	$0
Central	Menifee	Newport	Menifee	Lindenberger	0.77	$0	$0
Central	Menifee	Newport	Lindenberger	SR-79 (Winchester)	3.58	$0	$0
Central	Menifee	Scott	I-215	Briggs	2.04	$0	$0
Central	Menifee	Scott	I-215	interchange	0.00	$37,060,000	$37,060,000
Central	Menifee	Scott	Sunset	Murrieta	1.01	$2,654,000	$2,654,000
Central	Menifee	Scott	Murrieta	I-215	1.94	$10,254,000	$10,254,000
Central	Menifee	SR-74	Matthews	Briggs	1.89	$4,994,000	$4,994,000
Central	Moreno Valley	Alessandro	I-215	Perris	3.52	$6,394,000	$6,394,000
Central	Moreno Valley	Alessandro	Perris	Nason	2.00	$22,632,000	$22,632,000
Central	Moreno Valley	Alessandro	Nason	Moreno Beach	0.99	$6,922,000	$6,922,000
Central	Moreno Valley	Alessandro	Moreno Beach	Gilman Springs	4.13	$10,902,000	$10,902,000
Central	Moreno Valley	Gilman Springs	SR-60	Alessandro	1.67	$4,411,000	$3,724,000
Central	Moreno Valley	Gilman Springs	SR-60	interchange	0.00	$17,897,000	$17,897,000
Central	Moreno Valley	Perris	Reche Vista	Ironwood	2.09	$0	$0
Central	Moreno Valley	Perris	Ironwood	Sunnymead	0.52	$0	$0
Central	Moreno Valley	Perris	SR-60	interchange	0.00	$17,897,000	$0
Central	Moreno Valley	Perris	Sunnymead	Cactus	2.00	$0	$0
Central	Moreno Valley	Perris	Cactus	Harley Knox	3.50	$0	$0
Central	Moreno Valley	Reche Vista	Moreno Valley City Limit	Heacock	0.44	$3,310,000	$1,705,000
Central	Perris	11th/Case	Perris	Goetz	0.30	$2,100,000	$2,100,000
Central	Perris	Case	Goetz	I-215	2.36	$16,486,000	$13,538,000
Central	Perris	Case	San Jacinto River	bridge	0.00	$1,126,000	$495,000
Central	Perris	Ethanac	Keystone	Goetz	2.24	$7,327,000	$7,327,000
Central	Perris	Ethanac	San Jacinto River	bridge	0.00	$7,378,000	$7,378,000
Central	Perris	Ethanac	I-215	Sherman	0.35	$2,435,000	$1,945,000
Central	Perris	Goetz	Case	Ethanac	2.00	$5,267,000	$2,506,000
Central	Perris	Goetz	San Jacinto River	bridge	0.00	$3,688,000	$1,925,000
Central	Perris	Mid-County (Placentia)	I-215	Perris	0.87	$13,127,000	$12,627,000
Central	Perris	Mid-County (Placentia)	I-215	interchange	0.00	$37,060,000	$12,354,000
Central	Perris	Mid-County	Perris	Evans	1.57	$32,902,000	$32,902,000
Central	Perris	Mid-County	Perris Valley Storm Channel	bridge	0.00	$8,299,000	$8,299,000
Central	Perris	Perris	Harley Knox	Ramona	1.00	$0	$0
Central	Perris	Perris	Ramona	Citrus	2.49	$6,578,000	$6,578,000
Central	Perris	Perris	Citrus	Nuevo	0.50	$0	$0
Central	Perris	Perris	Nuevo	11th	1.75	$12,206,000	$9,034,000
Central	Perris	Perris	I-215 overcrossing	bridge	0.00	$2,767,000	$1,356,000
Central	Perris	Ramona	I-215	Perris	1.47	$2,769,000	$2,769,000
Central	Perris	Ramona	I-215	interchange	0.00	$17,897,000	$5,965,000
Central	Perris	Ramona	Perris	Evans	1.00	$0	$0
Central	Perris	Ramona	Evans	Mid-County (2,800 ft E of Rider)	2.62	$0	$0
Central	Perris	SR-74 (4th)	Ellis	I-215	2.29	$0	$0
Central	Unincorporated	Ethanac	SR-74	Keystone	1.07	$5,646,000	$5,646,000
Central	Unincorporated	Gilman Springs	Alessandro	Bridge	4.98	$15,815,000	$8,105,000
Central	Unincorporated	Menifee	Nuevo	SR-74 (Pinacate)	4.07	$10,737,000	$10,737,000
Central	Unincorporated	Mid-County	Evans	Ramona (2,800 ft E of Rider)	0.77	$8,587,000	$8,587,000
Central	Unincorporated	Mid-County (Ramona)	Ramona (2,800 ft E of Rider)	Pico Avenue	0.44	$1,161,000	$1,161,000
Central	Unincorporated	Mid-County (Ramona)	Pico Avenue	Bridge	5.95	$31,413,000	$25,287,000
Central	Unincorporated	Mid-County (Ramona)	San Jacinto River	bridge	0.00	$23,978,000	$15,835,000
Central	Unincorporated	Reche Canyon	San Bernardino County	Reche Vista	3.35	$12,457,000	$9,429,000
Central	Unincorporated	Reche Vista	Reche Canyon	Moreno Valley City Limit	1.22	$9,180,000	$4,729,000
Central	Unincorporated	Scott	Briggs	SR-79 (Winchester)	3.04	$16,042,000	$0
Central	Unincorporated	SR-74	Ethanac	Ellis	2.68	$0	$0
Northwest	Corona	Cajalco	I-15	Temescal Canyon	0.66	$2,306,000	$2,306,000
Northwest	Corona	Cajalco	I-15	interchange	0.00	$72,546,000	$44,251,000
Northwest	Corona	Foothill	Paseo Grande	Lincoln	2.60	$19,330,000	$7,282,000
Northwest	Corona	Foothill	Wardlow Wash	bridge	0.00	$5,534,000	$0
Northwest	Corona	Foothill	Lincoln	California	2.81	$0	$0
Northwest	Corona	Foothill	California	I-15	0.89	$6,207,000	$4,304,000
Northwest	Corona	Green River	SR-91	Dominguez Ranch	0.52	$3,624,000	$1,000
Northwest	Corona	Green River	Dominguez Ranch	Palisades	0.56	$4,214,000	$1,639,000
Northwest	Corona	Green River	Palisades	Paseo Grande	2.01	$0	$0
Northwest	Eastvale	Schleisman	San Bernardino County	600' e/o Cucamonga Creek	0.65	$2,271,000	$2,271,000
Northwest	Eastvale	Schleisman	Cucamonga Creek	bridge	0.00	$923,000	$923,000
Northwest	Eastvale	Schleisman	600' e/o Cucamonga Creek	Harrison	0.87	$0	$0
Northwest	Eastvale	Schleisman	Harrison	Sumner	0.50	$0	$0
Northwest	Eastvale	Schleisman	Sumner	Scholar	0.50	$3,493,000	$3,493,000
Northwest	Eastvale	Schleisman	Scholar	A Street	0.31	$0	$0
Northwest	Eastvale	Schleisman	A Street	Hamner	0.27	$0	$0
Northwest	Jurupa Valley	Van Buren	SR-60	Bellegrave	1.43	$9,976,000	$3,628,000
Northwest	Jurupa Valley	Van Buren	Bellegrave	Santa Ana River	3.60	$25,115,000	$7,444,000

DRAFT Preliminary Engineering Study Report for

Ethanac Road Gap Closure Project

Prepared for:

County of Riverside
Department of Transportation

3525 14th Street
Riverside, CA 92501

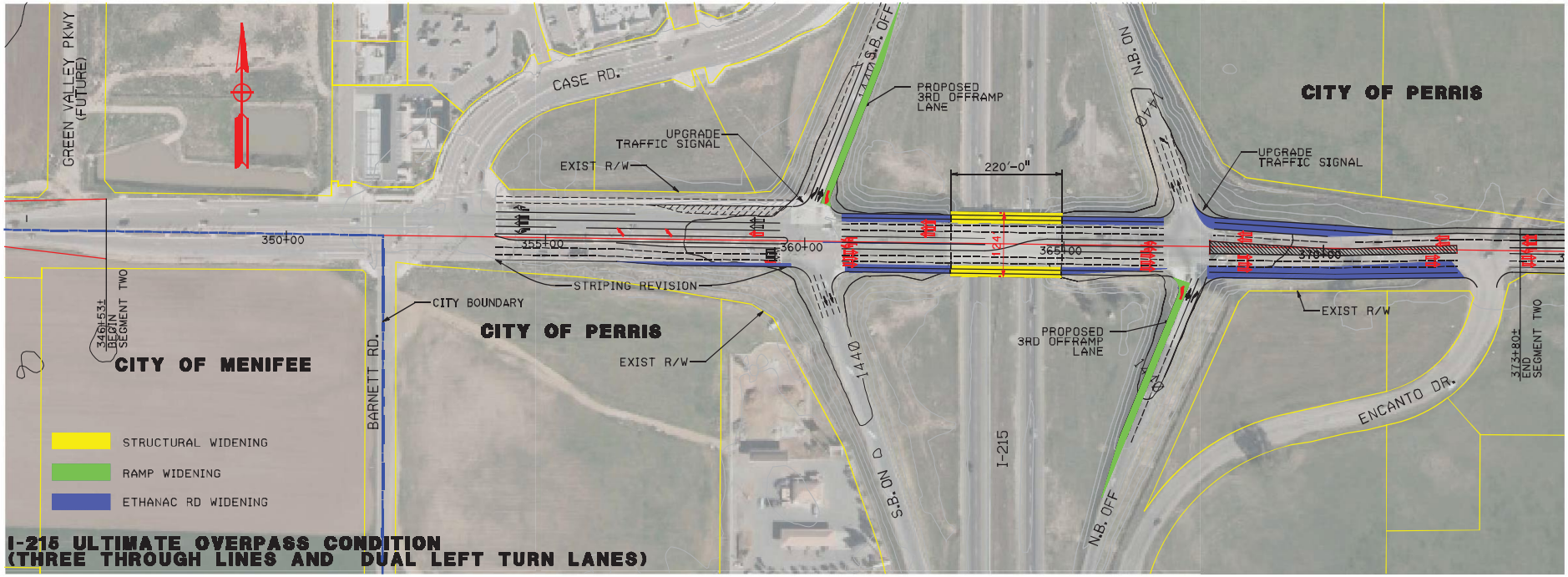
Prepared by:

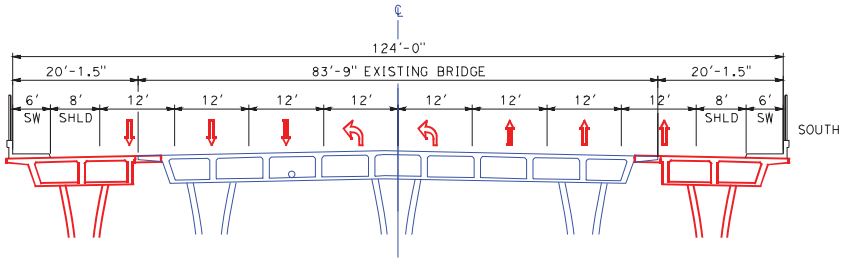
CNS Engineers, Inc.
10370 Hemet Street, Suite 230
Riverside, CA 92503

August 2014
Revised January 2016

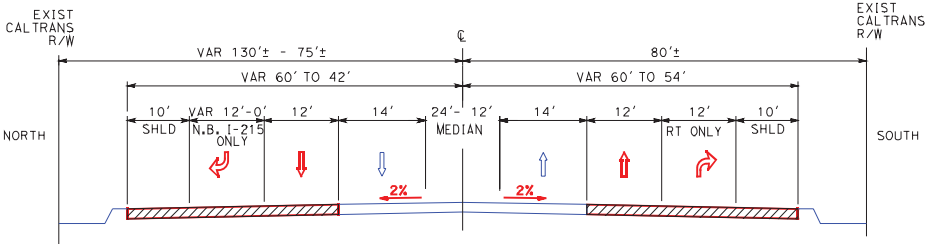
Attachment 2

SEGMENT TWO - Preliminary Roadway Layouts





ETHANAC DRIVE AT I-215 WITH
DUAL LEFT TURN ALTERNATIVE



ETHANAC DRIVE FROM NORTHBOUND I-215 RAMPS
TO ENCANTO DR TO SUPPORT DUAL LEFT TURN RAMPS
AT THE INTERCHANGE

PLANNING STUDY

CNS ENGINEERS, INC.	PLAN VIEW AND SECTIONS	SHEET No.
APPROVED BY:	SEGMENT TWO **ETHANAC ROAD GAP CLOSURE PROJECT**	
PREPARED BY: DATE	ALTERNATIVE 2A - ULTIMATE INTERCHANGE	SHEET 1 OF 2
10370 HEMET ST., Ste 230 RIVERSIDE, CA 92503		

RELATIVE BORDER SCALE IS IN FEET 0 100 200 300

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DGN FILE => $REQUEST

WO XX-XXXX

COUNTY FILE No.

VERSION: 08/27/2012

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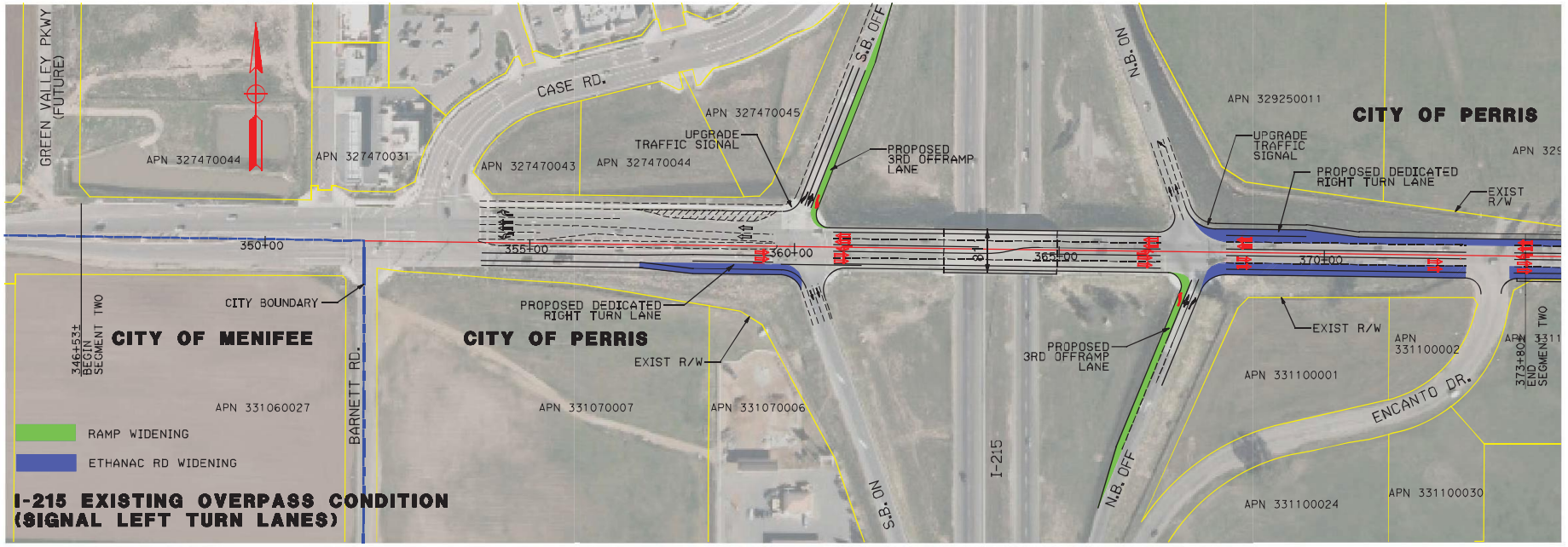
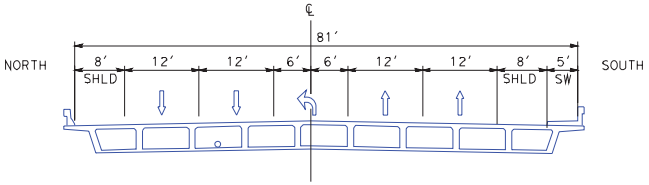
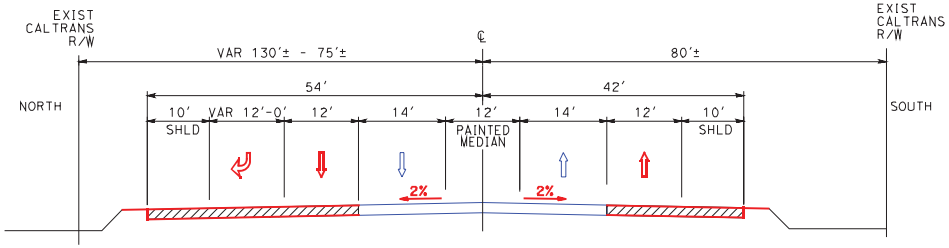




ETHANAC ROAD OVER I-215
FROM SOUTHBOUND RAMPS TO NORTHBOUND RAMPS
TO SUPPORT SINGLE LEFT TURN LANES
CITY OF PERRIS
(EXISTING CONDITION)



ETHANAC ROAD FROM NORTHBOUND RAMPS TO
ENCANTO DRIVE TO SUPPORT SINGLE LEFT TURN LANES
AT THE INTERCHANGE
CITY OF PERRIS

PLANNING STUDY

CNS ENGINEERS, INC.	PLAN VIEW AND SECTIONS	SHEET No.
APPROVED BY: PREPARED BY: DATE 10370 HEMET ST., Ste 230 RIVERSIDE, CA 92503	SEGMENT TWO **ETHANAC ROAD GAP CLOSURE PROJECT** ALTERNATIVE 2B - EXISTING OVERPASS	SHEET 2 OF 2

RELATIVE BORDER SCALE IS IN FEET 0 100 200 300

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WO XX-XXXX

COUNTY FILE No.

VERSION: 08/27/2012

$DATE $TIME $USER $DATE $REQUEST

SB 743 VMT Analysis
for:

NORTHERN GATEWAY LOGISTICS CENTER

In the City of Menifee

Prepared by:
Kimley-Horn and Associates, Inc.
Trevor Briggs, P.E.
trevor.briggs@kimley-horn.com

November 2023

Kimley»Horn

SB 743 VMT Analysis
Northern Gateway Logistics Center Project
November 2, 2023

BACKGROUND

In 2013, SB 743 was signed into law by California Governor Jerry Brown with a goal of reducing Greenhouse Gas (GHG) emissions, promoting the development of infill land use projects and multimodal transportation networks, and to promote a diversity of land uses within developments. One significant outcome resulting from this statue is the removal of automobile delay and congestion, commonly known as Level of Service (LOS), as a basis for determining significant transportation impacts under the California Environmental Quality Act (CEQA).

The Governor's Office of Planning and Research (OPR) selected Vehicle Miles Traveled (VMT) as the principal measure to replace LOS for determining significant transportation impacts. VMT is a measure of total vehicular travel that accounts for the number of vehicle trips and the length of those trips. OPR selected VMT, in part, because jurisdictions are already familiar with this metric. VMT is already used in CEQA to study other potential impacts such as GHG, air quality, and energy impacts and is used in planning for regional Sustainable Communities Strategies (SCS).

VMT also allows for an analysis of a project's impact throughout the jurisdiction rather than only in the vicinity of the proposed project allowing for a better understanding of the full extent of a project's transportation-related impact. It should be noted that SB 743 does not disallow an agency to use LOS for other planning purposes outside the scope of CEQA.

This section documents SB 743 VMT analysis based on City of Menifee VMT Guidelines[1]

PROJECT DESCRIPTION

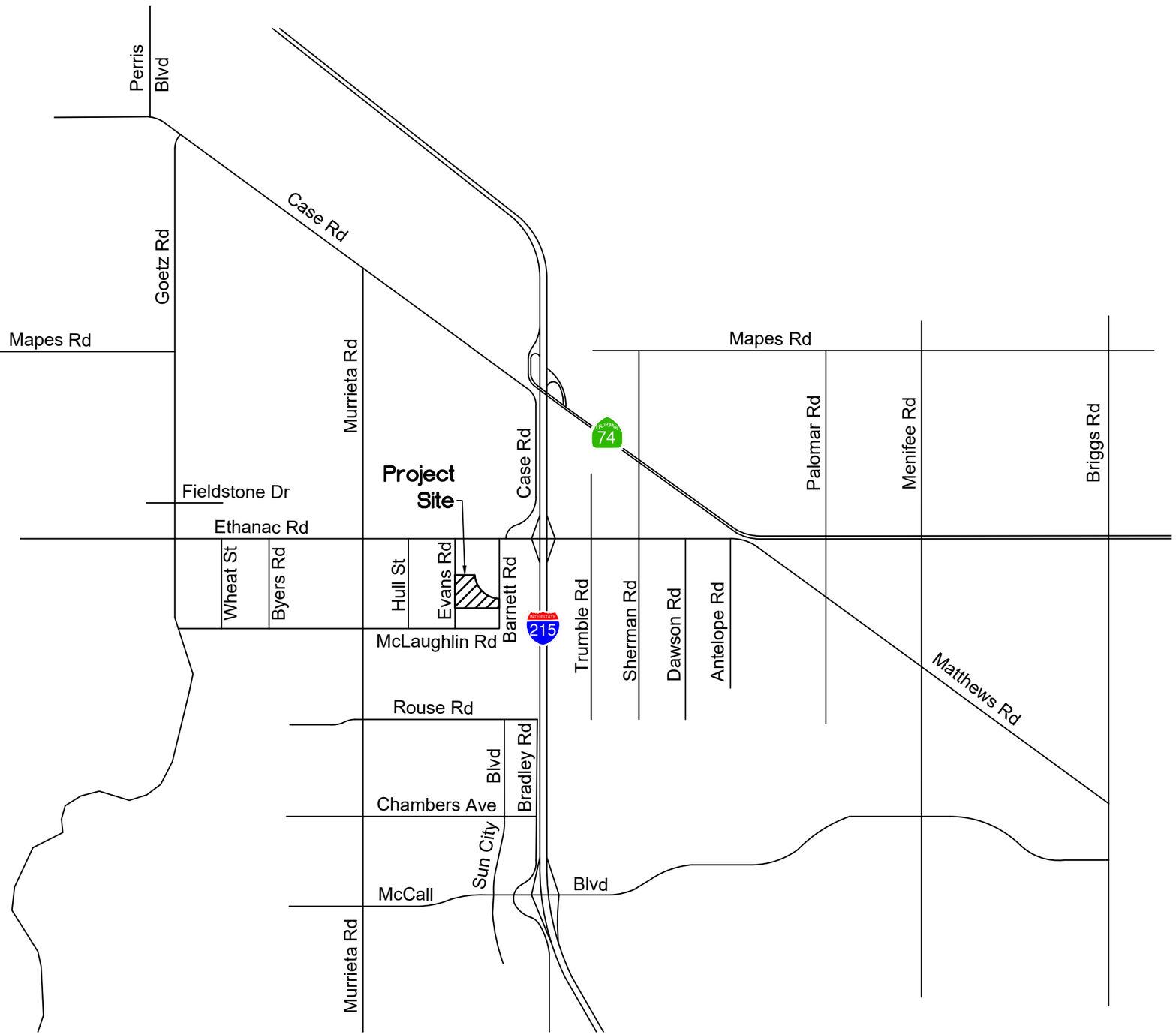
The Northern Gateway Logistics Center project site is located north of McLaughlin Road between Evans Road and Barnett Road in the City of Menifee. The project site is approximately 20.17 acres and is generally bounded by vacant land to the north and south, Barnett Road to the east, and Evans Road to the west. The site is shown in its regional setting on Figure 1. The project site is currently vacant. The project consists of the construction of two warehouse buildings totaling approximately 398,252 square feet. A copy of the project site plan is provided on Figure 2.

VMT SCREENING

A VMT screening was conducted for the proposed project. Based on the City of Menifee's VMT screening criteria, the proposed project would not screen out of a VMT analysis. The project's VMT screening scoping form is provided in *Appendix A*.

[1] *City of Menifee Traffic Impact Analysis Guidelines for Vehicle Miles Traveled, January 2022*

NOT TO SCALE



LEGEND:

= Project Site

FIGURE 1
VICINITY MAP

Kimley»Horn

NOT TO SCALE

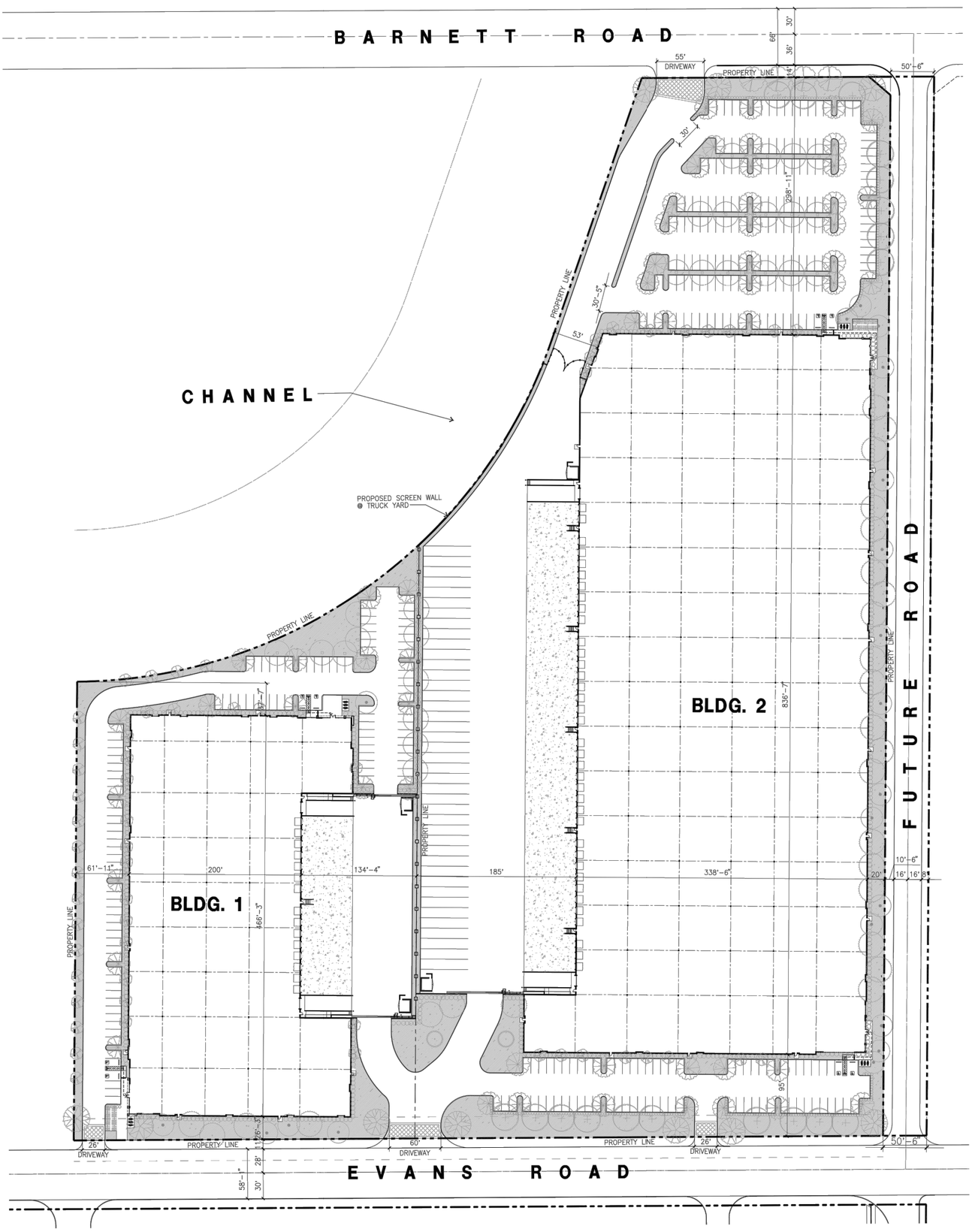


FIGURE 2
SITE PLAN

VMT ASSESSMENT FOR ROUTINE PROJECTS

A VMT Assessment for Routine Projects was conducted for the proposed project per City of Menifee's VMT Guidelines. Based on the WRCOG VMT Calculator Spreadsheet, the proposed project would be presumed to have a less-than significant VMT impact. The project's VMT Calculator Spreadsheet is provided in *Appendix B*.

Even though the VMT Assessment for Routine Projects showed less-than-significant impact, a full VMT analysis was conducted using the RIVCOM model for a conservative analysis.

VMT THRESHOLDS

Based on the City of Menifee *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled* (VMT Guidelines; January 2022), a project would result in a significant project generated VMT impact if either of the following conditions are satisfied:

1. The baseline project generated VMT per service population exceeds the County of Riverside General Plan Buildout VMT per service population, or
2. The cumulative project generated VMT per service population exceeds the County of Riverside General Plan Buildout VMT per service population

ANALYSIS SCENARIOS

The VMT analysis was completed using the current version of Riverside County's Transportation Model, RIVCOM version 3.5.0 (referred to as the "RIVCOM Model"). The model is trip-based and considered interaction between different land uses based on socio-economic data such as population, households, and employment. Adjustments in socio-economic data (employment) were made to the appropriate Traffic Analysis Zones (TAZ) in the RIVCOM Model to reflect the project's proposed land uses.

The model inputs and outputs from the RIVCOM model are included in Appendix C of the report. The current version of the RIVCOM Model maintains a base year condition of 2018 which, for the purposes of analysis, is considered to be representative of existing conditions. The planning horizon for the RIVCOM Model is 2045.

VMT analysis was conducted for existing and cumulative scenarios and results were compared to the existing conditions. The analysis includes the following scenarios:

- Existing Conditions - based on 2018 RIVCOM Model conditions
- Existing Plus Project Conditions – Based on 2018 RIVCOM Model with the proposed Project land use
- Cumulative No Project Conditions – Based on 2045 RIVCOM Model conditions without the proposed Project land use
- Cumulative Plus Project Conditions – Based on 2045 RIVCOM Model conditions with the proposed Project land use

NORTHERN GATEWAY LOGISTICS CENTER LAND USE CONVERSION

In order to evaluate the project's VMT, the land use plan needed to be first converted into a RIVCOM compatible dataset. This dataset relied on land use assumptions developed as part of the Northern Gateway Logistics Center Project, and the trip generation estimates for the Project. The resultant land use data was coded into the RIVCOM Model for analysis. Generally speaking, for VMT analysis purposes this represented the following broad land use category:

- Employee-Based VMT (land uses where the principal source of VMT relates to worker commutes)

VMT ANALYSIS

PROJECT-GENERATED VMT

As described in the City of Menifee VMT Guidelines, VMT significance thresholds are based on land use type, broadly categorized as efficiency metrics. Efficiency metrics include VMT/capita (Residential) and Work VMT/employee (Employee-Based VMT).

The calculation of VMT efficiency metrics has two components – the total number of trips generated and the average trip length of each vehicle. As the proposed project has only non-residential trips, trip attractions were used from all home-based-work trip purpose matrices. Using the peak and off-peak person trip matrices, skim (distances) matrices and appropriate occupancy rates, VMT was calculated for the Northern Gateway Logistics Center traffic analysis zone (TAZ). Exhibit 1 shows the efficiency metric results for the analysis scenarios.

Exhibit 1 – Project VMT Impact Evaluation – Efficiency Metrics

Analysis Scenario	Employment-Based VMT/EMP	VMT Impact
Riverside County Average	28.96	
Existing Plus Project		
Project HBW VMT / Employee	22.0	No
Cumulative Plus Project Conditions		
Project HBW VMT / Employee	19.1	No

Based on the results in Exhibit 1 and the City of Menifee VMT Guidelines, the following initial unmitigated results are determined:

- The proposed project's Employment-Based VMT land use does not exceed the City's VMT threshold under any project scenario.

PROJECT EFFECT ON VMT

Consistent with state guidelines, VMT analyses take into account the length of all trips generated by a Project, whether they occur within a City or outside it. The VMT per service population summarized in Exhibit 1 (previously mentioned) is the total VMT produced by the Project, both inside and outside the City boundaries, divided by the total service population (population and employment). Therefore, the VMT efficiency and travel patterns within the City should be consistent with the VMT efficiency and travel patterns outside the City. As noted in Exhibit 1, the VMT per service population for the proposed project is less than the City's VMT threshold. This finding should remain consistent whether the entirety of the project's VMT is considered, or if only the VMT within the City is considered. This is because both the Project and the rest of the City, under which the threshold was developed, will have consistent travel patterns and so the relative VMT per service population between the project and the remainder of the City should remain consistent within the City as with what is summarized in Exhibit 1. Therefore, it can be determined that under baseline conditions, the proposed project effect on VMT would be considered a less-than-significant impact on VMT within the City, consistent with the findings summarized in Exhibit 1.

In addition, the City's VMT Guidelines state that the cumulative no project shall reflect the adopted Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). As such, if a project is consistent with the regional RTP/SCS, then the cumulative impacts shall be considered less than significant. The proposed land use is consistent with the City's General Plan; therefore, the proposed project's cumulative VMT impact is considered less-than-significant.

Based on the Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impact in CEQA (December 2018), "a project that falls below an efficiency-based threshold that is aligned with long-term goals and relevant plans has no cumulative impact distinct from the project impact. Accordingly, a finding of a less-than-significant project impact would imply a less-than-significant cumulative impact, and vice versa." Since the project is consistent with the adopted Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS), the "project effect on VMT" is presumed to have a less-than significant impact.

VMT REDUCING DESIGN PRINCIPLES, POLICIES, AND IMPROVEMENTS

The City of Menifee provides Industrial Good Neighbor Policies for new industrial project sites, which are provided in Appendix D. Although the Project's VMT impact is considered to be less than significant, the Industrial Good Neighbor Policies require Transportation Demand Management (TDM) measures for industrial uses with over 100 employees to reduce work-related vehicle trips.

CONCLUSION

Based on the results of this analysis, the following findings are made:

- The proposed project's Employment-Based VMT does not exceed the threshold under any project scenario and as a result are determined to not have a significant transportation impact based on the City's adopted thresholds.

- Based on the City's VMT Guidelines, if a project is consistent with the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), then the cumulative impacts shall be considered less-than-significant. The proposed land use is consistent with the City's General Plan; therefore, the proposed project's cumulative VMT impact is considered less-than-significant.

APPENDIX A

VMT SCREENING SCOPING FORM

Attachment A: Project Scoping Form

This scoping form shall be completed and submitted to the City of Menifee to assist in identifying infrastructure improvements that may be required to support traffic from the proposed project.

Project Identification:

Case Number:	
Related Cases:	
SP No.	
EIR No.	
GPA No.	
CZ No.	
Project Name:	Northern Gateway Logistics Center Project
Project Address:	
Project Opening Year:	2025
Project Description:	398,252 SF Warehouse (See Attachment A)

	Consultant:	**Developer:**
Name:	Kimley-Horn and Associates, Inc.	Lovett Industrial, LLC
Address:	3801 University Ave, Suite 300,	120 Newport Center Dr., Suite 217
	Riverside, CA 92501	Newport Beach, CA 92660
Telephone:	714-786-6117	(562) 922-5784
Fax/Email:	trevor.briggs@kimley-horn.com	luke.sarmiento@lovettindustrial.com

Trip Generation Information:

Trip Generation Data Source: ITE Trip Generation Manual, 11th Edition

Current General Plan Land Use: Vacant

Proposed General Plan Land Use: Warehouse

See Attachment E

Current Zoning: EDC

Proposed Zoning: EDC

	Existing Trip Generation			Proposed Trip Generation See Attachment B		
	In	Out	Total	In	Out	Total
AM Trips				73	23	96
PM Trips				28	73	101

Trip Internalization: ☐ Yes ☒ No (_____% Trip Discount)

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

Potential Screening Checks

Is your project screened from specific analyses (see Page 11 of the guidelines related to LOS assessment and Pages 24-26).

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

VMT screening justification (see Pages 24-26 of the guidelines): See Attachment C

VMT Analysis Scoping

For projects that are not screened, identify the following:

- Travel Demand Forecasting Model Used RIVCOM See Attachment D
- Attach WRCOG Screening VMT Assessment output or describe why it is not appropriate for use
- Attach proposed Model Land Use Inputs and Assumed Conversion Factors (attach)

Signatures

TIA Preparer: _____ City (Approved by): _____

ATTACHMENT B
SUMMARY OF PROJECT TRIP GENERATION
NORTHERN GATEWAY LOGISTICS CENTER PROJECT

TRIP GENERATION RATES [1]

ITE Land Use	ITE Code	Unit	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Warehousing	150	KSF	1.71	0.131	0.039	0.170	0.050	0.130	0.180

PROJECT TRIP GENERATION

Project Land Use		Quantity	Unit	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Warehousing		398.252	KSF	681	52	16	68	20	52	72
Passenger Vehicles	73.00%			497	38	12	50	15	38	53
Trucks	27.00%			184	14	4	18	5	14	19

PASSENGER CAR EQUIVALENTS (PCE)

Vehicle Type	Vehicle Mix [2,3]	Daily Vehicles	PCE Factor	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Passenger Vehicles	73.00%	497	1.0	497	38	12	50	15	38	53
2-Axle Trucks	4.57%	31	1.5	47	4	1	5	1	4	5
3-Axle Trucks	6.13%	42	2.0	84	6	2	8	2	6	8
4+ Axle Trucks	16.30%	111	3.0	333	25	8	33	10	25	35
Total Proposed Project Truck PCE Trips				464	35	11	46	13	35	48
Total Proposed Project PCE Trips				**961**	**73**	**23**	**96**	**28**	**73**	**101**

[1] Source: Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition

[2] Passenger Vehicles and Truck splits taken from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition Supplement.

[3] Truck mix percentages were calculated based on a ratio between the ITE truck splits and the Truck Trip Generation Study - City of Fontana, August 2003

PCE = Passenger Car Equivalent

KSF = Thousand Square Feet

ATTACHMENT C

CEQA VEHICLE MILES TRAVELED (VMT) ASSESSMENT

Senate Bill 743 (SB 743) was approved by California legislature in September 2013. SB 743 requires changes to California Environmental Quality Act (CEQA), specifically directing the Governor's Office of Planning and Research (OPR) to develop alternative metrics to the use of vehicular "Level of Service" (LOS) for evaluating transportation projects. OPR has prepared a technical advisory ("OPR Technical Advisory") for evaluating transportation impacts in CEQA and has recommended that Vehicle Miles Traveled (VMT) replace LOS as the primary measure of transportation impacts. The Natural Resources Agency has adopted updates to CEQA Guidelines to incorporate SB 743 that requires VMT for the purposes of determining a significant transportation impact under CEQA.

The City of Menifee *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled* (January 2022 Update) provides details on appropriate screening thresholds that can be used to identify when a proposed land use project is anticipated to result in a less-than-significant impact without conducting a more detailed level analysis. Screening thresholds are broken down into the following three criteria:

1. Transit Priority Area (TPA) Screening
2. Low VMT Area Screening
3. Project Type Screening

Land development projects that meet one or more of the above screening thresholds may be presumed to create a less-than-significant impact on transportation and circulation. The screening thresholds were reviewed and evaluated for this project.

Transit Priority Area (TPA) Screening

A project located within a TPA as determined by the Western Riverside Council of Governments (WRCOG) VMT Screening Tool would be considered to have a less-than-significant transportation impact. Based on the WRCOG Screening Tool, the proposed project is not located within a TPA.

The Transit Priority Area threshold is not met.

Low VMT Generating Area

A project located within a low VMT generating area as determined by the WRCOG VMT Screening Tool and the City's guidelines would be considered to have a less-than-significant transportation impact. Based on the WRCOG VMT Screening Tool and the City's guidelines, the proposed project is not located within a low VMT generating area. Results of the WRCOG VMT Screening Tool are provided in **Attachment D**.

The Low VMT Generating Area threshold is not met.

Project Type Screening

The City of Menifee *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled* identify that the following project types would be presumed to have a less-than-significant VMT impact:

- Local-serving K-12 schools
- Local parks
- Day care centers
- Local-serving retail uses less than 50,000 square feet, including:
    - Gas stations
    - Banks
    - Restaurants
    - Shopping Center
- Local-serving hotels (e.g. non-destination hotels)
- Student housing projects on or adjacent to college campuses
- Local-serving assembly uses (places of worship, community organizations)
- Community institutions (Public libraries, fire stations, local government)
- Local-serving community colleges that are consistent with the assumptions noted in the RTP/SCS Affordable or supportive housing
- Assisted living facilities
- Senior housing as defined by the U.S. Department of Housing and Urban Development (HUD)
- Projects generating less than 110 daily vehicle trips
    - This generally corresponds to the following "typical" development potentials:
        - 11 single family housing units
        - 16 multi-family, condominiums, or townhouse housing units
        - 10,000 sq. ft. of office
        - 15,000 sq. ft. of light industrial
        - 63,000 sq. ft. of warehousing
        - 79,000 sq. ft. of high cube transload and short-term storage warehouse

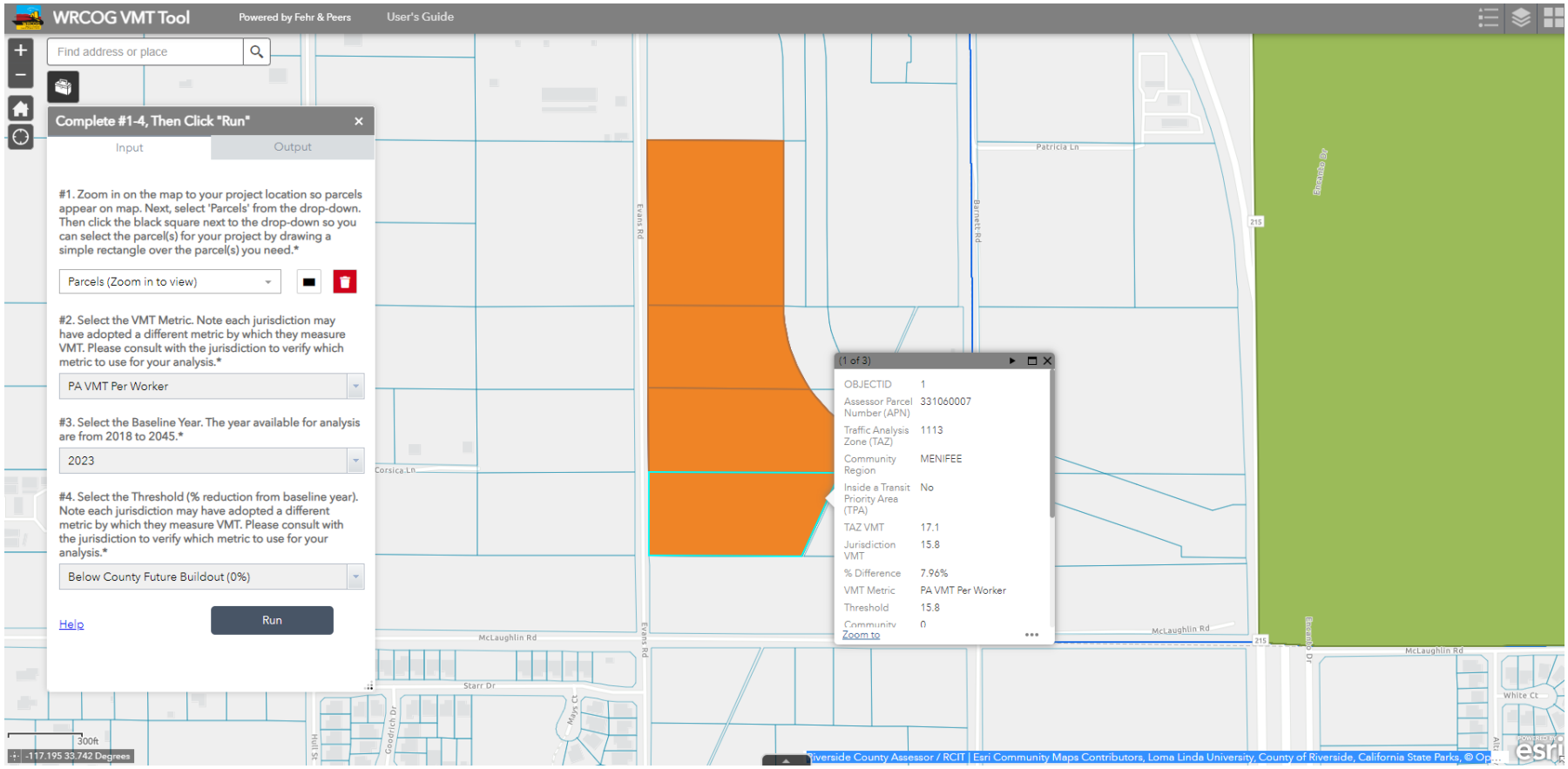
The project will involve the construction of warehouse buildings totaling 398,252 square feet and generates more than 110 daily trips; therefore, the project would not be screened out based on project type.

The Project Type Screening threshold is not met.

VMT ANALYSIS METHODOLOGY

The VMT Analysis methodology will be consistent with the City of Menifee's *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled* (January 2022 Update). The methodology includes two types of VMT model outputs (project-generated VMT per employee for warehouse use and project effect on VMT) and follows detailed VMT Forecasting Information per Attachment B of the City's VMT Guidelines. As part of the VMT Analysis, VMT Assessment for Routine Projects will be analyzed. If the VMT Analysis finds that there is a project-related VMT impact, mitigations would be consistent with the VMT Mitigation Measures (page 16) in the City's VMT Guidelines.

ATTACHMENT D



Attachment E

Model Land Use Inputs and Conversion Factors

ITE 150: General Warehouse: 398.252 KSF = 487 Employees (1 Employee per 819 SF[1])

The Vehicle Miles Traveled (VMT) analysis will be conducted based on the RIVCOM model using the Home-Based Work VMT per Employee metric.

[1] Source: *SCAG Employment Density Survey (October 2001)*

APPENDIX B

VMT ASSESSMENT FOR ROUTINE PROJECTS

Western Riverside Council of Governments VMT Tool

Project Information

Project Name

Menifee Northern Gateway Logistics Center

Parcel Number (RIVCOM TAZ#1113)	Analysis Year
331060007	2023

Screening Criteria for Menifee

Use the online WRCOG VMT Tool to determine the following

Is the Project screened by Transit Priority Area or located in a low VMT generating zone?	No
Is the Project one of these land use types? (O) (show land use types)	No
Does the project generate fewer than 110 daily trips? (enter project land use in the section below)	No

The Project does not meet screening criteria. Please Continue

Project Land Use Information

		Unit
Residential : Single Family Homes	0	Dwelling Units
Residential : MultiFamily Homes	0	Dwelling Units
Office	0	1,000 Square Feet
Retail	0	1,000 Square Feet
Industrial	0	1,000 Square Feet
Manufacturing	0	1,000 Square Feet
Warehousing	398.252	1,000 Square Feet
Hotel	0	Rooms
University	0	Students
Private School	0	Students

Project Trips, VMT, and TAZ SED Information

Project Summary

Select VMT Methodology: Origin Destination (OD)

Analysis Year Daily Trips: 1602 Average Trip Length: 11.5
Service Population: 797
Project VMT per Service Population: 23.2

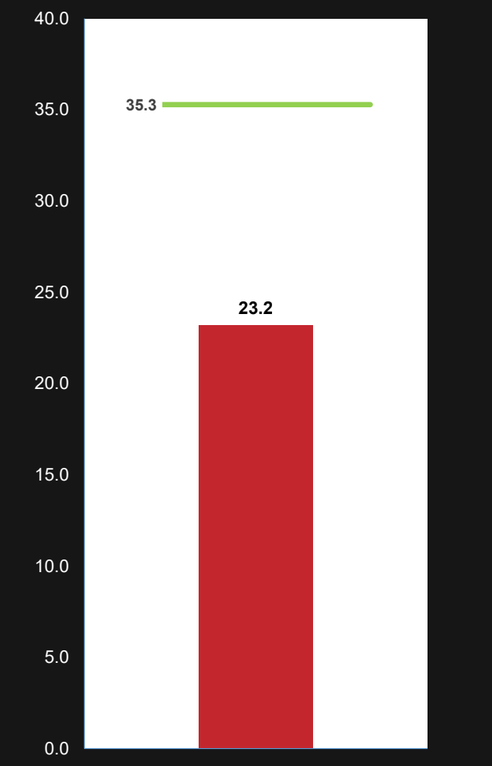
Project Location TAZ Socioeconomic Data: 2045 RIVCOM Model

Land Use			Value	Unit
SFDU	-	Single-Family Detached Housing	8	DU
MFDU	-	Multi-Family Attached Housing	1	DU
K12	-	Kindergarten - 12th Grade Enrollment	0	STU
COLLEGE	-	College Enrollment	0	STU
AG	-	Agricultural & Mining Employment	0	EMP
CONST	-	Construction Employment	190	EMP
MANU	-	Manufacturing Employment	68	EMP
WHOLE	-	Wholesale Employment	0	EMP
RET	-	Retail Employment	5	EMP
TRANS	-	Transportation, Warehousing, and Utility Employment	263	EMP
INFOR	-	Information Services Employment	0	EMP
FIRE	-	Financial Activities Employment	0	EMP
PROF	-	Professional and Business Services Employment	0	EMP
EDUC	-	Educational and Health Services Employment	0	EMP
ARTENT	-	Arts/Entertainment Employment	0	EMP
OTHSER	-	Other Services Employment	0	EMP
PUBADMN	-	Public Administration Employment	0	EMP

Project VMT Thresholds Comparison

Select the VMT Thresholds for comparison to project VMT

- [ ] Below Existing
- [X] Better than General Plan Buildout
- [ ] OPR Guidance (15% Below Existing)



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Western Riverside Council of Governments VMT Tool

Project Information

Project Name

Menifee Northern Gateway Logistics Center

Parcel Number (RIVCOM TAZ#1113)	Analysis Year
331060007	2023

Screening Criteria for Menifee

Use the online WRCOG VMT Tool to determine the following

Is the Project screened by Transit Priority Area or located in a low VMT generating zone?	No
Is the Project one of these land use types? (show land use types)	No
Does the project generate fewer than 110 daily trips? (enter project land use in the section below)	No

The Project does not meet screening criteria. Please Continue

Project Land Use Information

		Unit
Residential : Single Family Homes	0	Dwelling Units
Residential : MultiFamily Homes	0	Dwelling Units
Office	0	1,000 Square Feet
Retail	0	1,000 Square Feet
Industrial	0	1,000 Square Feet
Manufacturing	0	1,000 Square Feet
Warehousing	398.252	1,000 Square Feet
Hotel	0	Rooms
University	0	Students
Private School	0	Students

Project Trips, VMT, and TAZ SED Information

Project Summary

Select VMT Methodology: Production Attraction (PA)

Select OD Method for mixed-use projects

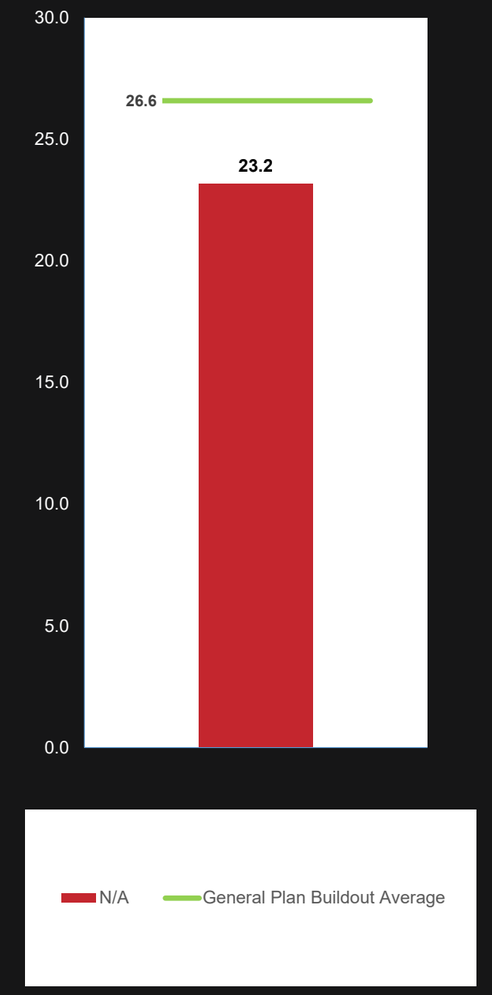
Project Location TAZ Socioeconomic Data: 2045 RIVCOM Model

Land Use			Value	Unit
SFDU	-	Single-Family Detached Housing	8	DU
MFDU	-	Multi-Family Attached Housing	1	DU
K12	-	Kindergarten - 12th Grade Enrollment	0	STU
COLLEGE	-	College Enrollment	0	STU
AG	-	Agricultural & Mining Employment	0	EMP
CONST	-	Construction Employment	190	EMP
MANU	-	Manufacturing Employment	68	EMP
WHOLE	-	Wholesale Employment	0	EMP
RET	-	Retail Employment	5	EMP
TRANS	-	Transportation, Warehousing, and Utility Employment	263	EMP
INFOR	-	Information Services Employment	0	EMP
FIRE	-	Financial Activities Employment	0	EMP
PROF	-	Professional and Business Services Employment	0	EMP
EDUC	-	Educational and Health Services Employment	0	EMP
ARTENT	-	Arts/Entertainment Employment	0	EMP
OTHSER	-	Other Services Employment	0	EMP
PUBADMN	-	Public Administration Employment	0	EMP

Project VMT Thresholds Comparison

Select the VMT Thresholds for comparison to project VMT

- [ ] Below Existing
- [X] Better than General Plan Buildout
- [ ] OPR Guidance (15% Below Existing)



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APPENDIX C

RIVCOM MODEL INPUTS

Lovett Menifee Logistics Center Vehicle Miles Traveled Analysis

TAZ 1113

	TAZ	Daily_Home-Based (incl. IEHB) Prod VMT	Daily_HBW (incl. EIHBW) Attr VMT	Daily_Total Auto OD From VMT	Daily_Total Auto OD To VMT	Daily_Total Auto OD Intra VMT	Daily_Total Truck OD From VMT	Daily_Total Truck OD To VMT	Daily_Total Truck OD Intra VMT	Daily_Total OD From VMT	Daily_Total OD To VMT	Daily_Total OD Intra VMT	Daily_Total_TripLen	Population	Employment	Enrollment	VMT/EMP
2018 Base	1113	442.03	355.96	725.11	756.37	0.07	41.24	41.06	0.00	766.35	797.43	0.07	10.73	23	15	0	23.7
2018 Project	1113	433.71	**11065.45**	6423.45	6952.34	0.69	41.24	41.06	0.00	6464.69	6993.41	0.69	17.19	23	502	0	**22.0**
2045 Base	1113	295.48	10050.17	5840.41	6385.84	0.43	416.73	419.66	0.05	6257.14	6805.50	0.49	15.03	16	526	0	19.1
2045 Project	1113	293.88	**19347.24**	10811.55	11832.10	1.23	416.30	419.39	0.05	11227.85	12251.48	1.28	15.44	16	1013	0	**19.1**

RIVCOM Model VMT PA/Emp - With Project

	2018 Baseline	2045 Cumulative
VMT PA Attr	11,065	19,347
Employment	502	1,013
VMT/EMP	22.0	19.1
County Avg	32.08	28.96
Impact?	No	No

https://fehrandpeers.maps.arcgis.com/apps/webappviewer/index.html?id=4e34ad3196464c8086c881189237b25c

APPENDIX D

CITY OF MENIFEE'S INDUSTRIAL GOOD NEIGHBOR POLICIES

APPENDIX A

INDUSTRIAL GOOD NEIGHBOR POLICIES

PURPOSE

The purpose of the Good Neighbor Policies (Policies) is to provide local government and developers with ways to address environmental and neighborhood compatibility issues associated with permitting warehouse, logistics and distribution facilities. These Policies are designed to promote economic vitality and sustainability of businesses, while still protecting the general health, safety, and welfare of the public and sensitive receptors. within the City of Menifee. Sensitive receptors include residential neighborhoods, schools, public parks, playgrounds, day care centers, nursing homes, hospitals, and other public places where residents are most likely to spend time.

The intent of the City of Menifee's Good Neighbor Policies, in siting new warehouse, logistics and distribution uses, include:

1. Minimize impacts to sensitive uses
2. Protect public health, safety, and welfare by regulating the design, location and operation of facilities
3. Protect neighborhood character of adjacent communities

APPLICABILITY

The Policies apply to all new warehouse, logistics and distribution facilities ("industrial uses"), excluding pending applications that have been deemed complete as the effective day of this policy, that include any building larger than 100,000 square feet in size or any sized building with more than 10 loading bays (dock-high). These Policies apply in addition to the provisions of the Development Code, and act as a supplement to the City-wide Design Guidelines adopted by the City on April 15, 2020. Project-level review under CEQA would continue to apply to any project, regardless of the total square footage. The hearing body has the discretion and authority to approve projects that deviate from the guidance provided in this policy, subject to unique site-specific conditions such as topography and other relevant factors.

The following summarizes the Policies for the City of Menifee:

General Performance Standards

1. Truck traffic shall generally be routed to impact the least amount of sensitive receptors, (e.g. access locations, use of traffic control features, signage).
2. To the maximum extent feasible, buildings shall be designed so that truck driveways and loading docks are oriented away from sensitive receptors to minimize impacts.
3. Sufficient landscape buffers and walls shall be provided on-site to screen sensitive receptors from truck access, parking, and storage.
4. Building massing shall be consistent with the City's Industrial Design Guidelines so as to reduce visual dominance on adjacent sensitive receptors.
5. Community outreach throughout the planning process shall occur. The level of public outreach for each project shall be determined by City staff based on the project's scope and surroundings.

A. Site Design, Access, and Layout

1. Buildings shall be set back a minimum of one foot for every one foot of building height, but no less than 25 feet, when adjacent to a sensitive receptor.
2. Dock high doors shall be a minimum of 250' from the property line of adjacent sensitive receptors.
3. When not adjacent to sensitive receptors, truck courts and trailer parking should face internal to the site when feasible to avoid screen walls being the most prominent street feature. A "wing-wall" may also be installed perpendicular to the loading dock areas to further attenuate noise related to truck activities and also address aesthetics by screening the loading area.

4. Decorative walls shall be used to screen industrial uses from adjacent sensitive receptors. Landscaping (and berming for walls greater than six feet in height) shall be used to reduce the visual impact of the walls.
5. To the maximum extent feasible, truck driveways shall not be placed on any portion of the street that fronts sensitive receptors.
6. Facilities shall be designed to provide adequate on-site parking and queuing for trucks/trailers away from sensitive receptors.
7. Check-in gates and/or guard booths are required to be positioned with a minimum of 150 feet inside the property line for on-site truck queuing. An additional 75 feet of on-site queuing shall be added for every 20 loading docks beyond 40 up to 300 feet. Multiple lanes (minimum lane width of 12 feet) are permitted to achieve the required on-site truck queuing. The general queuing and spill-over of trucks onto surrounding public streets are prohibited. Commercial trucks and/or trailers shall not be parked on the public road right- of-way or adjacent to sensitive receptors.
8. Required passenger vehicle parking should be separated from enclosed truck parking/truck court, and have separate primary access.
9. Underground stormwater facilities are preferred over above-ground basins. If above- ground facilities are needed, these should be designed so that the depth (i.e. under 18") does not require perimeter fencing and can be incorporated as additional landscape buffer.
10. A minimum of 50% of site plantings shall be evergreen broadleaf tree species.
11. Front setbacks shall include a minimum 25-foot landscape planter. For property lines adjacent to a sensitive receptor, side setbacks shall include a minimum 10 foot landscape planter, and rear setbacks shall include a minimum 5 foot landscape planter.
12. No parking shall be permitted in the landscape setback area.

B. Signage and Information

1. Require on-site signage for directional guidance to trucks entering and exiting the facility to minimize potential impacts on sensitive receptors.
2. Anti-idling signs are required to be posted at warehouses to stipulate a 3-minute idling restriction.
3. Legible, durable, weather-proof signs are required at all truck exit driveways directing truck drivers to the truck route and State Highway System.
4. During construction, signs are required to be in public view with contact information for a designated representative of the building occupant and an SCAQMD representative who is designated to receive complaints about excessive dust, fumes, or odors on this site.
5. New and existing industrial uses shall provide truck drivers with information on the closest restaurants, fueling stations, truck repair facilities, and lodging (i.e. by posting in offices/breakrooms).

C. Environmental Considerations

a) Air Quality

Emissions of air pollutants and greenhouse gases are often among the most substantial environmental impacts from new logistics and warehouse facilities. CEQA compliance demands a proper accounting of the full air quality and greenhouse gas impacts of industrial uses and adoption of all feasible mitigation of significant impacts. As updated by South Coast Air Quality Management District (AQMD) and California Air Resource Board (CARB), the following policies apply:

1. In compliance with CEQA, conduct SCAQMD URBEMIS and EMFAC computer models to identify the significance of air quality impacts on sensitive receptors.
    a) Require an air quality analysis to ensure air quality protection, in accordance with the Air Quality Management District (AQMD) guidelines, for both project-specific and cumulative impact analysis.

b) Require “Health Risk Assessments” for industrial uses within 1,000 feet of sensitive receptors.

2. Minimize the air quality impacts of trucks on sensitive receptors

   a) Design facilities with queuing of trucks on-site and away from sensitive receptors.

   b) Prevent the queuing of trucks on streets or elsewhere outside of the facility.

   c) The installation of on-site electric hook-ups to eliminate idling of main and auxiliary engines during loading and unloading of cargo and when trucks are not in use and required where transport refrigeration units (TRUs) are proposed to be used.

3. Require Transportation Demand Management measures for industrial uses with over one hundred employees to reduce work-related vehicle trips.

4. Use of electric-powered hand tools, forklifts, aerial lifts, materials lifts, hoists, pressure washers, plate compactors, and air compressors, when feasible.

5. For buildings with 50 or more dock high doors, site plans are required to identify a planned location for future electric truck charging stations and install conduit to that location. A ratio of one charging station shall be required for every 50 dock high doors.

6. The following environmentally responsible construction practices are required:

   a) Use of most readily available technology (CARB Tier 3, Tier 4 Interim, and Tier 4 Compliant equipment).

   b) Designate an area of the construction site where electric-powered construction vehicles and equipment can charge if the utility provider can feasibly provide temporary power for this purpose.

   c) The maximum daily disturbance area (actively graded area) shall be determined by the Air Quality Study.

d) Streets adjacent to the development site shall be swept on a regular basis as determined by the City inspector to remove any construction related debris and dirt.

e) Construction equipment maintenance records and data sheets, which includes equipment design specifications and equipment emission control tier classifications, as well as any other records necessary to verify compliance with items listed above, shall be kept on-site and furnished to the City upon request.

b) Noise and Traffic

Noise impacts associated with industrial uses can be the most impactful to sensitive receptors and include various sources, such as unloading, truck movement, rooftop mechanical equipment, and PA systems.

1. Use of perimeter walls, buildings, and/or enhanced landscaping to reduce noise impacts as appropriate.
2. If a public address (PA) system is being used in conjunction with an industrial use, the PA system shall be oriented away from sensitive receptors and the volume set at a level not readily audible past the property line.
3. Prepare a construction traffic control plan prior to grading, detailing the locations of equipment staging areas, material stockpiles, proposed road closures, and hours of construction operations to minimize impacts to sensitive receptors.
4. See B5 through B8 above in Site Design, Access and Layout section.