PEMCOR COMMERCIAL INDUSTRIAL BUSINESS PARK TRAFFIC IMPACT ANALYSIS

City of Menifee

October 3, 2024

gandini

Traffic Engineering ● Transportation Planning ● Parking ● Noise & Vibration
Air Quality ● Global Climate Change ● Health Risk Assessment

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City of Menifee

October 3, 2024

prepared by

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Project No. 19729

TABLE OF CONTENTS

EXECUTIVE SUMMARY IV

1. INTRODUCTION 1

Purpose and Objectives 1
Project Description 1
Scope of Analysis 1
Study Area 1
Analysis Scenarios 2

2. METHODOLOGY 6

Level of Service Analytical Methodology (Non-CEQA) 6
Intersection Delay Methodology 6
Roadway Segment Capacity Methodology 6
Performance Standards 8
Vehicle Miles Traveled Analytical Methodology (CEQA) 8

3. EXISTING CONDITIONS 9

Existing Roadway System 9
Existing Bicycle and Pedestrian Facilities 9
Existing Transit Service 9
General Plan Context 9
Existing Roadway Volumes 9
Existing Study Intersection LOS 9
Existing Study Roadway Segment LOS 10

4. PROJECT TRIP FORECASTS 21

Project Trip Generation 21
Project Trip Distribution and Assignment 21
Site Access/Project Design Features 22

5. FUTURE VOLUME FORECASTS 32

Cumulative Trips 32
Ambient Growth Rate 32
Other Development 32
Horizon Year (2045) Projections 32
Analysis Scenario Volume Forecasts 33
Existing Plus Project 33
Opening Year (2026) Cumulative Without Project 33
Opening Year (2026) Cumulative With Project 33
Horizon Year (2045) Without Project 33
Horizon Year (2045) With Project 33

6. FUTURE OPERATIONAL ANALYSIS 49

Intersection LOS and Roadway Segment Capacity 49
Existing Plus Project 49
Opening Year (2026) Cumulative Without Project 49
Opening Year (2026) Cumulative With Project 49
Horizon Year (2045) Without Project 50
Horizon Year (2045) With Project 51
Fair Share Analysis 51

7. SITE ACCESS AND CIRCULATION 64

Project Design Features 64

8. CONCLUSIONS 65

Project Trip Generation 65
Levels of Service/Operational Analysis Findings 65
Existing Plus Project 65
Opening Year (2026) Cumulative Without Project 65
Opening Year (2026) Cumulative With Project 65
Horizon Year (2045) Without Project 66
Horizon Year (2045) With Project 66
Recommended Improvements 66
Site Access & Circulation 67

APPENDICES

Appendix A Glossary
Appendix B Scoping Agreement
Appendix C Volume Count Worksheets
Appendix D Level of Service Worksheets
Appendix E RIVCOM Model Plots
Appendix F RIVCOM Post-Processing Worksheets

LIST OF TABLES

Table 1. Existing Study Intersection LOS 11
Table 2. Existing Roadway Segment Capacity Analysis 12
Table 3. Project Trip Generation – Industrial Park (80% of Project Site) 23
Table 4. Project Trip Generation – Business Park (20% of Project Site) 24
Table 5. Total Project Trip Generation 25
Table 6. Other Development Trip Generation 34
Table 7. Existing Plus Project Intersection Level of Service 53
Table 8. Existing Plus Project Roadway Segment Capacity Analysis 54
Table 9. Opening Year (2026) Cumulative Without Project Intersection Level of Service 55
Table 10. Opening Year (2026) Cumulative Without Project Roadway Segment Capacity Analysis 56
Table 11. Opening Year (2026) Cumulative With Project Intersection Level of Service 57
Table 12. Opening Year (2026) Cumulative With Project Roadway Segment Capacity Analysis 58
Table 13. Horizon Year (2045) Without Project Intersection Level of Service 59
Table 14. Horizon Year (2045) Without Project Roadway Segment Capacity Analysis 60
Table 15. Horizon Year (2045) With Project Intersection Level of Service 61
Table 16. Horizon Year (2045) With Project Roadway Segment Capacity Analysis 62
Table 17. Project Fair Share Analysis 63

LIST OF FIGURES

Figure 1. Regional Location Map 3
Figure 2. Project Location Map 4
Figure 3. Site Plan 5
Figure 4. Existing Lane Geometry and Intersection Traffic Controls 13
Figure 5. Existing Pedestrian Facilities 14
Figure 6. Existing Transit Service 15
Figure 7. City of Menifee General Plan Circulation Element Roadway Network 16
Figure 8. City of Menifee General Plan Roadway Cross-Sections 17
Figure 9. City of Menifee Proposed Bikeway and Community Pedestrian Network 18
Figure 10. Existing AM Peak Hour Intersection Turning Movement Volumes 19
Figure 11. Existing PM Peak Hour Intersection Turning Movement Volumes 20

Figure 12. Project Outbound Trip Distribution – Cars 26
Figure 13. Project Inbound Trip Distribution - Cars 27
Figure 14. Project Outbound Trip Distribution - Trucks 28
Figure 15. Project Inbound Trip Distribution - Trucks 29
Figure 16. Project AM Peak Hour Intersection Turning Movement Volumes 30
Figure 17. Project PM Peak Hour Intersection Turning Movement Volumes 31
Figure 18. Other Development Location Map 36
Figure 19. Other Development AM Peak Hour Intersection Turning Movement Volumes 37
Figure 20. Other Development PM Peak Hour Intersection Turning Movement Volumes 38
Figure 21. Existing Plus Project AM Peak Hour Intersection Turning Movement Volumes 39
Figure 22. Existing Plus Project PM Peak Hour Intersection Turning Movement Volumes 40
Figure 23. Opening Year (2026) Cumulative Without Project AM Peak Hour Intersection Turning Movement Volumes 41
Figure 24. Opening Year (2026) Cumulative Without Project PM Peak Hour Intersection Turning Movement Volumes 42
Figure 25. Opening Year (2026) Cumulative With Project AM Peak Hour Intersection Turning Movement Volumes 43
Figure 26. Opening Year (2026) Cumulative With Project PM Peak Hour Intersection Turning Movement Volumes 44
Figure 27. Horizon Year (2045) Without Project AM Peak Hour Intersection Turning Movement Volumes 45
Figure 28. Horizon Year (2045) Without Project PM Peak Hour Intersection Turning Movement Volumes 46
Figure 29. Horizon Year (2045) With Project AM Peak Hour Intersection Turning Movement Volumes 47
Figure 30. Horizon Year (2045) With Project PM Peak Hour Intersection Turning Movement Volumes 48

EXECUTIVE SUMMARY

The approximately 20-acre project site (APN: 384-150-001) is located south of Scott Road, north of Keller Road, bounded by Howard Road and Zeiders Road at 33521 Zeiders Road in the City of Menifee, California.

The project site is currently vacant. The proposed project involves construction of a 337,770 square foot commercial/industrial business park development consisting of eleven single-story buildings ranging in size from approximately 23,100 square feet to 37,840 square feet. The project site is zoned Economic Development Corridor – Southern Gateway (EDC-SG) and currently serves as a residential use. The anticipated end users are expected to provide services ranging from industrial and manufacturing users to service commercial and office (tenants are currently not known). Each building includes two (2) dock-high doors for a total of 22 project-wide. The project includes two (2) driveways along Zeiders Road with the southernmost driveway being signalized and aligning with Scott Road Commerce Center. The project north driveway is proposed to be rights turns in/out automobile only and the project south driveway (currently signalized and aligning with Scott Road Commerce Center) is proposed to be full access for both automobiles and trucks.

Existing Conditions

The study intersections currently operate within acceptable Level of Service (LOS) D (or better) during the peak hours for existing conditions. The study roadway segment currently operates within acceptable Level of Service.

Project Trip Generation

The proposed project is forecast to generate a total of approximately 1,751 daily vehicle trips, including 184 vehicle trips during the AM peak hour and 175 vehicle trips during the PM peak hour. In passenger car equivalent (PCE) trips, the proposed project is forecast to generate a total of approximately 2,030 daily PCE trips, including 204 PCE trips during the AM peak hour and 197 PCE trips during the PM peak hour.

Levels of Service/Operational Analysis Findings

Existing Plus Project

The study intersections are forecast to continue operating at LOS D or better for Existing Plus Project conditions; therefore, the project would not exceed the City-established operational standards and no study intersection improvements are required in addition to the project design features necessary for site access.

The study roadway segments are forecast to continue operating within acceptable LOS D capacity for Existing Plus Project conditions; therefore, no roadway segment improvements are required in addition to project design features along the project frontage.

Opening Year (2026) Cumulative Without Project

The following study intersections are forecast to operate at deficient Levels of Service for Opening Year (2026) Cumulative Without Project conditions:

- Haun Road/Zeiders Road at Scott Road [#1] (LOS F - AM & PM)
- Menifee Road at Scott Road [#8] (LOS E - AM & PM)

The following study roadway segments are forecast to operate at deficient Levels of Service for Opening Year (2026) Cumulative Without Project conditions:

- Zeiders Road, from Scott Road to Ciccotti Street
- Scott Road, from Haun Road/Zeiders Road to I-215 Freeway SB Ramps

Opening Year (2026) Cumulative With Project

The following study intersections are forecast to operate at deficient Levels of Service for Opening Year (2026) Cumulative With Project conditions:

- Haun Road/Zeiders Road at Scott Road [#1] (LOS F - AM & PM)
- Menifee Road at Scott Road [#8] (LOS E - AM & PM)

The following study roadway segments are forecast to operate at deficient Levels of Service for Opening Year (2026) Cumulative With Project conditions:

- Zeiders Road, from Scott Road to Ciccotti Street
- Scott Road, from Haun Road/Zeiders Road to I-215 Freeway SB Ramps

Horizon Year (2045) Without Project

The following study intersection is forecast to operate at a deficient Level of Service for Horizon Year (2045) Without Project conditions:

- Haun Road/Zeiders Road at Scott Road [#1] (LOS F – AM, LOS E – PM)

The study roadway segments are forecast to continue operating within acceptable LOS D capacity for Horizon Year (2045) Without Project conditions; therefore, no roadway segment improvements are required in addition to project design features along the project frontage.

Horizon Year (2045) With Project

The following study intersections are forecast to operate at deficient Level of Service for Horizon Year (2045) With Project conditions:

- Haun Road/Zeiders Road at Scott Road [#1] (LOS F – AM, LOS E – PM)
- Menifee Road at Scott Road [#8] (LOS E - AM)

The study roadway segments are forecast to continue operating within acceptable LOS D capacity for Horizon Year (2045) With Project conditions; therefore, no roadway segment improvements are required in addition to project design features along the project frontage.

Recommended Improvements

The following improvements are recommended for Opening Year (2026) Cumulative With Project Conditions:

Haun Road/Zeiders Road (NS) at Scott Road (EW) [#1]

- Widen the southbound approach to provide two left turn lanes and one shared through/right turn lane
- Construct a dedicated eastbound right turn lane
- Construct a second westbound right turn lane with overlap phasing
- Change northbound/southbound traffic signal phasing from split to protected phasing

Menifee Road (NS) at Scott Road (EW) [#8]

- Construct a dedicated southbound right turn lane
- Construct a dedicated westbound right turn lane

The study intersections are forecast to operate within acceptable Levels of Service (D or better) with implementation of the recommended improvements for Opening Year (2026) Cumulative With Project conditions.

It is noted that construction of future interchanges on the I-215 Freeway at Garbani Road and Keller Road, which are located approximately one mile north and south of the Scott Road interchange, would redistribute traffic assumed to use the Scott Road interchange for Opening Year (2026) Cumulative conditions. Thus, Horizon Year (2045) conditions are expected to require fewer improvements than Opening Year (2026) Cumulative conditions since long-range volumes will be more evenly distributed among the three I-215 interchanges at Garbani Road, Zeiders Road, and Keller Road. Therefore, no additional improvements are recommended for Horizon Year (2045) conditions.

Site Access & Circulation

The following improvements will be constructed by the project to provide site access:

- Construct Zeiders Road along the project frontage at its ultimate half-section width as a Major roadway (four lanes, divided), including Subregional Route – On-Street Bike Lanes (Class II), in accordance with the City of Menifee General Plan Circulation Element.

- Zeiders Road (NS) at Project North Driveway (EW) [#3]
  - Northbound: Maintain existing through lane
  - Southbound: Maintain existing through lane and construct a shared through/right turn lane
  - Eastbound: Construct a right turn lane and install stop control at site egress

- Zeiders Road (NS) at Project South Driveway/Industrial Roadway (EW) [#4]
  - Northbound: Construct a left turn lane and maintain existing through lane
  - Southbound: Maintain existing through lane and construct a shared through/right turn lane
  - Eastbound: Construct a shared left/through/right turn lane
  - Westbound: Maintain existing shared left and right turn lanes
  - Maintain existing traffic signalization

1. INTRODUCTION

This section introduces the proposed project and the general scope of the analysis.

PURPOSE AND OBJECTIVES

The purpose of this study is to evaluate the potential for transportation impacts resulting from development of the proposed project in the context of the City of Menifee's discretionary authority for conformance with locally established operational standard. Although this is a technical report, effort has been made to write the report clearly and concisely. A glossary is provided in Appendix A to assist the reader with terms related to transportation engineering.

This study was prepared in consultation with City of Menifee staff and in accordance with the procedures and methodologies for assessing transportation impacts established by the City of Menifee. To assess the project's conformance with local operational standards, this study evaluates the project's effect on traffic operations and, if necessary, identifies recommended improvements or corrective measures to alleviate operational deficiencies substantially caused or worsened by the proposed project.

For CEQA purposes, the project was determined to satisfy the City-established screening criteria for projects located in low VMT generating areas; therefore, further analysis was not warranted as the project is expected to cause a less than significant VMT impact.

PROJECT DESCRIPTION

The approximately 20-acre project site (APN: 384-150-001) is located south of Scott Road, north of Keller Road, bounded by Howard Road and Zeiders Road at 33521 Zeiders Road in the City of Menifee, California. The project site is currently vacant. Figure 1 shows the regional location map and Figure 2 shows the project location and study area map.

The proposed project involves construction of a 337,770 square foot commercial/industrial business park development consisting of eleven single-story buildings ranging in size from approximately 23,100 square feet to 37,840 square feet. The project site is zoned Economic Development Corridor – Southern Gateway (EDC-SG) and currently serves as a residential use. The anticipated end users are expected to provide services ranging from industrial and manufacturing users to service commercial and office (tenants are currently not known). Each building includes two (2) dock-high doors for a total of 22 project-wide. The project includes two (2) driveways along Zeiders Road with the southernmost driveway being signalized and aligning with Scott Road Commerce Center. The project north driveway is proposed to be rights turns in/out automobile only and the project south driveway (currently signalized and aligning with Scott Road Commerce Center) is proposed to be full access for both automobiles and trucks. Figure 3 shows the project site plan.

SCOPE OF ANALYSIS

The scope of this analysis was determined in consultation with City of Menifee staff as documented in the City-approved scoping agreement provided in Appendix B.

Study Area

Based on the City-approved scoping agreement, the study area consists of the following study intersections and roadway segments within City of Menifee, City of Murrieta, and California Department of Transportation (Caltrans) jurisdictions:

Study Intersections[1]	Jurisdiction
1. Haun Road/Zeiders Road (NS) at Scott Road (EW)	City of Menifee
2. Zeiders Road (NS) at Ciccotti Street (EW)	City of Menifee
3. Zeiders Road (NS) at Project North Driveway (EW)	City of Menifee
4. Zeiders Road (NS) at Project South Driveway/Industrial Roadway (EW)	City of Menifee
5. I-215 SB Ramps (NS) at Scott Road (EW)	Caltrans
6. I-215 NB Ramps (NS) at Scott Road (EW)	Caltrans
7. Antelope Road (NS) at Scott Road (EW)	Cities of Menifee/Murrieta
8. Menifee Road (NS) at Scott Road (EW)	Cities of Menifee/Murrieta

Notes:
1. (NS) = North-South roadway; (EW) = East-West roadway

Study Roadway Segments	Jurisdiction
1. Zeiders Road, Scott Road to Ciccotti Road	City of Menifee
2. Zeiders Road, Ciccotti Road to Industrial Parkway	City of Menifee
3. Scott Road, Haun Road/Zeiders Road to I-215 SB Ramps	City of Menifee

Analysis Scenarios

This study evaluates the following analysis scenarios for weekday AM and PM peak hour conditions:

- Existing Conditions [Year 2024]
- Existing Pus Project [Year 2024]
- Opening Year (2026) Cumulative Without Project
- Opening Year (2026) Cumulative With Project
- Horizon Year (2045) Without Project
- Horizon Year (2045) With Project

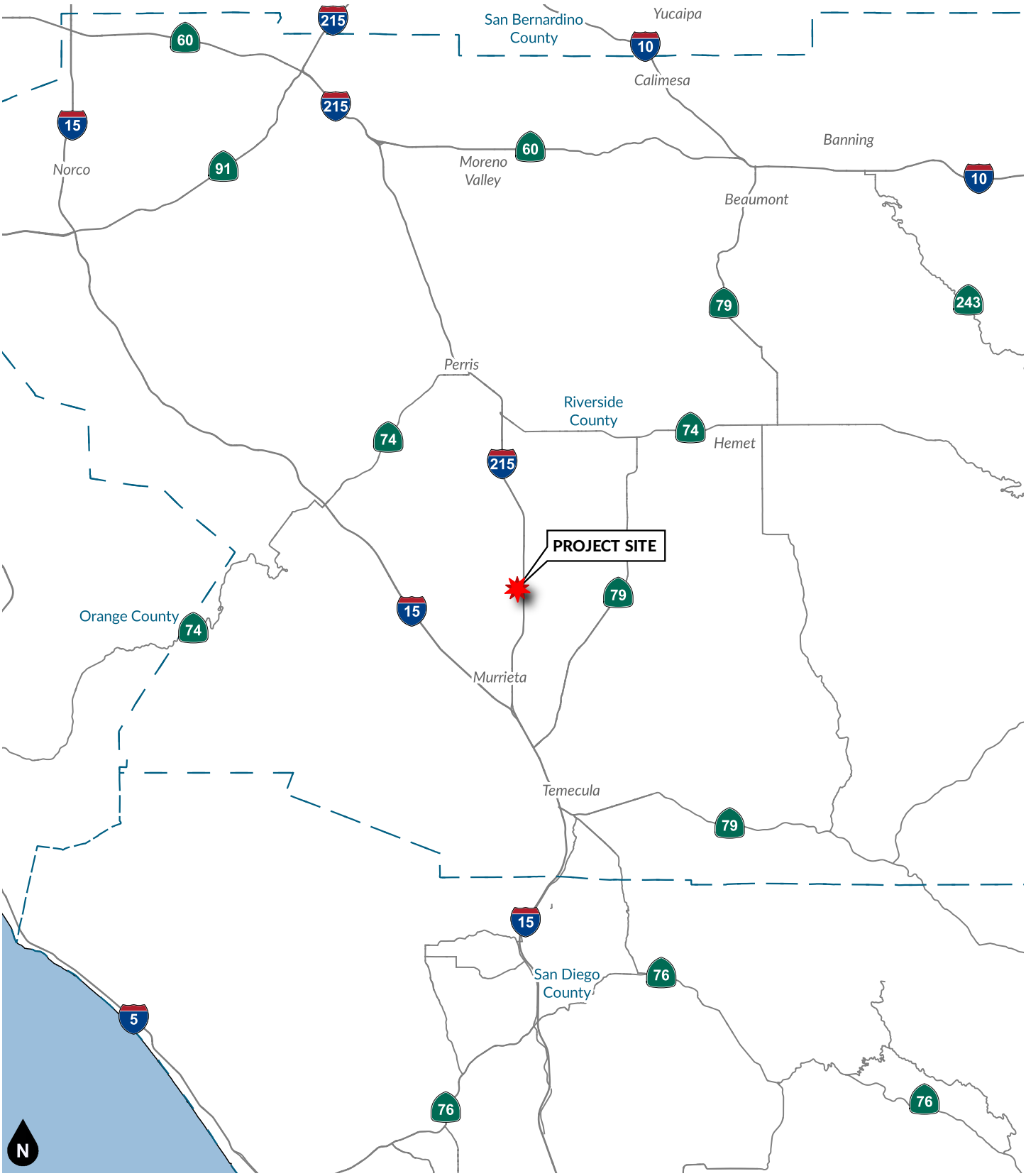
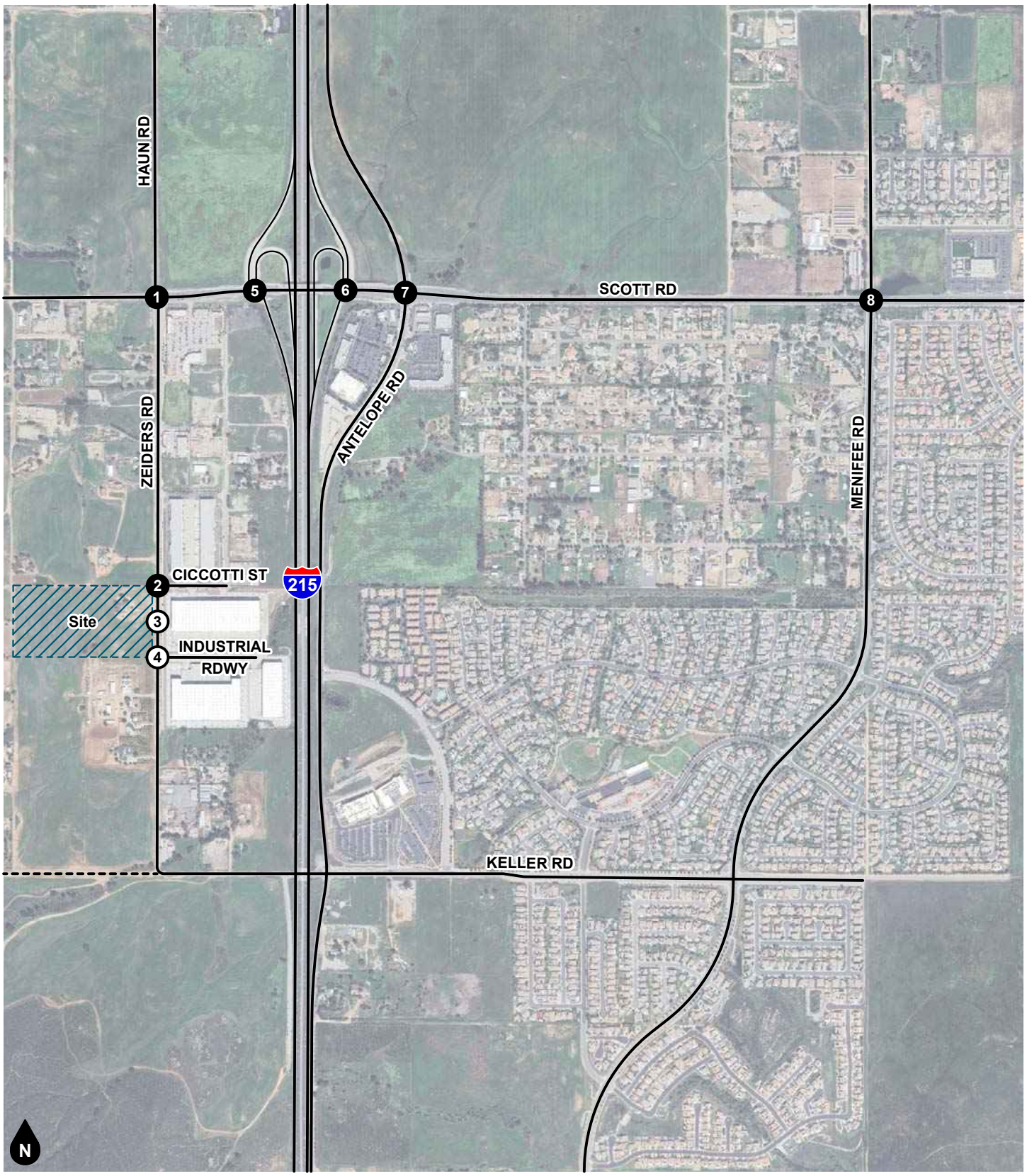


Figure 1
Regional Location Map



Legend

(#) Study Intersection

(#) Project Driveway

Figure 2
Project Location Map

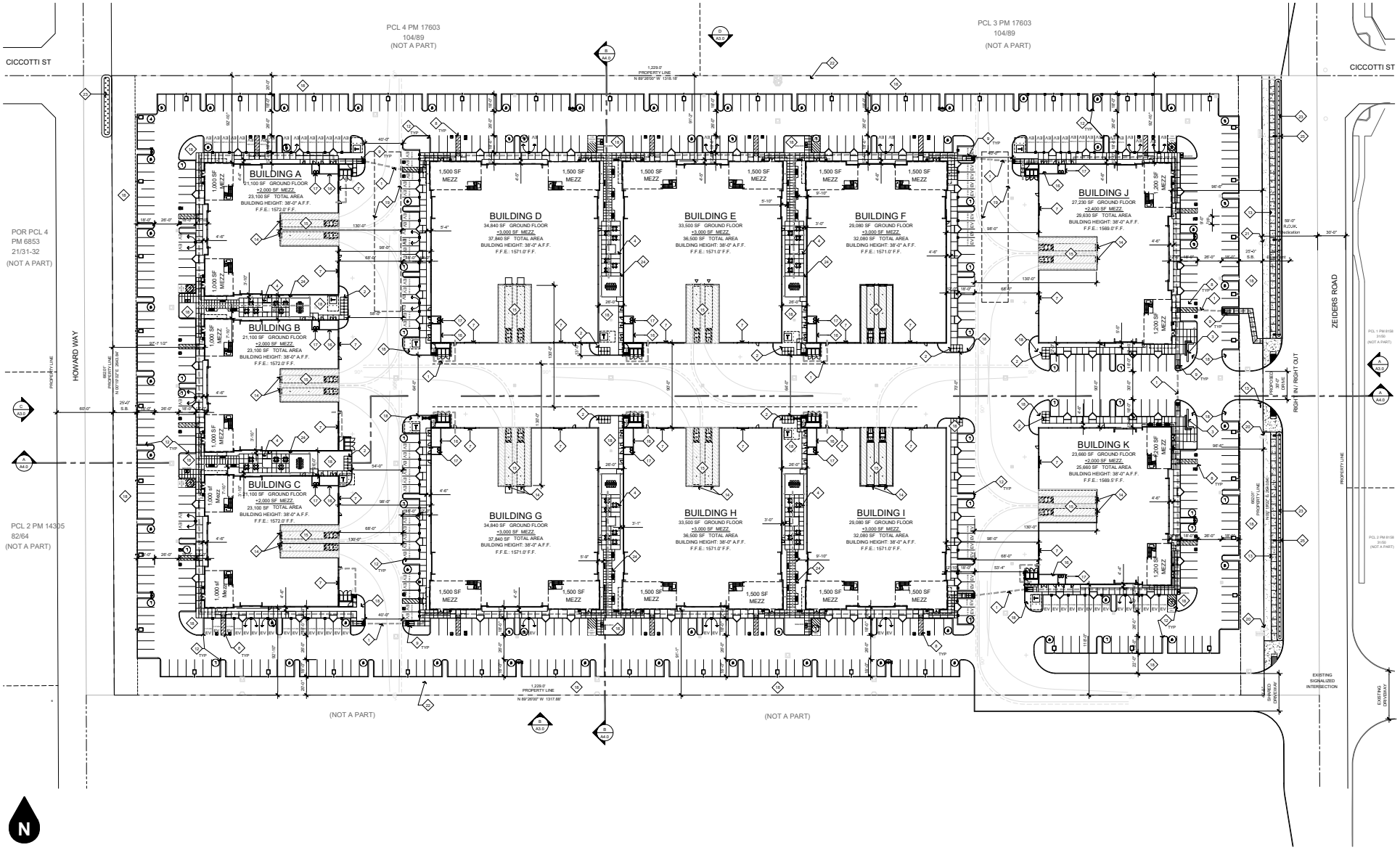


Figure 3
Site Plan

2. METHODOLOGY

This section discusses the analysis methodologies used to assess transportation facility performance as adopted by the respective jurisdictional agencies.

LEVEL OF SERVICE ANALYTICAL METHODOLOGY (NON-CEQA)

Level of Service (LOS) analysis is performed to assess conformance with General Plan and operational standards established by the applicable agencies. In accordance with current CEQA provisions, a project's effect on automobile delay (as measured by Level of Service) shall not constitute a significant environmental impact. LOS calculations were performed in accordance with the methodologies and parameters outlined in the City of Menifee *LOS Traffic Study Guidelines* (October 2020) and County of Riverside *Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled* (December 2020).

Intersection Delay Methodology

The technique used to assess the performance of intersections is known as the intersection delay methodology based on the procedures contained in the *Highway Capacity Manual* (Transportation Research Board, 7th Edition). The methodology considers the traffic volume and distribution of movements, traffic composition, geometric characteristics, and signalization details to calculate the average control delay per vehicle and corresponding Level of Service. Control delay is defined as the portion of delay attributed to the intersection traffic control (such as a traffic signal or stop sign) and includes initial deceleration, queue move-up time, stopped delay, and final acceleration delay. The intersection control delay is then correlated to Level of Service based on the following thresholds:

Level of Service	Intersection Control Delay (Seconds / Vehicle)	
	Signalized Intersection	Unsignalized Intersection
A	≤ 10.0	≤ 10.0
B	> 10.0 to ≤ 20.0	> 10.0 to ≤ 15.0
C	> 20.0 to ≤ 35.0	> 15.0 to ≤ 25.0
D	> 35.0 to ≤ 55.0	> 25.0 to ≤ 35.0
E	> 55.0 to ≤ 80.0	> 35.0 to ≤ 50.0
F	> 80.0	> 50.0

Source: *Highway Capacity Manual* (Transportation Research Board, 7th Edition).

Level of service is used to qualitatively describe the performance of a roadway facility, ranging from LOS A (free-flow conditions) to LOS F (extreme congestion and system failure). At intersections with traffic signal or all way stop control, Level of Service is determined by the average control delay for the overall intersection. At intersections with cross street stop control (i.e., one- or two-way stop control), Level of Service is determined by the average control delay for the worst individual movement (or movements sharing a single lane). Intersection delay and Level of Service calculations were performed using the Vistro software.

Roadway Segment Capacity Methodology

Roadway segments are analyzed based on the volume-to-capacity analysis of Average Daily Traffic (ADT) volumes compared to the theoretical daily roadway capacities defined by the City of City of Menifee as follows:

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

Source: Riverside County Transportation Department as specified in the City of Menifee *LOS Traffic Study Guidelines* (October 2020).
Notes:
1. Ramp capacity is given as a one-way traffic volume.

The roadway segment ADT capacity analysis is intended to be used as a high-level planning guide to determine approximate number of travel lanes for a roadway segment. The actual capacity of a roadway is affected by several factors, including street width, alignment, number of travel lanes, number of intersections and driveways, presence of on-street parking, and traffic signal cycle length. The number of turn lanes and intersection controls should be determined based on a more-detailed peak hour intersection analysis at the critical ends. For instance, if a roadway segment is carrying average daily traffic volumes that are near or exceed its theoretical daily capacity, the AM and PM peak hours may operate within capacity if the intersections or other constraint points are functioning at acceptable Level of Service.

Performance Standards

The City of Menifee has established LOS D as the threshold for acceptable operating conditions for intersections and roadway segments, except at constrained locations in close proximity to I-215, where LOS E is accepted during peak hours. Accordingly, the project would be considered to exceed LOS standards under the following 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 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 impact would be considered a "cumulative" project impact in which the project would be required to contribute a fair share payment toward reducing the impact.

VEHICLE MILES TRAVELED ANALYTICAL METHODOLOGY (CEQA)

The metric used to evaluate the transportation impact of land use and transportation projects under CEQA is known as vehicle miles traveled (VMT). In general terms, VMT quantifies the amount and distance of automobile travel attributable to a project or region.

As documented in the City-approved scoping agreement (see Appendix B), the proposed project is located in a low VMT generating area that is estimated to generate 30.7 VMT per service population, which is below the City-established threshold of 33.6 VMT per service population; therefore, further VMT analysis is not warranted as the project is expected to generate similar VMT and would cause a less than significant VMT impact.

3. EXISTING CONDITIONS

This section describes the existing transportation setting in the project vicinity.

EXISTING ROADWAY SYSTEM

Figure 4 identifies the lane geometry and intersection traffic controls for existing conditions based on a field survey of the study area. Regional access to the project site is provided by the Interstate 215 (I-215) Freeway located approximately 0.25 miles east of the project site. Key roadways providing local circulation include Haun Road, Zeiders Road, Antelope Road, Menifee Road, Scott Road, Ciccotti Street, and Industrial Parkway.

EXISTING BICYCLE AND PEDESTRIAN FACILITIES

Existing pedestrian facilities in the project vicinity are shown on Figure 5. Sidewalks are not currently provided on Zeiders Street along the project site frontage.

EXISTING TRANSIT SERVICE

Figure 6 shows existing transit service in the project vicinity. The Riverside Transit Agency (RTA) Route 61 provides bus service along Menifee Road north of Scott Road, Scott Road from Antelope Road to Menifee Road, and Antelope Road south of Scott Road.

GENERAL PLAN CONTEXT

Figure 7 shows the City of Menifee General Plan Circulation Element roadway network map. This figure shows the nature and extent of arterial and collector highways that are needed to adequately serve the ultimate development depicted by the Land Use Element of the General Plan. The City of Menifee standard roadway cross-sections are illustrated on Figure 8.

Figure 9 shows the Proposed Bikeway and Community Pedestrian Network. Zeiders Road is classified as a Subregional Route – On Street Bike Lanes (Class II) adjacent to the project site.

EXISTING ROADWAY VOLUMES

Figure 10 and Figure 11 show the Existing AM and PM peak hour intersection turning movement volumes. Existing peak hour intersection volumes are based upon AM peak period and PM peak period intersection turning movement counts obtained in September 2024 during typical weekday conditions when schools were in session. The weekday AM peak period was counted between 7:00 AM and 9:00 AM and the weekday PM peak period was counted between 4:00 PM and 6:00 PM; these periods capture the peak times for commuter traffic when the roadway system is typically experiencing peak demand. The actual peak hour within each two-hour count period is determined based on the sum of the four consecutive 15-minute periods with the highest total volume. Thus, the weekday PM peak hour at one intersection may be 4:45 PM to 5:45 PM if those four consecutive 15-minute periods have the highest total volume and may vary at other intersections. Traffic count worksheets are provided in Appendix C.

EXISTING STUDY INTERSECTION LOS

Table 1 shows the study intersection LOS for existing conditions. Delay and Level of Service calculation worksheets are provided in Appendix D.

As shown in Table 1, the study intersections currently operate within acceptable LOS (D or better) during the peak hours for existing conditions.

EXISTING STUDY ROADWAY SEGMENT LOS

Table 2 shows the roadway segment capacity analysis for existing conditions. Existing ADT volumes are based on 24-hour bidirectional roadway segment counts obtained in September 2024. Traffic count worksheets are provided in Appendix C.

As shown in Table 2, the study roadway segments currently operate within acceptable Level of Service.

Table 1
Existing Intersection Level of Service

Study Intersection	Traffic Control[1]	AM Peak Hour		PM Peak Hour	
		Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. Haun Rd/Zeiders Rd at Scott Rd	TS	30.6	C	40.5	D
2. Zeiders Rd at Ciccotti St	CSS	9.1	A	10.8	B
4. Zeiders Rd at Project South Dwy/Industrial Rdwy	TS	1.6	A	1.3	A
5. I-215 SB Ramps at Scott Rd	TS	6.6	A	6.8	A
6. I-215 NB Ramps at Scott Rd	TS	13.1	B	14.6	B
7. Antelope Rd at Scott Rd	TS	30.3	C	29.8	C
8. Menifee Rd at Scott Rd	TS	46.1	D	45.0	D

Notes:

(1) TS = Traffic Signal; CSS = Cross Street Stop

(2) Delay is shown in seconds/vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst minor street approach.

(3) LOS = Level of Service

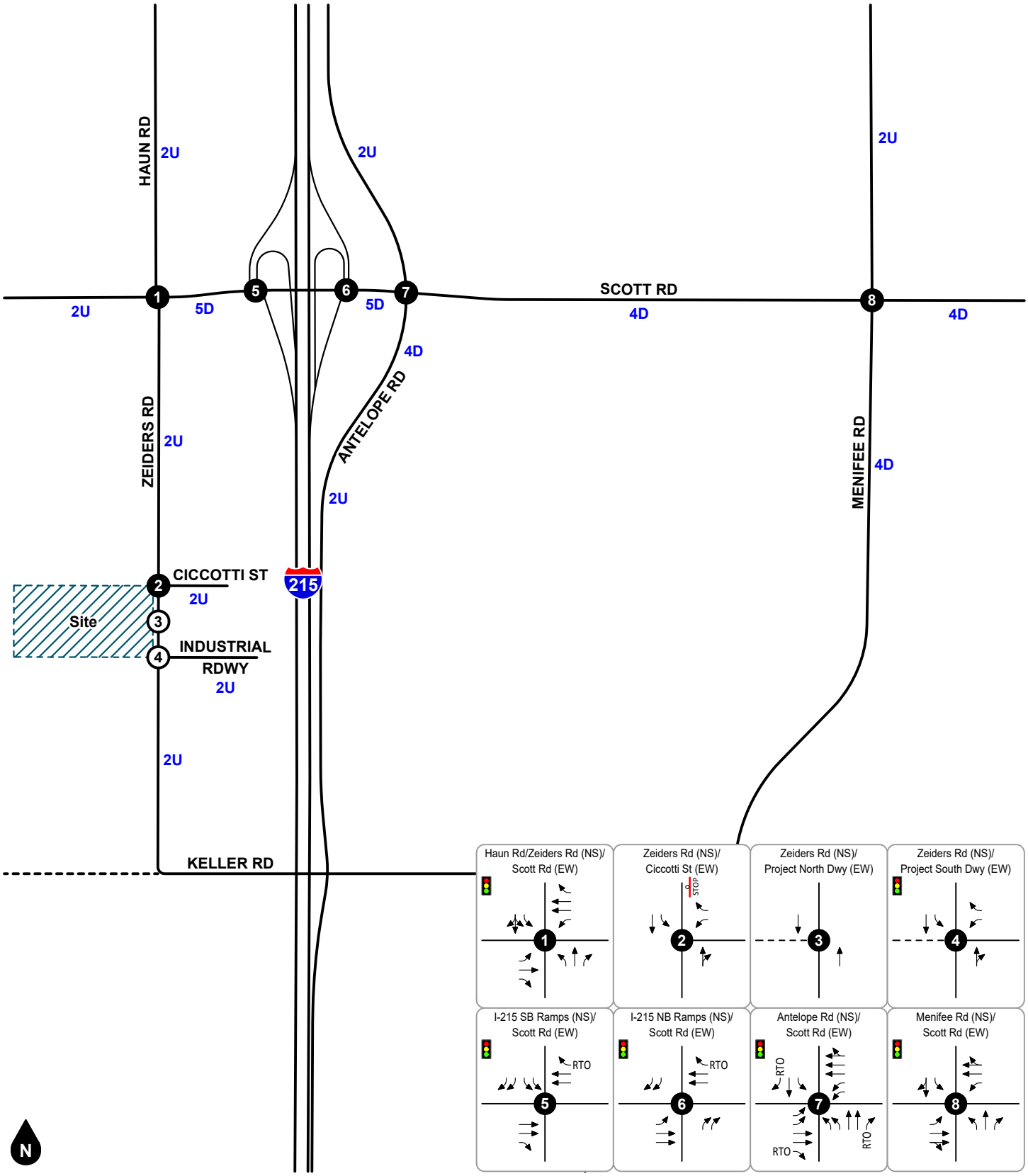
Table 2
Existing Roadway Segment Capacity Analysis

Roadway	Segment	No. Of Lanes	General Plan Roadway Classification	Maximum LOS D Capacity[1,2] (Veh/Day)	Average Daily Traffic (ADT)	Acceptable LOS?
1. Zeiders Road	Scott Road to Ciccotti Street	2	Major	11,700	6,770	Yes
2. Zeiders Road	Cicotti Road to Industrial Parkway	2	Major	11,700	4,926	Yes
3. Scott Road	Haun Road/Zeiders Road to I-215 Freeway SB Ramps	4	Urban Arterial	33,400	30,195	Yes

Notes:

(1) Source: City of Menifee *LOS Traffic Study Guidelines* (October 2020).

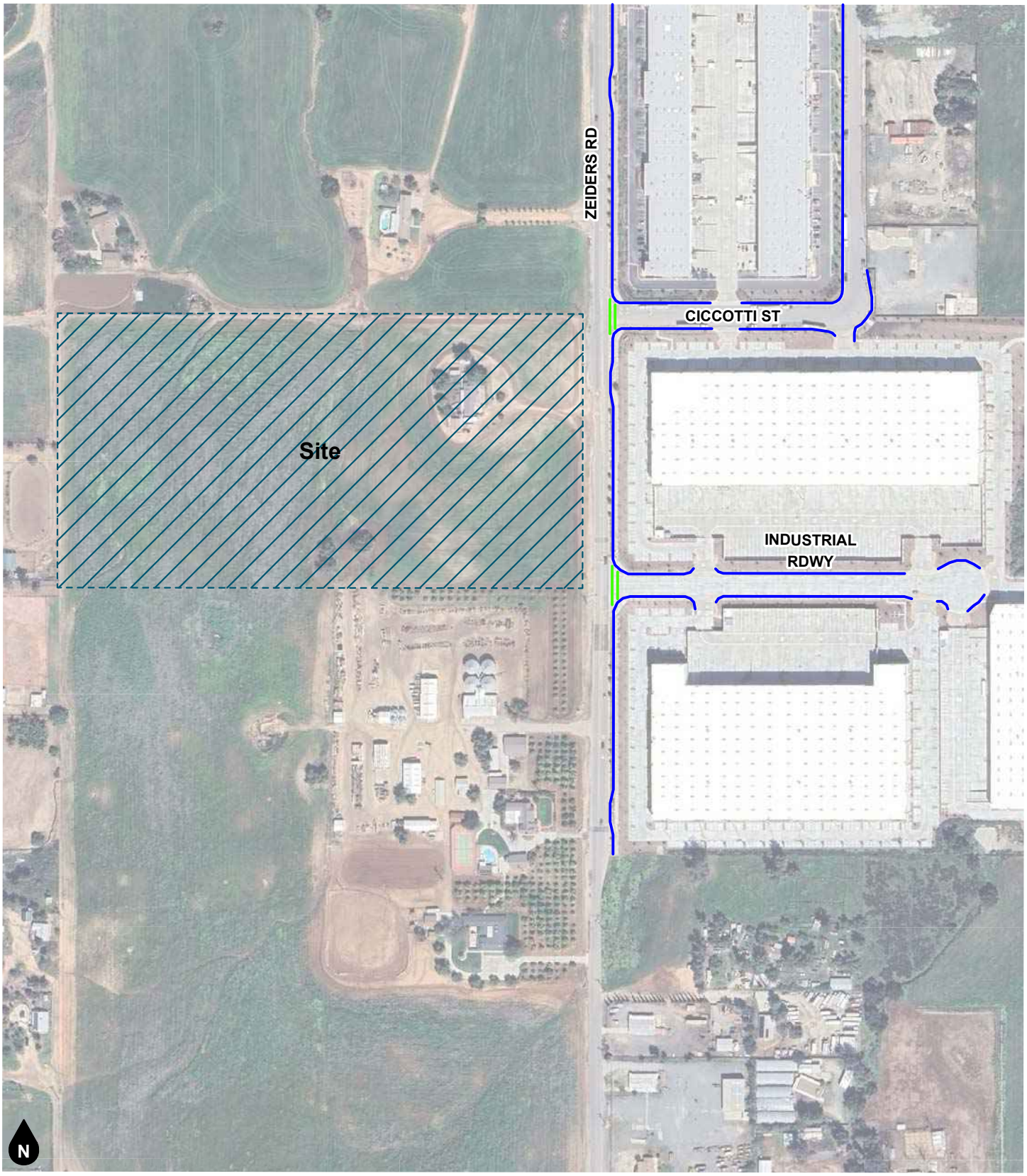
(2) Existing capacity for Zeiders Road based on two-lane Collector since Zeiders Road is not built out to a 4-lane Major and Scott Road based on a four-lane Arterial since Scott Road is not built out to a six-lane Urban Arterial.



Legend

- Traffic Signal
- STOP Stop Sign
- #D #-Lane Divided Roadway
- #U #-Lane Undivided Roadway
- Existing Lane
- RTO Right Turn Overlap
- Project Driveway

Figure 4
Existing Lane Geometry and Intersection Traffic Controls



Legend
Sidewalk
Cross Walk

Figure 5
Existing Pedestrian Facilities



Figure 6
Existing Transit Service

Source: Riverside Transit Agency

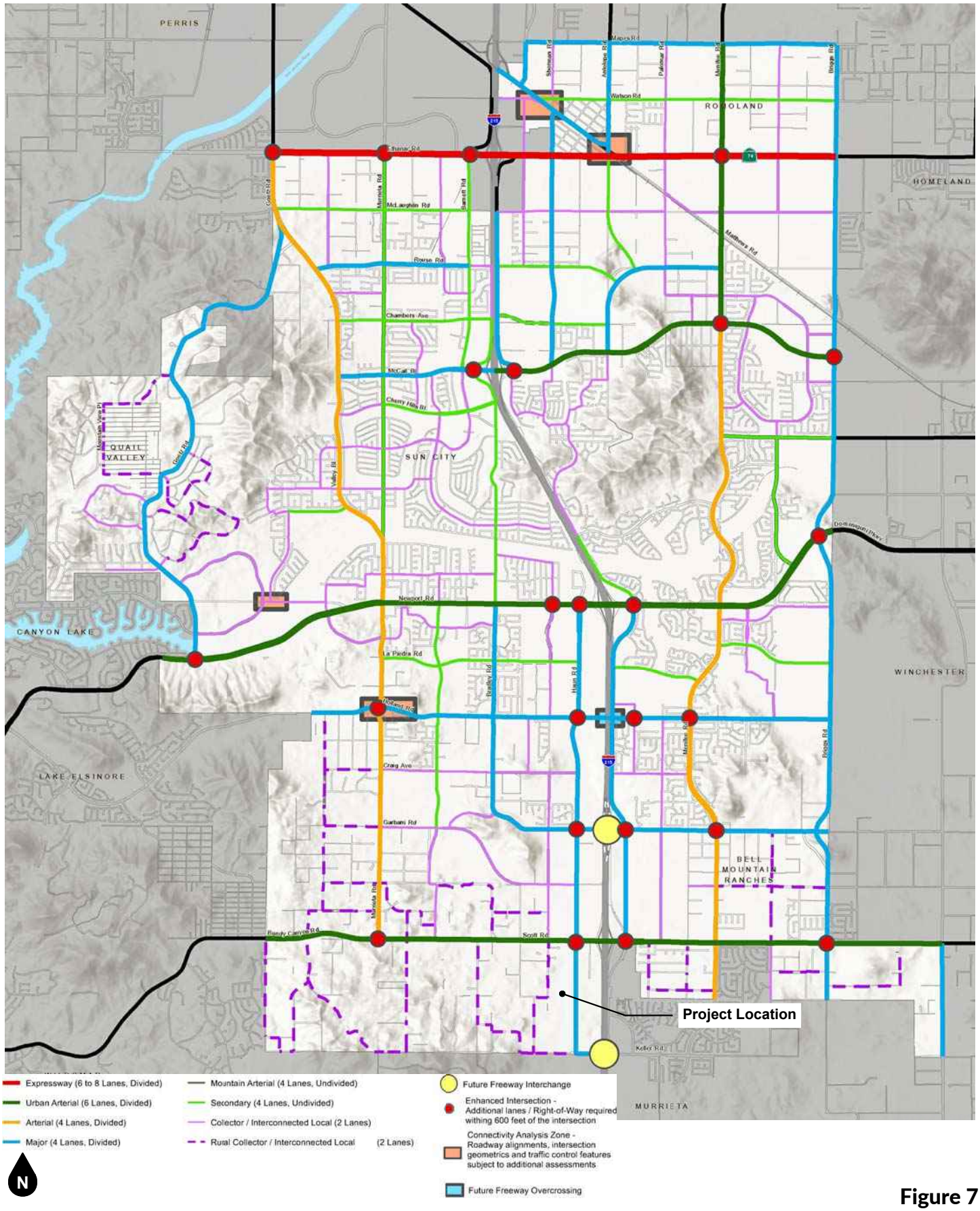


Figure 7
City of Menifee General Plan Circulation Element Roadway Network

Source: City of Menifee

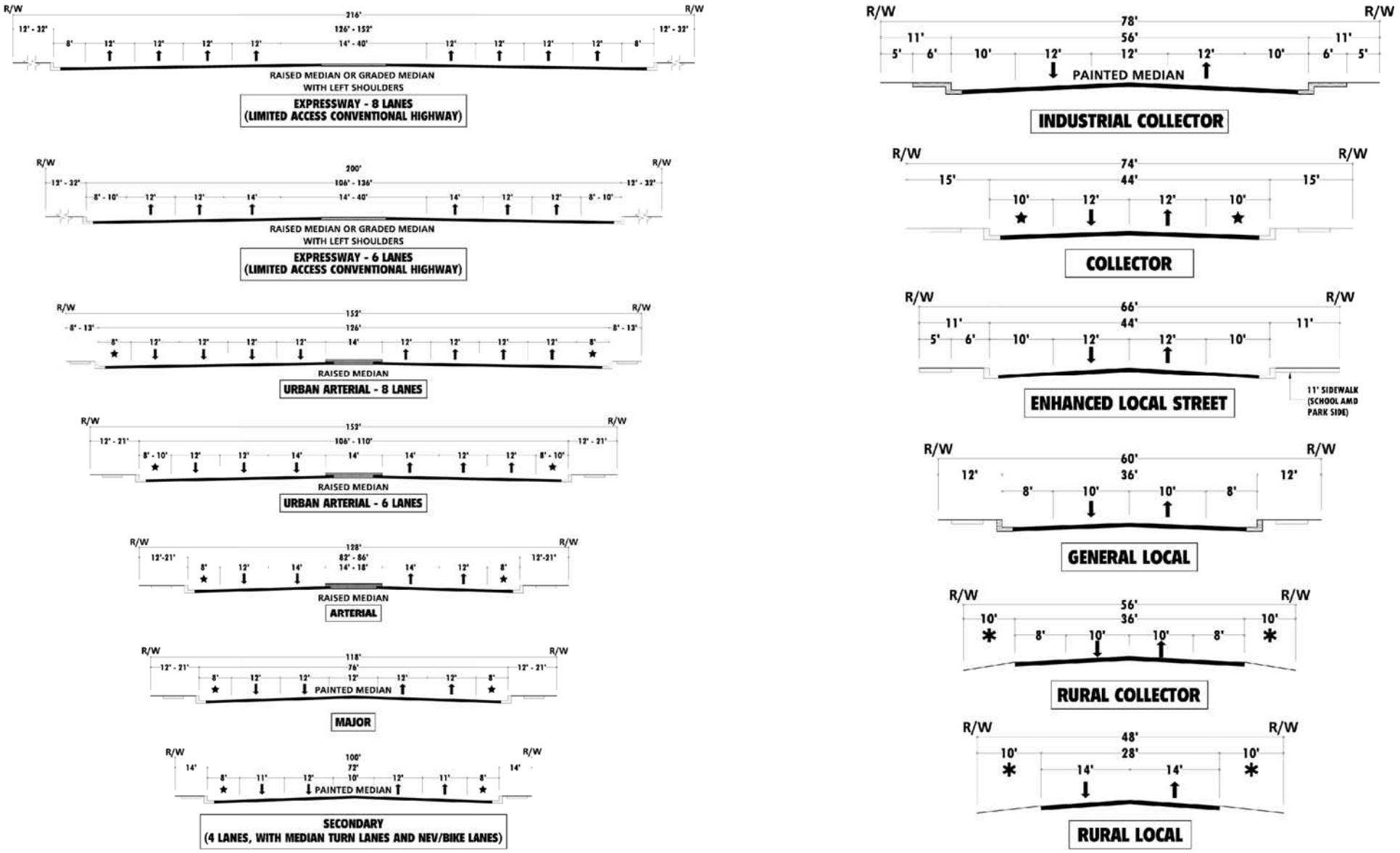


Figure 8
City of Menifee General Plan Roadway Cross-Sections

Source: City of Menifee

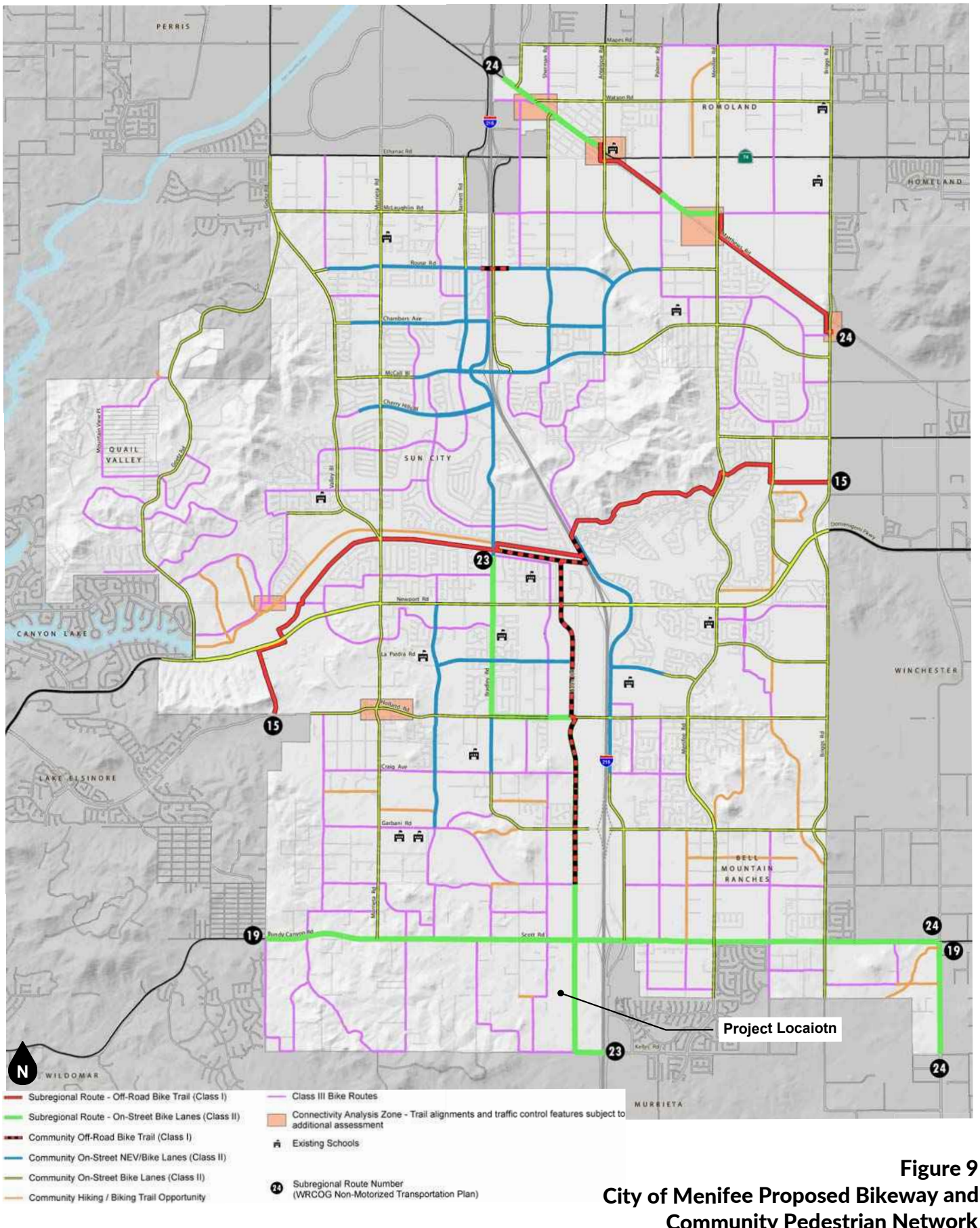


Figure 9
City of Menifee Proposed Bikeway and Community Pedestrian Network

Source: City of Menifee

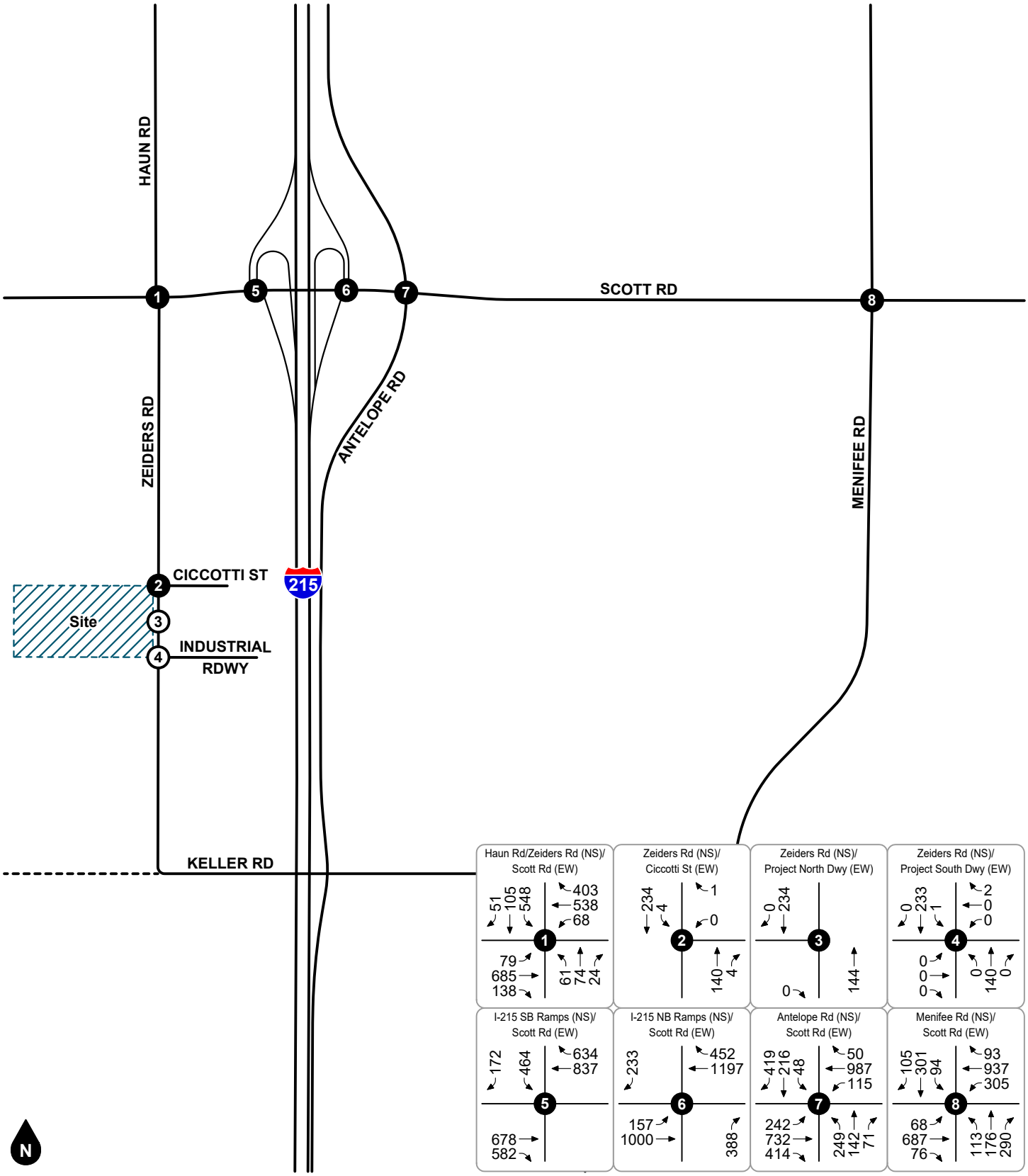
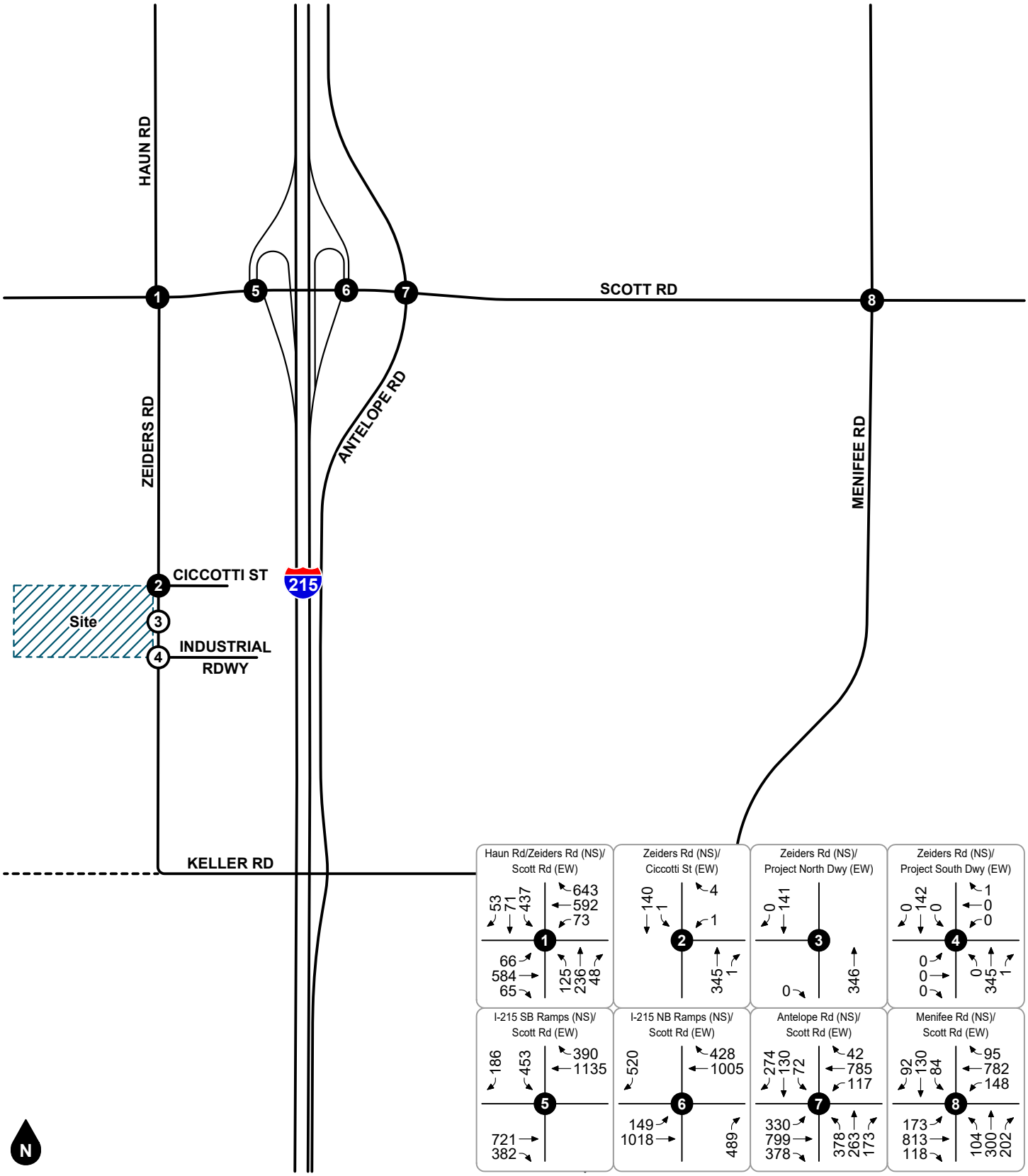


Figure 10
Existing AM Peak Hour Intersection Turning Movement Volumes



Legend

Study Intersection

Project Driveway

Figure 11
Existing PM Peak Hour Intersection Turning Movement Volumes

4. PROJECT TRIP FORECASTS

This section describes how project trip generation, trip distribution, and trip assignment forecasts were developed. The forecast project volumes are illustrated on figures contained in this section.

While the proposed project ideally appears to be an industrial park, to provide for a conservative analysis and allow for flexibility of potential tenants, the proposed project is being proposed as 80% industrial park and 20% business park.

PROJECT TRIP GENERATION

Table 3 through Table 5 show the project trip generation forecasts based on rates obtained from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition, 2021) for ITE Land Use Code 130 (Industrial Park) and ITE Land Use Code 770 (Business Park). These rates were determined to adequately represent the land uses for the proposed project and were selected for calculation of the project trip generation forecast. The number of trips generated is determined by multiplying the trip generation rates and directional distributions by the land use quantities.

In accordance with industry practice for truck-oriented uses, the project trip generation was also calculated in terms of Passenger Car Equivalent (PCE) trips. The percentage of truck trips was obtained from the ITE *Trip Generation Manual* (11th Edition, 2021). The breakdown of truck mix by axle type was obtained from the City of Fontana Truck Trip Generation Study (August 2003). Finally, truck trips were converted to PCE trips based on the following factors recommended by the County TIA Guidelines: 1.5 for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for trucks with four or more axles.

Table 3 shows the industrial park portion of the proposed project is estimated to generate approximately 911 daily vehicle trips, including 92 vehicle trips during the AM peak hour and 93 vehicle trips during the PM peak hour. This equates to a total of approximately 1,190 daily PCE trips, including 112 PCE trips during the AM peak hour and 115 PCE trips during the PM peak hour.

Table 4 shows the business park portion of the proposed project is estimated to generate approximately 840 daily vehicle trips, including 92 vehicle trips during the AM peak hour and 82 vehicle trips during the PM peak hour.

Table 5 shows the proposed project is forecast to generate a total of approximately 1,751 daily vehicle trips, including 184 vehicle trips during the AM peak hour and 175 vehicle trips during the PM peak hour. In PCE trips, the proposed project is forecast to generate a total of approximately 2,030 daily PCE trips, including 204 PCE trips during the AM peak hour and 197 PCE trips during the PM peak hour.

PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

Figure 12 to Figure 15 show the forecast project trip distribution patterns. The project trip distribution patterns were developed using engineering judgment in consultation with City of Menifee staff and are based on review of existing volume data, surrounding land uses, and the local and regional roadway facilities in the project vicinity.

Project AM and PM peak hour intersection turning movement volumes expected from the project are shown on Figure 16 and Figure 17, respectively.

SITE ACCESS/PROJECT DESIGN FEATURES

The following improvements will be constructed by the project to provide site access:

- Construct Zeiders Road along the project frontage at its ultimate half-section width as a Major roadway (four lanes, divided), including Subregional Route – On-Street Bike Lanes (Class II), in accordance with the City of Menifee General Plan Circulation Element.

- Zeiders Road (NS) at Project North Driveway (EW) [#3]
  - Northbound: Maintain existing through lane
  - Southbound: Maintain existing through lane and construct a shared through/right turn lane
  - Eastbound: Construct a right turn lane and install stop control at site egress

- Zeiders Road (NS) at Project South Driveway/Industrial Roadway (EW) [#4]
  - Northbound: Construct a left turn lane and maintain existing through lane
  - Southbound: Maintain existing through lane and construct a shared through/right turn lane
  - Eastbound: Construct a shared left/through/right turn lane
  - Westbound: Maintain existing shared left and right turn lanes
  - Maintain existing traffic signalization

Table 3
Project Trip Generation - Industrial Park (80% of Project Site)

Land Use: Industrial Park
Size: 270.216 TSF

TRIP GENERATION RATES PER TSF[1]								
		AM Peak Hour			PM Peak Hour			Daily
Vehicle Type	Source[2]	In	Out	Rate	In	Out	Rate	Rate
All Vehicles	ITE 130	81%	19%	0.340	22%	78%	0.340	3.370
Trucks Only	ITE 130	45%	55%	0.040	38%	62%	0.040	0.570
Passenger Car (88.2% AM, 88.2% PM, 83.1% Daily)		0.243	0.057	0.300	0.066	0.234	0.300	2.800
Truck (11.8% AM, 11.8% PM, 16.9% Daily)		0.018	0.022	0.040	0.015	0.025	0.040	0.570
Truck Mix:	Fontana							
2-Axle Trucks (7.9%)		0.001	0.002	0.003	0.001	0.002	0.003	0.045
3-Axle Trucks (7.1%)		0.001	0.002	0.003	0.001	0.002	0.003	0.040
4+ Axle Trucks (85.0%)		0.015	0.019	0.034	0.013	0.021	0.034	0.485

VEHICLE TRIPS GENERATED							
	AM Peak Hour			PM Peak Hour			
Vehicle Type	In	Out	Total	In	Out	Total	Daily
Passenger Car	66	15	81	18	63	81	757
Trucks							
2-Axle Trucks	0	1	1	0	1	1	12
3-Axle Trucks	0	1	1	0	1	1	11
4+ Axle Trucks	4	5	9	4	6	10	131
Subtotal	4	7	11	4	8	12	154
Total Vehicle Trips Generated	**70**	**22**	**92**	**22**	**71**	**93**	**911**

PCE[3] TRIPS GENERATED								
		AM Peak Hour			PM Peak Hour			
Vehicle Type	PCE Factor[4]	In	Out	Total	In	Out	Total	Daily
Passenger Car	1.0	66	15	81	18	63	81	757
Trucks								
2-Axle Trucks	1.5	0	2	2	0	2	2	18
3-Axle Trucks	2.0	0	2	2	0	2	2	22
4+ Axle Trucks	3.0	12	15	27	12	18	30	393
Subtotal		12	19	31	12	22	34	433
Total PCE Trips Generated		**78**	**34**	**112**	**30**	**85**	**115**	**1,190**

Notes:
(1) TSF = Thousand Square Feet
(2) ITE = Institute of Transportation Engineers *Trip Generation Manual* (11th Edition, 2021); ### = ITE Land Use Code.
Fontana = City of Fontana *Truck Trip Generation Study* (August 2003); recommended truck mix for Industrial Park classification.
(3) PCE = Passenger Car Equivalent
(4) Source: County of Riverside *Transportation Analysis Guidelines for Level of Service and Vehcile Miles Traveled* (December 2020).

Table 4
Project Trip Generation - Business Park (20% of Project Site)

Trip Generation Rates									
			AM Peak Hour			PM Peak Hour			
Land Use	Source[1]	Unit[2]	% In	% Out	Rate	% In	% Out	Rate	Daily
Business Park	ITE 770	TSF	85%	15%	1.35	26%	74%	1.22	12.44

Trips Generated									
			AM Peak Hour			PM Peak Hour			
Land Use	Quantity	Unit[2]	In	Out	Total	In	Out	Total	Daily
Business Park	67.554	TSF	78	14	92	21	61	82	840

Notes:
(1) ITE = Institute of Transportation Engineers *Trip Generation Manual* (11th Edition, 2021); ### = Land Use Code
(2) TSF = Thousand Square Feet

Table 5
Total Project Trip Generation

Trips Generated									
			AM Peak Hour			PM Peak Hour			
Land Use	Quantity	Unit	In	Out	Total	In	Out	Total	Daily
Industrial Park[1]	270.216	TSF							
- Passenger Cars			66	15	81	18	63	81	757
- Trucks (Vehicles)			4	7	11	4	8	12	154
- Trucks (PCE)			12	19	31	12	22	34	433
Business Park[2]	67.554	TSF	78	14	92	21	61	82	840
Total Trips Generated (Vehicles)	**337.770**	**TSF**	**148**	**36**	**184**	**43**	**132**	**175**	**1,751**
Total Trips Generated (PCE)	**337.770**	**TSF**	**156**	**48**	**204**	**51**	**146**	**197**	**2,030**

Notes:
(1) See Table 3
(2) See Table 4

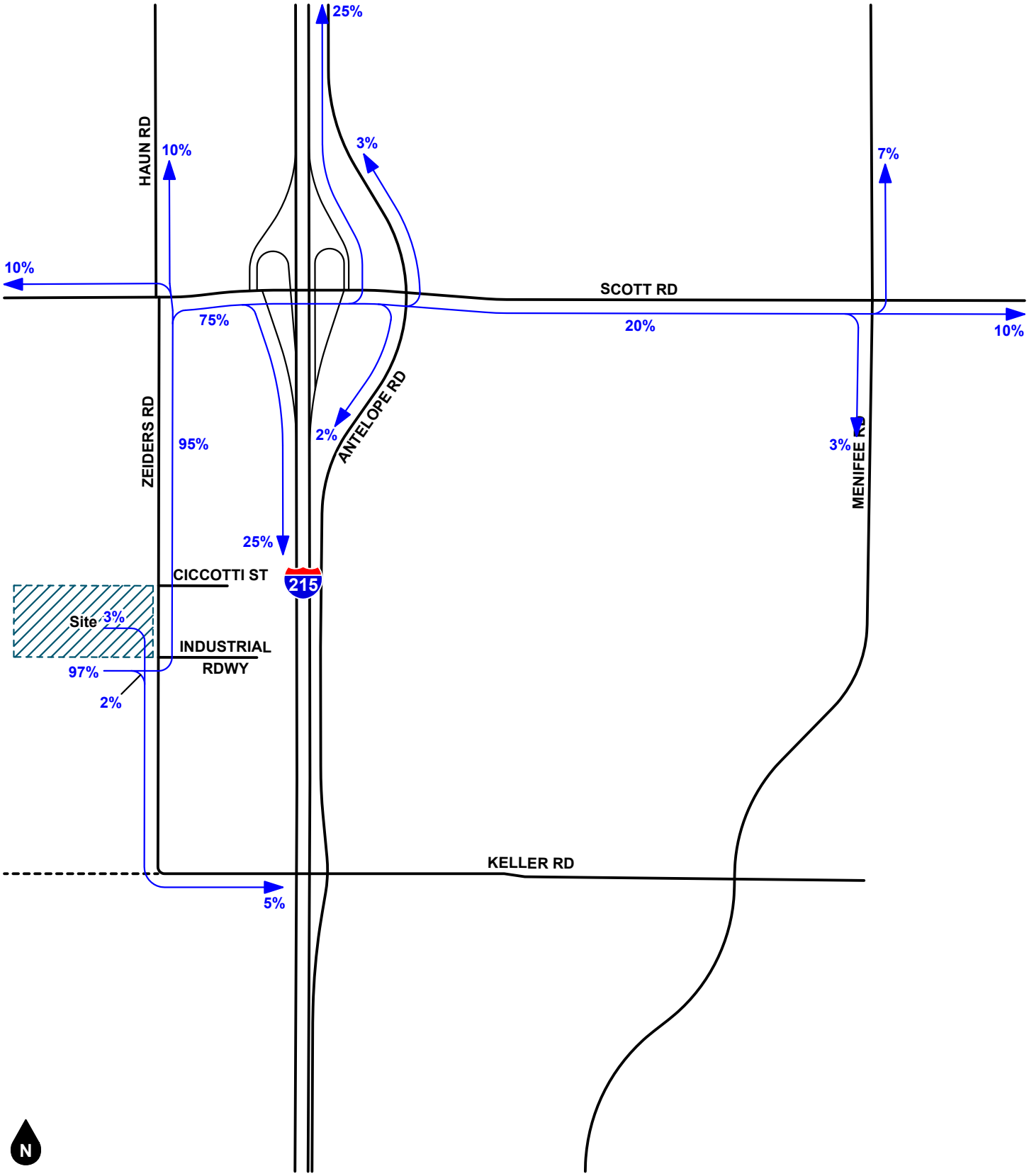


Figure 12
Project Outbound Trip Distribution - Cars

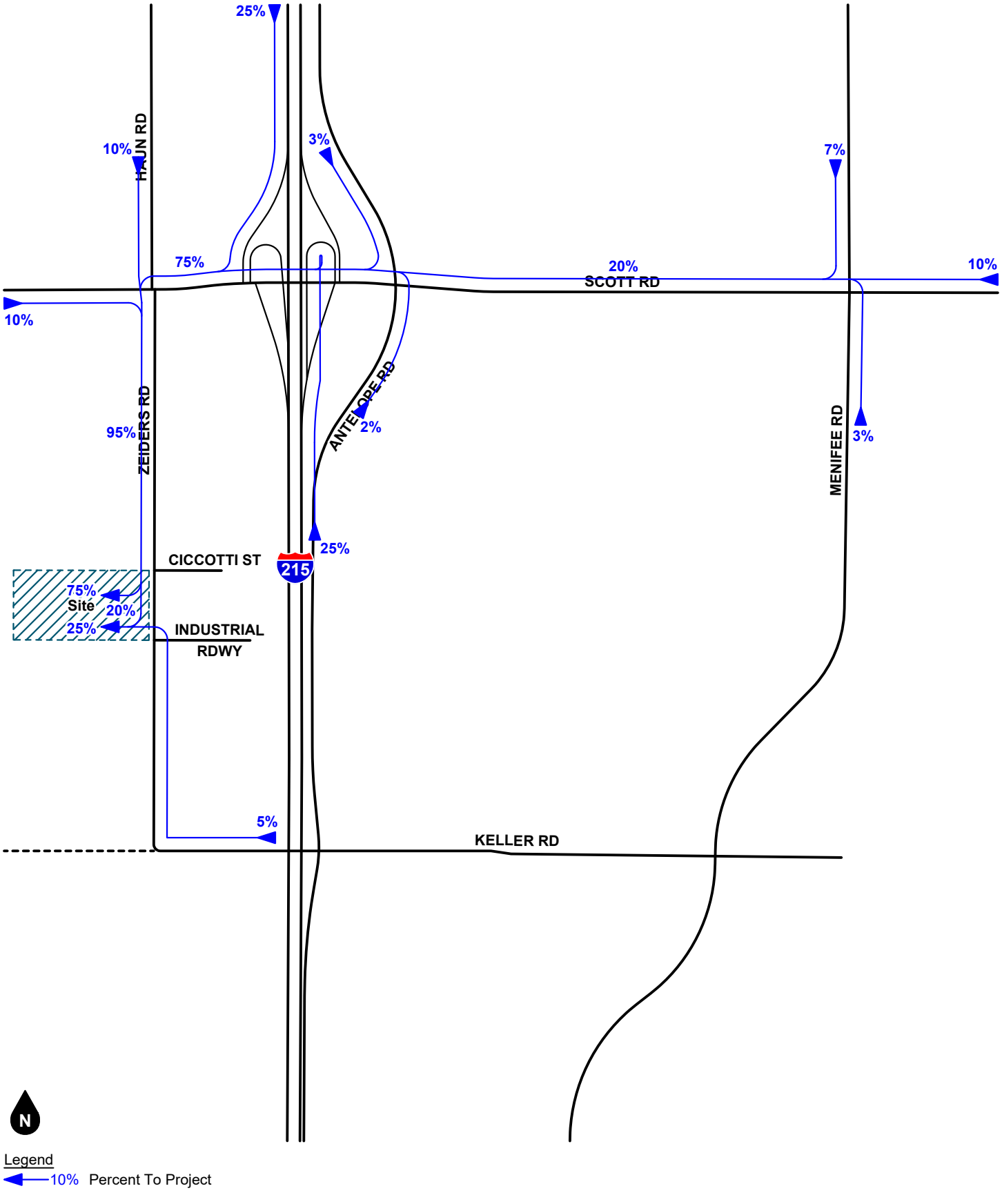


Figure 13
Project Inbound Trip Distribution - Cars

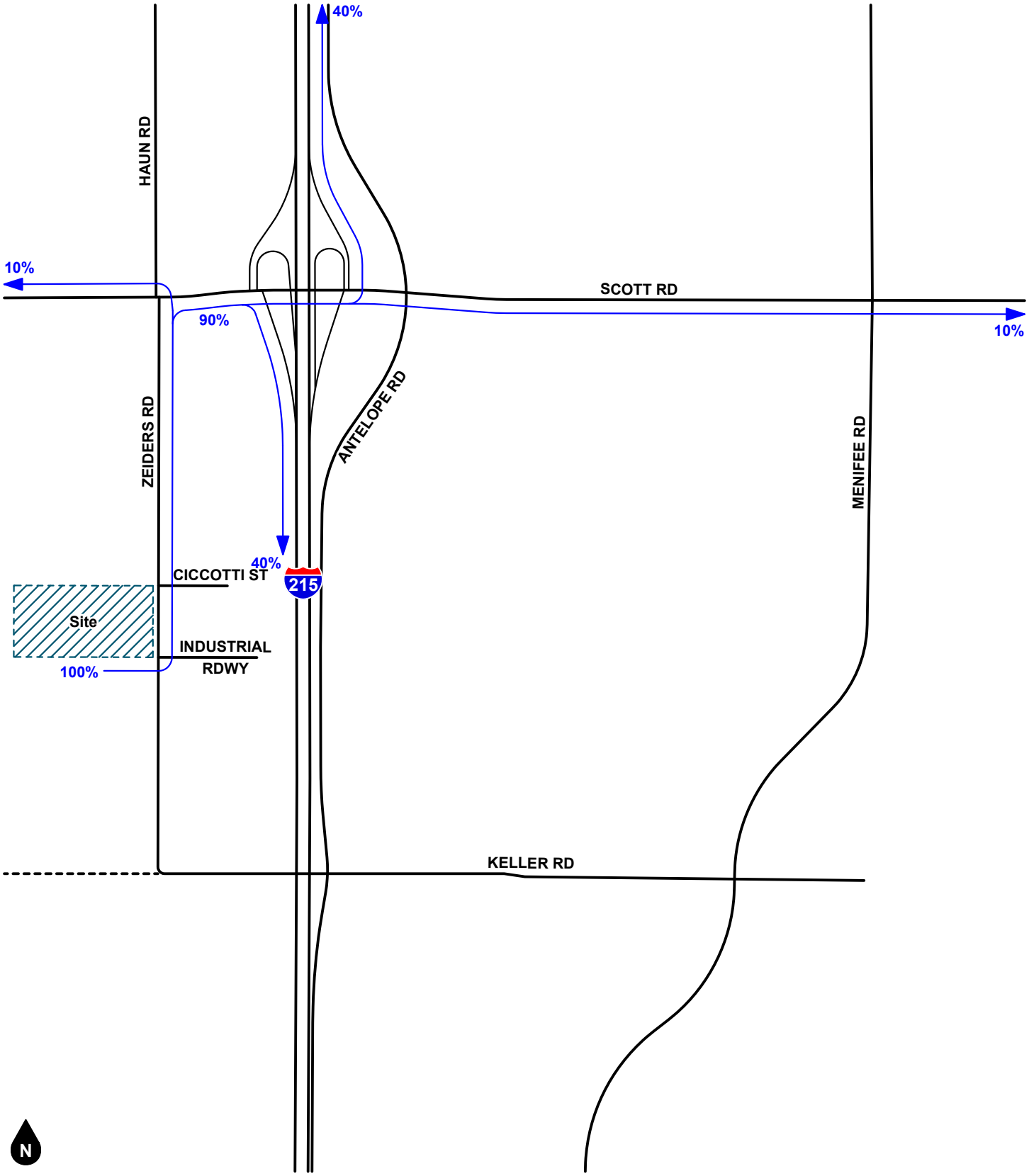


Figure 14
Project Outbound Trip Distribution - Trucks

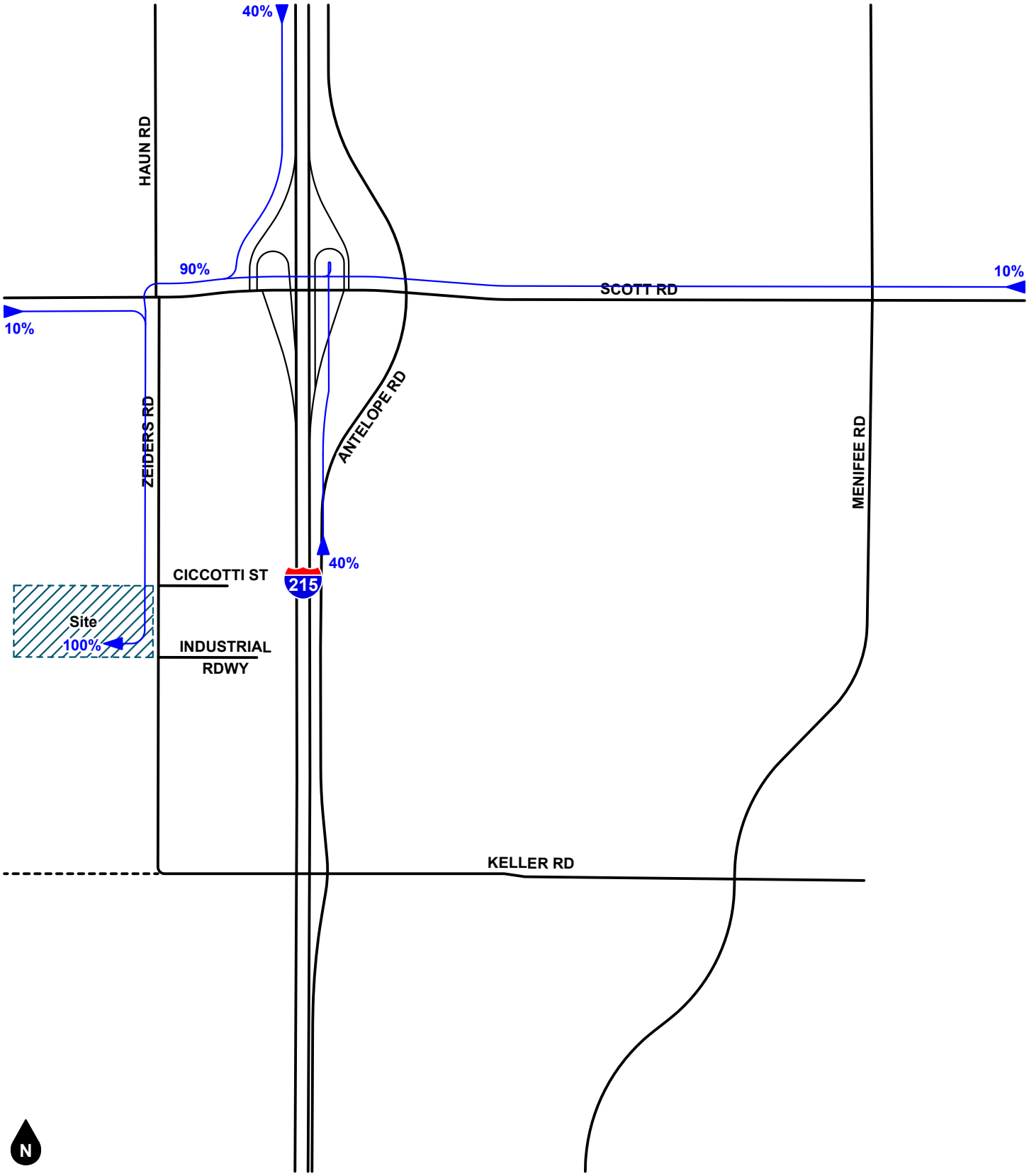


Figure 15
Project Inbound Trip Distribution - Trucks

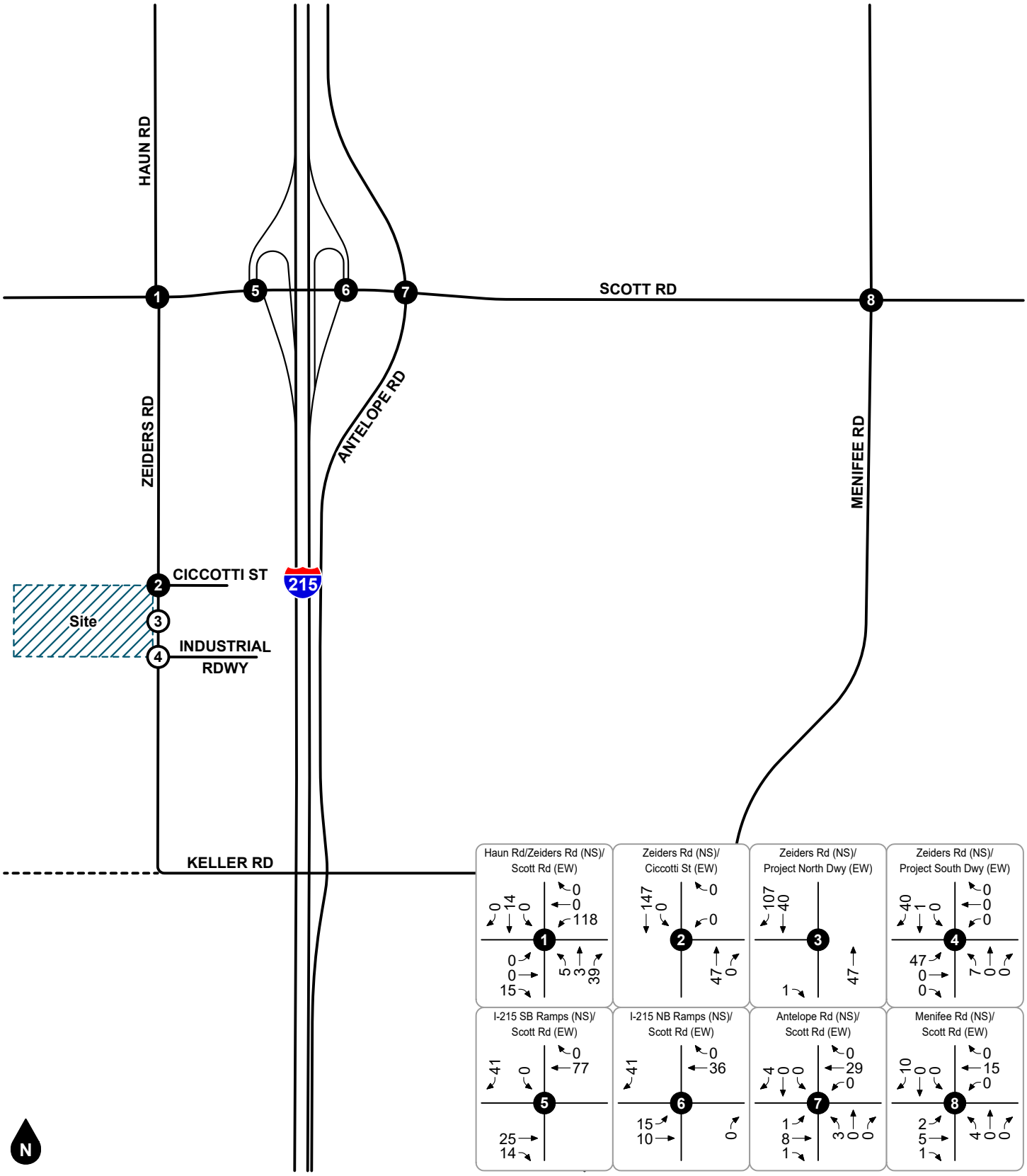


Figure 16
Project AM Peak Hour Intersection Turning Movement Volumes

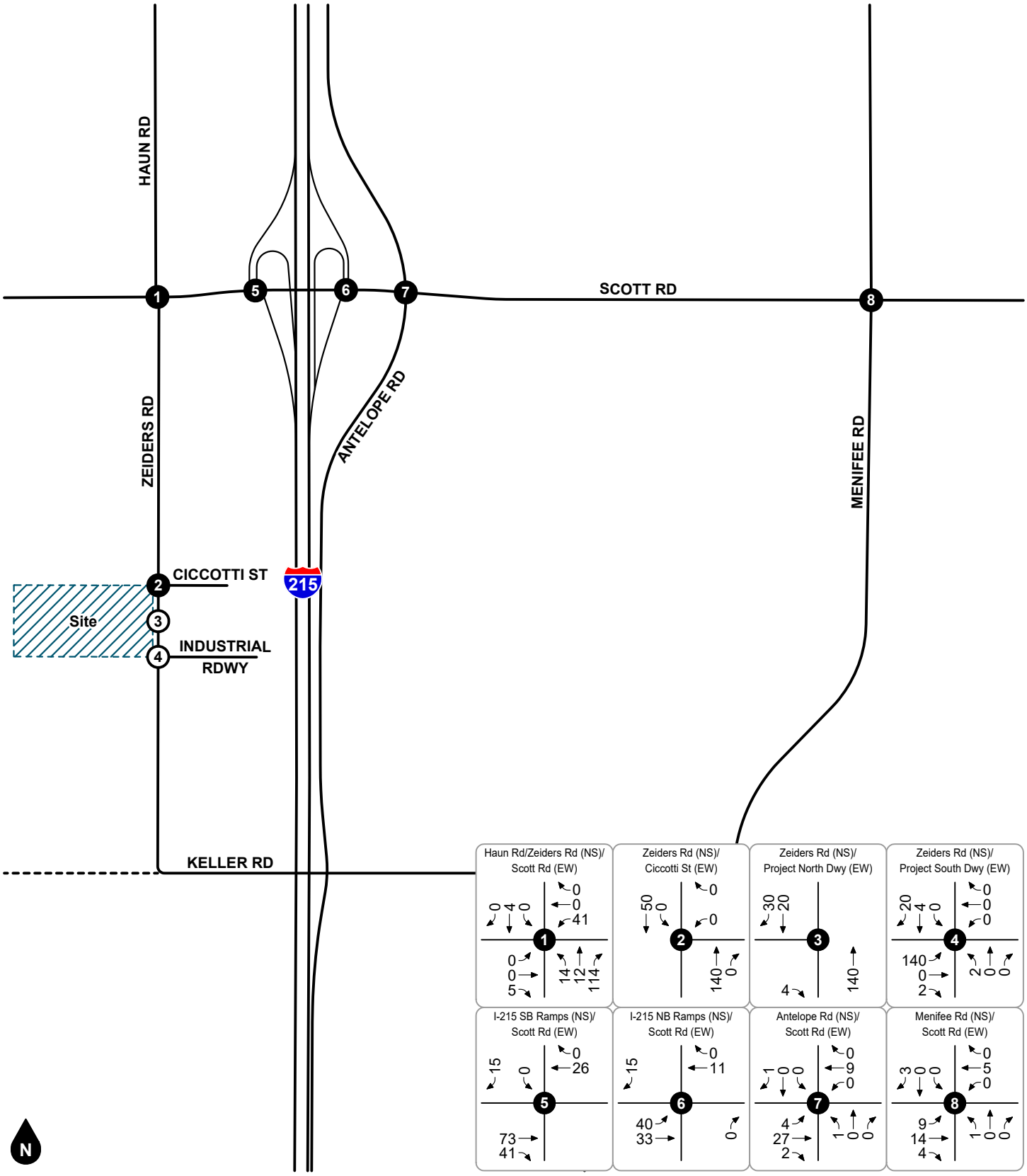


Figure 17
Project PM Peak Hour Intersection Turning Movement Volumes

5. FUTURE VOLUME FORECASTS

This section describes how future volume forecasts for each analysis scenario were developed. Forecast study area volumes are illustrated on figures contained in this section.

CUMULATIVE TRIPS

Ambient Growth Rate

To account for ambient growth on roadways, existing 2024 roadway volumes were increased by a growth rate of two percent (2%) per year over two years for Opening Year (2026) conditions. This equates to a total growth factor of approximately 1.0404. The ambient growth rate was conservatively applied to all movements at the study intersections.

Other Development

To account for trips generated by future development, trips generated by pending or approved other development projects in the City of Menifee, City of Murrieta, and County of Riverside were reviewed and added to the study area as applicable. Table 6 shows the other development trip generation and Figure 18 exhibits the other development location map.

The forecasted other development turning movements were reviewed and compared to the Horizon Year (2045) travel demand plots and forecasts from the Riverside County Transportation Model (RIVCOM) for reasonableness and adjusted as necessary. For example, large residential tract maps that were approved several years ago and have not yet started development were adjusted to represent a reasonable absorption rate based on growth between existing conditions and the Horizon Year (2045) buildout estimates from RIVCOM.

Figure 19 and Figure 20 show the forecast AM and PM peak hour intersection turning movement volumes for trips generated by other developments.

HORIZON YEAR (2045) PROJECTIONS

Horizon Year (2045) forecasts have been determined using a growth increment approach with the Riverside County Transportation Model (RIVCOM) Year 2018 and Year 2045 travel demand model plots. This difference defines the incremental growth in forecast volumes over the 27-year period between 2018 and 2045. The incremental growth in average daily traffic volume has been factored to reflect the forecast growth between the current year (2024) and year 2045. For this purpose, linear growth between the Year 2018 base condition and the forecast Year 2045 condition was assumed. Since the increment between the current year and Year 2045 is 21 years of the 27-year time frame, a factor of 0.78 (i.e., 21/27) was used.

To derive AM and PM peak hour intersection turning movement volumes, the roadway link growth forecasts were further refined using a spreadsheet program developed by the Federal Highway Administration and consistent with forecasting procedures outlined in the National Cooperative Highway Research Program Report 255. The spreadsheet program uses a linear programming algorithm to calculate future turning movements based on the relationship of existing intersection turning movements and forecast model growth. The forecast turning movements developed by the spreadsheet program were reviewed for reasonableness and adjusted as necessary to ensure at least 10 percent growth over existing volumes. The end results of the post-processing procedures are future traffic volumes suitable for analysis. Travel demand model plots are provided in Appendix E and post-processing worksheets are provided in Appendix F.

It should be noted that future interchanges are proposed along the I-215 Freeway at Garbani Road and Keller Road. These future planned interchanges are approximately 1-mile north and south of the existing interchange at Scott Road. These future planned interchanges are included in the Year 2045 travel demand model plots. Thus, existing traffic using the Scott Road interchange and future development included within the Year 2045 travel demand model plots has been directed to these two additional interchanges in addition to the Scott Road interchange. The Year 2045 travel demand model plots reflect this as the Year 2045 travel demand model plot volumes at the Scott Road interchange are higher than the Year 2018 travel demand model plots.

It should be noted that other development for Opening Year (2026) conditions was entirely directed to the Scott Road interchange as these two planned future interchanges are not expected to be open and operational by Year 2026.

ANALYSIS SCENARIO VOLUME FORECASTS

Existing Plus Project

Existing Plus Project volume forecasts were developed by adding project-generated trips to existing volumes. Existing Plus Project AM and PM peak hour intersection turning movement volumes are shown on Figure 21 and Figure 22.

Opening Year (2026) Cumulative Without Project

Opening Year (2026) Cumulative Without Project volume forecasts were developed by adding ambient growth and trips generated by other developments to existing volumes. Opening Year (2026) Cumulative Without Project AM and PM peak hour intersection turning movement volumes are shown on Figure 23 and Figure 24.

Opening Year (2026) Cumulative With Project

Opening Year (2026) Cumulative With Project volume forecasts were developed by adding project-generated trips to Opening Year (2026) Cumulative Without Project volumes. Opening Year (2026) Cumulative With Project AM and PM peak hour intersection turning movement volumes are shown Figure 25 and Figure 26.

Horizon Year (2045) Without Project

Horizon Year (2045) Without Project volume forecasts were developed based on the RIVCOM travel demand model and post-processing procedures as described above. Horizon Year (2045) Without Project AM and PM peak hour intersection turning movement volumes are shown on Figure 27 and Figure 28.

Horizon Year (2045) With Project

Horizon Year (2045) With Project volume forecasts were developed by adding project generated trips to the Horizon Year (2045) Without Project forecast volumes. Horizon Year (2045) With Project AM and PM peak hour intersection turning movement volumes are shown on Figure 29 and Figure 30.

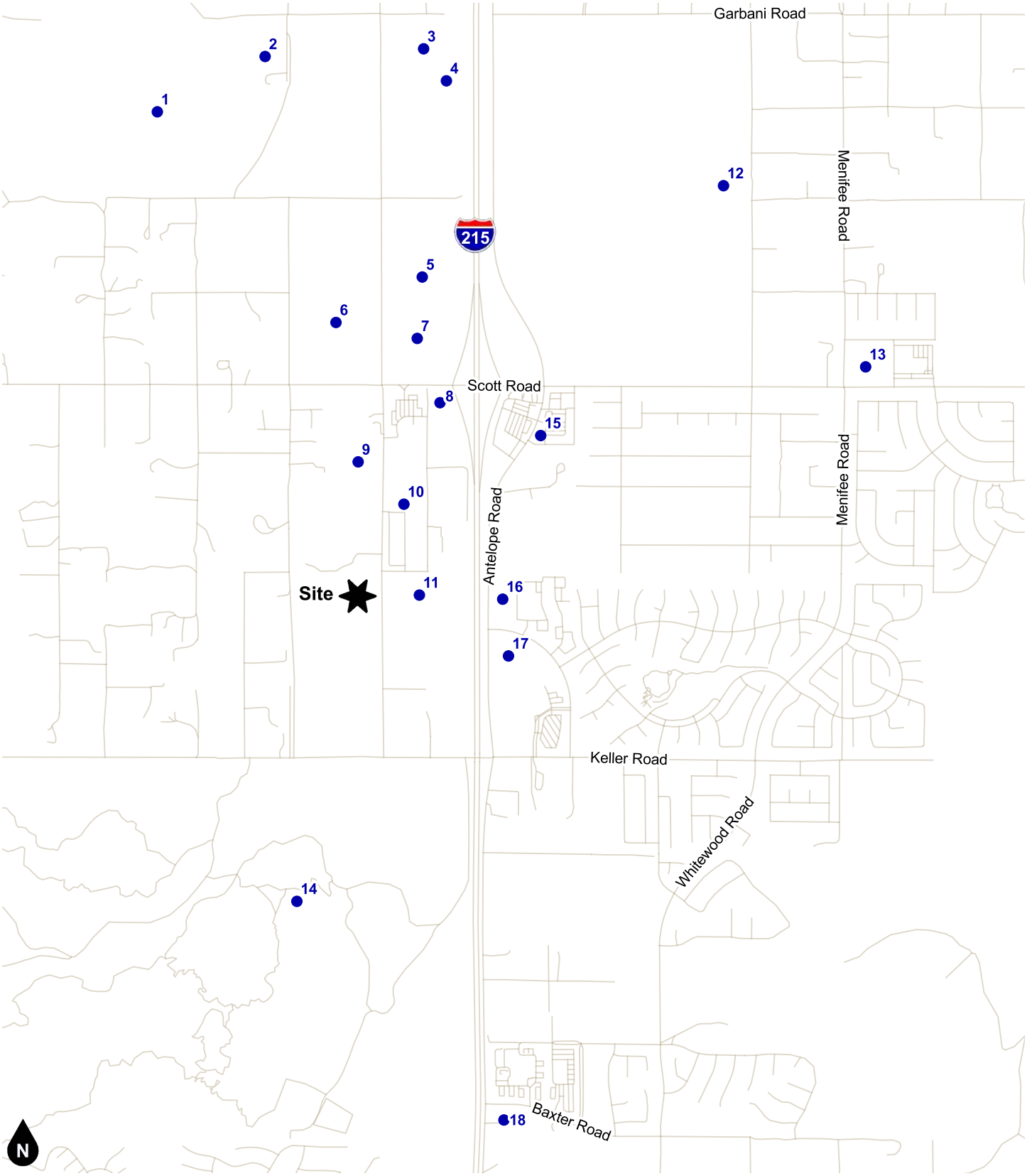
Table 6 (1 of 2)
Other Development Trip Generation

Map ID	Case Number	Project Name	Land Use	Source[1]	Quantity[2]	AM Peak Hour			PM Peak Hour			Daily
						In	Out	Total	In	Out	Total	
City of Menifee												
1	PLN 21-0199, PLN 21-0201	Golden Meadows (Richland Comm.)	Single-Family Detached Residential	ITE 210	552 DU	100	286	386	327	192	519	5,205
2	DEV 2021-009, TR 37450, PLN 21-0361	Garbani South	Single-Family Detached Residential	ITE 210	33 DU	6	17	23	20	11	31	311
3	DEV 2022-013	Haun and Garbani (SE corner)	Business Park	ITE 770	291.020 TSF	334	59	393	92	263	355	3,620
4	PLN 23-0150	Fitwell Health	Office	ITE 712	9.000 TSF	12	3	15	7	13	20	130
			Fitness Center	ITE 492	35.000 TSF	23	22	45	69	52	121	1,449
			Multi-Purpose Center	ITE 492	34.200 TSF	23	22	45	67	51	118	1,416
			Subtotal			*58*	*47*	*105*	*143*	*116*	*259*	*2,995*
5	PLN 21-0002	Freedom Business Park	Business Park	ITE 770	283.000 TSF	325	57	382	90	255	345	3,521
6	PLN 24-0079	Liberty Center - Phase 1	Hotel	ITE 310	136 RM	35	28	63	41	39	80	1,087
			Shopping Plaza (40-150k)	ITE 821	55.561 TSF	60	37	97	141	147	288	3,751
			- Pass-By (40% PM)			--	--	--	-56	-59	-115	-115
			Convenience Store/Gas Station (2-4k)	ITE 945	16 FP	128	128	256	147	147	294	4,242
			- Pass-By (76% AM, 75% PM)			-97	-97	-194	-110	-110	-220	-3,182
			Fast-Food Restaurant with Drive Thru	ITE 934	2.368 TSF	54	52	106	41	38	79	1,107
			- Pass-By (50% AM, 55% PM)			-27	-26	-53	-23	-21	-44	-554
			Internal Capture (10%)			-15	-12	-28	-18	-18	-36	-634
			Subtotal			*138*	*110*	*248*	*163*	*163*	*326*	*5,702*
7	PP 2009-121, PM 35261	Walmart	Free-Standing Discount Superstore	ITE 813	182.171 TSF	190	149	339	387	402	789	9,203
			- Pass-By (29% PM)			--	--	--	-112	-117	-229	-229
			Fast-Food Restaurant with Drive Thru	ITE 934	6.200 TSF	141	136	277	106	98	204	2,898
			- Pass-By (50% AM, 55% PM)			-71	-68	-139	-58	-54	-112	-1,449
			Convenience Store/Gas Station (2-4k)	ITE 945	10 FP	80	80	160	92	92	184	2,651
			- Pass-By (76% AM, 75% PM)			-61	-61	-122	-69	-69	-138	-1,988
			High-Turnover Sit-Down Restaurant	ITE 932	6.500 TSF	34	28	62	36	23	59	697
			- Pass-By (43% PM)			--	--	--	-15	-10	-25	-25
			Commercial Retail	ITE 822	13.800 TSF	20	13	33	45	45	90	751
			Auto Repair Facility	ITE 942	6.680 TSF	10	5	15	10	11	21	249
			Internal Capture (10%)			-34	-28	-63	-42	-42	-84	-1,276

Table 6 (2 of 2)
Other Development Trip Generation

Map ID	Case Number	Project Name	Land Use	Source[1]	Quantity[2]	AM Peak Hour			PM Peak Hour			Daily
						In	Out	Total	In	Out	Total	
7			*Subtotal*			*309*	*254*	*563*	*380*	*379*	*759*	*11,482*
8	PLN 23-0014	Holiday Inn	Hotel	ITE 310	98 RM	25	20	45	29	28	57	783
9	PLN 23-0242	Caliber Collision	Auto Repair Shop	ITE 942	18.690 TSF	28	14	42	28	30	58	698
10	CUP 2019-013	Bailey Park Irrigation Supply	Warehouse	ITE 150	19.603 TSF	3	1	4	1	3	4	34
11	2009-009, PP 2016-126	Commerce Pointe (PacTen)	Warehouse	ITE 150	157.147 TSF	21	6	27	8	20	28	269
12	TTM 33732, DEV 2022-008, PLN 22-0043, PLN 22-0202	Cantelena (Richland Communities)	Single-Family Detached Residential	ITE 210	702 DU	128	364	492	416	244	660	6,620
13	DEV 2023-003	TR 38651	Single-Family Detached Residential	ITE 210	36 DU	7	19	26	21	13	34	339
City of Murrieta												
14	TTM 35853	Murrieta Hills / Pulte	Single-Family Detached Residential	ITE 210	522 DU	95	270	365	309	182	491	4,922
15	DP 2021-2412	Adobe Springs	Retail Building	ITE 822	3.124 TSF	4	3	7	10	10	20	170
			Coffee Shop	ITE 937	2.522 TSF	110	106	216	49	49	98	1,346
			- Pass-By (90% AM, 98% PM)			-99	-95	-194	-48	-48	-96	-1,211
			Subtotal			*15*	*14*	*29*	*11*	*11*	*22*	*305*
16	DP 2023-00003	Murrieta Medical Office & Life Science	Medical Office	ITE 720	82.500 TSF	202	54	256	97	227	324	2,970
17	MDP 2014-347, DP 2014-348	Kaiser Permanente Murrieta Medical	Hospital	ITE 610	741.744 TSF	408	201	609	223	415	638	7,989
18	DP 2023-00055	Murrieta Homewood Suites	Hotel	ITE 310	130 RM	33	26	59	39	38	77	1,039
Total						2,235	1,819	4,054	2,397	2,590	4,987	58,804

Notes:
3,984
(2) DU = Dwelling Units; TSF = Thousand Square Feet; RM = Rooms; FP = Fueling Positions



Legend

● Other Development

Figure 18
Other Development Location Map

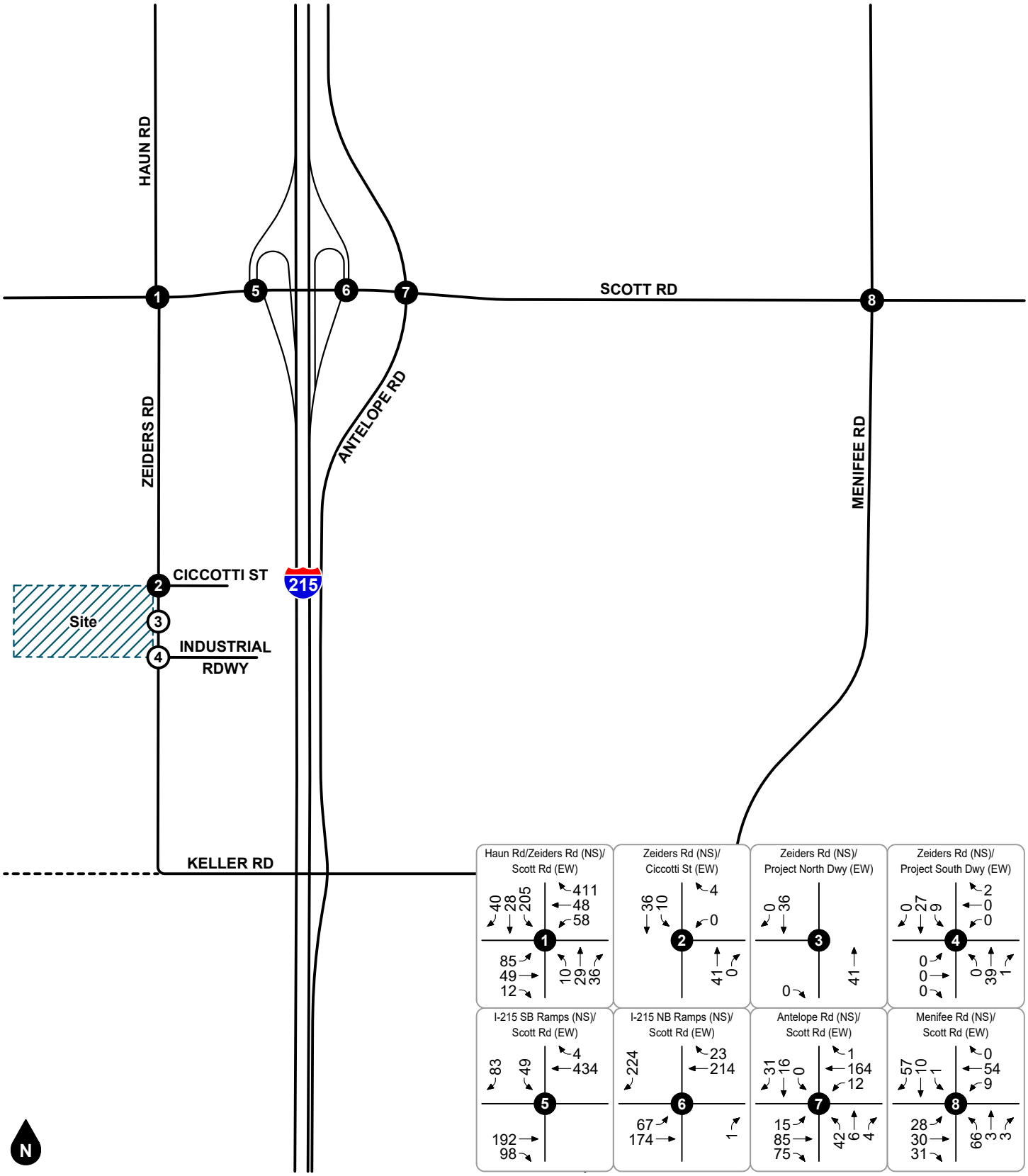
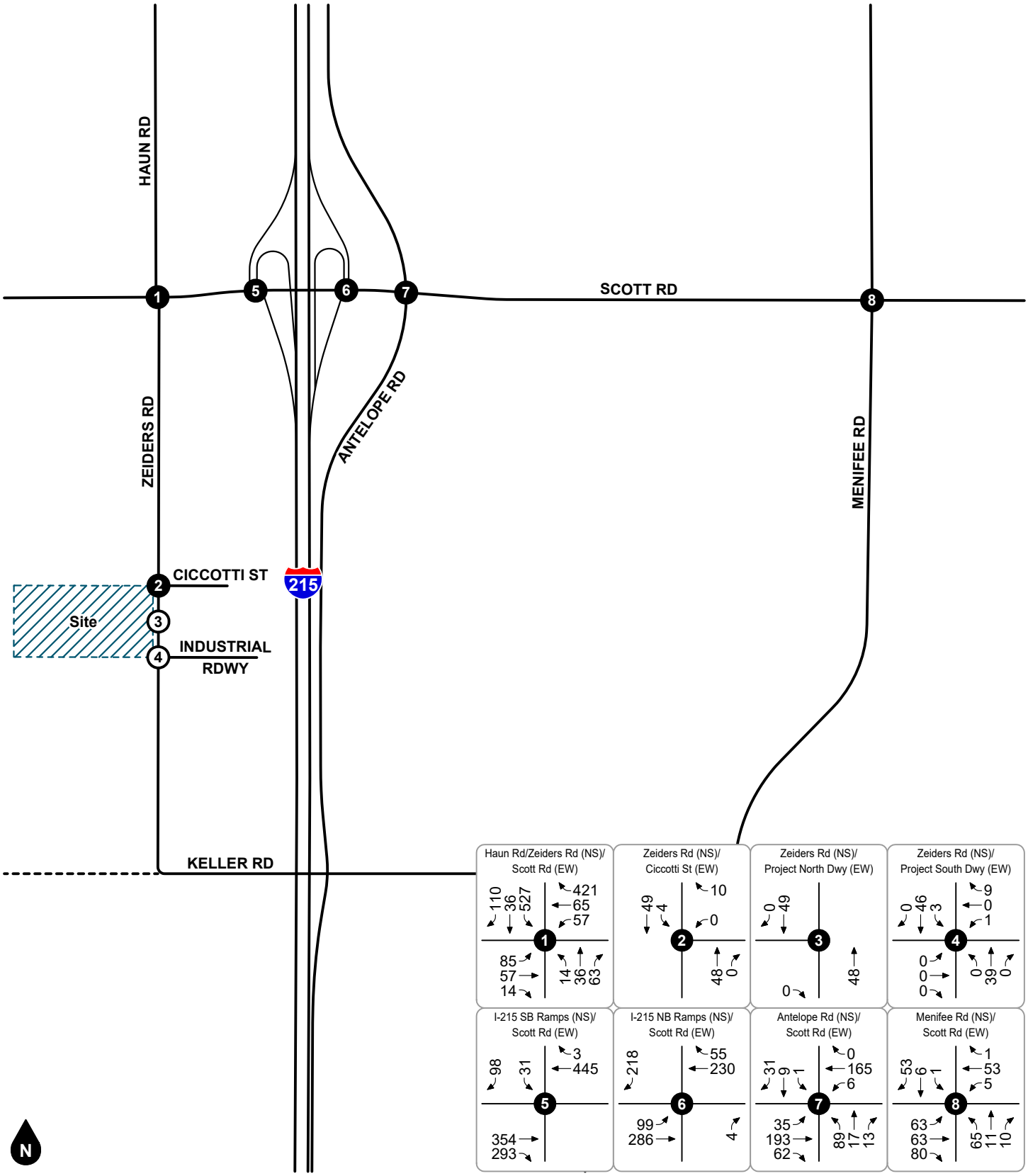


Figure 19
Other Development
AM Peak Hour Intersection Turning Movement Volumes

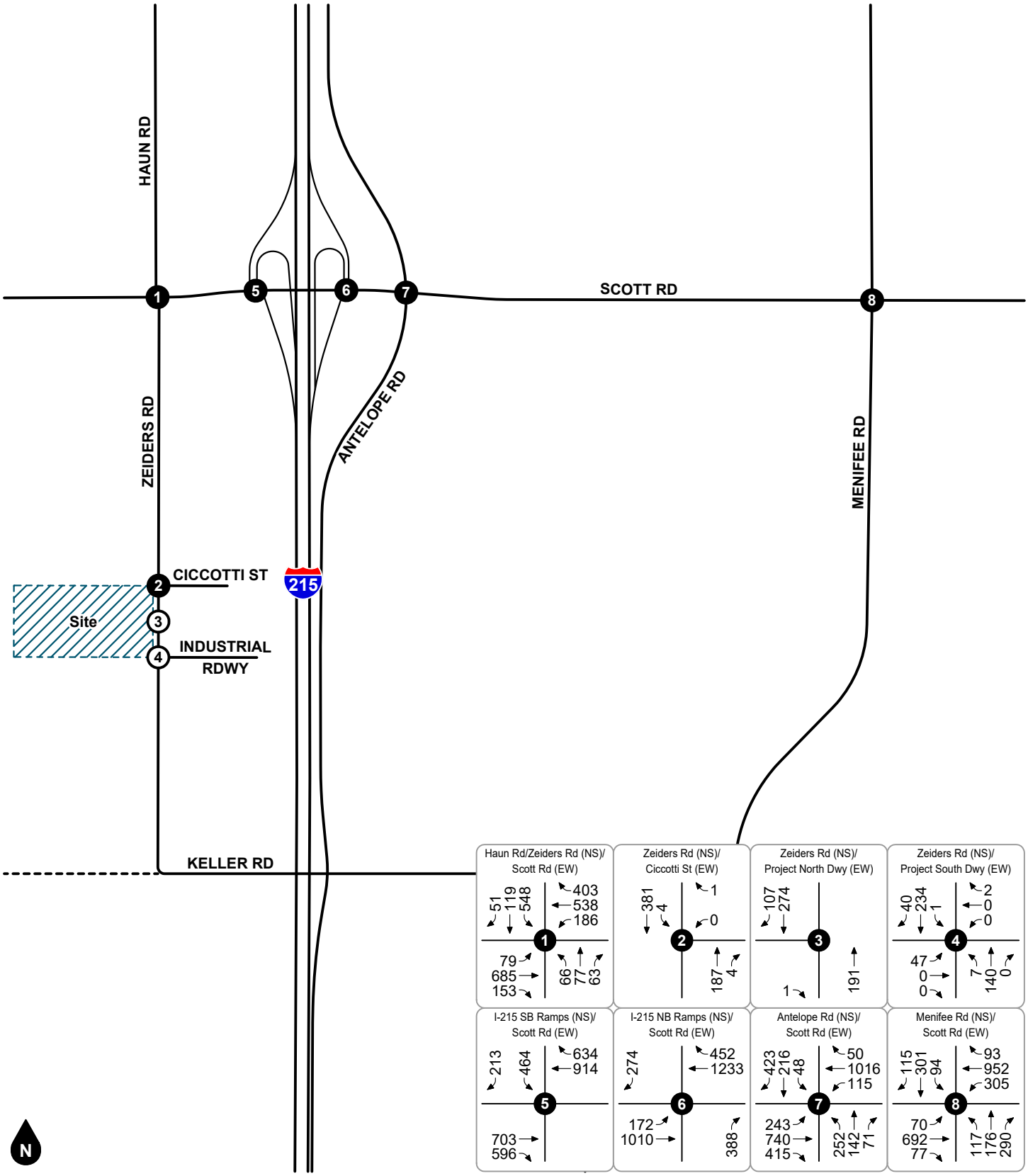


Legend

Study Intersection

Project Driveway

Figure 20
Other Development
PM Peak Hour Intersection Turning Movement Volumes

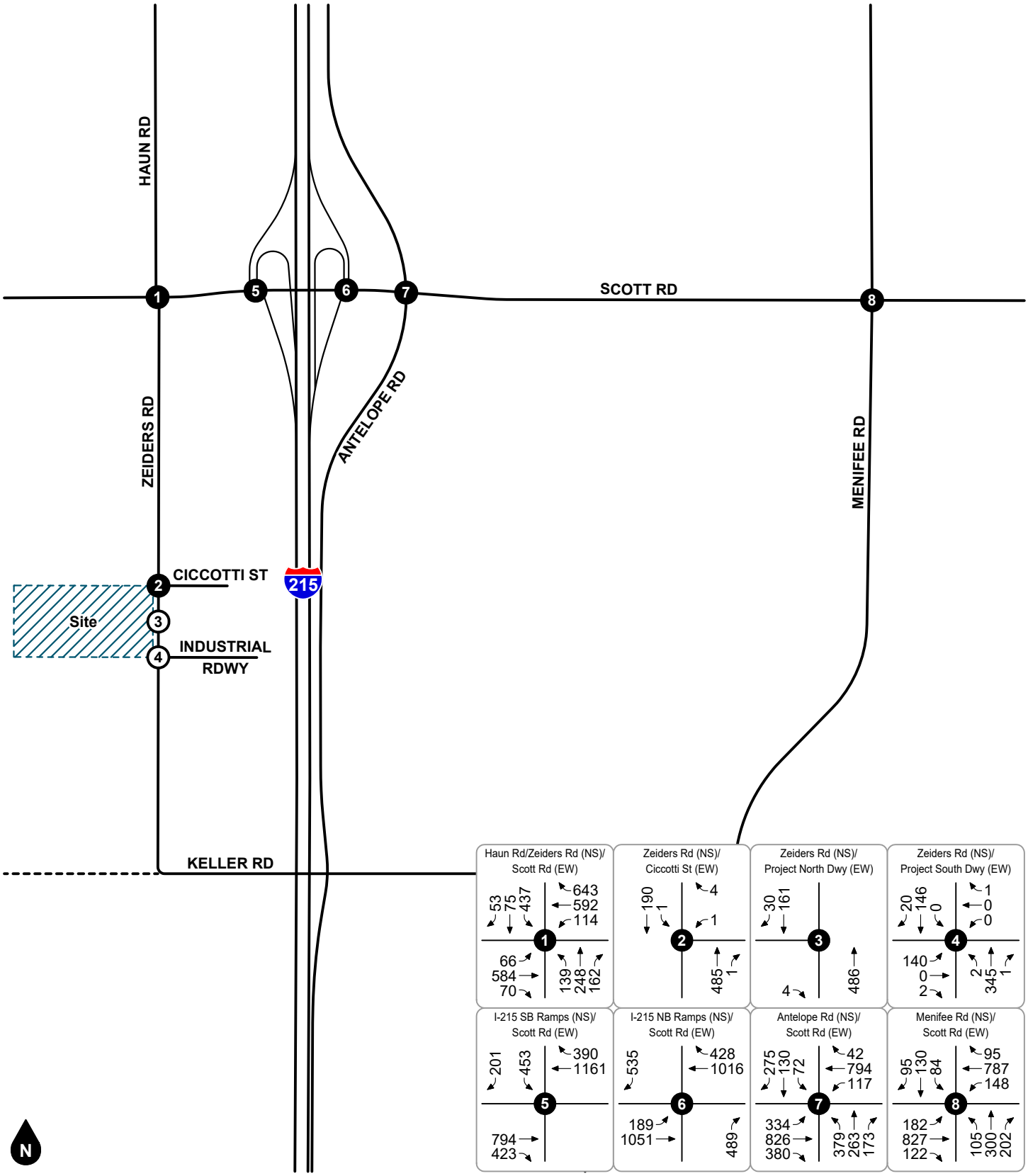


Legend

Study Intersection

Project Driveway

Figure 21
Existing Plus Project
AM Peak Hour Intersection Turning Movement Volumes



Legend

Study Intersection

Project Driveway

Figure 22
Existing Plus Project
PM Peak Hour Intersection Turning Movement Volumes

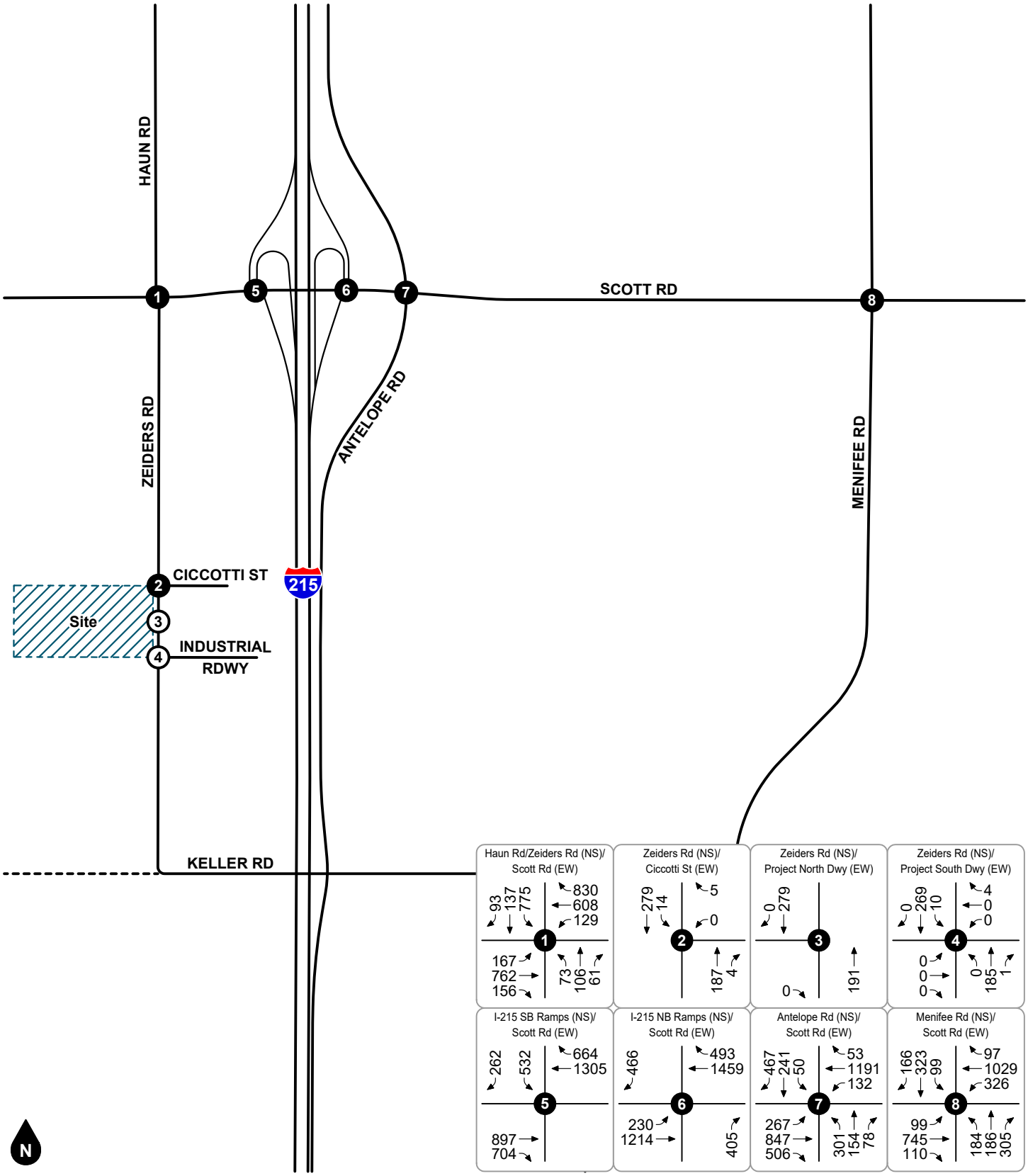
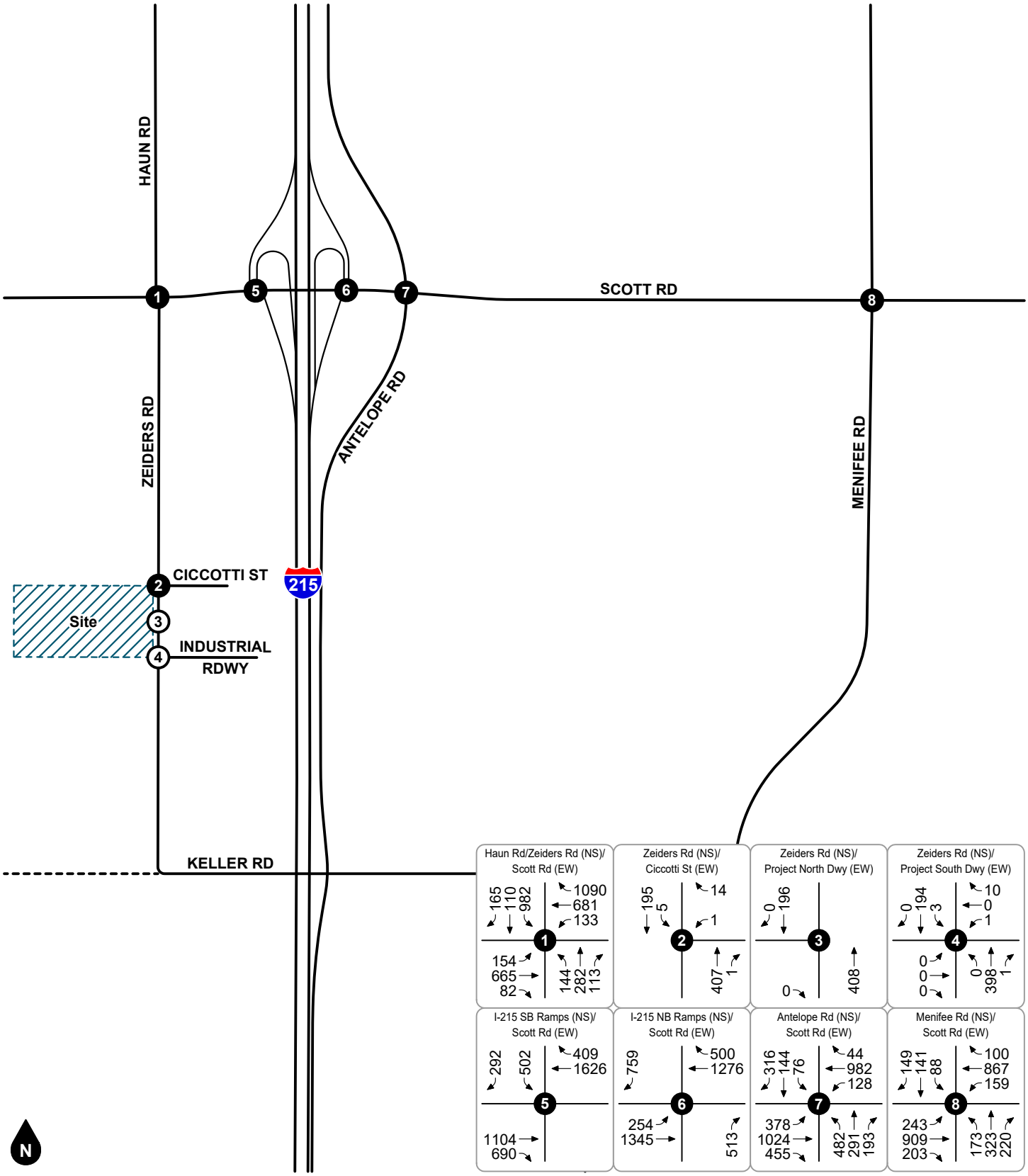


Figure 23
Opening Year (2026) Cumulative Without Project
AM Peak Hour Intersection Turning Movement Volumes

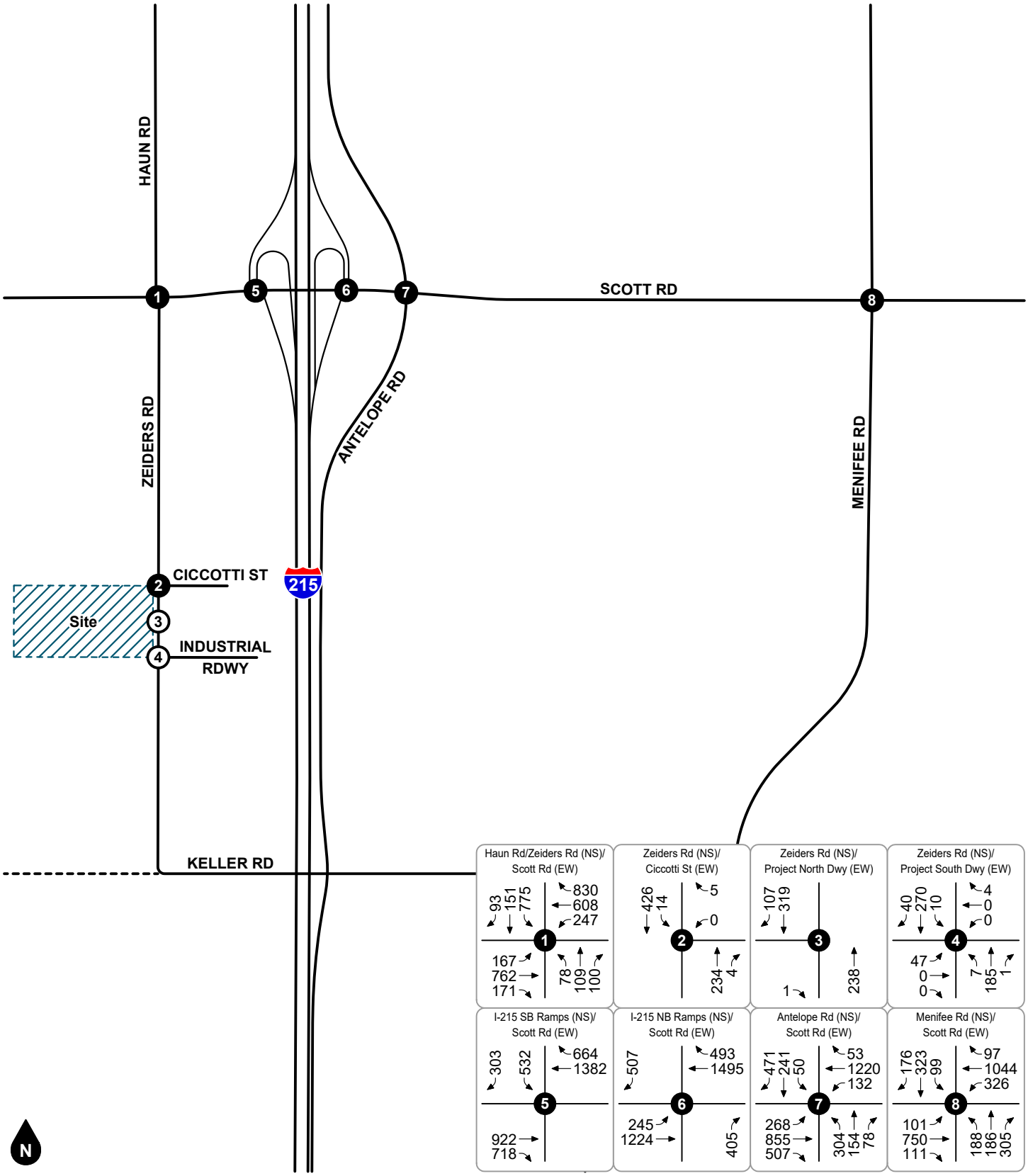


Legend

Study Intersection

Project Driveway

Figure 24
Opening Year (2026) Cumulative Without Project
PM Peak Hour Intersection Turning Movement Volumes

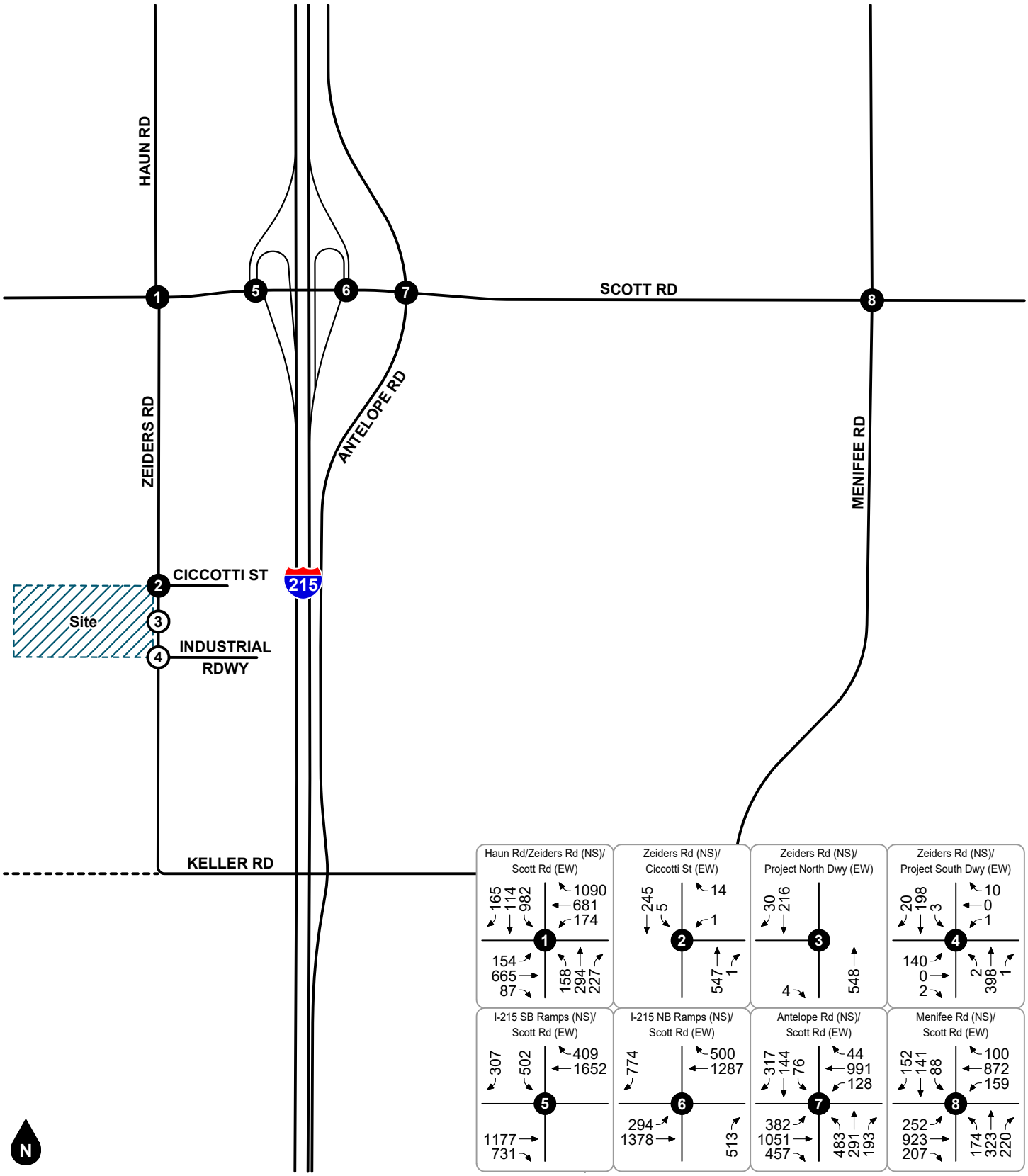


Legend

Study Intersection

Project Driveway

Figure 25
Opening Year (2026) Cumulative With Project
AM Peak Hour Intersection Turning Movement Volumes

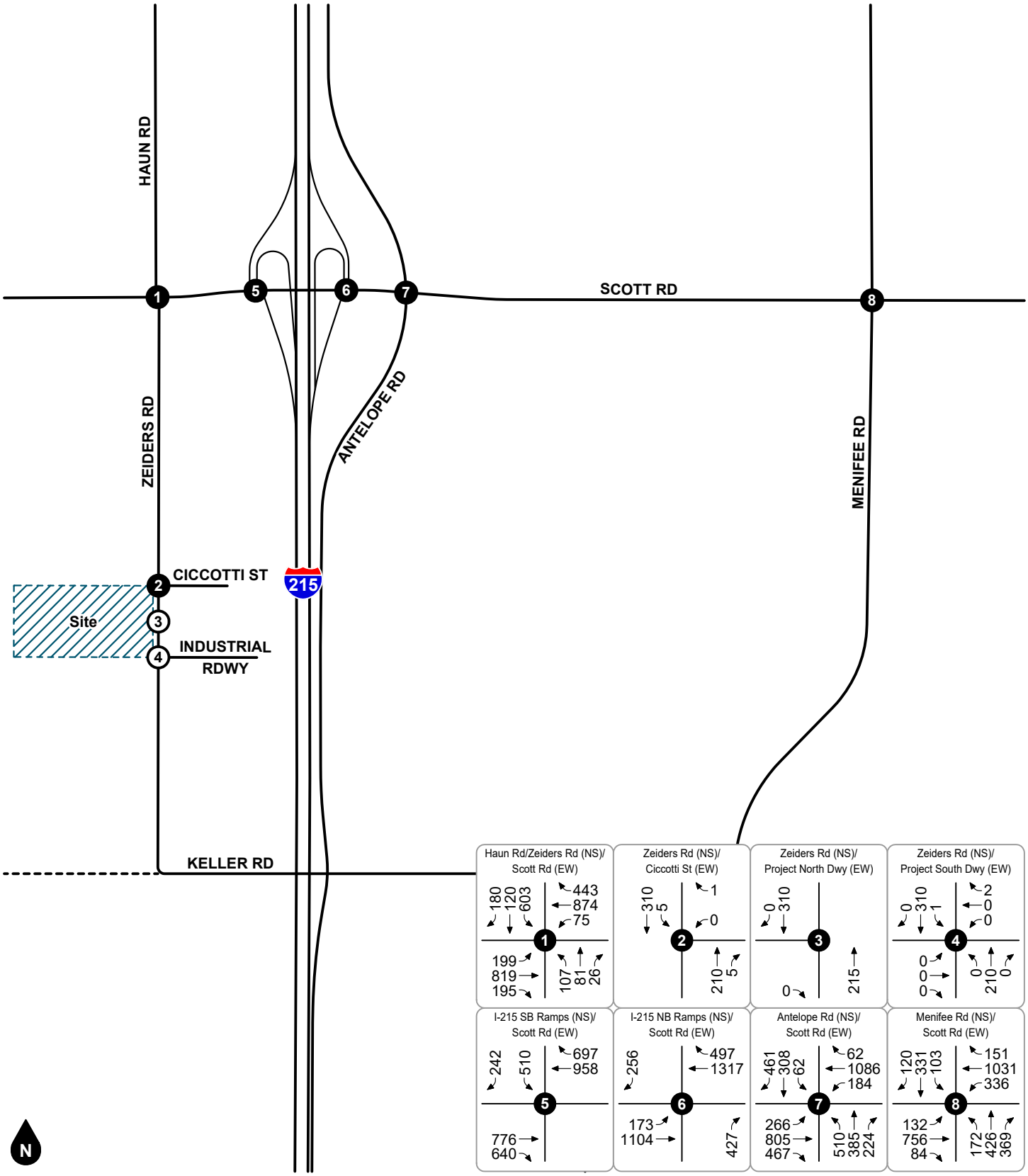


Legend

Study Intersection

Project Driveway

Figure 26
Opening Year (2026) Cumulative With Project
PM Peak Hour Intersection Turning Movement Volumes

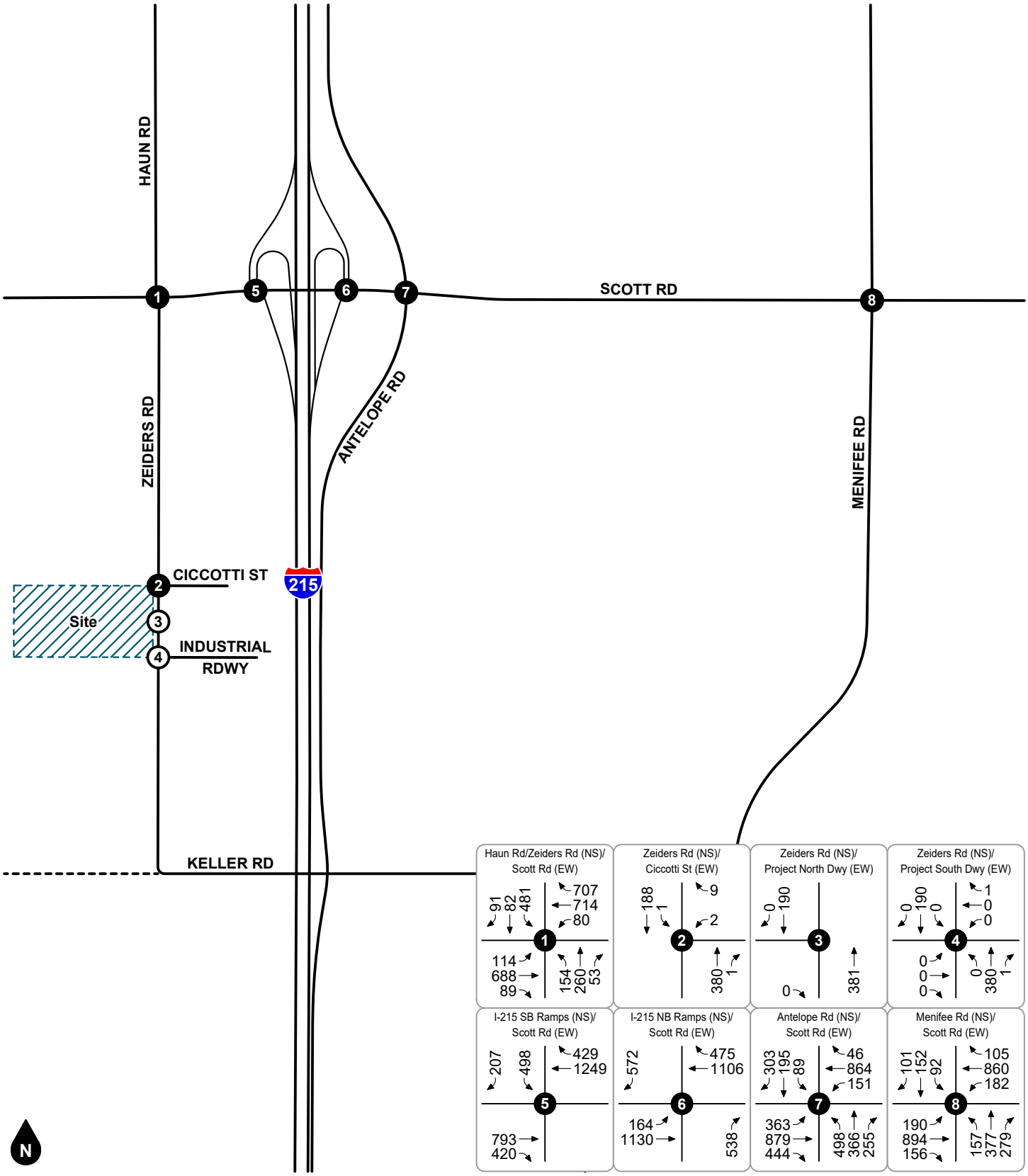


Legend

Study Intersection

Project Driveway

Figure 27
Horizon Year (2045) Without Project
AM Peak Hour Intersection Turning Movement Volumes

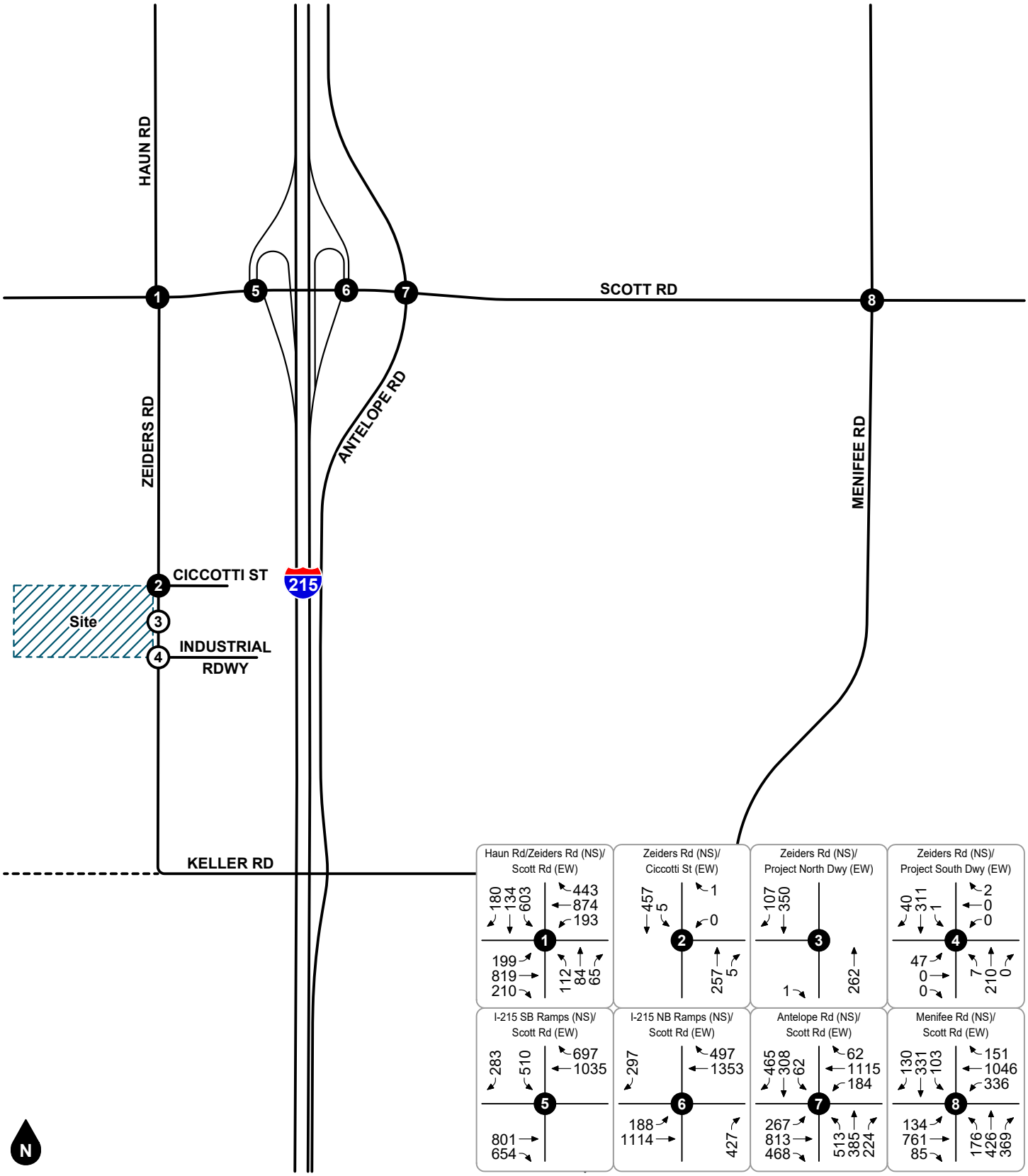


Legend

Study Intersection

Project Driveway

Figure 28
Horizon Year (2045) Without Project
PM Peak Hour Intersection Turning Movement Volumes

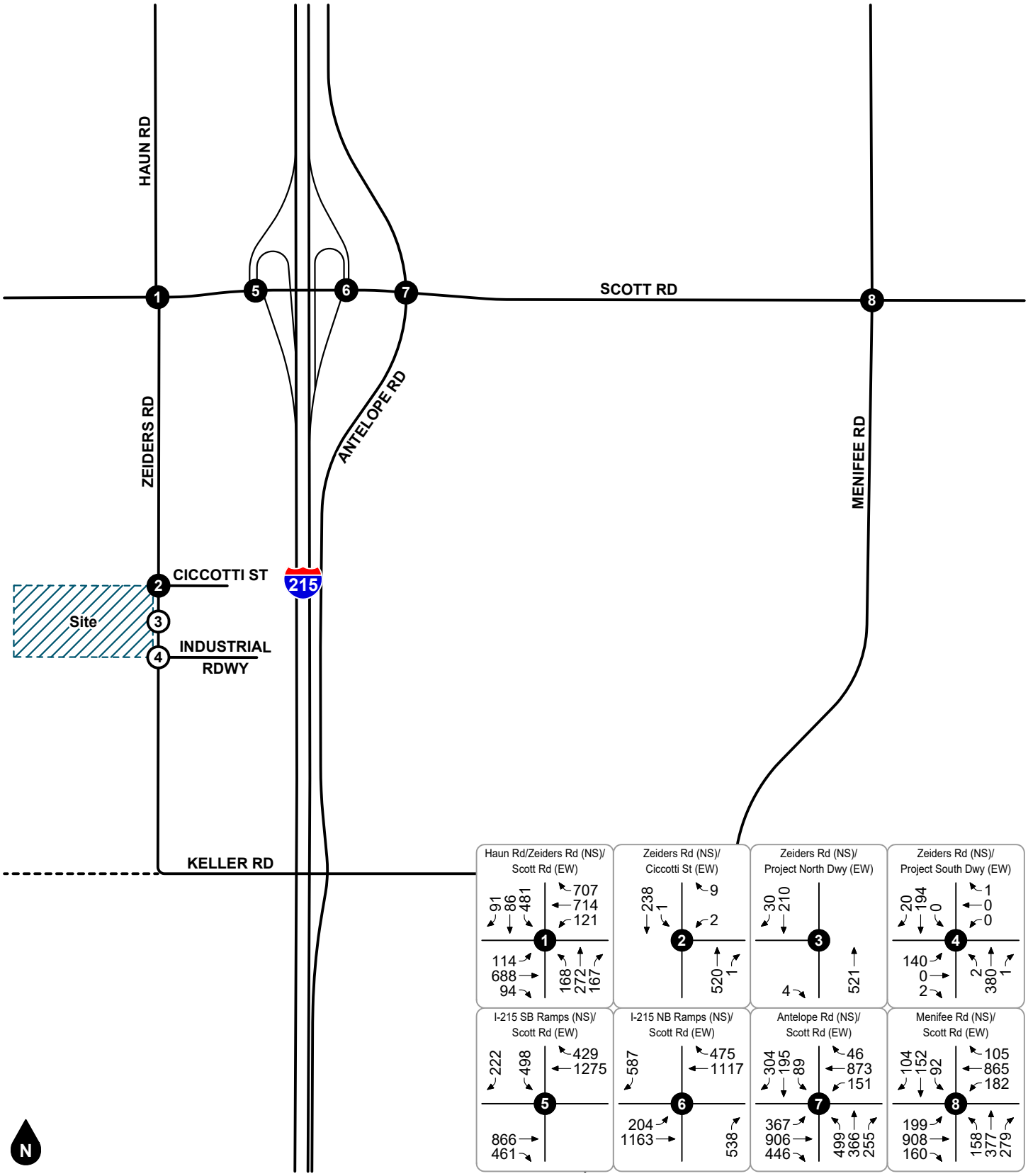


Legend

Study Intersection

Project Driveway

Figure 29
Horizon Year (2045) With Project
AM Peak Hour Intersection Turning Movement Volumes



Legend

Study Intersection

Project Driveway

Figure 30
Horizon Year (2045) With Project
PM Peak Hour Intersection Turning Movement Volumes

6. FUTURE OPERATIONAL ANALYSIS

Detailed intersection Level of Service calculation worksheets for each of the following analysis scenarios are provided in Appendix D.

INTERSECTION LOS AND ROADWAY SEGMENT CAPACITY

Existing Plus Project

Table 7 shows the intersection impact assessment for Existing Plus Project conditions. As shown in Table 7, the study intersections are forecast to continue operating at LOS D or better for Existing Plus Project conditions; therefore, the project would not exceed the City-established operational standards and no study intersection improvements are required in addition to the project design features.

Table 8 shows the roadway segment capacity analysis for Existing Plus Project conditions. As shown in Table 8, the study roadway segments are forecast to continue operating within acceptable LOS D capacity for Existing Plus Project conditions; therefore, no roadway segment improvements are required in addition to project design features along the project frontage.

Opening Year (2026) Cumulative Without Project

Table 9 shows the intersection impact assessment for Opening Year (2026) Cumulative Without Project conditions. As shown in Table 9, the following study intersections are forecast to operate at deficient Level of Service for Opening Year (2026) Cumulative Without Project conditions:

- Haun Road/Zeiders Road at Scott Road [#1] (LOS F - AM & PM)
- Menifee Road at Scott Road [#8] (LOS E - AM & PM)

Table 10 shows the roadway segment capacity analysis for Opening Year (2026) Cumulative Without Project conditions. As shown in Table 10, the following study roadway segments are forecast to operate at deficient Level of Service for Opening Year (2026) Cumulative Without Project conditions:

- Zeiders Road, from Scott Road to Ciccotti Street
- Scott Road, from Haun Road/Zeiders Road to I-215 Freeway SB Ramps

Opening Year (2026) Cumulative With Project

Table 11 shows the intersection impact assessment for Opening Year (2026) Cumulative With Project conditions. As shown in Table 11, the following study intersections are forecast to operate at deficient Level of Service for Opening Year (2026) Cumulative With Project conditions:

- Haun Road/Zeiders Road at Scott Road [#1] (LOS F - AM & PM)
- Menifee Road at Scott Road [#8] (LOS E - AM & PM)

The following improvements are recommended for Opening Year (2026) Cumulative With Project Conditions:

Haun Road/Zeiders Road (NS) at Scott Road (EW) [#1]
- Widen the southbound approach to provide two left turn lanes and one shared through/right turn lane
- Construct a dedicated eastbound right turn lane
- Construct a second westbound right turn lane with overlap phasing
- Change northbound/southbound traffic signal phasing from split to protected phasing

Menifee Road (NS) at Scott Road (EW) [#8]
- Construct a dedicated southbound right turn lane
- Construct a dedicated westbound right turn lane

As shown in Table 11, the study intersections are forecast to operate at LOS D or better for Opening Year (2026) Cumulative With Project conditions with improvements; therefore, the project would not exceed the City-established operational standards with implementation of the recommended improvements.

Table 12 shows the roadway segment capacity analysis for Opening Year (2026) Cumulative With Project conditions. As shown in Table 12, the following study roadway segments are forecast to operate at deficient Level of Service for Opening Year (2026) Cumulative With Project conditions:

- Zeiders Road, from Scott Road to Ciccotti Street
- Scott Road, from Haun Road/Zeiders Road to I-215 Freeway SB Ramps

Although these roadway segments are projected to operate at unacceptable Levels of Service based on the theoretical daily capacities, the endpoints of the deficient roadway segments (study intersections #1 and #2 for the Zeiders Road segment and study intersections #1 and #5 for the Scott Road segment) are projected to operate within acceptable Levels of Service during the peak hours with implementation of the recommended intersection improvements (see Table 11). Since the intersection constraint points are forecast to operate acceptably during the periods of peak demand (i.e., AM and PM peak hours) and the roadway segments are generally free-flowing between the two constraint points, the roadway segment is likely to operate acceptably. Furthermore, these roadway segments are projected to operate at acceptable Level of Service for Horizon Year (2045) With Project conditions. This is due to redirection of traffic to the planned future interchanges on the I-215 Freeway at Garbani Road and Keller Road, which are located approximately one mile north and south of the Scott Road interchange.

Notwithstanding the above, the following improvements in accordance with ultimate buildout of the City's General Plan roadway cross-sections would achieve acceptable Level of Service for Opening Year (2026) Cumulative With Project Conditions:

Zeiders Road, from Scott Road to Ciccotti Street
- Widen Zeiders Road from 2 lanes to a 4-lane Major

Scott Road, from Haun Road/Zeiders Road to I-215 Freeway SB Ramps
- Widen Scott Road from 4 lanes to a 6-lane Urban Arterial

Horizon Year (2045) Without Project

Table 13 shows the intersection impact assessment for Horizon Year (2045) Without Project conditions. As shown in Table 13, the following study intersection is forecast to operate at a deficient Level of Service for Horizon Year (2045) Without Project conditions:

- Haun Road/Zeiders Road at Scott Road [#1] (LOS F – AM, LOS E – PM)

Table 14 shows the roadway segment capacity analysis for Horizon Year (2045) Without Project conditions. As shown in Table 14, the study roadway segments are forecast to operate within acceptable LOS D capacity for Horizon Year (2045) Without Project conditions; therefore, no roadway segment improvements are required in addition to project design features along the project frontage.

Horizon Year (2045) With Project

Table 15 shows the intersection impact assessment for Horizon Year (2045) With Project conditions. As shown in Table 15, the following study intersections are forecast to operate at deficient Level of Service for Horizon Year (2045) With Project conditions:

- Haun Road/Zeiders Road at Scott Road [#1] (LOS F – AM, LOS E – PM)
- Menifee Road at Scott Road [#8] (LOS E - AM)

The following improvements are recommended for Horizon Year (2045) With Project Conditions:

Haun Road/Zeiders Road (NS) at Scott Road (EW) [#1]
- Widen the southbound approach to provide two left turn lanes and one shared through/right turn lane
- Change northbound/southbound traffic signal phasing from split to protected phasing

Menifee Road (NS) at Scott Road (EW) [#8]
- Construct a dedicated southbound right turn lane

As shown in Table 15, the study intersections are forecast to operate at LOS D or better for Horizon Year (2045) With Project conditions with improvements; therefore, the project would not exceed the City-established operational standards with implementation of the recommended improvements.

Table 16 shows the roadway segment capacity analysis for Horizon Year (2045) With Project conditions. As shown in Table 16, the following study roadway segments are forecast to continue operating within acceptable LOS D capacity for Horizon Year (2045) With Project conditions; therefore, no roadway segment improvements are required in addition to project design features along the project frontage.

It is noted that construction of future interchanges on the I-215 Freeway at Garbani Road and Keller Road, which are located approximately one mile north and south of the Scott Road interchange, would redistribute traffic assumed to use the Scott Road interchange for Opening Year (2026) Cumulative conditions. Thus, Horizon Year (2045) conditions are expected to require fewer improvements than Opening Year (2026) Cumulative conditions since long-range volumes will be more evenly distributed among the three I-215 interchanges at Garbani Road, Zeiders Road, and Keller Road. Therefore, no additional improvements are recommended for Horizon Year (2045) conditions.

FAIR SHARE ANALYSIS

The recommended improvements for Opening Year (2026) Cumulative With Project and Horizon Year (2045) With Project conditions are consistent with buildout of the General Plan Circulation Element. Therefore, construction of the recommended improvements shall occur as properties with frontage along all four sides of Haun Road/Zeiders Road and Scott develop for intersection #1 and along the north and east side of Menifee Road and Scott Road develop for intersection #8. The project's contribution to these and other Citywide improvements is addressed through payment of the City's Transportation Impact Fees.

For informational purposes, Table 17 shows the project fair share analysis in accordance with the following formula as specified in the City of Menifee *LOS Traffic Study Guidelines*:

$$d = \frac{c}{(b - a)}$$

Where:
a = Existing Volume
b = Opening Year (2026) Cumulative With Project or Horizon Year (2045) With Project Volume
c = Proposed Project Trips
d = Fair Share Percentage

Table 7
Existing Plus Project Intersection Level of Service

Study Intersection	Traffic Control[1]	AM Peak Hour		PM Peak Hour	
		Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. Haun Rd/Zeiders Rd at Scott Rd	TS	28.6	C	43.2	D
2. Zeiders Rd at Ciccotti St	CSS	9.4	A	12.2	B
3. Zeiders Rd at Project North Dwy	CSS	10.2	B	9.2	A
4. Zeiders Rd at Project South Dwy/Industrial Rdwy	TS	6.6	A	10.4	B
5. I-215 SB Ramps at Scott Rd	TS	6.8	A	6.9	A
6. I-215 NB Ramps at Scott Rd	TS	14.0	B	16.2	B
7. Antelope Rd at Scott Rd	TS	30.2	C	29.8	C
8. Menifee Rd at Scott Rd	TS	47.6	D	45.8	D

Notes:

(1) TS = Traffic Signal; CSS = Cross Street Stop

(2) Delay is shown in seconds/vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst minor street approach.

(3) LOS = Level of Service

Table 8
Existing Plus Project Roadway Segment Capacity Analysis

Roadway	Segment	No. Of Lanes	General Plan Roadway Classification	Maximum LOS D Capacity[1,2] (Veh/Day)	Average Daily Traffic (ADT)	Acceptable LOS?
1. Zeiders Road	Scott Road to Ciccotti Street	2	Major	11,700	8,724	Yes
2. Zeiders Road	Cicotti Road to Industrial Parkway	2	Major	11,700	6,880	Yes
3. Scott Road	Haun Road/Zeiders Road to I-215 Freeway SB Ramps	4	Urban Arterial	33,400	31,785	Yes

Notes:

(1) Source: City of Menifee *LOS Traffic Study Guidelines* (October 2020).

(2) Existing capacity for Zeiders Road based on two-lane Collector since Zeiders Road is not built out to a 4-lane Major and Scott Road based on a four-lane Arterial since Scott Road is not built out to a six-lane Urban Arterial.

Table 9
Opening Year (2026) Cumulative Without Project Intersection Level of Service

Study Intersection	Traffic Control[1]	AM Peak Hour		PM Peak Hour	
		Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. Haun Rd/Zeiders Rd at Scott Rd	TS	82.3	F	255.9	F
2. Zeiders Rd at Ciccotti St	CSS	9.4	A	11.2	B
4. Zeiders Rd at Project South Dwy/Industrial Rdwy	TS	3.0	A	3.0	A
5. I-215 SB Ramps at Scott Rd	TS	8.6	A	11.0	B
6. I-215 NB Ramps at Scott Rd	TS	23.5	C	38.0	D
7. Antelope Rd at Scott Rd	TS	31.2	C	29.9	C
8. Menifee Rd at Scott Rd	TS	68.2	E	61.3	E

Notes:

(1) TS = Traffic Signal; CSS = Cross Street Stop

(2) Delay is shown in seconds/vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst minor street approach.

(3) LOS = Level of Service

Table 10
Opening Year (2026) Without Cumulative Roadway Segment Capacity Analysis

Roadway	Segment	No. Of Lanes	General Plan Roadway Classification	Maximum LOS D Capacity[1,2] (Veh/Day)	Average Daily Traffic (ADT)	Acceptable LOS?
1. Zeiders Road	Scott Road to Ciccotti Street	2	Major	11,700	11,900	No
2. Zeiders Road	Cicotti Road to Industrial Parkway	2	Major	11,700	8,478	Yes
3. Scott Road	Haun Road/Zeiders Road to I-215 Freeway SB Ramps	4	Urban Arterial	33,400	46,121	No

Notes:

(1) Source: City of Menifee *LOS Traffic Study Guidelines* (October 2020).

(2) Existing capacity for Zeiders Road based on two-lane Collector since Zeiders Road is not built out to a 4-lane Major and Scott Road based on a four-lane Arterial since Scott Road is not built out to a six-lane Urban Arterial.

Table 11
Opening Year (2026) Cumulative With Project Intersection Level of Service

Study Intersection	Traffic Control[1]	AM Peak Hour		PM Peak Hour	
		Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. Haun Rd/Zeiders Rd at Scott Rd	TS	97.4	F	285.1	F
- With Improvements	TS	43.9	D	45.9	D
2. Zeiders Rd at Ciccotti St	CSS	9.7	A	12.7	B
3. Zeiders Rd at Project North Dwy	CSS	10.5	B	9.6	A
4. Zeiders Rd at Project South Dwy/Industrial Rdwy	TS	6.9	A	10.3	B
5. I-215 SB Ramps at Scott Rd	TS	9.0	A	11.6	B
6. I-215 NB Ramps at Scott Rd	TS	28.3	C	47.7	D
7. Antelope Rd at Scott Rd	TS	31.2	C	29.9	C
8. Menifee Rd at Scott Rd	TS	70.7	E	63.3	E
- With Improvements	TS	48.5	D	53.0	D

Notes:

(1) TS = Traffic Signal; CSS = Cross Street Stop

(2) Delay is shown in seconds/vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst minor street approach.

(3) LOS = Level of Service

Table 12
Opening Year (2026) With Cumulative Roadway Segment Capacity Analysis

Roadway	Segment	No. Of Lanes	General Plan Roadway Classification	Maximum LOS D Capacity[1,2] (Veh/Day)	Average Daily Traffic (ADT)	Acceptable LOS?
1. Zeiders Road	Scott Road to Ciccotti Street	2	Major	11,700	13,854	No
	- With Improvements	4	Major	30,700	13,854	Yes
2. Zeiders Road	Cicotti Road to Industrial Parkway	2	Major	11,700	10,432	Yes
3. Scott Road	Haun Road/Zeiders Road to I-215 Freeway SB Ramps	4	Urban Arterial	33,400	47,711	No
	- With Improvements	6	Urban Arterial	50,600	47,711	Yes

Notes:

(1) Source: City of Menifee *LOS Traffic Study Guidelines* (October 2020).

(2) Existing capacity for Zeiders Road based on two-lane Collector since Zeiders Road is not built out to a 4-lane Major and Scott Road based on a four-lane Arterial since Scott Road is not built out to a six-lane Urban Arterial.

Table 13
Horizon Year (2045) Without Project Intersection Level of Service

Study Intersection	Traffic Control[1]	AM Peak Hour		PM Peak Hour	
		Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. Haun Rd/Zeiders Rd at Scott Rd	TS	99.4	F	57.6	E
2. Zeiders Rd at Ciccotti St	CSS	9.4	A	10.8	B
4. Zeiders Rd at Project South Dwy/Industrial Rdwy	TS	1.5	A	1.3	A
5. I-215 SB Ramps at Scott Rd	TS	7.2	A	6.9	A
6. I-215 NB Ramps at Scott Rd	TS	13.8	B	15.1	B
7. Antelope Rd at Scott Rd	TS	30.5	C	29.7	C
8. Menifee Rd at Scott Rd	TS	54.4	D	45.5	D

Notes:

(1) TS = Traffic Signal; CSS = Cross Street Stop

(2) Delay is shown in seconds/vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst minor street approach.

(3) LOS = Level of Service

Table 14
Horizon Year (2045) Without Project Roadway Segment Capacity Analysis

Roadway	Segment	No. Of Lanes	General Plan Roadway Classification	Maximum LOS D Capacity[1,2] (Veh/Day)	Average Daily Traffic (ADT)	Acceptable LOS?
1. Zeiders Road	Scott Road to Ciccotti Street	2	Major	11,700	4,424	Yes
2. Zeiders Road	Cicotti Road to Industrial Parkway	2	Major	11,700	3,696	Yes
3. Scott Road	Haun Road/Zeiders Road to I-215 Freeway SB Ramps	4	Urban Arterial	33,400	18,526	Yes

Notes:

(1) Source: City of Menifee *LOS Traffic Study Guidelines* (October 2020).

(2) Existing capacity for Zeiders Road based on two-lane Collector since Zeiders Road is not built out to a 4-lane Major and Scott Road based on a four-lane Arterial since Scott Road is not built out to a six-lane Urban Arterial.

Table 15
Horizon Year (2045) With Project Intersection Level of Service

Study Intersection	Traffic Control[1]	AM Peak Hour		PM Peak Hour	
		Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. Haun Rd/Zeiders Rd at Scott Rd	TS	138.8	F	55.5	E
- With Improvements	TS	39.5	D	46.6	D
2. Zeiders Rd at Ciccotti St	CSS	9.6	A	12.2	B
3. Zeiders Rd at Project North Dwy	CSS	10.7	B	9.5	A
4. Zeiders Rd at Project South Dwy/Industrial Rdwy	TS	4.8	A	9.6	A
5. I-215 SB Ramps at Scott Rd	TS	7.5	A	7.1	A
6. I-215 NB Ramps at Scott Rd	TS	14.7	B	16.7	B
7. Antelope Rd at Scott Rd	TS	30.5	C	29.8	C
8. Menifee Rd at Scott Rd	TS	57.6	E	45.9	D
- With Improvements	TS	50.9	D	45.1	D

Notes:

(1) TS = Traffic Signal; CSS = Cross Street Stop

(2) Delay is shown in seconds/vehicle. For intersections with traffic signal or all way stop control, overall average intersection delay and LOS are shown. For intersections with cross street stop control, LOS is based on average delay of the worst minor street approach.

(3) LOS = Level of Service

Table 16
Horizon Year (2045) With Project Roadway Segment Capacity Analysis

Roadway	Segment	No. Of Lanes	General Plan Roadway Classification	Maximum LOS D Capacity[1,2] (Veh/Day)	Average Daily Traffic (ADT)	Acceptable LOS?
1. Zeiders Road	Scott Road to Ciccotti Street	2	Major	11,700	6,378	Yes
2. Zeiders Road	Cicotti Road to Industrial Parkway	2	Major	11,700	5,650	Yes
3. Scott Road	Haun Road/Zeiders Road to I-215 Freeway SB Ramps	4	Urban Arterial	33,400	20,116	Yes

Notes:

(1) Source: City of Menifee *LOS Traffic Study Guidelines* (October 2020).

(2) Existing capacity for Zeiders Road based on two-lane Collector since Zeiders Road is not built out to a 4-lane Major and Scott Road based on a four-lane Arterial since Scott Road is not built out to a six-lane Urban Arterial.

Table 17
Project Fair Share Analysis

Opening Year (2026) Cumulative With Project						
		Volume Entering Intersection				Project
Intersection	Peak Hour	Existing	Opening Year (2026) Cumulative With Project	Total New Traffic	Project Trips	% of New Traffic
Haun Rd/Zeiders Rd (NS) at Scott Ave (EW) - #1	AM	2,774	4,091	1,317	194	14.7%
	PM	2,993	4,791	1,798	190	10.6%
Menifee Rd (NS) at Scott Rd (EW) - #8	AM	3,245	3,706	461	37	8.0%
	PM	3,041	3,611	570	36	6.3%

Horizon Year (2045) With Project						
		Volume Entering Intersection				Project
Intersection	Peak Hour	Existing	Horizon Year (2045) With Project	Total New Traffic	Project Trips	% of New Traffic
Haun Rd/Zeiders Rd (NS) at Scott Ave (EW) - #1	AM	2,774	3,916	1,142	194	17.0%
	PM	2,993	3,703	710	190	26.8%
Menifee Rd (NS) at Scott Rd (EW) - #8	AM	3,245	4,048	803	37	4.6%
	PM	3,041	3,581	540	36	6.7%

Notes:

1. The project fair share is provided for informational purposes. The recommended improvements for Opening Year (2026) Cumulative With Project conditions and Horizon Year (2045) With Project are consistent with buildout of the General Plan Circulation Element. Therefore, construction of the recommended improvements shall occur as properties with frontage along all four sides of Haun Road/Zeiders Road and Scott develop for intersection #1 and along the north and east side of Menifee Road and Scott Road develop for intersection #8. The project's contribution to these and other Citywide improvements is addressed through payment of the City's Transportation Impact Fees.

7. SITE ACCESS AND CIRCULATION

This section includes a description of project improvements necessary to provide site access.

PROJECT DESIGN FEATURES

The following improvements will be constructed by the project to provide site access:

- Construct Zeiders Road along the project frontage at its ultimate half-section width as a Major roadway (four lanes, divided), including Subregional Route – On-Street Bike Lanes (Class II), in accordance with the City of Menifee General Plan Circulation Element.

- Zeiders Road (NS) at Project North Driveway (EW) [#3]
  - Northbound: Maintain existing through lane
  - Southbound: Maintain existing through lane and construct a shared through/right turn lane
  - Eastbound: Construct a right turn lane and install stop control at site egress

- Zeiders Road (NS) at Project South Driveway/Industrial Roadway (EW) [#4]
  - Northbound: Construct a left turn lane and maintain existing through lane
  - Southbound: Maintain existing through lane and construct a shared through/right turn lane
  - Eastbound: Construct a shared left/through/right turn lane
  - Westbound: Maintain existing shared left and right turn lanes
  - Maintain existing traffic signalization

This analysis also assumes the project shall comply with the following or similar conditions as part of the City of Menifee standard development review process:

- A construction work site traffic control plan shall comply with State standards set forth in the California Manual of Uniform Traffic Control Devices and shall be submitted to the City for review and approval prior to the issuance of a grading permit or start of construction. The plan shall identify any roadway, sidewalk, bike route, or bus stop closures and detours as well as haul routes and hours of operation. All construction related trips shall be restricted to off-peak hours to the extent possible.
- All on-site and off-site roadway design, traffic signing and striping, and traffic control improvements relating to the proposed project shall be constructed in accordance with applicable State/Federal engineering standards to the satisfaction of the City of Menifee.
- Site-adjacent roadways shall be constructed or repaired at their ultimate half-section width, including landscaping and parkway improvements in conjunction with development, or as otherwise required by the City of Menifee.
- Adequate emergency vehicle access shall be provided to the satisfaction of the City of Menifee Fire Department.
- The final grading, landscaping, and street improvement plans shall demonstrate that sight distance requirements are met in accordance with applicable City of Menifee/California Department of Transportation sight distance standards.

8. CONCLUSIONS

This section summarizes the findings and recommended improvements, or mitigation measures (if any) identified in previous sections of this study.

PROJECT TRIP GENERATION

The proposed project is forecast to generate a total of approximately 1,751 daily vehicle trips, including 184 vehicle trips during the AM peak hour and 175 vehicle trips during the PM peak hour. In PCE trips, the proposed project is forecast to generate a total of approximately 2,030 daily PCE trips, including 204 PCE trips during the AM peak hour and 197 PCE trips during the PM peak hour.

LEVELS OF SERVICE/OPERATIONAL ANALYSIS FINDINGS

Existing Plus Project

The study intersections are forecast to continue operating at LOS D or better for Existing Plus Project conditions; therefore, the project would not exceed the City-established operational standards and no study intersection improvements are required in addition to the project design features necessary for site access.

The study roadway segments are forecast to continue operating within acceptable LOS D capacity for Existing Plus Project conditions; therefore, no roadway segment improvements are required in addition to project design features along the project frontage.

Opening Year (2026) Cumulative Without Project

The following study intersections are forecast to operate at deficient Levels of Service for Opening Year (2026) Cumulative Without Project conditions:

- Haun Road/Zeiders Road at Scott Road [#1] (LOS F - AM & PM)
- Menifee Road at Scott Road [#8] (LOS E - AM & PM)

The following study roadway segments are forecast to operate at deficient Levels of Service for Opening Year (2026) Cumulative Without Project conditions:

- Zeiders Road, from Scott Road to Ciccotti Street
- Scott Road, from Haun Road/Zeiders Road to I-215 Freeway SB Ramps

Opening Year (2026) Cumulative With Project

The following study intersections are forecast to operate at deficient Levels of Service for Opening Year (2026) Cumulative With Project conditions:

- Haun Road/Zeiders Road at Scott Road [#1] (LOS F - AM & PM)
- Menifee Road at Scott Road [#8] (LOS E - AM & PM)

The following study roadway segments are forecast to operate at deficient Levels of Service for Opening Year (2026) Cumulative With Project conditions:

- Zeiders Road, from Scott Road to Ciccotti Street
- Scott Road, from Haun Road/Zeiders Road to I-215 Freeway SB Ramps

Horizon Year (2045) Without Project

The following study intersection is forecast to operate at a deficient Level of Service for Horizon Year (2045) Without Project conditions:

- Haun Road/Zeiders Road at Scott Road [#1] (LOS F – AM, LOS E – PM)

The study roadway segments are forecast to continue operating within acceptable LOS D capacity for Horizon Year (2045) Without Project conditions; therefore, no roadway segment improvements are required in addition to project design features along the project frontage.

Horizon Year (2045) With Project

The following study intersections are forecast to operate at deficient Level of Service for Horizon Year (2045) With Project conditions:

- Haun Road/Zeiders Road at Scott Road [#1] (LOS F – AM, LOS E – PM)
- Menifee Road at Scott Road [#8] (LOS E - AM)

The study roadway segments are forecast to continue operating within acceptable LOS D capacity for Horizon Year (2045) With Project conditions; therefore, no roadway segment improvements are required in addition to project design features along the project frontage.

RECOMMENDED IMPROVEMENTS

The following improvements are recommended for Opening Year (2026) Cumulative With Project Conditions:

Haun Road/Zeiders Road (NS) at Scott Road (EW) [#1]
- Widen the southbound approach to provide two left turn lanes and one shared through/right turn lane
- Construct a dedicated eastbound right turn lane
- Construct a second westbound right turn lane with overlap phasing
- Change northbound/southbound traffic signal phasing from split to protected phasing

Menifee Road (NS) at Scott Road (EW) [#8]
- Construct a dedicated southbound right turn lane
- Construct a dedicated westbound right turn lane

The study intersections are forecast to operate within acceptable Levels of Service (D or better) with implementation of the recommended improvements for Opening Year (2026) Cumulative With Project conditions.

It is noted that construction of future interchanges on the I-215 Freeway at Garbani Road and Keller Road, which are located approximately one mile north and south of the Scott Road interchange, would redistribute traffic assumed to use the Scott Road interchange for Opening Year (2026) Cumulative conditions. Thus, Horizon Year (2045) conditions are expected to require fewer improvements than Opening Year (2026) Cumulative conditions since long-range volumes will be more evenly distributed among the three I-215 interchanges at Garbani Road, Zeiders Road, and Keller Road. Therefore, no additional improvements are recommended for Horizon Year (2045) conditions.

SITE ACCESS & CIRCULATION

The following improvements will be constructed by the project to provide site access:

- Construct Zeiders Road along the project frontage at its ultimate half-section width as a Major roadway (four lanes, divided), including Subregional Route – On-Street Bike Lanes (Class II), in accordance with the City of Menifee General Plan Circulation Element.

- Zeiders Road (NS) at Project North Driveway (EW) [#3]
  - Northbound: Maintain existing through lane
  - Southbound: Maintain existing through lane and construct a shared through/right turn lane
  - Eastbound: Construct a right turn lane and install stop control at site egress

- Zeiders Road (NS) at Project South Driveway/Industrial Roadway (EW) [#4]
  - Northbound: Construct a left turn lane and maintain existing through lane
  - Southbound: Maintain existing through lane and construct a shared through/right turn lane
  - Eastbound: Construct a shared left/through/right turn lane
  - Westbound: Maintain existing shared left and right turn lanes
  - Maintain existing traffic signalization

APPENDICES

Appendix A Glossary
Appendix B Scoping Agreement
Appendix C Volume Count Worksheets
Appendix D Level of Service Worksheets
Appendix E RIVCOM Model Plots
Appendix F RIVCOM Post-Processing Worksheets

APPENDIX A

GLOSSARY

ACRONYMS

AC	Acres
ADT	Average Daily Traffic
Caltrans	California Department of Transportation
DU	Dwelling Unit
ICU	Intersection Capacity Utilization
GFA	Gross Floor Area
LOS	Level of Service
PCE	Passenger Car Equivalent
SP	Service Population
TSF	Thousand Square Feet
V/C	Volume/Capacity
VMT	Vehicle Miles Traveled

TERMS

ACTUATED SIGNAL CONTROL: A type of traffic signal control in which display of each phase depends on whether the corresponding phase detector has registered a service call or the phase is on recall.

ACTUATION: Detection of a roadway user that is forwarded to the signal controller.

AVERAGE DAILY TRAFFIC: The average 24-hour volume for a stated period divided by the number of days in that period. For example, Annual Average Daily Traffic is the total volume during a year divided by 365 days.

BANDWIDTH: The number of seconds of green time available for through traffic in a signal progression.

BOTTLENECK: A point of constriction along a roadway that limits the amount of traffic that can proceed downstream from its location.

CALL: An indication within a signal controller that a particular phase is waiting for service, either through actuation from a roadway user or phase recall.

CAPACITY: The maximum number of vehicles that can be reasonably expected to pass through a roadway facility during a specified period.

CHANNELIZATION: The separation of conflicting traffic movements by use of pavement markings, raised curbs, or other suitable means to facilitate free flow movement.

CLEARANCE INTERVAL: Equal to the yellow plus all-red time, if any, when a traffic signal changes between phases (i.e., the amount of time between the end of a green light from one movement to the beginning of a green light for the next).

COORDINATED SIGNAL CONTROL: A type of traffic signal control in which non-coordinated phases associated with minor movements are constrained such that the coordinated phases are served at a specific time during the signal cycle, thus maintaining the efficient progression of traffic flow along the major roadway.

CONTROL DELAY: The portion of delay attributed to the intersection traffic control (such as a traffic signal or stop sign). It includes initial deceleration, queue move-up time, stopped delay, and final acceleration delay.

CORDON: An imaginary boundary line around or across a study area across which vehicles, persons, or other information can be collected for survey and analytical purposes.

CORNER SIGHT DISTANCE: The minimum sight distance required by the driver of a vehicle to cross or enter the lanes of the major roadway without requiring approaching traffic traveling at a given speed to radically alter their speed or trajectory.

CYCLE: A complete sequence of signal indications for all phases.

CYCLE LENGTH: The total time for a traffic signal to complete one full cycle.

DAILY CAPACITY: A theoretical value representing the daily traffic volume that will typically result in a peak hour volume equal to the capacity of the roadway.

DELAY: The total additional travel time experienced by a roadway user (driver, passenger, bicyclist, or pedestrian) beyond that required to travel at a desired speed.

DENSITY: The number of vehicles occupying in a unit length of the through traffic lanes of a roadway at any given instant. Usually expressed in vehicles per mile.

DETECTOR: A device used to count or determine the presence of a roadway user.

DESIGN SPEED: A speed used for purposes of designing horizontal and vertical alignments of a highway.

DIRECTIONAL SPLIT: The percent of two-way traffic traveling in a specified direction.

DIVERSION: The rerouting of traffic from a normal path of travel between two points, such as to avoid congestion or perform a secondary trip.

FREE FLOW: Traffic flow that is unaffected by a traffic control and/or or upstream or downstream conditions.

GAP: Time or distance between two vehicles measured from rear bumper of the front vehicle to front bumper of the second vehicle.

GAP ACCEPTANCE: The method by which a driver accepts an available gap in traffic to enter or cross the road.

HEADWAY: Time or distance between two successive vehicles measured from same point on both vehicles (i.e., front bumper to front bumper).

LEVEL OF SERVICE: A grading scale of quantitative performance measures representing the quality of service of a transportation facility or service from an average traveler's perspective.

LOOP DETECTOR: A vehicle detector consisting of a loop of wire embedded in the roadway, energized by alternating current and producing an output circuit closure when passed over by a vehicle.

MULTI-MODAL: More than one mode, such as automobile, transit, bicycle, and pedestrian.

OFFSET: The time interval between the beginning of a traffic signal cycle at one intersection and the beginning of signal cycle an adjacent intersection.

PLATOON: A set of vehicles traveling at similar speed and moving as a general group with clear separation between other vehicles ahead and behind.

PASSENGER CAR EQUIVALENT: A metric used to assess the impact of larger vehicles, such as trucks, recreational vehicles, and buses, by converting the traffic volume of larger vehicles to an equivalent number of passenger cars.

PEDESTRIAN CLEARANCE INTERVAL: Also known as the "Flashing Don't Walk" interval, it signals the end of pedestrian entry into the crosswalk following the "Walk" indication and provides time for pedestrians who have already entered the crosswalk to finishing crossing.

PEAK HOUR: The hour within a day in which the maximum volume occurs.

PEAK HOUR FACTOR: The peak hour volume divided by the four times the peak 15-minute flow rate. This

PHASE: In traffic signals, the green, yellow, and red clearance intervals assigned to a specified traffic movement.

PRETIMED SIGNAL: A traffic signal operation in which the cycle length, phasing sequence, and phasing times are predetermined and fixed, regardless of actual demand for any given traffic movement. Also known as a fixed time signal.

PROGRESSION: The coordinated movement of vehicles through signalized intersections along a corridor.

QUEUE: The number of vehicles waiting at a service area such as a traffic signal, stop sign, or access gate.

QUEUE LENGTH: The length of vehicle queue, typically expressed in feet, waiting at a service area such as a traffic signal, stop sign, or access gate.

RECALL: A signal phasing operation in which a specified phase places a call to the signal controller each time a conflicting phase is served, thus ensuring the specified phase will be serviced again.

SEMI-ACTUATED CONTROL: A type of traffic signal control in which only the minor movements are provided detection.

SIGHT DISTANCE: The continuous length of roadway visible to a driver or roadway user.

STACKING DISTANCE: The length of area available behind a service area, such as a traffic signal or gate, for vehicle queuing to occur.

STOPPING SIGHT DISTANCE: The minimum distance required by the driver of a vehicle traveling at a given speed to bring the vehicle to a stop after an object on the road becomes visible, including reaction and response time.

TRIP OR TRIP END: The one-directional movement of a person or vehicle. Every trip has an origin and a destination at its respective ends (i.e., trip ends). In terms of site trip generation, the same vehicle entering and exiting a site generates two trips: one inbound trip and one outbound trip.

TRIP GENERATION RATE: The rate at which a land use generates trips per the specified land use variable, such per dwelling unit or per thousand square feet.

TRUCK: A heavy motor vehicle generally used for transporting goods.

VEHICLE MILES TRAVELED: A measure of the amount and distance of automobile travel essentially calculated as the sum of each trip times the trip length.

APPENDIX B

SCOPING AGREEMENT

MEMORANDUM OF UNDERSTANDING

TO: CITY OF MENIFEE

FROM: Bryan Crawford, Senior Transportation Planner | GANDDINI GROUP, INC.

DATE: September 6, 2024

SUBJECT: Pemcor Commercial Industrial Business Park Project
Scoping Agreement for Traffic Impact Analysis
GGI Project No. 19729

The purpose of this memorandum is to supplement the City's Scoping Agreement for Traffic Study form with more detailed project description and trip generation information for the Pemcor Commercial Industrial Business Park project for review/concurrence by the City of Menifee. The completed Scoping Agreement for Traffic Impact Study form is provided in Attachment A.

PROJECT DESCRIPTION

The approximately 20-acre project site (APN: 384-150-001) is located south of Scott Road, north of Keller Road, bounded by Howard Road and Zeiders Road at 33521 Zeiders Road in the City of Menifee, California. The project site is currently vacant. The project location map is shown on Figure 1.

The proposed project involves construction of a commercial/industrial business park development consisting of eleven single-story buildings ranging in size from approximately 23,100 square feet to 37,840 square feet (total 337,770 square feet). The project site is zoned Economic Development Corridor – Southern Gateway (EDC-SG) and currently serves as a residential use. The anticipated end users are expected to provide services ranging from industrial and manufacturing users to service commercial and office (tenants are currently not known). Each building includes two (2) dock-high doors for a total of 22 project-wide. The project includes two (2) driveways along Zeiders Road with the southernmost driveway being signalized and aligning with Scott Road Commerce Center. The project north driveway is proposed to be rights turns in/out automobile only and the project south driveway (currently signalized and aligning with Scott Road Commerce Center) is proposed to be full access for both automobiles and trucks. The proposed site plan is illustrated in Figure 2.

PROJECT TRIP GENERATION

While the proposed project ideally appears to be an industrial park, to provide for a conservative analysis and allow for flexibility of potential tenants, the proposed project is being proposed as 80% industrial park and 20% business park.

Proposed Trip Generation

Table 1 to Table 3 show the project trip generation forecasts based on rates obtained from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition, 2021) ITE Land Use Code 130 (Industrial Park) and ITE Land Use Code 770 (Business Park). These rates were determined to adequately represent the land uses for the proposed project and were selected for calculation of the project trip generation forecast.

The number of trips generated is determined by multiplying the trip generation rates and directional distributions by the land use quantities.

Project Trips

Table 1 shows the industrial park portion of the proposed project is estimated to generate a total of approximately 911 daily vehicle trips, including 92 vehicle trips during the AM peak hour and 93 vehicle trips during the PM peak hour. This equates to a total of approximately 1,190 daily vehicle trips in passenger car equivalent's (PCE's), including 112 PCE vehicle trips during the AM peak hour and 115 PCE vehicle trips during the PM peak hour.

Table 2 shows the business park portion of the proposed project is estimated to generate a total of approximately 840 daily vehicle trips, including 92 vehicle trips during the AM peak hour and 82 vehicle trips during the PM peak hour.

Table 3 shows the total project trip generation for the proposed project is estimated to generate a total of approximately 2,030 daily vehicle trips in PCE's, including 204 PCE vehicle trips during the AM peak hour and 197 PCE vehicle trips during the PM peak hour.

PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

Figures 3 to 6 illustrate the forecast directional distribution patterns of the project generated trips. The project trip distribution patterns are developed from engineering judgement based on review of existing volume data, truck routes, surrounding land uses, and the local and regional roadway facilities in the project vicinity.

STUDY AREA

Based on of the project trip generation and distribution patterns the study area consists of the following study intersections and roadway segments:

Study Intersections

1. Haun Road/Zeiders Road (NS) at Scott Road (EW) [1]
2. Zeiders Road (NS) at Ciccotti Street (EW)
3. Zeiders Road (NS) at Project North Driveway (EW)
4. Zeiders Road (NS) at Project South Driveway/Industrial Roadway (EW)
5. I-215 SB Ramps (NS) at Scott Road (EW)
6. I-215 NB Ramps (NS) at Scott Road (EW)
7. Antelope Road (NS) at Scott Road (EW)
8. Menifee Road (NS) at Scott Road (EW)

Study Roadway Segments

1. Zeiders Road, Scott Road to Cicotti Road
2. Zeiders Road, Cicotti Road to Industrial Parkway
3. Scott Road, Haun Road/Zeiders Road to I-215 Freeway SB Ramps

[1] (NS) = north-south roadway; (EW) = east-west roadway.

TRAFFIC COUNTS

New intersection turning movement counts will be collected at the study intersections during the typical weekday AM and PM peak hours (7:00 AM – 9:00 AM and 4:00 - 6:00 PM). 24-hour bidirectional roadway segment counts will be collected at the study roadway segments during the typical weekday. The peak hour factor will be determined from the counts for study area intersections.

ANALYSIS SCENARIOS

The traffic study shall evaluate the following analysis scenarios for typical weekday AM and PM peak hour conditions:

1. Existing
2. Existing Plus Project
3. Opening Year (2026) Cumulative Without Project
4. Opening Year (2026) Cumulative With Project
5. Horizon Year (2045) Without Project
6. Horizon Year (2045) With Project

INTERSECTION ANALYSIS METHODOLOGY

In accordance with the *City of Menifee LOS Traffic Study Guidelines*, October 2020, intersections shall by analyzed using the intersection delay methodology based on procedures contained in the Transportation Research Board *Highway Capacity Manual* (HCM). Default values not specifically identified in the City TIA Guidelines will be based *Highway Capacity Manual* recommended values. Intersection analysis shall be performed using the Vistro software.

PERFORMANCE STANDARDS

The City of Menifee has established LOS D as the threshold for acceptable operating conditions for intersections and roadway segments, except at constrained locations in close proximity to I-215, where LOS E is accepted during peak hours. The Traffic Study shall address whether or not the required LOS will be achieved after the proposed project is constructed. LOS calculations shall be included with the Traffic Study for all intersections and roadway segments studied. For intersections or roadway segments not meeting the required LOS, the intersection or roadway segment's LOS must be recalculated using the proposed improvements to verify that the required LOS will be achieved.

OPERATIONAL THRESHOLDS

Facilities that are found to exceed LOS thresholds shall identify mitigation necessary to bring each facility into compliance. The TIA will identify the project's fair share towards the design and construction of the improvement.

FORECASTING METHODOLOGY

Ambient Growth Rate

To account for area-wide ambient growth, the Opening Year 2026 scenarios will include a 2.0% annual growth for 2 years (total growth factor = 1.04) over the 2024 base volumes.

Other Cumulative Projects

A list of pending and approved cumulative development projects will be obtained from the City of Menifee and will be requested from the City of Murrieta and County of Riverside. This list will be narrowed down to include projects within a 1.5-mile radius of the project site.

Trip forecasts for other development projects within the project study area will be determined based on the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition, 2021) and will be added to existing roadway volumes for the applicable analysis scenarios.

SITE ACCESS & ON-SITE CIRCULATION

The traffic study will review site access considerations such as intersection traffic controls and lane configurations and if necessary, recommend improvements.

VEHICLES MILES TRAVELED (VMT) ANALYSIS

A VMT screening analysis will be performed for the project. Based on preliminary review, the proposed project is anticipated to satisfy the screening criteria for projects in low VMT areas; therefore, the proposed project is anticipated to result in a less than significant VMT impact. The completed Scoping Agreement for Traffic Impact Study form is provided in Attachment B.

CONCLUSION

We appreciate the opportunity to provide this memorandum of understanding for your review. Should you have any questions or comments regarding the proposed scope, please contact Bryan Crawford at (714) 795-3100 ext. 101 or bryan@ganddini.com.

Table 1
Project Trip Generation - Industrial Park (80% of Project Site)

Land Use: Industrial Park
Size: 270.216 TSF

TRIP GENERATION RATES PER TSF[1]								
		AM Peak Hour			PM Peak Hour			Daily
Vehicle Type	Source[2]	In	Out	Rate	In	Out	Rate	Rate
All Vehicles	ITE 130	81%	19%	0.340	22%	78%	0.340	3.370
Trucks Only	ITE 130	45%	55%	0.040	38%	62%	0.040	0.570
Passenger Car (88.2% AM, 88.2% PM, 83.1% Daily)		0.243	0.057	0.300	0.066	0.234	0.300	2.800
Truck (11.8% AM, 11.8% PM, 16.9% Daily)		0.018	0.022	0.040	0.015	0.025	0.040	0.570
Truck Mix:	Fontana							
2-Axle Trucks (7.9%)		0.001	0.002	0.003	0.001	0.002	0.003	0.045
3-Axle Trucks (7.1%)		0.001	0.002	0.003	0.001	0.002	0.003	0.040
4+ Axle Trucks (85.0%)		0.015	0.019	0.034	0.013	0.021	0.034	0.485

VEHICLE TRIPS GENERATED							
	AM Peak Hour			PM Peak Hour			
Vehicle Type	In	Out	Total	In	Out	Total	Daily
Passenger Car	66	15	81	18	63	81	757
Trucks							
2-Axle Trucks	0	1	1	0	1	1	12
3-Axle Trucks	0	1	1	0	1	1	11
4+ Axle Trucks	4	5	9	4	6	10	131
Subtotal	4	7	11	4	8	12	154
Total Vehicle Trips Generated	**70**	**22**	**92**	**22**	**71**	**93**	**911**

PCE[3] TRIPS GENERATED								
		AM Peak Hour			PM Peak Hour			
Vehicle Type	PCE Factor[4]	In	Out	Total	In	Out	Total	Daily
Passenger Car	1.0	66	15	81	18	63	81	757
Trucks								
2-Axle Trucks	1.5	0	2	2	0	2	2	18
3-Axle Trucks	2.0	0	2	2	0	2	2	22
4+ Axle Trucks	3.0	12	15	27	12	18	30	393
Subtotal		12	19	31	12	22	34	433
Total PCE Trips Generated		**78**	**34**	**112**	**30**	**85**	**115**	**1,190**

Notes:
(1) TSF = Thousand Square Feet

(2) ITE = Institute of Transportation Engineers *Trip Generation Manual* (11th Edition, 2021); ### = ITE Land Use Code.
Fontana = City of Fontana *Truck Trip Generation Study* (August 2003); recommended truck mix for Industrial Park classification.

(3) PCE = Passenger Car Equivalent

(4) Source: County of Riverside *Transportation Analysis Guidelines for Level of Service and Vehcile Miles Traveled* (December 2020).

Table 2
Project Trip Generation - Business Park (20% of Project Site)

Trip Generation Rates									
			AM Peak Hour			PM Peak Hour			
Land Use	Source[1]	Unit[2]	% In	% Out	Rate	% In	% Out	Rate	Daily
Business Park	ITE 770	TSF	85%	15%	1.35	26%	74%	1.22	12.44

Trips Generated									
			AM Peak Hour			PM Peak Hour			
Land Use	Quantity	Unit[2]	In	Out	Total	In	Out	Total	Daily
Business Park	67.554	TSF	**78**	**14**	**92**	**21**	**61**	**82**	**840**

Notes:

(1) ITE = Institute of Transportation Engineers, Trip Generation Manual, 11th Edition, 2021; ### = Land Use Code

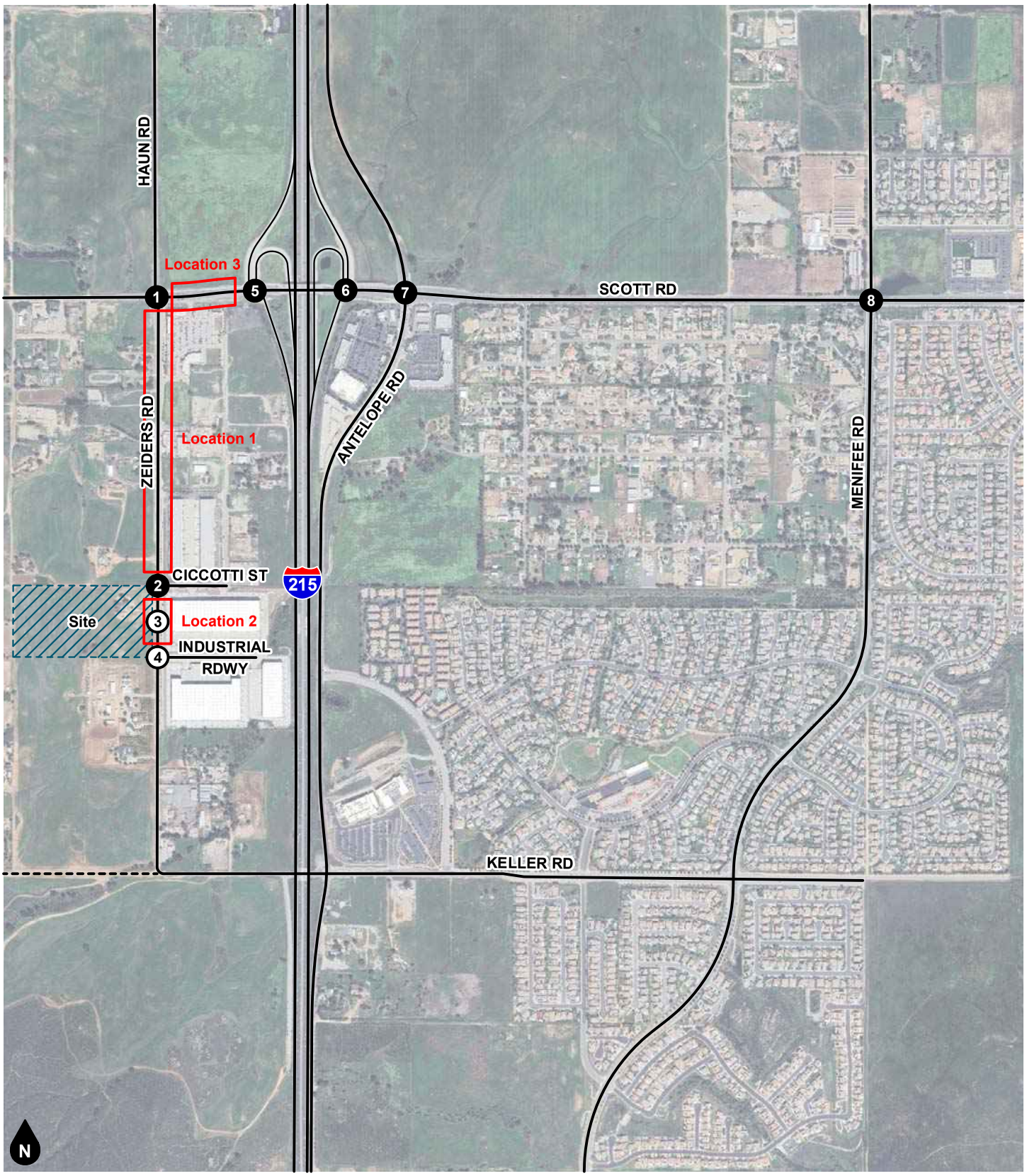
(2) TSF = Thousand Square Feet

Table 3
Total Project Trip Generation

Trips Generated									
			AM Peak Hour			PM Peak Hour			
Land Use	Quantity	Unit	In	Out	Total	In	Out	Total	Daily
Industrial Park[1]	270.216	TSF							
- Passenger Cars			66	15	81	18	63	81	757
- Trucks (in PCE's)			12	19	31	12	22	34	433
Subtotal			78	34	112	30	85	115	1,190
Business Park[2]	67.554	TSF	78	14	92	21	61	82	840
Net New Trips	**337.770**	**TSF**	**156**	**48**	**204**	**51**	**146**	**197**	**2,030**

Notes:
(1) See Table 1

(2) See Table 2



Legend

- # Study Intersection
- # Project Driveway
- Roadway Segment

Figure 1
Project Location Map

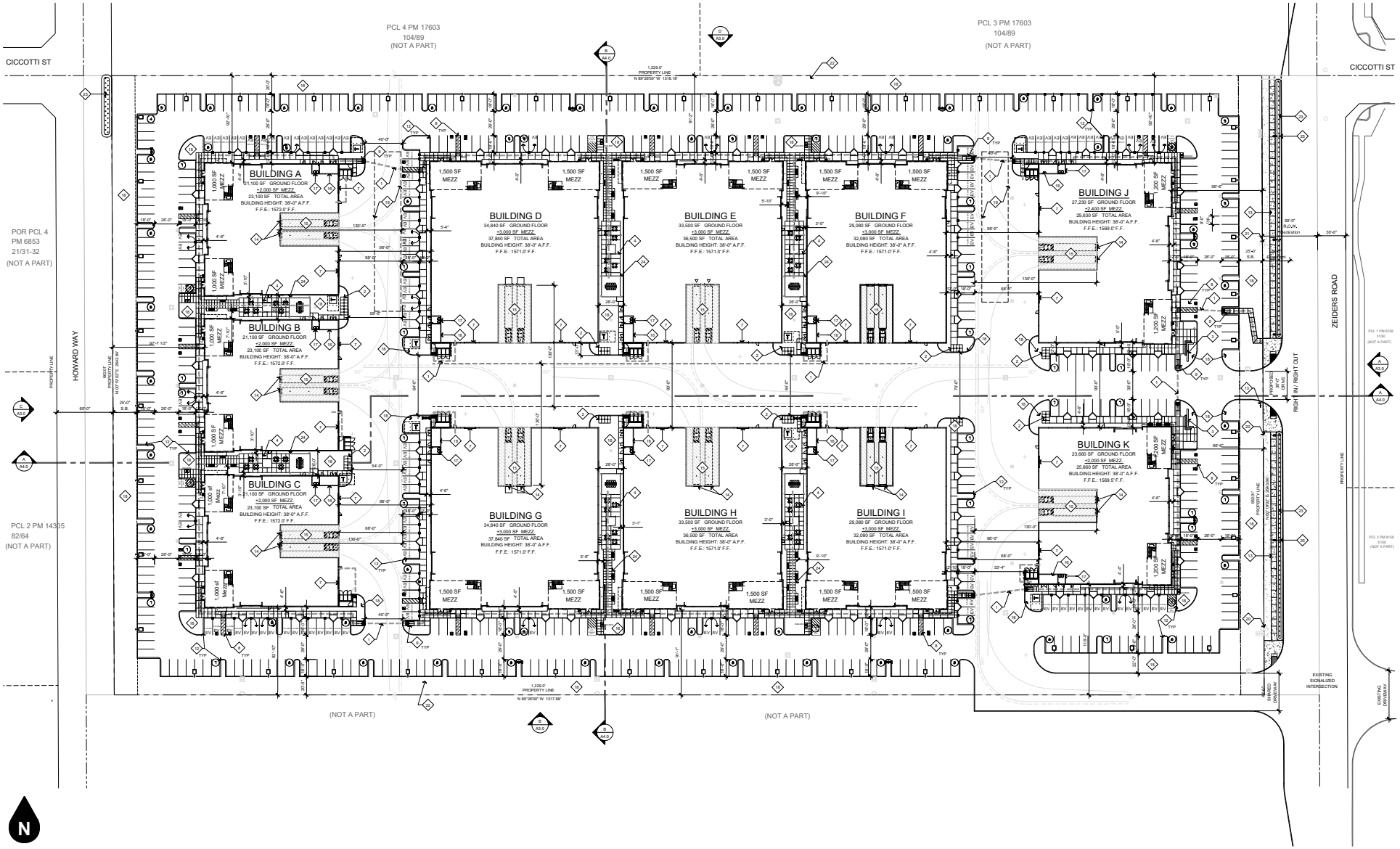


Figure 2
Site Plan

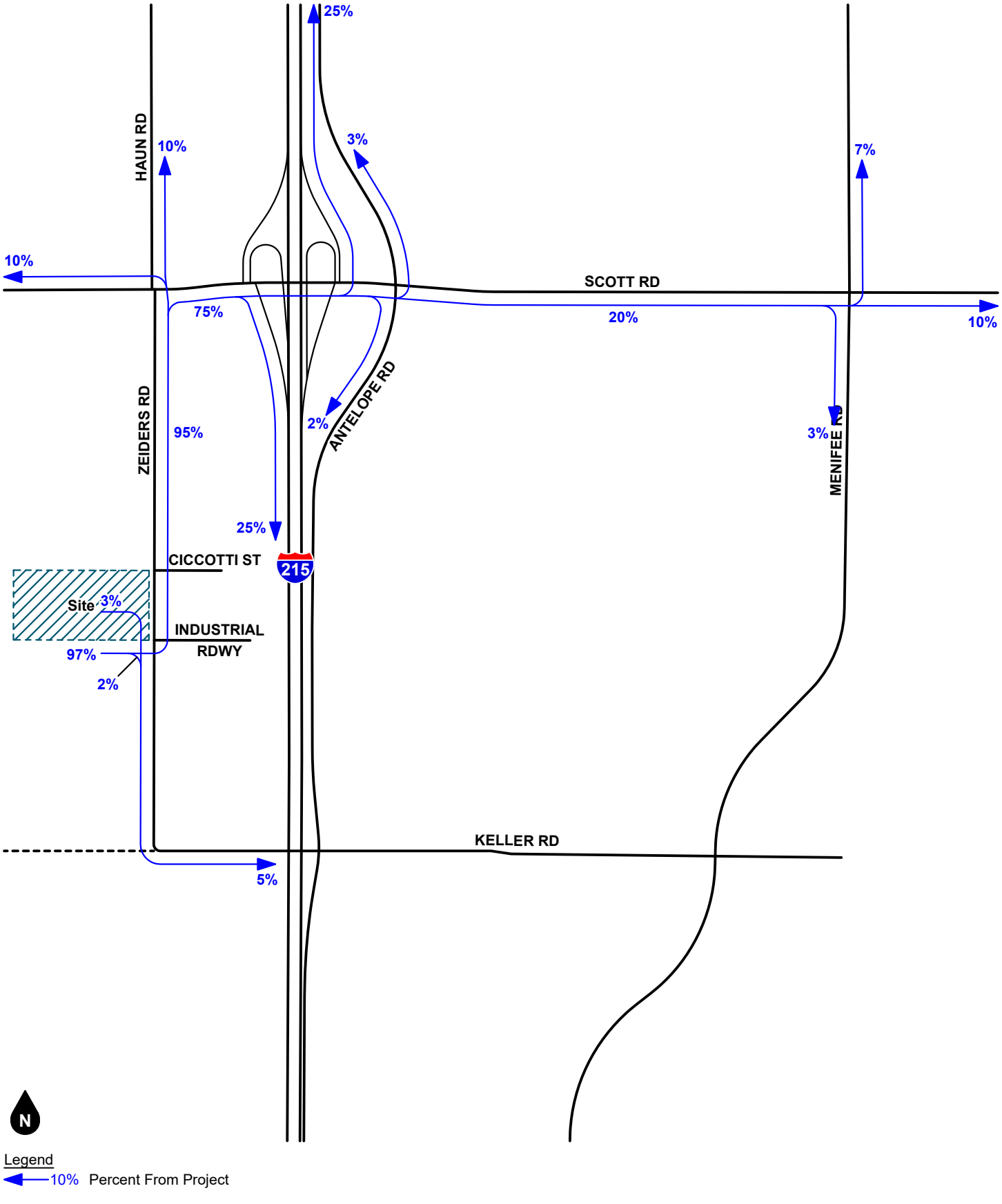


Figure 3
Project Outbound Trip Distribution - Cars

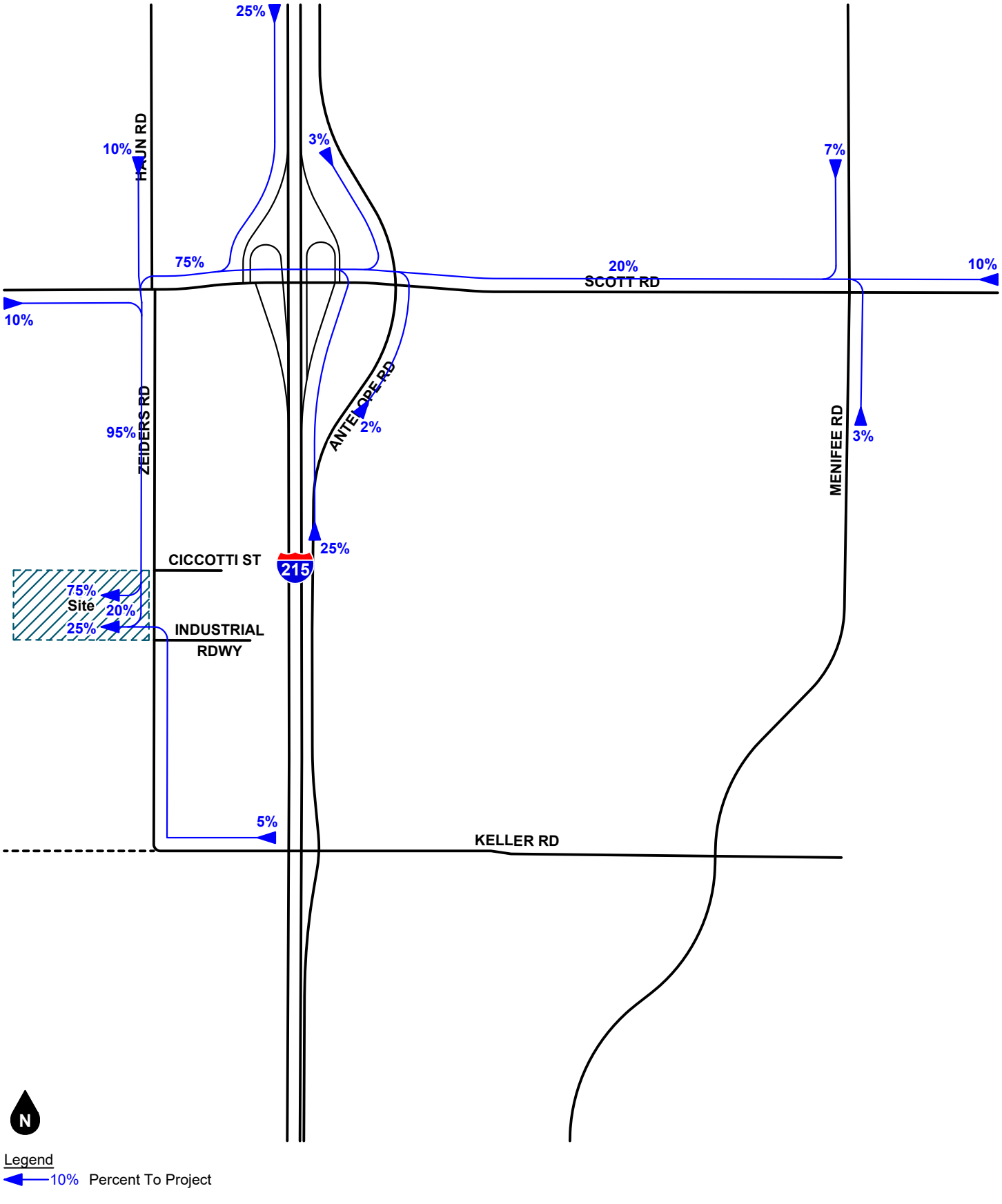


Figure 4
Project Inbound Trip Distribution - Cars

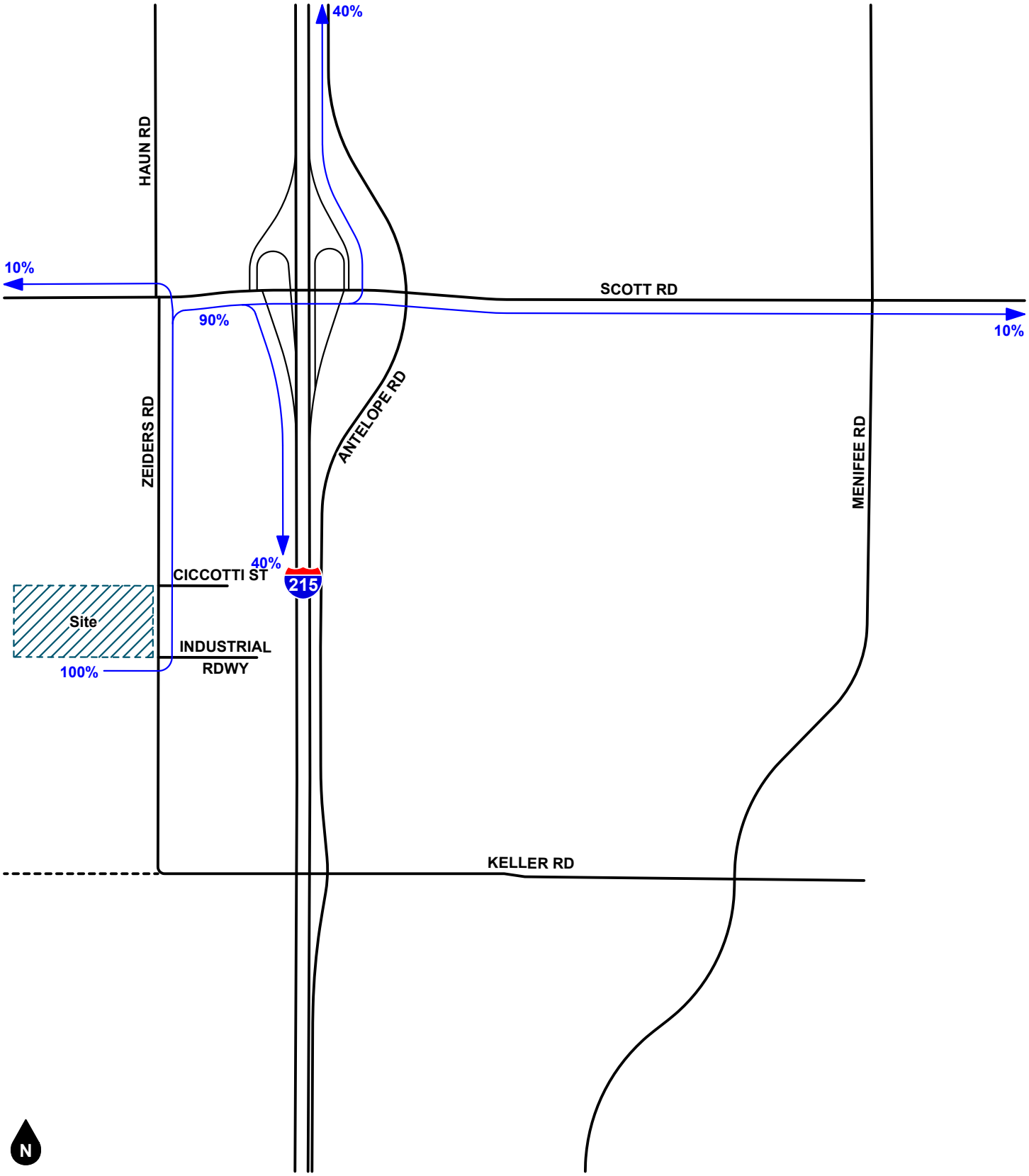


Figure 5
Project Outbound Trip Distribution - Trucks

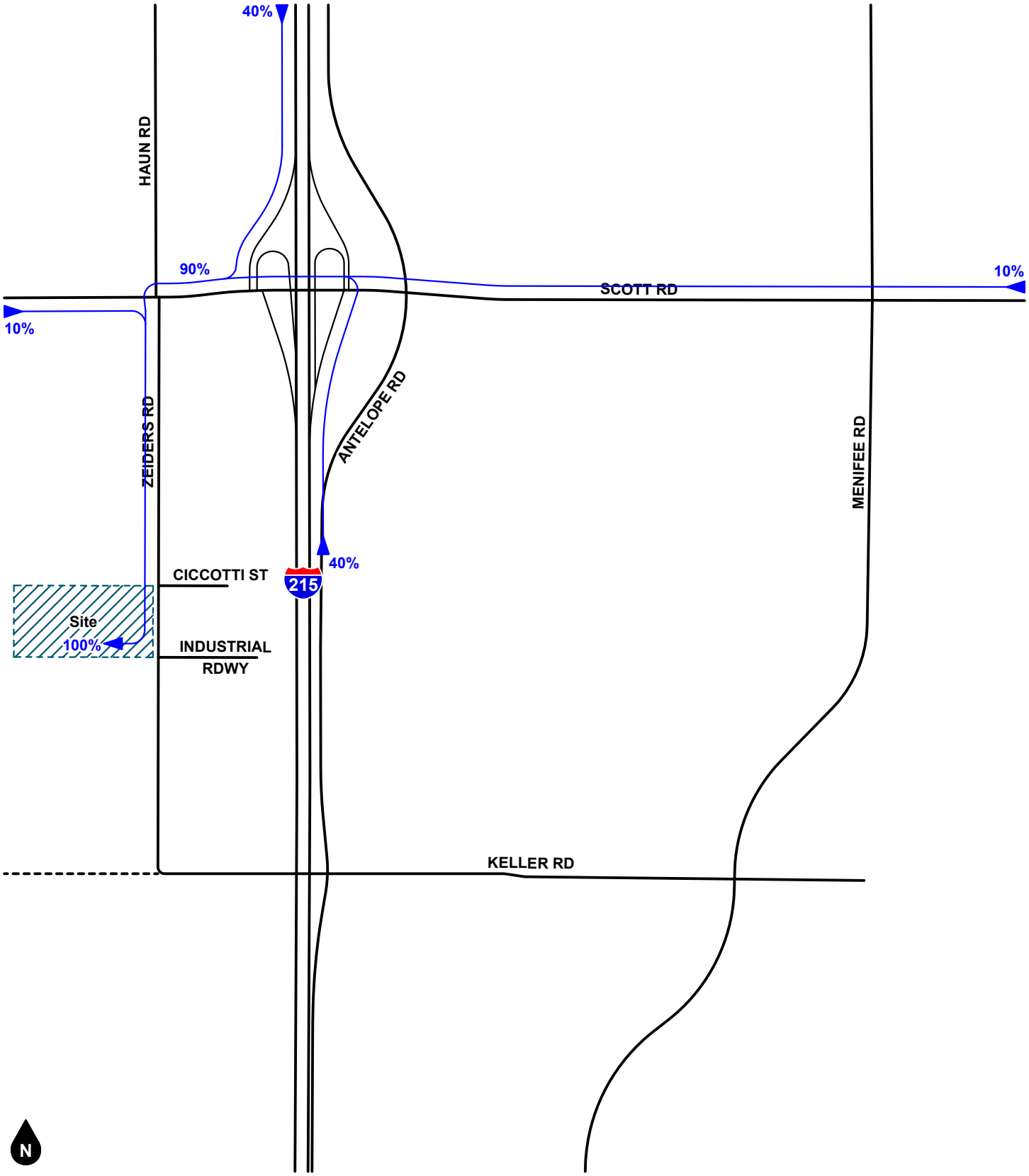


Figure 6
Project Inbound Trip Distribution - Trucks

ATTACHMENT A

LOS SCOPING AGREEMENT FORM

ATTACHMENT A
SCOPING AGREEMENT FOR TRAFFIC STUDY

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

Case No.
Related Cases -
SP No.
EIR No.
GPA No.
CZ No.
Project Name: Pemcor Commercial Industrial Business Park Project
Project Location: 33521 Zeiders Road
Project Description: 337,770 square foot industrial/business park development. 80% Industrial Park and 20% Business Park

	Consultant	Developer
Name:	Ganddini Group, Inc.	MIG, Inc.
Address:	555 Parkcenter Drive, Suite 225 Santa Ana, CA 92705	1650 Spruce Street, Suite 106 Riverside, CA 92507
Telephone:	(714) 795-3100	(951) 787-9222

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

Existing Land Use	EDC-SG	Proposed Land Use	EDC-SG
Existing Zoning	EDC-SG	Proposed Zoning	EDC-SG
Total Daily Trips			

	In	Out	Total
AM Trips	156	48	204
PM Trips	51	146	197

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: N 95 % S 5 % E % W %
(See attached exhibit for detailed assignment)

C. Background Traffic

Project Completion Year: 2026 Annual Ambient Growth Rate: 2 %
Other area projects to be included:

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

Model/Forecast methodology if required: Manual build-up method

D. Horizon Year Analysis: Does this project require a Horizon Year Analysis? Analysis is being required by City staff. ☑ Yes ☐ No

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

1. Haun Road/Zeiders Road at Scott Road
2. Zeiders Road at Cicotti Street
3. Zeiders Road at Project North Driveway
4. Zeiders Road at Project South Driveway/Industrial Roadway
5. I-215 SB Ramps at Scott Road
6. I-215 NB Ramps at Scott Road
7. Antelope Road at Scott Road
8. Menifee Road at Scott Road

F. Study Roadway Segments:

1. Zeiders Road, Scott Road to Cicotti Road
2. Zeiders Road, Cicotti Road to Industrial Parkway
3. Scott Road, Haun Road to I-215 Freeway SB Ramps
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? ☑ Y es ☐ No

If so, name of Jurisdiction: City of Murrieta, County of Riverside

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

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

Recommended by:

Bryan Crawford — 06/11/2024
Consultant's Representative — Date

06/11/2024
Scoping Agreement Submitted on — Date

07/17/2024
Scoping Agreement Resubmitted on — Date

Approved Scoping Agreement:

City of Menifee — Date

ATTACHMENT B

VMT SCOPING AGREEMENT 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:	Pemcor Commercial Industrial Business Park Project
Project Address:	33521 Zeiders Road
Project Opening Year:	2026
Project Description:	Industrial/Business Park development consisting of 337,770 square feet

	Consultant:	Developer:
Name:	Ganddini Group, Inc,	MIG, Inc.
Address:	555 Parkcenter Drive, Suite 225	1650 Spruce Street, Suite 106
	Santa Ana, CA 92705	Riverside, CA 92507
Telephone:	(714) 795-3100*104	(951) 787-9222*802
Fax/Email:	bryan@ganddini.com	BPrasse@migcom.com

Trip Generation Information:

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

Current General Plan Land Use: EDC-SG

Proposed General Plan Land Use: EDC-SG

Current Zoning: EDC-SG

Proposed Zoning: EDC-SG

	Existing Trip Generation			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
AM Trips	-	-	-	156	48	204
PM Trips	-	-	-	51	146	197

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 5 of the guidelines related to LOS assessment). No

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

VMT screening justification (see Pages 10-12 of the guidelines): _____

The proposed project is located in a low VMT generating area and is estimated to generate 30.7 VMT per service population which is less than the City-established threshold of 33.6 VMT per service population; therefore, the proposed project is expected to cause a less than significant VMT impact.

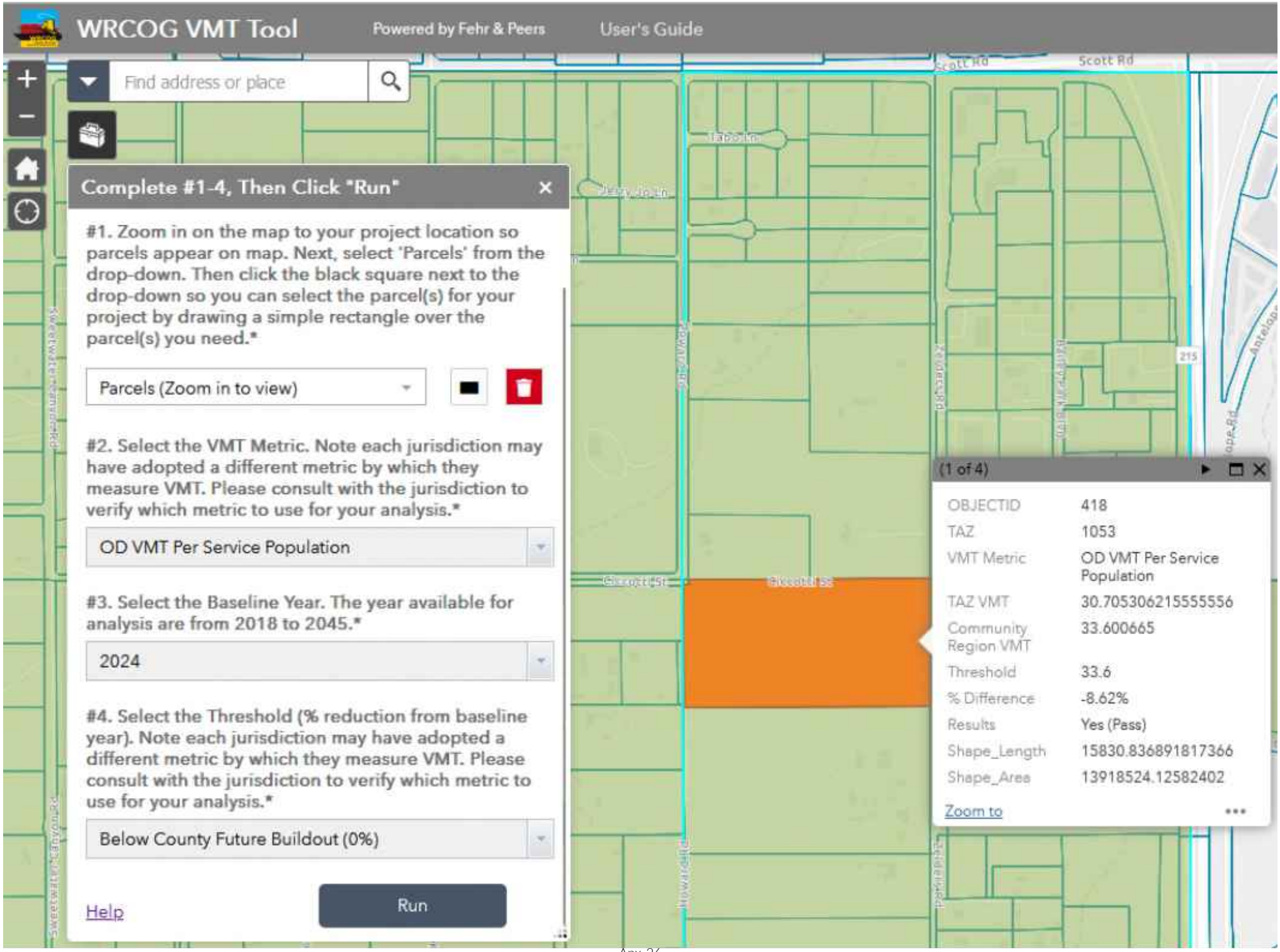
VMT Analysis Scoping

For projects that are not screened, identify the following:

- Travel Demand Forecasting Model Used WRCOG VMT Screening
- 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: Bryan Crawford City (Approved by): _____


WRCOG VMT Tool
Powered by Fehr & Peers
User's Guide
Find address or place
Complete #1-4, Then Click "Run"
#1. Zoom in on the map to your project location so parcels appear on map. Next, select 'Parcels' from the drop-down. Then click the black square next to the drop-down so you can select the parcel(s) for your project by drawing a simple rectangle over the parcel(s) you need.*
Parcels (Zoom in to view)
#2. Select the VMT Metric. Note each jurisdiction may have adopted a different metric by which they measure VMT. Please consult with the jurisdiction to verify which metric to use for your analysis.*
OD VMT Per Service Population
#3. Select the Baseline Year. The year available for analysis are from 2018 to 2045.*
2024
#4. Select the Threshold (% reduction from baseline year). Note each jurisdiction may have adopted a different metric by which they measure VMT. Please consult with the jurisdiction to verify which metric to use for your analysis.*
Below County Future Buildout (0%)
Help
Run
(1 of 4)
OBJECTID 418
TAZ 1053
VMT Metric OD VMT Per Service Population
TAZ VMT 30.705306215555556
Community Region VMT 33.600665
Threshold 33.6
% Difference -8.62%
Results Yes (Pass)
Shape_Length 15830.836891817366
Shape_Area 13918524.12582402
Zoom to
Scott Rd
Glacier St

Gmail **Bryan Crawford <bryandavidcrawford@gmail.com>**

Pemcor Revised TIA Scoping Agreement

Haile Ford <hford@cityofmenifee.us> Wed, Sep 18, 2024 at 12:19 PM
To: Russell Brown <rbrown@cityofmenifee.us>, Bryan Crawford <bryan@ganddini.com>, Kent Norton <knorton@migcom.com>

Hi Russell,

Engineering approves the attached revised traffic scoping document for the Pemcor project.

Haile Ford
City of Menifee
Engineering Department

Get Outlook for iOS

From: Russell Brown <rbrown@cityofmenifee.us>
Sent: Tuesday, September 17, 2024 3:27:24 PM
To: Haile Ford <hford@cityofmenifee.us>
Cc: Kent Norton <knorton@migcom.com>
Subject: FW: Pemcor Revised TIA Scoping Agreement

Hello Haile,

Are we good with the traffic scoping? I'd like to request a quick turnaround if possible. Thanks again!

Regards,

Russell J. Brown, AICP | Senior Planner

Community Development Department

"Creating a HEALTHY, VIBRANT, and CONNECTED community for everyone."

29844 Haun Road | Menifee, CA 92586

City Hall: (951) 672-6777 | Dir. (951) 723-3745

Note that I am out of office every other Friday and will not be available

APPENDIX C

VOLUME COUNT WORKSHEETS

INTERSECTION TURNING MOVEMENT COUNTS

T012524

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

DATE: Tue, Sep 10, 24

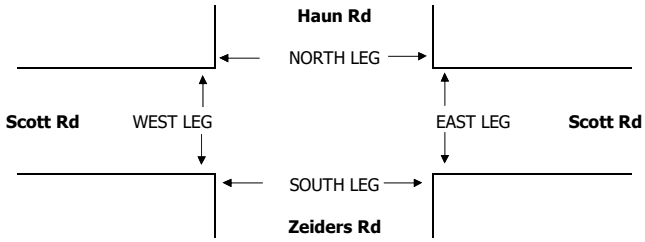
LOCATION: Menifee
NORTH & SOUTH: Zeiders Rd
EAST & WEST: Scott Rd

PROJECT #: SC4888
LOCATION #: 1
CONTROL: SIGNAL

NOTES:

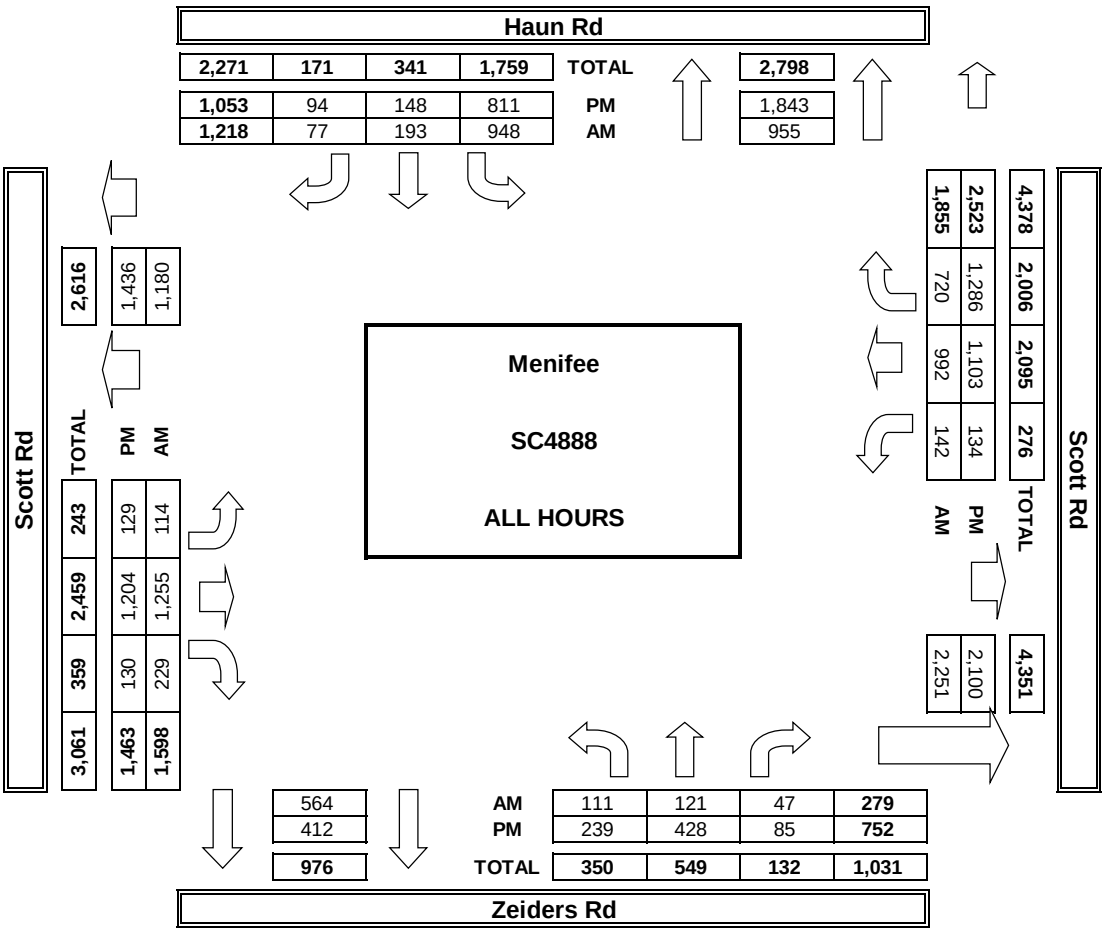
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

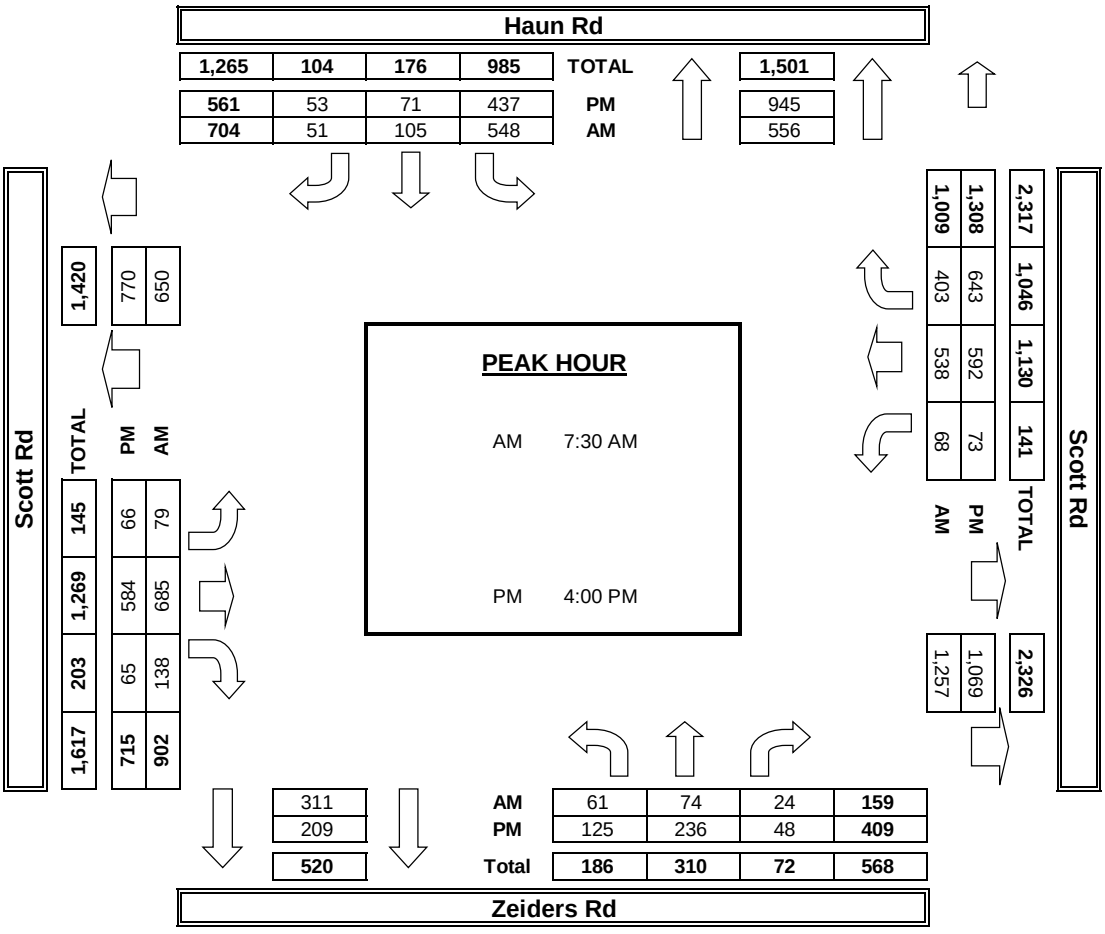
		NORTHBOUND Zeiders Rd			SOUTHBOUND Haun Rd			EASTBOUND Scott Rd			WESTBOUND Scott Rd				U-TURNS				
	LANES:	NL 1	NT 1	NR 1	SL 1.3	ST 0.3	SR 0.3	EL 1	ET 1.5	ER 0.5	WL 1	WT 2	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	9	6	4	86	15	2	3	140	19	12	110	60	466	0	0	0	0	0
	7:15 AM	12	9	4	98	21	3	16	179	23	15	141	94	615	0	0	0	1	1
	7:30 AM	21	16	5	162	18	8	17	188	36	18	124	70	683	0	0	0	0	0
	7:45 AM	17	17	7	148	29	13	24	183	43	15	122	106	724	0	0	0	0	0
	8:00 AM	9	26	9	120	24	15	20	142	32	17	133	113	660	0	0	0	0	0
	8:15 AM	14	15	3	118	34	15	18	172	27	18	159	114	707	0	0	0	0	0
	8:30 AM	16	17	8	118	28	15	7	144	26	23	107	81	590	0	0	0	0	0
	8:45 AM	13	15	7	98	24	6	9	107	23	24	96	82	504	0	0	0	0	0
	VOLUMES	111	121	47	948	193	77	114	1,255	229	142	992	720	4,950	0	0	0	1	1
	APPROACH %	40%	43%	17%	78%	16%	6%	7%	79%	14%	8%	53%	39%						
	APP/DEPART	279	/	955	1,218	/	564	1,598	/	2,251	1,855	/	1,180	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	61	74	24	548	105	51	79	685	138	68	538	403	2,774	0	0	0	0	
	APPROACH %	38%	47%	15%	78%	15%	7%	9%	76%	15%	7%	53%	40%						
	PEAK HR FACTOR		0.903			0.926			0.902			0.867		0.958					
	APP/DEPART	159	/	556	704	/	311	902	/	1,257	1,009	/	650	0					
PM	4:00 PM	32	63	14	139	18	18	12	142	14	17	142	186	797	0	0	0	0	0
	4:15 PM	23	42	10	94	14	6	13	165	20	7	180	155	729	0	0	0	0	0
	4:30 PM	32	53	17	108	20	15	23	144	14	26	131	134	717	0	0	0	0	0
	4:45 PM	38	78	7	96	19	14	18	133	17	23	139	168	750	0	0	0	0	0
	5:00 PM	34	55	12	94	17	8	19	154	17	21	141	185	757	0	0	0	0	0
	5:15 PM	29	47	7	93	19	10	17	168	13	10	129	143	685	0	0	0	0	0
	5:30 PM	24	44	12	101	25	13	10	155	16	13	134	156	703	0	0	0	0	0
	5:45 PM	27	46	6	86	16	10	17	143	19	17	107	159	653	0	0	0	0	0
	VOLUMES	239	428	85	811	148	94	129	1,204	130	134	1,103	1,286	5,791	0	0	0	0	0
	APPROACH %	32%	57%	11%	77%	14%	9%	9%	82%	9%	5%	44%	51%						
	APP/DEPART	752	/	1,843	1,053	/	412	1,463	/	2,100	2,523	/	1,436	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	125	236	48	437	71	53	66	584	65	73	592	643	2,993	0	0	0	0	
	APPROACH %	31%	58%	12%	78%	13%	9%	9%	82%	9%	6%	45%	49%						
	PEAK HR FACTOR		0.831			0.801			0.903			0.948		0.939					
	APP/DEPART	409	/	945	561	/	209	715	/	1,069	1,308	/	770	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T012524

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

DATE: Tue, Sep 10, 24

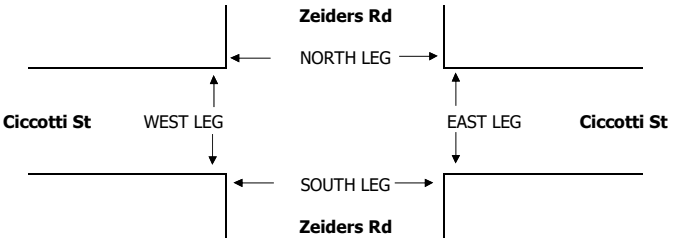
LOCATION: Menifee
NORTH & SOUTH: Zeiders Rd
EAST & WEST: Ciccotti St

PROJECT #: SC4888
LOCATION #: 6
CONTROL: STOP W

NOTES:

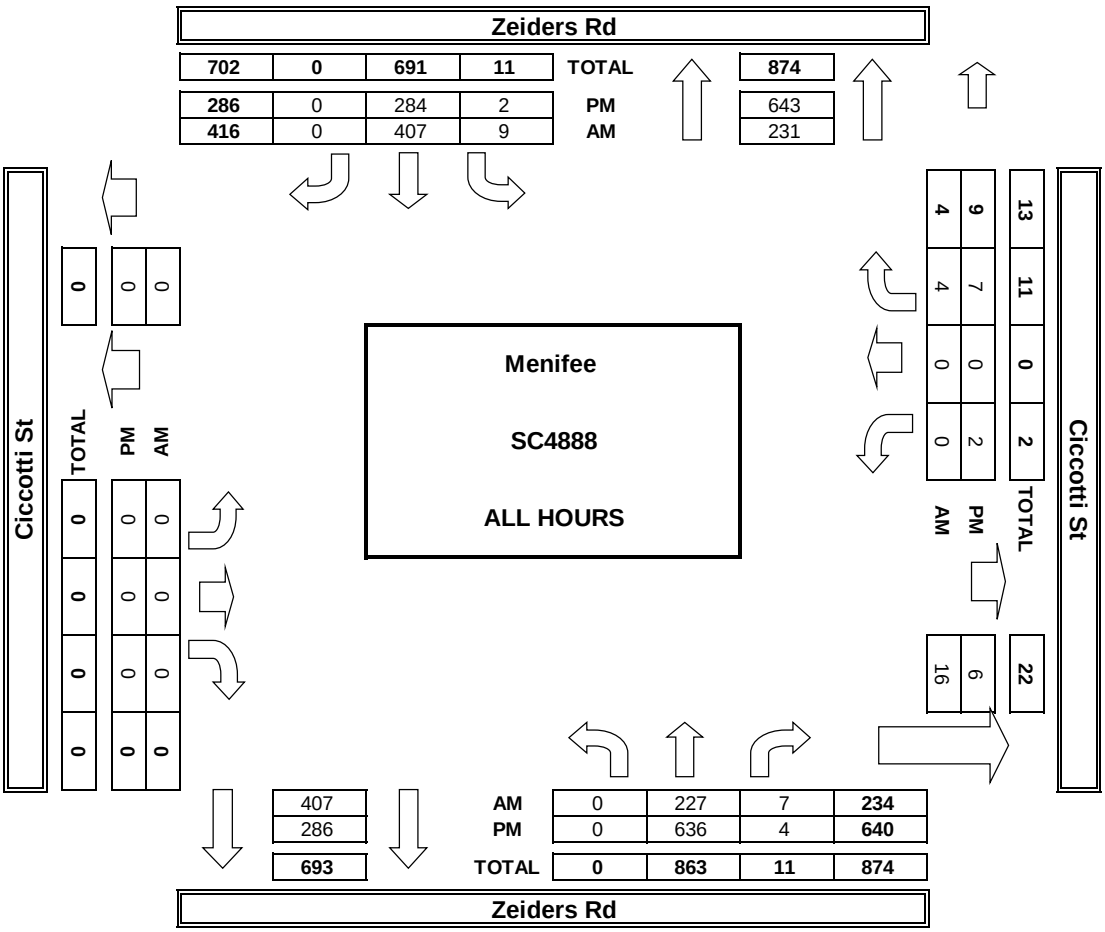
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

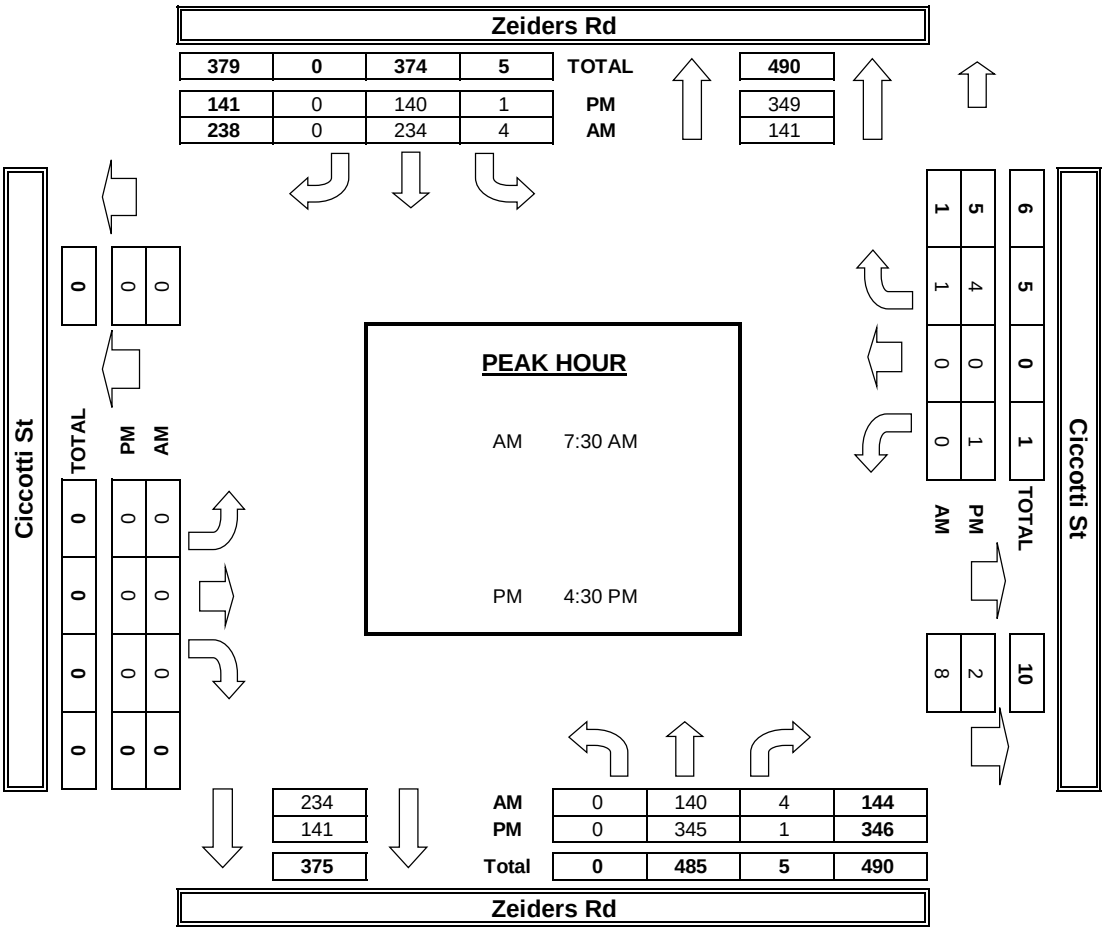
		NORTHBOUND Zeiders Rd			SOUTHBOUND Zeiders Rd			EASTBOUND Ciccotti St			WESTBOUND Ciccotti St				U-TURNS				
	LANES:	NL X	NT 1	NR 0	SL 1	ST 1	SR X	EL X	ET X	ER X	WL 1	WT X	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	15	0	2	33	0	0	0	0	0	0	0	50	0	0	0	0	0
	7:15 AM	0	19	0	2	41	0	0	0	0	0	0	1	63	0	0	0	0	0
	7:30 AM	0	37	2	3	49	0	0	0	0	0	0	0	91	0	0	0	0	0
	7:45 AM	0	36	1	0	71	0	0	0	0	0	0	0	108	0	0	0	0	0
	8:00 AM	0	34	0	0	58	0	0	0	0	0	0	0	92	0	0	0	0	0
	8:15 AM	0	33	1	1	56	0	0	0	0	0	0	1	92	0	0	0	0	0
	8:30 AM	0	31	0	0	56	0	0	0	0	0	0	1	88	0	0	0	0	0
	8:45 AM	0	22	3	1	43	0	0	0	0	0	0	1	70	0	0	0	0	0
	VOLUMES	0	227	7	9	407	0	0	0	0	0	0	4	654	0	0	0	0	0
	APPROACH %	0%	97%	3%	2%	98%	0%	0%	0%	0%	0%	0%	100%						
	APP/DEPART	234	/	231	416	/	407	0	/	16	4	/	0	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	140	4	4	234	0	0	0	0	0	0	1	383	0	0	0	0	
	APPROACH %	0%	97%	3%	2%	98%	0%	0%	0%	0%	0%	0%	100%						
	PEAK HR FACTOR		0.923			0.838			0.000			0.250		0.887					
	APP/DEPART	144	/	141	238	/	234	0	/	8	1	/	0	0					
PM	4:00 PM	0	90	0	0	35	0	0	0	0	0	0	0	125	0	0	0	0	0
	4:15 PM	0	64	1	0	34	0	0	0	0	0	0	1	100	0	0	0	0	0
	4:30 PM	0	98	0	0	37	0	0	0	0	0	0	0	135	0	0	0	0	0
	4:45 PM	0	86	1	0	38	0	0	0	0	1	0	2	128	0	0	0	0	0
	5:00 PM	0	92	0	0	33	0	0	0	0	0	0	1	126	0	0	0	0	0
	5:15 PM	0	69	0	1	32	0	0	0	0	0	0	1	103	0	0	0	0	0
	5:30 PM	0	74	2	1	37	0	0	0	0	1	0	2	117	0	0	0	0	0
	5:45 PM	0	63	0	0	38	0	0	0	0	0	0	0	101	0	0	0	0	0
	VOLUMES	0	636	4	2	284	0	0	0	0	2	0	7	935	0	0	0	0	0
	APPROACH %	0%	99%	1%	1%	99%	0%	0%	0%	0%	22%	0%	78%						
	APP/DEPART	640	/	643	286	/	286	0	/	6	9	/	0	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	0	345	1	1	140	0	0	0	0	1	0	4	492	0	0	0	0	
	APPROACH %	0%	100%	0%	1%	99%	0%	0%	0%	0%	20%	0%	80%						
	PEAK HR FACTOR		0.883			0.928			0.000			0.417		0.911					
	APP/DEPART	346	/	349	141	/	141	0	/	2	5	/	0	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T012524

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

DATE: Tue, Sep 10, 24

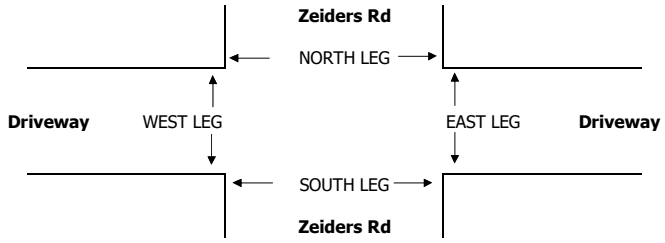
LOCATION: Menifee
NORTH & SOUTH: Zeiders Rd
EAST & WEST: Driveway

PROJECT #: SC4888
LOCATION #: 7
CONTROL: SIGNAL

NOTES:

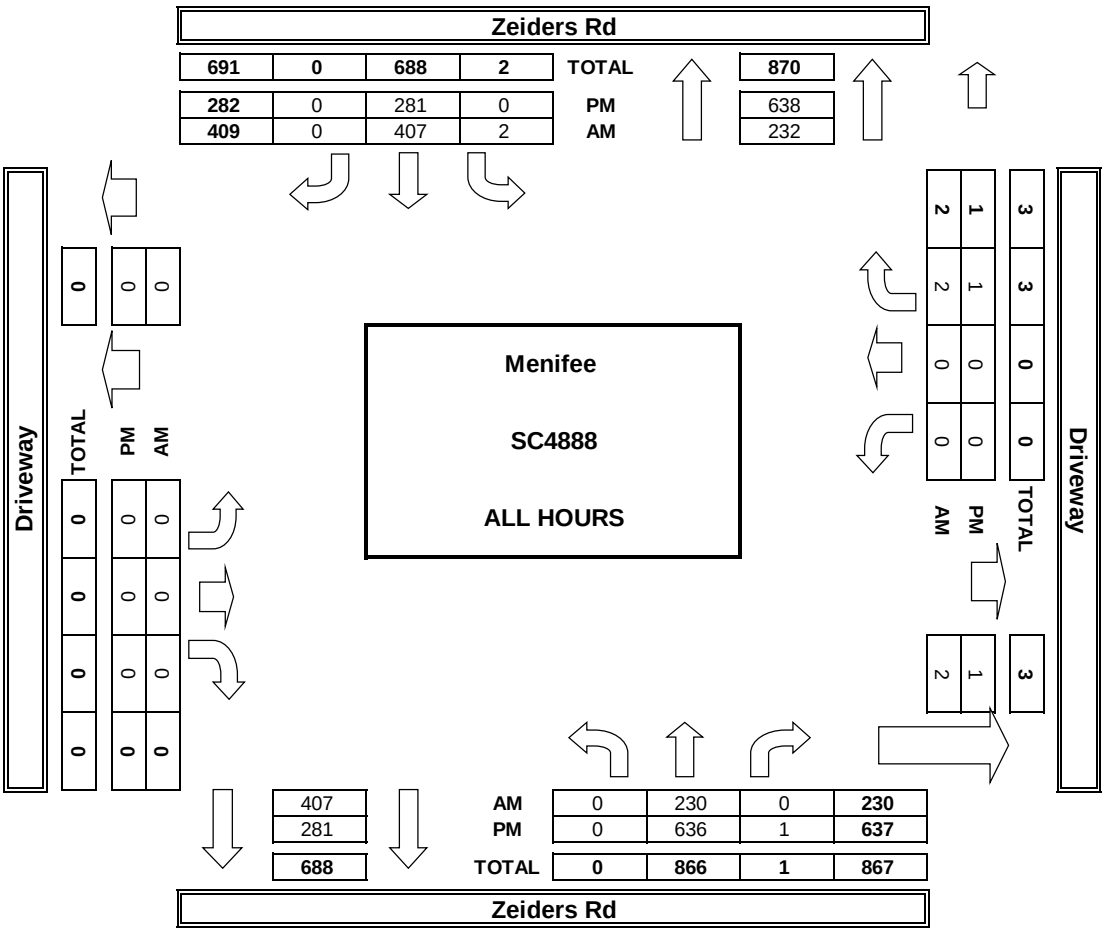
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

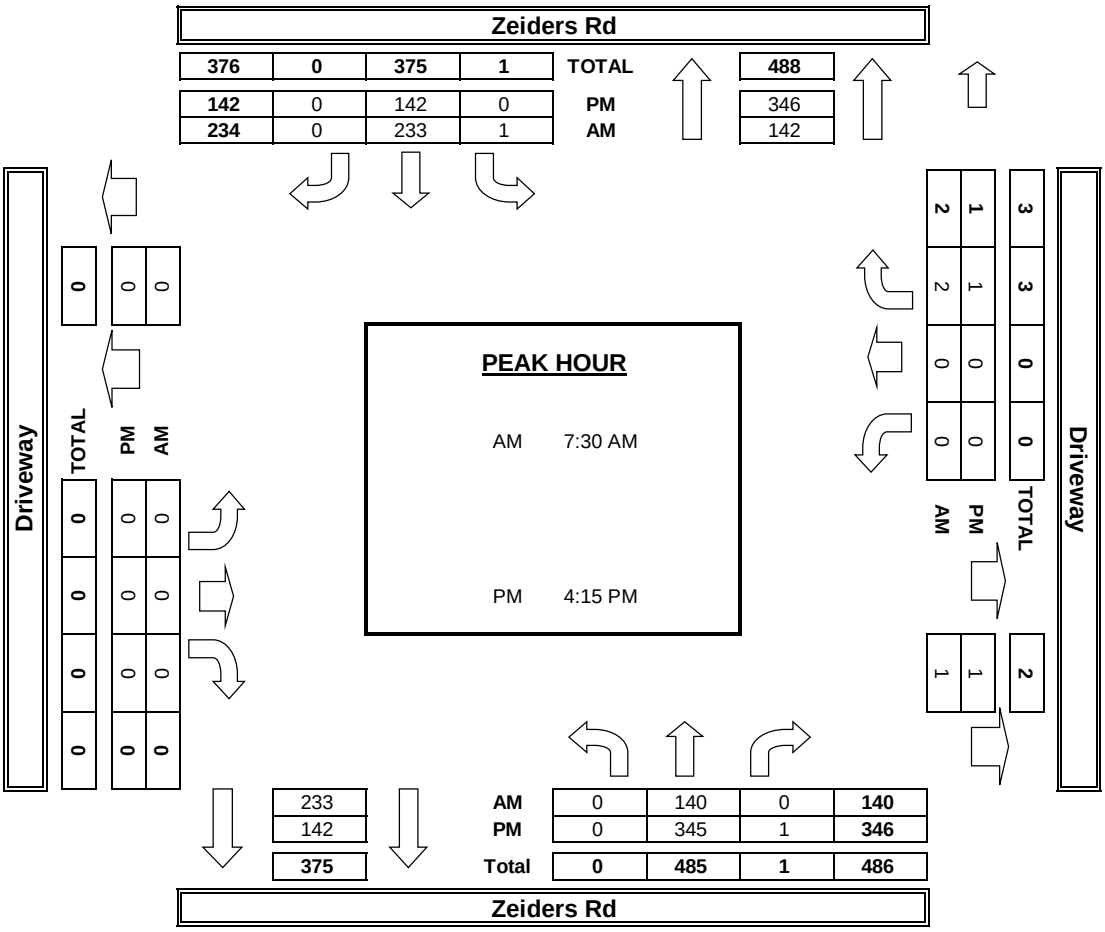
		NORTHBOUND Zeiders Rd			SOUTHBOUND Zeiders Rd			EASTBOUND Driveway			WESTBOUND Driveway				U-TURNS				
	LANES:	NL X	NT 1	NR 0	SL 1	ST 1	SR X	EL X	ET X	ER X	WL 1	WT X	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	15	0	0	35	0	0	0	0	0	0	0	50	0	0	0	0	0
	7:15 AM	0	19	0	0	41	0	0	0	0	0	0	0	60	0	0	0	0	0
	7:30 AM	0	38	0	0	49	0	0	0	0	0	0	1	88	0	0	0	0	0
	7:45 AM	0	37	0	1	70	0	0	0	0	0	0	0	108	0	0	0	0	0
	8:00 AM	0	33	0	0	59	0	0	0	0	0	0	1	93	0	0	0	0	0
	8:15 AM	0	32	0	0	55	0	0	0	0	0	0	0	87	0	0	0	0	0
	8:30 AM	0	31	0	1	54	0	0	0	0	0	0	0	86	0	0	0	0	0
	8:45 AM	0	25	0	0	44	0	0	0	0	0	0	0	69	0	0	0	0	0
	VOLUMES	0	230	0	2	407	0	0	0	0	0	0	2	641	0	0	0	0	0
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	100%						
	APP/DEPART	230	/	232	409	/	407	0	/	2	2	/	0	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	140	0	1	233	0	0	0	0	0	0	2	376	0	0	0	0	
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	100%						
	PEAK HR FACTOR		0.921			0.824			0.000			0.500		0.870					
	APP/DEPART	140	/	142	234	/	233	0	/	1	2	/	0	0					
PM	4:00 PM	0	84	0	0	35	0	0	0	0	0	0	0	119	0	0	0	0	0
	4:15 PM	0	68	0	0	34	0	0	0	0	0	0	0	102	0	0	0	0	0
	4:30 PM	0	97	1	0	37	0	0	0	0	0	0	0	135	0	0	0	0	0
	4:45 PM	0	89	0	0	38	0	0	0	0	0	0	0	127	0	0	0	0	0
	5:00 PM	0	91	0	0	33	0	0	0	0	0	0	1	125	0	0	0	0	0
	5:15 PM	0	66	0	0	32	0	0	0	0	0	0	0	98	0	1	0	0	1
	5:30 PM	0	76	0	0	36	0	0	0	0	0	0	0	112	0	0	0	0	0
	5:45 PM	0	65	0	0	36	0	0	0	0	0	0	0	101	0	0	0	0	0
	VOLUMES	0	636	1	0	281	0	0	0	0	0	0	1	920	0	1	0	0	1
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	100%						
	APP/DEPART	637	/	638	282	/	281	0	/	1	1	/	0	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	0	345	1	0	142	0	0	0	0	0	0	1	489	0	0	0	0	
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	100%						
	PEAK HR FACTOR		0.883			0.934			0.000			0.250		0.906					
	APP/DEPART	346	/	346	142	/	142	0	/	1	1	/	0	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T012524

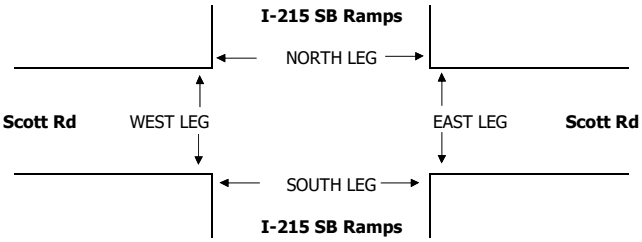
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:					
Tue, Sep 10, 24	LOCATION:	Menifee	PROJECT #:	SC4888	
	NORTH & SOUTH:	I-215 SB Ramps	LOCATION #:	2	
	EAST & WEST:	Scott Rd	CONTROL:	SIGNAL	

NOTES:

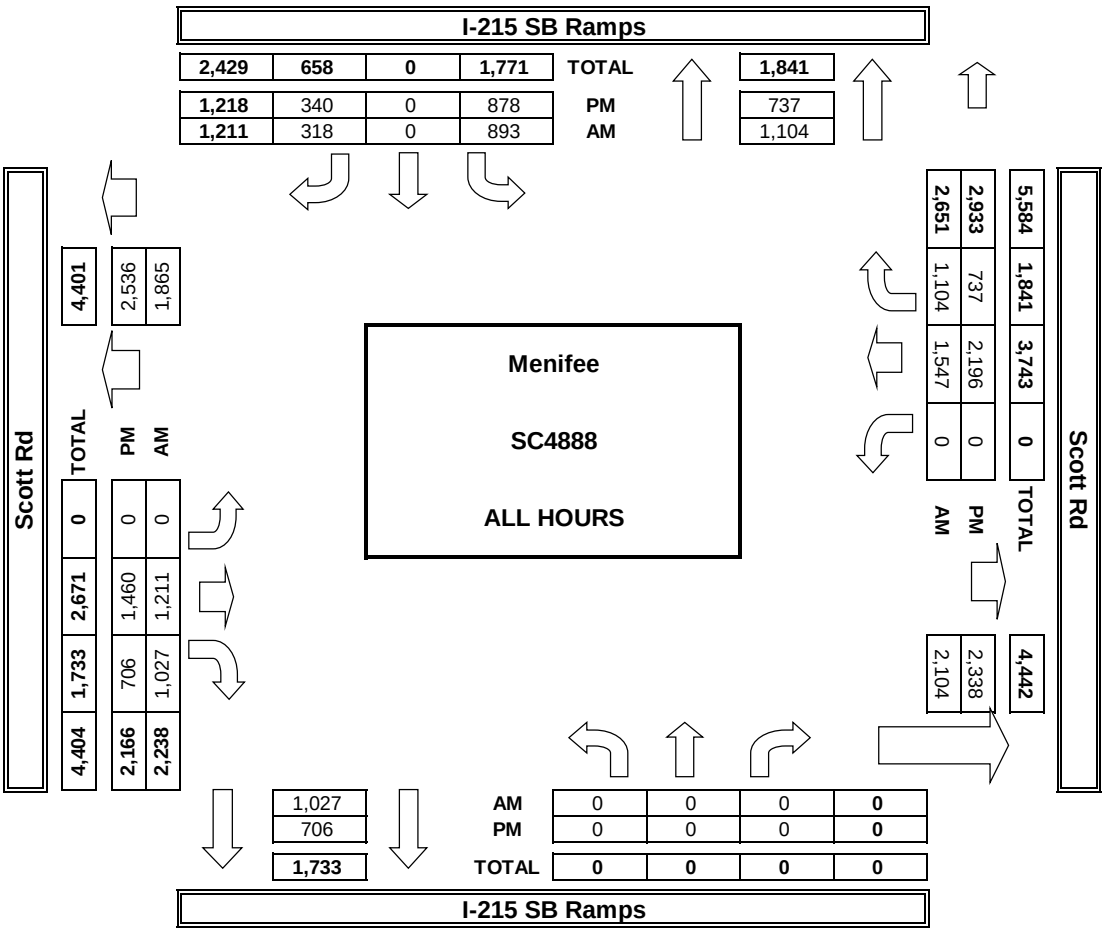
AM / PM / MD / OTHER / OTHER — ▲ N / ◄ W / E ► / S ▼

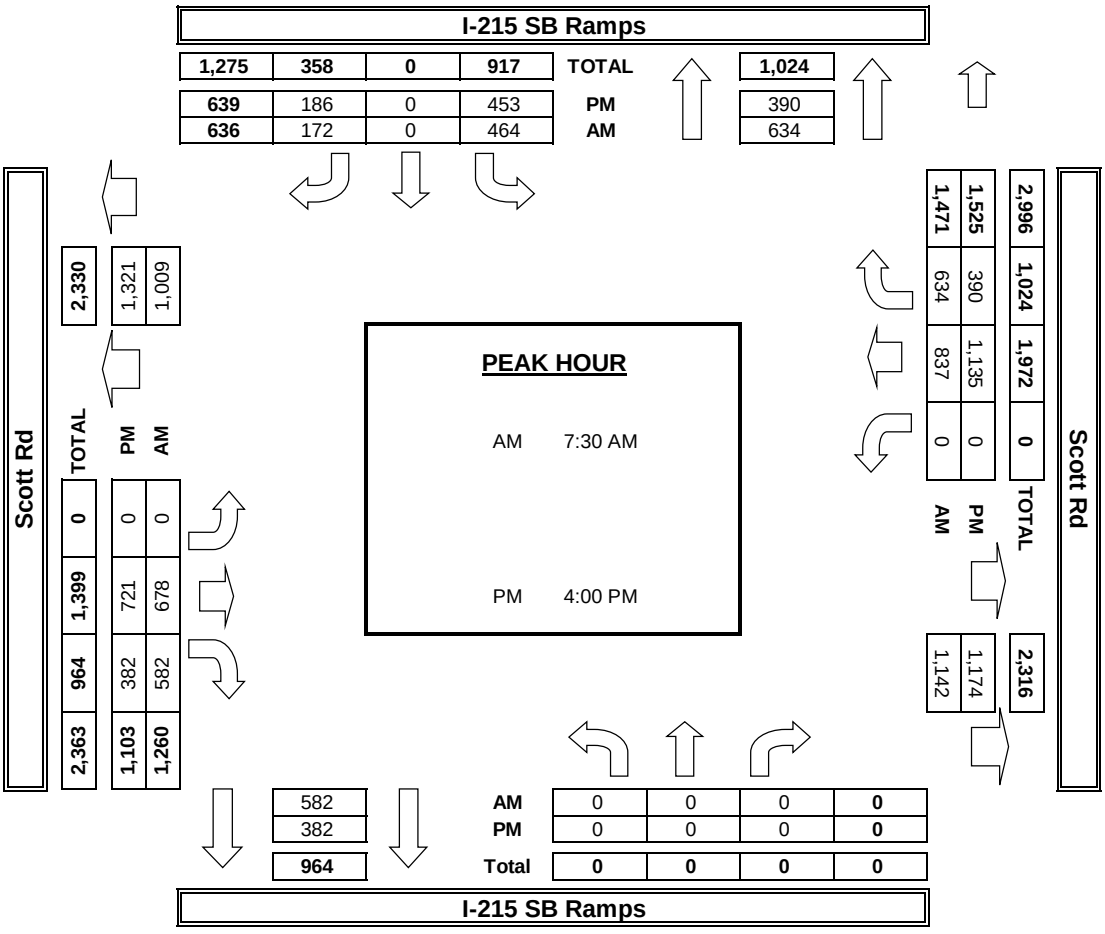
		NORTHBOUND I-215 SB Ramps			SOUTHBOUND I-215 SB Ramps			EASTBOUND Scott Rd			WESTBOUND Scott Rd				U-TURNS				
	LANES:	NL X	NT X	NR X	SL 2	ST X	SR 2	EL X	ET 2	ER 1	WL X	WT 2	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	0	0	102	0	38	0	124	100	0	154	121	639	0	0	0	0	0
	7:15 AM	0	0	0	108	0	31	0	152	132	0	220	131	774	0	0	0	0	0
	7:30 AM	0	0	0	92	0	28	0	161	169	0	184	160	794	0	0	0	0	0
	7:45 AM	0	0	0	109	0	46	0	182	171	0	197	166	871	0	0	0	0	0
	8:00 AM	0	0	0	133	0	54	0	156	113	0	209	173	838	0	0	0	0	0
	8:15 AM	0	0	0	130	0	44	0	179	129	0	247	135	864	0	0	0	0	0
	8:30 AM	0	0	0	123	0	35	0	148	113	0	176	127	722	0	0	0	0	0
	8:45 AM	0	0	0	96	0	42	0	109	100	0	160	91	598	0	0	0	0	0
	VOLUMES	0	0	0	893	0	318	0	1,211	1,027	0	1,547	1,104	6,100	0	0	0	0	0
	APPROACH %	0%	0%	0%	74%	0%	26%	0%	54%	46%	0%	58%	42%						
	APP/DEPART	0	/	1,104	1,211	/	1,027	2,238	/	2,104	2,651	/	1,865	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	0	464	0	172	0	678	582	0	837	634	3,367	0	0	0	0	
	APPROACH %	0%	0%	0%	73%	0%	27%	0%	54%	46%	0%	57%	43%						
	PEAK HR FACTOR		0.000			0.850			0.892			0.963		0.966					
	APP/DEPART	0	/	634	636	/	582	1,260	/	1,142	1,471	/	1,009	0					
PM	4:00 PM	0	0	0	116	0	50	0	185	124	0	295	113	883	0	0	0	0	0
	4:15 PM	0	0	0	107	0	48	0	173	95	0	294	101	818	0	0	0	0	0
	4:30 PM	0	0	0	127	0	38	0	192	80	0	266	91	794	0	0	0	0	0
	4:45 PM	0	0	0	103	0	50	0	171	83	0	280	85	772	0	0	0	0	0
	5:00 PM	0	0	0	127	0	44	0	174	73	0	303	107	828	0	0	0	0	0
	5:15 PM	0	0	0	124	0	48	0	201	76	0	234	72	755	0	0	0	0	0
	5:30 PM	0	0	0	84	0	29	0	186	96	0	274	96	765	0	0	0	0	0
	5:45 PM	0	0	0	90	0	33	0	178	79	0	250	72	702	0	0	0	0	0
	VOLUMES	0	0	0	878	0	340	0	1,460	706	0	2,196	737	6,317	0	0	0	0	0
	APPROACH %	0%	0%	0%	72%	0%	28%	0%	67%	33%	0%	75%	25%						
	APP/DEPART	0	/	737	1,218	/	706	2,166	/	2,338	2,933	/	2,536	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	0	0	453	0	186	0	721	382	0	1,135	390	3,267	0	0	0	0	
	APPROACH %	0%	0%	0%	71%	0%	29%	0%	65%	35%	0%	74%	26%						
	PEAK HR FACTOR		0.000			0.962			0.892			0.934		0.925					
	APP/DEPART	0	/	390	639	/	382	1,103	/	1,174	1,525	/	1,321	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T012524

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

DATE: Tue, Sep 10, 24

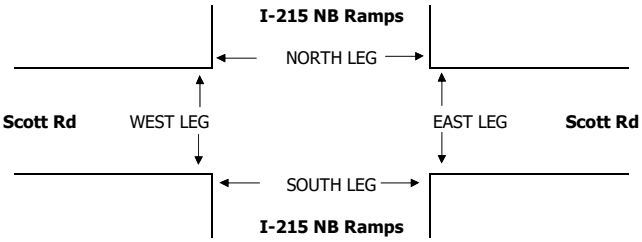
LOCATION: Menifee
NORTH & SOUTH: I-215 NB Ramps
EAST & WEST: Scott Rd

PROJECT #: SC4888
LOCATION #: 3
CONTROL: SIGNAL

NOTES:

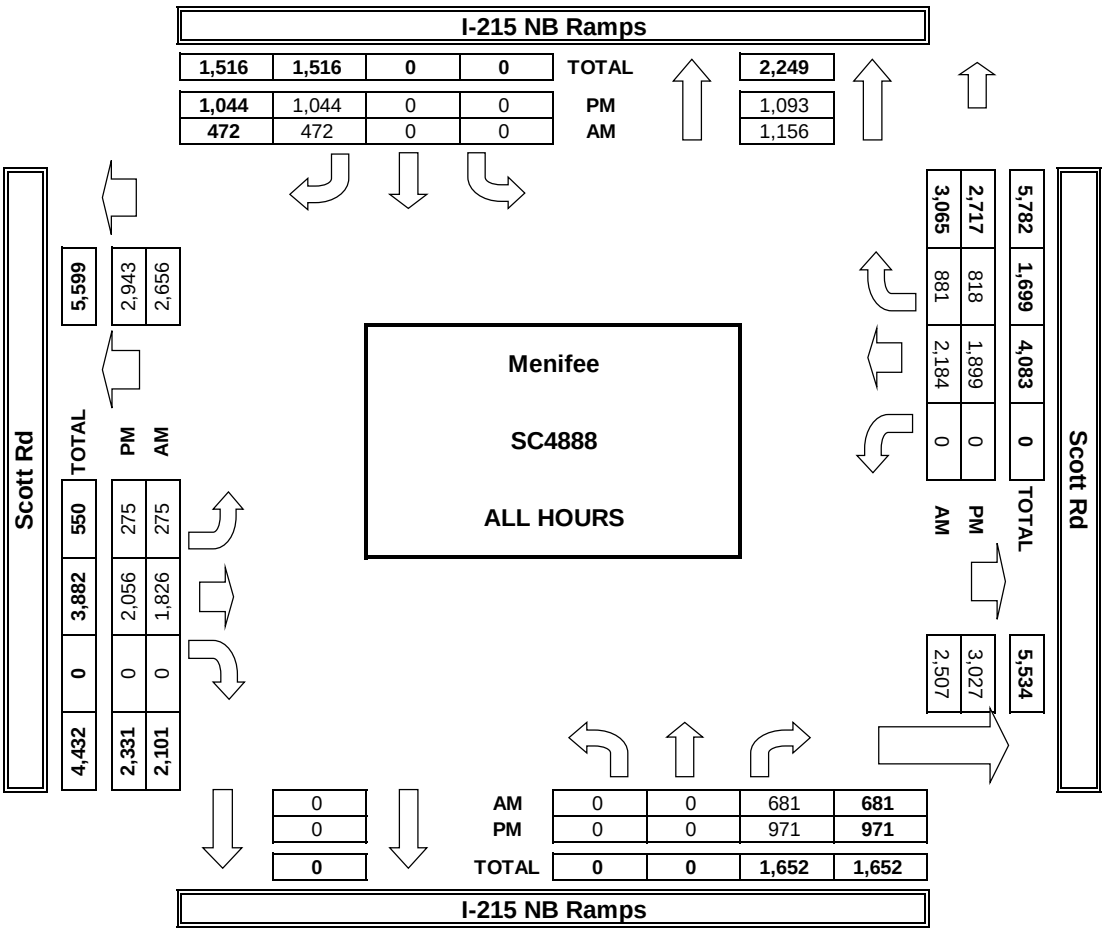
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

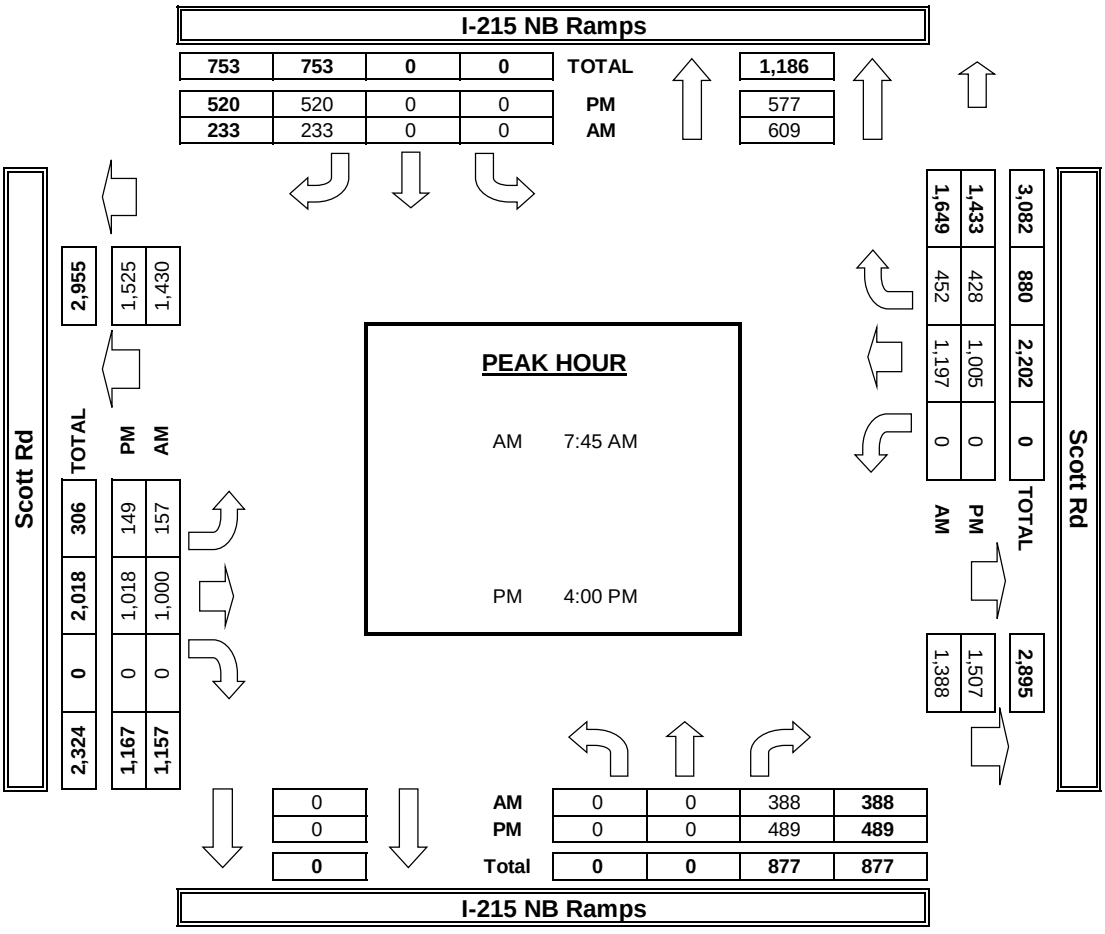
		NORTHBOUND I-215 NB Ramps			SOUTHBOUND I-215 NB Ramps			EASTBOUND Scott Rd			WESTBOUND Scott Rd				U-TURNS				
	LANES:	NL X	NT X	NR 2	SL X	ST X	SR 2	EL 1	ET 2	ER X	WL X	WT 2	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	0	47	0	0	51	26	200	0	0	224	139	687	0	0	0	0	0
	7:15 AM	0	0	59	0	0	78	30	230	0	0	273	109	779	0	0	0	0	0
	7:30 AM	0	0	63	0	0	54	39	214	0	0	295	95	760	0	0	0	0	0
	7:45 AM	0	0	89	0	0	65	53	238	0	0	298	119	862	0	0	0	0	0
	8:00 AM	0	0	93	0	0	56	28	261	0	0	326	118	882	0	0	0	0	0
	8:15 AM	0	0	101	0	0	64	46	260	0	0	318	125	914	0	0	0	0	0
	8:30 AM	0	0	105	0	0	48	30	241	0	0	255	90	769	0	0	0	0	0
	8:45 AM	0	0	124	0	0	56	23	182	0	0	195	86	666	0	0	0	0	0
	VOLUMES	0	0	681	0	0	472	275	1,826	0	0	2,184	881	6,319	0	0	0	0	0
	APPROACH %	0%	0%	100%	0%	0%	100%	13%	87%	0%	0%	71%	29%						
	APP/DEPART	681	/	1,156	472	/	0	2,101	/	2,507	3,065	/	2,656	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	0	0	388	0	0	233	157	1,000	0	0	1,197	452	3,427	0	0	0	0	
	APPROACH %	0%	0%	100%	0%	0%	100%	14%	86%	0%	0%	73%	27%						
	PEAK HR FACTOR		0.924			0.896			0.945			0.928		0.937					
	APP/DEPART	388	/	609	233	/	0	1,157	/	1,388	1,649	/	1,430	0					
PM	4:00 PM	0	0	130	0	0	139	51	250	0	0	269	134	973	0	0	0	0	0
	4:15 PM	0	0	120	0	0	118	29	251	0	0	277	99	894	0	0	0	0	0
	4:30 PM	0	0	131	0	0	131	42	270	0	0	226	115	915	0	0	0	0	0
	4:45 PM	0	0	108	0	0	132	27	247	0	0	233	80	827	0	0	0	0	0
	5:00 PM	0	0	114	0	0	140	29	272	0	0	270	93	918	0	0	0	0	0
	5:15 PM	0	0	116	0	0	120	38	287	0	0	196	101	858	0	0	0	0	0
	5:30 PM	0	0	131	0	0	135	26	244	0	0	235	98	869	0	0	0	0	0
	5:45 PM	0	0	121	0	0	129	33	235	0	0	193	98	809	0	0	0	0	0
	VOLUMES	0	0	971	0	0	1,044	275	2,056	0	0	1,899	818	7,063	0	0	0	0	0
	APPROACH %	0%	0%	100%	0%	0%	100%	12%	88%	0%	0%	70%	30%						
	APP/DEPART	971	/	1,093	1,044	/	0	2,331	/	3,027	2,717	/	2,943	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	0	489	0	0	520	149	1,018	0	0	1,005	428	3,609	0	0	0	0	
	APPROACH %	0%	0%	100%	0%	0%	100%	13%	87%	0%	0%	70%	30%						
	PEAK HR FACTOR		0.933			0.935			0.935			0.889		0.927					
	APP/DEPART	489	/	577	520	/	0	1,167	/	1,507	1,433	/	1,525	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T012524

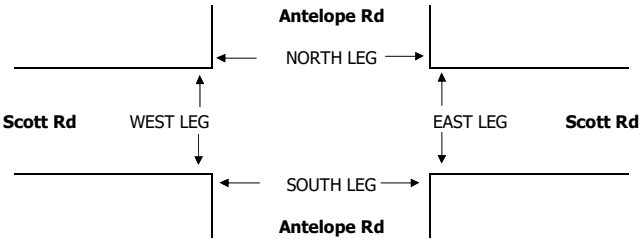
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:					
Tue, Sep 10, 24	LOCATION:	Menifee	PROJECT #:	SC4888	
	NORTH & SOUTH:	Antelope Rd	LOCATION #:	4	
	EAST & WEST:	Scott Rd	CONTROL:	SIGNAL	

NOTES:

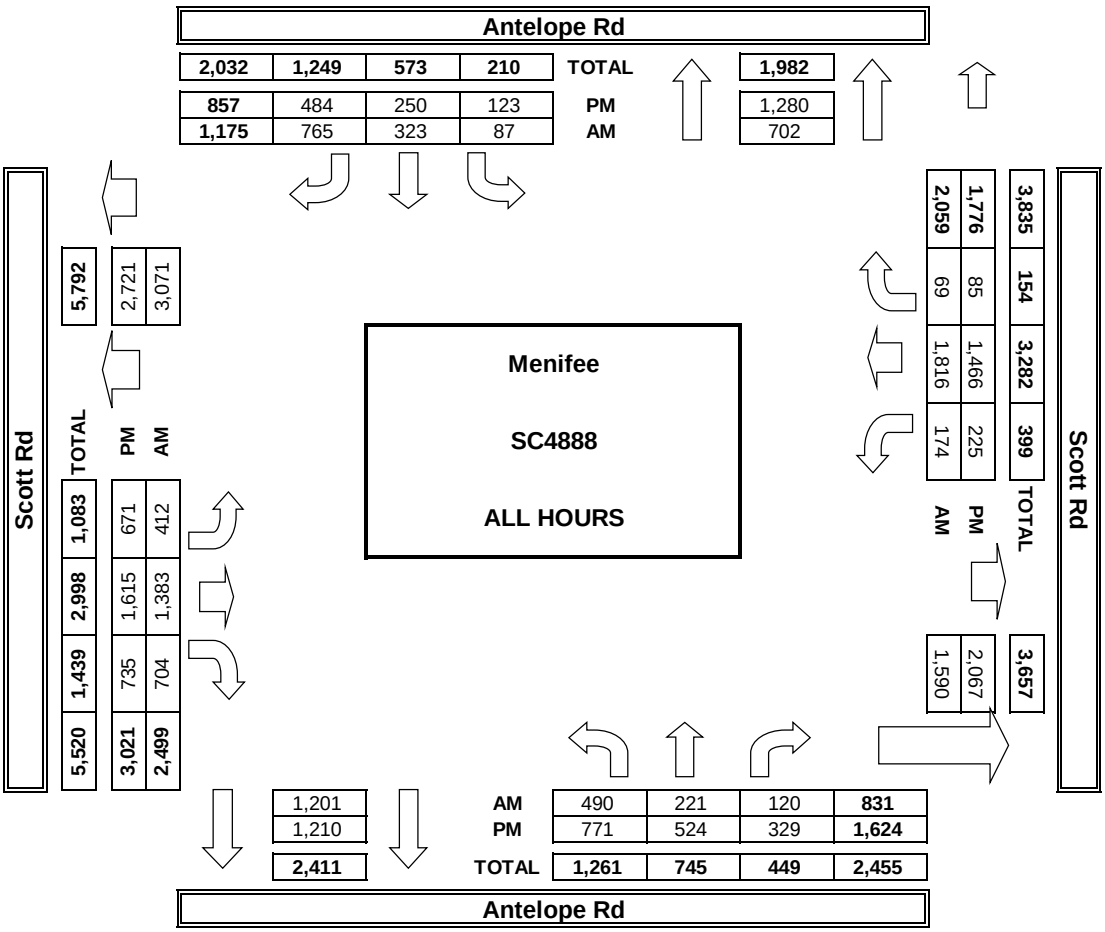
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

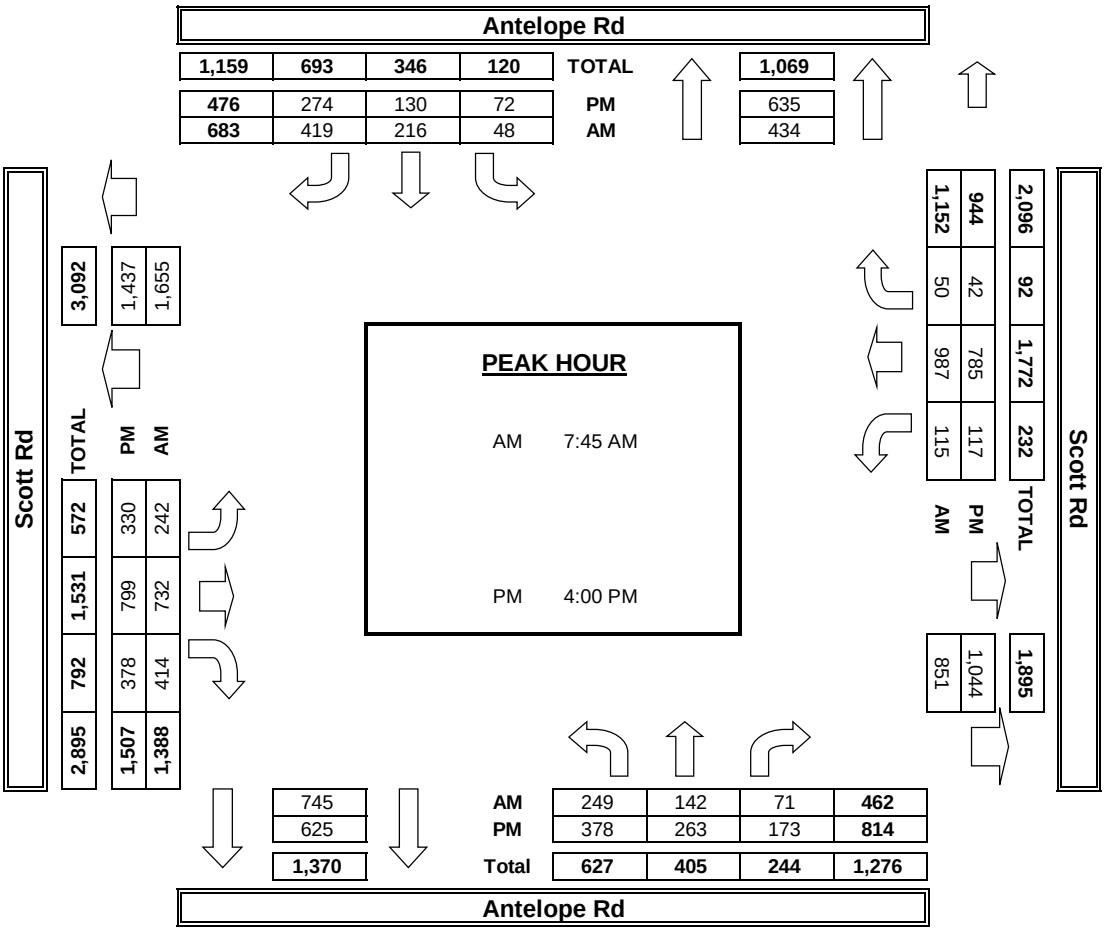
		NORTHBOUND Antelope Rd			SOUTHBOUND Antelope Rd			EASTBOUND Scott Rd			WESTBOUND Scott Rd				U-TURNS				
	LANES:	NL 2	NT 2	NR 1	SL 1	ST 1	SR 1	EL 2	ET 2	ER 1	WL 2	WT 2.5	WR 0.5	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	61	11	8	8	16	79	28	159	60	5	223	0	658	0	0	0	0	0
	7:15 AM	60	11	7	6	23	92	23	190	68	16	230	1	727	0	0	0	0	0
	7:30 AM	71	33	18	17	39	113	52	171	54	16	206	5	795	0	0	0	0	0
	7:45 AM	82	43	20	14	49	94	61	173	93	29	247	16	921	0	0	0	0	0
	8:00 AM	59	28	16	14	70	127	59	191	104	25	258	11	962	0	0	0	0	0
	8:15 AM	55	53	20	14	55	106	58	188	115	37	282	9	992	0	0	0	0	0
	8:30 AM	53	18	15	6	42	92	64	180	102	24	200	14	810	0	0	0	0	0
	8:45 AM	49	24	16	8	29	62	67	131	108	22	170	13	699	0	0	0	0	0
	VOLUMES	490	221	120	87	323	765	412	1,383	704	174	1,816	69	6,564	0	0	0	0	0
	APPROACH %	59%	27%	14%	7%	27%	65%	16%	55%	28%	8%	88%	3%						
	APP/DEPART	831	/	702	1,175	/	1,201	2,499	/	1,590	2,059	/	3,071	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	249	142	71	48	216	419	242	732	414	115	987	50	3,685	0	0	0	0	
	APPROACH %	54%	31%	15%	7%	32%	61%	17%	53%	30%	10%	86%	4%						
	PEAK HR FACTOR		0.797			0.809			0.961			0.878		0.929					
	APP/DEPART	462	/	434	683	/	745	1,388	/	851	1,152	/	1,655	0					
PM	4:00 PM	105	48	42	17	36	81	67	224	89	33	217	13	972	0	0	0	0	0
	4:15 PM	105	82	48	21	28	59	98	178	95	21	212	15	962	0	0	0	0	0
	4:30 PM	87	67	38	19	28	66	85	209	107	23	188	7	924	0	0	0	0	0
	4:45 PM	81	66	45	15	38	68	80	188	87	40	168	7	883	0	0	0	0	0
	5:00 PM	104	55	34	18	34	70	76	214	96	21	189	9	920	0	0	0	0	0
	5:15 PM	109	76	31	11	29	35	85	220	92	27	153	14	882	0	0	0	0	0
	5:30 PM	80	64	37	13	33	68	101	180	94	26	185	11	892	0	0	0	0	0
	5:45 PM	100	66	54	9	24	37	79	202	75	34	154	9	843	0	0	0	0	0
	VOLUMES	771	524	329	123	250	484	671	1,615	735	225	1,466	85	7,278	0	0	0	0	0
	APPROACH %	47%	32%	20%	14%	29%	56%	22%	53%	24%	13%	83%	5%						
	APP/DEPART	1,624	/	1,280	857	/	1,210	3,021	/	2,067	1,776	/	2,721	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	378	263	173	72	130	274	330	799	378	117	785	42	3,741	0	0	0	0	
	APPROACH %	46%	32%	21%	15%	27%	58%	22%	53%	25%	12%	83%	4%						
	PEAK HR FACTOR		0.866			0.888			0.940			0.897		0.962					
	APP/DEPART	814	/	635	476	/	625	1,507	/	1,044	944	/	1,437	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T012524

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

DATE: Tue, Sep 10, 24

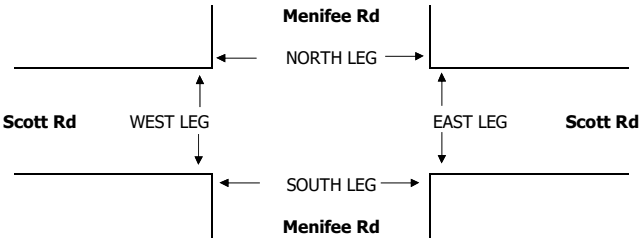
LOCATION: Menifee
NORTH & SOUTH: Menifee Rd
EAST & WEST: Scott Rd

PROJECT #: SC4888
LOCATION #: 5
CONTROL: SIGNAL

NOTES:

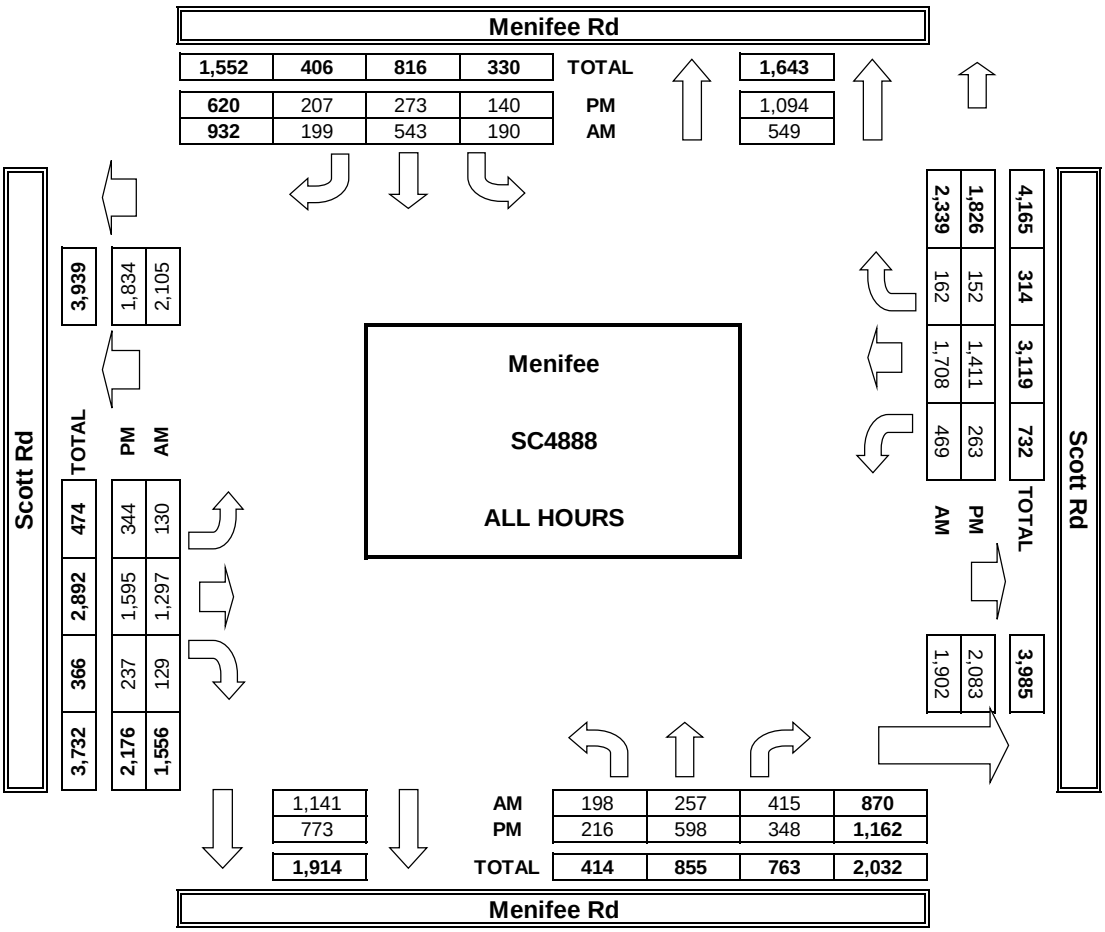
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

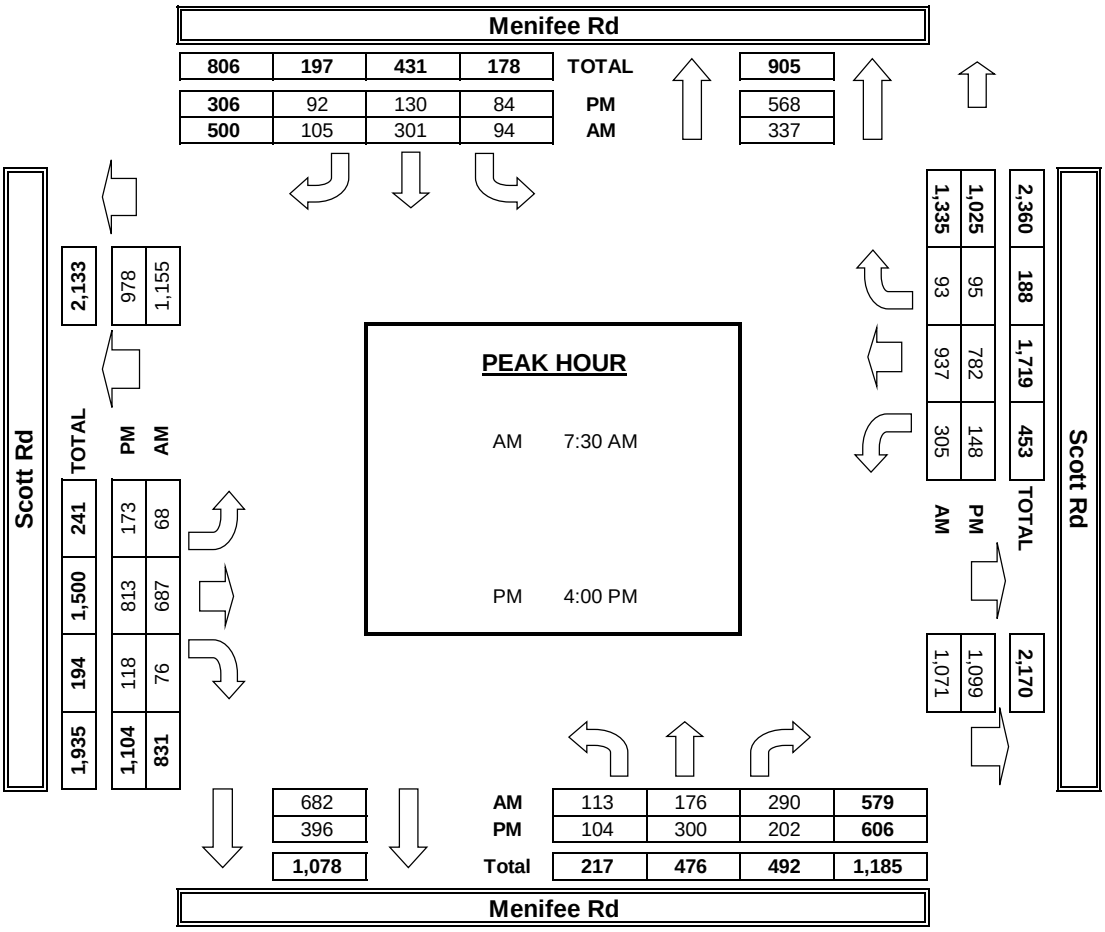
		NORTHBOUND (Menifee Rd)			SOUTHBOUND (Menifee Rd)			EASTBOUND (Scott Rd)			WESTBOUND (Scott Rd)				U-TURNS				
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	24	20	40	23	41	30	13	151	4	30	192	13	581	0	0	0	0	0
	7:15 AM	27	18	38	34	65	23	18	160	10	46	192	19	650	0	0	0	0	0
	7:30 AM	31	38	65	23	60	41	10	169	15	64	205	25	746	0	0	0	0	0
	7:45 AM	28	45	84	24	92	22	20	152	20	85	227	14	813	0	0	0	0	0
	8:00 AM	32	43	85	25	69	24	12	186	21	69	272	34	872	0	0	0	0	0
	8:15 AM	22	50	56	22	80	18	26	180	20	87	233	20	814	0	0	0	0	0
	8:30 AM	18	24	34	23	86	17	18	173	20	51	220	19	703	0	0	0	0	0
	8:45 AM	16	19	13	16	50	24	13	126	19	37	167	18	518	0	0	0	0	0
	VOLUMES	198	257	415	190	543	199	130	1,297	129	469	1,708	162	5,697	0	0	0	0	0
	APPROACH %	23%	30%	48%	20%	58%	21%	8%	83%	8%	20%	73%	7%						
	APP/DEPART	870	/	549	932	/	1,141	1,556	/	1,902	2,339	/	2,105	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	113	176	290	94	301	105	68	687	76	305	937	93	3,245	0	0	0	0	
	APPROACH %	20%	30%	50%	19%	60%	21%	8%	83%	9%	23%	70%	7%						
	PEAK HR FACTOR		0.905			0.906			0.919			0.890		0.930					
	APP/DEPART	579	/	337	500	/	682	831	/	1,071	1,335	/	1,155	0					
PM	4:00 PM	27	67	53	15	33	24	42	245	31	59	254	24	874	0	0	0	0	0
	4:15 PM	28	83	43	19	28	17	41	197	31	30	163	20	700	0	0	0	0	0
	4:30 PM	26	68	47	24	28	26	33	189	22	32	193	23	711	0	0	0	0	0
	4:45 PM	23	82	59	26	41	25	57	182	34	27	172	28	756	0	0	0	0	0
	5:00 PM	33	69	50	10	40	39	38	218	30	24	162	16	729	0	0	0	0	0
	5:15 PM	28	80	34	10	30	24	43	196	30	38	158	12	683	0	0	0	0	0
	5:30 PM	30	73	34	24	33	21	37	179	28	27	172	17	675	0	0	0	0	0
	5:45 PM	21	76	28	12	40	31	53	189	31	26	137	12	656	0	0	0	0	0
	VOLUMES	216	598	348	140	273	207	344	1,595	237	263	1,411	152	5,784	0	0	0	0	0
	APPROACH %	19%	51%	30%	23%	44%	33%	16%	73%	11%	14%	77%	8%						
	APP/DEPART	1,162	/	1,094	620	/	773	2,176	/	2,083	1,826	/	1,834	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	104	300	202	84	130	92	173	813	118	148	782	95	3,041	0	0	0	0	
	APPROACH %	17%	50%	33%	27%	42%	30%	16%	74%	11%	14%	76%	9%						
	PEAK HR FACTOR		0.924			0.832			0.868			0.760		0.870					
	APP/DEPART	606	/	568	306	/	396	1,104	/	1,099	1,025	/	978	0					



AimTD LLC

TURNING MOVEMENT COUNTS





Tuesday, September 10, 2024 CITY: Menifee PROJECT: SC4888

ADT3 Zeiders Rd south of Scott Rd. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB		SB			PM Period	NB		SB		
0:00	0		1			12:00	73		65		
0:15	2		1			12:15	71		52		
0:30	4		11			12:30	54		57		
0:45	5	11	0	13	24	12:45	41	239	63	237	476
1:00	1		2			13:00	55		63		
1:15	2		0			13:15	66		61		
1:30	1		3			13:30	47		64		
1:45	4	8	4	9	17	13:45	66	234	64	252	486
2:00	1		2			14:00	53		55		
2:15	1		3			14:15	66		59		
2:30	3		0			14:30	90		38		
2:45	1	6	2	7	13	14:45	83	292	69	221	513
3:00	2		4			15:00	79		46		
3:15	0		1			15:15	94		78		
3:30	2		6			15:30	91		52		
3:45	4	8	2	13	21	15:45	87	351	65	241	592
4:00	6		7			16:00	109		49		
4:15	2		3			16:15	75		41		
4:30	5		6			16:30	102		60		
4:45	4	17	12	28	45	16:45	123	409	59	209	618
5:00	10		14			17:00	101		55		
5:15	3		20			17:15	83		42		
5:30	8		20			17:30	80		54		
5:45	10	31	31	85	116	17:45	79	343	52	203	546
6:00	14		30			18:00	68		37		
6:15	17		25			18:15	71		43		
6:30	17		33			18:30	32		41		
6:45	20	68	69	157	225	18:45	45	216	41	162	378
7:00	19		46			19:00	28		30		
7:15	25		59			19:15	42		23		
7:30	42		72			19:30	43		26		
7:45	41	127	87	264	391	19:45	25	138	27	106	244
8:00	44		73			20:00	34		21		
8:15	32		79			20:15	27		23		
8:30	41		77			20:30	15		14		
8:45	35	152	71	300	452	20:45	18	94	15	73	167
9:00	32		38			21:00	22		8		
9:15	34		48			21:15	14		17		
9:30	37		57			21:30	17		10		
9:45	33	136	68	211	347	21:45	7	60	5	40	100
10:00	52		60			22:00	8		12		
10:15	50		50			22:15	9		5		
10:30	41		69			22:30	14		5		
10:45	53	196	52	231	427	22:45	2	33	4	26	59
11:00	54		65			23:00	3		5		
11:15	65		56			23:15	2		6		
11:30	54		41			23:30	4		5		
11:45	63	236	76	238	474	23:45	7	16	7	23	39
Total Vol.		996		1556	**2552**			2425		1793	**4218**

Daily Totals

NB	SB	Combined
3421	3349	**6770**

	AM			PM		
Split %	39.0%	61.0%	**37.7%**	57.5%	42.5%	**62.3%**
Peak Hour	11:30	7:45	**11:45**	16:00	13:00	**15:15**
Volume	261	316	**511**	409	252	**625**
P.H.F.	0.89	0.91	**0.92**	0.83	0.98	**0.91**

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Tuesday, September 10, 2024 | CITY: Menifee | PROJECT: SC4888

ADT2 Zeiders Rd south of Ciccotti St. | **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB		SB			PM Period	NB		SB		
0:00	2		1			12:00	56		41		
0:15	1		0			12:15	48		33		
0:30	2		3			12:30	43		34		
0:45	2	7	0	4	11	12:45	28	175	35	143	318
1:00	3		2			13:00	44		31		
1:15	1		0			13:15	40		45		
1:30	1		3			13:30	37		46		
1:45	3	8	2	7	15	13:45	55	176	38	160	336
2:00	1		2			14:00	38		34		
2:15	1		3			14:15	56		46		
2:30	2		0			14:30	77		21		
2:45	1	5	2	7	12	14:45	66	237	41	142	379
3:00	1		3			15:00	71		35		
3:15	0		1			15:15	62		55		
3:30	2		2			15:30	66		48		
3:45	3	6	3	9	15	15:45	89	288	39	177	465
4:00	5		1			16:00	90		35		
4:15	3		1			16:15	65		34		
4:30	4		4			16:30	98		37		
4:45	5	17	5	11	28	16:45	87	340	39	145	485
5:00	7		5			17:00	92		33		
5:15	3		12			17:15	69		32		
5:30	8		19			17:30	76		38		
5:45	8	26	20	56	82	17:45	63	300	38	141	441
6:00	11		16			18:00	57		31		
6:15	10		15			18:15	47		29		
6:30	10		17			18:30	26		26		
6:45	15	46	40	88	134	18:45	31	161	24	110	271
7:00	15		33			19:00	24		19		
7:15	19		41			19:15	42		12		
7:30	39		49			19:30	26		20		
7:45	37	110	71	194	304	19:45	24	116	22	73	189
8:00	34		58			20:00	23		10		
8:15	34		56			20:15	20		18		
8:30	31		56			20:30	9		10		
8:45	25	124	43	213	337	20:45	16	68	8	46	114
9:00	19		28			21:00	18		6		
9:15	29		27			21:15	12		14		
9:30	22		37			21:30	15		3		
9:45	21	91	56	148	239	21:45	5	50	4	27	77
10:00	33		37			22:00	5		7		
10:15	42		34			22:15	7		2		
10:30	21		43			22:30	11		1		
10:45	43	139	32	146	285	22:45	1	24	1	11	35
11:00	45		43			23:00	4		3		
11:15	43		37			23:15	3		6		
11:30	38		32			23:30	4		4		
11:45	47	173	38	150	323	23:45	4	15	3	16	31
Total Vol.		752		1033	**1785**			1950		1191	**3141**

Daily Totals

NB	SB	Combined
2702	2224	**4926**

	AM			PM		
Split %	42.1%	57.9%	**36.2%**	62.1%	37.9%	**63.8%**
Peak Hour	11:45	7:45	**7:30**	16:30	14:45	**15:45**
Volume	194	241	**378**	346	179	**487**
P.H.F.	0.87	0.85	**0.88**	0.88	0.81	**0.90**

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Tuesday, September 10, 2024 CITY: Menifee PROJECT: SC4888

ADT1 Scott Rd east of Zeiders Rd. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	EB		WB			PM Period	EB		WB		
0:00	19		20			12:00	231		266		
0:15	21		25			12:15	209		217		
0:30	21		33			12:30	187		240		
0:45	10	71	14	92	163	12:45	211	838	266	989	1827
1:00	7		8			13:00	215		261		
1:15	13		7			13:15	215		262		
1:30	7		20			13:30	239		240		
1:45	7	34	11	46	80	13:45	218	887	251	1014	1901
2:00	9		15			14:00	239		256		
2:15	11		8			14:15	231		283		
2:30	9		13			14:30	243		336		
2:45	9	38	15	51	89	14:45	299	1012	321	1196	2208
3:00	17		12			15:00	298		277		
3:15	24		12			15:15	288		304		
3:30	28		19			15:30	264		324		
3:45	30	99	27	70	169	15:45	295	1145	376	1281	2426
4:00	53		41			16:00	295		345		
4:15	65		44			16:15	269		342		
4:30	81		59			16:30	269		291		
4:45	70	269	70	214	483	16:45	236	1069	330	1308	2377
5:00	69		61			17:00	260		347		
5:15	111		87			17:15	268		282		
5:30	127		101			17:30	268		303		
5:45	139	446	119	368	814	17:45	235	1031	283	1215	2246
6:00	159		120			18:00	204		254		
6:15	166		147			18:15	231		257		
6:30	210		147			18:30	182		222		
6:45	243	778	170	584	1362	18:45	164	781	223	956	1737
7:00	230		182			19:00	162		175		
7:15	282		251			19:15	128		174		
7:30	355		212			19:30	124		176		
7:45	338	1205	243	888	2093	19:45	134	548	149	674	1222
8:00	271		263			20:00	125		148		
8:15	293		291			20:15	116		182		
8:30	270		211			20:30	114		115		
8:45	212	1046	202	967	2013	20:45	84	439	114	559	998
9:00	173		194			21:00	85		117		
9:15	200		170			21:15	65		100		
9:30	194		177			21:30	53		71		
9:45	208	775	208	749	1524	21:45	43	246	69	357	603
10:00	188		174			22:00	44		69		
10:15	182		185			22:15	51		60		
10:30	191		205			22:30	32		58		
10:45	202	763	206	770	1533	22:45	34	161	36	223	384
11:00	173		231			23:00	29		60		
11:15	203		231			23:15	30		44		
11:30	187		217			23:30	28		25		
11:45	224	787	207	886	1673	23:45	23	110	31	160	270
Total Vol.		6311		5685	**11996**			8267		9932	**18199**

Daily Totals		
EB	WB	**Combined**
14578	15617	**30195**

	AM			**PM**		
Split %	52.6%	47.4%	**39.7%**	45.4%	54.6%	**60.3%**
Peak Hour	7:30	7:30	**7:30**	14:45	15:30	**15:30**
Volume	1257	1009	**2266**	1149	1387	**2510**
P.H.F.	0.89	0.87	**0.97**	0.96	0.92	**0.94**

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APPENDIX D

LEVEL OF SERVICE WORKSHEETS

EXISTING

Pemcor Comm Indus Business Park

Vistro File: E:\...\AME.vistro
Report File: E:\...\AME.pdf

Scenario 1 Existing AM Peak Hour
9/30/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.815	30.6	C
2	Zeiders Rd (NS) at Ciccotti St (EW)	Two-way stop	HCM 7th Edition	WB Right	0.001	9.1	A
4	Zeiders Rd (NS) at Project South Dwy/Industrial Rdwy (EW)	Signalized	HCM 7th Edition	WB Right	0.178	1.6	A
5	I-215 SB Ramps (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.734	6.6	A
6	I-215 NB Ramps (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.761	13.1	B
7	Antelope Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.737	30.3	C
8	Menifee Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	NB Left	0.888	46.1	D

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

Intersection Level Of Service Report
Intersection 1: Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	30.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.815

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	170.00	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]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	61	74	24	548	105	51	79	685	138	68	538	403
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	61	74	24	548	105	51	79	685	138	68	538	403
Peak Hour Factor	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	19	6	143	27	13	21	179	36	18	140	105
Total Analysis Volume [veh/h]	64	77	25	572	110	53	82	715	144	71	562	421
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]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	26	0	15	23	0	11	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	10	21	21	6	37	37	6	37	37
g / C, Green / Cycle	0.12	0.12	0.12	0.23	0.23	0.07	0.41	0.41	0.06	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.04	0.04	0.02	0.21	0.21	0.05	0.38	0.09	0.04	0.16	0.26
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1775	1781	1870	1589	1781	3560	1589
c, Capacity [veh/h]	205	215	183	409	408	122	771	656	116	1458	651
d1, Uniform Delay [s]	36.62	36.82	35.86	33.72	33.73	41.02	25.19	17.11	41.03	18.67	21.39
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.93	4.58	1.55	7.33	7.39	6.31	5.47	0.17	5.12	0.17	1.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.36	0.14	0.90	0.90	0.67	0.93	0.22	0.61	0.39	0.65
d, Delay for Lane Group [s/veh]	40.55	41.40	37.41	41.05	41.12	47.33	30.66	17.27	46.15	18.84	22.48
Lane Group LOS	D	D	D	D	D	D	C	B	D	B	C
Critical Lane Group	No	Yes	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.46	1.76	0.55	8.02	8.01	1.87	13.55	1.72	1.60	3.63	6.37
50th-Percentile Queue Length [ft/ln]	36.38	44.09	13.75	200.46	200.20	46.81	338.77	43.09	39.95	90.70	159.13
95th-Percentile Queue Length [veh/ln]	2.62	3.17	0.99	12.66	12.65	3.37	19.59	3.10	2.88	6.53	10.50
95th-Percentile Queue Length [ft/ln]	65.49	79.36	24.75	316.56	316.22	84.26	489.69	77.56	71.91	163.26	262.57

Movement, Approach, & Intersection Results

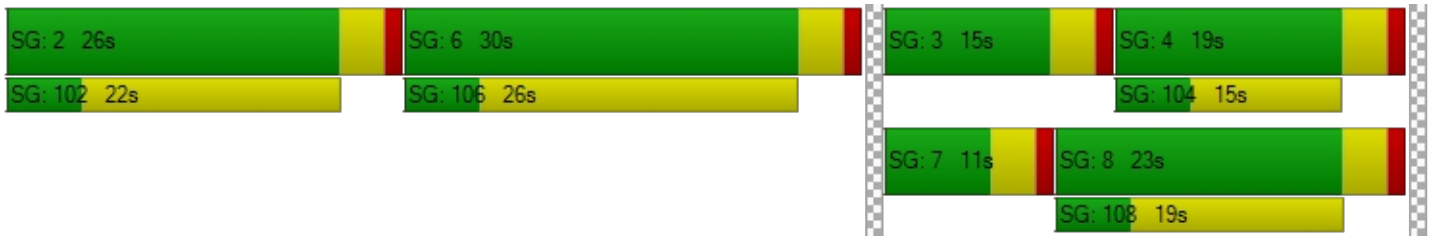
d_M, Delay for Movement [s/veh]	40.55	41.40	37.41	41.07	41.12	41.12	47.33	30.66	17.27	46.15	18.84	22.48
Movement LOS	D	D	D	D	D	D	D	C	B	D	B	C
d_A, Approach Delay [s/veh]	40.47			41.08			30.07			22.13		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	30.57											
Intersection LOS	C											
Intersection V/C	0.815											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.49	36.49	36.49	36.49
l_p,int, Pedestrian LOS Score for Intersectio	2.312	2.654	2.881	3.159
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	577	488	422	333
d_b, Bicycle Delay [s]	22.79	25.73	28.05	31.29
l_b,int, Bicycle LOS Score for Intersection	1.834	2.772	3.112	2.429
Bicycle LOS	A	C	C	B

Sequence

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



Intersection Level Of Service Report
Intersection 2: Zeiders Rd (NS) at Ciccotti St (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	140	4	4	234	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	4	4	234	0	1
Peak Hour Factor	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	1	1	66	0	0
Total Analysis Volume [veh/h]	158	5	5	264	0	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.55	0.00	11.24	9.07
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.27	0.00	0.00	0.08
d_A, Approach Delay [s/veh]	0.00		0.14		9.07	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.11					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 4: Zeiders Rd (NS) at Project South Dwy/Industrial Rdwy (EW)

Control Type:	Signalized	Delay (sec / veh):	1.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.178

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	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	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			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	140	0	1	233	0	0	0	0	0	0	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	140	0	1	233	0	0	0	0	0	0	2
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
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	40	0	0	67	0	0	0	0	0	0	1
Total Analysis Volume [veh/h]	0	161	0	1	268	0	0	0	0	0	0	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	120	120	0	120	120	0	0	120	0	0	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	97	0	11	97	0	0	12	0	0	12	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	C	C	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	107	0	108	1	1	1
g / C, Green / Cycle	0.00	0.89	0.00	0.90	0.00	0.00	0.00
(v / s)_i Volume / Saturation Flow Rate	0.00	0.10	0.00	0.16	0.00	0.00	0.00
s, saturation flow rate [veh/h]	1603	1683	1603	1683	414	414	1431
c, Capacity [veh/h]	2	1502	5	1505	32	32	7
d1, Uniform Delay [s]	0.00	0.77	59.81	0.80	0.00	0.00	59.63
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.14	21.36	0.26	0.00	0.00	21.87
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.11	0.21	0.18	0.00	0.00	0.29
d, Delay for Lane Group [s/veh]	0.00	0.91	81.17	1.06	0.00	0.00	81.50
Lane Group LOS	A	A	F	A	A	A	F
Critical Lane Group	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	0.06	0.06	0.11	0.00	0.00	0.10
50th-Percentile Queue Length [ft/ln]	0.00	1.50	1.44	2.71	0.00	0.00	2.57
95th-Percentile Queue Length [veh/ln]	0.00	0.11	0.10	0.19	0.00	0.00	0.19
95th-Percentile Queue Length [ft/ln]	0.00	2.70	2.59	4.87	0.00	0.00	4.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.91	0.91	81.17	1.06	1.06	0.00	0.00	0.00	0.00	0.00	81.50
Movement LOS	A	A	A	F	A	A	A	A	A	A	A	F
d_A, Approach Delay [s/veh]	0.91			1.35			0.00			81.50		
Approach LOS	A			A			A			F		
d_I, Intersection Delay [s/veh]	1.56											
Intersection LOS	A											
Intersection V/C	0.178											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	51.40	51.40
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	1.730	1.956
Crosswalk LOS	F	F	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1548	1548	133	133
d_b, Bicycle Delay [s]	3.06	3.06	52.33	52.33
l_b,int, Bicycle LOS Score for Intersection	1.825	2.003	1.560	1.563
Bicycle LOS	A	B	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 5: I-215 SB Ramps (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	6.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.734

Intersection Setup

Name												
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	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	365.00	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	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	30.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	464	0	172	0	678	582	0	837	634
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	464	0	172	0	678	582	0	837	634
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
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	120	0	45	0	175	151	0	217	164
Total Analysis Volume [veh/h]	0	0	0	480	0	178	0	702	602	0	866	656
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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	0	0	0	5	0	0	0	8	0	0	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	7	0	0	0	7	0	0	7	7
Maximum Green [s]	0	0	0	120	0	0	0	120	0	0	120	120
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	28	0	0	0	32	0	0	32	32
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	0	0	10	0	0	0	10	0	0	17	17
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	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Minimum Recall				No				No			No	No
Maximum Recall				No				No			No	No
Pedestrian Recall				No				No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		L	R	C	R	C	R
C, Cycle Length [s]		36	36	36	36	36	36
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	0.00
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]		11	11	17	17	17	32
g / C, Green / Cycle		0.30	0.30	0.48	0.48	0.48	0.89
(v / s)_i Volume / Saturation Flow Rate		0.14	0.06	0.20	0.38	0.24	0.41
s, saturation flow rate [veh/h]		3459	2813	3560	1589	3560	1589
c, Capacity [veh/h]		1021	831	1716	766	1716	1413
d1, Uniform Delay [s]		10.36	9.53	6.00	7.76	6.37	0.38
k, delay calibration		0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.34	0.13	0.16	1.83	0.23	0.24
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.47	0.21	0.41	0.79	0.50	0.46
d, Delay for Lane Group [s/veh]		10.70	9.65	6.16	9.58	6.60	0.62
Lane Group LOS		B	A	A	A	A	A
Critical Lane Group		No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]		1.26	0.43	0.53	1.49	0.71	0.09
50th-Percentile Queue Length [ft/ln]		31.53	10.71	13.36	37.26	17.64	2.34
95th-Percentile Queue Length [veh/ln]		2.27	0.77	0.96	2.68	1.27	0.17
95th-Percentile Queue Length [ft/ln]		56.75	19.28	24.05	67.07	31.75	4.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	10.70	0.00	9.65	0.00	6.16	9.58	0.00	6.60	0.62
Movement LOS				B		A		A	A		A	A
d_A, Approach Delay [s/veh]	0.00			10.42			7.74			4.02		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	6.62											
Intersection LOS	A											
Intersection V/C	0.734											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	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]	0.00	10.04	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.463	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	1340	1564	1564
d_b, Bicycle Delay [s]	17.91	1.95	0.85	0.85
l_b,int, Bicycle LOS Score for Intersection	4.132	1.560	2.635	2.815
Bicycle LOS	D	A	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-215 NB Ramps (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	13.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.761

Intersection Setup

Name											
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	1	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	185.00	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]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	388	0	0	233	157	1000	0	0	1197	452
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	388	0	0	233	157	1000	0	0	1197	452
Peak Hour Factor	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370
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	104	0	0	62	42	267	0	0	319	121
Total Analysis Volume [veh/h]	0	0	414	0	0	249	168	1067	0	0	1277	482
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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	0	0	6	0	0	2	3	8	0	0	4	4
Auxiliary Signal Groups												4
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	0	7	0	0	7	7	7	0	0	7	7
Maximum Green [s]	0	0	120	0	0	120	120	120	0	0	120	120
Amber [s]	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	3.0	3.0
All red [s]	0.0	0.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	11	0	0	11	30	49	0	0	19	19
Vehicle Extension [s]	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	5	0	0	5	0	5	0	0	5	5
Pedestrian Clearance [s]	0	0	10	0	0	10	0	10	0	0	10	10
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	0.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
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	R	R	L	C	C	R
C, Cycle Length [s]	57	57	57	57	57	57
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]	11	11	7	38	27	27
g / C, Green / Cycle	0.20	0.20	0.12	0.66	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.15	0.09	0.09	0.30	0.36	0.30
s, saturation flow rate [veh/h]	2813	2813	1781	3560	3560	1589
c, Capacity [veh/h]	550	550	221	2364	1671	746
d1, Uniform Delay [s]	21.58	20.19	24.07	4.59	12.49	11.50
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.11	0.58	5.27	0.14	0.75	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	0.75	0.45	0.76	0.45	0.76	0.65
d, Delay for Lane Group [s/veh]	23.70	20.78	29.34	4.72	13.24	12.45
Lane Group LOS	C	C	C	A	B	B
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.60	1.41	2.14	1.02	4.50	3.20
50th-Percentile Queue Length [ft/ln]	64.88	35.36	53.48	25.50	112.60	80.12
95th-Percentile Queue Length [veh/ln]	4.67	2.55	3.85	1.84	7.98	5.77
95th-Percentile Queue Length [ft/ln]	116.79	63.64	96.27	45.90	199.62	144.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	23.70	0.00	0.00	20.78	29.34	4.72	0.00	0.00	13.24	12.45
Movement LOS			C			C	C	A			B	B
d_A, Approach Delay [s/veh]	23.70			20.78			8.07			13.02		
Approach LOS	C			C			A			B		
d_I, Intersection Delay [s/veh]	13.09											
Intersection LOS	B											
Intersection V/C	0.761											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	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]	0.00	20.09	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.161	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	247	247	1586	529
d_b, Bicycle Delay [s]	21.81	21.81	1.22	15.36
l_b,int, Bicycle LOS Score for Intersection	1.560	1.560	2.578	3.011
Bicycle LOS	A	A	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 7: Antelope Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	30.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.737

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	215.00	100.00	100.00	165.00	100.00	100.00	190.00	100.00	100.00	315.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	50.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	249	142	71	48	216	419	242	732	414	115	987	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	249	142	71	48	216	419	242	732	414	115	987	50
Peak Hour Factor	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	38	19	13	58	113	65	197	111	31	266	13
Total Analysis Volume [veh/h]	268	153	76	52	233	451	260	788	446	124	1062	54
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]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	2	3	8	8	7	4	0
Auxiliary Signal Groups			6,7			2,3			1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	0
Maximum Green [s]	120	120	120	120	120	120	120	120	120	120	120	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	15	33	33	13	31	31	14	33	33	11	30	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	5	0	5	5	0	5	0
Pedestrian Clearance [s]	0	24	24	0	10	10	0	24	24	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]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No	No	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	No	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	No	No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	37	48	5	31	45	10	25	40	7	22	22
g / C, Green / Cycle	0.12	0.41	0.53	0.06	0.35	0.50	0.11	0.28	0.44	0.07	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.08	0.04	0.05	0.03	0.12	0.28	0.08	0.22	0.28	0.04	0.21	0.21
s, saturation flow rate [veh/h]	3459	3560	1589	1781	1870	1589	3459	3560	1589	3459	3560	1824
c, Capacity [veh/h]	424	1472	847	103	652	802	386	985	705	259	855	438
d1, Uniform Delay [s]	37.64	16.21	10.34	41.26	21.86	15.47	38.50	30.31	19.41	40.03	32.85	32.86
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
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
d2, Incremental Delay [s]	1.56	0.14	0.21	3.83	1.53	2.85	2.06	1.55	0.94	1.37	2.75	5.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.63	0.10	0.09	0.51	0.36	0.56	0.67	0.80	0.63	0.48	0.86	0.86
d, Delay for Lane Group [s/veh]	39.20	16.35	10.55	45.09	23.39	18.32	40.56	31.86	20.36	41.40	35.60	38.05
Lane Group LOS	D	B	B	D	C	B	D	C	C	D	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.73	0.90	0.68	1.17	3.61	6.06	2.67	7.33	6.32	1.28	7.30	7.78
50th-Percentile Queue Length [ft/ln]	68.29	22.47	17.00	29.25	90.20	151.54	66.79	183.32	158.04	32.00	182.55	194.58
95th-Percentile Queue Length [veh/ln]	4.92	1.62	1.22	2.11	6.49	10.10	4.81	11.77	10.44	2.30	11.73	12.36
95th-Percentile Queue Length [ft/ln]	122.92	40.45	30.61	52.65	162.36	252.48	120.23	294.35	261.12	57.60	293.34	308.97

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.20	16.35	10.55	45.09	23.39	18.32	40.56	31.86	20.36	41.40	36.35	38.05
Movement LOS	D	B	B	D	C	B	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	27.79			21.81			29.94			36.93		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	30.35											
Intersection LOS	C											
Intersection V/C	0.737											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	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]	36.50	36.50	0.00	36.50
l_p,int, Pedestrian LOS Score for Intersectio	2.897	2.692	0.000	3.146
Crosswalk LOS	C	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]	644	599	644	577
d_b, Bicycle Delay [s]	20.72	22.10	20.72	22.80
l_b,int, Bicycle LOS Score for Intersection	1.970	2.774	2.792	2.242
Bicycle LOS	A	C	C	B

Sequence

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



Intersection Level Of Service Report
Intersection 8: Menifee Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	46.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.888

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	235.00	100.00	100.00	145.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	113	176	290	94	301	105	68	687	76	305	937	93
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	113	176	290	94	301	105	68	687	76	305	937	93
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	47	78	25	81	28	18	185	20	82	252	25
Total Analysis Volume [veh/h]	122	189	312	101	324	113	73	739	82	328	1008	100
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]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	120	120	0	120	120	0	120	120	0	120	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	26	0	12	26	0	11	25	0	22	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	C	L	C	C
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	22	22	8	22	7	21	21	18	32	32
g / C, Green / Cycle	0.09	0.26	0.26	0.09	0.26	0.08	0.25	0.25	0.21	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.07	0.10	0.20	0.06	0.24	0.04	0.22	0.22	0.18	0.30	0.30
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1788	1781	1870	1805	1781	1870	1812
c, Capacity [veh/h]	168	484	411	168	463	147	462	446	377	704	682
d1, Uniform Delay [s]	37.44	25.97	29.05	36.97	30.90	37.32	31.02	31.03	32.37	23.60	23.67
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	24.01	2.36	12.33	15.02	29.97	11.57	23.71	24.36	22.91	9.11	9.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.73	0.39	0.76	0.60	0.94	0.50	0.90	0.90	0.87	0.80	0.80
d, Delay for Lane Group [s/veh]	61.45	28.33	41.38	51.99	60.87	48.89	54.73	55.38	55.27	32.71	33.34
Lane Group LOS	E	C	D	D	E	D	D	E	E	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.45	3.25	6.82	2.58	11.78	1.81	10.44	10.16	8.27	10.35	10.22
50th-Percentile Queue Length [ft/ln]	86.31	81.19	170.48	64.58	294.52	45.36	261.03	254.06	206.65	258.85	255.50
95th-Percentile Queue Length [veh/ln]	6.21	5.85	11.10	4.65	17.41	3.27	15.74	15.39	12.98	15.63	15.46
95th-Percentile Queue Length [ft/ln]	155.36	146.13	277.54	116.25	435.24	81.66	393.51	384.76	324.52	390.78	386.57

Movement, Approach, & Intersection Results

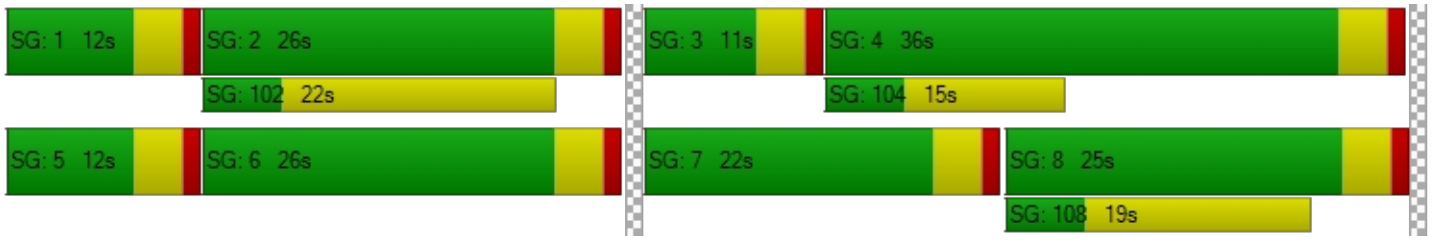
d_M, Delay for Movement [s/veh]	61.45	28.33	41.38	51.99	60.87	60.87	48.89	55.01	55.38	55.27	32.99	33.34
Movement LOS	E	C	D	D	E	E	D	E	E	E	C	C
d_A, Approach Delay [s/veh]	41.36			59.20			54.55			38.10		
Approach LOS	D			E			D			D		
d_I, Intersection Delay [s/veh]	46.15											
Intersection LOS	D											
Intersection V/C	0.888											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	33.98	33.98	33.98	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.626	2.426	3.063	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]	518	518	494	753
d_b, Bicycle Delay [s]	23.35	23.35	24.09	16.52
l_b,int, Bicycle LOS Score for Intersection	2.588	2.447	2.297	2.744
Bicycle LOS	B	B	B	B

Sequence

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



Pemcor Comm Indus Business Park

Vistro File: E:\...\PME.vistro
Report File: E:\...\PME.pdf

Scenario 1 Existing PM Peak Hour
9/30/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	WB Left	0.898	40.5	D
2	Zeiders Rd (NS) at Ciccotti St (EW)	Two-way stop	HCM 7th Edition	WB Left	0.002	12.1	B
4	Zeiders Rd (NS) at Project South Dwy/Industrial Rdwy (EW)	Signalized	HCM 7th Edition	WB Right	0.253	1.3	A
5	I-215 SB Ramps (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.626	6.8	A
6	I-215 NB Ramps (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.765	14.6	B
7	Antelope Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.651	29.8	C
8	Menifee Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	NB Left	0.747	45.0	D

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

Intersection Level Of Service Report
Intersection 1: Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	40.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.898

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	170.00	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]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	125	236	48	437	71	53	66	584	65	73	592	643
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	125	236	48	437	71	53	66	584	65	73	592	643
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
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]	33	63	13	116	19	14	18	155	17	19	158	171
Total Analysis Volume [veh/h]	133	251	51	465	76	56	70	622	69	78	630	685
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]	115
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	26	0	11	38	0	21	48	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	18	18	18	24	24	6	51	51	7	51	51
g / C, Green / Cycle	0.16	0.16	0.16	0.20	0.20	0.05	0.44	0.44	0.06	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.07	0.13	0.03	0.17	0.17	0.04	0.33	0.04	0.04	0.18	0.43
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1762	1781	1870	1589	1781	3560	1589
c, Capacity [veh/h]	278	292	248	363	360	97	829	704	103	1591	710
d1, Uniform Delay [s]	44.36	47.41	42.41	43.89	43.89	53.63	26.76	18.67	53.47	21.42	30.98
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.28	7.39	0.41	18.88	19.08	9.77	1.39	0.06	10.65	0.16	9.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.48	0.86	0.21	0.83	0.83	0.72	0.75	0.10	0.76	0.40	0.96
d, Delay for Lane Group [s/veh]	45.64	54.79	42.81	62.76	62.97	63.40	28.15	18.73	64.12	21.58	40.35
Lane Group LOS	D	D	D	E	E	E	C	B	E	C	D
Critical Lane Group	No	Yes	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.47	7.39	1.26	9.72	9.64	2.17	13.14	1.00	2.44	5.26	18.29
50th-Percentile Queue Length [ft/ln]	86.71	184.87	31.58	242.91	241.01	54.32	328.57	25.10	60.89	131.57	457.24
95th-Percentile Queue Length [veh/ln]	6.24	11.85	2.27	14.83	14.73	3.91	19.09	1.81	4.38	9.02	25.30
95th-Percentile Queue Length [ft/ln]	156.08	296.36	56.84	370.71	368.31	97.77	477.20	45.18	109.61	225.62	632.58

Movement, Approach, & Intersection Results

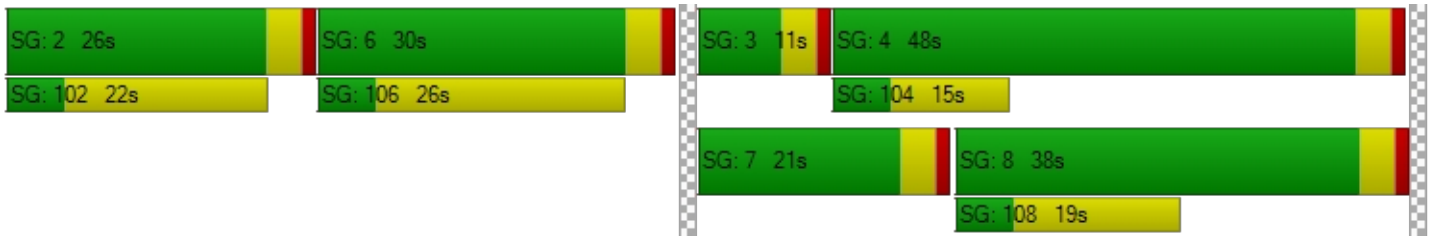
d_M, Delay for Movement [s/veh]	45.64	54.79	42.81	62.84	62.97	62.97	63.40	28.15	18.73	64.12	21.58	40.35
Movement LOS	D	D	D	E	E	E	E	C	B	E	C	D
d_A, Approach Delay [s/veh]	50.59			62.87			30.54			33.19		
Approach LOS	D			E			C			C		
d_I, Intersection Delay [s/veh]	40.49											
Intersection LOS	D											
Intersection V/C	0.898											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	48.91	48.91	48.91	48.91
l_p,int, Pedestrian LOS Score for Intersectio	2.385	2.822	2.878	3.220
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	452	382	591	764
d_b, Bicycle Delay [s]	34.49	37.66	28.58	21.96
l_b,int, Bicycle LOS Score for Intersection	2.277	2.545	2.815	2.709
Bicycle LOS	B	B	C	B

Sequence

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



Intersection Level Of Service Report
Intersection 2: Zeiders Rd (NS) at Ciccotti St (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	345	1	1	140	1	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	345	1	1	140	1	4
Peak Hour Factor	0.9110	0.9110	0.9110	0.9110	0.9110	0.9110
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	95	0	0	38	0	1
Total Analysis Volume [veh/h]	379	1	1	154	1	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	8.06	0.00	12.14	10.43
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.06	0.00	0.15	0.45
d_A, Approach Delay [s/veh]	0.00		0.05		10.77	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.11					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Zeiders Rd (NS) at Project South Dwy/Industrial Rdwy (EW)

Control Type:	Signalized	Delay (sec / veh):	1.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.253

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	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	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			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	345	1	0	142	0	0	0	0	0	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	345	1	0	142	0	0	0	0	0	0	1
Peak Hour Factor	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060
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	95	0	0	39	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	381	1	0	157	0	0	0	0	0	0	1
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	120	120	0	120	120	0	0	120	0	0	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	65	97	0	11	43	0	0	12	0	0	12	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	C	C	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	108	0	108	0	0	0
g / C, Green / Cycle	0.00	0.90	0.00	0.90	0.00	0.00	0.00
(v / s)_i Volume / Saturation Flow Rate	0.00	0.23	0.00	0.09	0.00	0.00	0.00
s, saturation flow rate [veh/h]	1603	1682	1603	1683	616	616	1431
c, Capacity [veh/h]	2	1508	2	1508	32	32	4
d1, Uniform Delay [s]	0.00	0.84	0.00	0.71	0.00	0.00	59.81
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.40	0.00	0.14	0.00	0.00	27.24
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.25	0.00	0.10	0.00	0.00	0.24
d, Delay for Lane Group [s/veh]	0.00	1.24	0.00	0.85	0.00	0.00	87.05
Lane Group LOS	A	A	A	A	A	A	F
Critical Lane Group	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	0.17	0.00	0.06	0.00	0.00	0.06
50th-Percentile Queue Length [ft/ln]	0.00	4.24	0.00	1.45	0.00	0.00	1.56
95th-Percentile Queue Length [veh/ln]	0.00	0.31	0.00	0.10	0.00	0.00	0.11
95th-Percentile Queue Length [ft/ln]	0.00	7.63	0.00	2.61	0.00	0.00	2.80

Movement, Approach, & Intersection Results

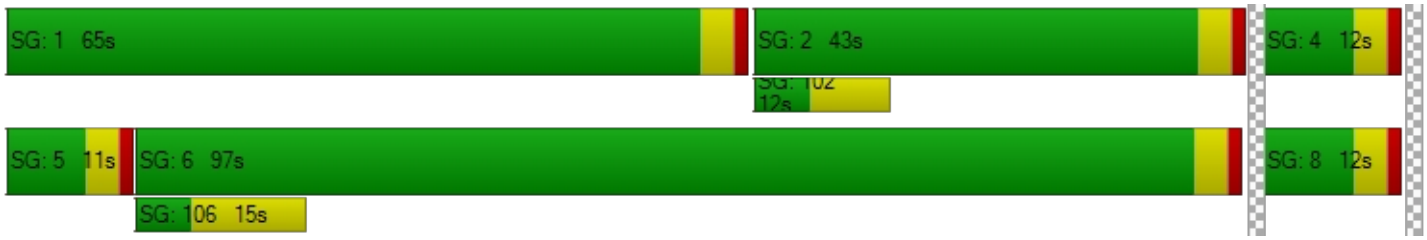
d_M, Delay for Movement [s/veh]	0.00	1.24	1.24	0.00	0.85	0.85	0.00	0.00	0.00	0.00	0.00	87.05
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	F
d_A, Approach Delay [s/veh]	1.24			0.85			0.00			87.05		
Approach LOS	A			A			A			F		
d_I, Intersection Delay [s/veh]	1.29											
Intersection LOS	A											
Intersection V/C	0.253											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	51.40	51.40
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	1.730	1.956
Crosswalk LOS	F	F	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1548	649	133	133
d_b, Bicycle Delay [s]	3.06	27.39	52.33	52.33
l_b,int, Bicycle LOS Score for Intersection	2.190	1.819	1.560	1.561
Bicycle LOS	B	A	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 5: I-215 SB Ramps (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	6.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.626

Intersection Setup

Name												
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	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	365.00	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	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	30.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	453	0	186	0	721	382	0	1135	390
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	453	0	186	0	721	382	0	1135	390
Peak Hour Factor	0.9660	0.9660	0.9660	0.9250	0.9660	0.9250	0.9660	0.9250	0.9250	0.9660	0.9250	0.9250
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	122	0	50	0	195	103	0	307	105
Total Analysis Volume [veh/h]	0	0	0	490	0	201	0	779	413	0	1227	422
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]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	0	0	0	5	0	0	0	8	0	0	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	7	0	0	0	7	0	0	7	7
Maximum Green [s]	0	0	0	120	0	0	0	120	0	0	120	120
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	53	0	0	0	37	0	0	37	37
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	0	0	10	0	0	0	10	0	0	17	17
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	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Minimum Recall				No				No			No	No
Maximum Recall				No				No			No	No
Pedestrian Recall				No				No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		L	R	C	R	C	R
C, Cycle Length [s]		36	36	36	36	36	36
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	0.00
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]		10	10	18	18	18	32
g / C, Green / Cycle		0.27	0.27	0.50	0.50	0.50	0.89
(v / s)_i Volume / Saturation Flow Rate		0.14	0.07	0.22	0.26	0.34	0.27
s, saturation flow rate [veh/h]		3459	2813	3560	1589	3560	1589
c, Capacity [veh/h]		946	770	1796	802	1796	1413
d1, Uniform Delay [s]		11.08	10.24	5.67	5.98	6.75	0.30
k, delay calibration		0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.44	0.18	0.17	0.51	0.47	0.12
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		0.52	0.26	0.43	0.52	0.68	0.30
d, Delay for Lane Group [s/veh]		11.52	10.42	5.83	6.49	7.22	0.42
Lane Group LOS		B	B	A	A	A	A
Critical Lane Group		Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]		1.37	0.52	0.51	0.63	0.99	0.05
50th-Percentile Queue Length [ft/ln]		34.24	12.91	12.63	15.84	24.68	1.15
95th-Percentile Queue Length [veh/ln]		2.47	0.93	0.91	1.14	1.78	0.08
95th-Percentile Queue Length [ft/ln]		61.64	23.24	22.74	28.52	44.42	2.07

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.52	0.00	10.42	0.00	5.83	6.49	0.00	7.22	0.42
Movement LOS				B		B		A	A		A	A
d_A, Approach Delay [s/veh]	0.00			11.20			6.06			5.48		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	6.79											
Intersection LOS	A											
Intersection V/C	0.626											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	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]	0.00	10.10	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.431	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	2727	1836	1836
d_b, Bicycle Delay [s]	17.97	2.37	0.12	0.12
l_b,int, Bicycle LOS Score for Intersection	4.132	1.560	2.543	2.920
Bicycle LOS	D	A	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-215 NB Ramps (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	14.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.765

Intersection Setup

Name											
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	1	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	185.00	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]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	489	0	0	520	149	1018	0	0	1005	428
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	489	0	0	520	149	1018	0	0	1005	428
Peak Hour Factor	0.9370	0.9370	0.9270	0.9370	0.9370	0.9270	0.9270	0.9270	0.9370	0.9370	0.9270	0.9270
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	132	0	0	140	40	275	0	0	271	115
Total Analysis Volume [veh/h]	0	0	528	0	0	561	161	1098	0	0	1084	462
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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	0	0	6	0	0	2	3	8	0	0	4	4
Auxiliary Signal Groups												4
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	0	7	0	0	7	7	7	0	0	7	7
Maximum Green [s]	0	0	120	0	0	120	120	120	0	0	120	120
Amber [s]	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	3.0	3.0
All red [s]	0.0	0.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	11	0	0	11	30	49	0	0	19	19
Vehicle Extension [s]	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	5	0	0	5	0	5	0	0	5	5
Pedestrian Clearance [s]	0	0	10	0	0	10	0	10	0	0	10	10
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	0.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
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	R	R	L	C	C	R
C, Cycle Length [s]	54	54	54	54	54	54
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]	14	14	6	32	22	22
g / C, Green / Cycle	0.26	0.26	0.12	0.60	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.19	0.20	0.09	0.31	0.30	0.29
s, saturation flow rate [veh/h]	2813	2813	1781	3560	3560	1589
c, Capacity [veh/h]	720	720	214	2122	1430	638
d1, Uniform Delay [s]	18.40	18.67	22.97	6.37	13.90	13.63
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.47	1.87	5.26	0.20	0.85	1.58
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	0.73	0.78	0.75	0.52	0.76	0.72
d, Delay for Lane Group [s/veh]	19.87	20.54	28.23	6.57	14.74	15.20
Lane Group LOS	B	C	C	A	B	B
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.90	3.16	1.93	1.67	4.01	3.49
50th-Percentile Queue Length [ft/ln]	72.55	78.94	48.29	41.69	100.34	87.34
95th-Percentile Queue Length [veh/ln]	5.22	5.68	3.48	3.00	7.22	6.29
95th-Percentile Queue Length [ft/ln]	130.59	142.09	86.92	75.04	180.61	157.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	19.87	0.00	0.00	20.54	28.23	6.57	0.00	0.00	14.74	15.20
Movement LOS			B			C	C	A			B	B
d_A, Approach Delay [s/veh]	19.87			20.54			9.34			14.88		
Approach LOS	B			C			A			B		
d_I, Intersection Delay [s/veh]	14.58											
Intersection LOS	B											
Intersection V/C	0.765											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	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]	0.00	18.68	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.236	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	260	260	1671	557
d_b, Bicycle Delay [s]	20.39	20.39	0.73	14.02
l_b,int, Bicycle LOS Score for Intersection	1.560	1.560	2.598	2.835
Bicycle LOS	A	A	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 7: Antelope Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	29.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.651

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	215.00	100.00	100.00	165.00	100.00	100.00	190.00	100.00	100.00	315.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	50.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	378	263	173	72	130	274	330	799	378	117	785	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	378	263	173	72	130	274	330	799	378	117	785	42
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]	98	68	45	19	34	71	86	208	98	30	204	11
Total Analysis Volume [veh/h]	393	273	180	75	135	285	343	831	393	122	816	44
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]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	2	3	8	8	7	4	0
Auxiliary Signal Groups			6,7			2,3			1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	0
Maximum Green [s]	120	120	120	120	120	120	120	120	120	120	120	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	20	33	33	13	26	26	15	33	33	11	29	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	5	0	5	5	0	5	0
Pedestrian Clearance [s]	0	24	24	0	10	10	0	24	24	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]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No	No	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	No	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	No	No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	16	37	48	6	27	42	11	24	44	7	20	20
g / C, Green / Cycle	0.18	0.41	0.53	0.07	0.30	0.46	0.12	0.27	0.49	0.08	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.11	0.08	0.11	0.04	0.07	0.18	0.10	0.23	0.25	0.04	0.16	0.16
s, saturation flow rate [veh/h]	3459	3560	1589	1781	1870	1589	3459	3560	1589	3459	3560	1821
c, Capacity [veh/h]	616	1451	843	120	556	738	425	958	781	272	801	410
d1, Uniform Delay [s]	34.44	17.18	11.24	41.02	24.07	15.81	38.60	31.49	15.52	39.78	32.31	32.33
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
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
d2, Incremental Delay [s]	1.10	0.29	0.58	5.18	1.04	1.53	3.68	2.54	0.50	1.16	1.18	2.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.64	0.19	0.21	0.62	0.24	0.39	0.81	0.87	0.50	0.45	0.71	0.71
d, Delay for Lane Group [s/veh]	35.55	17.46	11.81	46.20	25.10	17.34	42.28	34.03	16.03	40.93	33.49	34.63
Lane Group LOS	D	B	B	D	C	B	D	C	B	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.82	1.69	1.75	1.71	2.17	3.66	3.64	8.08	4.65	1.25	5.34	5.60
50th-Percentile Queue Length [ft/ln]	95.49	42.25	43.84	42.67	54.30	91.56	90.92	201.90	116.37	31.25	133.38	140.11
95th-Percentile Queue Length [veh/ln]	6.88	3.04	3.16	3.07	3.91	6.59	6.55	12.74	8.19	2.25	9.12	9.49
95th-Percentile Queue Length [ft/ln]	171.89	76.06	78.91	76.81	97.73	164.81	163.66	318.42	204.83	56.25	228.08	237.17

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.55	17.46	11.81	46.20	25.10	17.34	42.28	34.03	16.03	40.93	33.84	34.63
Movement LOS	D	B	B	D	C	B	D	C	B	D	C	C
d_A, Approach Delay [s/veh]	24.66			23.83			31.32			34.75		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	29.79											
Intersection LOS	C											
Intersection V/C	0.651											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	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]	36.55	36.55	0.00	36.55
l_p,int, Pedestrian LOS Score for Intersectio	2.943	2.677	0.000	3.124
Crosswalk LOS	C	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]	643	488	643	554
d_b, Bicycle Delay [s]	20.76	25.78	20.76	23.56
l_b,int, Bicycle LOS Score for Intersection	2.258	2.376	2.852	2.100
Bicycle LOS	B	B	C	B

Sequence

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



Intersection Level Of Service Report
Intersection 8: Menifee Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	45.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.747

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	235.00	100.00	100.00	145.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	104	300	202	84	130	92	173	813	118	148	782	95
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	104	300	202	84	130	92	173	813	118	148	782	95
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	86	58	24	37	26	50	234	34	43	225	27
Total Analysis Volume [veh/h]	120	345	232	97	149	106	199	934	136	170	899	109
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]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	120	120	0	120	120	0	120	120	0	120	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	16	27	0	15	26	0	21	39	0	19	37	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	23	23	11	22	17	35	35	15	33	33
g / C, Green / Cycle	0.12	0.23	0.23	0.11	0.22	0.17	0.35	0.35	0.15	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.07	0.18	0.15	0.05	0.15	0.11	0.29	0.29	0.10	0.27	0.27
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1742	1781	1870	1788	1781	1870	1800
c, Capacity [veh/h]	214	430	366	196	383	303	654	626	267	617	594
d1, Uniform Delay [s]	41.52	36.35	34.71	41.89	35.64	38.78	29.83	29.88	39.94	30.93	30.95
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.25	14.58	8.15	8.68	8.82	10.67	11.92	12.64	11.05	12.38	12.90
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.56	0.80	0.63	0.50	0.67	0.66	0.83	0.84	0.64	0.83	0.83
d, Delay for Lane Group [s/veh]	51.77	50.93	42.86	50.57	44.46	49.44	41.76	42.52	50.98	43.32	43.86
Lane Group LOS	D	D	D	D	D	D	D	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.30	9.28	5.67	2.62	6.28	5.16	12.99	12.60	4.50	12.44	12.09
50th-Percentile Queue Length [ft/ln]	82.38	232.06	141.73	65.49	156.96	129.03	324.68	315.06	112.54	311.06	302.13
95th-Percentile Queue Length [veh/ln]	5.93	14.28	9.57	4.71	10.39	8.89	18.90	18.42	7.98	18.23	17.79
95th-Percentile Queue Length [ft/ln]	148.28	356.97	239.35	117.87	259.69	222.18	472.44	460.61	199.53	455.68	444.66

Movement, Approach, & Intersection Results

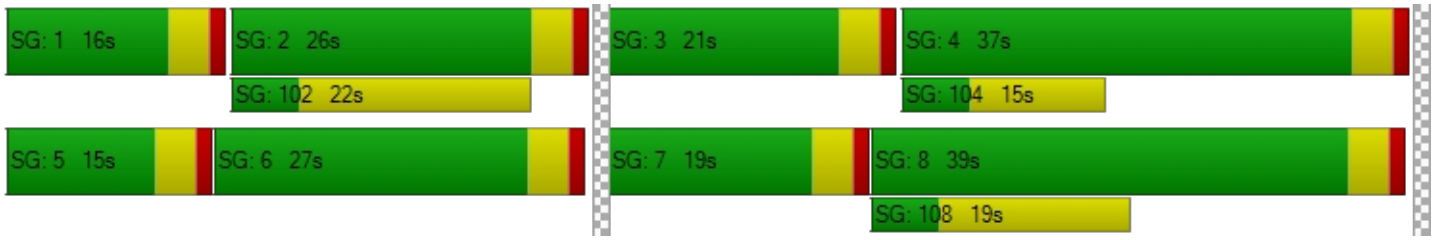
d_M, Delay for Movement [s/veh]	51.77	50.93	42.86	50.57	44.46	44.46	49.44	42.07	42.52	50.98	43.55	43.86
Movement LOS	D	D	D	D	D	D	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	48.39			46.14			43.28			44.65		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	45.05											
Intersection LOS	D											
Intersection V/C	0.747											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	41.41	41.41	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.559	2.491	3.162	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]	460	440	700	660
d_b, Bicycle Delay [s]	29.65	30.42	21.13	22.45
l_b,int, Bicycle LOS Score for Intersection	2.710	2.140	2.607	2.531
Bicycle LOS	B	B	B	B

Sequence

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



EXISTING PLUS PROJECT

Pemcor Comm Indus Business Park

Vistro File: E:\...\AME.vistro
Report File: E:\...\AMEP.pdf

Scenario 2 Existing Plus Project AM Peak Hour
9/30/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Thru	1.047	28.6	C
2	Zeiders Rd (NS) at Ciccotti St (EW)	Two-way stop	HCM 7th Edition	WB Right	0.001	9.4	A
3	Zeiders Rd (NS) at Project North Dwy (EW)	Two-way stop	HCM 7th Edition	EB Right	0.001	10.2	B
4	Zeiders Rd (NS) at Project South Dwy/Industrial Rdwy (EW)	Signalized	HCM 7th Edition	SB Left	0.335	6.6	A
5	I-215 SB Ramps (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.736	6.8	A
6	I-215 NB Ramps (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.772	14.0	B
7	Antelope Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.744	30.2	C
8	Menifee Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	WB Left	0.901	47.6	D

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

Intersection Level Of Service Report
Intersection 1: Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	28.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.047

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	170.00	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]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	61	74	24	548	105	51	79	685	138	68	538	403
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	3	39	0	14	0	0	0	15	118	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]	66	77	63	548	119	51	79	685	153	186	538	403
Peak Hour Factor	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580
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]	17	20	16	143	31	13	21	179	40	49	140	105
Total Analysis Volume [veh/h]	69	80	66	572	124	53	82	715	160	194	562	421
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]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	26	0	11	23	0	11	23	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	0.94	0.94	0.94	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	2.00	2.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.47	0.47	0.47	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	90	90	90	22	22	7	37	37	15	46	46
g / C, Green / Cycle	0.99	0.99	0.99	0.24	0.24	0.07	0.41	0.41	0.17	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.04	0.04	0.04	0.26	0.29	0.06	0.38	0.10	0.15	0.16	0.26
s, saturation flow rate [veh/h]	1781	1870	1589	1242	1459	1318	1870	1589	1318	3560	1589
c, Capacity [veh/h]	1770	1859	1580	354	419	149	772	656	278	1815	810
d1, Uniform Delay [s]	0.00	0.00	0.00	34.97	35.51	41.24	25.16	17.28	36.36	12.86	14.74
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.04	0.04	0.05	10.26	21.78	3.12	5.44	0.19	3.16	0.10	0.52
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	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.04	0.04	0.04	0.92	1.01	0.55	0.93	0.24	0.70	0.31	0.52
d, Delay for Lane Group [s/veh]	0.04	0.05	0.05	45.23	57.28	44.36	30.60	17.47	39.52	12.96	15.25
Lane Group LOS	A	A	A	D	F	D	C	B	D	B	B
Critical Lane Group	No	Yes	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	7.74	11.43	1.81	13.53	1.94	4.05	2.78	4.85
50th-Percentile Queue Length [ft/ln]	0.51	0.56	0.54	193.56	285.75	45.14	338.36	48.39	101.33	69.53	121.21
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.04	12.31	17.03	3.25	19.57	3.48	7.30	5.01	8.46
95th-Percentile Queue Length [ft/ln]	0.91	1.01	0.98	307.65	425.71	81.25	489.19	87.10	182.39	125.15	211.49

Movement, Approach, & Intersection Results

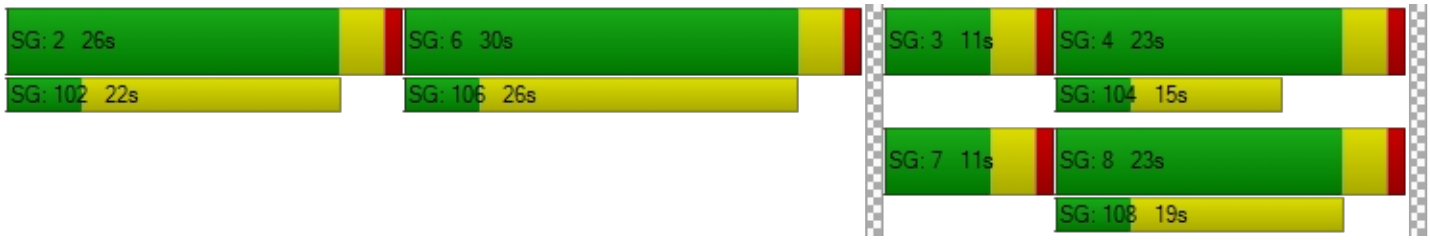
d_M, Delay for Movement [s/veh]	0.04	0.05	0.05	50.11	57.28	57.28	44.36	30.60	17.47	39.52	12.96	15.25
Movement LOS	A	A	A	D	E	E	D	C	B	D	B	B
d_A, Approach Delay [s/veh]	0.05			52.02			29.59			18.16		
Approach LOS	A			D			C			B		
d_I, Intersection Delay [s/veh]	28.62											
Intersection LOS	C											
Intersection V/C	1.047											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.49	36.49	36.49	36.49
l_p,int, Pedestrian LOS Score for Intersectio	2.662	2.780	2.888	4.089
Crosswalk LOS	B	C	C	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	577	488	422	422
d_b, Bicycle Delay [s]	22.79	25.72	28.04	28.04
l_b,int, Bicycle LOS Score for Intersection	1.914	2.795	3.139	2.531
Bicycle LOS	A	C	C	B

Sequence

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



Intersection Level Of Service Report
Intersection 2: Zeiders Rd (NS) at Ciccotti St (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	140	4	4	234	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	47	0	0	147	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]	187	4	4	381	0	1
Peak Hour Factor	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	1	1	107	0	0
Total Analysis Volume [veh/h]	211	5	5	430	0	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.67	0.00	13.37	9.36
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.28	0.00	0.00	0.09
d_A, Approach Delay [s/veh]	0.00		0.09		9.36	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.07					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 3: Zeiders Rd (NS) at Project North Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	144	234	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	47	40	107	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	191	274	107	0	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	50	72	28	0	0
Total Analysis Volume [veh/h]	0	201	288	113	0	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	10.16
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.11
d_A, Approach Delay [s/veh]	0.00		0.00		10.16	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.02					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Zeiders Rd (NS) at Project South Dwy/Industrial Rdwy (EW)

Control Type:	Signalized	Delay (sec / veh):	6.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.335

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	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	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			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	140	0	1	233	0	0	0	0	0	0	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	0	0	0	1	40	47	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]	7	140	0	1	234	40	47	0	0	0	0	2
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
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]	2	40	0	0	67	11	14	0	0	0	0	1
Total Analysis Volume [veh/h]	8	161	0	1	269	46	54	0	0	0	0	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

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

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	120	120	0	120	120	0	0	120	0	0	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	37	0	12	38	0	0	11	0	0	11	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	44	0	43	4	4	4
g / C, Green / Cycle	0.02	0.73	0.00	0.71	0.07	0.07	0.07
(v / s)_i Volume / Saturation Flow Rate	0.00	0.10	0.00	0.19	0.07	0.00	0.00
s, saturation flow rate [veh/h]	1603	1683	1603	1641	761	916	1431
c, Capacity [veh/h]	25	1223	5	1171	174	125	101
d1, Uniform Delay [s]	29.28	2.49	29.92	3.05	28.80	0.00	26.00
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.91	0.22	20.92	0.56	1.01	0.00	0.08
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.13	0.21	0.27	0.31	0.00	0.02
d, Delay for Lane Group [s/veh]	36.18	2.71	50.83	3.62	29.81	0.00	26.07
Lane Group LOS	D	A	D	A	C	A	C
Critical Lane Group	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.15	0.25	0.04	0.65	0.80	0.00	0.03
50th-Percentile Queue Length [ft/ln]	3.80	6.25	1.01	16.22	20.02	0.00	0.70
95th-Percentile Queue Length [veh/ln]	0.27	0.45	0.07	1.17	1.44	0.00	0.05
95th-Percentile Queue Length [ft/ln]	6.85	11.26	1.82	29.19	36.03	0.00	1.26

Movement, Approach, & Intersection Results

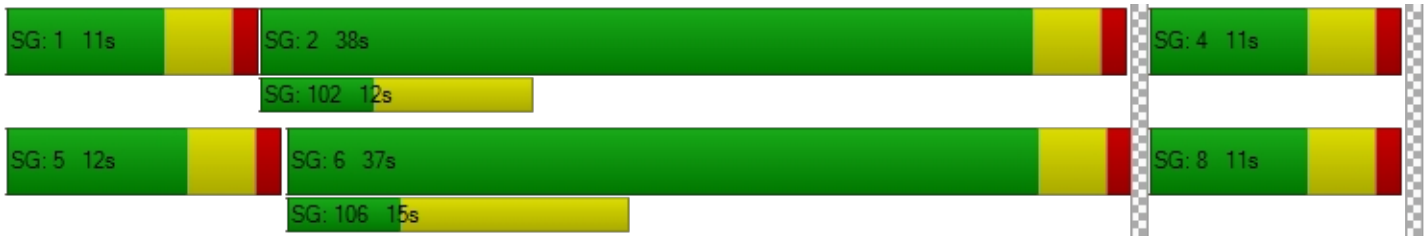
d_M, Delay for Movement [s/veh]	36.18	2.71	2.71	50.83	3.62	3.62	29.81	29.81	29.81	0.00	0.00	26.07
Movement LOS	D	A	A	D	A	A	C	C	C	A	A	C
d_A, Approach Delay [s/veh]	4.29			3.76			29.81			26.07		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	6.61											
Intersection LOS	A											
Intersection V/C	0.335											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	21.71	21.71
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	1.739	1.922
Crosswalk LOS	F	F	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1099	1132	233	233
d_b, Bicycle Delay [s]	6.10	5.66	23.45	23.45
l_b,int, Bicycle LOS Score for Intersection	1.838	2.081	1.649	1.563
Bicycle LOS	A	B	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 5: I-215 SB Ramps (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	6.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.736

Intersection Setup

Name												
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	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	365.00	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	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	30.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	464	0	172	0	678	582	0	837	634
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	41	0	25	14	0	77	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	464	0	213	0	703	596	0	914	634
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
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	120	0	55	0	182	154	0	237	164
Total Analysis Volume [veh/h]	0	0	0	480	0	220	0	728	617	0	946	656
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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	0	0	0	5	0	0	0	8	0	0	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	7	0	0	0	7	0	0	7	7
Maximum Green [s]	0	0	0	120	0	0	0	120	0	0	120	120
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	26	0	0	0	34	0	0	34	34
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	0	0	10	0	0	0	10	0	0	17	17
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	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Minimum Recall				No				No			No	No
Maximum Recall				No				No			No	No
Pedestrian Recall				No				No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		L	R	C	R	C	R
C, Cycle Length [s]		37	37	37	37	37	37
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	0.00
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]		11	11	18	18	18	33
g / C, Green / Cycle		0.29	0.29	0.49	0.49	0.49	0.89
(v / s)_i Volume / Saturation Flow Rate		0.14	0.08	0.20	0.39	0.27	0.41
s, saturation flow rate [veh/h]		3459	2813	3560	1589	3560	1589
c, Capacity [veh/h]		1018	828	1745	779	1745	1418
d1, Uniform Delay [s]		10.73	10.02	6.06	7.88	6.57	0.37
k, delay calibration		0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.34	0.17	0.16	1.86	0.26	0.24
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.47	0.27	0.42	0.79	0.54	0.46
d, Delay for Lane Group [s/veh]		11.07	10.19	6.22	9.75	6.83	0.60
Lane Group LOS		B	B	A	A	A	A
Critical Lane Group		No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]		1.33	0.57	0.60	1.64	0.85	0.09
50th-Percentile Queue Length [ft/ln]		33.19	14.18	14.94	40.89	21.27	2.32
95th-Percentile Queue Length [veh/ln]		2.39	1.02	1.08	2.94	1.53	0.17
95th-Percentile Queue Length [ft/ln]		59.73	25.53	26.89	73.60	38.29	4.18

Movement, Approach, & Intersection Results

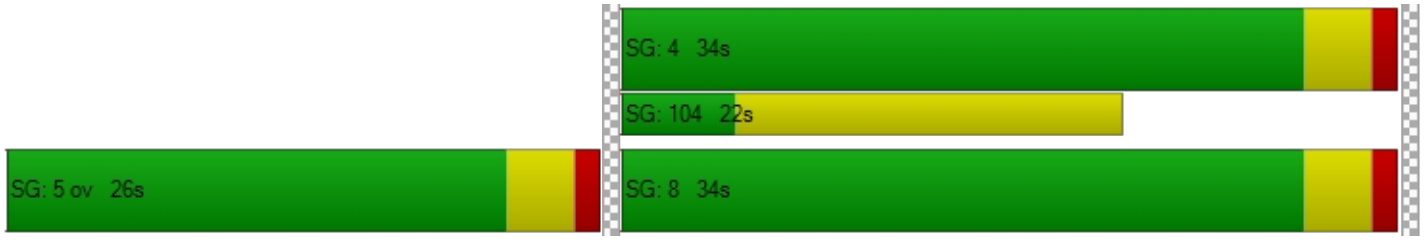
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.07	0.00	10.19	0.00	6.22	9.75	0.00	6.83	0.60
Movement LOS				B		B		A	A		A	A
d_A, Approach Delay [s/veh]	0.00			10.79			7.84			4.28		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	6.84											
Intersection LOS	A											
Intersection V/C	0.736											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	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]	0.00	10.58	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.472	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	1190	1623	1623
d_b, Bicycle Delay [s]	18.48	3.03	0.66	0.66
l_b,int, Bicycle LOS Score for Intersection	4.132	1.560	2.669	2.881
Bicycle LOS	D	A	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-215 NB Ramps (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	14.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.772

Intersection Setup

Name											
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	1	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	185.00	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]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	388	0	0	233	157	1000	0	0	1197	452
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	41	15	10	0	0	36	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	388	0	0	274	172	1010	0	0	1233	452
Peak Hour Factor	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370
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	104	0	0	73	46	269	0	0	329	121
Total Analysis Volume [veh/h]	0	0	414	0	0	292	184	1078	0	0	1316	482
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]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	0	0	6	0	0	2	3	8	0	0	4	4
Auxiliary Signal Groups												4
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	0	7	0	0	7	7	7	0	0	7	7
Maximum Green [s]	0	0	120	0	0	120	120	120	0	0	120	120
Amber [s]	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	3.0	3.0
All red [s]	0.0	0.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	11	0	0	11	40	59	0	0	19	19
Vehicle Extension [s]	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	5	0	0	5	0	5	0	0	5	5
Pedestrian Clearance [s]	0	0	10	0	0	10	0	10	0	0	10	10
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	0.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
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	R	R	L	C	C	R
C, Cycle Length [s]	61	61	61	61	61	61
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]	12	12	8	41	29	29
g / C, Green / Cycle	0.19	0.19	0.13	0.68	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.15	0.10	0.10	0.30	0.37	0.30
s, saturation flow rate [veh/h]	2813	2813	1781	3560	3560	1589
c, Capacity [veh/h]	541	541	238	2409	1699	758
d1, Uniform Delay [s]	23.31	22.18	25.49	4.57	13.22	11.96
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.30	0.84	5.26	0.13	0.78	0.89
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	0.77	0.54	0.77	0.45	0.77	0.64
d, Delay for Lane Group [s/veh]	25.61	23.02	30.76	4.70	14.00	12.85
Lane Group LOS	C	C	C	A	B	B
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.84	1.85	2.53	1.16	5.21	3.52
50th-Percentile Queue Length [ft/ln]	71.02	46.35	63.18	29.06	130.31	87.99
95th-Percentile Queue Length [veh/ln]	5.11	3.34	4.55	2.09	8.96	6.34
95th-Percentile Queue Length [ft/ln]	127.84	83.43	113.72	52.32	223.92	158.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	25.61	0.00	0.00	23.02	30.76	4.70	0.00	0.00	14.00	12.85
Movement LOS			C			C	C	A			B	B
d_A, Approach Delay [s/veh]	25.61			23.02			8.50			13.69		
Approach LOS	C			C			A			B		
d_I, Intersection Delay [s/veh]	13.98											
Intersection LOS	B											
Intersection V/C	0.772											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	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]	0.00	22.08	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.181	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	230	230	1808	493
d_b, Bicycle Delay [s]	23.82	23.82	0.28	17.26
l_b,int, Bicycle LOS Score for Intersection	1.560	1.560	2.601	3.043
Bicycle LOS	A	A	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 7: Antelope Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	30.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.744

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	215.00	100.00	100.00	165.00	100.00	100.00	190.00	100.00	100.00	315.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	50.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	249	142	71	48	216	419	242	732	414	115	987	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	0	0	0	4	1	8	1	0	29	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]	252	142	71	48	216	423	243	740	415	115	1016	50
Peak Hour Factor	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	38	19	13	58	114	65	199	112	31	273	13
Total Analysis Volume [veh/h]	271	153	76	52	233	455	262	797	447	124	1094	54
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]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	2	3	8	8	7	4	0
Auxiliary Signal Groups			6,7			2,3			1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	0
Maximum Green [s]	120	120	120	120	120	120	120	120	120	120	120	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	17	33	33	13	29	29	15	33	33	11	29	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	5	0	5	5	0	5	0
Pedestrian Clearance [s]	0	24	24	0	10	10	0	24	24	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	
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No	No	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	No	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	No	No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	36	47	5	28	43	11	26	43	7	22	22
g / C, Green / Cycle	0.14	0.40	0.52	0.06	0.31	0.48	0.12	0.29	0.48	0.07	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.08	0.04	0.05	0.03	0.12	0.29	0.08	0.22	0.28	0.04	0.21	0.21
s, saturation flow rate [veh/h]	3459	3560	1589	1781	1870	1589	3459	3560	1589	3459	3560	1825
c, Capacity [veh/h]	500	1423	825	103	585	762	424	1034	762	259	864	443
d1, Uniform Delay [s]	35.80	16.98	10.96	41.26	24.34	17.12	37.57	29.26	17.00	40.03	32.87	32.87
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
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
d2, Incremental Delay [s]	0.91	0.15	0.22	3.83	2.03	3.43	1.47	1.25	0.72	1.37	3.07	5.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.54	0.11	0.09	0.51	0.40	0.60	0.62	0.77	0.59	0.48	0.88	0.88
d, Delay for Lane Group [s/veh]	36.71	17.13	11.18	45.09	26.37	20.55	39.04	30.51	17.72	41.40	35.94	38.61
Lane Group LOS	D	B	B	D	C	C	D	C	B	D	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.65	0.93	0.71	1.17	3.90	6.63	2.63	7.22	5.74	1.28	7.56	8.08
50th-Percentile Queue Length [ft/ln]	66.34	23.21	17.75	29.25	97.57	165.65	65.75	180.55	143.53	32.00	188.96	202.05
95th-Percentile Queue Length [veh/ln]	4.78	1.67	1.28	2.11	7.03	10.85	4.73	11.63	9.67	2.30	12.07	12.74
95th-Percentile Queue Length [ft/ln]	119.41	41.78	31.95	52.65	175.63	271.18	118.35	290.73	241.78	57.60	301.68	318.61

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.71	17.13	11.18	45.09	26.37	20.55	39.04	30.51	17.72	41.40	36.75	38.61
Movement LOS	D	B	B	D	C	C	D	C	B	D	D	D
d_A, Approach Delay [s/veh]	26.84			24.11			28.20			37.29		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	30.15											
Intersection LOS	C											
Intersection V/C	0.744											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	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]	36.50	36.50	0.00	36.50
l_p,int, Pedestrian LOS Score for Intersectio	2.898	2.694	0.000	3.156
Crosswalk LOS	C	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]	644	555	644	555
d_b, Bicycle Delay [s]	20.72	23.52	20.72	23.52
l_b,int, Bicycle LOS Score for Intersection	1.972	2.781	2.802	2.259
Bicycle LOS	A	C	C	B

Sequence

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



Intersection Level Of Service Report
Intersection 8: Menifee Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	47.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.901

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	235.00	100.00	100.00	145.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	113	176	290	94	301	105	68	687	76	305	937	93
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	0	0	0	0	10	2	5	1	0	15	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]	117	176	290	94	301	115	70	692	77	305	952	93
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	47	78	25	81	31	19	186	21	82	256	25
Total Analysis Volume [veh/h]	126	189	312	101	324	124	75	744	83	328	1024	100
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]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	120	120	0	120	120	0	120	120	0	120	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	27	0	12	27	0	11	25	0	21	35	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	C	L	C	C
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	23	23	8	23	7	21	21	17	31	31
g / C, Green / Cycle	0.09	0.27	0.27	0.09	0.27	0.08	0.25	0.25	0.20	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.07	0.10	0.20	0.06	0.25	0.04	0.23	0.23	0.18	0.30	0.31
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1783	1781	1870	1805	1781	1870	1812
c, Capacity [veh/h]	168	506	430	168	482	147	462	446	356	682	661
d1, Uniform Delay [s]	37.53	25.15	28.13	36.97	30.20	37.36	31.09	31.09	33.34	24.65	24.73
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	26.31	2.11	10.21	15.02	26.57	12.17	24.65	25.31	31.30	11.48	12.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.37	0.73	0.60	0.93	0.51	0.91	0.91	0.92	0.83	0.84
d, Delay for Lane Group [s/veh]	63.85	27.26	38.35	51.99	56.77	49.53	55.74	56.40	64.64	36.13	36.96
Lane Group LOS	E	C	D	D	E	D	E	E	E	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.64	3.17	6.52	2.58	11.60	1.88	10.63	10.35	9.07	11.15	11.04
50th-Percentile Queue Length [ft/ln]	91.05	79.18	163.05	64.58	289.90	46.94	265.82	258.66	226.86	278.69	275.90
95th-Percentile Queue Length [veh/ln]	6.56	5.70	10.71	4.65	17.18	3.38	15.98	15.62	14.01	16.62	16.48
95th-Percentile Queue Length [ft/ln]	163.89	142.53	267.75	116.25	429.52	84.49	399.51	390.54	350.37	415.58	412.10

Movement, Approach, & Intersection Results

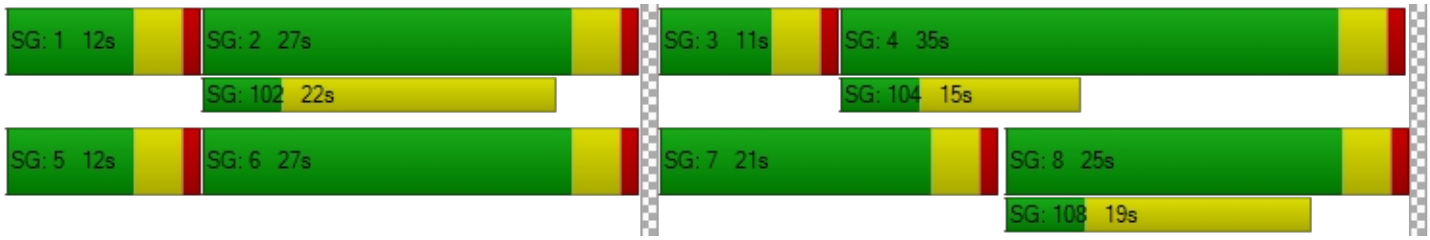
d_M, Delay for Movement [s/veh]	63.85	27.26	38.35	51.99	56.77	56.77	49.53	56.03	56.40	64.64	36.50	36.96
Movement LOS	E	C	D	D	E	E	D	E	E	E	D	D
d_A, Approach Delay [s/veh]	40.13			55.89			55.52			42.89		
Approach LOS	D			E			E			D		
d_I, Intersection Delay [s/veh]	47.65											
Intersection LOS	D											
Intersection V/C	0.901											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	33.98	33.98	33.98	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.628	2.433	3.076	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]	541	541	494	729
d_b, Bicycle Delay [s]	22.61	22.61	24.09	17.15
l_b,int, Bicycle LOS Score for Intersection	2.594	2.465	2.304	2.758
Bicycle LOS	B	B	B	C

Sequence

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



Pemcor Comm Indus Business Park

Vistro File: E:\...\PME.vistro
Report File: E:\...\PMEP.pdf

Scenario 2 Existing Plus Project PM Peak Hour
9/30/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.907	43.2	D
2	Zeiders Rd (NS) at Ciccotti St (EW)	Two-way stop	HCM 7th Edition	WB Left	0.003	14.4	B
3	Zeiders Rd (NS) at Project North Dwy (EW)	Two-way stop	HCM 7th Edition	EB Right	0.005	9.2	A
4	Zeiders Rd (NS) at Project South Dwy/Industrial Rdwy (EW)	Signalized	HCM 7th Edition	NB Left	0.477	10.4	B
5	I-215 SB Ramps (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.631	6.9	A
6	I-215 NB Ramps (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.785	16.2	B
7	Antelope Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.658	29.8	C
8	Menifee Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	NB Left	0.754	45.8	D

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

Intersection Level Of Service Report
Intersection 1: Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	43.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.907

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	170.00	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]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	125	236	48	437	71	53	66	584	65	73	592	643
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	12	114	0	4	0	0	0	5	41	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]	139	248	162	437	75	53	66	584	70	114	592	643
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
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]	37	66	43	116	20	14	18	155	19	30	158	171
Total Analysis Volume [veh/h]	148	264	173	465	80	56	70	622	75	121	630	685
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]	115
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	28	0	25	46	0	11	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	19	19	19	24	24	6	46	46	10	50	50
g / C, Green / Cycle	0.16	0.16	0.16	0.21	0.21	0.05	0.40	0.40	0.08	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.08	0.14	0.11	0.17	0.17	0.04	0.33	0.05	0.07	0.18	0.43
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1764	1781	1870	1589	1781	3560	1589
c, Capacity [veh/h]	292	306	260	375	371	97	751	639	151	1539	687
d1, Uniform Delay [s]	43.86	46.83	45.13	43.16	43.17	53.53	30.84	21.60	51.69	22.53	32.59
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.36	7.11	2.90	16.67	16.84	9.67	2.41	0.08	9.42	0.18	15.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.51	0.86	0.66	0.81	0.81	0.72	0.83	0.12	0.80	0.41	1.00
d, Delay for Lane Group [s/veh]	45.23	53.94	48.03	59.83	60.01	63.20	33.25	21.68	61.11	22.71	47.92
Lane Group LOS	D	D	D	E	E	E	C	C	E	C	D
Critical Lane Group	No	Yes	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.85	7.72	4.70	9.53	9.47	2.17	14.54	1.20	3.67	5.43	19.89
50th-Percentile Queue Length [ft/ln]	96.20	193.07	117.62	238.37	236.63	54.22	363.50	30.00	91.73	135.78	497.26
95th-Percentile Queue Length [veh/ln]	6.93	12.28	8.26	14.60	14.51	3.90	20.79	2.16	6.60	9.25	27.20
95th-Percentile Queue Length [ft/ln]	173.16	307.00	206.55	364.98	362.76	97.59	519.84	53.99	165.12	231.33	680.11

Movement, Approach, & Intersection Results

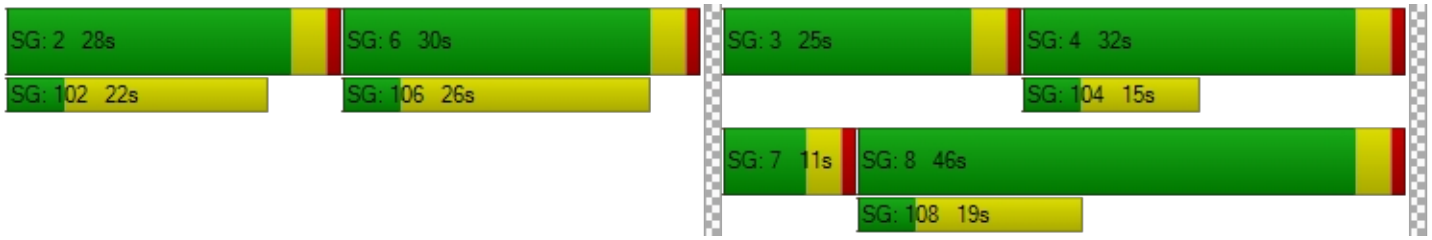
d_M, Delay for Movement [s/veh]	45.23	53.94	48.03	59.90	60.01	60.01	63.20	33.25	21.68	61.11	22.71	47.92
Movement LOS	D	D	D	E	E	E	E	C	C	E	C	D
d_A, Approach Delay [s/veh]	49.99			59.92			34.85			37.97		
Approach LOS	D			E			C			D		
d_I, Intersection Delay [s/veh]	43.23											
Intersection LOS	D											
Intersection V/C	0.907											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	48.86	48.86	48.86	48.86
l_p,int, Pedestrian LOS Score for Intersectio	2.459	2.831	2.885	3.269
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	452	417	730	487
d_b, Bicycle Delay [s]	34.45	36.01	23.18	32.92
l_b,int, Bicycle LOS Score for Intersection	2.525	2.551	2.825	2.744
Bicycle LOS	B	B	C	B

Sequence

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



Intersection Level Of Service Report
Intersection 2: Zeiders Rd (NS) at Ciccotti St (EW)

Control Type:	Two-way stop	Delay (sec / veh):	14.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	345	1	1	140	1	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	140	0	0	50	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]	485	1	1	190	1	4
Peak Hour Factor	0.9110	0.9110	0.9110	0.9110	0.9110	0.9110
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	133	0	0	52	0	1
Total Analysis Volume [veh/h]	532	1	1	209	1	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	8.48	0.00	14.45	11.63
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.07	0.00	0.20	0.55
d_A, Approach Delay [s/veh]	0.00		0.04		12.19	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.09					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: Zeiders Rd (NS) at Project North Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	346	141	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	140	20	30	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	486	161	30	0	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	128	42	8	0	1
Total Analysis Volume [veh/h]	0	512	169	32	0	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
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	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	9.22
Movement LOS		A	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.35
d_A, Approach Delay [s/veh]	0.00		0.00		9.22	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.05					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 4: Zeiders Rd (NS) at Project South Dwy/Industrial Rdwy (EW)

Control Type:	Signalized	Delay (sec / veh):	10.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.477

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	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	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			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	345	1	0	142	0	0	0	0	0	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	0	4	20	140	0	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	345	1	0	146	20	140	0	2	0	0	1
Peak Hour Factor	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060
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]	1	95	0	0	40	6	39	0	1	0	0	0
Total Analysis Volume [veh/h]	2	381	1	0	161	22	155	0	2	0	0	1
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

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

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	120	120	0	120	120	0	0	120	0	0	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	32	37	0	11	16	0	0	12	0	0	12	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	40	0	40	8	8	8
g / C, Green / Cycle	0.00	0.67	0.00	0.66	0.13	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.00	0.23	0.00	0.11	0.15	0.00	0.00
s, saturation flow rate [veh/h]	1603	1682	1603	1648	1014	1279	1431
c, Capacity [veh/h]	9	1118	3	1089	255	232	192
d1, Uniform Delay [s]	29.83	4.39	0.00	3.91	27.35	0.00	22.60
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.65	0.83	0.00	0.33	2.41	0.00	0.01
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.21	0.34	0.00	0.17	0.62	0.00	0.01
d, Delay for Lane Group [s/veh]	40.48	5.22	0.00	4.24	29.76	0.00	22.61
Lane Group LOS	D	A	A	A	C	A	C
Critical Lane Group	No	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.05	1.26	0.00	0.53	2.37	0.00	0.01
50th-Percentile Queue Length [ft/ln]	1.36	31.45	0.00	13.27	59.21	0.00	0.31
95th-Percentile Queue Length [veh/ln]	0.10	2.26	0.00	0.96	4.26	0.00	0.02
95th-Percentile Queue Length [ft/ln]	2.44	56.61	0.00	23.88	106.57	0.00	0.56

Movement, Approach, & Intersection Results

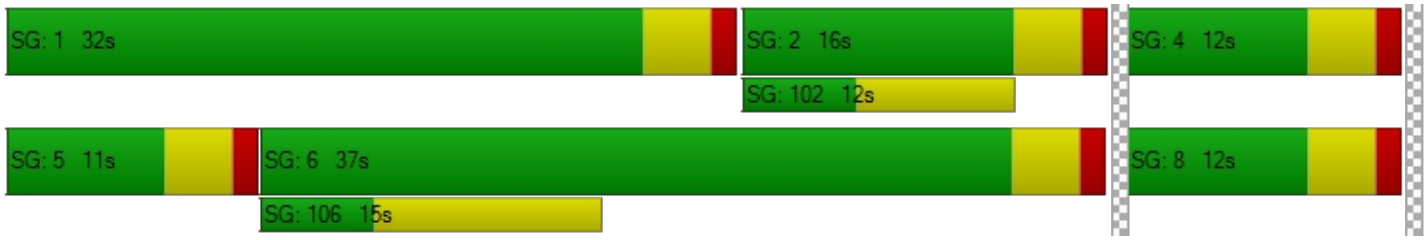
d_M, Delay for Movement [s/veh]	40.48	5.22	5.22	0.00	4.24	4.24	29.76	29.76	29.76	0.00	0.00	22.61
Movement LOS	D	A	A	A	A	A	C	C	C	A	A	C
d_A, Approach Delay [s/veh]	5.41			4.24			29.76			22.61		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	10.41											
Intersection LOS	B											
Intersection V/C	0.477											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	21.75	21.75
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	1.769	1.922
Crosswalk LOS	F	F	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1097	399	266	266
d_b, Bicycle Delay [s]	6.13	19.27	22.61	22.61
l_b,int, Bicycle LOS Score for Intersection	2.193	1.862	1.819	1.561
Bicycle LOS	B	A	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 5: I-215 SB Ramps (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	6.9
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.631

Intersection Setup

Name												
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	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	365.00	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	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	30.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	453	0	186	0	721	382	0	1135	390
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	15	0	73	41	0	26	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	453	0	201	0	794	423	0	1161	390
Peak Hour Factor	0.9660	0.9660	0.9660	0.9250	0.9660	0.9250	0.9660	0.9250	0.9250	0.9660	0.9250	0.9250
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	122	0	54	0	215	114	0	314	105
Total Analysis Volume [veh/h]	0	0	0	490	0	217	0	858	457	0	1255	422
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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	0	0	0	5	0	0	0	8	0	0	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	7	0	0	0	7	0	0	7	7
Maximum Green [s]	0	0	0	120	0	0	0	120	0	0	120	120
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	22	0	0	0	38	0	0	38	38
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	0	0	10	0	0	0	10	0	0	17	17
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	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Minimum Recall				No				No			No	No
Maximum Recall				No				No			No	No
Pedestrian Recall				No				No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		L	R	C	R	C	R
C, Cycle Length [s]		37	37	37	37	37	37
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	0.00
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]		10	10	19	19	19	33
g / C, Green / Cycle		0.27	0.27	0.51	0.51	0.51	0.89
(v / s)_i Volume / Saturation Flow Rate		0.14	0.08	0.24	0.29	0.35	0.27
s, saturation flow rate [veh/h]		3459	2813	3560	1589	3560	1589
c, Capacity [veh/h]		939	764	1824	814	1824	1418
d1, Uniform Delay [s]		11.44	10.64	5.80	6.17	6.79	0.29
k, delay calibration		0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.45	0.20	0.19	0.61	0.47	0.12
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		0.52	0.28	0.47	0.56	0.69	0.30
d, Delay for Lane Group [s/veh]		11.90	10.85	5.99	6.78	7.26	0.41
Lane Group LOS		B	B	A	A	A	A
Critical Lane Group		Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]		1.43	0.59	0.60	0.77	1.07	0.05
50th-Percentile Queue Length [ft/ln]		35.82	14.68	15.07	19.19	26.76	1.14
95th-Percentile Queue Length [veh/ln]		2.58	1.06	1.09	1.38	1.93	0.08
95th-Percentile Queue Length [ft/ln]		64.48	26.43	27.13	34.54	48.17	2.06

Movement, Approach, & Intersection Results

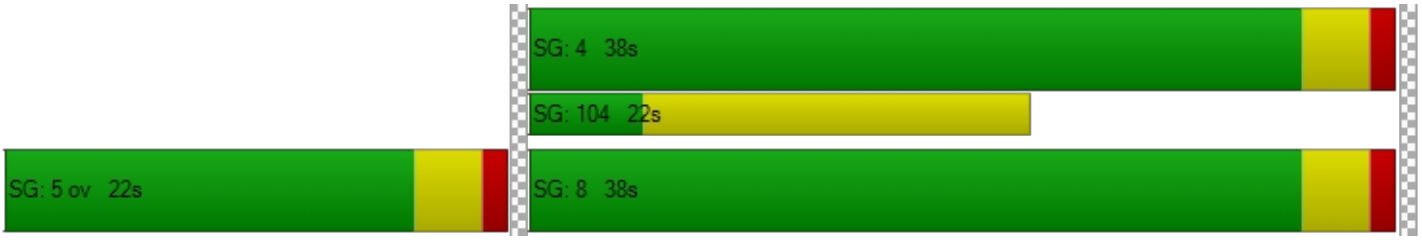
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.90	0.00	10.85	0.00	5.99	6.78	0.00	7.26	0.41
Movement LOS				B		B		A	A		A	A
d_A, Approach Delay [s/veh]	0.00			11.57			6.26			5.54		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	6.95											
Intersection LOS	A											
Intersection V/C	0.631											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	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]	0.00	10.55	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.435	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	975	1842	1842
d_b, Bicycle Delay [s]	18.45	4.84	0.11	0.11
l_b,int, Bicycle LOS Score for Intersection	4.132	1.560	2.644	2.943
Bicycle LOS	D	A	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-215 NB Ramps (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	16.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.785

Intersection Setup

Name											
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	1	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	185.00	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]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	489	0	0	520	149	1018	0	0	1005	428
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	15	40	33	0	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	489	0	0	535	189	1051	0	0	1016	428
Peak Hour Factor	0.9370	0.9370	0.9270	0.9370	0.9370	0.9270	0.9270	0.9270	0.9370	0.9370	0.9270	0.9270
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	132	0	0	144	51	283	0	0	274	115
Total Analysis Volume [veh/h]	0	0	528	0	0	577	204	1134	0	0	1096	462
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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	0	0	6	0	0	2	3	8	0	0	4	4
Auxiliary Signal Groups												4
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	0	7	0	0	7	7	7	0	0	7	7
Maximum Green [s]	0	0	120	0	0	120	120	120	0	0	120	120
Amber [s]	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	3.0	3.0
All red [s]	0.0	0.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	11	0	0	11	30	49	0	0	19	19
Vehicle Extension [s]	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	5	0	0	5	0	5	0	0	5	5
Pedestrian Clearance [s]	0	0	10	0	0	10	0	10	0	0	10	10
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	0.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
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	R	R	L	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
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]	15	15	9	36	24	24
g / C, Green / Cycle	0.26	0.26	0.15	0.61	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.19	0.21	0.11	0.32	0.31	0.29
s, saturation flow rate [veh/h]	2813	2813	1781	3560	3560	1589
c, Capacity [veh/h]	722	722	262	2172	1410	630
d1, Uniform Delay [s]	20.39	20.84	24.62	6.69	15.79	15.41
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.45	2.10	4.97	0.20	0.95	1.68
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	0.73	0.80	0.78	0.52	0.78	0.73
d, Delay for Lane Group [s/veh]	21.84	22.94	29.59	6.89	16.74	17.09
Lane Group LOS	C	C	C	A	B	B
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.30	3.73	2.70	2.11	4.95	4.21
50th-Percentile Queue Length [ft/ln]	82.41	93.23	67.52	52.67	123.70	105.27
95th-Percentile Queue Length [veh/ln]	5.93	6.71	4.86	3.79	8.60	7.58
95th-Percentile Queue Length [ft/ln]	148.34	167.82	121.54	94.81	214.90	189.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	21.84	0.00	0.00	22.94	29.59	6.89	0.00	0.00	16.74	17.09
Movement LOS			C			C	C	A			B	B
d_A, Approach Delay [s/veh]	21.84			22.94			10.35			16.84		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	16.21											
Intersection LOS	B											
Intersection V/C	0.785											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	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]	0.00	21.58	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.257	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	234	234	1505	502
d_b, Bicycle Delay [s]	23.32	23.32	1.83	16.79
l_b,int, Bicycle LOS Score for Intersection	1.560	1.560	2.663	2.845
Bicycle LOS	A	A	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 7: Antelope Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	29.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.658

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	215.00	100.00	100.00	165.00	100.00	100.00	190.00	100.00	100.00	315.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	50.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	378	263	173	72	130	274	330	799	378	117	785	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	0	0	0	0	1	4	27	2	0	9	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]	379	263	173	72	130	275	334	826	380	117	794	42
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]	98	68	45	19	34	71	87	215	99	30	206	11
Total Analysis Volume [veh/h]	394	273	180	75	135	286	347	859	395	122	825	44
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]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	2	3	8	8	7	4	0
Auxiliary Signal Groups			6,7			2,3			1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	0
Maximum Green [s]	120	120	120	120	120	120	120	120	120	120	120	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	20	33	33	13	26	26	17	33	33	11	27	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	5	0	5	5	0	5	0
Pedestrian Clearance [s]	0	24	24	0	10	10	0	24	24	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]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No	No	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	No	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	No	No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	16	36	47	6	26	43	13	25	45	7	19	19
g / C, Green / Cycle	0.18	0.40	0.52	0.07	0.29	0.47	0.14	0.28	0.50	0.08	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.11	0.08	0.11	0.04	0.07	0.18	0.10	0.24	0.25	0.04	0.16	0.16
s, saturation flow rate [veh/h]	3459	3560	1589	1781	1870	1589	3459	3560	1589	3459	3560	1822
c, Capacity [veh/h]	616	1427	832	120	543	754	483	983	792	272	765	392
d1, Uniform Delay [s]	34.46	17.58	11.57	41.02	24.54	15.24	37.18	31.22	15.13	39.77	33.22	33.23
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
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
d2, Incremental Delay [s]	1.11	0.30	0.60	5.18	1.09	1.45	2.01	2.63	0.49	1.16	1.51	2.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.64	0.19	0.22	0.62	0.25	0.38	0.72	0.87	0.50	0.45	0.75	0.75
d, Delay for Lane Group [s/veh]	35.57	17.88	12.16	46.20	25.64	16.69	39.19	33.85	15.62	40.93	34.73	36.18
Lane Group LOS	D	B	B	D	C	B	D	C	B	D	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.83	1.72	1.79	1.71	2.20	3.58	3.52	8.34	4.59	1.25	5.52	5.82
50th-Percentile Queue Length [ft/ln]	95.78	42.93	44.77	42.67	55.05	89.45	87.91	208.56	114.83	31.25	137.93	145.50
95th-Percentile Queue Length [veh/ln]	6.90	3.09	3.22	3.07	3.96	6.44	6.33	13.08	8.11	2.25	9.37	9.78
95th-Percentile Queue Length [ft/ln]	172.40	77.27	80.59	76.81	99.10	161.02	158.24	326.98	202.70	56.24	234.24	244.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.57	17.88	12.16	46.20	25.64	16.69	39.19	33.85	15.62	40.93	35.17	36.18
Movement LOS	D	B	B	D	C	B	D	C	B	D	D	D
d_A, Approach Delay [s/veh]	24.89			23.59			30.51			35.92		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	29.79											
Intersection LOS	C											
Intersection V/C	0.658											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	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]	36.55	36.55	0.00	36.55
l_p,int, Pedestrian LOS Score for Intersectio	2.944	2.678	0.000	3.133
Crosswalk LOS	C	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]	643	488	643	510
d_b, Bicycle Delay [s]	20.76	25.78	20.76	25.03
l_b,int, Bicycle LOS Score for Intersection	2.258	2.378	2.880	2.105
Bicycle LOS	B	B	C	B

Sequence

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



Intersection Level Of Service Report
Intersection 8: Menifee Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	45.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.754

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	235.00	100.00	100.00	145.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	104	300	202	84	130	92	173	813	118	148	782	95
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	0	0	0	0	3	9	14	4	0	5	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]	105	300	202	84	130	95	182	827	122	148	787	95
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	86	58	24	37	27	52	238	35	43	226	27
Total Analysis Volume [veh/h]	121	345	232	97	149	109	209	951	140	170	905	109
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]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	120	120	0	120	120	0	120	120	0	120	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	16	27	0	15	26	0	21	39	0	19	37	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	23	23	11	22	17	35	35	15	33	33
g / C, Green / Cycle	0.12	0.23	0.23	0.11	0.22	0.17	0.35	0.35	0.15	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.07	0.18	0.15	0.05	0.15	0.12	0.30	0.30	0.10	0.28	0.28
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1740	1781	1870	1787	1781	1870	1800
c, Capacity [veh/h]	214	430	366	196	383	303	654	626	267	617	594
d1, Uniform Delay [s]	41.54	36.35	34.71	41.89	35.71	39.02	30.07	30.14	39.94	31.00	31.02
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.43	14.58	8.15	8.68	9.15	12.19	13.07	13.93	11.05	12.72	13.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.80	0.63	0.50	0.67	0.69	0.85	0.85	0.64	0.84	0.84
d, Delay for Lane Group [s/veh]	51.98	50.93	42.86	50.57	44.86	51.21	43.15	44.07	50.98	43.72	44.28
Lane Group LOS	D	D	D	D	D	D	D	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.33	9.28	5.67	2.62	6.39	5.53	13.50	13.12	4.50	12.58	12.23
50th-Percentile Queue Length [ft/ln]	83.25	232.06	141.73	65.49	159.67	138.30	337.38	328.10	112.54	314.57	305.67
95th-Percentile Queue Length [veh/ln]	5.99	14.28	9.57	4.71	10.53	9.39	19.52	19.07	7.98	18.40	17.96
95th-Percentile Queue Length [ft/ln]	149.85	356.97	239.35	117.87	263.28	234.74	488.00	476.63	199.53	460.00	449.04

Movement, Approach, & Intersection Results

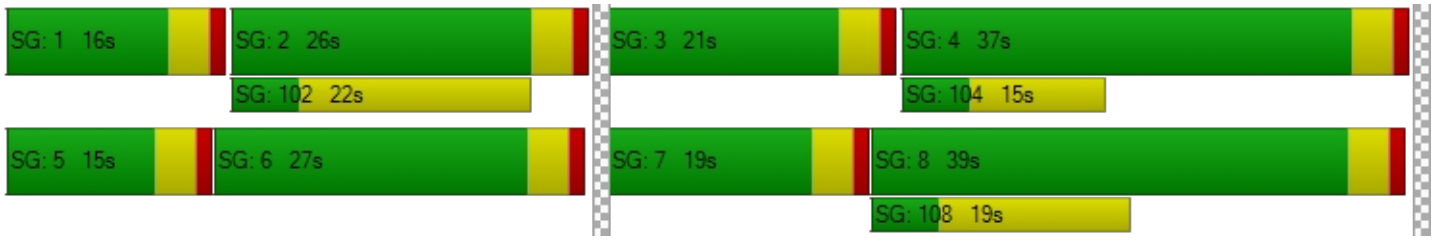
d_M, Delay for Movement [s/veh]	51.98	50.93	42.86	50.57	44.86	44.86	51.21	43.53	44.07	50.98	43.96	44.28
Movement LOS	D	D	D	D	D	D	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	48.43			46.42			44.82			45.00		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	45.75											
Intersection LOS	D											
Intersection V/C	0.754											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	41.41	41.41	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.561	2.498	3.177	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]	460	440	700	660
d_b, Bicycle Delay [s]	29.65	30.42	21.13	22.45
l_b,int, Bicycle LOS Score for Intersection	2.711	2.145	2.632	2.536
Bicycle LOS	B	B	B	B

Sequence

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



OPENING YEAR (2026) CUMULATIVE WITHOUT PROJECT

Pemcor Comm Indus Business Park

Vistro File: E:\...\AME.vistro

Scenario 3 Opening Year (2026) Cumulative Without Project AM Peak Hour

Report File: E:\...\AMOYWO.pdf

9/30/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	WB Right	1.153	82.3	F
2	Zeiders Rd (NS) at Ciccotti St (EW)	Two-way stop	HCM 7th Edition	WB Right	0.007	9.4	A
4	Zeiders Rd (NS) at Project South Dwy/Industrial Rdwy (EW)	Signalized	HCM 7th Edition	WB Right	0.220	3.0	A
5	I-215 SB Ramps (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.762	8.6	A
6	I-215 NB Ramps (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.846	23.5	C
7	Antelope Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.855	31.2	C
8	Menifee Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	NB Left	0.996	68.2	E

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: Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	82.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.153

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	170.00	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]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	61	74	24	548	105	51	79	685	138	68	538	403
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	29	36	205	28	40	85	49	12	58	48	411
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]	73	106	61	775	137	93	167	762	156	129	608	830
Peak Hour Factor	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	28	16	202	36	24	44	199	41	34	159	217
Total Analysis Volume [veh/h]	76	111	64	809	143	97	174	795	163	135	635	866
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 Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	35	0	15	44	0	11	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	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	120	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	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	8	8	31	31	11	54	54	11	54	54
g / C, Green / Cycle	0.07	0.07	0.07	0.26	0.26	0.09	0.45	0.45	0.09	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.04	0.06	0.04	0.29	0.30	0.10	0.43	0.10	0.08	0.18	0.54
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1765	1781	1870	1589	1781	3560	1589
c, Capacity [veh/h]	121	127	108	460	456	163	837	712	166	1598	714
d1, Uniform Delay [s]	54.49	55.46	54.36	44.54	44.54	54.54	31.86	20.41	53.45	22.19	33.09
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	22.22	51.54	21.72	69.46	73.96	51.55	6.75	0.16	9.34	0.16	99.91
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.63	0.87	0.59	1.14	1.15	1.07	0.95	0.23	0.82	0.40	1.21
d, Delay for Lane Group [s/veh]	76.71	106.99	76.07	114.00	118.50	106.09	38.61	20.57	62.79	22.35	133.00
Lane Group LOS	E	F	E	F	F	F	D	C	E	C	F
Critical Lane Group	No	Yes	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.93	5.06	2.49	21.86	22.23	7.06	21.49	2.65	4.26	5.59	38.41
50th-Percentile Queue Length [ft/ln]	73.25	126.59	62.13	546.42	555.63	176.55	537.22	66.20	106.53	139.70	960.18
95th-Percentile Queue Length [veh/ln]	5.27	8.75	4.47	31.84	32.46	11.69	29.09	4.77	7.65	9.46	55.50
95th-Percentile Queue Length [ft/ln]	131.85	218.85	111.84	795.95	811.54	292.15	727.28	119.17	191.17	236.61	1387.42

Movement, Approach, & Intersection Results

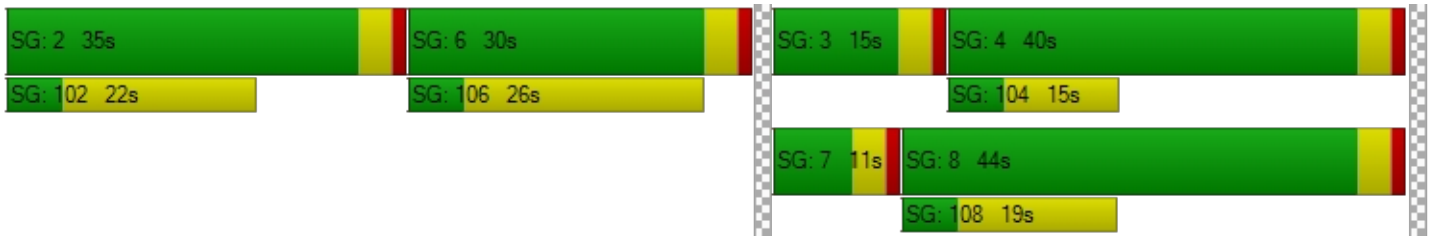
d_M, Delay for Movement [s/veh]	76.71	106.99	76.07	115.59	118.50	118.50	106.09	38.61	20.57	62.79	22.35	133.00
Movement LOS	E	F	E	F	F	F	F	D	C	E	C	F
d_A, Approach Delay [s/veh]	89.94			116.25			46.39			84.26		
Approach LOS	F			F			D			F		
d_I, Intersection Delay [s/veh]	82.32											
Intersection LOS	F											
Intersection V/C	1.153											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.36	51.36	51.36	51.36
l_p,int, Pedestrian LOS Score for Intersectio	2.399	3.147	3.009	3.452
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	433	516	666	600
d_b, Bicycle Delay [s]	36.84	33.03	26.69	29.42
l_b,int, Bicycle LOS Score for Intersection	1.974	3.290	3.427	2.909
Bicycle LOS	A	C	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 2: Zeiders Rd (NS) at Ciccotti St (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	140	4	4	234	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	41	0	10	36	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	187	4	14	279	0	5
Peak Hour Factor	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	1	4	79	0	1
Total Analysis Volume [veh/h]	211	5	16	315	0	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
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]	0.00	0.00	7.69	0.00	12.45	9.39
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.00	0.00	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.90	0.00	0.00	0.55
d_A, Approach Delay [s/veh]	0.00		0.37		9.39	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.32					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 4: Zeiders Rd (NS) at Project South Dwy/Industrial Rdwy (EW)

Control Type:	Signalized	Delay (sec / veh):	3.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.220

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	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	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			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	140	0	1	233	0	0	0	0	0	0	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	39	1	9	27	0	0	0	0	0	0	2
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	185	1	10	269	0	0	0	0	0	0	4
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
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	53	0	3	77	0	0	0	0	0	0	1
Total Analysis Volume [veh/h]	0	213	1	11	309	0	0	0	0	0	0	5
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	120	120	0	120	120	0	0	120	0	0	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	57	0	11	57	0	0	12	0	0	12	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	C	C	R
C, Cycle Length [s]	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	66	2	67	1	1	1
g / C, Green / Cycle	0.00	0.82	0.02	0.84	0.01	0.01	0.01
(v / s)_i Volume / Saturation Flow Rate	0.00	0.13	0.01	0.18	0.00	0.00	0.00
s, saturation flow rate [veh/h]	1603	1682	1603	1683	311	311	1431
c, Capacity [veh/h]	2	1377	33	1411	48	48	16
d1, Uniform Delay [s]	0.00	1.51	38.75	1.29	0.00	0.00	39.41
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.24	5.60	0.36	0.00	0.00	11.37
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.16	0.33	0.22	0.00	0.00	0.32
d, Delay for Lane Group [s/veh]	0.00	1.75	44.35	1.65	0.00	0.00	50.78
Lane Group LOS	A	A	D	A	A	A	D
Critical Lane Group	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	0.20	0.25	0.14	0.00	0.00	0.15
50th-Percentile Queue Length [ft/ln]	0.00	4.97	6.35	3.58	0.00	0.00	3.66
95th-Percentile Queue Length [veh/ln]	0.00	0.36	0.46	0.26	0.00	0.00	0.26
95th-Percentile Queue Length [ft/ln]	0.00	8.95	11.44	6.45	0.00	0.00	6.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	1.75	1.75	44.35	1.65	1.65	0.00	0.00	0.00	0.00	0.00	50.78
Movement LOS	A	A	A	D	A	A	A	A	A	A	A	D
d_A, Approach Delay [s/veh]	1.75			3.11			0.00			50.78		
Approach LOS	A			A			A			D		
d_I, Intersection Delay [s/veh]	3.01											
Intersection LOS	A											
Intersection V/C	0.220											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	31.58	31.58
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	1.711	1.941
Crosswalk LOS	F	F	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1323	1323	200	200
d_b, Bicycle Delay [s]	4.60	4.60	32.47	32.47
l_b,int, Bicycle LOS Score for Intersection	1.913	2.088	1.560	1.568
Bicycle LOS	A	B	A	A

Sequence

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



Intersection Level Of Service Report

Intersection 5: I-215 SB Ramps (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	8.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.762

Intersection Setup

Name												
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	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	365.00	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	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	30.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	464	0	172	0	678	582	0	837	634
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0404	1.0000	1.0404	1.0000	1.0404	1.0404	1.0000	1.0404	1.0404
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	49	0	83	0	192	98	0	434	4
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	532	0	262	0	897	704	0	1305	664
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
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	138	0	68	0	232	182	0	338	172
Total Analysis Volume [veh/h]	0	0	0	551	0	271	0	929	729	0	1351	687
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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	0	0	0	5	0	0	0	8	0	0	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	7	0	0	0	7	0	0	7	7
Maximum Green [s]	0	0	0	120	0	0	0	120	0	0	120	120
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	19	0	0	0	41	0	0	41	41
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	0	0	10	0	0	0	10	0	0	17	17
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	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Minimum Recall				No				No			No	No
Maximum Recall				No				No			No	No
Pedestrian Recall				No				No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		L	R	C	R	C	R
C, Cycle Length [s]		48	48	48	48	48	48
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	0.00
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]		14	14	27	27	27	44
g / C, Green / Cycle		0.29	0.29	0.55	0.55	0.55	0.92
(v / s)_i Volume / Saturation Flow Rate		0.16	0.10	0.26	0.46	0.38	0.43
s, saturation flow rate [veh/h]		3459	2813	3560	1589	3560	1589
c, Capacity [veh/h]		996	810	1949	870	1949	1459
d1, Uniform Delay [s]		14.65	13.63	6.73	9.19	8.02	0.29
k, delay calibration		0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.48	0.24	0.18	2.24	0.45	0.24
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		0.55	0.33	0.48	0.84	0.69	0.47
d, Delay for Lane Group [s/veh]		15.14	13.87	6.91	11.43	8.47	0.53
Lane Group LOS		B	B	A	B	A	A
Critical Lane Group		No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]		2.34	1.07	1.35	3.34	2.38	0.10
50th-Percentile Queue Length [ft/ln]		58.44	26.66	33.84	83.41	59.53	2.40
95th-Percentile Queue Length [veh/ln]		4.21	1.92	2.44	6.01	4.29	0.17
95th-Percentile Queue Length [ft/ln]		105.20	47.98	60.91	150.13	107.15	4.32

Movement, Approach, & Intersection Results

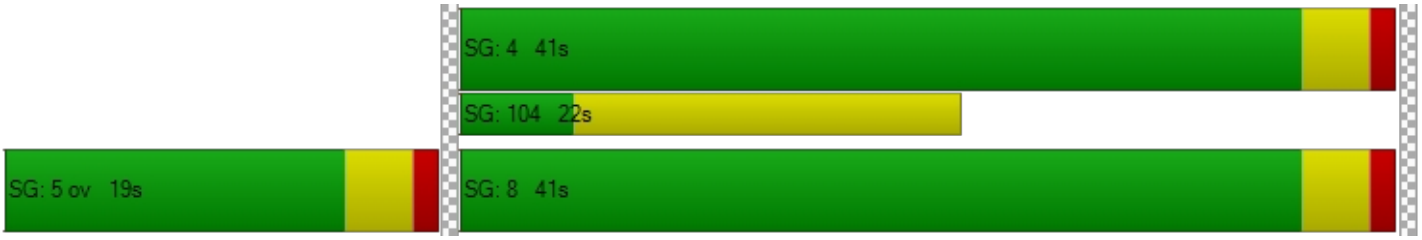
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	15.14	0.00	13.87	0.00	6.91	11.43	0.00	8.47	0.53
Movement LOS				B		B		A	B		A	A
d_A, Approach Delay [s/veh]	0.00			14.72			8.90			5.79		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	8.56											
Intersection LOS	A											
Intersection V/C	0.762											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	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]	0.00	16.07	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.514	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	619	1527	1527
d_b, Bicycle Delay [s]	24.23	11.55	1.36	1.36
l_b,int, Bicycle LOS Score for Intersection	4.132	1.560	2.927	3.241
Bicycle LOS	D	A	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-215 NB Ramps (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	23.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.846

Intersection Setup

Name												
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	1	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	185.00	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]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	388	0	0	233	157	1000	0	0	1197	452
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0404	1.0000	1.0000	1.0404	1.0404	1.0404	1.0000	1.0000	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	1	0	0	224	67	174	0	0	214	23
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	405	0	0	466	230	1214	0	0	1459	493
Peak Hour Factor	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370
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	108	0	0	124	61	324	0	0	389	132
Total Analysis Volume [veh/h]	0	0	432	0	0	497	245	1296	0	0	1557	526
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]	105
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	0	0	6	0	0	2	3	8	0	0	4	4
Auxiliary Signal Groups												4
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	0	7	0	0	7	7	7	0	0	7	7
Maximum Green [s]	0	0	120	0	0	120	120	120	0	0	120	120
Amber [s]	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	3.0	3.0
All red [s]	0.0	0.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	22	0	0	22	41	83	0	0	42	42
Vehicle Extension [s]	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	5	0	0	5	0	5	0	0	5	5
Pedestrian Clearance [s]	0	0	10	0	0	10	0	10	0	0	10	10
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	0.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
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	R	R	L	C	C	R
C, Cycle Length [s]	107	107	107	107	107	107
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]	22	22	17	78	57	57
g / C, Green / Cycle	0.20	0.20	0.16	0.72	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.15	0.18	0.14	0.36	0.44	0.33
s, saturation flow rate [veh/h]	2813	2813	1781	3560	3560	1589
c, Capacity [veh/h]	573	573	282	2570	1874	837
d1, Uniform Delay [s]	40.26	41.39	44.15	6.54	21.43	18.02
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.04	4.14	8.06	0.15	1.01	0.78
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	0.87	0.87	0.50	0.83	0.63
d, Delay for Lane Group [s/veh]	42.30	45.53	52.21	6.69	22.43	18.80
Lane Group LOS	D	D	D	A	C	B
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	5.55	6.70	6.62	4.41	14.25	8.13
50th-Percentile Queue Length [ft/ln]	138.63	167.41	165.53	110.30	356.14	203.20
95th-Percentile Queue Length [veh/ln]	9.41	10.94	10.84	7.86	20.44	12.80
95th-Percentile Queue Length [ft/ln]	235.18	273.51	271.03	196.41	510.89	320.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	42.30	0.00	0.00	45.53	52.21	6.69	0.00	0.00	22.43	18.80
Movement LOS			D			D	D	A			C	B
d_A, Approach Delay [s/veh]	42.30			45.53			13.93			21.52		
Approach LOS	D			D			B			C		
d_I, Intersection Delay [s/veh]	23.54											
Intersection LOS	C											
Intersection V/C	0.846											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	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]	0.00	45.07	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.294	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	335	335	1471	708
d_b, Bicycle Delay [s]	37.20	37.20	3.75	22.41
l_b,int, Bicycle LOS Score for Intersection	1.560	1.560	2.831	3.278
Bicycle LOS	A	A	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 7: Antelope Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	31.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.855

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	215.00	100.00	100.00	165.00	100.00	100.00	190.00	100.00	100.00	315.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	50.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	249	142	71	48	216	419	242	732	414	115	987	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	42	6	4	0	16	31	15	85	75	12	164	1
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]	301	154	78	50	241	467	267	847	506	132	1191	53
Peak Hour Factor	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	81	41	21	13	65	126	72	228	136	36	321	14
Total Analysis Volume [veh/h]	324	166	84	54	259	503	287	912	545	142	1282	57
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	2	3	8	8	7	4	0
Auxiliary Signal Groups			6,7			2,3			1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	0
Maximum Green [s]	120	120	120	120	120	120	120	120	120	120	120	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	16	33	33	12	29	29	13	34	34	11	32	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	5	0	5	5	0	5	0
Pedestrian Clearance [s]	0	24	24	0	10	10	0	24	24	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]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No	No	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	No	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	No	No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	35	45	5	28	41	9	27	43	7	25	25
g / C, Green / Cycle	0.13	0.38	0.50	0.06	0.31	0.45	0.10	0.30	0.48	0.08	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.09	0.05	0.05	0.03	0.14	0.32	0.08	0.26	0.34	0.04	0.25	0.25
s, saturation flow rate [veh/h]	3459	3560	1589	1781	1870	1589	3459	3560	1589	3459	3560	1829
c, Capacity [veh/h]	462	1368	802	104	578	721	347	1081	766	263	995	511
d1, Uniform Delay [s]	37.35	17.94	11.69	41.22	24.99	19.68	39.80	29.39	18.44	40.14	31.15	31.15
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
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
d2, Incremental Delay [s]	1.95	0.18	0.26	3.92	2.50	5.52	5.02	1.88	1.24	1.72	2.95	5.48
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	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.12	0.10	0.52	0.45	0.70	0.83	0.84	0.71	0.54	0.89	0.89
d, Delay for Lane Group [s/veh]	39.30	18.12	11.95	45.14	27.49	25.20	44.82	31.28	19.68	41.86	34.10	36.63
Lane Group LOS	D	B	B	D	C	C	D	C	B	D	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.32	1.05	0.82	1.22	4.46	8.39	3.14	8.49	7.67	1.48	8.64	9.24
50th-Percentile Queue Length [ft/ln]	83.08	26.17	20.57	30.38	111.60	209.66	78.42	212.22	191.85	36.94	216.08	231.05
95th-Percentile Queue Length [veh/ln]	5.98	1.88	1.48	2.19	7.93	13.14	5.65	13.27	12.22	2.66	13.46	14.23
95th-Percentile Queue Length [ft/ln]	149.55	47.10	37.02	54.69	198.22	328.39	141.16	331.68	305.43	66.49	336.62	355.70

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.30	18.12	11.95	45.14	27.49	25.20	44.82	31.28	19.68	41.86	34.89	36.63
Movement LOS	D	B	B	D	C	C	D	C	B	D	C	D
d_A, Approach Delay [s/veh]	29.17			27.25			29.88			35.62		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	31.17											
Intersection LOS	C											
Intersection V/C	0.855											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	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]	36.50	36.50	0.00	36.50
l_p,int, Pedestrian LOS Score for Intersectio	2.948	2.732	0.000	3.242
Crosswalk LOS	C	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]	644	555	666	622
d_b, Bicycle Delay [s]	20.72	23.52	20.04	21.40
l_b,int, Bicycle LOS Score for Intersection	2.033	2.906	2.998	2.374
Bicycle LOS	B	C	C	B

Sequence

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



Intersection Level Of Service Report
Intersection 8: Menifee Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	68.2
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.996

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	235.00	100.00	100.00	145.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	113	176	290	94	301	105	68	687	76	305	937	93
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	66	3	3	1	10	57	28	30	31	9	54	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]	184	186	305	99	323	166	99	745	110	326	1029	97
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	50	82	27	87	45	27	200	30	88	277	26
Total Analysis Volume [veh/h]	198	200	328	106	347	178	106	801	118	351	1106	104
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]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	120	120	0	120	120	0	120	120	0	120	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	18	40	0	15	37	0	13	33	0	27	47	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	C	L	C	C
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	14	36	36	11	33	9	29	29	23	43	43
g / C, Green / Cycle	0.12	0.31	0.31	0.10	0.29	0.08	0.25	0.25	0.20	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.11	0.11	0.21	0.06	0.30	0.06	0.25	0.25	0.20	0.33	0.33
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1764	1781	1870	1787	1781	1870	1814
c, Capacity [veh/h]	217	585	498	170	506	139	472	451	356	699	678
d1, Uniform Delay [s]	49.90	30.38	34.19	50.00	41.00	51.94	42.95	42.95	45.83	33.47	33.65
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	42.07	1.59	6.70	15.92	49.87	31.69	40.58	41.56	44.18	14.23	15.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.34	0.66	0.62	1.04	0.76	1.00	1.00	0.99	0.87	0.88
d, Delay for Lane Group [s/veh]	91.97	31.97	40.89	65.92	90.87	83.64	83.53	84.51	90.01	47.70	49.14
Lane Group LOS	F	C	D	E	F	F	F	F	F	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	7.99	4.37	8.52	3.58	20.49	4.09	17.78	17.12	13.78	17.26	17.21
50th-Percentile Queue Length [ft/ln]	199.73	109.35	213.06	89.54	512.37	102.31	444.60	428.01	344.62	431.48	430.37
95th-Percentile Queue Length [veh/ln]	12.62	7.80	13.31	6.45	28.57	7.37	24.70	23.91	19.87	24.07	24.02
95th-Percentile Queue Length [ft/ln]	315.61	195.10	332.75	161.17	714.30	184.16	617.50	597.66	496.85	601.82	600.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	91.97	31.97	40.89	65.92	90.87	90.87	83.64	83.93	84.51	90.01	48.35	49.14
Movement LOS	F	C	D	E	F	F	F	F	F	F	D	D
d_A, Approach Delay [s/veh]	52.37			86.68			83.97			57.77		
Approach LOS	D			F			F			E		
d_I, Intersection Delay [s/veh]	68.21											
Intersection LOS	E											
Intersection V/C	0.996											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	48.85	48.85	48.85	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.708	2.517	3.209	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]	626	574	504	748
d_b, Bicycle Delay [s]	27.13	29.23	32.16	22.54
l_b,int, Bicycle LOS Score for Intersection	2.758	2.601	2.405	2.847
Bicycle LOS	C	B	B	C

Sequence

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



Pemcor Comm Indus Business Park

Vistro File: E:\...\PME.vistro

Scenario 3 Opening Year (2026) Cumulative Without Project PM Peak Hour

Report File: E:\...\PMOYWO.pdf

9/30/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Right	1.578	255.9	F
2	Zeiders Rd (NS) at Ciccotti St (EW)	Two-way stop	HCM 7th Edition	WB Left	0.002	13.6	B
4	Zeiders Rd (NS) at Project South Dwy/Industrial Rdwy (EW)	Signalized	HCM 7th Edition	SB Left	0.310	3.0	A
5	I-215 SB Ramps (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.722	11.0	B
6	I-215 NB Ramps (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.904	38.0	D
7	Antelope Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.795	29.9	C
8	Menifee Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	NB Left	0.912	61.3	E

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: Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	255.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.578

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	170.00	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]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	125	236	48	437	71	53	66	584	65	73	592	643
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	36	63	527	36	110	85	57	14	57	65	421
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]	144	282	113	982	110	165	154	665	82	133	681	1090
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
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]	38	75	30	261	29	44	41	177	22	35	181	290
Total Analysis Volume [veh/h]	153	300	120	1046	117	176	164	708	87	142	725	1161
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 Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	56	0	11	23	0	11	23	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	17	0	0	14	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			No	
l1, 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
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	120	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	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	22	22	23	23	11	48	48	12	48	48
g / C, Green / Cycle	0.18	0.18	0.18	0.19	0.19	0.09	0.40	0.40	0.10	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.09	0.16	0.08	0.38	0.38	0.09	0.38	0.05	0.08	0.20	0.73
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1740	1781	1870	1589	1781	3560	1589
c, Capacity [veh/h]	320	336	286	339	332	168	747	635	172	1432	639
d1, Uniform Delay [s]	44.17	48.09	43.67	48.57	48.57	54.24	34.81	22.88	53.20	26.92	35.87
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.28
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.11	8.22	0.98	448.21	468.94	27.55	7.19	0.10	9.46	0.28	370.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.48	0.89	0.42	1.97	2.02	0.98	0.95	0.14	0.82	0.51	1.82
d, Delay for Lane Group [s/veh]	45.28	56.31	44.65	496.78	517.51	81.79	41.99	22.98	62.66	27.20	406.37
Lane Group LOS	D	E	D	F	F	F	D	C	E	C	F
Critical Lane Group	No	Yes	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.08	9.26	3.16	51.98	52.70	6.01	19.71	1.49	4.48	7.30	82.85
50th-Percentile Queue Length [ft/ln]	101.97	231.61	79.12	1299.41	1317.51	150.18	492.86	37.23	111.96	182.61	2071.21
95th-Percentile Queue Length [veh/ln]	7.34	14.26	5.70	81.22	82.53	10.03	27.00	2.68	7.95	11.74	131.09
95th-Percentile Queue Length [ft/ln]	183.54	356.41	142.41	2030.48	2063.18	250.67	674.91	67.01	198.73	293.42	3277.37

Movement, Approach, & Intersection Results

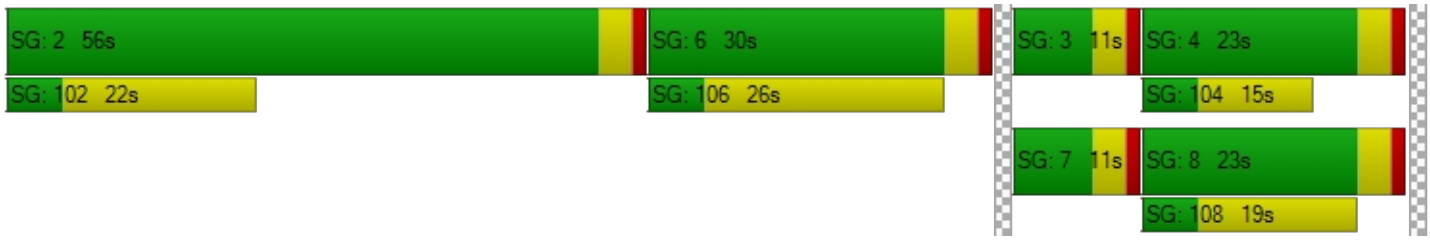
d_M, Delay for Movement [s/veh]	45.28	56.31	44.65	504.25	517.51	517.51	81.79	41.99	22.98	62.66	27.20	406.37
Movement LOS	D	E	D	F	F	F	F	D	C	E	C	F
d_A, Approach Delay [s/veh]	50.92			507.15			47.07			246.75		
Approach LOS	D			F			D			F		
d_I, Intersection Delay [s/veh]	255.93											
Intersection LOS	F											
Intersection V/C	1.578											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersectio	2.482	3.561	3.035	3.631
Crosswalk LOS	B	D	C	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	433	867	317	317
d_b, Bicycle Delay [s]	36.82	19.27	42.51	42.51
l_b,int, Bicycle LOS Score for Intersection	2.505	3.769	3.142	3.233
Bicycle LOS	B	D	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 2: Zeiders Rd (NS) at Ciccotti St (EW)

Control Type:	Two-way stop	Delay (sec / veh):	13.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	345	1	1	140	1	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	48	0	4	49	0	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	407	1	5	195	1	14
Peak Hour Factor	0.9110	0.9110	0.9110	0.9110	0.9110	0.9110
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	112	0	1	54	0	4
Total Analysis Volume [veh/h]	447	1	5	214	1	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	8.25	0.00	13.60	11.04
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.00	0.01	0.08
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.34	0.00	0.18	1.89
d_A, Approach Delay [s/veh]	0.00		0.19		11.20	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.32					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 4: Zeiders Rd (NS) at Project South Dwy/Industrial Rdwy (EW)

Control Type:	Signalized	Delay (sec / veh):	3.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.310

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	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	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			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	345	1	0	142	0	0	0	0	0	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	39	0	3	46	0	0	0	0	1	0	9
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	398	1	3	194	0	0	0	0	1	0	10
Peak Hour Factor	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060
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	110	0	1	54	0	0	0	0	0	0	3
Total Analysis Volume [veh/h]	0	439	1	3	214	0	0	0	0	1	0	11
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	120	120	0	120	120	0	0	120	0	0	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	46	72	0	12	38	0	0	11	0	0	11	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	C	C	R
C, Cycle Length [s]	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	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	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	81	1	81	2	2	2
g / C, Green / Cycle	0.00	0.85	0.01	0.85	0.02	0.02	0.02
(v / s)_i Volume / Saturation Flow Rate	0.00	0.26	0.00	0.13	0.00	0.00	0.01
s, saturation flow rate [veh/h]	1603	1682	1603	1683	333	1530	1431
c, Capacity [veh/h]	2	1422	11	1433	45	109	31
d1, Uniform Delay [s]	0.00	1.54	47.06	1.21	0.00	45.63	45.96
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.57	12.39	0.22	0.00	0.03	6.82
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.31	0.27	0.15	0.00	0.01	0.36
d, Delay for Lane Group [s/veh]	0.00	2.11	59.45	1.43	0.00	45.66	52.78
Lane Group LOS	A	A	E	A	A	D	D
Critical Lane Group	No	Yes	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	0.51	0.11	0.17	0.00	0.02	0.32
50th-Percentile Queue Length [ft/ln]	0.00	12.80	2.66	4.24	0.00	0.61	7.90
95th-Percentile Queue Length [veh/ln]	0.00	0.92	0.19	0.31	0.00	0.04	0.57
95th-Percentile Queue Length [ft/ln]	0.00	23.05	4.80	7.64	0.00	1.09	14.21

Movement, Approach, & Intersection Results

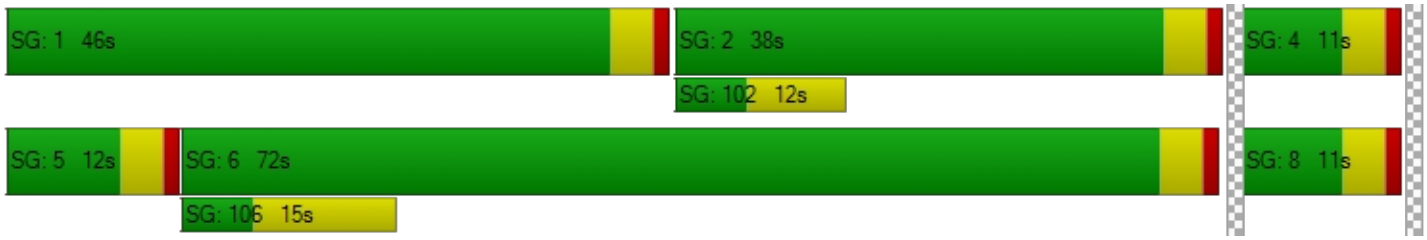
d_M, Delay for Movement [s/veh]	0.00	2.11	2.11	59.45	1.43	1.43	0.00	0.00	0.00	45.66	45.66	52.78
Movement LOS	A	A	A	E	A	A	A	A	A	D	D	D
d_A, Approach Delay [s/veh]	2.11			2.23			0.00			52.19		
Approach LOS	A			A			A			D		
d_I, Intersection Delay [s/veh]	3.04											
Intersection LOS	A											
Intersection V/C	0.310											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	38.99	38.99
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	1.719	1.949
Crosswalk LOS	F	F	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1430	715	147	147
d_b, Bicycle Delay [s]	3.87	19.64	40.83	40.83
l_b,int, Bicycle LOS Score for Intersection	2.286	1.918	1.560	1.579
Bicycle LOS	B	A	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 5: I-215 SB Ramps (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	11.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.722

Intersection Setup

Name												
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	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	365.00	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	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	30.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	453	0	186	0	721	382	0	1135	390
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0404	1.0000	1.0404	1.0000	1.0404	1.0404	1.0000	1.0404	1.0404
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	31	0	98	0	354	293	0	445	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	502	0	292	0	1104	690	0	1626	409
Peak Hour Factor	0.9660	0.9660	0.9660	0.9250	0.9660	0.9250	0.9660	0.9250	0.9250	0.9660	0.9250	0.9250
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	136	0	79	0	298	186	0	439	111
Total Analysis Volume [veh/h]	0	0	0	543	0	316	0	1194	746	0	1758	442
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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	0	0	0	5	0	0	0	8	0	0	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	7	0	0	0	7	0	0	7	7
Maximum Green [s]	0	0	0	120	0	0	0	120	0	0	120	120
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	34	0	0	0	26	0	0	26	26
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	0	0	10	0	0	0	10	0	0	17	17
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	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Minimum Recall				No				No			No	No
Maximum Recall				No				No			No	No
Pedestrian Recall				No				No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		L	R	C	R	C	R
C, Cycle Length [s]		81	81	81	81	81	81
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	0.00
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]		18	18	55	55	55	77
g / C, Green / Cycle		0.22	0.22	0.68	0.68	0.68	0.95
(v / s)_i Volume / Saturation Flow Rate		0.16	0.11	0.34	0.47	0.49	0.28
s, saturation flow rate [veh/h]		3459	2813	3560	1589	3560	1589
c, Capacity [veh/h]		769	625	2418	1079	2418	1511
d1, Uniform Delay [s]		29.10	27.64	6.29	7.87	8.25	0.14
k, delay calibration		0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		1.20	0.63	0.16	0.80	0.43	0.11
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.71	0.51	0.49	0.69	0.73	0.29
d, Delay for Lane Group [s/veh]		30.31	28.27	6.44	8.67	8.68	0.24
Lane Group LOS		C	C	A	A	A	A
Critical Lane Group		Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]		4.91	2.70	2.93	4.74	5.70	0.04
50th-Percentile Queue Length [ft/ln]		122.75	67.44	73.22	118.55	142.59	1.12
95th-Percentile Queue Length [veh/ln]		8.54	4.86	5.27	8.31	9.62	0.08
95th-Percentile Queue Length [ft/ln]		213.61	121.39	131.80	207.83	240.50	2.01

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	30.31	0.00	28.27	0.00	6.44	8.67	0.00	8.68	0.24
Movement LOS				C		C		A	A		A	A
d_A, Approach Delay [s/veh]	0.00			29.56			7.30			6.99		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	10.99											
Intersection LOS	B											
Intersection V/C	0.722											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	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]	0.00	32.01	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.508	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	741	543	543
d_b, Bicycle Delay [s]	40.51	16.06	21.50	21.50
l_b,int, Bicycle LOS Score for Intersection	4.132	1.560	3.160	3.375
Bicycle LOS	D	A	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-215 NB Ramps (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	38.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.904

Intersection Setup

Name												
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	1	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	185.00	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]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	489	0	0	520	149	1018	0	0	1005	428
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0404	1.0000	1.0000	1.0404	1.0404	1.0404	1.0000	1.0000	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	4	0	0	218	99	286	0	0	230	55
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	513	0	0	759	254	1345	0	0	1276	500
Peak Hour Factor	0.9370	0.9370	0.9270	0.9370	0.9370	0.9270	0.9270	0.9270	0.9370	0.9370	0.9270	0.9270
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	138	0	0	205	69	363	0	0	344	135
Total Analysis Volume [veh/h]	0	0	553	0	0	819	274	1451	0	0	1376	539
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]	65
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	0	0	6	0	0	2	3	8	0	0	4	4
Auxiliary Signal Groups												4
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	0	7	0	0	7	7	7	0	0	7	7
Maximum Green [s]	0	0	120	0	0	120	120	120	0	0	120	120
Amber [s]	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	3.0	3.0
All red [s]	0.0	0.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	18	0	0	18	27	47	0	0	20	20
Vehicle Extension [s]	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	5	0	0	5	0	5	0	0	5	5
Pedestrian Clearance [s]	0	0	10	0	0	10	0	10	0	0	10	10
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	0.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
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	R	R	L	C	C	R
C, Cycle Length [s]	149	149	149	149	149	149
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]	47	47	25	94	65	65
g / C, Green / Cycle	0.32	0.32	0.17	0.63	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.20	0.29	0.15	0.41	0.39	0.34
s, saturation flow rate [veh/h]	2813	2813	1781	3560	3560	1589
c, Capacity [veh/h]	888	888	301	2247	1550	692
d1, Uniform Delay [s]	43.57	49.38	60.97	17.17	38.84	36.05
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.72	4.62	10.43	0.32	1.92	1.95
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	0.62	0.92	0.91	0.65	0.89	0.78
d, Delay for Lane Group [s/veh]	44.29	54.00	71.40	17.48	40.75	38.00
Lane Group LOS	D	D	E	B	D	D
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	8.94	15.43	10.73	13.91	22.16	16.19
50th-Percentile Queue Length [ft/ln]	223.56	385.76	268.20	347.79	554.10	404.84
95th-Percentile Queue Length [veh/ln]	13.85	21.87	16.10	20.03	29.89	22.79
95th-Percentile Queue Length [ft/ln]	346.16	546.81	402.49	500.71	747.13	569.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	44.29	0.00	0.00	54.00	71.40	17.48	0.00	0.00	40.75	38.00
Movement LOS			D			D	E	B			D	D
d_A, Approach Delay [s/veh]	44.29			54.00			26.05			39.98		
Approach LOS	D			D			C			D		
d_I, Intersection Delay [s/veh]	37.95											
Intersection LOS	D											
Intersection V/C	0.904											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	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]	0.00	65.90	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.407	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	188	188	576	214
d_b, Bicycle Delay [s]	61.29	61.29	37.83	59.49
l_b,int, Bicycle LOS Score for Intersection	1.560	1.560	2.983	3.139
Bicycle LOS	A	A	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 7: Antelope Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	29.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.795

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	215.00	100.00	100.00	165.00	100.00	100.00	190.00	100.00	100.00	315.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	50.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	378	263	173	72	130	274	330	799	378	117	785	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	89	17	13	1	9	31	35	193	62	6	165	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]	482	291	193	76	144	316	378	1024	455	128	982	44
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]	125	76	50	20	37	82	98	266	118	33	255	11
Total Analysis Volume [veh/h]	501	302	201	79	150	328	393	1064	473	133	1021	46
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]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	2	3	8	8	7	4	0
Auxiliary Signal Groups			6,7			2,3			1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	0
Maximum Green [s]	120	120	120	120	120	120	120	120	120	120	120	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	23	33	33	12	22	22	17	34	34	11	28	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	5	0	5	5	0	5	0
Pedestrian Clearance [s]	0	24	24	0	10	10	0	24	24	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]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No	No	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	No	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	No	No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	19	32	43	6	19	36	13	29	52	7	23	23
g / C, Green / Cycle	0.21	0.35	0.48	0.07	0.21	0.40	0.14	0.32	0.57	0.08	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.14	0.08	0.13	0.04	0.08	0.21	0.11	0.30	0.30	0.04	0.20	0.20
s, saturation flow rate [veh/h]	3459	3560	1589	1781	1870	1589	3459	3560	1589	3459	3560	1829
c, Capacity [veh/h]	719	1263	758	120	401	641	500	1147	913	270	910	468
d1, Uniform Delay [s]	33.05	20.50	14.10	41.00	30.24	20.22	37.19	29.51	11.61	39.83	31.12	31.12
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
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
d2, Incremental Delay [s]	1.23	0.45	0.85	5.99	2.66	2.91	2.78	3.87	0.46	1.39	1.44	2.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.24	0.27	0.66	0.37	0.51	0.79	0.93	0.52	0.49	0.77	0.77
d, Delay for Lane Group [s/veh]	34.28	20.94	14.95	46.98	32.90	23.12	39.97	33.38	12.06	41.22	32.56	33.91
Lane Group LOS	C	C	B	D	C	C	D	C	B	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.82	2.12	2.32	1.81	2.88	5.12	4.05	10.41	4.57	1.37	6.59	6.95
50th-Percentile Queue Length [ft/ln]	120.56	52.96	58.01	45.37	72.07	127.97	101.13	260.33	114.37	34.23	164.68	173.68
95th-Percentile Queue Length [veh/ln]	8.42	3.81	4.18	3.27	5.19	8.83	7.28	15.71	8.08	2.46	10.80	11.27
95th-Percentile Queue Length [ft/ln]	210.59	95.32	104.43	81.67	129.73	220.73	182.04	392.64	202.06	61.62	269.91	281.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.28	20.94	14.95	46.98	32.90	23.12	39.97	33.38	12.06	41.22	32.98	33.91
Movement LOS	C	C	B	D	C	C	D	C	B	D	C	C
d_A, Approach Delay [s/veh]	26.40			29.14			29.50			33.93		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	29.93											
Intersection LOS	C											
Intersection V/C	0.795											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	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]	36.47	36.47	0.00	36.47
l_p,int, Pedestrian LOS Score for Intersectio	3.004	2.723	0.000	3.245
Crosswalk LOS	C	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]	644	400	666	533
d_b, Bicycle Delay [s]	20.69	28.82	20.02	24.22
l_b,int, Bicycle LOS Score for Intersection	2.388	2.479	3.152	2.220
Bicycle LOS	B	B	C	B

Sequence

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



Intersection Level Of Service Report
Intersection 8: Menifee Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	61.3
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.912

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	235.00	100.00	100.00	145.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	104	300	202	84	130	92	173	813	118	148	782	95
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	65	11	10	1	6	53	63	63	80	5	53	1
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]	173	323	220	88	141	149	243	909	203	159	867	100
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
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]	50	93	63	25	41	43	70	261	58	46	249	29
Total Analysis Volume [veh/h]	199	371	253	101	162	171	279	1045	233	183	997	115
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]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	120	120	0	120	120	0	120	120	0	120	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	17	31	0	12	26	0	22	40	0	17	35	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	27	27	8	22	18	36	36	13	31	31
g / C, Green / Cycle	0.13	0.27	0.27	0.08	0.22	0.18	0.36	0.36	0.13	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.11	0.20	0.16	0.06	0.19	0.16	0.35	0.36	0.10	0.30	0.30
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1715	1781	1870	1755	1781	1870	1803
c, Capacity [veh/h]	232	505	429	142	377	321	673	632	232	580	559
d1, Uniform Delay [s]	42.61	33.24	31.69	44.86	37.75	39.87	31.45	31.83	42.18	34.11	34.17
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	31.69	9.17	5.84	25.72	24.53	26.05	27.83	33.62	23.48	31.65	33.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.73	0.59	0.71	0.88	0.87	0.97	0.99	0.79	0.97	0.98
d, Delay for Lane Group [s/veh]	74.29	42.41	37.53	70.58	62.28	65.92	59.27	65.46	65.66	65.76	67.31
Lane Group LOS	E	D	D	E	E	E	E	E	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	6.65	9.02	5.72	3.35	9.96	8.53	18.98	19.28	5.62	17.36	17.04
50th-Percentile Queue Length [ft/ln]	166.33	225.54	143.12	83.70	248.92	213.13	474.48	482.07	140.47	434.01	425.92
95th-Percentile Queue Length [veh/ln]	10.88	13.95	9.65	6.03	15.13	13.31	26.12	26.48	9.51	24.19	23.81
95th-Percentile Queue Length [ft/ln]	272.09	348.69	241.22	150.66	378.30	332.85	653.10	662.11	237.66	604.83	595.15

Movement, Approach, & Intersection Results

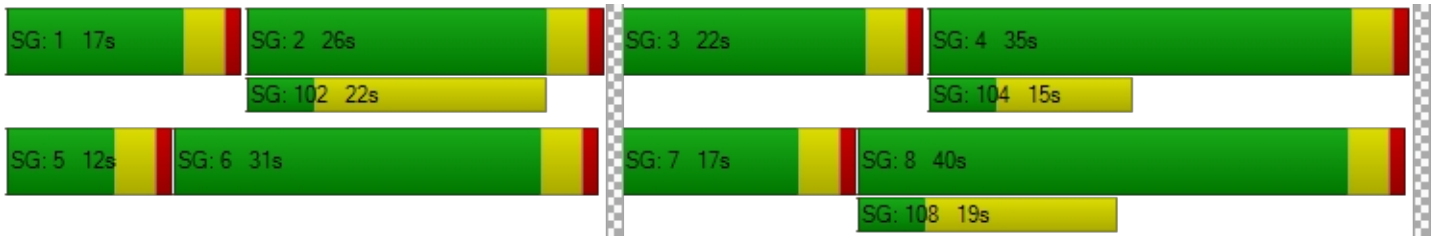
d_M, Delay for Movement [s/veh]	74.29	42.41	37.53	70.58	62.28	62.28	65.92	61.60	65.46	65.66	66.43	67.31
Movement LOS	E	D	D	E	E	E	E	E	E	E	E	E
d_A, Approach Delay [s/veh]	48.62			64.21			62.95			66.40		
Approach LOS	D			E			E			E		
d_I, Intersection Delay [s/veh]	61.30											
Intersection LOS	E											
Intersection V/C	0.912											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	41.41	41.41	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.650	2.596	3.352	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]	540	440	720	620
d_b, Bicycle Delay [s]	26.65	30.42	20.48	23.81
l_b,int, Bicycle LOS Score for Intersection	2.918	2.276	2.844	2.628
Bicycle LOS	C	B	C	B

Sequence

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



OPENING YEAR (2026) CUMULATIVE WITH PROJECT

Pemcor Comm Indus Business Park

Vistro File: E:\...\AME.vistro

Scenario 4 Opening Year (2026) Cumulative With Project AM Peak Hour

Report File: E:\...\AMOYW.pdf

9/30/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	1.340	97.4	F
2	Zeiders Rd (NS) at Ciccotti St (EW)	Two-way stop	HCM 7th Edition	WB Right	0.008	9.7	A
3	Zeiders Rd (NS) at Project North Dwy (EW)	Two-way stop	HCM 7th Edition	EB Right	0.002	10.5	B
4	Zeiders Rd (NS) at Project South Dwy/Industrial Rdwy (EW)	Signalized	HCM 7th Edition	NB Left	0.365	6.9	A
5	I-215 SB Ramps (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.752	9.0	A
6	I-215 NB Ramps (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.868	28.3	C
7	Antelope Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.866	31.2	C
8	Menifee Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	NB Left	1.016	70.7	E

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: Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	97.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.340

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	170.00	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]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	61	74	24	548	105	51	79	685	138	68	538	403
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	32	75	205	42	40	85	49	27	176	48	411
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]	78	109	100	775	151	93	167	762	171	247	608	830
Peak Hour Factor	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	28	26	202	39	24	44	199	45	64	159	217
Total Analysis Volume [veh/h]	81	114	104	809	158	97	174	795	178	258	635	866
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]	110
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	40	0	19	23	0	16	20	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	142	142	142	142	142	142	142	142	142	142	142
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	138	138	138	36	36	15	63	63	31	79	79
g / C, Green / Cycle	0.97	0.97	0.97	0.25	0.25	0.11	0.44	0.44	0.22	0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.05	0.06	0.07	0.44	0.39	0.14	0.43	0.11	0.20	0.18	0.54
s, saturation flow rate [veh/h]	1781	1870	1589	1163	1406	1278	1870	1589	1278	3560	1589
c, Capacity [veh/h]	1731	1817	1545	328	397	166	830	705	308	1976	882
d1, Uniform Delay [s]	0.06	0.06	0.06	54.66	54.27	64.75	38.12	24.68	54.43	17.06	30.79
k, delay calibration	0.50	0.50	0.50	0.12	0.11	0.11	0.11	0.11	0.11	0.11	0.21
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.05	0.07	0.08	259.82	176.77	46.05	7.66	0.19	6.08	0.09	15.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.05	0.06	0.07	1.57	1.39	1.05	0.96	0.25	0.84	0.32	0.98
d, Delay for Lane Group [s/veh]	0.11	0.13	0.14	314.48	231.03	110.80	45.78	24.86	60.51	17.15	46.63
Lane Group LOS	A	A	A	F	F	F	D	C	E	B	D
Critical Lane Group	No	No	Yes	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.02	0.03	0.04	35.33	33.57	7.98	26.48	3.62	9.18	5.23	29.53
50th-Percentile Queue Length [ft/ln]	0.61	0.84	0.90	883.34	839.31	199.58	661.96	90.46	229.61	130.86	738.14
95th-Percentile Queue Length [veh/ln]	0.04	0.06	0.06	55.41	50.83	12.86	34.92	6.51	14.15	8.99	38.44
95th-Percentile Queue Length [ft/ln]	1.10	1.51	1.62	1385.23	1270.67	321.41	872.93	162.84	353.87	224.66	960.92

Movement, Approach, & Intersection Results

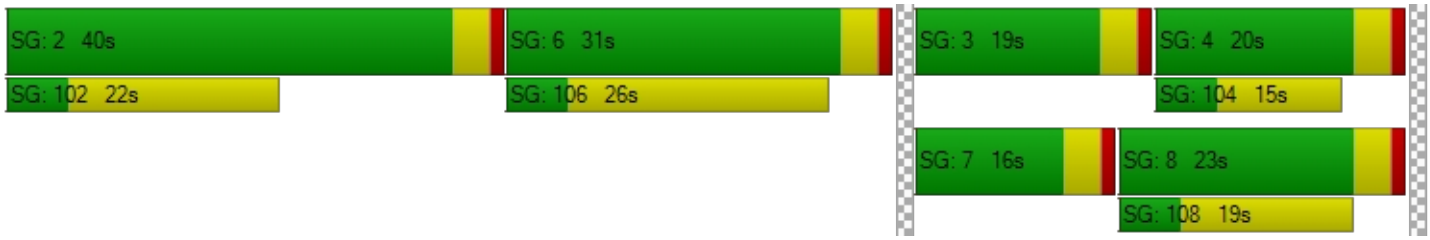
d_M, Delay for Movement [s/veh]	0.11	0.13	0.14	284.68	231.03	231.03	110.80	45.78	24.86	60.51	17.15	46.63
Movement LOS	A	A	A	F	F	F	F	D	C	E	B	D
d_A, Approach Delay [s/veh]	0.13			271.41			52.40			38.02		
Approach LOS	A			F			D			D		
d_I, Intersection Delay [s/veh]	97.40											
Intersection LOS	F											
Intersection V/C	1.340											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	62.12	62.12	62.12	62.12
l_p,int, Pedestrian LOS Score for Intersectio	2.847	3.412	3.023	4.684
Crosswalk LOS	C	C	C	E
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	381	508	268	226
d_b, Bicycle Delay [s]	46.41	39.41	53.11	55.74
l_b,int, Bicycle LOS Score for Intersection	2.053	3.315	3.452	3.011
Bicycle LOS	B	C	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 2: Zeiders Rd (NS) at Ciccotti St (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	140	4	4	234	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	88	0	10	183	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	234	4	14	426	0	5
Peak Hour Factor	0.8870	0.8870	0.8870	0.8870	0.8870	0.8870
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	66	1	4	120	0	1
Total Analysis Volume [veh/h]	264	5	16	480	0	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
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]	0.00	0.00	7.82	0.00	15.00	9.70
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.00	0.00	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.94	0.00	0.00	0.59
d_A, Approach Delay [s/veh]	0.00		0.25		9.70	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.24					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 3: Zeiders Rd (NS) at Project North Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	144	234	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0404	1.0404	1.0404	1.0000	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	88	76	107	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	238	319	107	0	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	63	84	28	0	0
Total Analysis Volume [veh/h]	0	251	336	113	0	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	10.49
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.11
d_A, Approach Delay [s/veh]	0.00		0.00		10.49	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.01					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 4: Zeiders Rd (NS) at Project South Dwy/Industrial Rdwy (EW)

Control Type:	Signalized	Delay (sec / veh):	6.9
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.365

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	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	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			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	140	0	1	233	0	0	0	0	0	0	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	39	1	9	28	40	47	0	0	0	0	2
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]	7	185	1	10	270	40	47	0	0	0	0	4
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
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]	2	53	0	3	78	11	14	0	0	0	0	1
Total Analysis Volume [veh/h]	8	213	1	11	310	46	54	0	0	0	0	5
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

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

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	120	120	0	120	120	0	0	120	0	0	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	32	0	11	31	0	0	17	0	0	17	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	43	1	43	4	4	4
g / C, Green / Cycle	0.02	0.71	0.02	0.71	0.07	0.07	0.07
(v / s)_i Volume / Saturation Flow Rate	0.00	0.13	0.01	0.22	0.07	0.00	0.00
s, saturation flow rate [veh/h]	1603	1682	1603	1645	765	925	1431
c, Capacity [veh/h]	25	1192	33	1174	174	126	102
d1, Uniform Delay [s]	29.28	2.93	29.03	3.15	28.78	0.00	26.04
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.91	0.33	5.58	0.67	1.00	0.00	0.20
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.18	0.33	0.30	0.31	0.00	0.05
d, Delay for Lane Group [s/veh]	36.18	3.26	34.61	3.81	29.78	0.00	26.24
Lane Group LOS	D	A	C	A	C	A	C
Critical Lane Group	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.15	0.42	0.19	0.76	0.80	0.00	0.07
50th-Percentile Queue Length [ft/ln]	3.80	10.57	4.84	18.98	20.01	0.00	1.75
95th-Percentile Queue Length [veh/ln]	0.27	0.76	0.35	1.37	1.44	0.00	0.13
95th-Percentile Queue Length [ft/ln]	6.85	19.02	8.71	34.17	36.01	0.00	3.15

Movement, Approach, & Intersection Results

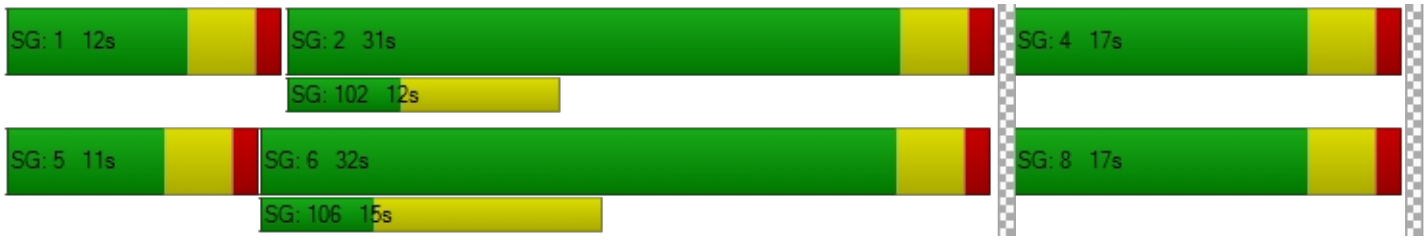
d_M, Delay for Movement [s/veh]	36.18	3.26	3.26	34.61	3.81	3.81	29.78	29.78	29.78	0.00	0.00	26.24
Movement LOS	D	A	A	C	A	A	C	C	C	A	A	C
d_A, Approach Delay [s/veh]	4.44			4.74			29.78			26.24		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	6.89											
Intersection LOS	A											
Intersection V/C	0.365											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	21.71	21.71
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	1.739	1.926
Crosswalk LOS	F	F	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	932	899	433	433
d_b, Bicycle Delay [s]	8.56	9.11	18.44	18.44
l_b,int, Bicycle LOS Score for Intersection	1.926	2.165	1.649	1.568
Bicycle LOS	A	B	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 5: I-215 SB Ramps (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	9.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.752

Intersection Setup

Name												
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	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	365.00	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	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	30.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	464	0	172	0	678	582	0	837	634
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0404	1.0000	1.0404	1.0000	1.0404	1.0404	1.0000	1.0404	1.0404
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	49	0	124	0	217	112	0	511	4
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	532	0	303	0	922	718	0	1382	664
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
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	138	0	78	0	239	186	0	358	172
Total Analysis Volume [veh/h]	0	0	0	551	0	314	0	954	743	0	1431	687
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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	0	0	0	5	0	0	0	8	0	0	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	7	0	0	0	7	0	0	7	7
Maximum Green [s]	0	0	0	120	0	0	0	120	0	0	120	120
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	18	0	0	0	42	0	0	42	42
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	0	0	10	0	0	0	10	0	0	17	17
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	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Minimum Recall				No				No			No	No
Maximum Recall				No				No			No	No
Pedestrian Recall				No				No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		L	R	C	R	C	R
C, Cycle Length [s]		53	53	53	53	53	53
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	0.00
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]		15	15	30	30	30	49
g / C, Green / Cycle		0.28	0.28	0.57	0.57	0.57	0.92
(v / s)_i Volume / Saturation Flow Rate		0.16	0.11	0.27	0.47	0.40	0.43
s, saturation flow rate [veh/h]		3459	2813	3560	1589	3560	1589
c, Capacity [veh/h]		971	790	2022	902	2022	1469
d1, Uniform Delay [s]		16.25	15.38	6.74	9.27	8.25	0.27
k, delay calibration		0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.52	0.32	0.17	1.96	0.46	0.23
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		0.57	0.40	0.47	0.82	0.71	0.47
d, Delay for Lane Group [s/veh]		16.78	15.71	6.91	11.23	8.72	0.50
Lane Group LOS		B	B	A	B	A	A
Critical Lane Group		No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]		2.65	1.43	1.55	3.72	2.90	0.09
50th-Percentile Queue Length [ft/ln]		66.29	35.69	38.85	92.89	72.38	2.37
95th-Percentile Queue Length [veh/ln]		4.77	2.57	2.80	6.69	5.21	0.17
95th-Percentile Queue Length [ft/ln]		119.32	64.23	69.94	167.20	130.29	4.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	16.78	0.00	15.71	0.00	6.91	11.23	0.00	8.72	0.50
Movement LOS				B		B		A	B		A	A
d_A, Approach Delay [s/veh]	0.00			16.39			8.80			6.05		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	8.96											
Intersection LOS	A											
Intersection V/C	0.752											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	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]	0.00	18.13	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.526	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	531	1442	1442
d_b, Bicycle Delay [s]	26.36	14.22	2.05	2.05
l_b,int, Bicycle LOS Score for Intersection	4.132	1.560	2.960	3.307
Bicycle LOS	D	A	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-215 NB Ramps (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	28.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.868

Intersection Setup

Name												
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	1	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	185.00	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]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	388	0	0	233	157	1000	0	0	1197	452
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0404	1.0000	1.0000	1.0404	1.0404	1.0404	1.0000	1.0000	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	1	0	0	265	82	184	0	0	250	23
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	405	0	0	507	245	1224	0	0	1495	493
Peak Hour Factor	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370
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	108	0	0	135	65	327	0	0	399	132
Total Analysis Volume [veh/h]	0	0	432	0	0	541	261	1306	0	0	1596	526
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]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	0	0	6	0	0	2	3	8	0	0	4	4
Auxiliary Signal Groups												4
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	0	7	0	0	7	7	7	0	0	7	7
Maximum Green [s]	0	0	120	0	0	120	120	120	0	0	120	120
Amber [s]	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	3.0	3.0
All red [s]	0.0	0.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	24	0	0	24	26	76	0	0	50	50
Vehicle Extension [s]	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	5	0	0	5	0	5	0	0	5	5
Pedestrian Clearance [s]	0	0	10	0	0	10	0	10	0	0	10	10
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	0.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
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	R	R	L	C	C	R
C, Cycle Length [s]	129	129	129	129	129	129
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]	28	28	21	93	68	68
g / C, Green / Cycle	0.22	0.22	0.16	0.72	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.15	0.19	0.15	0.37	0.45	0.33
s, saturation flow rate [veh/h]	2813	2813	1781	3560	3560	1589
c, Capacity [veh/h]	606	606	292	2572	1878	838
d1, Uniform Delay [s]	46.90	49.15	52.83	7.85	26.10	21.52
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.57	4.83	9.37	0.16	1.15	0.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.71	0.89	0.89	0.51	0.85	0.63
d, Delay for Lane Group [s/veh]	48.47	53.98	62.20	8.00	27.25	22.30
Lane Group LOS	D	D	E	A	C	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	6.62	8.92	8.68	6.16	18.95	10.32
50th-Percentile Queue Length [ft/ln]	165.55	223.09	217.12	153.92	473.84	258.00
95th-Percentile Queue Length [veh/ln]	10.84	13.82	13.52	10.23	26.09	15.59
95th-Percentile Queue Length [ft/ln]	271.05	345.57	337.95	255.66	652.34	389.71

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	48.47	0.00	0.00	53.98	62.20	8.00	0.00	0.00	27.25	22.30
Movement LOS			D			D	E	A			C	C
d_A, Approach Delay [s/veh]	48.47			53.98			17.03			26.03		
Approach LOS	D			D			B			C		
d_I, Intersection Delay [s/veh]	28.32											
Intersection LOS	C											
Intersection V/C	0.868											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	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]	0.00	55.76	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.318	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	310	310	1117	714
d_b, Bicycle Delay [s]	46.00	46.00	12.56	26.66
l_b,int, Bicycle LOS Score for Intersection	1.560	1.560	2.852	3.310
Bicycle LOS	A	A	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 7: Antelope Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	31.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.866

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	215.00	100.00	100.00	165.00	100.00	100.00	190.00	100.00	100.00	315.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	50.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	249	142	71	48	216	419	242	732	414	115	987	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	45	6	4	0	16	35	16	93	76	12	193	1
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]	304	154	78	50	241	471	268	855	507	132	1220	53
Peak Hour Factor	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	82	41	21	13	65	127	72	230	136	36	328	14
Total Analysis Volume [veh/h]	327	166	84	54	259	507	288	920	546	142	1313	57
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	2	3	8	8	7	4	0
Auxiliary Signal Groups			6,7			2,3			1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	0
Maximum Green [s]	120	120	120	120	120	120	120	120	120	120	120	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	16	33	33	12	29	29	13	34	34	11	32	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	5	0	5	5	0	5	0
Pedestrian Clearance [s]	0	24	24	0	10	10	0	24	24	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]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No	No	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	No	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	No	No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	34	45	5	27	40	9	28	44	7	26	26
g / C, Green / Cycle	0.13	0.38	0.50	0.06	0.30	0.45	0.10	0.31	0.49	0.08	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.09	0.05	0.05	0.03	0.14	0.32	0.08	0.26	0.34	0.04	0.25	0.25
s, saturation flow rate [veh/h]	3459	3560	1589	1781	1870	1589	3459	3560	1589	3459	3560	1830
c, Capacity [veh/h]	462	1353	795	104	570	715	347	1097	772	263	1010	519
d1, Uniform Delay [s]	37.39	18.19	11.89	41.22	25.30	20.06	39.81	29.12	18.15	40.14	31.02	31.02
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
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
d2, Incremental Delay [s]	2.01	0.19	0.27	3.92	2.60	5.89	5.11	1.80	1.20	1.72	3.10	5.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.71	0.12	0.11	0.52	0.45	0.71	0.83	0.84	0.71	0.54	0.90	0.90
d, Delay for Lane Group [s/veh]	39.39	18.38	12.15	45.14	27.90	25.95	44.93	30.92	19.35	41.86	34.12	36.75
Lane Group LOS	D	B	B	D	C	C	D	C	B	D	C	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.36	1.06	0.83	1.22	4.51	8.62	3.15	8.51	7.60	1.48	8.86	9.49
50th-Percentile Queue Length [ft/ln]	84.00	26.42	20.83	30.38	112.69	215.40	78.81	212.70	189.89	36.94	221.40	237.14
95th-Percentile Queue Length [veh/ln]	6.05	1.90	1.50	2.19	7.99	13.43	5.67	13.29	12.12	2.66	13.74	14.54
95th-Percentile Queue Length [ft/ln]	151.20	47.56	37.49	54.69	199.73	335.75	141.85	332.30	302.89	66.49	343.42	363.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.39	18.38	12.15	45.14	27.90	25.95	44.93	30.92	19.35	41.86	34.94	36.75
Movement LOS	D	B	B	D	C	C	D	C	B	D	C	D
d_A, Approach Delay [s/veh]	29.38			27.83			29.62			35.66		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	31.23											
Intersection LOS	C											
Intersection V/C	0.866											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	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]	36.50	36.50	0.00	36.50
l_p,int, Pedestrian LOS Score for Intersectio	2.949	2.734	0.000	3.252
Crosswalk LOS	C	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]	644	555	666	622
d_b, Bicycle Delay [s]	20.72	23.52	20.04	21.40
l_b,int, Bicycle LOS Score for Intersection	2.036	2.913	3.007	2.391
Bicycle LOS	B	C	C	B

Sequence

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



Intersection Level Of Service Report
Intersection 8: Menifee Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	70.7
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.016

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	235.00	100.00	100.00	145.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	113	176	290	94	301	105	68	687	76	305	937	93
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	70	3	3	1	10	67	30	35	32	9	69	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]	188	186	305	99	323	176	101	750	111	326	1044	97
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	50	82	27	87	47	27	202	30	88	281	26
Total Analysis Volume [veh/h]	202	200	328	106	347	189	109	806	119	351	1123	104
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]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	120	120	0	120	120	0	120	120	0	120	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	17	38	0	15	36	0	12	31	0	26	45	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	C	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	34	34	11	32	8	27	27	22	41	41
g / C, Green / Cycle	0.12	0.31	0.31	0.10	0.29	0.07	0.25	0.25	0.20	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.11	0.11	0.21	0.06	0.30	0.06	0.25	0.25	0.20	0.33	0.33
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1760	1781	1870	1787	1781	1870	1815
c, Capacity [veh/h]	210	578	491	178	512	130	459	439	356	697	677
d1, Uniform Delay [s]	48.24	29.40	33.08	47.37	39.00	50.37	41.50	41.50	43.84	32.35	32.54
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	52.39	1.64	7.03	13.81	52.50	45.18	50.03	51.05	44.18	15.66	17.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.96	0.35	0.67	0.60	1.05	0.84	1.03	1.03	0.99	0.89	0.90
d, Delay for Lane Group [s/veh]	100.63	31.04	40.11	61.18	91.50	95.56	91.53	92.55	88.02	48.01	49.66
Lane Group LOS	F	C	D	E	F	F	F	F	F	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	8.39	4.19	8.21	3.36	20.38	4.45	17.96	17.28	13.30	17.05	17.06
50th-Percentile Queue Length [ft/ln]	209.74	104.81	205.27	83.88	509.46	111.21	448.96	432.12	332.48	426.25	426.52
95th-Percentile Queue Length [veh/ln]	13.14	7.55	12.91	6.04	28.60	7.91	25.36	24.54	19.28	23.82	23.83
95th-Percentile Queue Length [ft/ln]	328.50	188.67	322.75	150.99	714.93	197.68	633.97	613.49	482.00	595.55	595.86

Movement, Approach, & Intersection Results

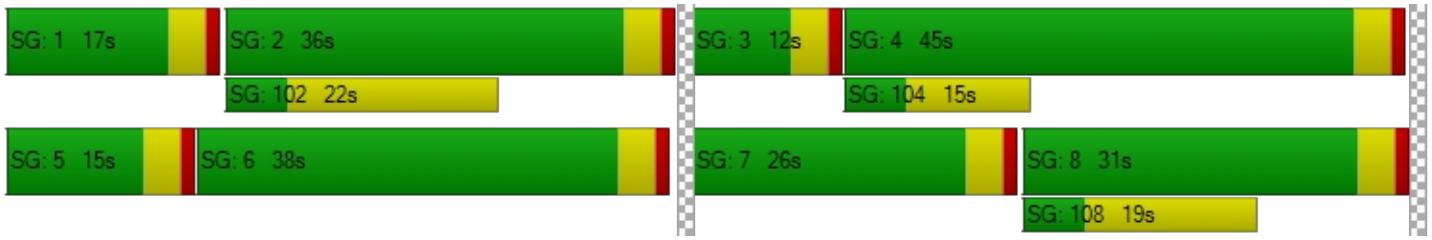
d_M, Delay for Movement [s/veh]	100.63	31.04	40.11	61.18	91.50	91.50	95.56	91.95	92.55	88.02	48.75	49.66
Movement LOS	F	C	D	E	F	F	F	F	F	F	D	D
d_A, Approach Delay [s/veh]	54.37			86.50			92.40			57.54		
Approach LOS	D			F			F			E		
d_I, Intersection Delay [s/veh]	70.68											
Intersection LOS	E											
Intersection V/C	1.016											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	46.37	46.37	46.37	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.708	2.523	3.222	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]	618	582	491	745
d_b, Bicycle Delay [s]	26.25	27.65	31.31	21.64
l_b,int, Bicycle LOS Score for Intersection	2.764	2.619	2.413	2.861
Bicycle LOS	C	B	B	C

Sequence

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



Pemcor Comm Indus Business Park

Vistro File: E:\...\PME.vistro

Scenario 4 Opening Year (2026) Cumulative With Project PM Peak Hour

Report File: E:\...\PMOYW.pdf

9/30/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Right	1.587	285.1	F
2	Zeiders Rd (NS) at Ciccotti St (EW)	Two-way stop	HCM 7th Edition	WB Left	0.003	16.4	C
3	Zeiders Rd (NS) at Project North Dwy (EW)	Two-way stop	HCM 7th Edition	EB Right	0.005	9.5	A
4	Zeiders Rd (NS) at Project South Dwy/Industrial Rdwy (EW)	Signalized	HCM 7th Edition	NB Left	0.533	10.3	B
5	I-215 SB Ramps (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.726	11.6	B
6	I-215 NB Ramps (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.924	47.7	D
7	Antelope Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.807	29.9	C
8	Menifee Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	NB Left	0.924	63.3	E

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: Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	285.1
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.587

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	170.00	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]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	125	236	48	437	71	53	66	584	65	73	592	643
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	28	48	177	527	40	110	85	57	19	98	65	421
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]	158	294	227	982	114	165	154	665	87	174	681	1090
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
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]	42	78	60	261	30	44	41	177	23	46	181	290
Total Analysis Volume [veh/h]	168	313	242	1046	121	176	164	708	93	185	725	1161
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 Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	56	0	11	23	0	11	23	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	120	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	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	23	23	19	19	10	48	48	15	52	52
g / C, Green / Cycle	0.19	0.19	0.19	0.16	0.16	0.09	0.40	0.40	0.12	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.09	0.17	0.15	0.38	0.39	0.09	0.38	0.06	0.10	0.20	0.73
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1741	1781	1870	1589	1781	3560	1589
c, Capacity [veh/h]	334	351	298	281	274	154	748	635	217	1549	692
d1, Uniform Delay [s]	43.73	47.57	46.72	50.55	50.55	54.83	34.79	22.96	51.65	24.04	33.90
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.28
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.17	7.89	5.29	637.42	662.25	52.85	7.16	0.10	9.17	0.22	308.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.89	0.81	2.39	2.45	1.07	0.95	0.15	0.85	0.47	1.68
d, Delay for Lane Group [s/veh]	44.90	55.46	52.01	687.97	712.80	107.68	41.96	23.07	60.82	24.26	342.84
Lane Group LOS	D	E	D	F	F	F	D	C	E	C	F
Critical Lane Group	No	Yes	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.47	9.61	7.15	57.79	58.38	6.70	19.71	1.60	5.77	6.80	77.51
50th-Percentile Queue Length [ft/ln]	111.78	240.26	178.79	1444.71	1459.55	167.62	492.66	39.95	144.16	169.94	1937.78
95th-Percentile Queue Length [veh/ln]	7.94	14.69	11.54	90.17	91.17	11.20	26.99	2.88	9.70	11.07	121.49
95th-Percentile Queue Length [ft/ln]	198.48	367.36	288.43	2254.28	2279.28	280.07	674.67	71.91	242.62	276.84	3037.24

Movement, Approach, & Intersection Results

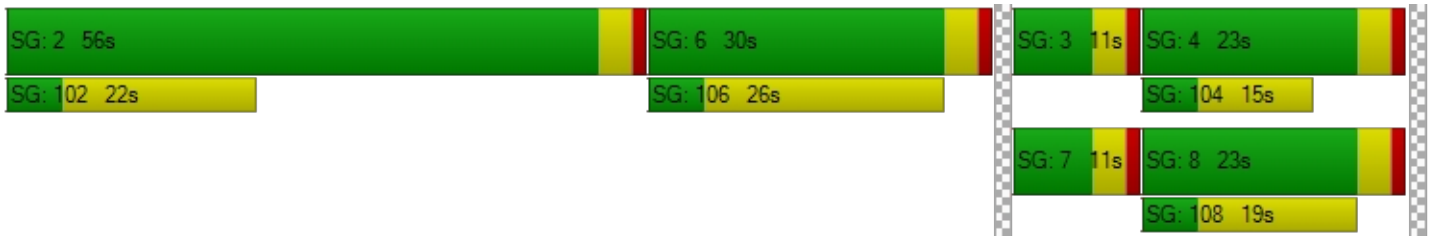
d_M, Delay for Movement [s/veh]	44.90	55.46	52.01	696.86	712.80	712.80	107.68	41.96	23.07	60.82	24.26	342.84
Movement LOS	D	E	D	F	F	F	F	D	C	E	C	F
d_A, Approach Delay [s/veh]	51.85			700.38			51.31			206.12		
Approach LOS	D			F			D			F		
d_I, Intersection Delay [s/veh]	285.08											
Intersection LOS	F											
Intersection V/C	1.587											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersectio	2.557	3.570	3.042	3.680
Crosswalk LOS	B	D	C	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	433	867	317	317
d_b, Bicycle Delay [s]	36.82	19.27	42.51	42.51
l_b,int, Bicycle LOS Score for Intersection	2.753	3.776	3.152	3.268
Bicycle LOS	C	D	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 2: Zeiders Rd (NS) at Ciccotti St (EW)

Control Type:	Two-way stop	Delay (sec / veh):	16.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	345	1	1	140	1	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	188	0	4	99	0	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	547	1	5	245	1	14
Peak Hour Factor	0.9110	0.9110	0.9110	0.9110	0.9110	0.9110
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	150	0	1	67	0	4
Total Analysis Volume [veh/h]	600	1	5	269	1	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	8.71	0.00	16.42	12.41
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.00	0.01	0.09
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.39	0.00	0.24	2.31
d_A, Approach Delay [s/veh]	0.00		0.16		12.66	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.28					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 3: Zeiders Rd (NS) at Project North Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	346	141	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0404	1.0404	1.0404	1.0000	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	188	69	30	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	548	216	30	0	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	144	57	8	0	1
Total Analysis Volume [veh/h]	0	577	227	32	0	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
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	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	9.55
Movement LOS		A	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.38
d_A, Approach Delay [s/veh]	0.00		0.00		9.55	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.05					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 4: Zeiders Rd (NS) at Project South Dwy/Industrial Rdwy (EW)

Control Type:	Signalized	Delay (sec / veh):	10.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.533

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	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	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			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	345	1	0	142	0	0	0	0	0	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	39	0	3	50	20	140	0	2	1	0	9
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]	2	398	1	3	198	20	140	0	2	1	0	10
Peak Hour Factor	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060
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]	1	110	0	1	55	6	39	0	1	0	0	3
Total Analysis Volume [veh/h]	2	439	1	3	219	22	155	0	2	1	0	11
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

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

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	120	120	0	120	120	0	0	120	0	0	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	29	38	0	11	20	0	0	11	0	0	11	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	41	0	41	7	7	7
g / C, Green / Cycle	0.00	0.68	0.01	0.68	0.12	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.00	0.26	0.00	0.15	0.16	0.00	0.01
s, saturation flow rate [veh/h]	1603	1682	1603	1656	963	1600	1431
c, Capacity [veh/h]	9	1136	13	1122	232	308	169
d1, Uniform Delay [s]	29.83	4.31	29.74	3.68	28.19	23.48	23.64
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.65	1.00	9.42	0.44	3.42	0.00	0.16
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.21	0.39	0.24	0.21	0.68	0.00	0.07
d, Delay for Lane Group [s/veh]	40.48	5.30	39.16	4.12	31.61	23.48	23.80
Lane Group LOS	D	A	D	A	C	C	C
Critical Lane Group	No	Yes	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.05	1.41	0.07	0.65	2.47	0.01	0.14
50th-Percentile Queue Length [ft/ln]	1.36	35.30	1.80	16.18	61.80	0.31	3.54
95th-Percentile Queue Length [veh/ln]	0.10	2.54	0.13	1.16	4.45	0.02	0.25
95th-Percentile Queue Length [ft/ln]	2.44	63.55	3.24	29.12	111.24	0.56	6.37

Movement, Approach, & Intersection Results

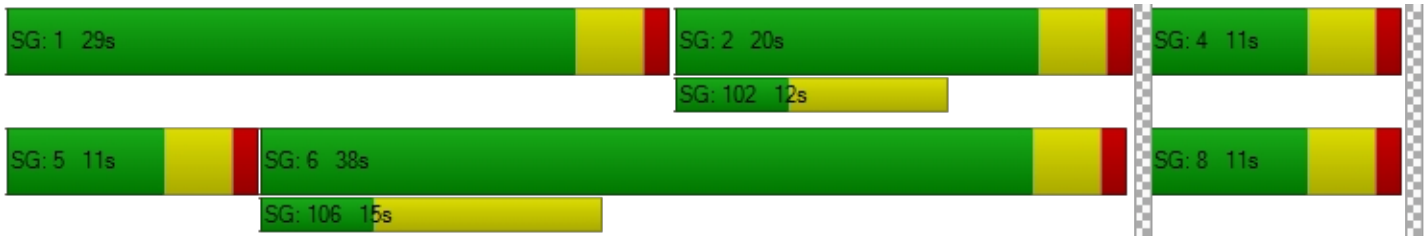
d_M, Delay for Movement [s/veh]	40.48	5.30	5.30	39.16	4.12	4.12	31.61	31.61	31.61	23.48	23.48	23.80
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	5.46			4.55			31.61			23.78		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	10.26											
Intersection LOS	B											
Intersection V/C	0.533											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	21.75	21.75
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	1.769	1.925
Crosswalk LOS	F	F	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1130	532	233	233
d_b, Bicycle Delay [s]	5.69	16.20	23.48	23.48
l_b,int, Bicycle LOS Score for Intersection	2.289	1.962	1.819	1.579
Bicycle LOS	B	A	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 5: I-215 SB Ramps (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	11.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.726

Intersection Setup

Name												
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	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	365.00	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	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	30.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	453	0	186	0	721	382	0	1135	390
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0404	1.0000	1.0404	1.0000	1.0404	1.0404	1.0000	1.0404	1.0404
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	31	0	113	0	427	334	0	471	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	502	0	307	0	1177	731	0	1652	409
Peak Hour Factor	0.9660	0.9660	0.9660	0.9250	0.9660	0.9250	0.9660	0.9250	0.9250	0.9660	0.9250	0.9250
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	136	0	83	0	318	198	0	446	111
Total Analysis Volume [veh/h]	0	0	0	543	0	332	0	1272	790	0	1786	442
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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	0	0	0	5	0	0	0	8	0	0	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	7	0	0	0	7	0	0	7	7
Maximum Green [s]	0	0	0	120	0	0	0	120	0	0	120	120
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	34	0	0	0	26	0	0	26	26
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	0	0	10	0	0	0	10	0	0	17	17
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	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Minimum Recall				No				No			No	No
Maximum Recall				No				No			No	No
Pedestrian Recall				No				No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		L	R	C	R	C	R
C, Cycle Length [s]		87	87	87	87	87	87
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	0.00
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]		19	19	60	60	60	83
g / C, Green / Cycle		0.22	0.22	0.69	0.69	0.69	0.95
(v / s)_i Volume / Saturation Flow Rate		0.16	0.12	0.36	0.50	0.50	0.28
s, saturation flow rate [veh/h]		3459	2813	3560	1589	3560	1589
c, Capacity [veh/h]		756	615	2454	1096	2454	1516
d1, Uniform Delay [s]		31.47	30.08	6.52	8.34	8.41	0.13
k, delay calibration		0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		1.30	0.74	0.17	0.91	0.42	0.11
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		0.72	0.54	0.52	0.72	0.73	0.29
d, Delay for Lane Group [s/veh]		32.76	30.81	6.70	9.25	8.84	0.23
Lane Group LOS		C	C	A	A	A	A
Critical Lane Group		Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]		5.35	3.11	3.49	5.73	6.36	0.04
50th-Percentile Queue Length [ft/ln]		133.69	77.71	87.27	143.14	158.99	1.11
95th-Percentile Queue Length [veh/ln]		9.14	5.60	6.28	9.65	10.50	0.08
95th-Percentile Queue Length [ft/ln]		228.50	139.88	157.08	241.25	262.38	2.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	32.76	0.00	30.81	0.00	6.70	9.25	0.00	8.84	0.23
Movement LOS				C		C		A	A		A	A
d_A, Approach Delay [s/veh]	0.00			32.02			7.67			7.13		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	11.56											
Intersection LOS	B											
Intersection V/C	0.726											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	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]	0.00	34.86	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.514	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	691	507	507
d_b, Bicycle Delay [s]	43.39	18.58	24.18	24.18
l_b,int, Bicycle LOS Score for Intersection	4.132	1.560	3.261	3.398
Bicycle LOS	D	A	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-215 NB Ramps (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	47.7
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.924

Intersection Setup

Name												
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	1	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	185.00	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]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	489	0	0	520	149	1018	0	0	1005	428
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0404	1.0000	1.0000	1.0404	1.0404	1.0404	1.0000	1.0000	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	4	0	0	233	139	319	0	0	241	55
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	513	0	0	774	294	1378	0	0	1287	500
Peak Hour Factor	0.9370	0.9370	0.9270	0.9370	0.9370	0.9270	0.9270	0.9270	0.9370	0.9370	0.9270	0.9270
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	138	0	0	209	79	372	0	0	347	135
Total Analysis Volume [veh/h]	0	0	553	0	0	835	317	1487	0	0	1388	539
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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	0	0	6	0	0	2	3	8	0	0	4	4
Auxiliary Signal Groups												4
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	0	7	0	0	7	7	7	0	0	7	7
Maximum Green [s]	0	0	120	0	0	120	120	120	0	0	120	120
Amber [s]	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	3.0	3.0
All red [s]	0.0	0.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	16	0	0	16	25	44	0	0	19	19
Vehicle Extension [s]	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	5	0	0	5	0	5	0	0	5	5
Pedestrian Clearance [s]	0	0	10	0	0	10	0	10	0	0	10	10
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	0.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
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	R	R	L	C	C	R
C, Cycle Length [s]	187	187	187	187	187	187
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]	59	59	36	120	80	80
g / C, Green / Cycle	0.32	0.32	0.19	0.64	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.20	0.30	0.18	0.42	0.39	0.34
s, saturation flow rate [veh/h]	2813	2813	1781	3560	3560	1589
c, Capacity [veh/h]	890	890	339	2281	1527	682
d1, Uniform Delay [s]	54.30	62.04	74.49	20.71	49.91	46.08
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.12
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.71	5.50	11.83	0.32	2.40	2.39
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	0.62	0.94	0.94	0.65	0.91	0.79
d, Delay for Lane Group [s/veh]	55.01	67.54	86.32	21.03	52.30	48.47
Lane Group LOS	E	E	F	C	D	D
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	11.37	20.14	15.75	18.75	29.61	21.32
50th-Percentile Queue Length [ft/ln]	284.22	503.52	393.82	468.83	740.19	532.95
95th-Percentile Queue Length [veh/ln]	16.90	27.50	22.26	25.86	38.53	28.89
95th-Percentile Queue Length [ft/ln]	422.46	687.53	556.55	646.38	963.29	722.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	55.01	0.00	0.00	67.54	86.32	21.03	0.00	0.00	52.30	48.47
Movement LOS			E			E	F	C			D	D
d_A, Approach Delay [s/veh]	55.01			67.54			32.50			51.23		
Approach LOS	E			E			C			D		
d_I, Intersection Delay [s/veh]	47.70											
Intersection LOS	D											
Intersection V/C	0.924											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	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]	0.00	84.54	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.433	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	129	129	429	161
d_b, Bicycle Delay [s]	81.71	81.71	57.61	78.92
l_b,int, Bicycle LOS Score for Intersection	1.560	1.560	3.048	3.149
Bicycle LOS	A	A	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 7: Antelope Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	29.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.807

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	215.00	100.00	100.00	165.00	100.00	100.00	190.00	100.00	100.00	315.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	50.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	378	263	173	72	130	274	330	799	378	117	785	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	90	17	13	1	9	32	39	220	64	6	174	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]	483	291	193	76	144	317	382	1051	457	128	991	44
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]	126	76	50	20	37	82	99	273	119	33	258	11
Total Analysis Volume [veh/h]	502	302	201	79	150	330	397	1093	475	133	1030	46
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]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	2	3	8	8	7	4	0
Auxiliary Signal Groups			6,7			2,3			1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	0
Maximum Green [s]	120	120	120	120	120	120	120	120	120	120	120	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	33	33	33	12	12	12	17	34	34	11	28	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	5	0	5	5	0	5	0
Pedestrian Clearance [s]	0	24	24	0	10	10	0	24	24	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]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No	No	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	No	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	No	No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	31	42	6	17	34	13	30	54	7	24	24
g / C, Green / Cycle	0.22	0.35	0.47	0.07	0.19	0.38	0.14	0.33	0.59	0.08	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.15	0.08	0.13	0.04	0.08	0.21	0.11	0.31	0.30	0.04	0.20	0.20
s, saturation flow rate [veh/h]	3459	3560	1589	1781	1870	1589	3459	3560	1589	3459	3560	1829
c, Capacity [veh/h]	773	1246	751	120	362	608	500	1165	946	269	928	477
d1, Uniform Delay [s]	31.76	20.79	14.36	40.99	31.83	21.66	37.23	29.40	10.52	39.82	30.75	30.75
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
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
d2, Incremental Delay [s]	0.93	0.46	0.87	6.06	3.47	3.46	2.91	4.36	0.41	1.40	1.35	2.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.24	0.27	0.66	0.41	0.54	0.79	0.94	0.50	0.49	0.77	0.77
d, Delay for Lane Group [s/veh]	32.68	21.26	15.23	47.05	35.30	25.12	40.14	33.76	10.93	41.21	32.10	33.36
Lane Group LOS	C	C	B	D	D	C	D	C	B	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.69	2.14	2.35	1.82	3.02	5.43	4.10	10.79	4.25	1.37	6.59	6.94
50th-Percentile Queue Length [ft/ln]	117.32	53.45	58.73	45.41	75.45	135.79	102.45	269.76	106.16	34.23	164.78	173.62
95th-Percentile Queue Length [veh/ln]	8.25	3.85	4.23	3.27	5.43	9.25	7.38	16.18	7.63	2.46	10.80	11.27
95th-Percentile Queue Length [ft/ln]	206.14	96.21	105.71	81.74	135.81	231.35	184.41	404.45	190.65	61.61	270.04	281.66

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.68	21.26	15.23	47.05	35.30	25.12	40.14	33.76	10.93	41.21	32.49	33.36
Movement LOS	C	C	B	D	D	C	D	C	B	D	C	C
d_A, Approach Delay [s/veh]	25.76			30.95			29.53			33.48		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	29.91											
Intersection LOS	C											
Intersection V/C	0.807											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	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]	36.46	36.46	0.00	36.46
l_p,int, Pedestrian LOS Score for Intersectio	3.005	2.725	0.000	3.255
Crosswalk LOS	C	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]	644	178	666	533
d_b, Bicycle Delay [s]	20.68	37.37	20.01	24.21
l_b,int, Bicycle LOS Score for Intersection	2.389	2.482	3.181	2.225
Bicycle LOS	B	B	C	B

Sequence

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



Intersection Level Of Service Report
Intersection 8: Menifee Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	63.3
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.924

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	235.00	100.00	100.00	145.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	104	300	202	84	130	92	173	813	118	148	782	95
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	66	11	10	1	6	56	72	77	84	5	58	1
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]	174	323	220	88	141	152	252	923	207	159	872	100
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
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]	50	93	63	25	41	44	72	265	59	46	251	29
Total Analysis Volume [veh/h]	200	371	253	101	162	175	290	1061	238	183	1002	115
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]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	120	120	0	120	120	0	120	120	0	120	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	17	31	0	12	26	0	22	40	0	17	35	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	27	27	8	22	18	36	36	13	31	31
g / C, Green / Cycle	0.13	0.27	0.27	0.08	0.22	0.18	0.36	0.36	0.13	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.11	0.20	0.16	0.06	0.20	0.16	0.35	0.36	0.10	0.30	0.30
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1713	1781	1870	1754	1781	1870	1803
c, Capacity [veh/h]	232	505	429	142	377	321	673	632	232	580	559
d1, Uniform Delay [s]	42.63	33.24	31.69	44.86	37.87	40.16	31.71	32.00	42.18	34.18	34.24
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	32.30	9.17	5.84	25.72	26.09	30.95	30.89	37.93	23.48	32.55	34.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.73	0.59	0.71	0.89	0.90	0.98	1.01	0.79	0.98	0.98
d, Delay for Lane Group [s/veh]	74.93	42.41	37.53	70.58	63.96	71.11	62.59	69.93	65.66	66.73	68.33
Lane Group LOS	E	D	D	E	E	E	E	F	E	E	E
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	6.72	9.02	5.72	3.35	10.23	9.25	19.88	20.23	5.62	17.58	17.26
50th-Percentile Queue Length [ft/ln]	167.97	225.54	143.12	83.70	255.74	231.34	496.91	505.73	140.47	439.56	431.60
95th-Percentile Queue Length [veh/ln]	10.97	13.95	9.65	6.03	15.47	14.24	27.19	27.77	9.51	24.46	24.08
95th-Percentile Queue Length [ft/ln]	274.25	348.69	241.22	150.66	386.87	356.06	679.70	694.25	237.66	611.48	601.95

Movement, Approach, & Intersection Results

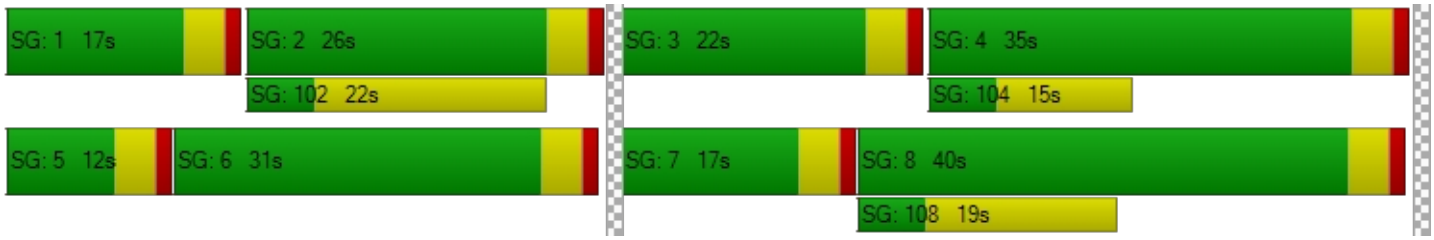
d_M, Delay for Movement [s/veh]	74.93	42.41	37.53	70.58	63.96	63.96	71.11	65.35	69.93	65.66	67.42	68.33
Movement LOS	E	D	D	E	E	E	E	E	E	E	E	E
d_A, Approach Delay [s/veh]	48.81			65.48			67.09			67.25		
Approach LOS	D			E			E			E		
d_I, Intersection Delay [s/veh]	63.34											
Intersection LOS	E											
Intersection V/C	0.924											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	41.41	41.41	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.652	2.604	3.367	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]	540	440	720	620
d_b, Bicycle Delay [s]	26.65	30.42	20.48	23.81
l_b,int, Bicycle LOS Score for Intersection	2.919	2.282	2.871	2.632
Bicycle LOS	C	B	C	B

Sequence

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



Pemcor Comm Indus Business Park

Vistro File: E:\...\AME.vistro

Scenario 5 Opening Year (2026) Cumulative With Project AM Peak Hour - With Improvements

Report File: E:\...\AMOYWI.pdf

9/27/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	NB Left	0.770	43.9	D
8	Menifee Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	NB Left	0.892	48.5	D

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

Intersection Level Of Service Report

Intersection 1: Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	43.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.770

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	170.00	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]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	61	74	24	548	105	51	79	685	138	68	538	403
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	32	75	205	42	40	85	49	27	176	48	411
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]	78	109	100	775	151	93	167	762	171	247	608	830
Peak Hour Factor	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	28	26	202	39	24	44	199	45	64	159	217
Total Analysis Volume [veh/h]	81	114	104	809	158	97	174	795	178	258	635	866
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 Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	7
Maximum Green [s]	120	120	0	120	120	0	120	120	0	120	120	120
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	40	33	0	33	26	0	27	31	0	23	27	27
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	24	0	0	17	0	0	14	0	0	17	17
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	120	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	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	7	29	29	29	51	14	27	27	19	32	65
g / C, Green / Cycle	0.06	0.24	0.24	0.24	0.43	0.11	0.22	0.22	0.16	0.27	0.54
(v / s)_i Volume / Saturation Flow Rate	0.05	0.06	0.07	0.23	0.15	0.10	0.22	0.11	0.14	0.18	0.31
s, saturation flow rate [veh/h]	1781	1870	1589	3459	1752	1781	3560	1589	1781	3560	2813
c, Capacity [veh/h]	104	455	386	836	747	204	796	355	282	953	1527
d1, Uniform Delay [s]	55.71	36.61	36.79	45.05	23.13	52.17	46.58	40.74	49.71	39.18	18.14
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.53	1.32	1.71	8.74	1.25	9.77	14.51	1.09	11.41	0.81	0.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.25	0.27	0.97	0.34	0.85	1.00	0.50	0.91	0.67	0.57
d, Delay for Lane Group [s/veh]	67.24	37.93	38.50	53.79	24.38	61.94	61.09	41.83	61.13	39.99	18.47
Lane Group LOS	E	D	D	D	C	E	E	D	E	D	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.70	2.80	2.60	12.36	4.84	5.47	12.78	4.49	8.15	7.98	7.08
50th-Percentile Queue Length [ft/ln]	67.38	70.00	64.92	309.01	121.05	136.78	319.53	112.14	203.66	199.46	176.96
95th-Percentile Queue Length [veh/ln]	4.85	5.04	4.67	18.13	8.45	9.31	18.64	7.96	12.83	12.61	11.44
95th-Percentile Queue Length [ft/ln]	121.28	126.00	116.86	453.15	211.27	232.68	466.11	198.97	320.68	315.27	286.04

Movement, Approach, & Intersection Results

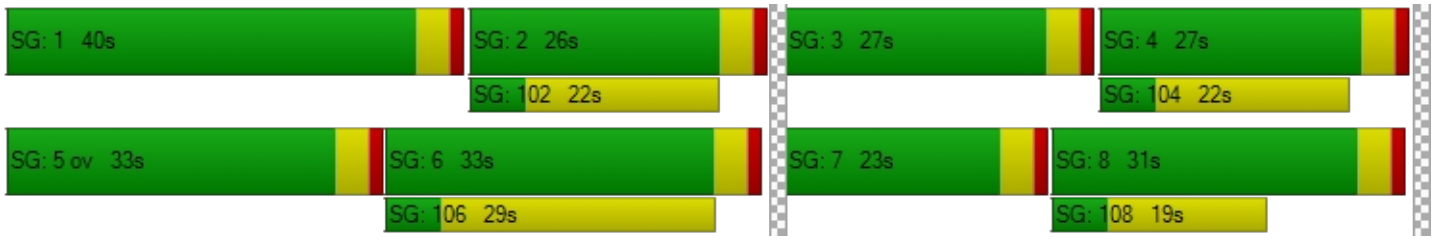
d_M, Delay for Movement [s/veh]	67.24	37.93	38.50	53.79	24.38	24.38	61.94	61.09	41.83	61.13	39.99	18.47
Movement LOS	E	D	D	D	C	C	E	E	D	E	D	B
d_A, Approach Delay [s/veh]	46.07			46.74			58.23			32.49		
Approach LOS	D			D			E			C		
d_I, Intersection Delay [s/veh]	43.91											
Intersection LOS	D											
Intersection V/C	0.770											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersectio	2.473	3.036	3.052	3.494
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	483	367	450	383
d_b, Bicycle Delay [s]	34.51	40.02	36.04	39.21
l_b,int, Bicycle LOS Score for Intersection	2.053	3.315	2.506	3.011
Bicycle LOS	B	C	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 8: Menifee Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	48.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.892

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	235.00	100.00	100.00	145.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	113	176	290	94	301	105	68	687	76	305	937	93
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	70	3	3	1	10	67	30	35	32	9	69	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]	188	186	305	99	323	176	101	750	111	326	1044	97
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	50	82	27	87	47	27	202	30	88	281	26
Total Analysis Volume [veh/h]	202	200	328	106	347	189	109	806	119	351	1123	104
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]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	120	120	0	120	120	0	120	120	0	120	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	17	31	0	12	26	0	13	32	0	25	44	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	27	27	8	22	22	9	28	28	21	40	40
g / C, Green / Cycle	0.13	0.27	0.27	0.08	0.22	0.22	0.09	0.28	0.28	0.21	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.11	0.11	0.21	0.06	0.19	0.12	0.06	0.25	0.25	0.20	0.32	0.07
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1870	1589	1781	1870	1787	1781	3560	1589
c, Capacity [veh/h]	232	505	429	142	411	350	160	524	500	374	1424	636
d1, Uniform Delay [s]	42.69	29.84	33.57	45.00	37.35	34.53	44.10	34.70	34.70	38.86	26.29	19.26
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	33.56	2.32	12.20	29.28	18.64	5.89	20.85	21.49	22.26	33.32	4.50	0.55
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.40	0.76	0.74	0.84	0.54	0.68	0.90	0.90	0.94	0.79	0.16
d, Delay for Lane Group [s/veh]	76.25	32.15	45.77	74.27	55.99	40.41	64.95	56.19	56.96	72.19	30.79	19.81
Lane Group LOS	E	C	D	E	E	D	E	E	E	E	C	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.85	4.07	8.36	3.61	9.75	4.41	3.40	13.24	12.76	11.30	11.26	1.50
50th-Percentile Queue Length [ft/ln]	171.31	101.70	209.03	90.29	243.64	110.15	84.91	331.06	319.07	282.44	281.56	37.62
95th-Percentile Queue Length [veh/ln]	11.15	7.32	13.10	6.50	14.87	7.85	6.11	19.21	18.62	16.81	16.77	2.71
95th-Percentile Queue Length [ft/ln]	278.64	183.06	327.58	162.52	371.64	196.21	152.84	480.26	465.55	420.25	419.15	67.72

Movement, Approach, & Intersection Results

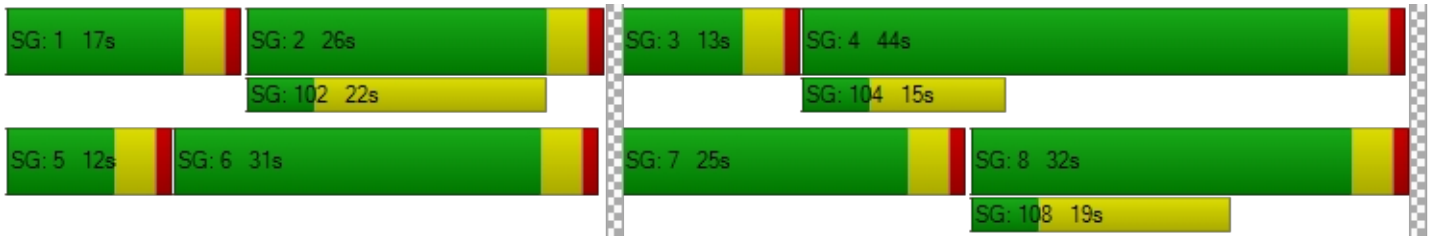
d_M, Delay for Movement [s/veh]	76.25	32.15	45.77	74.27	55.99	40.41	64.95	56.51	56.96	72.19	30.79	19.81
Movement LOS	E	C	D	E	E	D	E	E	E	E	C	B
d_A, Approach Delay [s/veh]	50.47			54.42			57.45			39.28		
Approach LOS	D			D			E			D		
d_I, Intersection Delay [s/veh]	48.49											
Intersection LOS	D											
Intersection V/C	0.892											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	41.41	41.41	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.703	2.566	3.217	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]	540	440	560	800
d_b, Bicycle Delay [s]	26.65	30.42	25.92	18.00
l_b,int, Bicycle LOS Score for Intersection	2.764	2.619	2.413	2.861
Bicycle LOS	C	B	B	C

Sequence

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



Pemcor Comm Indus Business Park

Vistro File: E:\...\PME.vistro

Scenario 5 Opening Year (2026) Cumulative With Project PM Peak Hour - With Improvements

Report File: E:\...\PMOYWI.pdf

9/27/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.937	45.9	D
8	Menifee Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	WB Left	0.858	53.0	D

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

Intersection Level Of Service Report

Intersection 1: Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	45.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.937

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	2
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]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	125	236	48	437	71	53	66	584	65	73	592	643
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	28	48	177	527	40	110	85	57	19	98	65	421
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]	158	294	227	982	114	165	154	665	87	174	681	1090
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
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]	42	78	60	261	30	44	41	177	23	46	181	290
Total Analysis Volume [veh/h]	168	313	242	1046	121	176	164	708	93	185	725	1161
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 Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	7
Maximum Green [s]	120	120	0	120	120	0	120	120	0	120	120	120
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	43	33	0	40	30	0	18	28	0	19	29	29
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	24	0	0	21	0	0	14	0	0	14	14
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	120	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	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	13	29	29	36	52	13	25	25	14	26	66
g / C, Green / Cycle	0.11	0.24	0.24	0.30	0.43	0.11	0.21	0.21	0.12	0.22	0.55
(v / s)_i Volume / Saturation Flow Rate	0.09	0.17	0.15	0.30	0.18	0.09	0.20	0.06	0.10	0.20	0.41
s, saturation flow rate [veh/h]	1781	1870	1589	3459	1693	1781	3560	1589	1781	3560	2813
c, Capacity [veh/h]	199	454	386	1038	730	191	730	326	212	771	1547
d1, Uniform Delay [s]	52.27	41.32	40.58	42.01	23.56	52.68	47.35	40.29	51.99	46.24	20.69
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.32	8.30	7.50	15.01	1.68	10.62	9.97	0.48	10.67	6.37	0.75
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.69	0.63	1.01	0.41	0.86	0.97	0.29	0.87	0.94	0.75
d, Delay for Lane Group [s/veh]	61.59	49.63	48.09	57.02	25.25	63.31	57.32	40.77	62.65	52.61	21.44
Lane Group LOS	E	D	D	F	C	E	E	D	E	D	C
Critical Lane Group	No	Yes	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.35	9.20	7.00	16.65	5.81	5.21	10.94	2.26	5.86	10.73	11.00
50th-Percentile Queue Length [ft/ln]	133.67	230.06	174.93	416.14	145.31	130.34	273.42	56.56	146.54	268.26	274.91
95th-Percentile Queue Length [veh/ln]	9.14	14.18	11.34	23.46	9.77	8.96	16.36	4.07	9.83	16.10	16.43
95th-Percentile Queue Length [ft/ln]	228.48	354.43	283.38	586.48	244.15	223.95	409.01	101.80	245.80	402.57	410.87

Movement, Approach, & Intersection Results

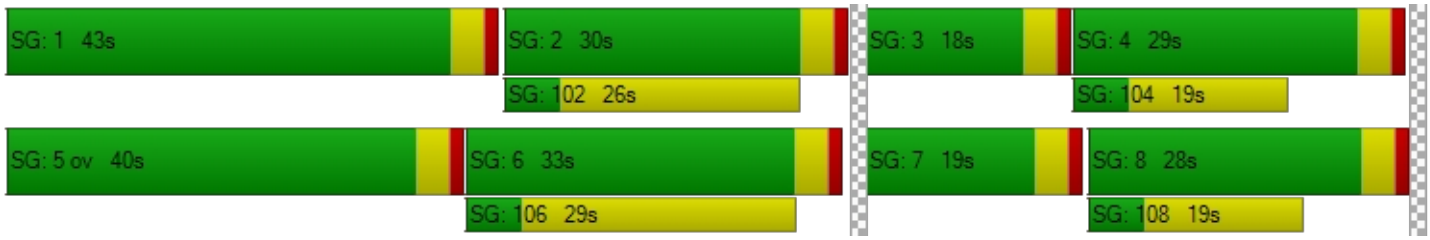
d_M, Delay for Movement [s/veh]	61.59	49.63	48.09	57.02	25.25	25.25	63.31	57.32	40.77	62.65	52.61	21.44
Movement LOS	E	D	D	F	C	C	E	E	D	E	D	C
d_A, Approach Delay [s/veh]	51.89			49.99			56.74			36.03		
Approach LOS	D			D			E			D		
d_I, Intersection Delay [s/veh]	45.87											
Intersection LOS	D											
Intersection V/C	0.937											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersectio	2.557	3.284	3.074	3.649
Crosswalk LOS	B	C	C	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	483	433	400	417
d_b, Bicycle Delay [s]	34.51	36.82	38.41	37.61
l_b,int, Bicycle LOS Score for Intersection	2.753	3.776	2.356	3.268
Bicycle LOS	C	D	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 8: Menifee Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	53.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.858

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	235.00	100.00	100.00	145.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	104	300	202	84	130	92	173	813	118	148	782	95
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404	1.0404
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	66	11	10	1	6	56	72	77	84	5	58	1
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]	174	323	220	88	141	152	252	923	207	159	872	100
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
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]	50	93	63	25	41	44	72	265	59	46	251	29
Total Analysis Volume [veh/h]	200	371	253	101	162	175	290	1061	238	183	1002	115
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]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	120	120	0	120	120	0	120	120	0	120	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	17	31	0	12	26	0	22	41	0	16	35	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	27	27	8	22	22	18	37	37	12	31	31
g / C, Green / Cycle	0.13	0.27	0.27	0.08	0.22	0.22	0.18	0.37	0.37	0.12	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.11	0.20	0.16	0.06	0.09	0.11	0.16	0.35	0.36	0.10	0.28	0.07
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1870	1589	1781	1870	1754	1781	3560	1589
c, Capacity [veh/h]	232	505	429	142	411	350	321	692	649	214	1104	493
d1, Uniform Delay [s]	42.63	33.24	31.69	44.86	33.31	34.18	40.16	30.72	31.16	43.15	33.13	25.66
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	32.30	9.17	5.84	25.72	2.81	5.04	30.95	25.15	31.03	33.17	12.37	1.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.73	0.59	0.71	0.39	0.50	0.90	0.96	0.98	0.86	0.91	0.23
d, Delay for Lane Group [s/veh]	74.93	42.41	37.53	70.58	36.12	39.23	71.11	55.87	62.18	76.33	45.50	26.77
Lane Group LOS	E	D	D	E	D	D	E	E	E	E	D	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.72	9.02	5.72	3.35	3.49	4.00	9.25	18.65	19.07	6.13	12.46	2.03
50th-Percentile Queue Length [ft/ln]	167.97	225.54	143.12	83.70	87.29	100.12	231.34	466.25	476.83	153.37	311.41	50.73
95th-Percentile Queue Length [veh/ln]	10.97	13.95	9.65	6.03	6.29	7.21	14.24	25.73	26.24	10.20	18.24	3.65
95th-Percentile Queue Length [ft/ln]	274.25	348.69	241.22	150.66	157.13	180.22	356.06	643.31	655.88	254.92	456.12	91.32

Movement, Approach, & Intersection Results

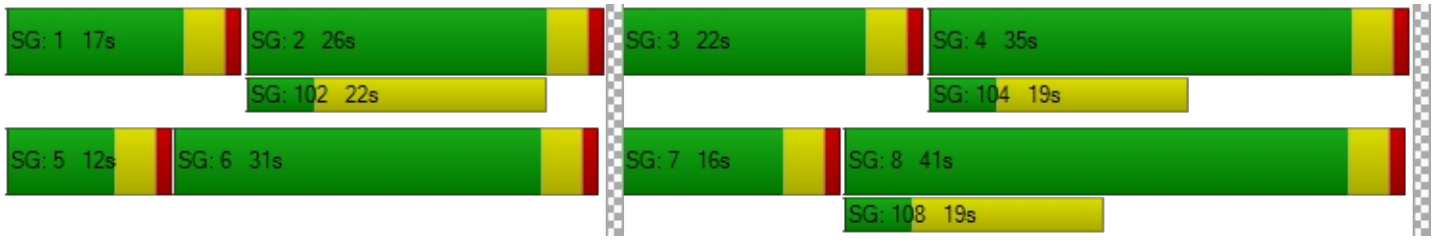
d_M, Delay for Movement [s/veh]	74.93	42.41	37.53	70.58	36.12	39.23	71.11	58.25	62.18	76.33	45.50	26.77
Movement LOS	E	D	D	E	D	D	E	E	E	E	D	C
d_A, Approach Delay [s/veh]	48.81			45.31			61.18			48.18		
Approach LOS	D			D			E			D		
d_I, Intersection Delay [s/veh]	52.98											
Intersection LOS	D											
Intersection V/C	0.858											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	41.41	41.41	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.652	2.631	3.367	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]	540	440	740	620
d_b, Bicycle Delay [s]	26.65	30.42	19.85	23.81
l_b,int, Bicycle LOS Score for Intersection	2.919	2.282	2.871	2.632
Bicycle LOS	C	B	C	B

Sequence

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



HORIZON YEAR (2026) WITHOUT PROJECT

Pemcor Comm Indus Business Park

Vistro File: E:\...\AMHY.vistro

Scenario 1 Horizon Year (2045) Without Project AM Peak Hour

Report File: E:\...\AMHYWO.pdf

9/30/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Right	0.925	99.4	F
2	Zeiders Rd (NS) at Ciccotti St (EW)	Two-way stop	HCM 7th Edition	WB Right	0.001	9.4	A
4	Zeiders Rd (NS) at Project South Dwy/Industrial Rdwy (EW)	Signalized	HCM 7th Edition	WB Right	0.206	1.5	A
5	I-215 SB Ramps (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.751	7.2	A
6	I-215 NB Ramps (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.771	13.8	B
7	Antelope Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.834	30.5	C
8	Menifee Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	NB Left	0.912	54.4	D

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

Intersection Level Of Service Report
Intersection 1: Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	99.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.925

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	170.00	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]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	107	81	26	603	120	180	199	819	195	75	874	443
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	107	81	26	603	120	180	199	819	195	75	874	443
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	20	7	151	30	45	50	205	49	19	219	111
Total Analysis Volume [veh/h]	107	81	26	603	120	180	199	819	195	75	874	443
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 Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	56	0	15	23	0	11	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	120	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	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	21	21	21	21	21	11	55	55	7	51	51
g / C, Green / Cycle	0.18	0.18	0.18	0.18	0.18	0.09	0.46	0.46	0.05	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.06	0.04	0.02	0.25	0.26	0.11	0.44	0.12	0.04	0.25	0.28
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1720	1781	1870	1589	1781	3560	1589
c, Capacity [veh/h]	312	328	279	312	302	164	862	733	98	1511	674
d1, Uniform Delay [s]	43.45	42.69	41.52	49.52	49.52	54.53	31.04	19.88	55.96	26.37	27.59
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.98	1.79	0.66	220.96	237.41	109.52	6.63	0.19	11.56	0.35	1.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.34	0.25	0.09	1.45	1.49	1.22	0.95	0.27	0.76	0.58	0.66
d, Delay for Lane Group [s/veh]	46.42	44.48	42.18	270.48	286.92	164.06	37.67	20.08	67.52	26.73	28.69
Lane Group LOS	D	D	D	F	F	F	D	C	E	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.98	2.19	0.68	28.14	28.55	9.70	21.93	3.14	2.47	8.87	9.53
50th-Percentile Queue Length [ft/ln]	74.55	54.73	17.10	703.44	713.73	242.61	548.24	78.55	61.70	221.76	238.33
95th-Percentile Queue Length [veh/ln]	5.37	3.94	1.23	43.22	44.10	15.86	29.61	5.66	4.44	13.75	14.60
95th-Percentile Queue Length [ft/ln]	134.19	98.51	30.77	1080.42	1102.47	396.56	740.23	141.39	111.06	343.87	364.93

Movement, Approach, & Intersection Results

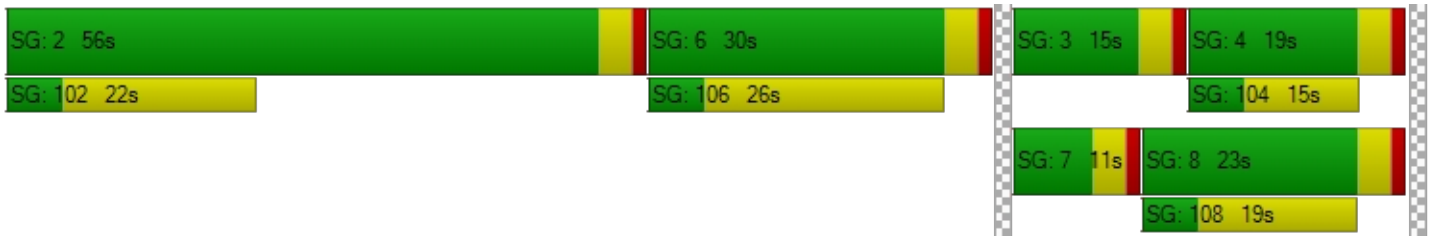
d_M, Delay for Movement [s/veh]	46.42	44.48	42.18	274.58	286.92	286.92	164.06	37.67	20.08	67.52	26.73	28.69
Movement LOS	D	D	D	F	F	F	F	D	C	E	C	C
d_A, Approach Delay [s/veh]	45.17			278.66			55.57			29.55		
Approach LOS	D			F			E			C		
d_I, Intersection Delay [s/veh]	99.37											
Intersection LOS	F											
Intersection V/C	0.925											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.36	51.36	51.36	51.36
l_p,int, Pedestrian LOS Score for Intersectio	2.367	2.836	3.164	3.314
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	433	866	317	250
d_b, Bicycle Delay [s]	36.84	19.29	42.53	45.96
l_b,int, Bicycle LOS Score for Intersection	1.913	3.050	3.561	2.708
Bicycle LOS	A	C	D	B

Sequence

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



Intersection Level Of Service Report
Intersection 2: Zeiders Rd (NS) at Ciccotti St (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	210	5	5	310	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	210	5	5	310	0	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	1	1	78	0	0
Total Analysis Volume [veh/h]	210	5	5	310	0	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.67	0.00	12.12	9.36
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.28	0.00	0.00	0.09
d_A, Approach Delay [s/veh]	0.00		0.12		9.36	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.09					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 4: Zeiders Rd (NS) at Project South Dwy/Industrial Rdwy (EW)

Control Type:	Signalized	Delay (sec / veh):	1.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.206

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	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	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			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	210	0	1	310	0	0	0	0	0	0	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	210	0	1	310	0	0	0	0	0	0	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	53	0	0	78	0	0	0	0	0	0	1
Total Analysis Volume [veh/h]	0	210	0	1	310	0	0	0	0	0	0	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	120	120	0	120	120	0	0	120	0	0	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	97	0	11	97	0	0	12	0	0	12	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	C	C	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	107	0	108	1	1	1
g / C, Green / Cycle	0.00	0.89	0.00	0.90	0.00	0.00	0.00
(v / s)_i Volume / Saturation Flow Rate	0.00	0.12	0.00	0.18	0.00	0.00	0.00
s, saturation flow rate [veh/h]	1603	1683	1603	1683	414	414	1431
c, Capacity [veh/h]	2	1502	5	1505	32	32	7
d1, Uniform Delay [s]	0.00	0.79	59.81	0.82	0.00	0.00	59.63
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.19	21.36	0.31	0.00	0.00	21.87
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.14	0.21	0.21	0.00	0.00	0.29
d, Delay for Lane Group [s/veh]	0.00	0.99	81.17	1.13	0.00	0.00	81.50
Lane Group LOS	A	A	F	A	A	A	F
Critical Lane Group	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	0.08	0.06	0.13	0.00	0.00	0.10
50th-Percentile Queue Length [ft/ln]	0.00	2.03	1.44	3.24	0.00	0.00	2.57
95th-Percentile Queue Length [veh/ln]	0.00	0.15	0.10	0.23	0.00	0.00	0.19
95th-Percentile Queue Length [ft/ln]	0.00	3.66	2.59	5.83	0.00	0.00	4.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.99	0.99	81.17	1.13	1.13	0.00	0.00	0.00	0.00	0.00	81.50
Movement LOS	A	A	A	F	A	A	A	A	A	A	A	F
d_A, Approach Delay [s/veh]	0.99			1.39			0.00			81.50		
Approach LOS	A			A			A			F		
d_I, Intersection Delay [s/veh]	1.53											
Intersection LOS	A											
Intersection V/C	0.206											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	51.40	51.40
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	1.730	1.956
Crosswalk LOS	F	F	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1548	1548	133	133
d_b, Bicycle Delay [s]	3.06	3.06	52.33	52.33
l_b,int, Bicycle LOS Score for Intersection	1.906	2.073	1.560	1.563
Bicycle LOS	A	B	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 5: I-215 SB Ramps (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	7.2
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.751

Intersection Setup

Name												
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	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	365.00	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	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	30.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	510	0	242	0	776	640	0	958	697
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	510	0	242	0	776	640	0	958	697
Peak Hour Factor	0.9660	0.9660	0.9660	1.0000	0.9660	1.0000	0.9660	1.0000	1.0000	0.9660	1.0000	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	128	0	61	0	194	160	0	240	174
Total Analysis Volume [veh/h]	0	0	0	510	0	242	0	776	640	0	958	697
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]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	0	0	0	5	0	0	0	8	0	0	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	7	0	0	0	7	0	0	7	7
Maximum Green [s]	0	0	0	120	0	0	0	120	0	0	120	120
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	63	0	0	0	27	0	0	27	27
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	0	0	10	0	0	0	10	0	0	17	17
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	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Minimum Recall				No				No			No	No
Maximum Recall				No				No			No	No
Pedestrian Recall				No				No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		L	R	C	R	C	R
C, Cycle Length [s]		40	40	40	40	40	40
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	0.00
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]		12	12	20	20	20	36
g / C, Green / Cycle		0.30	0.30	0.50	0.50	0.50	0.90
(v / s)_i Volume / Saturation Flow Rate		0.15	0.09	0.22	0.40	0.27	0.44
s, saturation flow rate [veh/h]		3459	2813	3560	1589	3560	1589
c, Capacity [veh/h]		1038	844	1779	794	1779	1430
d1, Uniform Delay [s]		11.48	10.71	6.39	8.37	6.84	0.36
k, delay calibration		0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.36	0.19	0.17	1.99	0.25	0.26
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		0.49	0.29	0.44	0.81	0.54	0.49
d, Delay for Lane Group [s/veh]		11.84	10.89	6.56	10.36	7.10	0.61
Lane Group LOS		B	B	A	B	A	A
Critical Lane Group		No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]		1.58	0.70	0.80	2.07	1.06	0.10
50th-Percentile Queue Length [ft/ln]		39.38	17.40	19.93	51.73	26.52	2.56
95th-Percentile Queue Length [veh/ln]		2.84	1.25	1.43	3.72	1.91	0.18
95th-Percentile Queue Length [ft/ln]		70.89	31.31	35.87	93.12	47.73	4.62

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.84	0.00	10.89	0.00	6.56	10.36	0.00	7.10	0.61
Movement LOS				B		B		A	B		A	A
d_A, Approach Delay [s/veh]	0.00			11.54			8.28			4.37		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	7.23											
Intersection LOS	A											
Intersection V/C	0.751											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	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]	0.00	11.95	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.492	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	2960	1154	1154
d_b, Bicycle Delay [s]	19.93	4.60	3.57	3.57
l_b,int, Bicycle LOS Score for Intersection	4.132	1.560	2.728	2.925
Bicycle LOS	D	A	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-215 NB Ramps (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	13.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.771

Intersection Setup

Name											
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	1	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	185.00	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]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	427	0	0	256	173	1104	0	0	1317	497
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	427	0	0	256	173	1104	0	0	1317	497
Peak Hour Factor	0.9370	0.9370	1.0000	0.9370	0.9370	1.0000	1.0000	1.0000	0.9370	0.9370	1.0000	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	107	0	0	64	43	276	0	0	329	124
Total Analysis Volume [veh/h]	0	0	427	0	0	256	173	1104	0	0	1317	497
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]	75
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	0	0	6	0	0	2	3	8	0	0	4	4
Auxiliary Signal Groups												4
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	0	7	0	0	7	7	7	0	0	7	7
Maximum Green [s]	0	0	120	0	0	120	120	120	0	0	120	120
Amber [s]	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	3.0	3.0
All red [s]	0.0	0.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	12	0	0	12	40	63	0	0	23	23
Vehicle Extension [s]	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	5	0	0	5	0	5	0	0	5	5
Pedestrian Clearance [s]	0	0	10	0	0	10	0	10	0	0	10	10
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	0.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
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	R	R	L	C	C	R
C, Cycle Length [s]	61	61	61	61	61	61
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]	12	12	8	41	29	29
g / C, Green / Cycle	0.20	0.20	0.13	0.67	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.15	0.09	0.10	0.31	0.37	0.31
s, saturation flow rate [veh/h]	2813	2813	1781	3560	3560	1589
c, Capacity [veh/h]	555	555	225	2390	1705	761
d1, Uniform Delay [s]	23.10	21.55	25.69	4.77	13.11	12.02
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.28	0.60	5.40	0.14	0.77	0.96
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	0.77	0.46	0.77	0.46	0.77	0.65
d, Delay for Lane Group [s/veh]	25.38	22.15	31.10	4.91	13.88	12.98
Lane Group LOS	C	C	C	A	B	B
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.91	1.58	2.39	1.27	5.17	3.65
50th-Percentile Queue Length [ft/ln]	72.87	39.46	59.78	31.72	129.24	91.33
95th-Percentile Queue Length [veh/ln]	5.25	2.84	4.30	2.28	8.90	6.58
95th-Percentile Queue Length [ft/ln]	131.17	71.03	107.60	57.10	222.46	164.39

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	25.38	0.00	0.00	22.15	31.10	4.91	0.00	0.00	13.88	12.98
Movement LOS			C			C	C	A			B	B
d_A, Approach Delay [s/veh]	25.38			22.15			8.46			13.63		
Approach LOS	C			C			A			B		
d_I, Intersection Delay [s/veh]	13.79											
Intersection LOS	B											
Intersection V/C	0.771											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	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]	0.00	22.03	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.172	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	264	264	1943	626
d_b, Bicycle Delay [s]	22.89	22.89	0.02	14.33
l_b,int, Bicycle LOS Score for Intersection	1.560	1.560	2.613	3.056
Bicycle LOS	A	A	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 7: Antelope Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	30.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.834

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	215.00	100.00	100.00	165.00	100.00	100.00	190.00	100.00	100.00	315.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	50.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	510	385	224	62	308	461	266	805	467	184	1086	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	510	385	224	62	308	461	266	805	467	184	1086	62
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	128	96	56	16	77	115	67	201	117	46	272	16
Total Analysis Volume [veh/h]	510	385	224	62	308	461	266	805	467	184	1086	62
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]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	2	3	8	8	7	4	0
Auxiliary Signal Groups			6,7			2,3			1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	0
Maximum Green [s]	120	120	120	120	120	120	120	120	120	120	120	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	21	33	33	13	25	25	15	33	33	11	29	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	5	0	5	5	0	5	0
Pedestrian Clearance [s]	0	24	24	0	10	10	0	24	24	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]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No	No	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	No	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	No	No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	17	36	47	6	24	39	11	26	47	7	22	22
g / C, Green / Cycle	0.19	0.39	0.52	0.06	0.27	0.43	0.12	0.29	0.52	0.08	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.15	0.11	0.14	0.03	0.16	0.29	0.08	0.23	0.29	0.05	0.21	0.21
s, saturation flow rate [veh/h]	3459	3560	1589	1781	1870	1589	3459	3560	1589	3459	3560	1819
c, Capacity [veh/h]	654	1406	822	111	501	691	424	1023	828	271	865	442
d1, Uniform Delay [s]	34.79	18.52	12.23	41.09	28.93	20.28	37.62	29.60	14.67	40.47	32.85	32.86
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
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
d2, Incremental Delay [s]	2.07	0.48	0.82	4.36	5.55	5.04	1.53	1.38	0.61	2.99	3.07	5.75
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.27	0.27	0.56	0.61	0.67	0.63	0.79	0.56	0.68	0.88	0.88
d, Delay for Lane Group [s/veh]	36.86	19.00	13.05	45.45	34.48	25.33	39.15	30.98	15.28	43.47	35.92	38.61
Lane Group LOS	D	B	B	D	C	C	D	C	B	D	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.12	2.55	2.35	1.40	6.14	7.70	2.68	7.37	5.40	1.96	7.57	8.06
50th-Percentile Queue Length [ft/ln]	128.11	63.66	58.76	34.97	153.38	192.55	66.89	184.29	135.00	49.10	189.20	201.57
95th-Percentile Queue Length [veh/ln]	8.84	4.58	4.23	2.52	10.20	12.25	4.82	11.82	9.21	3.54	12.08	12.72
95th-Percentile Queue Length [ft/ln]	220.93	114.59	105.77	62.95	254.94	306.33	120.40	295.60	230.28	88.38	301.99	317.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.86	19.00	13.05	45.45	34.48	25.33	39.15	30.98	15.28	43.47	36.73	38.61
Movement LOS	D	B	B	D	C	C	D	C	B	D	D	D
d_A, Approach Delay [s/veh]	25.95			30.22			27.62			37.75		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	30.48											
Intersection LOS	C											
Intersection V/C	0.834											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	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]	36.50	36.50	0.00	36.50
l_p,int, Pedestrian LOS Score for Intersectio	3.078	2.803	0.000	3.214
Crosswalk LOS	C	C	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	466	644	555
d_b, Bicycle Delay [s]	20.72	26.50	20.72	23.52
l_b,int, Bicycle LOS Score for Intersection	2.483	2.931	2.828	2.292
Bicycle LOS	B	C	C	B

Sequence

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



Intersection Level Of Service Report
Intersection 8: Menifee Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	54.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.912

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	235.00	100.00	100.00	145.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	172	426	369	103	331	120	132	756	84	336	1031	151
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	172	426	369	103	331	120	132	756	84	336	1031	151
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	107	92	26	83	30	33	189	21	84	258	38
Total Analysis Volume [veh/h]	172	426	369	103	331	120	132	756	84	336	1031	151
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]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	120	120	0	120	120	0	120	120	0	120	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	34	0	12	31	0	13	30	0	24	41	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	30	30	8	27	9	26	26	20	37	37
g / C, Green / Cycle	0.11	0.30	0.30	0.08	0.27	0.09	0.26	0.26	0.20	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.10	0.23	0.23	0.06	0.25	0.07	0.23	0.23	0.19	0.32	0.33
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1786	1781	1870	1805	1781	1870	1788
c, Capacity [veh/h]	196	561	477	142	482	160	486	469	356	692	662
d1, Uniform Delay [s]	43.84	31.73	31.91	44.92	35.65	44.72	35.49	35.49	39.44	29.22	29.42
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	38.76	9.32	11.59	27.08	27.65	36.05	19.75	20.31	35.29	13.82	15.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.76	0.77	0.72	0.94	0.82	0.88	0.88	0.94	0.87	0.88
d, Delay for Lane Group [s/veh]	82.60	41.05	43.50	72.00	63.30	80.77	55.24	55.80	74.73	43.04	44.87
Lane Group LOS	F	D	D	E	E	F	E	E	E	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.14	10.21	9.17	3.45	13.65	4.64	11.83	11.49	11.03	14.57	14.47
50th-Percentile Queue Length [ft/ln]	153.43	255.33	229.17	86.27	341.25	115.89	295.71	287.27	275.73	364.21	361.65
95th-Percentile Queue Length [veh/ln]	10.20	15.45	14.13	6.21	19.71	8.17	17.47	17.05	16.48	20.83	20.70
95th-Percentile Queue Length [ft/ln]	255.00	386.35	353.31	155.29	492.73	204.16	436.72	426.25	411.89	520.70	517.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	82.60	41.05	43.50	72.00	63.30	63.30	80.77	55.48	55.80	74.73	43.81	44.87
Movement LOS	F	D	D	E	E	E	F	E	E	E	D	D
d_A, Approach Delay [s/veh]	49.38			64.91			58.94			50.76		
Approach LOS	D			E			E			D		
d_I, Intersection Delay [s/veh]	54.36											
Intersection LOS	D											
Intersection V/C	0.912											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	41.41	41.41	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.766	2.631	3.127	0.000
Crosswalk LOS	C	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]	600	540	520	740
d_b, Bicycle Delay [s]	24.50	26.65	27.38	19.85
l_b,int, Bicycle LOS Score for Intersection	3.155	2.474	2.362	2.812
Bicycle LOS	C	B	B	C

Sequence

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



Pemcor Comm Indus Business Park

Vistro File: E:\...\PMHY.vistro

Scenario 1 Horizon Year (2045) Without Project PM Peak Hour

Report File: E:\...\PMHYWO.pdf

9/30/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	WB Right	1.002	57.6	E
2	Zeiders Rd (NS) at Ciccotti St (EW)	Two-way stop	HCM 7th Edition	WB Left	0.004	12.5	B
4	Zeiders Rd (NS) at Project South Dwy/Industrial Rdwy (EW)	Signalized	HCM 7th Edition	WB Right	0.252	1.3	A
5	I-215 SB Ramps (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.631	6.9	A
6	I-215 NB Ramps (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.771	15.1	B
7	Antelope Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.721	29.7	C
8	Menifee Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	WB Left	0.748	45.5	D

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

Intersection Level Of Service Report

Intersection 1: Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	57.6
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.002

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	170.00	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]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	154	260	53	481	82	91	114	688	89	80	714	707
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	154	260	53	481	82	91	114	688	89	80	714	707
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	65	13	120	21	23	29	172	22	20	179	177
Total Analysis Volume [veh/h]	154	260	53	481	82	91	114	688	89	80	714	707
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]	95
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	26	0	11	28	0	11	28	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	18	18	18	18	18	7	38	38	6	37	37
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.07	0.39	0.39	0.07	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.09	0.14	0.03	0.19	0.19	0.06	0.37	0.06	0.04	0.20	0.44
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1743	1781	1870	1589	1781	3560	1589
c, Capacity [veh/h]	331	347	295	331	324	132	739	628	116	1376	614
d1, Uniform Delay [s]	34.51	36.62	32.61	38.70	38.72	43.57	27.53	18.43	43.50	22.39	29.18
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.65	13.76	1.33	48.99	50.13	15.26	5.98	0.10	7.05	0.30	72.55
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.47	0.75	0.18	1.00	1.00	0.87	0.93	0.14	0.69	0.52	1.15
d, Delay for Lane Group [s/veh]	39.16	50.38	33.94	87.69	88.85	58.84	33.51	18.54	50.55	22.70	101.72
Lane Group LOS	D	D	C	F	F	E	C	B	D	C	F
Critical Lane Group	No	Yes	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.45	6.74	1.09	11.67	11.55	3.05	14.25	1.15	1.96	5.50	24.58
50th-Percentile Queue Length [ft/ln]	86.24	168.53	27.30	291.86	288.63	76.17	356.14	28.64	48.96	137.56	614.48
95th-Percentile Queue Length [veh/ln]	6.21	11.00	1.97	17.28	17.12	5.48	20.44	2.06	3.53	9.35	35.87
95th-Percentile Queue Length [ft/ln]	155.23	274.99	49.14	431.95	428.04	137.10	510.88	51.54	88.13	233.74	896.86

Movement, Approach, & Intersection Results

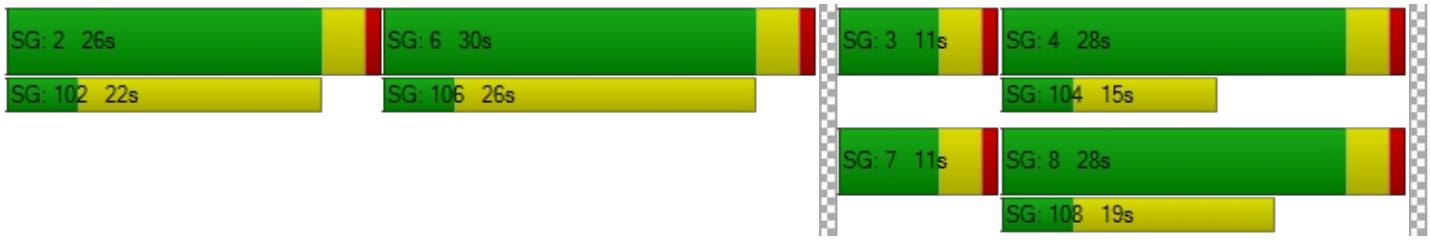
d_M, Delay for Movement [s/veh]	39.16	50.38	33.94	88.06	88.85	88.85	58.84	33.51	18.54	50.55	22.70	101.72
Movement LOS	D	D	C	F	F	F	E	C	B	D	C	F
d_A, Approach Delay [s/veh]	44.81			88.27			35.26			61.41		
Approach LOS	D			F			D			E		
d_I, Intersection Delay [s/veh]	57.57											
Intersection LOS	E											
Intersection V/C	1.002											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.95	38.95	38.95	38.95
l_p,int, Pedestrian LOS Score for Intersectio	2.398	2.884	2.965	3.268
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	547	463	505	505
d_b, Bicycle Delay [s]	25.08	28.07	26.55	26.55
l_b,int, Bicycle LOS Score for Intersection	2.330	2.639	3.030	2.798
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 2: Zeiders Rd (NS) at Ciccotti St (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	380	1	1	188	2	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	380	1	1	188	2	9
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	95	0	0	47	1	2
Total Analysis Volume [veh/h]	380	1	1	188	2	9
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	8.06	0.00	12.50	10.47
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.04
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.06	0.00	0.31	1.03
d_A, Approach Delay [s/veh]	0.00		0.04		10.84	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.22					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 4: Zeiders Rd (NS) at Project South Dwy/Industrial Rdwy (EW)

Control Type:	Signalized	Delay (sec / veh):	1.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.252

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	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	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			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	380	1	0	190	0	0	0	0	0	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	380	1	0	190	0	0	0	0	0	0	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	95	0	0	48	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	380	1	0	190	0	0	0	0	0	0	1
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	120	120	0	120	120	0	0	120	0	0	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	57	97	0	11	51	0	0	12	0	0	12	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	C	C	R
C, Cycle Length [s]	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
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	108	0	108	0	0	0
g / C, Green / Cycle	0.00	0.90	0.00	0.90	0.00	0.00	0.00
(v / s)_i Volume / Saturation Flow Rate	0.00	0.23	0.00	0.11	0.00	0.00	0.00
s, saturation flow rate [veh/h]	1603	1682	1603	1683	616	616	1431
c, Capacity [veh/h]	2	1508	2	1508	32	32	4
d1, Uniform Delay [s]	0.00	0.84	0.00	0.73	0.00	0.00	59.81
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	0.40	0.00	0.17	0.00	0.00	27.24
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.25	0.00	0.13	0.00	0.00	0.24
d, Delay for Lane Group [s/veh]	0.00	1.24	0.00	0.90	0.00	0.00	87.05
Lane Group LOS	A	A	A	A	A	A	F
Critical Lane Group	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.00	0.17	0.00	0.07	0.00	0.00	0.06
50th-Percentile Queue Length [ft/ln]	0.00	4.22	0.00	1.80	0.00	0.00	1.56
95th-Percentile Queue Length [veh/ln]	0.00	0.30	0.00	0.13	0.00	0.00	0.11
95th-Percentile Queue Length [ft/ln]	0.00	7.60	0.00	3.24	0.00	0.00	2.80

Movement, Approach, & Intersection Results

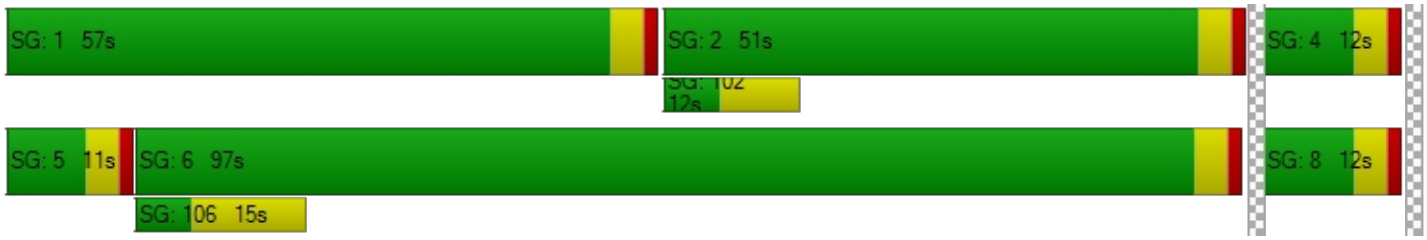
d_M, Delay for Movement [s/veh]	0.00	1.24	1.24	0.00	0.90	0.90	0.00	0.00	0.00	0.00	0.00	87.05
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	F
d_A, Approach Delay [s/veh]	1.24			0.90			0.00			87.05		
Approach LOS	A			A			A			F		
d_I, Intersection Delay [s/veh]	1.28											
Intersection LOS	A											
Intersection V/C	0.252											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	51.40	51.40
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	1.730	1.956
Crosswalk LOS	F	F	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1548	783	133	133
d_b, Bicycle Delay [s]	3.06	22.26	52.33	52.33
l_b,int, Bicycle LOS Score for Intersection	2.188	1.873	1.560	1.561
Bicycle LOS	B	A	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 5: I-215 SB Ramps (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	6.9
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.631

Intersection Setup

Name												
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	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	365.00	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	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	30.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	498	0	207	0	793	420	0	1249	429
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	498	0	207	0	793	420	0	1249	429
Peak Hour Factor	0.9660	0.9660	0.9660	1.0000	0.9660	1.0000	0.9660	1.0000	1.0000	0.9660	1.0000	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	125	0	52	0	198	105	0	312	107
Total Analysis Volume [veh/h]	0	0	0	498	0	207	0	793	420	0	1249	429
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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	0	0	0	5	0	0	0	8	0	0	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	7	0	0	0	7	0	0	7	7
Maximum Green [s]	0	0	0	120	0	0	0	120	0	0	120	120
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	20	0	0	0	40	0	0	40	40
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	0	0	10	0	0	0	10	0	0	17	17
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	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Minimum Recall				No				No			No	No
Maximum Recall				No				No			No	No
Pedestrian Recall				No				No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		L	R	C	R	C	R
C, Cycle Length [s]		37	37	37	37	37	37
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	0.00
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]		10	10	19	19	19	33
g / C, Green / Cycle		0.27	0.27	0.51	0.51	0.51	0.89
(v / s)_i Volume / Saturation Flow Rate		0.14	0.07	0.22	0.26	0.35	0.27
s, saturation flow rate [veh/h]		3459	2813	3560	1589	3560	1589
c, Capacity [veh/h]		947	770	1817	811	1817	1418
d1, Uniform Delay [s]		11.41	10.55	5.72	6.04	6.85	0.30
k, delay calibration		0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.45	0.19	0.17	0.51	0.47	0.12
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.53	0.27	0.44	0.52	0.69	0.30
d, Delay for Lane Group [s/veh]		11.87	10.73	5.88	6.55	7.31	0.41
Lane Group LOS		B	B	A	A	A	A
Critical Lane Group		Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]		1.46	0.56	0.56	0.69	1.09	0.05
50th-Percentile Queue Length [ft/ln]		36.39	13.90	13.93	17.32	27.26	1.17
95th-Percentile Queue Length [veh/ln]		2.62	1.00	1.00	1.25	1.96	0.08
95th-Percentile Queue Length [ft/ln]		65.51	25.02	25.08	31.17	49.07	2.11

Movement, Approach, & Intersection Results

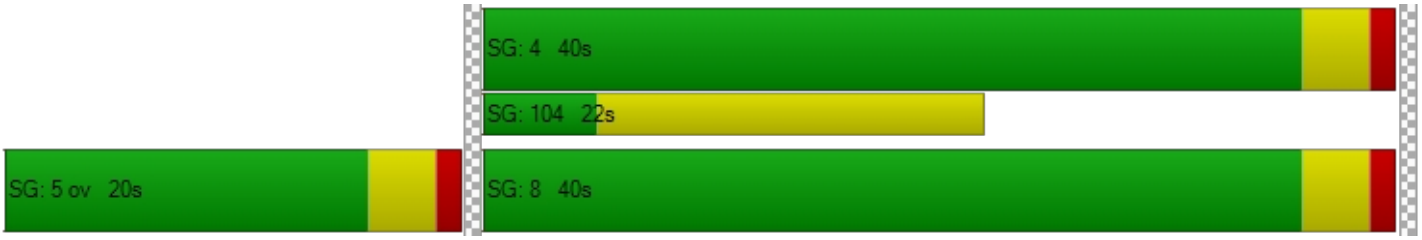
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.87	0.00	10.73	0.00	5.88	6.55	0.00	7.31	0.41
Movement LOS				B		B		A	A		A	A
d_A, Approach Delay [s/veh]	0.00			11.53			6.12			5.55		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	6.91											
Intersection LOS	A											
Intersection V/C	0.631											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	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]	0.00	10.57	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.436	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	866	1948	1948
d_b, Bicycle Delay [s]	18.48	5.94	0.01	0.01
l_b,int, Bicycle LOS Score for Intersection	4.132	1.560	2.560	2.944
Bicycle LOS	D	A	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-215 NB Ramps (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	15.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.771

Intersection Setup

Name											
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	1	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	185.00	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]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	538	0	0	572	164	1130	0	0	1106	475
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	538	0	0	572	164	1130	0	0	1106	475
Peak Hour Factor	0.9370	0.9370	1.0000	0.9370	0.9370	1.0000	1.0000	1.0000	0.9370	0.9370	1.0000	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	135	0	0	143	41	283	0	0	277	119
Total Analysis Volume [veh/h]	0	0	538	0	0	572	164	1130	0	0	1106	475
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]	105
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	0	0	6	0	0	2	3	8	0	0	4	4
Auxiliary Signal Groups												4
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	0	7	0	0	7	7	7	0	0	7	7
Maximum Green [s]	0	0	120	0	0	120	120	120	0	0	120	120
Amber [s]	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	3.0	3.0
All red [s]	0.0	0.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	25	0	0	25	44	80	0	0	36	36
Vehicle Extension [s]	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	5	0	0	5	0	5	0	0	5	5
Pedestrian Clearance [s]	0	0	10	0	0	10	0	10	0	0	10	10
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	0.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
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	R	R	L	C	C	R
C, Cycle Length [s]	56	56	56	56	56	56
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]	14	14	7	34	23	23
g / C, Green / Cycle	0.26	0.26	0.12	0.60	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.19	0.20	0.09	0.32	0.31	0.30
s, saturation flow rate [veh/h]	2813	2813	1781	3560	3560	1589
c, Capacity [veh/h]	726	726	217	2134	1447	646
d1, Uniform Delay [s]	19.10	19.39	23.83	6.59	14.34	14.10
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.52	1.95	5.31	0.20	0.86	1.65
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.79	0.76	0.53	0.76	0.74
d, Delay for Lane Group [s/veh]	20.61	21.34	29.14	6.80	15.20	15.75
Lane Group LOS	C	C	C	A	B	B
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.11	3.39	2.06	1.89	4.36	3.83
50th-Percentile Queue Length [ft/ln]	77.70	84.66	51.54	47.29	108.91	95.71
95th-Percentile Queue Length [veh/ln]	5.59	6.10	3.71	3.40	7.78	6.89
95th-Percentile Queue Length [ft/ln]	139.86	152.39	92.77	85.11	194.49	172.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	20.61	0.00	0.00	21.34	29.14	6.80	0.00	0.00	15.20	15.75
Movement LOS			C			C	C	A			B	B
d_A, Approach Delay [s/veh]	20.61			21.34			9.63			15.37		
Approach LOS	C			C			A			B		
d_I, Intersection Delay [s/veh]	15.07											
Intersection LOS	B											
Intersection V/C	0.771											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	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]	0.00	19.72	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.245	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	750	750	2715	1143
d_b, Bicycle Delay [s]	10.93	10.93	3.57	5.14
l_b,int, Bicycle LOS Score for Intersection	1.560	1.560	2.627	2.864
Bicycle LOS	A	A	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 7: Antelope Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	29.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.721

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	215.00	100.00	100.00	165.00	100.00	100.00	190.00	100.00	100.00	315.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	50.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	498	366	255	89	195	303	363	879	444	151	864	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	498	366	255	89	195	303	363	879	444	151	864	46
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	125	92	64	22	49	76	91	220	111	38	216	12
Total Analysis Volume [veh/h]	498	366	255	89	195	303	363	879	444	151	864	46
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]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	2	3	8	8	7	4	0
Auxiliary Signal Groups			6,7			2,3			1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	0
Maximum Green [s]	120	120	120	120	120	120	120	120	120	120	120	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	22	33	33	12	23	23	17	34	34	11	28	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	5	0	5	5	0	5	0
Pedestrian Clearance [s]	0	24	24	0	10	10	0	24	24	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]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No	No	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	No	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	No	No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	18	35	46	6	23	41	13	26	48	7	20	20
g / C, Green / Cycle	0.20	0.39	0.51	0.07	0.26	0.45	0.14	0.28	0.53	0.08	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.14	0.10	0.16	0.05	0.10	0.19	0.10	0.25	0.28	0.04	0.17	0.17
s, saturation flow rate [veh/h]	3459	3560	1589	1781	1870	1589	3459	3560	1589	3459	3560	1822
c, Capacity [veh/h]	692	1387	814	127	487	715	501	1010	840	272	774	396
d1, Uniform Delay [s]	33.77	18.78	12.80	41.05	27.61	16.92	36.92	30.78	13.96	40.12	33.30	33.31
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
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
d2, Incremental Delay [s]	1.42	0.46	1.00	6.92	2.45	1.84	2.00	2.47	0.52	1.77	1.72	3.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.72	0.26	0.31	0.70	0.40	0.42	0.72	0.87	0.53	0.56	0.78	0.78
d, Delay for Lane Group [s/veh]	35.20	19.24	13.80	47.98	30.06	18.76	38.92	33.25	14.47	41.89	35.02	36.65
Lane Group LOS	D	B	B	D	C	B	D	C	B	D	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.86	2.43	2.79	2.07	3.54	4.11	3.67	8.46	4.92	1.57	5.82	6.15
50th-Percentile Queue Length [ft/ln]	121.58	60.85	69.64	51.76	88.55	102.84	91.74	211.62	122.95	39.32	145.57	153.76
95th-Percentile Queue Length [veh/ln]	8.48	4.38	5.01	3.73	6.38	7.40	6.61	13.24	8.56	2.83	9.78	10.22
95th-Percentile Queue Length [ft/ln]	212.00	109.53	125.36	93.17	159.38	185.11	165.13	330.90	213.88	70.77	244.50	255.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.20	19.24	13.80	47.98	30.06	18.76	38.92	33.25	14.47	41.89	35.52	36.65
Movement LOS	D	B	B	D	C	B	D	C	B	D	D	D
d_A, Approach Delay [s/veh]	25.10			26.94			29.53			36.47		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	29.73											
Intersection LOS	C											
Intersection V/C	0.721											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	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]	36.55	36.55	0.00	36.55
l_p,int, Pedestrian LOS Score for Intersectio	3.039	2.744	0.000	3.179
Crosswalk LOS	C	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]	643	421	665	532
d_b, Bicycle Delay [s]	20.76	28.10	20.09	24.29
l_b,int, Bicycle LOS Score for Intersection	2.483	2.528	2.951	2.143
Bicycle LOS	B	B	C	B

Sequence

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



Intersection Level Of Service Report
Intersection 8: Menifee Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	45.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.748

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	235.00	100.00	100.00	145.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	157	377	279	92	152	101	190	894	156	182	860	105
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	157	377	279	92	152	101	190	894	156	182	860	105
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	94	70	23	38	25	48	224	39	46	215	26
Total Analysis Volume [veh/h]	157	377	279	92	152	101	190	894	156	182	860	105
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]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	120	120	0	120	120	0	120	120	0	120	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	20	33	0	14	27	0	20	49	0	19	48	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	C	L	C	C
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	16	29	29	10	23	16	45	45	15	44	44
g / C, Green / Cycle	0.14	0.25	0.25	0.09	0.20	0.14	0.39	0.39	0.13	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.09	0.20	0.18	0.05	0.14	0.11	0.29	0.29	0.10	0.26	0.26
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1747	1781	1870	1775	1781	1870	1800
c, Capacity [veh/h]	248	472	401	155	349	248	732	694	232	715	689
d1, Uniform Delay [s]	46.73	40.28	39.00	50.55	43.03	47.70	29.90	29.95	48.43	29.73	29.74
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.73	13.27	9.61	15.67	12.30	20.05	6.47	6.89	22.73	5.32	5.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.63	0.80	0.70	0.59	0.72	0.77	0.73	0.74	0.78	0.69	0.69
d, Delay for Lane Group [s/veh]	58.46	53.54	48.61	66.21	55.34	67.76	36.37	36.84	71.16	35.05	35.28
Lane Group LOS	E	D	D	E	E	E	D	D	E	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.93	11.33	7.95	3.14	7.63	6.37	12.96	12.44	6.28	11.53	11.15
50th-Percentile Queue Length [ft/ln]	123.21	283.37	198.69	78.39	190.81	159.35	323.90	310.90	157.07	288.13	278.74
95th-Percentile Queue Length [veh/ln]	8.57	16.86	12.57	5.64	12.16	10.51	18.86	18.22	10.39	17.09	16.63
95th-Percentile Queue Length [ft/ln]	214.23	421.40	314.27	141.10	304.09	262.87	471.47	455.49	259.84	427.32	415.65

Movement, Approach, & Intersection Results

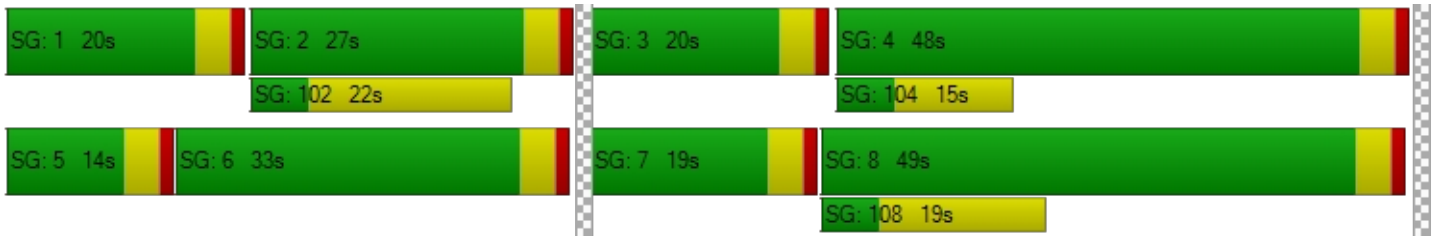
d_M, Delay for Movement [s/veh]	58.46	53.54	48.61	66.21	55.34	55.34	67.76	36.56	36.84	71.16	35.15	35.28
Movement LOS	E	D	D	E	E	E	E	D	D	E	D	D
d_A, Approach Delay [s/veh]	52.80			58.24			41.37			40.88		
Approach LOS	D			E			D			D		
d_I, Intersection Delay [s/veh]	45.47											
Intersection LOS	D											
Intersection V/C	0.748											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	48.85	48.85	48.85	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.621	2.504	3.156	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]	504	400	783	765
d_b, Bicycle Delay [s]	32.16	36.80	21.30	21.92
l_b,int, Bicycle LOS Score for Intersection	2.901	2.129	2.583	2.506
Bicycle LOS	C	B	B	B

Sequence

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



HORIZON YEAR (2026) WITH PROJECT

Pemcor Comm Indus Business Park

Vistro File: E:\...\AMHY.vistro
Report File: E:\...\AMHYW.pdf

Scenario 2 Horizon Year (2045) With Project AM Peak Hour
9/30/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Right	1.009	138.8	F
2	Zeiders Rd (NS) at Ciccotti St (EW)	Two-way stop	HCM 7th Edition	WB Right	0.001	9.6	A
3	Zeiders Rd (NS) at Project North Dwy (EW)	Two-way stop	HCM 7th Edition	EB Right	0.002	10.7	B
4	Zeiders Rd (NS) at Project South Dwy/Industrial Rdwy (EW)	Signalized	HCM 7th Edition	SB Left	0.352	5.8	A
5	I-215 SB Ramps (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.753	7.5	A
6	I-215 NB Ramps (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.782	14.7	B
7	Antelope Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.845	30.5	C
8	Menifee Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.896	57.6	E

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: Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	138.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.009

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	170.00	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]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	107	81	26	603	120	180	199	819	195	75	874	443
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	3	39	0	14	0	0	0	15	118	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]	112	84	65	603	134	180	199	819	210	193	874	443
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	21	16	151	34	45	50	205	53	48	219	111
Total Analysis Volume [veh/h]	112	84	65	603	134	180	199	819	210	193	874	443
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 Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	56	0	15	23	0	11	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	17	0	0	14	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			No	
l1, 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
l2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	120	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	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	17	17	17	17	17	11	55	55	15	60	60
g / C, Green / Cycle	0.14	0.14	0.14	0.14	0.14	0.09	0.46	0.46	0.13	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.06	0.04	0.04	0.26	0.27	0.11	0.44	0.13	0.11	0.25	0.28
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1723	1781	1870	1589	1781	3560	1589
c, Capacity [veh/h]	248	261	222	248	240	164	862	733	226	1767	789
d1, Uniform Delay [s]	47.46	46.56	46.37	51.68	51.68	54.53	31.01	20.08	51.35	20.20	21.13
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.82	3.25	3.34	399.40	420.97	109.52	6.58	0.21	8.93	0.22	0.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.45	0.32	0.29	1.85	1.90	1.22	0.95	0.29	0.85	0.49	0.56
d, Delay for Lane Group [s/veh]	53.28	49.81	49.71	451.07	472.65	164.06	37.59	20.30	60.29	20.42	21.76
Lane Group LOS	D	D	D	F	F	F	D	C	E	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.40	2.45	1.91	34.72	35.04	9.70	21.91	3.42	5.99	7.46	8.00
50th-Percentile Queue Length [ft/ln]	85.11	61.13	47.71	868.09	875.94	242.61	547.70	85.48	149.87	186.56	199.88
95th-Percentile Queue Length [veh/ln]	6.13	4.40	3.43	54.42	55.07	15.86	29.58	6.15	10.01	11.94	12.63
95th-Percentile Queue Length [ft/ln]	153.20	110.03	85.87	1360.43	1376.74	396.56	739.60	153.87	250.25	298.56	315.81

Movement, Approach, & Intersection Results

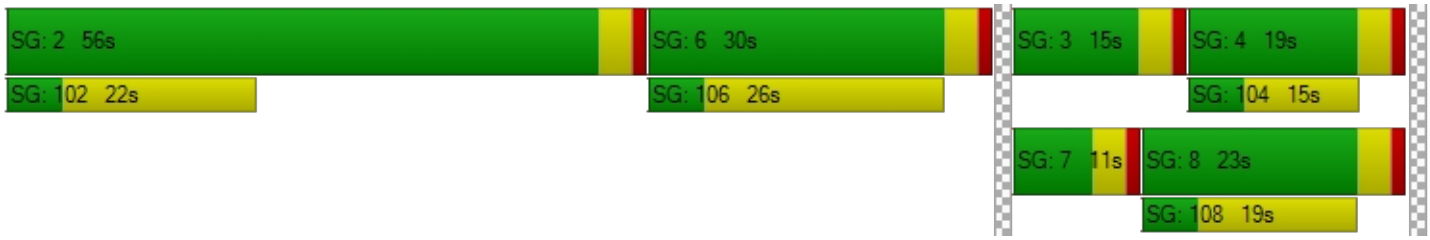
d_M, Delay for Movement [s/veh]	53.28	49.81	49.71	456.21	472.65	472.65	164.06	37.59	20.30	60.29	20.42	21.76
Movement LOS	D	D	D	F	F	F	F	D	C	E	C	C
d_A, Approach Delay [s/veh]	51.27			461.82			55.13			25.91		
Approach LOS	D			F			E			C		
d_I, Intersection Delay [s/veh]	138.84											
Intersection LOS	F											
Intersection V/C	1.009											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.36	51.36	51.36	51.36
l_p,int, Pedestrian LOS Score for Intersectio	2.438	2.845	3.171	3.361
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	433	866	317	250
d_b, Bicycle Delay [s]	36.84	19.29	42.53	45.96
l_b,int, Bicycle LOS Score for Intersection	1.990	3.073	3.586	2.805
Bicycle LOS	A	C	D	C

Sequence

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



Intersection Level Of Service Report
Intersection 2: Zeiders Rd (NS) at Ciccotti St (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	210	5	5	310	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	47	0	0	147	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]	257	5	5	457	0	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	1	1	114	0	0
Total Analysis Volume [veh/h]	257	5	5	457	0	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.78	0.00	14.24	9.63
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.29	0.00	0.00	0.10
d_A, Approach Delay [s/veh]	0.00		0.08		9.63	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.07					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 3: Zeiders Rd (NS) at Project North Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	215	310	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	47	40	107	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	262	350	107	0	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	69	92	28	0	0
Total Analysis Volume [veh/h]	0	276	368	113	0	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	10.73
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.12
d_A, Approach Delay [s/veh]	0.00		0.00		10.73	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.01					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 4: Zeiders Rd (NS) at Project South Dwy/Industrial Rdwy (EW)

Control Type:	Signalized	Delay (sec / veh):	5.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.352

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	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	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			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	210	0	1	310	0	0	0	0	0	0	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	0	0	0	1	40	47	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]	7	210	0	1	311	40	47	0	0	0	0	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	53	0	0	78	10	12	0	0	0	0	1
Total Analysis Volume [veh/h]	7	210	0	1	311	40	47	0	0	0	0	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

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

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	120	120	0	120	120	0	0	120	0	0	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	19	0	12	20	0	0	29	0	0	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	44	0	43	4	4	4
g / C, Green / Cycle	0.01	0.73	0.00	0.72	0.06	0.06	0.06
(v / s)_i Volume / Saturation Flow Rate	0.00	0.12	0.00	0.21	0.06	0.00	0.00
s, saturation flow rate [veh/h]	1603	1683	1603	1650	731	928	1431
c, Capacity [veh/h]	23	1232	5	1190	168	121	94
d1, Uniform Delay [s]	29.36	2.46	29.92	2.97	28.93	0.00	26.31
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.56	0.30	20.92	0.63	0.90	0.00	0.09
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.17	0.21	0.30	0.28	0.00	0.02
d, Delay for Lane Group [s/veh]	36.93	2.76	50.83	3.60	29.83	0.00	26.40
Lane Group LOS	D	A	D	A	C	A	C
Critical Lane Group	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.14	0.31	0.04	0.69	0.70	0.00	0.03
50th-Percentile Queue Length [ft/ln]	3.45	7.87	1.01	17.13	17.42	0.00	0.71
95th-Percentile Queue Length [veh/ln]	0.25	0.57	0.07	1.23	1.25	0.00	0.05
95th-Percentile Queue Length [ft/ln]	6.21	14.16	1.82	30.83	31.36	0.00	1.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.93	2.76	2.76	50.83	3.60	3.60	29.83	29.83	29.83	0.00	0.00	26.40
Movement LOS	D	A	A	D	A	A	C	C	C	A	A	C
d_A, Approach Delay [s/veh]	3.87			3.74			29.83			26.40		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	5.84											
Intersection LOS	A											
Intersection V/C	0.352											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	21.71	21.71
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	1.734	1.922
Crosswalk LOS	F	F	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	499	533	832	832
d_b, Bicycle Delay [s]	16.91	16.17	10.24	10.24
l_b,int, Bicycle LOS Score for Intersection	1.918	2.140	1.637	1.563
Bicycle LOS	A	B	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 5: I-215 SB Ramps (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	7.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.753

Intersection Setup

Name												
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	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	365.00	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	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	30.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	510	0	242	0	776	640	0	958	697
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	41	0	25	14	0	77	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	510	0	283	0	801	654	0	1035	697
Peak Hour Factor	0.9660	0.9660	0.9660	1.0000	0.9660	1.0000	0.9660	1.0000	1.0000	0.9660	1.0000	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	128	0	71	0	200	164	0	259	174
Total Analysis Volume [veh/h]	0	0	0	510	0	283	0	801	654	0	1035	697
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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	0	0	0	5	0	0	0	8	0	0	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	7	0	0	0	7	0	0	7	7
Maximum Green [s]	0	0	0	120	0	0	0	120	0	0	120	120
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	34	0	0	0	26	0	0	26	26
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	0	0	10	0	0	0	10	0	0	17	17
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	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Minimum Recall				No				No			No	No
Maximum Recall				No				No			No	No
Pedestrian Recall				No				No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		L	R	C	R	C	R
C, Cycle Length [s]		41	41	41	41	41	41
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	0.00
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]		12	12	21	21	21	37
g / C, Green / Cycle		0.30	0.30	0.51	0.51	0.51	0.90
(v / s)_i Volume / Saturation Flow Rate		0.15	0.10	0.22	0.41	0.29	0.44
s, saturation flow rate [veh/h]		3459	2813	3560	1589	3560	1589
c, Capacity [veh/h]		1034	841	1806	806	1806	1435
d1, Uniform Delay [s]		11.89	11.27	6.47	8.52	7.07	0.35
k, delay calibration		0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.37	0.23	0.17	2.03	0.29	0.26
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		0.49	0.34	0.44	0.81	0.57	0.49
d, Delay for Lane Group [s/veh]		12.26	11.51	6.64	10.54	7.36	0.60
Lane Group LOS		B	B	A	B	A	A
Critical Lane Group		No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]		1.65	0.87	0.88	2.25	1.25	0.10
50th-Percentile Queue Length [ft/ln]		41.37	21.76	21.99	56.32	31.34	2.55
95th-Percentile Queue Length [veh/ln]		2.98	1.57	1.58	4.06	2.26	0.18
95th-Percentile Queue Length [ft/ln]		74.47	39.16	39.59	101.38	56.41	4.58

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	12.26	0.00	11.51	0.00	6.64	10.54	0.00	7.36	0.60
Movement LOS				B		B		A	B		A	A
d_A, Approach Delay [s/veh]	0.00			11.99			8.39			4.64		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	7.48											
Intersection LOS	A											
Intersection V/C	0.753											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	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]	0.00	12.56	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.501	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	1458	1069	1069
d_b, Bicycle Delay [s]	20.58	1.51	4.46	4.46
l_b,int, Bicycle LOS Score for Intersection	4.132	1.560	2.760	2.989
Bicycle LOS	D	A	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-215 NB Ramps (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	14.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.782

Intersection Setup

Name											
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	1	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	185.00	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]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	427	0	0	256	173	1104	0	0	1317	497
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	41	15	10	0	0	36	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	427	0	0	297	188	1114	0	0	1353	497
Peak Hour Factor	0.9370	0.9370	1.0000	0.9370	0.9370	1.0000	1.0000	1.0000	0.9370	0.9370	1.0000	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	107	0	0	74	47	279	0	0	338	124
Total Analysis Volume [veh/h]	0	0	427	0	0	297	188	1114	0	0	1353	497
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 Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	0	0	6	0	0	2	3	8	0	0	4	4
Auxiliary Signal Groups												4
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	0	7	0	0	7	7	7	0	0	7	7
Maximum Green [s]	0	0	120	0	0	120	120	120	0	0	120	120
Amber [s]	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	3.0	3.0
All red [s]	0.0	0.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	25	0	0	25	37	95	0	0	58	58
Vehicle Extension [s]	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	5	0	0	5	0	5	0	0	5	5
Pedestrian Clearance [s]	0	0	10	0	0	10	0	10	0	0	10	10
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	0.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
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	R	R	L	C	C	R
C, Cycle Length [s]	65	65	65	65	65	65
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]	13	13	9	44	32	32
g / C, Green / Cycle	0.19	0.19	0.14	0.68	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.15	0.11	0.11	0.31	0.38	0.31
s, saturation flow rate [veh/h]	2813	2813	1781	3560	3560	1589
c, Capacity [veh/h]	547	547	241	2431	1731	773
d1, Uniform Delay [s]	24.90	23.61	27.21	4.77	13.86	12.50
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.47	0.84	5.46	0.14	0.80	0.90
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	0.54	0.78	0.46	0.78	0.64
d, Delay for Lane Group [s/veh]	27.37	24.46	32.67	4.90	14.66	13.41
Lane Group LOS	C	C	C	A	B	B
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.18	2.04	2.80	1.43	5.93	4.00
50th-Percentile Queue Length [ft/ln]	79.49	50.93	70.04	35.76	148.21	99.88
95th-Percentile Queue Length [veh/ln]	5.72	3.67	5.04	2.57	9.92	7.19
95th-Percentile Queue Length [ft/ln]	143.07	91.68	126.07	64.37	248.04	179.79

Movement, Approach, & Intersection Results

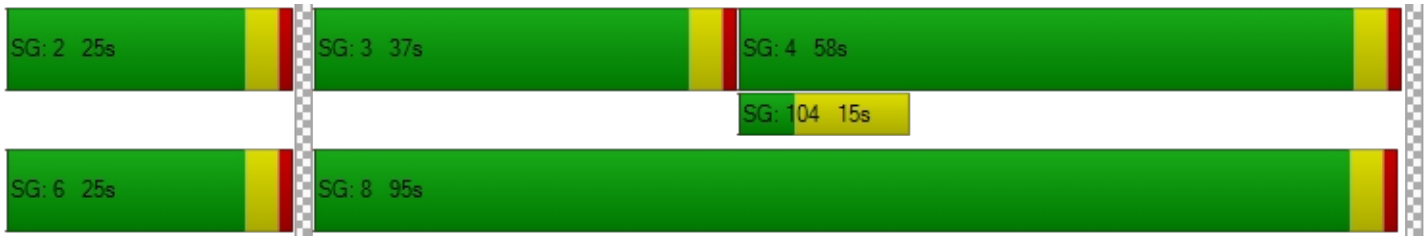
d_M, Delay for Movement [s/veh]	0.00	0.00	27.37	0.00	0.00	24.46	32.67	4.90	0.00	0.00	14.66	13.41
Movement LOS			C			C	C	A			B	B
d_A, Approach Delay [s/veh]	27.37			24.46			8.91			14.32		
Approach LOS	C			C			A			B		
d_I, Intersection Delay [s/veh]	14.72											
Intersection LOS	B											
Intersection V/C	0.782											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	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]	0.00	24.11	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.191	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	646	646	2801	1662
d_b, Bicycle Delay [s]	14.88	14.88	5.21	0.93
l_b,int, Bicycle LOS Score for Intersection	1.560	1.560	2.634	3.086
Bicycle LOS	A	A	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 7: Antelope Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	30.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.845

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	215.00	100.00	100.00	165.00	100.00	100.00	190.00	100.00	100.00	315.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	50.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	510	385	224	62	308	461	266	805	467	184	1086	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	0	0	0	4	1	8	1	0	29	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]	513	385	224	62	308	465	267	813	468	184	1115	62
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	128	96	56	16	77	116	67	203	117	46	279	16
Total Analysis Volume [veh/h]	513	385	224	62	308	465	267	813	468	184	1115	62
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]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	2	3	8	8	7	4	0
Auxiliary Signal Groups			6,7			2,3			1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	0
Maximum Green [s]	120	120	120	120	120	120	120	120	120	120	120	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	21	33	33	13	25	25	15	33	33	11	29	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	5	0	5	5	0	5	0
Pedestrian Clearance [s]	0	24	24	0	10	10	0	24	24	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]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No	No	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	No	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	No	No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	17	35	46	6	24	39	11	26	47	7	22	22
g / C, Green / Cycle	0.19	0.39	0.51	0.06	0.26	0.43	0.12	0.29	0.53	0.08	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.15	0.11	0.14	0.03	0.16	0.29	0.08	0.23	0.29	0.05	0.22	0.22
s, saturation flow rate [veh/h]	3459	3560	1589	1781	1870	1589	3459	3560	1589	3459	3560	1820
c, Capacity [veh/h]	654	1389	815	110	492	683	423	1042	836	270	883	452
d1, Uniform Delay [s]	34.79	18.79	12.46	41.09	29.30	20.71	37.60	29.22	14.35	40.45	32.60	32.60
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
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
d2, Incremental Delay [s]	2.13	0.50	0.84	4.46	5.93	5.42	1.56	1.31	0.59	3.03	3.10	5.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.28	0.27	0.56	0.63	0.68	0.63	0.78	0.56	0.68	0.88	0.88
d, Delay for Lane Group [s/veh]	36.92	19.28	13.30	45.55	35.23	26.13	39.16	30.53	14.94	43.48	35.69	38.39
Lane Group LOS	D	B	B	D	D	C	D	C	B	D	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.16	2.57	2.38	1.40	6.21	7.92	2.69	7.39	5.33	1.96	7.75	8.26
50th-Percentile Queue Length [ft/ln]	129.02	64.26	59.52	35.02	155.31	197.92	67.15	184.73	133.27	49.10	193.66	206.45
95th-Percentile Queue Length [veh/ln]	8.89	4.63	4.29	2.52	10.30	12.53	4.83	11.85	9.12	3.54	12.31	12.97
95th-Percentile Queue Length [ft/ln]	222.16	115.67	107.14	63.03	257.50	313.28	120.86	296.19	227.94	88.38	307.77	324.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.92	19.28	13.30	45.55	35.23	26.13	39.16	30.53	14.94	43.48	36.50	38.39
Movement LOS	D	B	B	D	D	C	D	C	B	D	D	D
d_A, Approach Delay [s/veh]	26.15			30.93			27.31			37.53		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	30.52											
Intersection LOS	C											
Intersection V/C	0.845											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	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]	36.47	36.47	0.00	36.47
l_p,int, Pedestrian LOS Score for Intersectio	3.079	2.805	0.000	3.224
Crosswalk LOS	C	C	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	466	644	555
d_b, Bicycle Delay [s]	20.69	26.47	20.69	23.50
l_b,int, Bicycle LOS Score for Intersection	2.485	2.937	2.837	2.308
Bicycle LOS	B	C	C	B

Sequence

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



Intersection Level Of Service Report
Intersection 8: Menifee Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	57.6
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.896

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	235.00	100.00	100.00	145.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	172	426	369	103	331	120	132	756	84	336	1031	151
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	0	0	0	0	10	2	5	1	0	15	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]	176	426	369	103	331	130	134	761	85	336	1046	151
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	107	92	26	83	33	34	190	21	84	262	38
Total Analysis Volume [veh/h]	176	426	369	103	331	130	134	761	85	336	1046	151
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	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	120	120	0	120	120	0	120	120	0	120	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	17	41	0	13	37	0	14	37	0	29	52	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	C	L	C	C
C, Cycle Length [s]	120	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	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	37	37	9	33	10	33	33	25	48	48
g / C, Green / Cycle	0.11	0.31	0.31	0.08	0.28	0.08	0.28	0.28	0.21	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.10	0.23	0.23	0.06	0.26	0.08	0.23	0.23	0.19	0.32	0.33
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1781	1781	1870	1805	1781	1870	1789
c, Capacity [veh/h]	193	577	490	134	490	148	514	496	371	748	716
d1, Uniform Delay [s]	52.94	37.17	37.38	54.49	42.55	54.52	40.97	40.97	46.35	31.99	32.22
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	45.21	8.25	10.25	34.11	28.36	51.67	14.95	15.40	28.04	9.36	10.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.74	0.75	0.77	0.94	0.90	0.84	0.84	0.91	0.81	0.82
d, Delay for Lane Group [s/veh]	98.15	45.43	47.63	88.60	70.91	106.19	55.91	56.37	74.38	41.35	42.62
Lane Group LOS	F	D	D	F	E	F	E	E	E	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	7.53	12.07	10.76	4.22	16.53	5.98	13.40	13.00	12.15	16.32	16.12
50th-Percentile Queue Length [ft/ln]	188.29	301.85	269.04	105.54	413.26	149.38	335.04	324.95	303.82	408.01	402.98
95th-Percentile Queue Length [veh/ln]	12.03	17.77	16.14	7.59	23.20	9.98	19.41	18.91	17.87	22.95	22.70
95th-Percentile Queue Length [ft/ln]	300.81	444.32	403.54	189.78	579.96	249.60	485.13	472.76	446.75	573.64	567.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	98.15	45.43	47.63	88.60	70.91	70.91	106.19	56.11	56.37	74.38	41.88	42.62
Movement LOS	F	D	D	F	E	E	F	E	E	E	D	D
d_A, Approach Delay [s/veh]	55.82			74.14			62.98			49.08		
Approach LOS	E			E			E			D		
d_I, Intersection Delay [s/veh]	57.55											
Intersection LOS	E											
Intersection V/C	0.896											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.776	2.646	3.149	0.000
Crosswalk LOS	C	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]	617	550	550	800
d_b, Bicycle Delay [s]	28.70	31.54	31.54	21.60
l_b,int, Bicycle LOS Score for Intersection	3.162	2.490	2.368	2.824
Bicycle LOS	C	B	B	C

Sequence

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



Pemcor Comm Indus Business Park

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Report File: E:\...\PMHYW.pdf

Scenario 2 Horizon Year (2045) With Project PM Peak Hour
9/30/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Right	0.992	55.5	E
2	Zeiders Rd (NS) at Ciccotti St (EW)	Two-way stop	HCM 7th Edition	WB Left	0.005	14.7	B
3	Zeiders Rd (NS) at Project North Dwy (EW)	Two-way stop	HCM 7th Edition	EB Right	0.005	9.5	A
4	Zeiders Rd (NS) at Project South Dwy/Industrial Rdwy (EW)	Signalized	HCM 7th Edition	NB Left	0.464	9.6	A
5	I-215 SB Ramps (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.636	7.1	A
6	I-215 NB Ramps (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	EB Left	0.790	16.7	B
7	Antelope Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.730	29.8	C
8	Menifee Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.790	45.9	D

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

Intersection Level Of Service Report
Intersection 1: Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	55.5
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.992

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	170.00	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]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	154	260	53	481	82	91	114	688	89	80	714	707
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	12	114	0	4	0	0	0	5	41	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]	168	272	167	481	86	91	114	688	94	121	714	707
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	68	42	120	22	23	29	172	24	30	179	177
Total Analysis Volume [veh/h]	168	272	167	481	86	91	114	688	94	121	714	707
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]	105
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	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	7	0	0	7	0	7	7	0	7	7	0
Maximum Green [s]	0	120	0	0	120	0	120	120	0	120	120	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	41	0	11	23	0	11	23	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	19	19	19	19	19	7	41	41	9	43	43
g / C, Green / Cycle	0.18	0.18	0.18	0.18	0.18	0.07	0.39	0.39	0.09	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.09	0.15	0.11	0.19	0.19	0.06	0.37	0.06	0.07	0.20	0.44
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1744	1781	1870	1589	1781	3560	1589
c, Capacity [veh/h]	329	345	293	329	322	119	734	624	154	1466	655
d1, Uniform Delay [s]	38.59	40.89	39.05	42.85	42.85	48.88	30.68	20.61	47.08	22.74	30.91
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.59	16.55	7.80	52.30	53.48	29.11	6.45	0.11	8.64	0.25	42.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.51	0.79	0.57	1.01	1.01	0.96	0.94	0.15	0.79	0.49	1.08
d, Delay for Lane Group [s/veh]	44.17	57.45	46.85	95.15	96.33	77.99	37.13	20.72	55.72	22.99	73.64
Lane Group LOS	D	E	D	F	F	E	D	C	E	C	F
Critical Lane Group	No	Yes	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.26	8.02	4.41	12.83	12.67	3.79	16.24	1.39	3.31	5.93	22.41
50th-Percentile Queue Length [ft/ln]	106.54	200.59	110.24	320.79	316.79	94.75	406.03	34.73	82.73	148.13	560.35
95th-Percentile Queue Length [veh/ln]	7.65	12.67	7.85	18.81	18.63	6.82	22.85	2.50	5.96	9.92	31.85
95th-Percentile Queue Length [ft/ln]	191.18	316.73	196.33	470.21	465.86	170.54	571.26	62.52	148.91	247.93	796.20

Movement, Approach, & Intersection Results

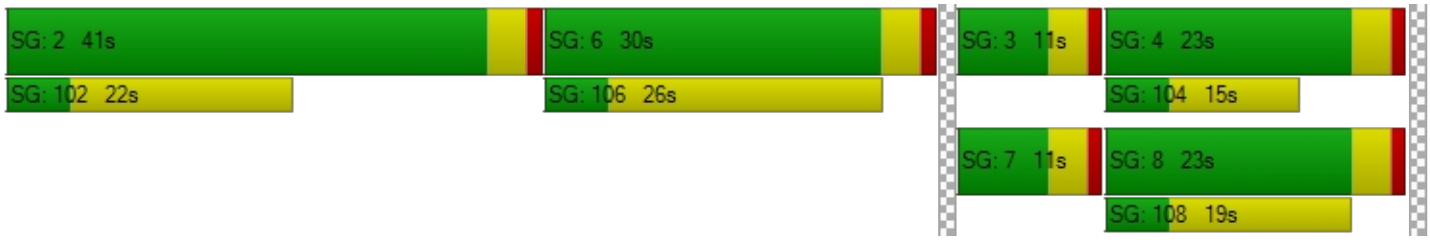
d_M, Delay for Movement [s/veh]	44.17	57.45	46.85	95.52	96.33	96.33	77.99	37.13	20.72	55.72	22.99	73.64
Movement LOS	D	E	D	F	F	F	E	D	C	E	C	F
d_A, Approach Delay [s/veh]	50.86			95.74			40.60			48.78		
Approach LOS	D			F			D			D		
d_I, Intersection Delay [s/veh]	55.49											
Intersection LOS	E											
Intersection V/C	0.992											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	43.91	43.91	43.91	43.91
l_p,int, Pedestrian LOS Score for Intersectio	2.472	2.898	2.977	3.319
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	495	704	362	362
d_b, Bicycle Delay [s]	29.74	22.04	35.24	35.24
l_b,int, Bicycle LOS Score for Intersection	2.561	2.645	3.038	2.832
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 2: Zeiders Rd (NS) at Ciccotti St (EW)

Control Type:	Two-way stop	Delay (sec / veh):	14.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	380	1	1	188	2	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	140	0	0	50	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]	520	1	1	238	2	9
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	130	0	0	60	1	2
Total Analysis Volume [veh/h]	520	1	1	238	2	9
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	8.45	0.00	14.70	11.58
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.02	0.05
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.07	0.00	0.40	1.23
d_A, Approach Delay [s/veh]	0.00		0.04		12.15	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.18					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: Zeiders Rd (NS) at Project North Dwy (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	381	190	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	140	20	30	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	521	210	30	0	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	137	55	8	0	1
Total Analysis Volume [veh/h]	0	548	221	32	0	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
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	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	9.51
Movement LOS		A	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.38
d_A, Approach Delay [s/veh]	0.00		0.00		9.51	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.05					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 4: Zeiders Rd (NS) at Project South Dwy/Industrial Rdwy (EW)

Control Type:	Signalized	Delay (sec / veh):	9.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.464

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	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	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			45.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	380	1	0	190	0	0	0	0	0	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	0	4	20	140	0	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	380	1	0	194	20	140	0	2	0	0	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	95	0	0	49	5	35	0	1	0	0	0
Total Analysis Volume [veh/h]	2	380	1	0	194	20	140	0	2	0	0	1
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

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

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	7	7	0	7	7	0	0	7	0	0	7	0
Maximum Green [s]	120	120	0	120	120	0	0	120	0	0	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	30	38	0	11	19	0	0	11	0	0	11	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	41	0	41	7	7	7
g / C, Green / Cycle	0.00	0.68	0.00	0.68	0.12	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.00	0.23	0.00	0.13	0.15	0.00	0.00
s, saturation flow rate [veh/h]	1603	1682	1603	1656	978	1222	1431
c, Capacity [veh/h]	9	1146	3	1121	234	204	169
d1, Uniform Delay [s]	29.83	3.96	0.00	3.61	27.94	0.00	23.48
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.65	0.78	0.00	0.38	2.53	0.00	0.01
d3, Initial Queue Delay [s]	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
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.21	0.33	0.00	0.19	0.61	0.00	0.01
d, Delay for Lane Group [s/veh]	40.48	4.74	0.00	3.99	30.47	0.00	23.49
Lane Group LOS	D	A	A	A	C	A	C
Critical Lane Group	No	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.05	1.11	0.00	0.56	2.17	0.00	0.01
50th-Percentile Queue Length [ft/ln]	1.36	27.69	0.00	14.06	54.26	0.00	0.32
95th-Percentile Queue Length [veh/ln]	0.10	1.99	0.00	1.01	3.91	0.00	0.02
95th-Percentile Queue Length [ft/ln]	2.44	49.84	0.00	25.32	97.66	0.00	0.57

Movement, Approach, & Intersection Results

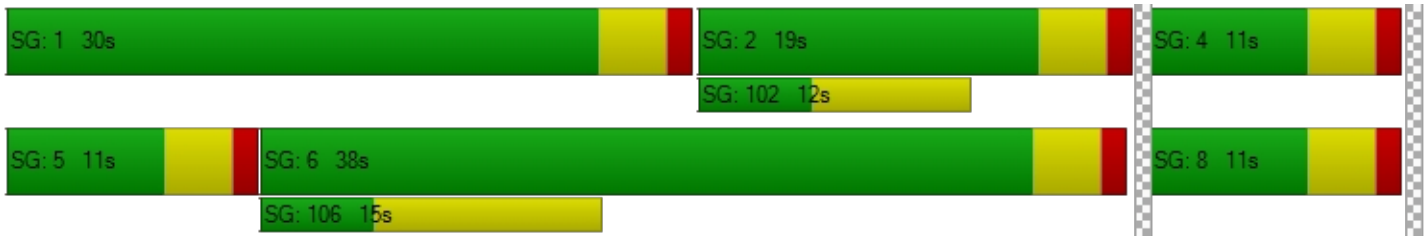
d_M, Delay for Movement [s/veh]	40.48	4.74	4.74	0.00	3.99	3.99	30.47	30.47	30.47	0.00	0.00	23.49
Movement LOS	D	A	A	A	A	A	C	C	C	A	A	C
d_A, Approach Delay [s/veh]	4.93			3.99			30.47			23.49		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	9.58											
Intersection LOS	A											
Intersection V/C	0.464											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	21.75	21.75
l_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	1.762	1.922
Crosswalk LOS	F	F	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1130	499	233	233
d_b, Bicycle Delay [s]	5.69	16.95	23.48	23.48
l_b,int, Bicycle LOS Score for Intersection	2.192	1.913	1.794	1.561
Bicycle LOS	B	A	A	A

Sequence

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



Intersection Level Of Service Report
Intersection 5: I-215 SB Ramps (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	7.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.636

Intersection Setup

Name												
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	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	365.00	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	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	30.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	498	0	207	0	793	420	0	1249	429
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	15	0	73	41	0	26	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	498	0	222	0	866	461	0	1275	429
Peak Hour Factor	0.9660	0.9660	0.9660	1.0000	0.9660	1.0000	0.9660	1.0000	1.0000	0.9660	1.0000	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	125	0	56	0	217	115	0	319	107
Total Analysis Volume [veh/h]	0	0	0	498	0	222	0	866	461	0	1275	429
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]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	0	0	0	5	0	0	0	8	0	0	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	7	0	0	0	7	0	0	7	7
Maximum Green [s]	0	0	0	120	0	0	0	120	0	0	120	120
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	0	20	0	0	0	40	0	0	40	40
Vehicle Extension [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	0	0	10	0	0	0	10	0	0	17	17
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	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	2.0
Minimum Recall				No				No			No	No
Maximum Recall				No				No			No	No
Pedestrian Recall				No				No			No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		L	R	C	R	C	R
C, Cycle Length [s]		38	38	38	38	38	38
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	0.00
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]		10	10	20	20	20	34
g / C, Green / Cycle		0.27	0.27	0.52	0.52	0.52	0.89
(v / s)_i Volume / Saturation Flow Rate		0.14	0.08	0.24	0.29	0.36	0.27
s, saturation flow rate [veh/h]		3459	2813	3560	1589	3560	1589
c, Capacity [veh/h]		940	765	1844	823	1844	1422
d1, Uniform Delay [s]		11.78	10.94	5.84	6.23	6.89	0.29
k, delay calibration		0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.46	0.21	0.19	0.60	0.47	0.12
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.53	0.29	0.47	0.56	0.69	0.30
d, Delay for Lane Group [s/veh]		12.24	11.15	6.03	6.83	7.36	0.41
Lane Group LOS		B	B	A	A	A	A
Critical Lane Group		Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]		1.52	0.63	0.66	0.83	1.18	0.05
50th-Percentile Queue Length [ft/ln]		37.98	15.66	16.39	20.67	29.39	1.17
95th-Percentile Queue Length [veh/ln]		2.73	1.13	1.18	1.49	2.12	0.08
95th-Percentile Queue Length [ft/ln]		68.37	28.18	29.50	37.21	52.91	2.10

Movement, Approach, & Intersection Results

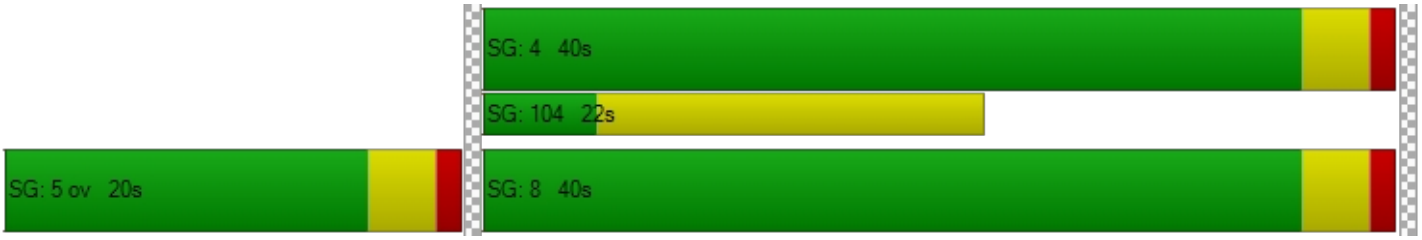
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	12.24	0.00	11.15	0.00	6.03	6.83	0.00	7.36	0.41
Movement LOS				B		B		A	A		A	A
d_A, Approach Delay [s/veh]	0.00			11.91			6.31			5.61		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	7.06											
Intersection LOS	A											
Intersection V/C	0.636											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	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]	0.00	11.03	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.440	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	844	1899	1899
d_b, Bicycle Delay [s]	18.96	6.34	0.05	0.05
l_b,int, Bicycle LOS Score for Intersection	4.132	1.560	2.654	2.965
Bicycle LOS	D	A	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 6: I-215 NB Ramps (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	16.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.790

Intersection Setup

Name											
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	1	1	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	185.00	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]	25.00			25.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	538	0	0	572	164	1130	0	0	1106	475
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	15	40	33	0	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	538	0	0	587	204	1163	0	0	1117	475
Peak Hour Factor	0.9370	0.9370	1.0000	0.9370	0.9370	1.0000	1.0000	1.0000	0.9370	0.9370	1.0000	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	135	0	0	147	51	291	0	0	279	119
Total Analysis Volume [veh/h]	0	0	538	0	0	587	204	1163	0	0	1117	475
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]	105
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap
Signal Group	0	0	6	0	0	2	3	8	0	0	4	4
Auxiliary Signal Groups												4
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	0	7	0	0	7	7	7	0	0	7	7
Maximum Green [s]	0	0	120	0	0	120	120	120	0	0	120	120
Amber [s]	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	3.0	3.0
All red [s]	0.0	0.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	0.0	1.0	1.0
Split [s]	0	0	20	0	0	20	58	85	0	0	27	27
Vehicle Extension [s]	0.0	0.0	3.0	0.0	0.0	3.0	3.0	3.0	0.0	0.0	3.0	3.0
Walk [s]	0	0	5	0	0	5	0	5	0	0	5	5
Pedestrian Clearance [s]	0	0	10	0	0	10	0	10	0	0	10	10
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	0.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
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	R	R	L	C	C	R
C, Cycle Length [s]	62	62	62	62	62	62
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]	16	16	9	38	25	25
g / C, Green / Cycle	0.26	0.26	0.15	0.61	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.19	0.21	0.11	0.33	0.31	0.30
s, saturation flow rate [veh/h]	2813	2813	1781	3560	3560	1589
c, Capacity [veh/h]	728	728	261	2179	1428	638
d1, Uniform Delay [s]	21.04	21.50	25.48	6.92	16.18	15.83
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.50	2.17	5.11	0.20	0.97	1.75
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.81	0.78	0.53	0.78	0.74
d, Delay for Lane Group [s/veh]	22.53	23.68	30.59	7.12	17.14	17.59
Lane Group LOS	C	C	C	A	B	B
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.50	3.96	2.82	2.34	5.29	4.55
50th-Percentile Queue Length [ft/ln]	87.53	98.88	70.52	58.55	132.20	113.82
95th-Percentile Queue Length [veh/ln]	6.30	7.12	5.08	4.22	9.06	8.05
95th-Percentile Queue Length [ft/ln]	157.55	177.98	126.94	105.39	226.48	201.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	22.53	0.00	0.00	23.68	30.59	7.12	0.00	0.00	17.14	17.59
Movement LOS			C			C	C	A			B	B
d_A, Approach Delay [s/veh]	22.53			23.68			10.62			17.28		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	16.66											
Intersection LOS	B											
Intersection V/C	0.790											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	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]	0.00	22.56	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersectio	0.000	2.265	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	518	518	2621	744
d_b, Bicycle Delay [s]	16.97	16.97	2.98	12.18
l_b,int, Bicycle LOS Score for Intersection	1.560	1.560	2.687	2.873
Bicycle LOS	A	A	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 7: Antelope Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	29.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.730

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Entry Pocket Length [ft]	215.00	100.00	100.00	165.00	100.00	100.00	190.00	100.00	100.00	315.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	50.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	498	366	255	89	195	303	363	879	444	151	864	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	0	0	0	0	1	4	27	2	0	9	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]	499	366	255	89	195	304	367	906	446	151	873	46
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	125	92	64	22	49	76	92	227	112	38	218	12
Total Analysis Volume [veh/h]	499	366	255	89	195	304	367	906	446	151	873	46
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]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss
Signal Group	1	6	6	5	2	2	3	8	8	7	4	0
Auxiliary Signal Groups			6,7			2,3			1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	7	7	7	7	7	7	7	7	7	0
Maximum Green [s]	120	120	120	120	120	120	120	120	120	120	120	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Split [s]	22	33	33	12	23	23	18	34	34	11	27	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0
Walk [s]	0	5	5	0	5	5	0	5	5	0	5	0
Pedestrian Clearance [s]	0	24	24	0	10	10	0	24	24	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]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall	No	No	No	No	No	No	No	No	No	No	No	
Maximum Recall	No	No	No	No	No	No	No	No	No	No	No	
Pedestrian Recall	No	No	No	No	No	No	No	No	No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	18	35	46	6	23	41	14	26	48	7	19	19
g / C, Green / Cycle	0.20	0.38	0.51	0.07	0.25	0.45	0.15	0.29	0.54	0.08	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.14	0.10	0.16	0.05	0.10	0.19	0.11	0.25	0.28	0.04	0.17	0.17
s, saturation flow rate [veh/h]	3459	3560	1589	1781	1870	1589	3459	3560	1589	3459	3560	1822
c, Capacity [veh/h]	692	1364	804	127	475	718	530	1033	850	272	767	393
d1, Uniform Delay [s]	33.79	19.16	13.13	41.05	28.08	16.81	36.26	30.56	13.61	40.12	33.54	33.55
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
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
d2, Incremental Delay [s]	1.43	0.48	1.03	6.92	2.61	1.83	1.63	2.57	0.50	1.77	1.89	3.65
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.72	0.27	0.32	0.70	0.41	0.42	0.69	0.88	0.52	0.56	0.79	0.79
d, Delay for Lane Group [s/veh]	35.22	19.65	14.17	47.98	30.69	18.64	37.89	33.13	14.12	41.89	35.43	37.20
Lane Group LOS	D	B	B	D	C	B	D	C	B	D	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.88	2.47	2.84	2.07	3.59	4.11	3.65	8.72	4.85	1.57	5.93	6.27
50th-Percentile Queue Length [ft/ln]	121.88	61.72	70.97	51.76	89.76	102.70	91.25	218.10	121.16	39.32	148.14	156.79
95th-Percentile Queue Length [veh/ln]	8.50	4.44	5.11	3.73	6.46	7.39	6.57	13.57	8.46	2.83	9.92	10.38
95th-Percentile Queue Length [ft/ln]	212.41	111.10	127.74	93.17	161.57	184.85	164.25	339.19	211.43	70.77	247.95	259.47

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.22	19.65	14.17	47.98	30.69	18.64	37.89	33.13	14.12	41.89	35.97	37.20
Movement LOS	D	B	B	D	C	B	D	C	B	D	D	D
d_A, Approach Delay [s/veh]	25.34			27.08			29.21			36.86		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	29.79											
Intersection LOS	C											
Intersection V/C	0.730											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	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]	36.55	36.55	0.00	36.55
l_p,int, Pedestrian LOS Score for Intersectio	3.039	2.746	0.000	3.188
Crosswalk LOS	C	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]	643	421	665	510
d_b, Bicycle Delay [s]	20.76	28.10	20.09	25.03
l_b,int, Bicycle LOS Score for Intersection	2.484	2.530	2.978	2.148
Bicycle LOS	B	B	C	B

Sequence

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



Intersection Level Of Service Report
Intersection 8: Menifee Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	45.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.790

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	235.00	100.00	100.00	145.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	157	377	279	92	152	101	190	894	156	182	860	105
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	0	0	0	0	3	9	14	4	0	5	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]	158	377	279	92	152	104	199	908	160	182	865	105
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	94	70	23	38	26	50	227	40	46	216	26
Total Analysis Volume [veh/h]	158	377	279	92	152	104	199	908	160	182	865	105
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]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	120	120	0	120	120	0	120	120	0	120	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	30	0	11	26	0	17	33	0	16	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	26	26	7	22	13	29	29	12	28	28
g / C, Green / Cycle	0.12	0.29	0.29	0.08	0.24	0.14	0.32	0.32	0.13	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.09	0.20	0.18	0.05	0.15	0.11	0.29	0.29	0.10	0.26	0.26
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1745	1781	1870	1774	1781	1870	1800
c, Capacity [veh/h]	218	540	459	139	427	257	603	572	237	582	560
d1, Uniform Delay [s]	38.05	28.50	27.60	40.36	30.11	37.08	29.22	29.27	37.65	29.02	29.03
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	18.98	7.30	5.87	22.38	6.13	19.99	19.85	21.22	20.77	14.36	14.93
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.73	0.70	0.61	0.66	0.60	0.77	0.91	0.91	0.77	0.85	0.85
d, Delay for Lane Group [s/veh]	57.02	35.81	33.47	62.74	36.23	57.07	49.06	50.49	58.42	43.39	43.96
Lane Group LOS	E	D	C	E	D	E	D	D	E	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.33	7.81	5.56	2.73	5.25	5.32	13.31	12.91	4.95	11.18	10.87
50th-Percentile Queue Length [ft/ln]	108.35	195.18	138.97	68.25	131.37	132.98	332.75	322.65	123.68	279.58	271.66
95th-Percentile Queue Length [veh/ln]	7.75	12.39	9.43	4.91	9.01	9.10	19.29	18.80	8.59	16.67	16.27
95th-Percentile Queue Length [ft/ln]	193.71	309.74	235.64	122.85	225.36	227.54	482.33	469.95	214.87	416.68	406.82

Movement, Approach, & Intersection Results

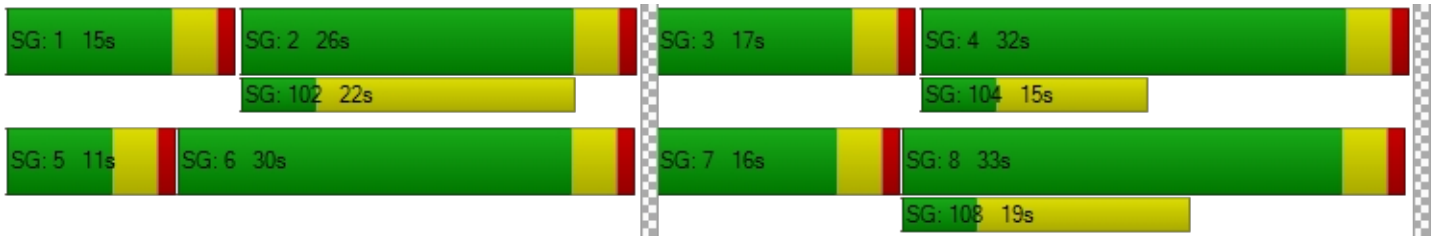
d_M, Delay for Movement [s/veh]	57.02	35.81	33.47	62.74	36.23	36.23	57.07	49.63	50.49	58.42	43.63	43.96
Movement LOS	E	D	C	E	D	D	E	D	D	E	D	D
d_A, Approach Delay [s/veh]	39.13			43.24			50.91			46.00		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	45.91											
Intersection LOS	D											
Intersection V/C	0.790											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.611	2.499	3.157	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]	578	489	644	622
d_b, Bicycle Delay [s]	22.76	25.69	20.67	21.36
l_b,int, Bicycle LOS Score for Intersection	2.903	2.134	2.605	2.510
Bicycle LOS	C	B	B	B

Sequence

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



Pemcor Comm Indus Business Park

Vistro File: E:\...\AMHY.vistro

Scenario 3 Horizon Year (2045) With Project AM Peak Hour - With Improvements

Report File: E:\...\AMHYWI.pdf

9/29/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Right	0.926	39.5	D
8	Menifee Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	NB Left	0.844	50.9	D

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

Intersection Level Of Service Report

Intersection 1: Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	39.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.926

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	170.00	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]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	107	81	26	603	120	180	199	819	195	75	874	443
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	3	39	0	14	0	0	0	15	118	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]	112	84	65	603	134	180	199	819	210	193	874	443
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	21	16	151	34	45	50	205	53	48	219	111
Total Analysis Volume [veh/h]	112	84	65	603	134	180	199	819	210	193	874	443
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]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	120	120	0	120	120	0	120	120	0	120	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	30	0	16	34	0	21	32	0	12	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	113	113	113	113	113	113	113	113	113	113	113
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	7	7	23	22	14	52	52	14	52	52
g / C, Green / Cycle	0.07	0.06	0.06	0.20	0.20	0.13	0.46	0.46	0.13	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.06	0.04	0.04	0.17	0.18	0.11	0.44	0.13	0.11	0.25	0.28
s, saturation flow rate [veh/h]	1781	1870	1589	3459	1698	1781	1870	1589	1781	3560	1589
c, Capacity [veh/h]	126	120	102	701	333	229	866	736	227	1646	735
d1, Uniform Delay [s]	51.89	51.65	51.43	43.37	44.67	48.17	28.89	18.71	48.08	21.59	22.58
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	17.74	7.11	6.38	3.23	36.67	9.71	6.22	0.21	8.52	0.27	0.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.70	0.64	0.86	0.94	0.87	0.95	0.29	0.85	0.53	0.60
d, Delay for Lane Group [s/veh]	69.63	58.75	57.82	46.60	81.33	57.88	35.12	18.92	56.61	21.86	23.38
Lane Group LOS	E	E	E	D	F	E	D	B	E	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.67	2.50	1.92	8.03	11.61	5.82	20.10	3.13	5.57	7.47	8.02
50th-Percentile Queue Length [ft/ln]	91.68	62.41	48.05	200.74	290.33	145.48	502.39	78.28	139.26	186.70	200.45
95th-Percentile Queue Length [veh/ln]	6.60	4.49	3.46	12.68	17.20	9.78	27.45	5.64	9.44	11.95	12.66
95th-Percentile Queue Length [ft/ln]	165.03	112.33	86.48	316.92	430.05	244.39	686.19	140.91	236.03	298.75	316.54

Movement, Approach, & Intersection Results

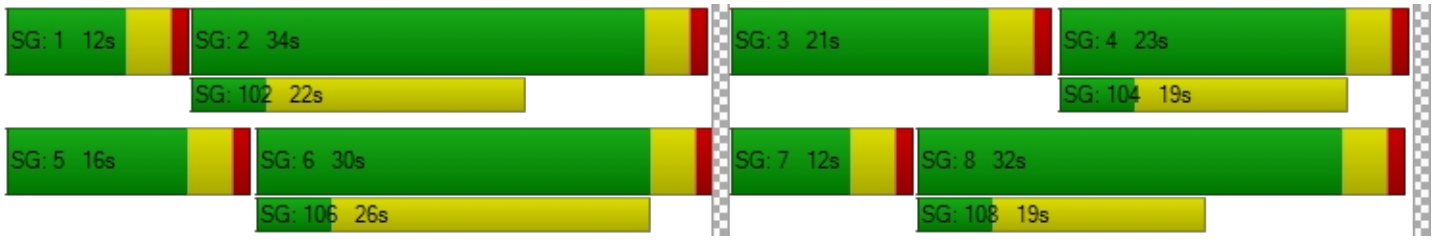
d_M, Delay for Movement [s/veh]	69.63	58.75	57.82	46.60	81.33	81.33	57.88	35.12	18.92	56.61	21.86	23.38
Movement LOS	E	E	E	D	F	F	E	D	B	E	C	C
d_A, Approach Delay [s/veh]	63.19			58.49			36.04			26.75		
Approach LOS	E			E			D			C		
d_I, Intersection Delay [s/veh]	39.52											
Intersection LOS	D											
Intersection V/C	0.926											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	47.62	47.62	47.62	47.62
l_p,int, Pedestrian LOS Score for Intersectio	2.435	2.811	3.168	3.358
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	462	533	498	338
d_b, Bicycle Delay [s]	33.27	30.26	31.75	38.87
l_b,int, Bicycle LOS Score for Intersection	1.990	3.073	3.586	2.805
Bicycle LOS	A	C	D	C

Sequence

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



Intersection Level Of Service Report
Intersection 8: Menifee Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	50.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.844

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	235.00	100.00	100.00	145.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	172	426	369	103	331	120	132	756	84	336	1031	151
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	0	0	0	0	10	2	5	1	0	15	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]	176	426	369	103	331	130	134	761	85	336	1046	151
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	107	92	26	83	33	34	190	21	84	262	38
Total Analysis Volume [veh/h]	176	426	369	103	331	130	134	761	85	336	1046	151
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]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	120	120	0	120	120	0	120	120	0	120	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	17	30	0	13	26	0	15	31	0	26	42	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	26	26	9	22	22	11	27	27	22	38	38
g / C, Green / Cycle	0.13	0.26	0.26	0.09	0.22	0.22	0.11	0.27	0.27	0.22	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.10	0.23	0.23	0.06	0.18	0.08	0.08	0.23	0.23	0.19	0.32	0.33
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1870	1589	1781	1870	1805	1781	1870	1789
c, Capacity [veh/h]	232	486	413	160	411	350	196	505	487	392	711	680
d1, Uniform Delay [s]	42.00	35.46	35.66	43.95	36.96	33.13	42.83	34.61	34.61	37.49	28.47	28.67
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	20.68	19.43	24.18	18.15	15.34	3.01	17.69	16.52	17.01	20.87	12.51	14.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.88	0.89	0.64	0.80	0.37	0.68	0.85	0.85	0.86	0.85	0.87
d, Delay for Lane Group [s/veh]	62.68	54.88	59.84	62.09	52.30	36.14	60.52	51.13	51.62	58.36	40.98	42.67
Lane Group LOS	E	D	E	E	D	D	E	D	D	E	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	5.35	12.00	10.94	3.16	8.94	2.82	3.96	11.41	11.08	9.58	14.35	14.25
50th-Percentile Queue Length [ft/ln]	133.84	299.92	273.52	78.92	223.54	70.58	99.06	285.20	276.94	239.47	358.67	356.36
95th-Percentile Queue Length [veh/ln]	9.15	17.68	16.37	5.68	13.85	5.08	7.13	16.95	16.54	14.65	20.56	20.45
95th-Percentile Queue Length [ft/ln]	228.70	441.93	409.13	142.05	346.14	127.05	178.30	423.68	413.40	366.36	513.96	511.16

Movement, Approach, & Intersection Results

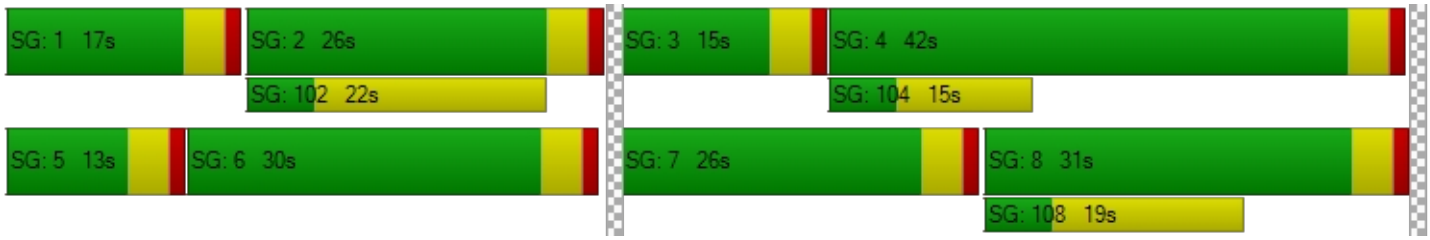
d_M, Delay for Movement [s/veh]	62.68	54.88	59.84	62.09	52.30	36.14	60.52	51.34	51.62	58.36	41.69	42.67
Movement LOS	E	D	E	E	D	D	E	D	D	E	D	D
d_A, Approach Delay [s/veh]	58.18			50.36			52.62			45.44		
Approach LOS	E			D			D			D		
d_I, Intersection Delay [s/veh]	50.92											
Intersection LOS	D											
Intersection V/C	0.844											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	41.41	41.41	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.768	2.656	3.140	0.000
Crosswalk LOS	C	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]	520	440	540	760
d_b, Bicycle Delay [s]	27.38	30.42	26.65	19.22
l_b,int, Bicycle LOS Score for Intersection	3.162	2.490	2.368	2.824
Bicycle LOS	C	B	B	C

Sequence

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



Pemcor Comm Indus Business Park

Vistro File: E:\...\PMHY.vistro

Scenario 3 Horizon Year (2045) With Project PM Peak Hour - With Improvements

Report File: E:\...\PMHYWI.pdf

9/29/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	SB Left	0.915	46.6	D
8	Menifee Rd (NS) at Scott Rd (EW)	Signalized	HCM 7th Edition	WB Left	0.754	45.1	D

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

Intersection Level Of Service Report

Intersection 1: Haun Rd/Zeiders Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	46.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.915

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	170.00	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]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	154	260	53	481	82	91	114	688	89	80	714	707
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	12	114	0	4	0	0	0	5	41	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]	168	272	167	481	86	91	114	688	94	121	714	707
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	68	42	120	22	23	29	172	24	30	179	177
Total Analysis Volume [veh/h]	168	272	167	481	86	91	114	688	94	121	714	707
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 Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	120	120	0	120	120	0	120	120	0	120	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	25	30	0	21	26	0	14	55	0	14	55	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	17	0	0	14	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	R	L	C	R
C, Cycle Length [s]	120	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	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	26	26	17	30	9	51	51	10	52	52
g / C, Green / Cycle	0.11	0.22	0.22	0.14	0.25	0.08	0.43	0.43	0.08	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.09	0.15	0.11	0.14	0.10	0.06	0.37	0.06	0.07	0.20	0.44
s, saturation flow rate [veh/h]	1781	1870	1589	3459	1714	1781	1870	1589	1781	3560	1589
c, Capacity [veh/h]	197	407	346	490	426	139	795	676	146	1529	683
d1, Uniform Delay [s]	52.41	42.99	41.05	51.35	37.77	54.49	31.35	21.06	54.24	24.43	34.24
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.96	8.45	4.76	15.05	2.97	11.23	2.99	0.09	11.15	0.22	26.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.85	0.67	0.48	0.98	0.42	0.82	0.87	0.14	0.83	0.47	1.04
d, Delay for Lane Group [s/veh]	62.36	51.43	45.81	66.40	40.74	65.72	34.34	21.15	65.39	24.66	60.47
Lane Group LOS	E	D	D	E	D	E	C	C	E	C	F
Critical Lane Group	No	Yes	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.38	8.13	4.66	7.96	4.55	3.69	17.12	1.53	3.90	6.74	22.90
50th-Percentile Queue Length [ft/ln]	134.58	203.16	116.55	198.94	113.72	92.17	427.95	38.20	97.58	168.46	572.48
95th-Percentile Queue Length [veh/ln]	9.19	12.80	8.20	12.58	8.05	6.64	23.90	2.75	7.03	11.00	31.56
95th-Percentile Queue Length [ft/ln]	229.70	320.03	205.08	314.59	201.16	165.91	597.58	68.76	175.64	274.89	788.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	62.36	51.43	45.81	66.40	40.74	40.74	65.72	34.34	21.15	65.39	24.66	60.47
Movement LOS	E	D	D	E	D	D	E	C	C	E	C	F
d_A, Approach Delay [s/veh]	52.91			59.50			36.95			44.27		
Approach LOS	D			E			D			D		
d_I, Intersection Delay [s/veh]	46.62											
Intersection LOS	D											
Intersection V/C	0.915											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
l_p,int, Pedestrian LOS Score for Intersectio	2.478	2.858	2.983	3.326
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	433	367	850	850
d_b, Bicycle Delay [s]	36.82	40.02	19.84	19.84
l_b,int, Bicycle LOS Score for Intersection	2.561	2.645	3.038	2.832
Bicycle LOS	B	B	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 8: Menifee Rd (NS) at Scott Rd (EW)

Control Type:	Signalized	Delay (sec / veh):	45.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.754

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	235.00	100.00	100.00	145.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	45.00			50.00			55.00			55.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	157	377	279	92	152	101	190	894	156	182	860	105
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	0	0	0	0	3	9	14	4	0	5	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]	158	377	279	92	152	104	199	908	160	182	865	105
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	94	70	23	38	26	50	227	40	46	216	26
Total Analysis Volume [veh/h]	158	377	279	92	152	104	199	908	160	182	865	105
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]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	7	7	0	7	7	0	7	7	0	7	7	0
Maximum Green [s]	120	120	0	120	120	0	120	120	0	120	120	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	20	33	0	14	27	0	21	49	0	19	47	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	17	0	0	14	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			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	16	29	29	10	23	23	17	45	45	15	43	43
g / C, Green / Cycle	0.14	0.25	0.25	0.09	0.20	0.20	0.15	0.39	0.39	0.13	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.09	0.20	0.18	0.05	0.08	0.07	0.11	0.29	0.29	0.10	0.26	0.26
s, saturation flow rate [veh/h]	1781	1870	1589	1781	1870	1589	1781	1870	1774	1781	1870	1800
c, Capacity [veh/h]	248	472	401	155	374	318	263	732	694	232	699	673
d1, Uniform Delay [s]	46.76	40.28	39.00	50.55	40.06	39.38	47.01	30.11	30.17	48.43	30.63	30.64
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.91	13.27	9.61	15.67	3.26	2.73	18.17	6.86	7.33	22.73	5.93	6.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.64	0.80	0.70	0.59	0.41	0.33	0.76	0.75	0.75	0.78	0.71	0.71
d, Delay for Lane Group [s/veh]	58.68	53.54	48.61	66.21	43.31	42.10	65.18	36.97	37.50	71.16	36.56	36.82
Lane Group LOS	E	D	D	E	D	D	E	D	D	E	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.97	11.33	7.95	3.14	3.94	2.66	6.53	13.31	12.80	6.28	11.88	11.50
50th-Percentile Queue Length [ft/ln]	124.25	283.37	198.69	78.39	98.47	66.57	163.16	332.86	319.92	157.07	296.95	287.41
95th-Percentile Queue Length [veh/ln]	8.63	16.86	12.57	5.64	7.09	4.79	10.72	19.30	18.66	10.39	17.53	17.06
95th-Percentile Queue Length [ft/ln]	215.65	421.40	314.27	141.10	177.25	119.82	267.90	482.46	466.59	259.84	438.25	426.43

Movement, Approach, & Intersection Results

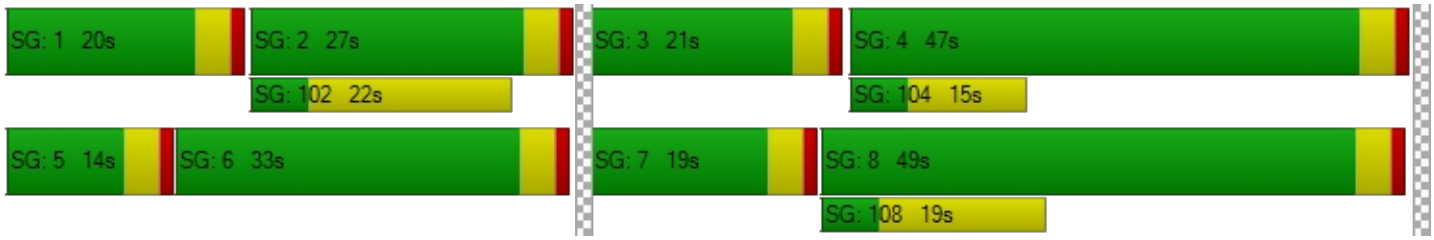
d_M, Delay for Movement [s/veh]	58.68	53.54	48.61	66.21	43.31	42.10	65.18	37.18	37.50	71.16	36.67	36.82
Movement LOS	E	D	D	E	D	D	E	D	D	E	D	D
d_A, Approach Delay [s/veh]	52.85			49.01			41.62			42.13		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	45.05											
Intersection LOS	D											
Intersection V/C	0.754											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	48.85	48.85	48.85	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.623	2.562	3.169	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]	504	400	783	748
d_b, Bicycle Delay [s]	32.16	36.80	21.30	22.54
l_b,int, Bicycle LOS Score for Intersection	2.903	2.134	2.605	2.510
Bicycle LOS	C	B	B	B

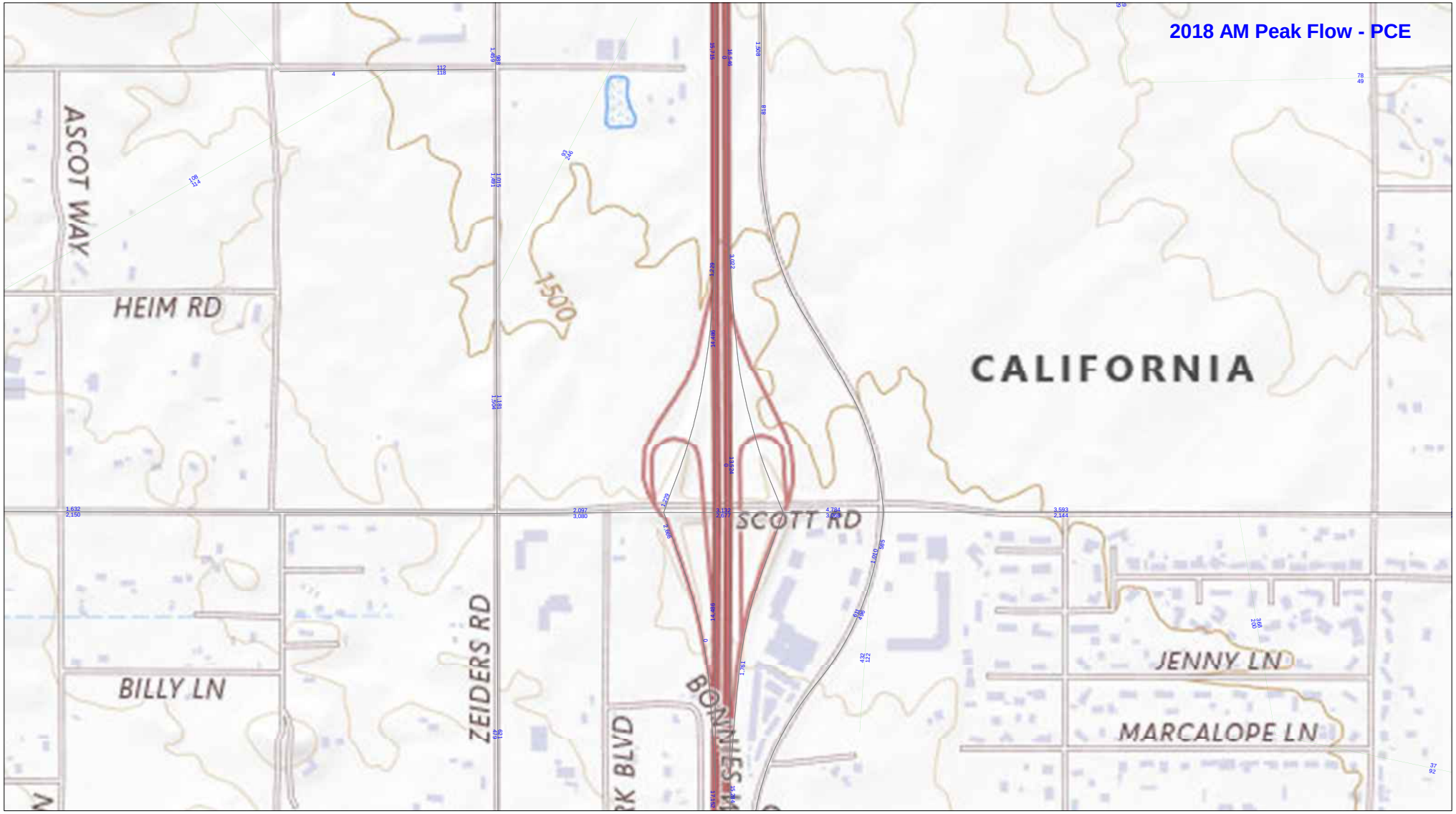
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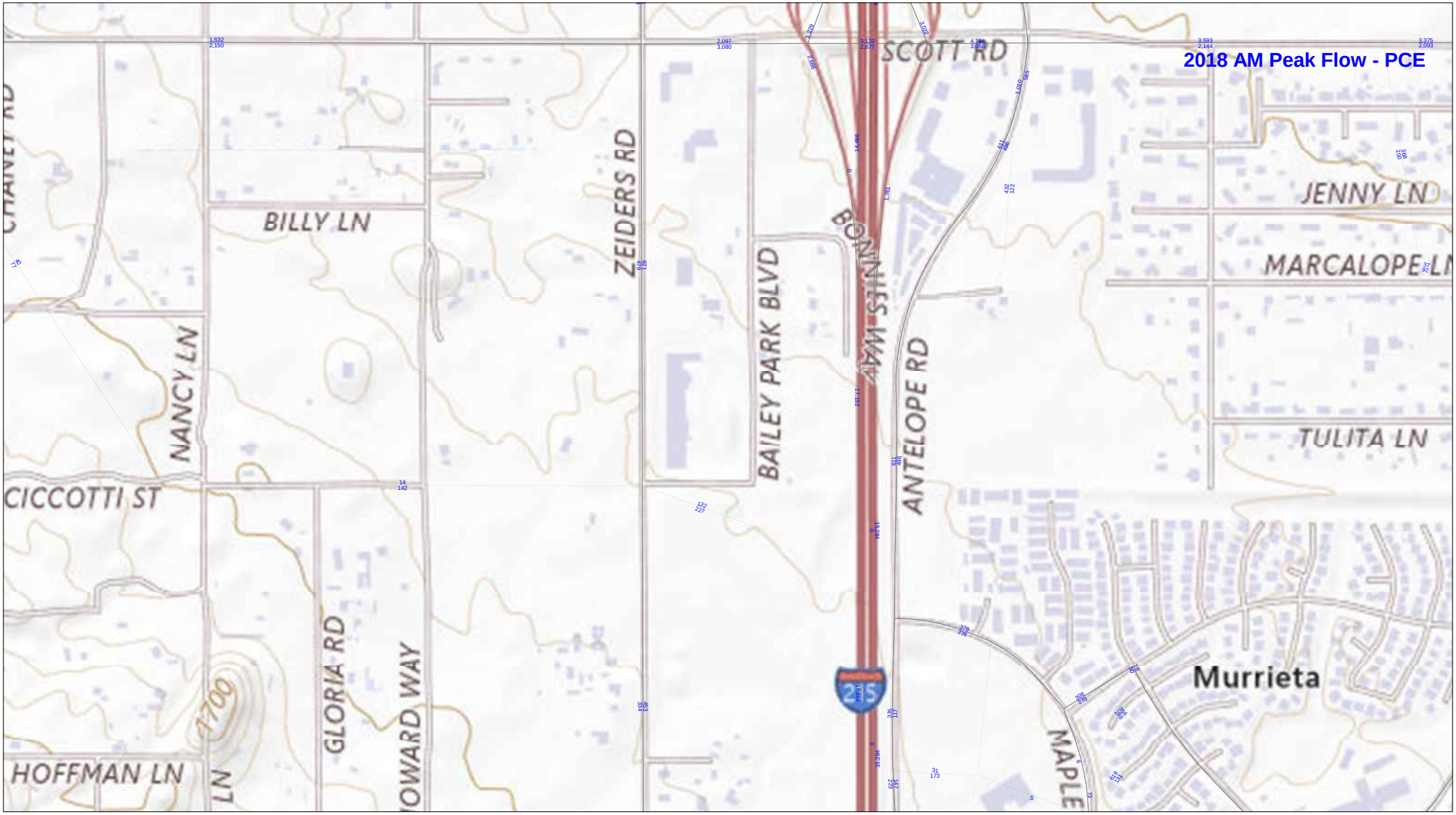
Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

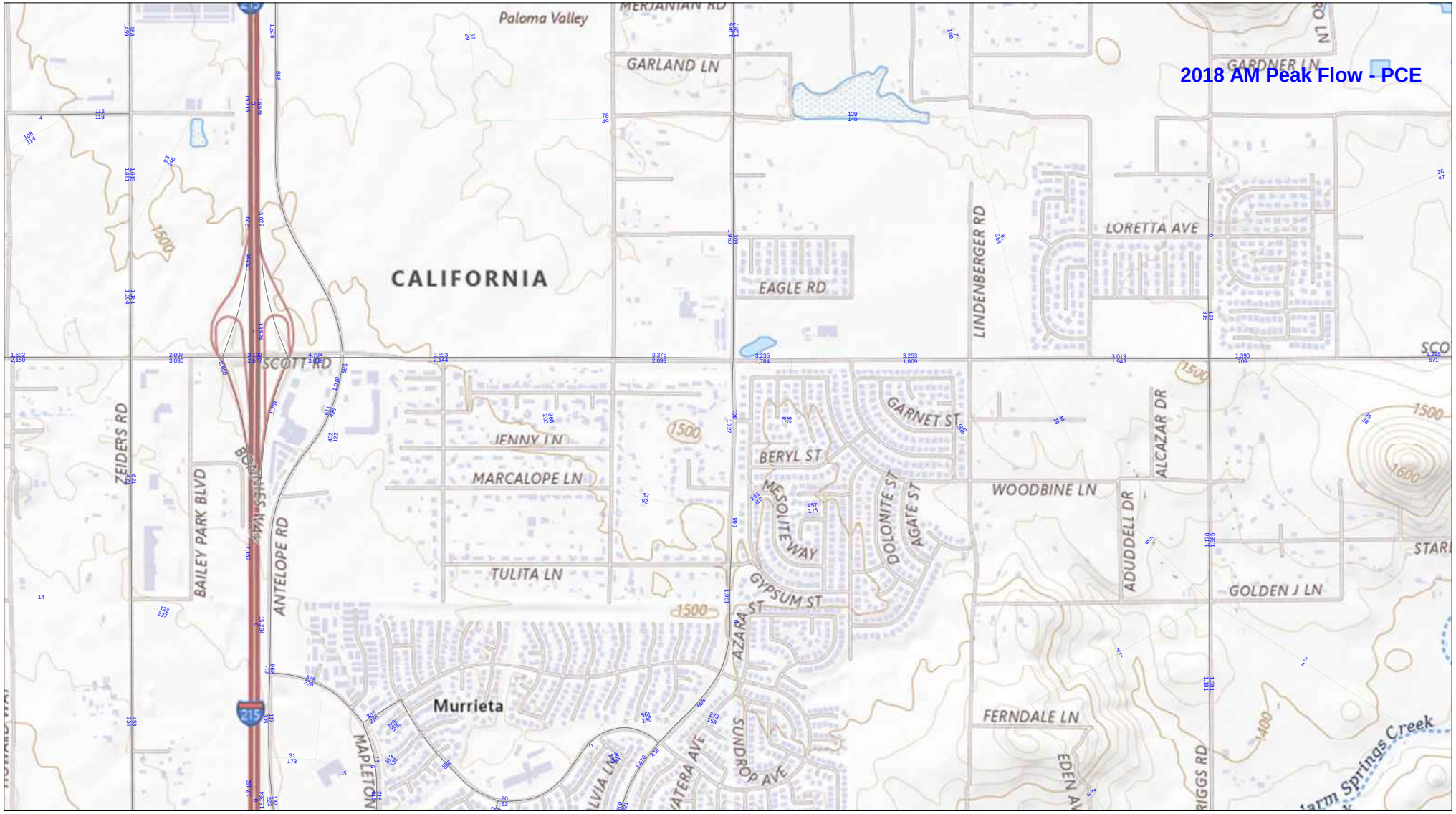


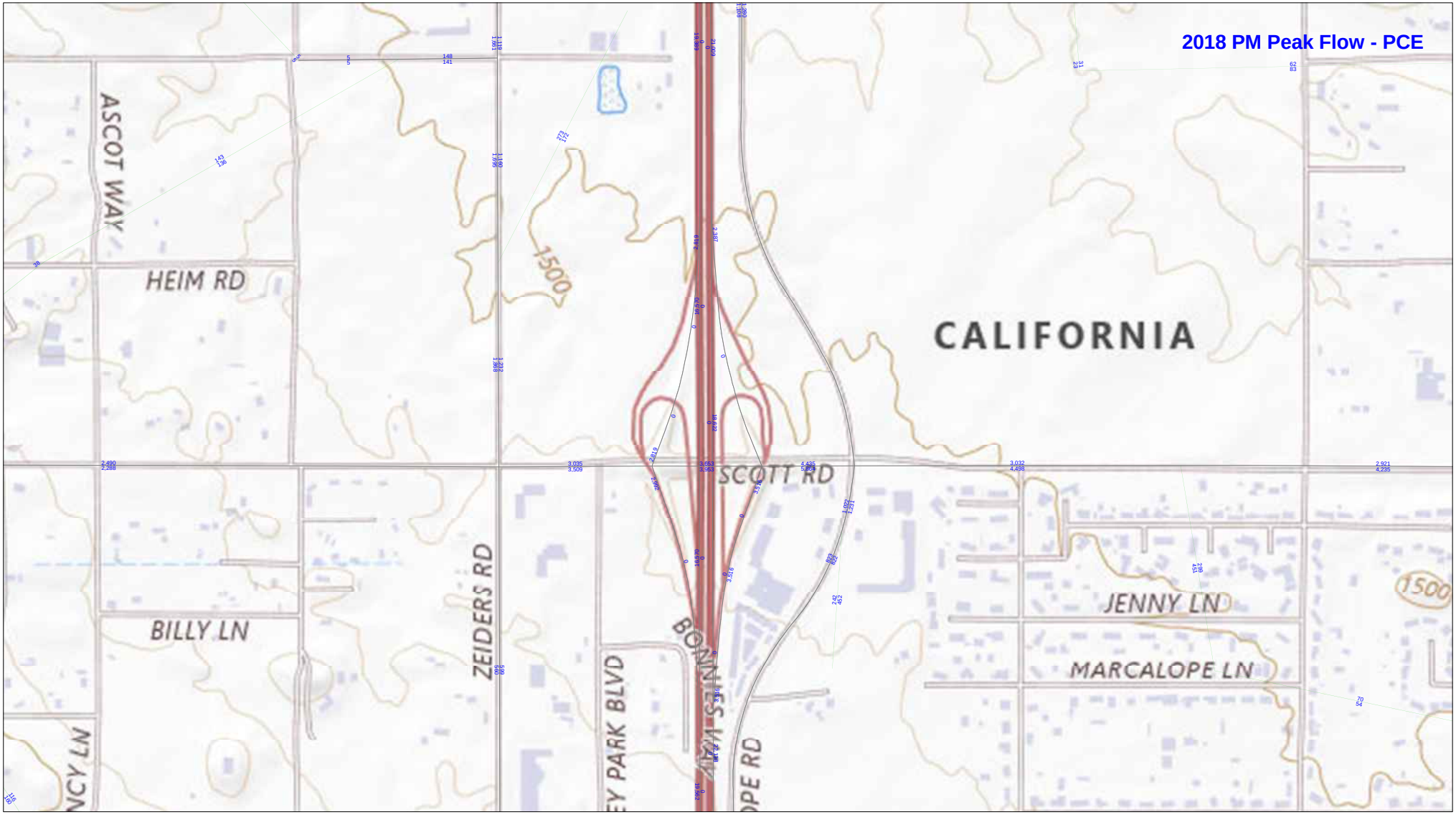
APPENDIX E

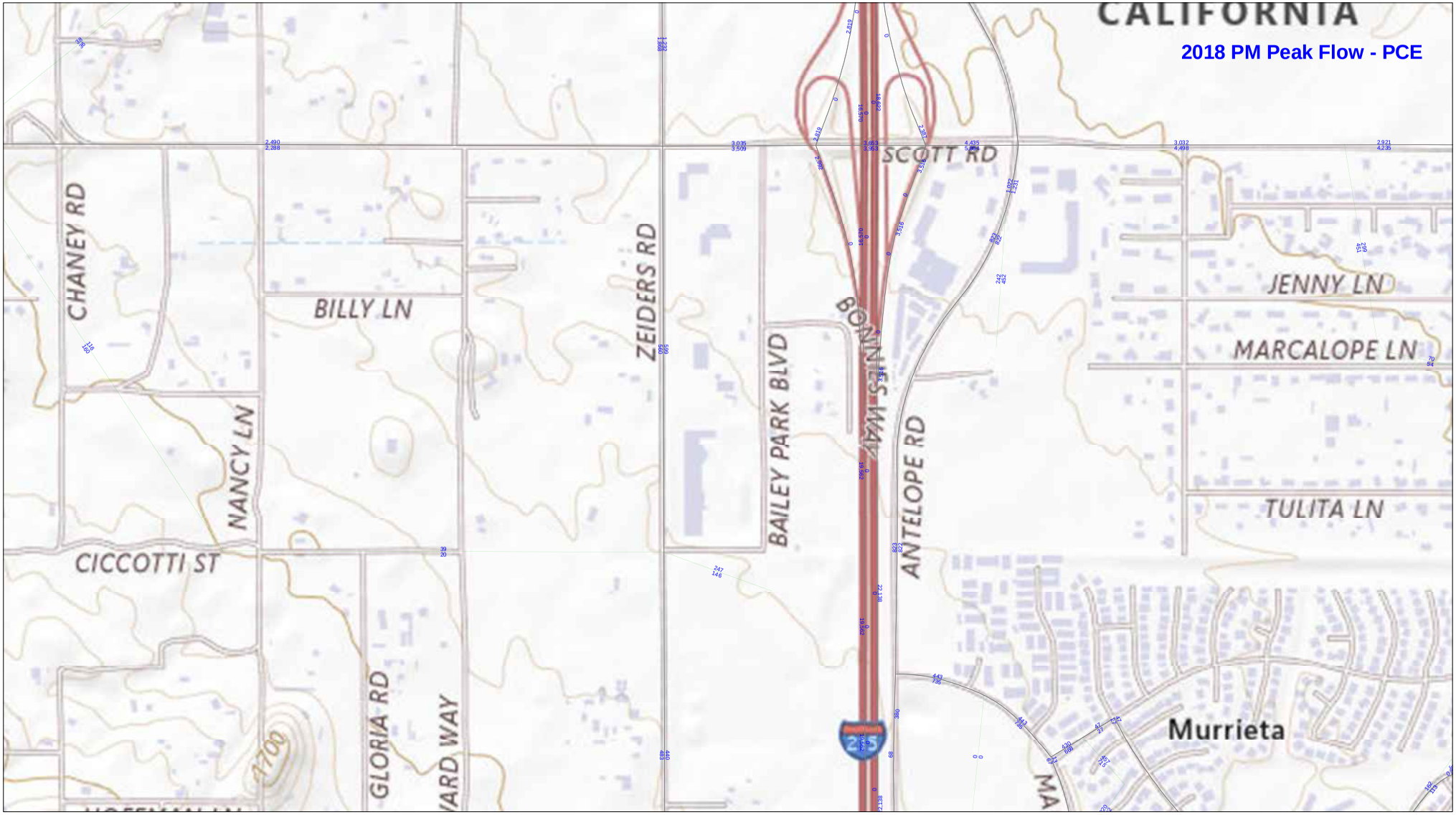
RIVCOM MODEL PLOTS

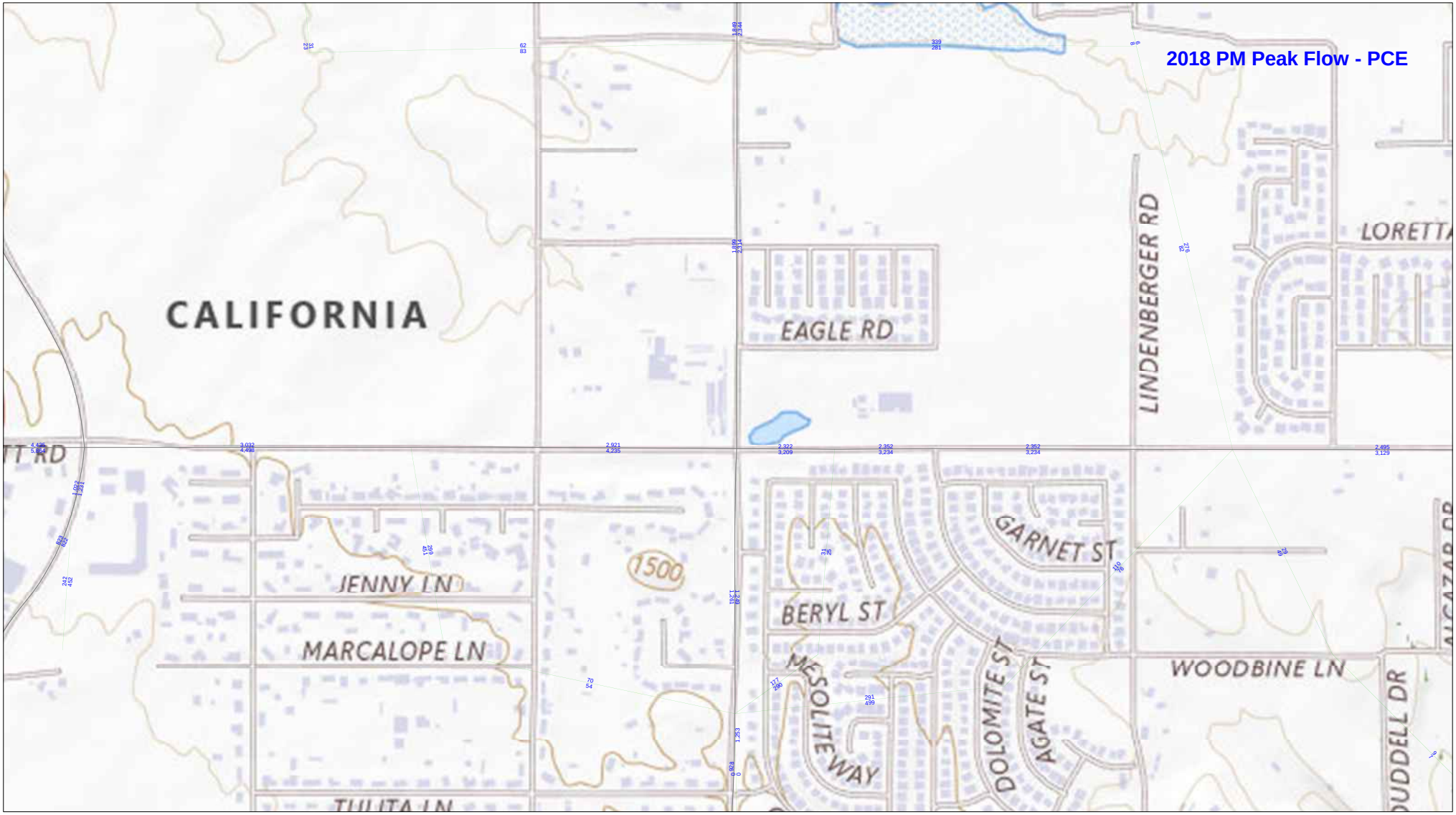

2018 AM Peak Flow - PCE
ASCOT WAY
HEIM RD
1500
CALIFORNIA
SCOTT RD
ZEIDERS RD
BILLY LN
JENNY LN
MARCALOPE LN

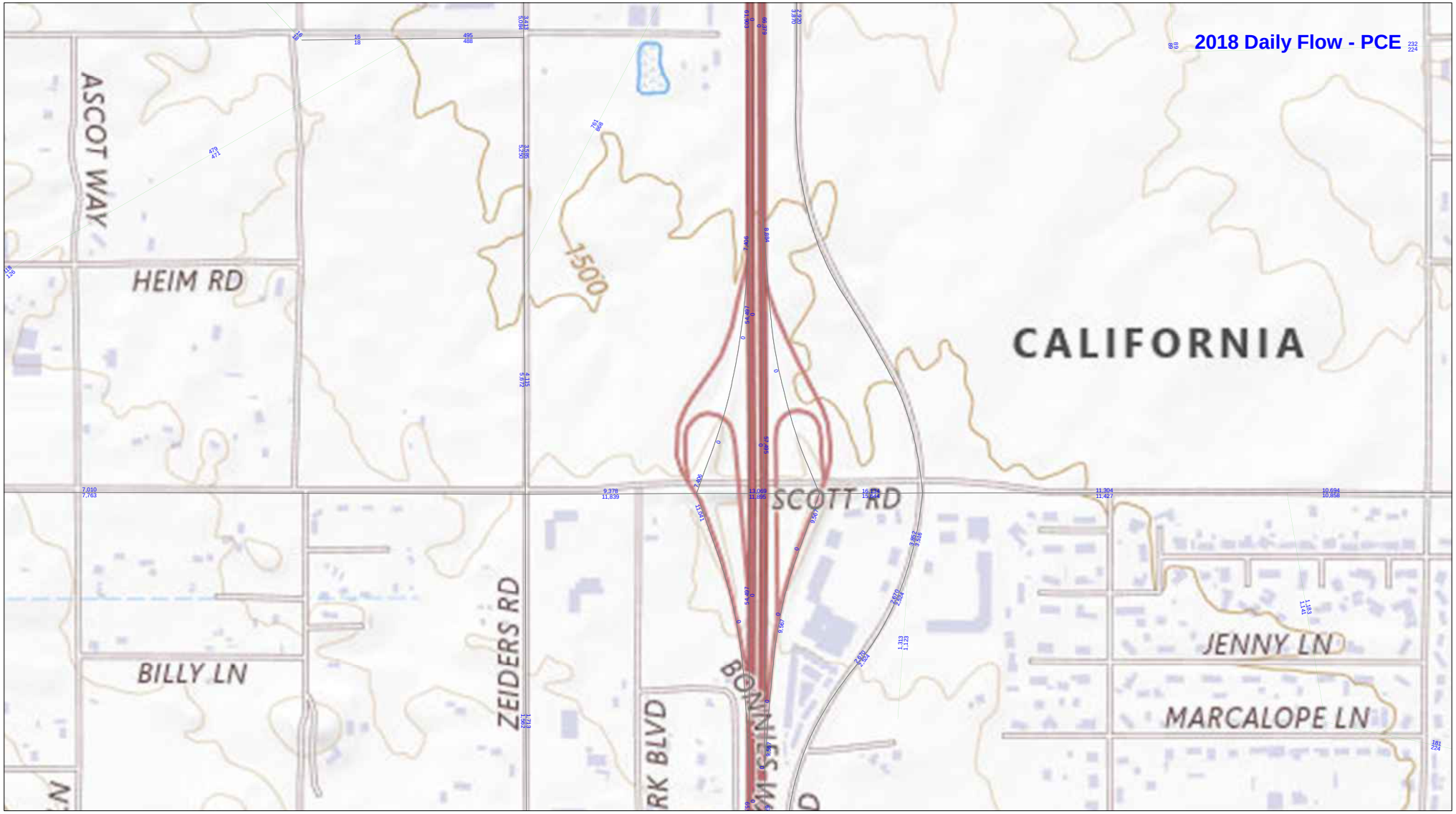

2018 AM Peak Flow - PCE
SCOTT RD
JENNY LN
MARCALOPE LN
TULITA LN
BILLY LN
ZEIDERS RD
BAILEY PARK BLVD
ANTELOPE RD
NANCY LN
CICCOTTI ST
GLORIA RD
HOWARD WAY
HOFFMAN LN
Murrieta
215

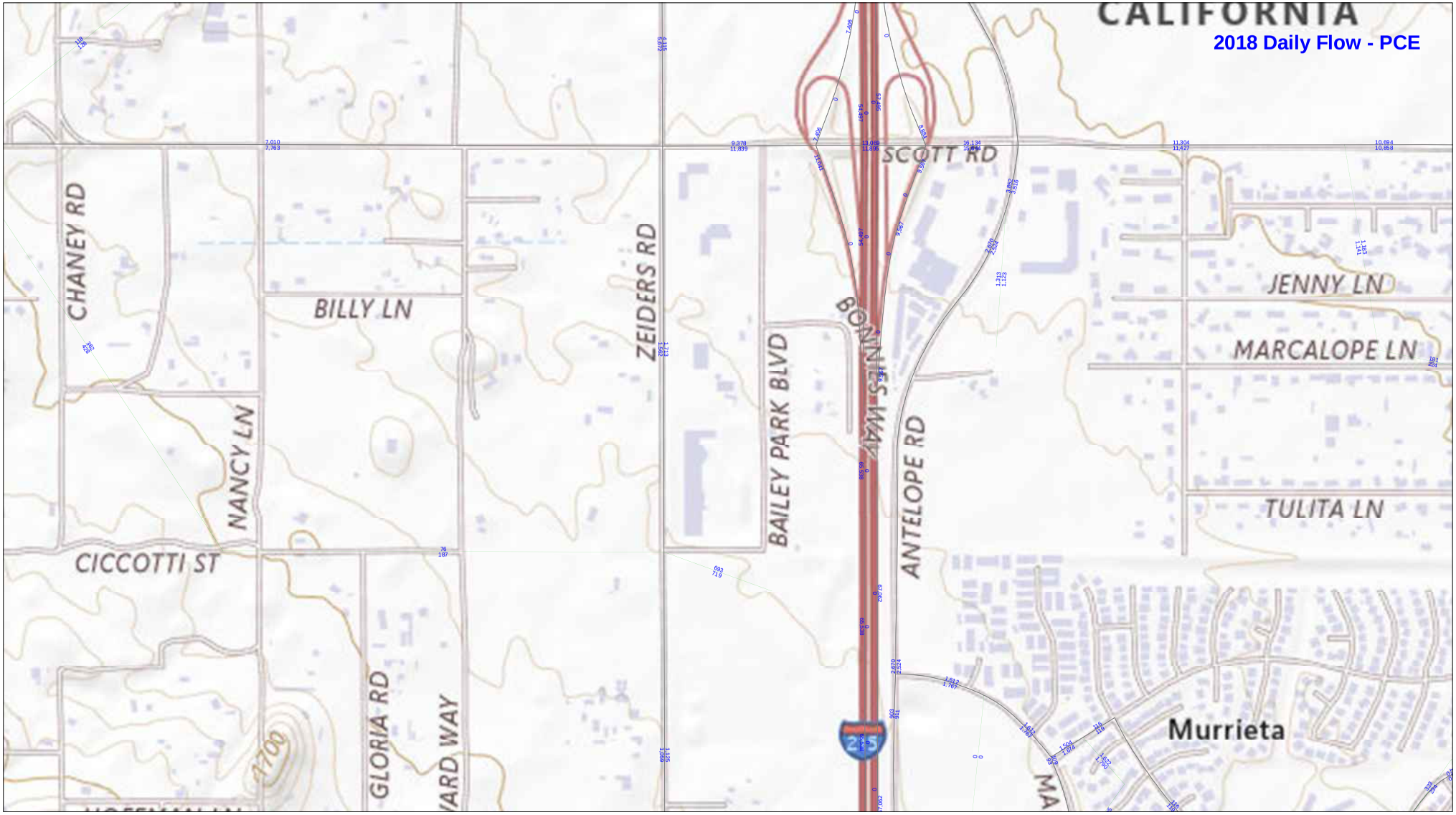

2018 AM Peak Flow - PCE
Paloma Valley
GARLAND LN
CALIFORNIA
EAGLE RD
LINDENBERGER RD
LORETTA AVE
GARDNER LN
SCOTT RD
ZEIDERS RD
BAILEY PARK BLVD
ANTELOPE RD
JENNY LN
MARCALOPE LN
TULITA LN
BERYL ST
GARNET ST
MESOLITE WAY
DOLOMITE ST
AGATE ST
WOODBINE LN
ALCAZAR DR
ADUDDELL DR
GOLDEN J LN
GYPSUM ST
AZARA ST
SUNDROP AVE
FERNDALE LN
Murrieta
MAPLETON
215
1500
1600
1400

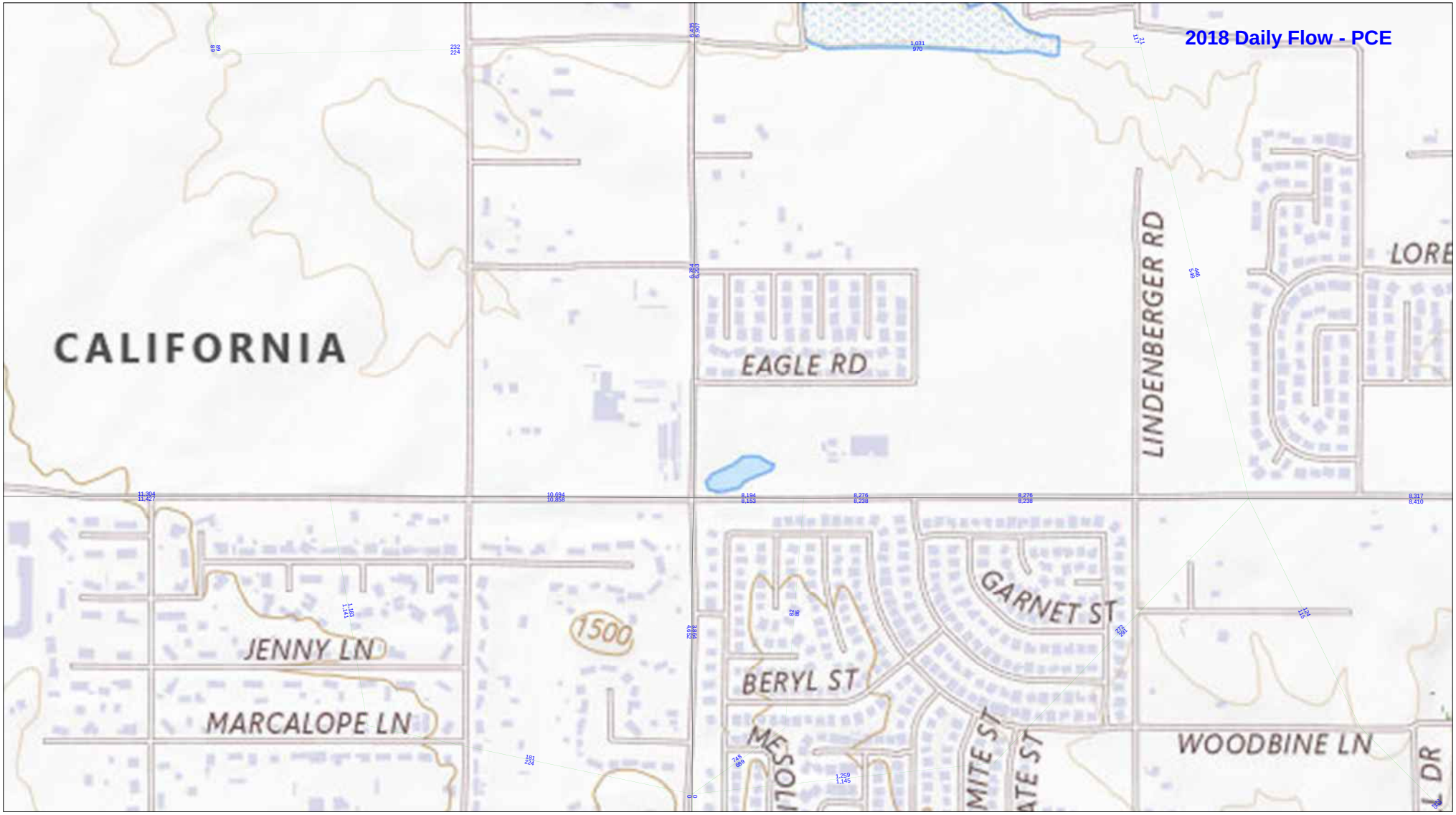

2018 PM Peak Flow - PCE
ASCOT WAY
HEIM RD
1500
CALIFORNIA
SCOTT RD
ZEIDERS RD
BILLY LN
JENNY LN
MARCALOPE LN
1500

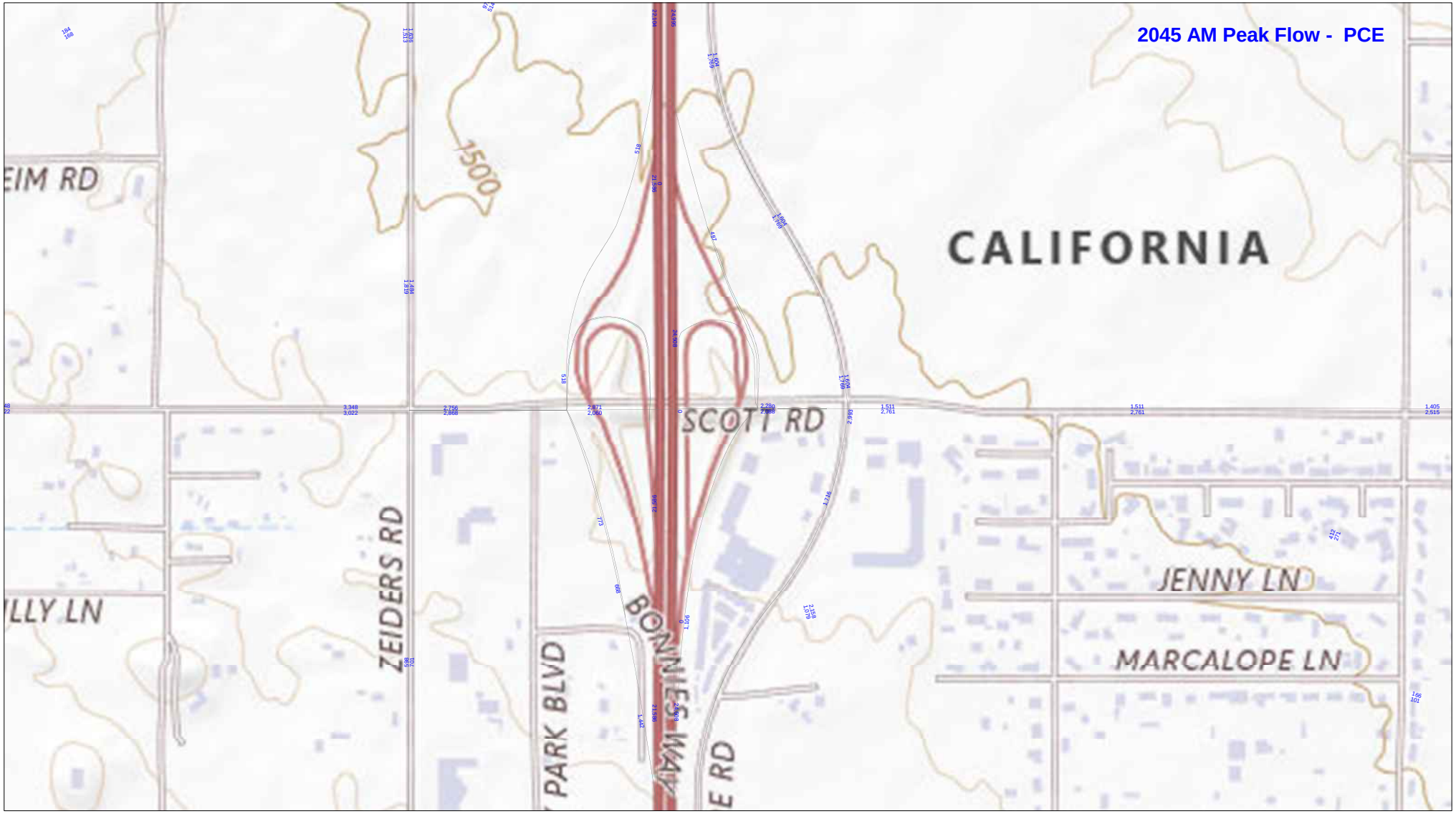

CALIFORNIA
2018 PM Peak Flow - PCE
SCOTT RD
CHANEY RD
BILLY LN
ZEIDERS RD
BAILEY PARK BLVD
I-215
ANTELOPE RD
JENNY LN
MARCALOPE LN
TULITA LN
NANCY LN
CICCOTTI ST
GLORIA RD
Murrieta

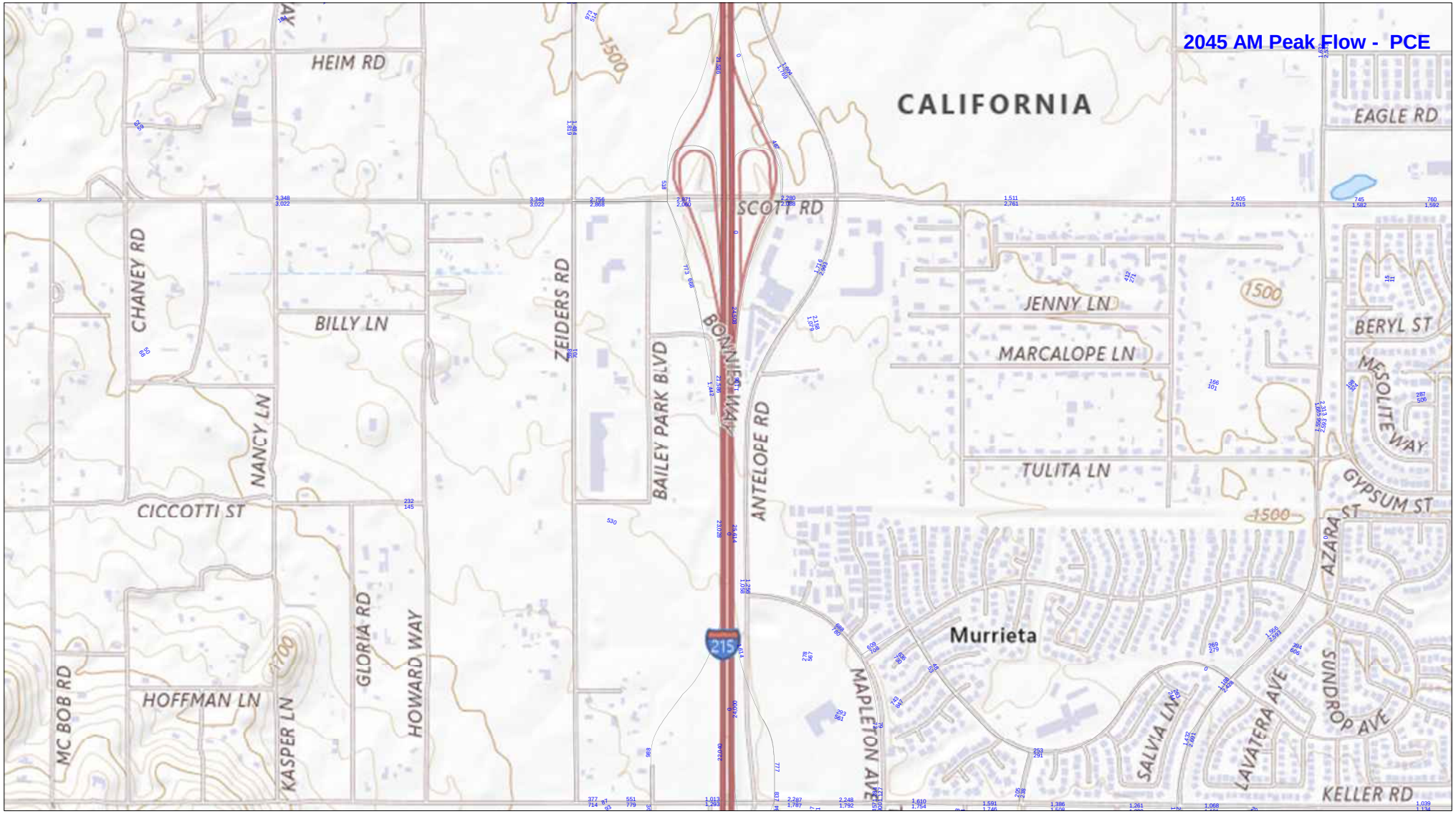

2018 PM Peak Flow - PCE
CALIFORNIA
EAGLE RD
LINDENBERGER RD
LORETTA
JENNY LN
MARCALOPE LN
1500
GARNET ST
BERYL ST
MESOLITE WAY
DOLOMITE ST
AGATE ST
WOODBINE LN


2018 Daily Flow - PCE
ASCOT WAY
HEIM RD
1500
CALIFORNIA
SCOTT RD
ZEIDERS RD
BILLY LN
JENNY LN
MARCALOPE LN

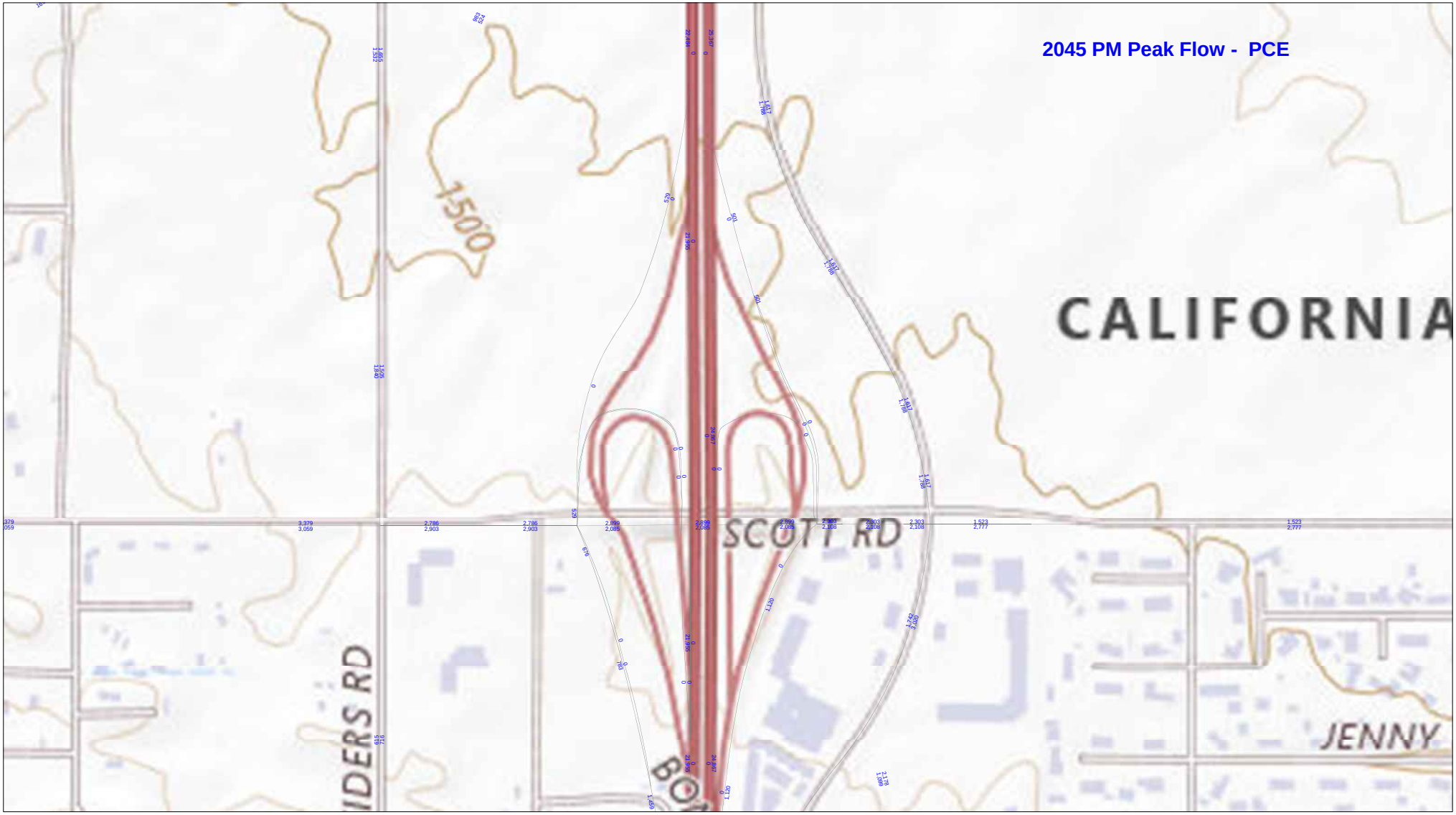

CALIFORNIA
2018 Daily Flow - PCE
SCOTT RD
CHANEY RD
BILLY LN
ZEIDERS RD
BAILEY PARK BLVD
I-215
ANTELOPE RD
JENNY LN
MARCALOPE LN
TULITA LN
NANCY LN
CICCOTTI ST
GLORIA RD
Murrieta

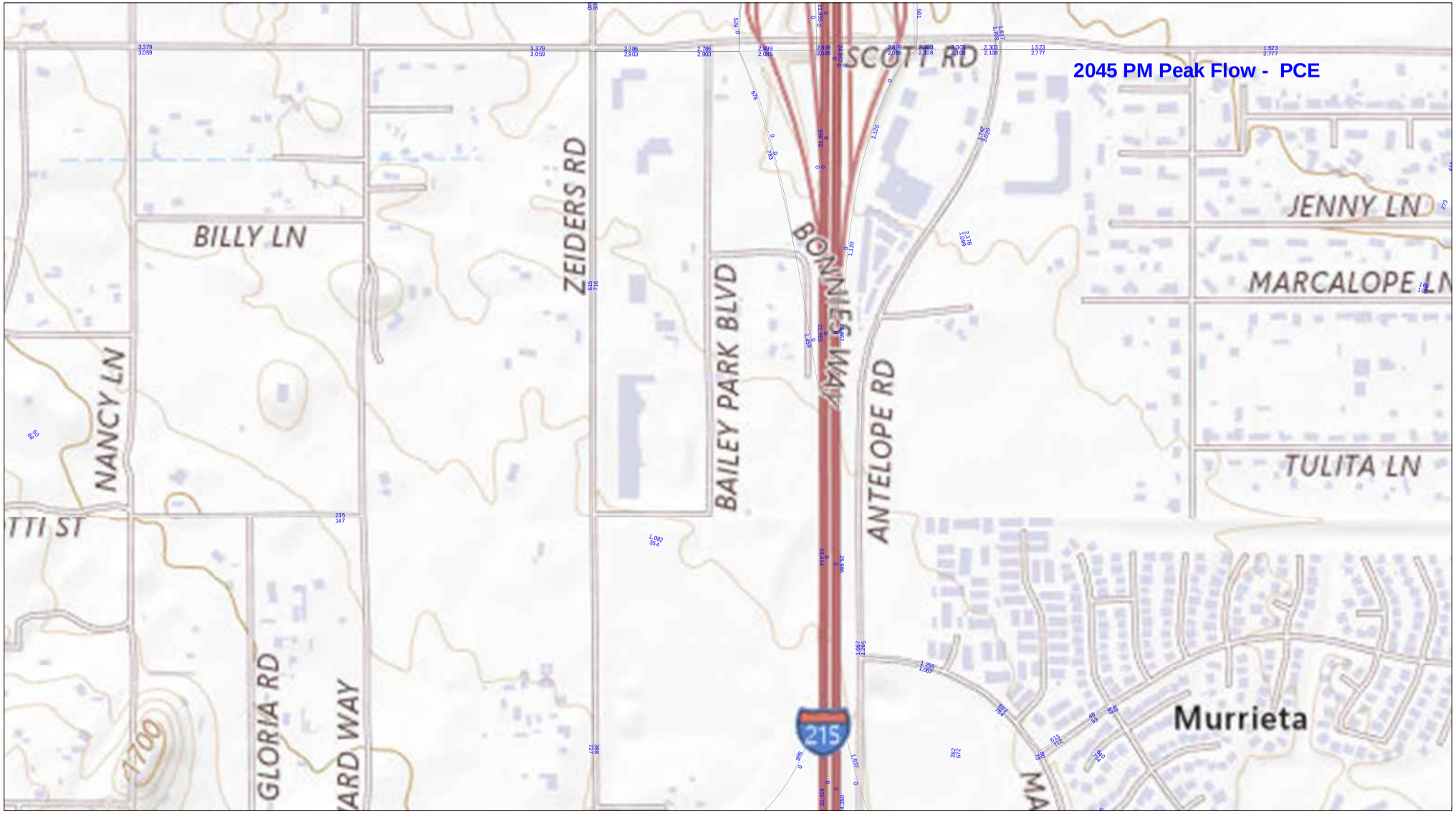

2018 Daily Flow - PCE
CALIFORNIA
EAGLE RD
LINDENBERGER RD
LORE
JENNY LN
MARCALOPE LN
1500
BERYL ST
GARNET ST
WOODBINE LN


2045 AM Peak Flow - PCE
CALIFORNIA
SCOTT RD
ZEIDERS RD
BONNIES WAY
PARK BLVD
JENNY LN
MARCALOPE LN
1500

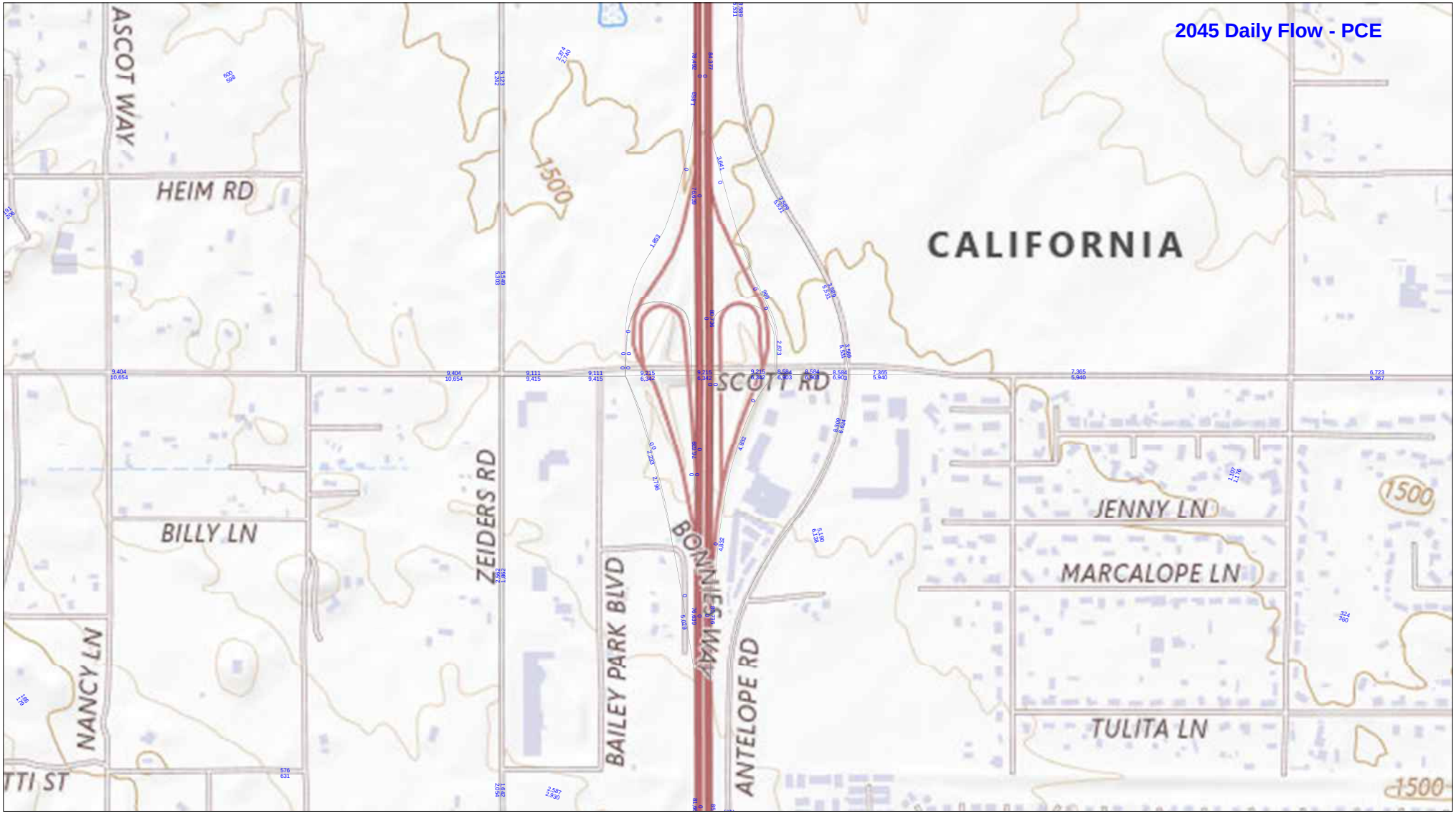

2045 AM Peak Flow - PCE
CALIFORNIA
HEIM RD
SCOTT RD
EAGLE RD
CHANEY RD
BILLY LN
ZEIDERS RD
BONNIE MAY
BAILEY PARK BLVD
ANTELOPE RD
JENNY LN
MARCALOPE LN
BERYL ST
MESOLITE WAY
TULITA LN
GYPSUM ST
AZARA ST
NANCY LN
CICCOTTI ST
Murrieta
MAPLETON AVE
SUNDROP AVE
SALVIA LN
LAVATERA AVE
KELLER RD
MC BOB RD
HOFFMAN LN
KASPER LN
GLORIA RD
HOWARD WAY
215
1500

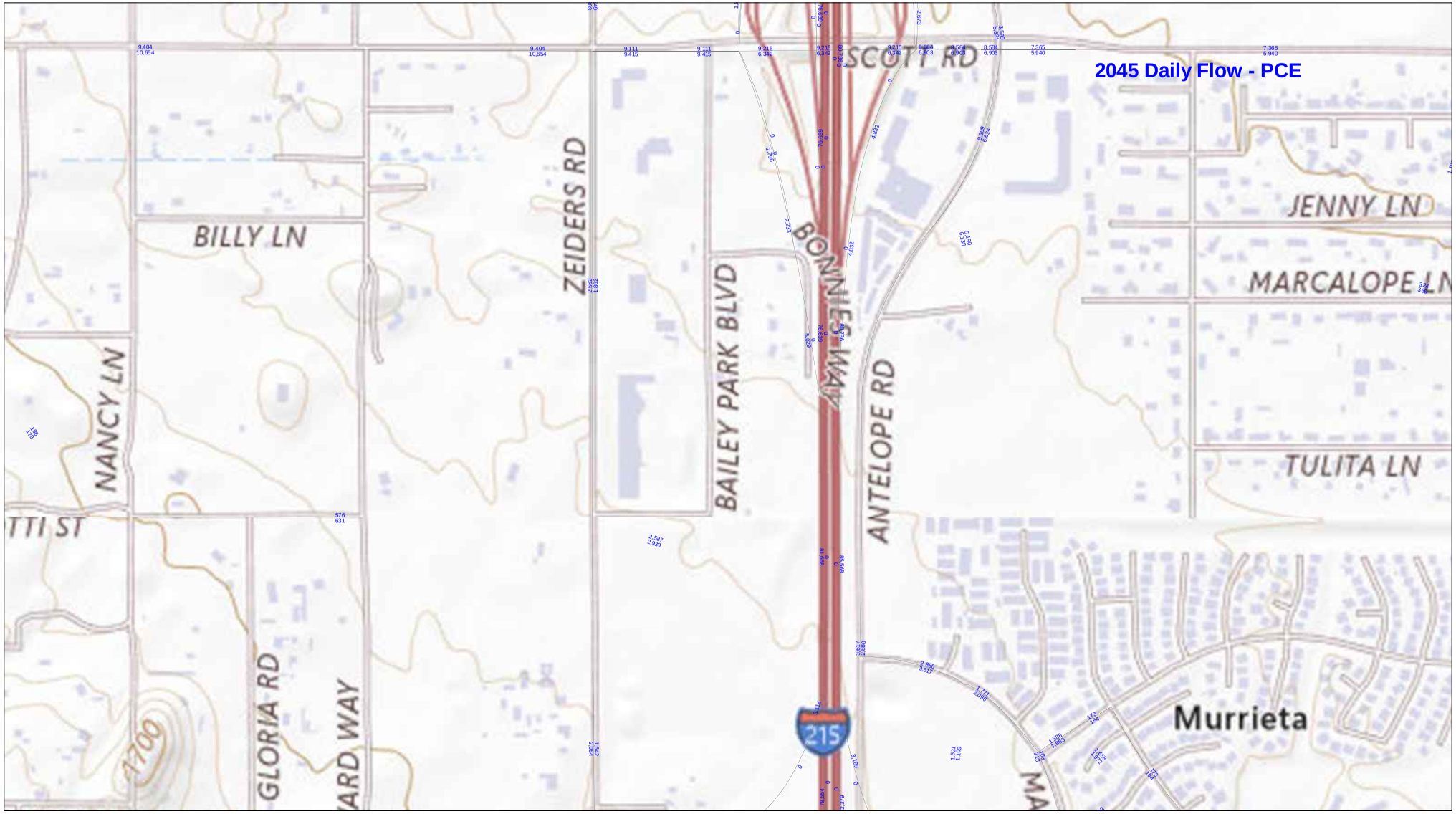

2045 AM Peak Flow - PCE
CALIFORNIA
EAGLE RD
LINDENBERGER RD
JENNY LN
MARCALOPE LN
1500
BERYL ST
GARNET ST
WOODBINE LN

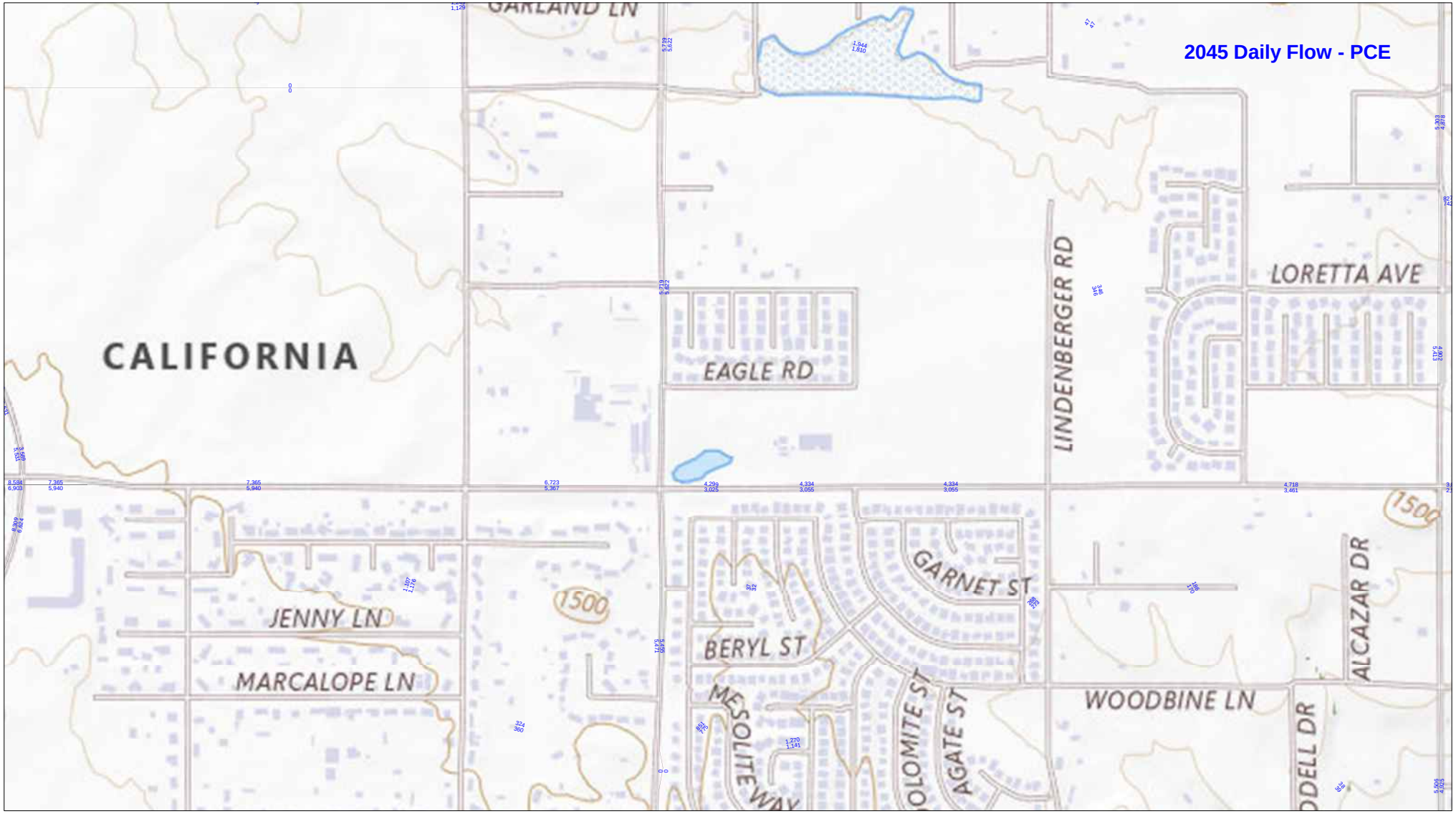

2045 PM Peak Flow - PCE
CALIFORNIA
SCOTT RD
1500
JENNY


2045 PM Peak Flow - PCE
SCOTT RD
ZEIDERS RD
BILLY LN
BAILEY PARK BLVD
BONNIE CT
ANTELOPE RD
JENNY LN
MARCALOPE LN
TULITA LN
NANCY LN
GLORIA RD
215
Murrieta


2045 PM Peak Flow - PCE
CALIFORNIA
EAGLE RD
LINDENBERGER RD
JENNY LN
MARCALOPE LN
1500
BERYL ST
GARNET ST
WOODBINE LN


2045 Daily Flow - PCE
ASCOT WAY
HEIM RD
1500
CALIFORNIA
SCOTT RD
ZEIDERS RD
BILLY LN
BAILEY PARK BLVD
NANCY LN
ANTELOPE RD
JENNY LN
MARCALOPE LN
TULITA LN
1500
1500


2045 Daily Flow - PCE
SCOTT RD
ZEIDERS RD
BILLY LN
BAILEY PARK BLVD
BONNIES WAY
ANTELOPE RD
JENNY LN
MARCALOPE LN
TULITA LN
NANCY LN
GLORIA RD
215
Murrieta


2045 Daily Flow - PCE
GARLAND LN
CALIFORNIA
EAGLE RD
LINDENBERGER RD
LORETTA AVE
JENNY LN
MARCALOPE LN
1500
BERYL ST
GARNET ST
MESOLITE WAY
OLOMITE ST
AGATE ST
WOODBINE LN
ALCAZAR DR
ODELL DR

APPENDIX F

RIVCOM POST-PROCESSING WORKSHEETS

INTERSECTION	LEG	CTP 2018 ADT	EXISTING 2024 ADT	CTP 2045 ADT	NEW 2045 ADT[1]
Haun Road/Zeiders Road at Scott Road - #1	North	9,787	18,100	10,852	19,900
	South	3,275	7,400	4,424	8,300
	East	21,217	28,500	18,526	31,400
	West	14,773	17,800	20,058	21,900
Zeiders Road at Ciccotti Street - #2	North	2,184	5,900	3,696	7,100
	South	2,184	5,800	3,696	7,000
	East	-	100	-	100
	West	-	-	-	-
Zeiders Road at Industrial Parkway - #4	North	2,184	5,900	3,696	7,100
	South	2,184	5,900	3,696	7,100
	East	-	-	-	-
	West	-	-	-	-
I-215 SB Ramps at Scott Road - #5	North	7,406	12,300	1,853	13,500
	South	11,041	4,600	5,029	5,100
	East	24,964	32,400	15,557	35,600
	West	21,217	29,100	18,526	32,000
I-215 NB Ramps at Scott Road - #6	North	8,884	13,200	3,641	14,500
	South	9,567	5,900	4,832	6,500
	East	31,778	35,300	15,487	38,800
	West	24,964	32,300	15,557	35,500
Antelope Road at Scott Road - #7	North	6,790	13,300	9,120	15,100
	South	7,368	17,300	14,933	23,200
	East	22,731	23,900	13,305	26,300
	West	31,778	35,300	15,487	38,800
Menifee Road at Scott Road - #8	North	12,987	10,500	11,341	11,600
	South	8,516	12,000	10,926	13,900
	East	16,347	25,500	7,324	28,100
	West	21,552	25,000	12,090	27,500

(1) Adjusted for minimum 10% growth over existing average daily traffic volumes for year 2045.

Zeiders Road/Haun Road (NS) / Scott Road (EW) - #1

MORNING PEAK HOUR

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):

2024			51	105	548			
			<	v	>			
		79	^			^	403	
		685	>			<	538	
		138	v			v	68	
			<	^	>			
			61	74	24			

EXISTING PEAK HOUR COUNT YEAR (AUTOS):

2024				704	556			
				v	^			
		650	<	IN =	2774	<	1009	
		902	>	OUT =	2774	>	1257	
				v	^			
				311	159			

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCEs):

			0	0	0			
			<	v	>			
		0	^			^	0	
		0	>			<	0	
		0	v			v	0	
			<	^	>			
			0	0	0			

PCE FACTORS BY AXLE:

2: 1.5 3: 2.0 4+: 3.0

TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCEs):

2024			51	105	548			
			<	v	>			
		79	^			^	403	
		685	>			<	538	
		138	v			v	68	
			<	^	>			
			61	74	24			

EXISTING PEAK PERIOD MODEL YEAR (AUTO):

2018				1504	1181			
				v	^			
		1632	<	IN =	6372	<	2097	
		2150	>	OUT =	6372	>	3080	
				v	^			
				479	621			

EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):

2018				0	0			
				v	^			
		0	<	IN =	0	<	0	
		0	>	OUT =	0	>	0	
				v	^			
				0	0			

EXISTING PEAK HOUR MODEL YEAR (PCEs):

PHF FOR CARS: 0.38

PHF FOR TRUCKS: 0.333

				572	449			
				v	^			
		620	<	IN =	2421	<	797	
		817	>	OUT =	2421	>	1170	
				v	^			
				182	236			

FUTURE PEAK PERIOD MODEL YEAR (AUTO):

2045				1819	1484			
				v	^			
		3348	<	IN =	8298	<	2756	
		3022	>	OUT =	8298	>	2868	
				v	^			
				598	701			

FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):

2045				0	0			
				v	^			
		0	<	IN =	0	<	0	
		0	>	OUT =	0	>	0	
				v	^			
				0	0			

FUTURE PEAK HOUR MODEL YEAR (PCEs):

PHF FOR CARS: 0.38

PHF FOR TRUCKS: 0.333

				691	564			
				v	^			
		1272	<	IN =	3153	<	1047	
		1148	>	OUT =	3153	>	1090	
				v	^			
				227	266			

RAW GROWTH (PCEs): 2018 TO 2045

CONVERSION OF TRUCKS TO: 2045

FACTOR = 1.00

				120	115			
				v	^			
		652	<			<	250	
		331	>			>	-81	
				v	^			
				45	30			

ADJUSTED GROWTH (PCEs): 2018 TO 2045

10 MINIMUM GROWTH %

				120	120			
				v	^			
		650	<	IN =	730	<	250	
		330	>	OUT =	950	>	130	
				v	^			
				50	30			

PRORATED GROWTH (PCEs): 2024 TO 2045

21 YEARS

				90	90			
				v	^			
		510	<			<	190	
		260	>			>	100	
				v	^			
				40	20			

NEW PROJECTED VOLUMES (PCEs): 2045

				790	650			
				v	^			
		1160	<			<	1200	
		1160	>			>	1360	
				v	^			
				350	180			

YEAR 2026 GROWTH: 2024 TO 2026

2 YEARS

				10	10			
				v	^			
		50	<			<	20	
		20	>			>	10	
				v	^			
				0	0			

INITIAL YEAR 2026 VOLUMES:

2026				710	570			
				v	^			
		700	<	IN =	2820	<	1030	
		920	>	OUT =	2850	>	1270	
				v	^			
				310	160			

BALANCED YEAR 2026 VOLUMES:

2026				720	570			
				v	^			
		700	<	IN =	2850	<	1040	
		930	>	OUT =	2850	>	1270	
				v	^			
				310	160			

EVENING PEAK HOUR

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):

2024			53	71	437			
			<	v	>			
		66	^			^	643	
		584	>			<	592	
		65	v			v	73	
			<	^	>			
			125	236	48			

EXISTING PEAK HOUR COUNT YEAR (AUTOS):

2024				561	945			
				v	^			
		770	<	IN =	2993	<	1308	
		715	>	OUT =	2993	>	1069	
				v	^			
				209	409			

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCEs):

			0	0	0			
			<	v	>			
		0	^			^	0	
		0	>			<	0	
		0	v			v	0	
			<	^	>			
			0	0	0			

PCE FACTORS BY AXLE:

2: 1.5 3: 2 4+: 3.0

TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCEs):

2024			53	71	437			
			<	v	>			
		66	^			^	643	
		584	>			<	592	
		65	v			v	73	
			<	^	>			
			125	236	48			

EXISTING PEAK PERIOD MODEL YEAR (AUTO):

2018				1868	1232			
				v	^			
		2490	<	IN =	7790	<	3035	
		2288	>	OUT =	7791	>	3509	
				v	^			
				560	599			

EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):

2018				0	0			
				v	^			
		0	<	IN =	0	<	0	
		0	>	OUT =	0	>	0	
				v	^			
				0	0			

EXISTING PEAK HOUR MODEL YEAR (PCEs):

PHF FOR CARS: 0.28

PHF FOR TRUCKS: 0.25

				523	345			
				v	^			
		697	<	IN =	2181	<	850	
		641	>	OUT =	2181	>	983	
				v	^			
				157	168			

FUTURE PEAK PERIOD MODEL YEAR (AUTO):

2045				1840	1505			
				v	^			
		3379	<	IN =	8401	<	2786	
		3059	>	OUT =	8402	>	2903	
				v	^			
				615	716			

FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):

2045				0	0			
				v	^			
		0	<	IN =	0	<	0	
		0	>	OUT =	0	>	0	
				v	^			
				0	0			

FUTURE PEAK HOUR MODEL YEAR (PCEs):

PHF FOR CARS: 0.28

PHF FOR TRUCKS: 0.25

				515	421			
				v	^			
		946	<	IN =	2352	<	780	
		857	>	OUT =	2353	>	813	
				v	^			
				172	200			

RAW GROWTH (PCEs): 2018 TO 2045

CONVERSION OF TRUCKS TO: 2045

FACTOR = 1.00

				-8	76			
				v	^			
		249	<			<	-70	
		216	>			>	-170	
				v	^			
				15	33			

ADJUSTED GROWTH (PCEs): 2018 TO 2045

10 MINIMUM GROWTH %

				60	90			
				v	^			
		250	<	IN =	440	<	130	
		220	>	OUT =	470	>	110	
				v	^			
				20	30			

PRORATED GROWTH (PCEs): 2024 TO 2045

21 YEARS

				50	70			
				v	^			
		190	<			<	100	
		170	>			>	90	
				v	^			
				20	20			

NEW PROJECTED VOLUMES (PCEs): 2045

				610	1020			
				v	^			
		960	<			<	1410	
		890	>			>	1160	
				v	^			
				230	430			

YEAR 2026 GROWTH: 2024 TO 2026

2 YEARS

				0	10			
				v	^			
		20	<			<	10	
		20	>			>	10	
				v	^			
				0	0			

INITIAL YEAR 2026 VOLUMES:

2026				560	960			
				v	^			
		790	<	IN =	3030	<	1320	
		740	>	OUT =	3040	>	1080	
				v	^			
				210	410			

BALANCED YEAR 2026 VOLUMES:

2026				560	960			
				v	^			
		790	<	IN =	3030	<	1320	
		740	>	OUT =	3040	>	1080	
				v	^			
				210	410			

Zeiders Road/Haun Road (NS) / Scott Road (EW) - #1

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255

YEAR 2045 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL
NORTH	LEFT	**61**	SOUTH LEG		NORTH	LEFT	**125**	SOUTH LEG	
BOUND	THRU	**74**	IN ...	**180**	BOUND	THRU	**236**	IN ...	**430**
	RIGHT	**24**	OUT ...	**350**		RIGHT	**48**	OUT ...	**230**
SOUTH	LEFT	**548**	NORTH LEG		SOUTH	LEFT	**437**	NORTH LEG	
BOUND	THRU	**105**	IN ...	**790**	BOUND	THRU	**71**	IN ...	**610**
	RIGHT	**51**	OUT ...	**650**		RIGHT	**53**	OUT ...	**1,020**
EAST	LEFT	**79**	WEST LEG		EAST	LEFT	**66**	WEST LEG	
BOUND	THRU	**685**	IN ...	**1,160**	BOUND	THRU	**584**	IN ...	**890**
	RIGHT	**138**	OUT ...	**1,160**		RIGHT	**65**	OUT ...	**960**
WEST	LEFT	**68**	EAST LEG		WEST	LEFT	**73**	EAST LEG	
BOUND	THRU	**538**	IN ...	**1,200**	BOUND	THRU	**592**	IN ...	**1,410**
	RIGHT	**403**	OUT ...	**1,360**		RIGHT	**643**	OUT ...	**1,160**

YEAR 2045 TRAFFIC CONDITIONS										
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS					
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP	
NORTH	LEFT	**61**	**107**	NORTH LEG	NORTH	LEFT	**125**	**154**	NORTH LEG	
BOUND	THRU	**74**	**81**	RATIO **8.2%**	BOUND	THRU	**236**	**260**	RATIO **8.7%**	
	RIGHT	**24**	**26**	ADT 19,900		RIGHT	**48**	**53**	ADT 19,900	
SOUTH	LEFT	**548**	**603**	SOUTH LEG	SOUTH	LEFT	**437**	**481**	SOUTH LEG	
BOUND	THRU	**105**	**120**	RATIO **7.3%**	BOUND	THRU	**71**	**82**	RATIO **8.7%**	
	RIGHT	**51**	**180**	ADT 8,300		RIGHT	**53**	**91**	ADT 8,300	
EAST	LEFT	**79**	**199**	EAST LEG	EAST	LEFT	**66**	**114**	EAST LEG	
BOUND	THRU	**685**	**819**	RATIO **9.0%**	BOUND	THRU	**584**	**688**	RATIO **8.7%**	
	RIGHT	**138**	**195**	ADT 31,400		RIGHT	**65**	**89**	ADT 31,400	
WEST	LEFT	**68**	**75**	WEST LEG	WEST	LEFT	**73**	**80**	WEST LEG	
BOUND	THRU	**538**	**874**	RATIO **10.8%**	BOUND	THRU	**592**	**714**	RATIO **8.4%**	
	RIGHT	**403**	**443**	ADT 21,900		RIGHT	**643**	**707**	ADT 21,900	

Zeiders Road (NS) / Ciccotti Street (EW) - #2

MORNING PEAK HOUR	EVENING PEAK HOUR
EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):	EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):
2024	2024
0 234 4	0 140 1
< v >	< v >
0 ^ ^ 1	0 ^ ^ 4
0 > < 0	0 > < 0
0 v v 0	0 v v 1
< ^ >	< ^ >
0 140 4	0 345 1
EXISTING PEAK HOUR COUNT YEAR (AUTOS):	EXISTING PEAK HOUR COUNT YEAR (AUTOS):
2024	2024
238 141	141 349
v ^	v ^
0 < IN = 383 < 1	0 < IN = 492 < 5
0 > OUT = 383 > 8	0 > OUT = 492 > 2
v ^	v ^
234 144	141 346
EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCEs):	EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCEs):
0 0 0	0 0 0
< v >	< v >
0 ^ ^ 0	0 ^ ^ 0
0 > < 0	0 > < 0
0 v v 0	0 v v 0
PCE FACTORS BY AXLE: < ^ >	PCE FACTORS BY AXLE: < ^ >
2: 1.5 3: 2.0 4+: 3.0 0 0 0	2: 1.5 3: 2 4+: 3.0 0 0 0
TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCEs):	TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCEs):
2024	2024
0 234 4	0 140 1
< v >	< v >
0 ^ ^ 1	0 ^ ^ 4
0 > < 0	0 > < 0
0 v v 0	0 v v 1
< ^ >	< ^ >
0 140 4	0 345 1
EXISTING PEAK PERIOD MODEL YEAR (AUTO):	EXISTING PEAK PERIOD MODEL YEAR (AUTO):
2018	2018
334 453	483 440
v ^	v ^
0 < IN = 787 < 0	0 < IN = 923 < 0
0 > OUT = 787 > 0	0 > OUT = 923 > 0
v ^	v ^
334 453	483 440
EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):	EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):
2018	2018
0 0	0 0
v ^	v ^
0 < IN = 0 < 0	0 < IN = 0 < 0
0 > OUT = 0 > 0	0 > OUT = 0 > 0
v ^	v ^
0 0	0 0
EXISTING PEAK HOUR MODEL YEAR (PCEs):	EXISTING PEAK HOUR MODEL YEAR (PCEs):
PHF FOR CARS: 0.38	PHF FOR CARS: 0.28
PHF FOR TRUCKS: 0.333	PHF FOR TRUCKS: 0.25
127 172	135 123
v ^	v ^
0 < IN = 299 < 0	0 < IN = 258 < 0
0 > OUT = 299 > 0	0 > OUT = 258 > 0
v ^	v ^
127 172	135 123
FUTURE PEAK PERIOD MODEL YEAR (AUTO):	FUTURE PEAK PERIOD MODEL YEAR (AUTO):
2045	2045
598 701	727 388
v ^	v ^
0 < IN = 1299 < 0	0 < IN = 1115 < 0
0 > OUT = 1299 > 0	0 > OUT = 1115 > 0
v ^	v ^
598 701	727 388
FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):	FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):
2045	2045
0 0	0 0
v ^	v ^
0 < IN = 0 < 0	0 < IN = 0 < 0
0 > OUT = 0 > 0	0 > OUT = 0 > 0
v ^	v ^
0 0	0 0
FUTURE PEAK HOUR MODEL YEAR (PCEs):	FUTURE PEAK HOUR MODEL YEAR (PCEs):
PHF FOR CARS: 0.38	PHF FOR CARS: 0.28
PHF FOR TRUCKS: 0.333	PHF FOR TRUCKS: 0.25
227 266	204 109
v ^	v ^
0 < IN = 494 < 0	0 < IN = 312 < 0
0 > OUT = 494 > 0	0 > OUT = 312 > 0
v ^	v ^
227 266	204 109
RAW GROWTH (PCEs): 2018 TO 2045	RAW GROWTH (PCEs): 2018 TO 2045
CONVERSION OF TRUCKS TO: 2045	CONVERSION OF TRUCKS TO: 2045
100 94	68 -15
FACTOR = 1.00 v ^	FACTOR = 1.00 v ^
0 < < 0	0 < < 0
0 > > 0	0 > > 0
v ^	v ^
100 94	68 -15
ADJUSTED GROWTH (PCEs): 2018 TO 2045	ADJUSTED GROWTH (PCEs): 2018 TO 2045
10 MINIMUM GROWTH %	10 MINIMUM GROWTH %
100 90	70 30
v ^	v ^
0 < IN = 190 < 0	0 < IN = 70 < 0
0 > OUT = 190 > 0	0 > OUT = 100 > 0
v ^	v ^
100 90	70 0
PRORATED GROWTH (PCEs): 2024 TO 2045	PRORATED GROWTH (PCEs): 2024 TO 2045
21 YEARS	21 YEARS
80 70	50 20
v ^	v ^
0 < < 0	0 < < 0
0 > > 0	0 > > 0
v ^	v ^
80 70	50 0
NEW PROJECTED VOLUMES (PCEs): 2045	NEW PROJECTED VOLUMES (PCEs): 2045
320 210	190 370
v ^	v ^
0 < < 0	0 < < 10
0 > > 10	0 > > 0
v ^	v ^
310 210	190 350
YEAR 2026 GROWTH: 2024 TO 2026	YEAR 2026 GROWTH: 2024 TO 2026
2 YEARS	2 YEARS
10 10	10 0
v ^	v ^
0 < < 0	0 < < 0
0 > > 0	0 > > 0
v ^	v ^
10 10	10 0
INITIAL YEAR 2026 VOLUMES:	INITIAL YEAR 2026 VOLUMES:
2026	2026
250 150	150 350
v ^	v ^
0 < IN = 400 < 0	0 < IN = 510 < 10
0 > OUT = 400 > 10	0 > OUT = 500 > 0
v ^	v ^
240 150	150 350
BALANCED YEAR 2026 VOLUMES:	BALANCED YEAR 2026 VOLUMES:
2026	2026
250 150	150 360
v ^	v ^
0 < IN = 400 < 0	0 < IN = 510 < 10
0 > OUT = 400 > 10	0 > OUT = 510 > 0
v ^	v ^
240 150	150 350

Zeiders Road (NS) / Ciccotti Street (EW) - #2

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255

YEAR 2045 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL
NORTH	LEFT	**0**	SOUTH LEG		NORTH	LEFT	**0**	SOUTH LEG	
BOUND	THRU	**140**	IN ...	**210**	BOUND	THRU	**345**	IN ...	**350**
	RIGHT	**4**	OUT ...	**310**		RIGHT	**1**	OUT ...	**190**
SOUTH	LEFT	**4**	NORTH LEG		SOUTH	LEFT	**1**	NORTH LEG	
BOUND	THRU	**234**	IN ...	**320**	BOUND	THRU	**140**	IN ...	**190**
	RIGHT	**0**	OUT ...	**210**		RIGHT	**0**	OUT ...	**370**
EAST	LEFT	**0**	WEST LEG		EAST	LEFT	**0**	WEST LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**0**	IN ...	**0**
	RIGHT	**0**	OUT ...	**0**		RIGHT	**0**	OUT ...	**0**
WEST	LEFT	**0**	EAST LEG		WEST	LEFT	**1**	EAST LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**0**	IN ...	**10**
	RIGHT	**1**	OUT ...	**10**		RIGHT	**4**	OUT ...	**0**

YEAR 2045 TRAFFIC CONDITIONS										
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS					
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP	
NORTH	LEFT	**0**	**0**	NORTH LEG	NORTH	LEFT	**0**	**0**	NORTH LEG	
BOUND	THRU	**140**	**210**	RATIO **7.4%**	BOUND	THRU	**345**	**380**	RATIO **8.1%**	
	RIGHT	**4**	**5**	ADT 7,100		RIGHT	**1**	**1**	ADT 7,100	
SOUTH	LEFT	**4**	**5**	SOUTH LEG	SOUTH	LEFT	**1**	**1**	SOUTH LEG	
BOUND	THRU	**234**	**310**	RATIO **7.5%**	BOUND	THRU	**140**	**188**	RATIO **8.2%**	
	RIGHT	**0**	**0**	ADT 7,000		RIGHT	**0**	**0**	ADT 7,000	
EAST	LEFT	**0**	**0**	EAST LEG	EAST	LEFT	**0**	**0**	EAST LEG	
BOUND	THRU	**0**	**0**	RATIO **11.0%**	BOUND	THRU	**0**	**0**	RATIO **13.0%**	
	RIGHT	**0**	**0**	ADT 100		RIGHT	**0**	**0**	ADT 100	
WEST	LEFT	**0**	**0**	WEST LEG	WEST	LEFT	**1**	**2**	WEST LEG	
BOUND	THRU	**0**	**0**	RATIO **-**	BOUND	THRU	**0**	**0**	RATIO **-**	
	RIGHT	**1**	**1**	ADT 0		RIGHT	**4**	**9**	ADT 0	

Zeiders Road (NS) / Industrial Roadway (EW) - #4

MORNING PEAK HOUR	EVENING PEAK HOUR
EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):	EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):
2024	2024
0 233 1	0 142 0
< v >	< v >
0 ^ ^ 2	0 ^ ^ 1
0 > < 0	0 > < 0
0 v v 0	0 v v 0
< ^ >	< ^ >
0 140 0	0 345 1
EXISTING PEAK HOUR COUNT YEAR (AUTOS):	EXISTING PEAK HOUR COUNT YEAR (AUTOS):
2024	2024
234 142	142 346
v ^	v ^
0 < IN = 376 < 2	0 < IN = 489 < 1
0 > OUT = 376 > 1	0 > OUT = 489 > 1
v ^	v ^
233 140	142 346
EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCEs):	EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCEs):
0 0 0	0 0 0
< v >	< v >
0 ^ ^ 0	0 ^ ^ 0
0 > < 0	0 > < 0
0 v v 0	0 v v 0
PCE FACTORS BY AXLE: < ^ >	PCE FACTORS BY AXLE: < ^ >
2: 1.5 3: 2.0 4+: 3.0 0 0 0	2: 1.5 3: 2 4+: 3.0 0 0 0
TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCEs):	TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCEs):
2024	2024
0 233 1	0 142 0
< v >	< v >
0 ^ ^ 2	0 ^ ^ 1
0 > < 0	0 > < 0
0 v v 0	0 v v 0
< ^ >	< ^ >
0 140 0	0 345 1
EXISTING PEAK PERIOD MODEL YEAR (AUTO):	EXISTING PEAK PERIOD MODEL YEAR (AUTO):
2018	2018
334 453	483 440
v ^	v ^
0 < IN = 787 < 0	0 < IN = 923 < 0
0 > OUT = 787 > 0	0 > OUT = 923 > 0
v ^	v ^
334 453	483 440
EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):	EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):
2018	2018
0 0	0 0
v ^	v ^
0 < IN = 0 < 0	0 < IN = 0 < 0
0 > OUT = 0 > 0	0 > OUT = 0 > 0
v ^	v ^
0 0	0 0
EXISTING PEAK HOUR MODEL YEAR (PCEs):	EXISTING PEAK HOUR MODEL YEAR (PCEs):
PHF FOR CARS: 0.38	PHF FOR CARS: 0.28
PHF FOR TRUCKS: 0.333	PHF FOR TRUCKS: 0.25
127 172	135 123
v ^	v ^
0 < IN = 299 < 0	0 < IN = 258 < 0
0 > OUT = 299 > 0	0 > OUT = 258 > 0
v ^	v ^
127 172	135 123
FUTURE PEAK PERIOD MODEL YEAR (AUTO):	FUTURE PEAK PERIOD MODEL YEAR (AUTO):
2045	2045
598 701	727 388
v ^	v ^
0 < IN = 1299 < 0	0 < IN = 1115 < 0
0 > OUT = 1299 > 0	0 > OUT = 1115 > 0
v ^	v ^
598 701	727 388
FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):	FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):
2045	2045
0 0	0 0
v ^	v ^
0 < IN = 0 < 0	0 < IN = 0 < 0
0 > OUT = 0 > 0	0 > OUT = 0 > 0
v ^	v ^
0 0	0 0
FUTURE PEAK HOUR MODEL YEAR (PCEs):	FUTURE PEAK HOUR MODEL YEAR (PCEs):
PHF FOR CARS: 0.38	PHF FOR CARS: 0.28
PHF FOR TRUCKS: 0.333	PHF FOR TRUCKS: 0.25
227 266	204 109
v ^	v ^
0 < IN = 494 < 0	0 < IN = 312 < 0
0 > OUT = 494 > 0	0 > OUT = 312 > 0
v ^	v ^
227 266	204 109
RAW GROWTH (PCEs): 2018 TO 2045	RAW GROWTH (PCEs): 2018 TO 2045
CONVERSION OF TRUCKS TO: 2045	CONVERSION OF TRUCKS TO: 2045
100 94	68 -15
FACTOR = 1.00 v ^	FACTOR = 1.00 v ^
0 < < 0	0 < < 0
0 > > 0	0 > > 0
v ^	v ^
100 94	68 -15
ADJUSTED GROWTH (PCEs): 2018 TO 2045	ADJUSTED GROWTH (PCEs): 2018 TO 2045
10 MINIMUM GROWTH %	10 MINIMUM GROWTH %
100 90	70 30
v ^	v ^
0 < IN = 190 < 0	0 < IN = 70 < 0
0 > OUT = 190 > 0	0 > OUT = 100 > 0
v ^	v ^
100 90	70 0
PRORATED GROWTH (PCEs): 2024 TO 2045	PRORATED GROWTH (PCEs): 2024 TO 2045
21 YEARS	21 YEARS
80 70	50 20
v ^	v ^
0 < < 0	0 < < 0
0 > > 0	0 > > 0
v ^	v ^
80 70	50 0
NEW PROJECTED VOLUMES (PCEs): 2045	NEW PROJECTED VOLUMES (PCEs): 2045
310 210	190 370
v ^	v ^
0 < < 0	0 < < 0
0 > > 0	0 > > 0
v ^	v ^
310 210	190 350
YEAR 2026 GROWTH: 2024 TO 2026	YEAR 2026 GROWTH: 2024 TO 2026
2 YEARS	2 YEARS
10 10	10 0
v ^	v ^
0 < < 0	0 < < 0
0 > > 0	0 > > 0
v ^	v ^
10 10	10 0
INITIAL YEAR 2026 VOLUMES:	INITIAL YEAR 2026 VOLUMES:
2026	2026
240 150	150 350
v ^	v ^
0 < IN = 390 < 0	0 < IN = 500 < 0
0 > OUT = 390 > 0	0 > OUT = 500 > 0
v ^	v ^
240 150	150 350
BALANCED YEAR 2026 VOLUMES:	BALANCED YEAR 2026 VOLUMES:
2026	2026
240 150	150 350
v ^	v ^
0 < IN = 390 < 0	0 < IN = 500 < 0
0 > OUT = 390 > 0	0 > OUT = 500 > 0
v ^	v ^
240 150	150 350

Zeiders Road (NS) / Industrial Roadway (EW) - #4

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255

YEAR 2045 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL
NORTH	LEFT	**0**	SOUTH LEG		NORTH	LEFT	**0**	SOUTH LEG	
BOUND	THRU	**140**	IN ...	**210**	BOUND	THRU	**345**	IN ...	**350**
	RIGHT	**0**	OUT ...	**310**		RIGHT	**1**	OUT ...	**190**
SOUTH	LEFT	**1**	NORTH LEG		SOUTH	LEFT	**0**	NORTH LEG	
BOUND	THRU	**233**	IN ...	**310**	BOUND	THRU	**142**	IN ...	**190**
	RIGHT	**0**	OUT ...	**210**		RIGHT	**0**	OUT ...	**370**
EAST	LEFT	**0**	WEST LEG		EAST	LEFT	**0**	WEST LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**0**	IN ...	**0**
	RIGHT	**0**	OUT ...	**0**		RIGHT	**0**	OUT ...	**0**
WEST	LEFT	**0**	EAST LEG		WEST	LEFT	**0**	EAST LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**0**	IN ...	**0**
	RIGHT	**2**	OUT ...	**0**		RIGHT	**1**	OUT ...	**0**

YEAR 2045 TRAFFIC CONDITIONS										
MORNING PEAK HOUR RESULTS						EVENING PEAK HOUR RESULTS					
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP		APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP	
NORTH	LEFT	**0**	**0**	NORTH LEG		NORTH	LEFT	**0**	**0**	NORTH LEG	
BOUND	THRU	**140**	**210**	RATIO	**7.4%**	BOUND	THRU	**345**	**380**	RATIO	**8.0%**
	RIGHT	**0**	**0**	ADT	7,100		RIGHT	**1**	**1**	ADT	7,100
SOUTH	LEFT	**1**	**1**	SOUTH LEG		SOUTH	LEFT	**0**	**0**	SOUTH LEG	
BOUND	THRU	**233**	**310**	RATIO	**7.3%**	BOUND	THRU	**142**	**190**	RATIO	**8.0%**
	RIGHT	**0**	**0**	ADT	7,100		RIGHT	**0**	**0**	ADT	7,100
EAST	LEFT	**0**	**0**	EAST LEG		EAST	LEFT	**0**	**0**	EAST LEG	
BOUND	THRU	**0**	**0**	RATIO	**-**	BOUND	THRU	**0**	**0**	RATIO	**-**
	RIGHT	**0**	**0**	ADT	0		RIGHT	**0**	**0**	ADT	0
WEST	LEFT	**0**	**0**	WEST LEG		WEST	LEFT	**0**	**0**	WEST LEG	
BOUND	THRU	**0**	**0**	RATIO	**-**	BOUND	THRU	**0**	**0**	RATIO	**-**
	RIGHT	**2**	**2**	ADT	0		RIGHT	**1**	**1**	ADT	0

I-215 SB Ramps (NS) / Scott Road (EW) - #5

MORNING PEAK HOUR

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):

2024

			172	0	464			
			<	v	>			
	0	^				^	634	
	678	>				<	837	
	582	v				v	0	
			<	^	>			
			0	0	0			

EXISTING PEAK HOUR COUNT YEAR (AUTOS):

2024

				636	634			
				v	^			
	1009	<	IN =	3367	<	1471		
	1260	>	OUT =	3367	>	1142		
				v	^			
				582	0			

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCEs):

			0	0	0			
			<	v	>			
	0	^				^	0	
	0	>				<	0	
	0	v				v	0	
			<	^	>			
			0	0	0			

PCE FACTORS BY AXLE:

2: 1.5 3: 2.0 4+: 3.0

TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCEs):

2024

			172	0	464			
			<	v	>			
	0	^				^	634	
	678	>				<	837	
	582	v				v	0	
			<	^	>			
			0	0	0			

EXISTING PEAK PERIOD MODEL YEAR (AUTO):

2018

				1229	0			
				v	^			
	2097	<	IN =	7441	<	3132		
	3080	>	OUT =	7440	>	2677		
				v	^			
				2666	0			

EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):

2018

				0	0			
				v	^			
	0	<	IN =	0	<	0		
	0	>	OUT =	0	>	0		
				v	^			
				0	0			

EXISTING PEAK HOUR MODEL YEAR (PCEs):

PHF FOR CARS: 0.38

PHF FOR TRUCKS: 0.333

				467	0			
				v	^			
	797	<	IN =	2828	<	1190		
	1170	>	OUT =	2827	>	1017		
				v	^			
				1013	0			

FUTURE PEAK PERIOD MODEL YEAR (AUTO):

2045

				518	0			
				v	^			
	2756	<	IN =	6257	<	2871		
	2868	>	OUT =	6258	>	2060		
				v	^			
				1442	0			

FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):

2045

				0	0			
				v	^			
	0	<	IN =	0	<	0		
	0	>	OUT =	0	>	0		
				v	^			
				0	0			

FUTURE PEAK HOUR MODEL YEAR (PCEs):

PHF FOR CARS: 0.38

PHF FOR TRUCKS: 0.333

				197	0			
				v	^			
	1047	<	IN =	2378	<	1091		
	1090	>	OUT =	2378	>	783		
				v	^			
				548	0			

RAW GROWTH (PCEs): 2018 TO 2045

CONVERSION OF TRUCKS TO: 2045

FACTOR = 1.00

				-270	0			
				v	^			
	250	<				<	-99	
	-81	>				>	-234	
				v	^			
				-465	0			

ADJUSTED GROWTH (PCEs): 2018 TO 2045

10 MINIMUM GROWTH %

				60	60			
				v	^			
	250	<	IN =	340	<	150		
	130	>	OUT =	420	>	110		
				v	^			
				0	0			

PRORATED GROWTH (PCEs): 2024 TO 2045

21 YEARS

				50	50			
				v	^			
	190	<				<	120	
	100	>				>	90	
				v	^			
				0	0			

NEW PROJECTED VOLUMES (PCEs): 2045

				690	680			
				v	^			
	1200	<				<	1590	
	1360	>				>	1230	
				v	^			
				580	0			

YEAR 2026 GROWTH: 2024 TO 2026

2 YEARS

				0	0			
				v	^			
	20	<				<	10	
	10	>				>	10	
				v	^			
				0	0			

INITIAL YEAR 2026 VOLUMES:

2026

				640	630			
				v	^			
	1030	<	IN =	3390	<	1480		
	1270	>	OUT =	3390	>	1150		
				v	^			
				580	0			

BALANCED YEAR 2026 VOLUMES:

2026

				640	630			
				v	^			
	1030	<	IN =	3390	<	1480		
	1270	>	OUT =	3390	>	1150		
				v	^			
				580	0			

EVENING PEAK HOUR

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):

2024

			186	0	453			
			<	v	>			
	0	^				^	390	
	721	>				<	1135	
	382	v				v	0	
			<	^	>			
			0	0	0			

EXISTING PEAK HOUR COUNT YEAR (AUTOS):

2024

				639	390			
				v	^			
	1321	<	IN =	3267	<	1525		
	1103	>	OUT =	3267	>	1174		
				v	^			
				382	0			

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCEs):

			0	0	0			
			<	v	>			
	0	^				^	0	
	0	>				<	0	
	0	v				v	0	
			<	^	>			
			0	0	0			

PCE FACTORS BY AXLE:

2: 1.5 3: 2 4+: 3.0

TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCEs):

2024

			186	0	453			
			<	v	>			
	0	^				^	390	
	721	>				<	1135	
	382	v				v	0	
			<	^	>			
			0	0	0			

EXISTING PEAK PERIOD MODEL YEAR (AUTO):

2018

				2819	0			
				v	^			
	3035	<	IN =	9981	<	3653		
	3509	>	OUT =	9980	>	3953		
				v	^			
				2992	0			

EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):

2018

				0	0			
				v	^			
	0	<	IN =	0	<	0		
	0	>	OUT =	0	>	0		
				v	^			
				0	0			

EXISTING PEAK HOUR MODEL YEAR (PCEs):

PHF FOR CARS: 0.28

PHF FOR TRUCKS: 0.25

				789	0			
				v	^			
	850	<	IN =	2795	<	1023		
	983	>	OUT =	2794	>	1107		
				v	^			
				838	0			

FUTURE PEAK PERIOD MODEL YEAR (AUTO):

2045

				529	0			
				v	^			
	2786	<	IN =	6331	<	2899		
	2903	>	OUT =	6330	>	2085		
				v	^			
				1459	0			

FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):

2045

				0	0			
				v	^			
	0	<	IN =	0	<	0		
	0	>	OUT =	0	>	0		
				v	^			
				0	0			

FUTURE PEAK HOUR MODEL YEAR (PCEs):

PHF FOR CARS: 0.28

PHF FOR TRUCKS: 0.25

				148	0			
				v	^			
	780	<	IN =	1773	<	812		
	813	>	OUT =	1772	>	584		
				v	^			
				409	0			

RAW GROWTH (PCEs): 2018 TO 2045

CONVERSION OF TRUCKS TO: 2045

FACTOR = 1.00

				-641	0			
				v	^			
	-70	<				<	-211	
	-170	>				>	-523	
				v	^			
				-429	0			

ADJUSTED GROWTH (PCEs): 2018 TO 2045

10 MINIMUM GROWTH %

				60	40			
				v	^			
	130	<	IN =	320	<	150		
	110	>	OUT =	290	>	120		
				v	^			
				0	0			

PRORATED GROWTH (PCEs): 2024 TO 2045

21 YEARS

				50	30			
				v	^			
	100	<				<	120	
	90	>				>	90	
				v	^			
				0	0			

NEW PROJECTED VOLUMES (PCEs): 2045

				690	420			
				v	^			
	1420	<				<	1650	
	1190	>				>	1260	
				v	^			
				380	0			

YEAR 2026 GROWTH: 2024 TO 2026

2 YEARS

				0	0			
				v	^			
	10	<				<	10	
	10	>				>	10	
				v	^			
				0	0			

INITIAL YEAR 2026 VOLUMES:

2026

				640	390			
				v	^			
	1330	<	IN =	3290	<	1540		
	1110	>	OUT =	3280	>	1180		
				v	^			
				380	0			

BALANCED YEAR 2026 VOLUMES:

2026

				640	390			
				v	^			
	1330	<	IN =	3290	<	1540		
	1110	>	OUT =	3280	>	1180		
				v	^			
				380	0			

I-215 SB Ramps (NS) / Scott Road (EW) - #5

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255

YEAR 2045 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL
NORTH	LEFT	**0**	SOUTH LEG		NORTH	LEFT	**0**	SOUTH LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**0**	IN ...	**0**
	RIGHT	**0**	OUT ...	**580**		RIGHT	**0**	OUT ...	**380**
SOUTH	LEFT	**464**	NORTH LEG		SOUTH	LEFT	**453**	NORTH LEG	
BOUND	THRU	**0**	IN ...	**690**	BOUND	THRU	**0**	IN ...	**690**
	RIGHT	**172**	OUT ...	**680**		RIGHT	**186**	OUT ...	**420**
EAST	LEFT	**0**	WEST LEG		EAST	LEFT	**0**	WEST LEG	
BOUND	THRU	**678**	IN ...	**1,360**	BOUND	THRU	**721**	IN ...	**1,190**
	RIGHT	**582**	OUT ...	**1,200**		RIGHT	**382**	OUT ...	**1,420**
WEST	LEFT	**0**	EAST LEG		WEST	LEFT	**0**	EAST LEG	
BOUND	THRU	**837**	IN ...	**1,590**	BOUND	THRU	**1,135**	IN ...	**1,650**
	RIGHT	**634**	OUT ...	**1,230**		RIGHT	**390**	OUT ...	**1,260**

YEAR 2045 TRAFFIC CONDITIONS										
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS					
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP	
NORTH	LEFT	**0**	**0**	NORTH LEG	NORTH	LEFT	**0**	**0**	NORTH LEG	
BOUND	THRU	**0**	**0**	RATIO **10.7%**	BOUND	THRU	**0**	**0**	RATIO **8.4%**	
	RIGHT	**0**	**0**	ADT 13,500		RIGHT	**0**	**0**	ADT 13,500	
SOUTH	LEFT	**464**	**510**	SOUTH LEG	SOUTH	LEFT	**453**	**498**	SOUTH LEG	
BOUND	THRU	**0**	**0**	RATIO **12.5%**	BOUND	THRU	**0**	**0**	RATIO **8.2%**	
	RIGHT	**172**	**242**	ADT 5,100		RIGHT	**186**	**207**	ADT 5,100	
EAST	LEFT	**0**	**0**	EAST LEG	EAST	LEFT	**0**	**0**	EAST LEG	
BOUND	THRU	**678**	**776**	RATIO **8.3%**	BOUND	THRU	**721**	**793**	RATIO **8.3%**	
	RIGHT	**582**	**640**	ADT 35,600		RIGHT	**382**	**420**	ADT 35,600	
WEST	LEFT	**0**	**0**	WEST LEG	WEST	LEFT	**0**	**0**	WEST LEG	
BOUND	THRU	**837**	**958**	RATIO **8.2%**	BOUND	THRU	**1,135**	**1,249**	RATIO **8.3%**	
	RIGHT	**634**	**697**	ADT 32,000		RIGHT	**390**	**429**	ADT 32,000	

I-215 NB Ramps (NS) / Scott Road (EW) - #6

MORNING PEAK HOUR

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):

2024

			233	0	0			
			<	v	>			
		157	^			^	452	
		1000	>			<	1197	
		0	v			v	0	
			<	^	>			
			0	0	388			

EXISTING PEAK HOUR COUNT YEAR (AUTOS):

2024

				233	609			
				v	^			
		1430	<	IN =	3427	<	1649	
		1157	>	OUT =	3427	>	1388	
				v	^			
				0	388			

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCEs):

				0	0	0		
				<	v	>		
		0	^			^	0	
		0	>			<	0	
		0	v			v	0	

PCE FACTORS BY AXLE:

				<	^	>		
				0	0	0		

2: 1.5 3: 2.0 4+: 3.0

TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCEs):

2024

			233	0	0			
			<	v	>			
		157	^			^	452	
		1000	>			<	1197	
		0	v			v	0	
			<	^	>			
			0	0	388			

EXISTING PEAK PERIOD MODEL YEAR (AUTO):

2018

				0	3022			
				v	^			
		3132	<	IN =	9222	<	4784	
		2677	>	OUT =	9222	>	3068	
				v	^			
				0	1761			

EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):

2018

				0	0			
				v	^			
		0	<	IN =	0	<	0	
		0	>	OUT =	0	>	0	
				v	^			
				0	0			

EXISTING PEAK HOUR MODEL YEAR (PCEs):

PHF FOR CARS: 0.38

PHF FOR TRUCKS: 0.333

				0	1148			
				v	^			
		1190	<	IN =	3504	<	1818	
		1017	>	OUT =	3504	>	1166	
				v	^			
				0	669			

FUTURE PEAK PERIOD MODEL YEAR (AUTO):

2045

				0	487			
				v	^			
		2871	<	IN =	5446	<	2280	
		2060	>	OUT =	5446	>	2088	
				v	^			
				0	1106			

FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):

2045

				0	0			
				v	^			
		0	<	IN =	0	<	0	
		0	>	OUT =	0	>	0	
				v	^			
				0	0			

FUTURE PEAK HOUR MODEL YEAR (PCEs):

PHF FOR CARS: 0.38

PHF FOR TRUCKS: 0.333

				0	185			
				v	^			
		1091	<	IN =	2069	<	866	
		783	>	OUT =	2069	>	793	
				v	^			
				0	420			

RAW GROWTH (PCEs): 2018 TO 2045

CONVERSION OF TRUCKS TO: 2045

FACTOR = 1.00

				0	-963			
				v	^			
		-99	<			<	-952	
		-234	>			>	-372	
				v	^			
				0	-249			

ADJUSTED GROWTH (PCEs): 2018 TO 2045

10 MINIMUM GROWTH %

				20	60			
				v	^			
		140	<	IN =	300	<	160	
		120	>	OUT =	340	>	140	
				v	^			
				0	0			

PRORATED GROWTH (PCEs): 2024 TO 2045

21 YEARS

				20	50			
				v	^			
		110	<			<	120	
		90	>			>	110	
				v	^			
				0	0			

NEW PROJECTED VOLUMES (PCEs): 2045

				250	660			
				v	^			
		1540	<			<	1770	
		1250	>			>	1500	
				v	^			
				0	390			

YEAR 2026 GROWTH: 2024 TO 2026

2 YEARS

				0	0			
				v	^			
		10	<			<	10	
		10	>			>	10	
				v	^			
				0	0			

INITIAL YEAR 2026 VOLUMES:

2026

				230	610			
				v	^			
		1440	<	IN =	3450	<	1660	
		1170	>	OUT =	3450	>	1400	
				v	^			
				0	390			

BALANCED YEAR 2026 VOLUMES:

2026

				230	610			
				v	^			
		1440	<	IN =	3450	<	1660	
		1170	>	OUT =	3450	>	1400	
				v	^			
				0	390			

EVENING PEAK HOUR

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):

2024

			520	0	0			
			<	v	>			
		149	^			^	428	
		1018	>			<	1005	
		0	v			v	0	
			<	^	>			
			0	0	489			

EXISTING PEAK HOUR COUNT YEAR (AUTOS):

2024

				520	577			
				v	^			
		1525	<	IN =	3609	<	1433	
		1167	>	OUT =	3609	>	1507	
				v	^			
				0	489			

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCEs):

				0	0	0		
				<	v	>		
		0	^			^	0	
		0	>			<	0	
		0	v			v	0	

PCE FACTORS BY AXLE:

				<	^	>		
				0	0	0		

2: 1.5 3: 2 4+: 3.0

TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCEs):

2024

			520	0	0			
			<	v	>			
		149	^			^	428	
		1018	>			<	1005	
		0	v			v	0	
			<	^	>			
			0	0	489			

EXISTING PEAK PERIOD MODEL YEAR (AUTO):

2018

				0	2387			
				v	^			
		3653	<	IN =	11904	<	4435	
		3953	>	OUT =	11904	>	5864	
				v	^			
				0	3516			

EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):

2018

				0	0			
				v	^			
		0	<	IN =	0	<	0	
		0	>	OUT =	0	>	0	
				v	^			
				0	0			

EXISTING PEAK HOUR MODEL YEAR (PCEs):

PHF FOR CARS: 0.28

PHF FOR TRUCKS: 0.25

				0	668			
				v	^			
		1023	<	IN =	3333	<	1242	
		1107	>	OUT =	3333	>	1642	
				v	^			
				0	984			

FUTURE PEAK PERIOD MODEL YEAR (AUTO):

2045

				0	501			
				v	^			
		2899	<	IN =	5508	<	2303	
		2085	>	OUT =	5508	>	2108	
				v	^			
				0	1120			

FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):

2045

				0	0			
				v	^			
		0	<	IN =	0	<	0	
		0	>	OUT =	0	>	0	
				v	^			
				0	0			

FUTURE PEAK HOUR MODEL YEAR (PCEs):

PHF FOR CARS: 0.28

PHF FOR TRUCKS: 0.25

				0	140			
				v	^			
		812	<	IN =	1542	<	645	
		584	>	OUT =	1542	>	590	
				v	^			
				0	314			

RAW GROWTH (PCEs): 2018 TO 2045

CONVERSION OF TRUCKS TO: 2045

FACTOR = 1.00

				0	-528			
				v	^			
		-211	<			<	-597	
		-523	>			>	-1052	
				v	^			
				0	-671			

ADJUSTED GROWTH (PCEs): 2018 TO 2045

10 MINIMUM GROWTH %

				50	60			
				v	^			
		150	<	IN =	310	<	140	
		120	>	OUT =	360	>	150	
				v	^			
				0	0			

PRORATED GROWTH (PCEs): 2024 TO 2045

21 YEARS

				40	50			
				v	^			
		120	<			<	110	
		90	>			>	120	
				v	^			
				0	0			

NEW PROJECTED VOLUMES (PCEs): 2045

				560	630			
				v	^			
		1650	<			<	1540	
		1260	>			>	1630	
				v	^			
				0	490			

YEAR 2026 GROWTH: 2024 TO 2026

2 YEARS

				0	0			
				v	^			
		10	<			<	10	
		10	>			>	10	
				v	^			
				0	0			

INITIAL YEAR 2026 VOLUMES:

2026

				520	580			
				v	^			
		1540	<	IN =	3630	<	1440	
		1180	>	OUT =	3640	>	1520	
				v	^			
				0	490			

BALANCED YEAR 2026 VOLUMES:

2026

				520	580			
				v	^			
		1540	<	IN =	3630	<	1440	
		1180	>	OUT =	3640	>	1520	
				v	^			
				0	490			

I-215 NB Ramps (NS) / Scott Road (EW) - #6

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255

YEAR 2045 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL
NORTH	LEFT	**0**	SOUTH LEG		NORTH	LEFT	**0**	SOUTH LEG	
BOUND	THRU	**0**	IN ...	**390**	BOUND	THRU	**0**	IN ...	**490**
	RIGHT	**388**	OUT ...	**0**		RIGHT	**489**	OUT ...	**0**
SOUTH	LEFT	**0**	NORTH LEG		SOUTH	LEFT	**0**	NORTH LEG	
BOUND	THRU	**0**	IN ...	**250**	BOUND	THRU	**0**	IN ...	**560**
	RIGHT	**233**	OUT ...	**660**		RIGHT	**520**	OUT ...	**630**
EAST	LEFT	**157**	WEST LEG		EAST	LEFT	**149**	WEST LEG	
BOUND	THRU	**1,000**	IN ...	**1,250**	BOUND	THRU	**1,018**	IN ...	**1,260**
	RIGHT	**0**	OUT ...	**1,540**		RIGHT	**0**	OUT ...	**1,650**
WEST	LEFT	**0**	EAST LEG		WEST	LEFT	**0**	EAST LEG	
BOUND	THRU	**1,197**	IN ...	**1,770**	BOUND	THRU	**1,005**	IN ...	**1,540**
	RIGHT	**452**	OUT ...	**1,500**		RIGHT	**428**	OUT ...	**1,630**

YEAR 2045 TRAFFIC CONDITIONS										
MORNING PEAK HOUR RESULTS						EVENING PEAK HOUR RESULTS					
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP		APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP	
NORTH	LEFT	**0**	**0**	NORTH LEG		NORTH	LEFT	**0**	**0**	NORTH LEG	
BOUND	THRU	**0**	**0**	RATIO	**6.4%**	BOUND	THRU	**0**	**0**	RATIO	**8.4%**
	RIGHT	**388**	**427**	ADT	14,500		RIGHT	**489**	**538**	ADT	14,500
SOUTH	LEFT	**0**	**0**	SOUTH LEG		SOUTH	LEFT	**0**	**0**	SOUTH LEG	
BOUND	THRU	**0**	**0**	RATIO	**6.6%**	BOUND	THRU	**0**	**0**	RATIO	**8.3%**
	RIGHT	**233**	**256**	ADT	6,500		RIGHT	**520**	**572**	ADT	6,500
EAST	LEFT	**157**	**173**	EAST LEG		EAST	LEFT	**149**	**164**	EAST LEG	
BOUND	THRU	**1,000**	**1,104**	RATIO	**8.6%**	BOUND	THRU	**1,018**	**1,130**	RATIO	**8.4%**
	RIGHT	**0**	**0**	ADT	38,800		RIGHT	**0**	**0**	ADT	38,800
WEST	LEFT	**0**	**0**	WEST LEG		WEST	LEFT	**0**	**0**	WEST LEG	
BOUND	THRU	**1,197**	**1,317**	RATIO	**8.0%**	BOUND	THRU	**1,005**	**1,106**	RATIO	**8.4%**
	RIGHT	**452**	**497**	ADT	35,500		RIGHT	**428**	**475**	ADT	35,500

Antelope Road (NS) / Scott Road (EW) - #7

MORNING PEAK HOUR

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):

2024

			419	216	48			
			<	v	>			
		242	^			^	50	
		732	>			<	987	
		414	v			v	115	
			<	^	>			
			249	142	71			

EXISTING PEAK HOUR COUNT YEAR (AUTOS):

2024

				683	434			
				v	^			
		1655	<	IN =	3685	<	1152	
		1388	>	OUT =	3685	>	851	
				v	^			
				745	462			

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCEs):

			0	0	0			
			<	v	>			
		0	^			^	0	
		0	>			<	0	
		0	v			v	0	
			<	^	>			
			0	0	0			

PCE FACTORS BY AXLE:

2: 1.5 3: 2.0 4+: 3.0

TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCEs):

2024

			419	216	48			
			<	v	>			
		242	^			^	50	
		732	>			<	987	
		414	v			v	115	
			<	^	>			
			249	142	71			

EXISTING PEAK PERIOD MODEL YEAR (AUTO):

2018

				1508	818			
				v	^			
		4784	<	IN =	8754	<	3593	
		3068	>	OUT =	8756	>	2144	
				v	^			
				1010	585			

EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):

2018

				0	0			
				v	^			
		0	<	IN =	0	<	0	
		0	>	OUT =	0	>	0	
				v	^			
				0	0			

EXISTING PEAK HOUR MODEL YEAR (PCEs):

PHF FOR CARS: 0.38

PHF FOR TRUCKS: 0.333

				573	311			
				v	^			
		1818	<	IN =	3327	<	1365	
		1166	>	OUT =	3327	>	815	
				v	^			
				384	222			

FUTURE PEAK PERIOD MODEL YEAR (AUTO):

2045

				1769	1604			
				v	^			
		2280	<	IN =	8361	<	1511	
		2088	>	OUT =	8361	>	2761	
				v	^			
				1716	2993			

FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):

2045

				0	0			
				v	^			
		0	<	IN =	0	<	0	
		0	>	OUT =	0	>	0	
				v	^			
				0	0			

FUTURE PEAK HOUR MODEL YEAR (PCEs):

PHF FOR CARS: 0.38

PHF FOR TRUCKS: 0.333

				672	610			
				v	^			
		866	<	IN =	3177	<	574	
		793	>	OUT =	3177	>	1049	
				v	^			
				652	1137			

RAW GROWTH (PCEs): 2018 TO 2045

CONVERSION OF TRUCKS TO: 2045

FACTOR = 1.00

				99	299			
				v	^			
		-952	<			<	-791	
		-372	>			>	234	
				v	^			
				268	915			

ADJUSTED GROWTH (PCEs): 2018 TO 2045

10 MINIMUM GROWTH %

				100	300			
				v	^			
		170	<	IN =	1280	<	120	
		140	>	OUT =	970	>	230	
				v	^			
				270	920			

PRORATED GROWTH (PCEs): 2024 TO 2045

21 YEARS

				80	230			
				v	^			
		130	<			<	90	
		110	>			>	180	
				v	^			
				210	720			

NEW PROJECTED VOLUMES (PCEs): 2045

				760	660			
				v	^			
		1790	<			<	1240	
		1500	>			>	1030	
				v	^			
				960	1180			

YEAR 2026 GROWTH: 2024 TO 2026

2 YEARS

				10	20			
				v	^			
		10	<			<	10	
		10	>			>	20	
				v	^			
				20	70			

INITIAL YEAR 2026 VOLUMES:

2026

				690	450			
				v	^			
		1670	<	IN =	3780	<	1160	
		1400	>	OUT =	3760	>	870	
				v	^			
				770	530			

BALANCED YEAR 2026 VOLUMES:

2026

				690	450			
				v	^			
		1680	<	IN =	3780	<	1160	
		1400	>	OUT =	3770	>	870	
				v	^			
				770	530			

EVENING PEAK HOUR

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):

2024

			274	130	72			
			<	v	>			
		330	^			^	42	
		799	>			<	785	
		378	v			v	117	
			<	^	>			
			378	263	173			

EXISTING PEAK HOUR COUNT YEAR (AUTOS):

2024

				476	635			
				v	^			
		1437	<	IN =	3741	<	944	
		1507	>	OUT =	3741	>	1044	
				v	^			
				625	814			

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCEs):

			0	0	0			
			<	v	>			
		0	^			^	0	
		0	>			<	0	
		0	v			v	0	
			<	^	>			
			0	0	0			

PCE FACTORS BY AXLE:

2: 1.5 3: 2 4+: 3.0

TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCEs):

2024

			274	130	72			
			<	v	>			
		330	^			^	42	
		799	>			<	785	
		378	v			v	117	
			<	^	>			
			378	263	173			

EXISTING PEAK PERIOD MODEL YEAR (AUTO):

2018

				1108	1280			
				v	^			
		4435	<	IN =	11235	<	3032	
		5864	>	OUT =	11235	>	4498	
				v	^			
				1022	1231			

EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):

2018

				0	0			
				v	^			
		0	<	IN =	0	<	0	
		0	>	OUT =	0	>	0	
				v	^			
				0	0			

EXISTING PEAK HOUR MODEL YEAR (PCEs):

PHF FOR CARS: 0.28

PHF FOR TRUCKS: 0.25

				310	358			
				v	^			
		1242	<	IN =	3146	<	849	
		1642	>	OUT =	3146	>	1259	
				v	^			
				286	345			

FUTURE PEAK PERIOD MODEL YEAR (AUTO):

2045

				1788	1617			
				v	^			
		2303	<	IN =	8439	<	1523	
		2108	>	OUT =	8439	>	2777	
				v	^			
				1742	3020			

FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):

2045

				0	0			
				v	^			
		0	<	IN =	0	<	0	
		0	>	OUT =	0	>	0	
				v	^			
				0	0			

FUTURE PEAK HOUR MODEL YEAR (PCEs):

PHF FOR CARS: 0.28

PHF FOR TRUCKS: 0.25

				501	453			
				v	^			
		645	<	IN =	2363	<	426	
		590	>	OUT =	2363	>	778	
				v	^			
				488	846			

RAW GROWTH (PCEs): 2018 TO 2045

CONVERSION OF TRUCKS TO: 2045

FACTOR = 1.00

				190	94			
				v	^			
		-597	<			<	-423	
		-1052	>			>	-482	
				v	^			
				202	501			

ADJUSTED GROWTH (PCEs): 2018 TO 2045

10 MINIMUM GROWTH %

				190	90			
				v	^			
		140	<	IN =	930	<	90	
		150	>	OUT =	530	>	100	
				v	^			
				200	500			

PRORATED GROWTH (PCEs): 2024 TO 2045

21 YEARS

				150	70			
				v	^			
		110	<			<	70	
		120	>			>	80	
				v	^			
				160	390			

NEW PROJECTED VOLUMES (PCEs): 2045

				630	710			
				v	^			
		1550	<			<	1010	
		1630	>			>	1120	
				v	^			
				790	1200			

YEAR 2026 GROWTH: 2024 TO 2026

2 YEARS

				10	10			
				v	^			
		10	<			<	10	
		10	>			>	10	
				v	^			
				10	40			

INITIAL YEAR 2026 VOLUMES:

2026

				490	650			
				v	^			
		1450	<	IN =	3810	<	950	
		1520	>	OUT =	3790	>	1050	
				v	^			
				640	850			

BALANCED YEAR 2026 VOLUMES:

2026

				490	650			
				v	^			
		1460	<	IN =	3810	<	950	
		1520	>	OUT =	3810	>	1060	
				v	^			
				640	850			

Antelope Road (NS) / Scott Road (EW) - #7

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255

YEAR 2045 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL
NORTH	LEFT	**249**	SOUTH LEG		NORTH	LEFT	**378**	SOUTH LEG	
BOUND	THRU	**142**	IN ...	**1,180**	BOUND	THRU	**263**	IN ...	**1,200**
	RIGHT	**71**	OUT ...	**960**		RIGHT	**173**	OUT ...	**790**
SOUTH	LEFT	**48**	NORTH LEG		SOUTH	LEFT	**72**	NORTH LEG	
BOUND	THRU	**216**	IN ...	**760**	BOUND	THRU	**130**	IN ...	**630**
	RIGHT	**419**	OUT ...	**660**		RIGHT	**274**	OUT ...	**710**
EAST	LEFT	**242**	WEST LEG		EAST	LEFT	**330**	WEST LEG	
BOUND	THRU	**732**	IN ...	**1,500**	BOUND	THRU	**799**	IN ...	**1,630**
	RIGHT	**414**	OUT ...	**1,790**		RIGHT	**378**	OUT ...	**1,550**
WEST	LEFT	**115**	EAST LEG		WEST	LEFT	**117**	EAST LEG	
BOUND	THRU	**987**	IN ...	**1,240**	BOUND	THRU	**785**	IN ...	**1,010**
	RIGHT	**50**	OUT ...	**1,030**		RIGHT	**42**	OUT ...	**1,120**

YEAR 2045 TRAFFIC CONDITIONS										
MORNING PEAK HOUR RESULTS						EVENING PEAK HOUR RESULTS					
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP		APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP	
NORTH	LEFT	**249**	**510**	NORTH LEG		NORTH	LEFT	**378**	**498**	NORTH LEG	
BOUND	THRU	**142**	**385**	RATIO	**10.2%**	BOUND	THRU	**263**	**366**	RATIO	**9.0%**
	RIGHT	**71**	**224**	ADT	15,100		RIGHT	**173**	**255**	ADT	15,100
SOUTH	LEFT	**48**	**62**	SOUTH LEG		SOUTH	LEFT	**72**	**89**	SOUTH LEG	
BOUND	THRU	**216**	**308**	RATIO	**9.0%**	BOUND	THRU	**130**	**195**	RATIO	**8.2%**
	RIGHT	**419**	**461**	ADT	23,200		RIGHT	**274**	**303**	ADT	23,200
EAST	LEFT	**242**	**266**	EAST LEG		EAST	LEFT	**330**	**363**	EAST LEG	
BOUND	THRU	**732**	**805**	RATIO	**9.2%**	BOUND	THRU	**799**	**879**	RATIO	**8.7%**
	RIGHT	**414**	**467**	ADT	26,300		RIGHT	**378**	**444**	ADT	26,300
WEST	LEFT	**115**	**184**	WEST LEG		WEST	LEFT	**117**	**151**	WEST LEG	
BOUND	THRU	**987**	**1,086**	RATIO	**9.3%**	BOUND	THRU	**785**	**864**	RATIO	**8.6%**
	RIGHT	**50**	**62**	ADT	38,800		RIGHT	**42**	**46**	ADT	38,800

Menifee Road (NS) / Scott Road (EW) - #8

MORNING PEAK HOUR

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):

2024

			105	301	94			
			<	v	>			
68	^					^	93	
687	>					<	937	
76	v					v	305	
			<	^	>			
			113	176	290			

EXISTING PEAK HOUR COUNT YEAR (AUTOS):

2024

				500	337			
				v	^			
1155	<	IN =		3245		<	1335	
831	>	OUT =		3245		>	1071	
				v	^			
				682	579			

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCEs):

			0	0	0			
			<	v	>			
0	^					^	0	
0	>					<	0	
0	v					v	0	
			<	^	>			
			0	0	0			

PCE FACTORS BY AXLE:

2: 1.5 3: 2.0 4+: 3.0

TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCEs):

2024

			105	301	94			
			<	v	>			
68	^					^	93	
687	>					<	937	
76	v					v	305	
			<	^	>			
			113	176	290			

EXISTING PEAK PERIOD MODEL YEAR (AUTO):

2018

				1960	1303			
				v	^			
3375	<	IN =		8189		<	3235	
2093	>	OUT =		8189		>	1784	
				v	^			
				1727	901			

EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):

2018

				0	0			
				v	^			
0	<	IN =		0		<	0	
0	>	OUT =		0		>	0	
				v	^			
				0	0			

EXISTING PEAK HOUR MODEL YEAR (PCEs):

PHF FOR CARS: 0.38

PHF FOR TRUCKS: 0.333

				745	495			
				v	^			
1283	<	IN =		3112		<	1229	
795	>	OUT =		3112		>	678	
				v	^			
				656	342			

FUTURE PEAK PERIOD MODEL YEAR (AUTO):

2045

				1632	2533			
				v	^			
1405	<	IN =		7205		<	745	
2515	>	OUT =		7205		>	1582	
				v	^			
				1685	2313			

FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):

2045

				0	0			
				v	^			
0	<	IN =		0		<	0	
0	>	OUT =		0		>	0	
				v	^			
				0	0			

FUTURE PEAK HOUR MODEL YEAR (PCEs):

PHF FOR CARS: 0.38

PHF FOR TRUCKS: 0.333

				620	963			
				v	^			
534	<	IN =		2738		<	283	
956	>	OUT =		2738		>	601	
				v	^			
				640	879			

RAW GROWTH (PCEs): 2018 TO 2045

CONVERSION OF TRUCKS TO: 2045

FACTOR = 1.00

				-125	467			
				v	^			
-749	<					<	-946	
160	>					>	-77	
				v	^			
				-16	537			

ADJUSTED GROWTH (PCEs): 2018 TO 2045

10 MINIMUM GROWTH %

				50	470			
				v	^			
120	<	IN =		880		<	130	
160	>	OUT =		700		>	110	
				v	^			
				0	540			

PRORATED GROWTH (PCEs): 2024 TO 2045

21 YEARS

				40	370			
				v	^			
90	<					<	100	
120	>					>	90	
				v	^			
				0	420			

NEW PROJECTED VOLUMES (PCEs): 2045

				540	710			
				v	^			
1250	<					<	1440	
950	>					>	1160	
				v	^			
				680	1000			

YEAR 2026 GROWTH: 2024 TO 2026

2 YEARS

				0	30			
				v	^			
10	<					<	10	
10	>					>	10	
				v	^			
				0	40			

INITIAL YEAR 2026 VOLUMES:

2026

				500	370			
				v	^			
1170	<	IN =		3310		<	1350	
840	>	OUT =		3300		>	1080	
				v	^			
				680	620			

BALANCED YEAR 2026 VOLUMES:

2026

				500	370			
				v	^			
1170	<	IN =		3310		<	1350	
840	>	OUT =		3300		>	1080	
				v	^			
				680	620			

EVENING PEAK HOUR

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):

2024

			92	130	84			
			<	v	>			
173	^					^	95	
813	>					<	782	
118	v					v	148	
			<	^	>			
			104	300	202			

EXISTING PEAK HOUR COUNT YEAR (AUTOS):

2024

				306	568			
				v	^			
978	<	IN =		3041		<	1025	
1104	>	OUT =		3041		>	1099	
				v	^			
				396	606			

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCEs):

			0	0	0			
			<	v	>			
0	^					^	0	
0	>					<	0	
0	v					v	0	
			<	^	>			
			0	0	0			

PCE FACTORS BY AXLE:

2: 1.5 3: 2 4+: 3.0

TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCEs):

2024

			92	130	84			
			<	v	>			
173	^					^	95	
813	>					<	782	
118	v					v	148	
			<	^	>			
			104	300	202			

EXISTING PEAK PERIOD MODEL YEAR (AUTO):

2018

				1899	2314			
				v	^			
2921	<	IN =		9705		<	2322	
4235	>	OUT =		9705		>	3209	
				v	^			
				1261	1249			

EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):

2018

				0	0			
				v	^			
0	<	IN =		0		<	0	
0	>	OUT =		0		>	0	
				v	^			
				0	0			

EXISTING PEAK HOUR MODEL YEAR (PCEs):

PHF FOR CARS: 0.28

PHF FOR TRUCKS: 0.25

				532	648			
				v	^			
818	<	IN =		2717		<	650	
1186	>	OUT =		2717		>	899	
				v	^			
				353	350			

FUTURE PEAK PERIOD MODEL YEAR (AUTO):

2045

				1642	2546			
				v	^			
1417	<	IN =		7248		<	752	
2530	>	OUT =		7248		>	1593	
				v	^			
				1692	2324			

FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCEs):

2045

				0	0			
				v	^			
0	<	IN =		0		<	0	
0	>	OUT =		0		>	0	
				v	^			
				0	0			

FUTURE PEAK HOUR MODEL YEAR (PCEs):

PHF FOR CARS: 0.28

PHF FOR TRUCKS: 0.25

				460	713			
				v	^			
397	<	IN =		2029		<	211	
708	>	OUT =		2029		>	446	
				v	^			
				474	651			

RAW GROWTH (PCEs): 2018 TO 2045

CONVERSION OF TRUCKS TO: 2045

FACTOR = 1.00

				-72	65			
				v	^			
-421	<					<	-440	
-477	>					>	-452	
				v	^			
				121	301			

ADJUSTED GROWTH (PCEs): 2018 TO 2045

10 MINIMUM GROWTH %

				30	60			
				v	^			
100	<	IN =		540		<	100	
110	>	OUT =		390		>	110	
				v	^			
				120	300			

PRORATED GROWTH (PCEs): 2024 TO 2045

21 YEARS

				20	50			
				v	^			
80	<					<	80	
90	>					>	90	
				v	^			
				90	230			

NEW PROJECTED VOLUMES (PCEs): 2045

				330	620			
				v	^			
1060	<					<	1110	
1190	>					>	1190	
				v	^			
				490	840			

YEAR 2026 GROWTH: 2024 TO 2026

2 YEARS

				0	0			
				v	^			
10	<					<	10	
10	>					>	10	
				v	^			
				10	20			

INITIAL YEAR 2026 VOLUMES:

2026

				310	570			
				v	^			
990	<	IN =		3090		<	1040	
1110	>	OUT =		3080		>	1110	
				v	^			
				410	630			

BALANCED YEAR 2026 VOLUMES:

2026

				310	570			
				v	^			
990	<	IN =		3090		<	1040	
1110	>	OUT =		3080		>	1110	
				v	^			
				410	630			

Menifee Road (NS) / Scott Road (EW) - #8

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255

YEAR 2045 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2045 TOTAL
NORTH	LEFT	**113**	SOUTH LEG		NORTH	LEFT	**104**	SOUTH LEG	
BOUND	THRU	**176**	IN ...	**1,000**	BOUND	THRU	**300**	IN ...	**840**
	RIGHT	**290**	OUT ...	**680**		RIGHT	**202**	OUT ...	**490**
SOUTH	LEFT	**94**	NORTH LEG		SOUTH	LEFT	**84**	NORTH LEG	
BOUND	THRU	**301**	IN ...	**540**	BOUND	THRU	**130**	IN ...	**330**
	RIGHT	**105**	OUT ...	**710**		RIGHT	**92**	OUT ...	**620**
EAST	LEFT	**68**	WEST LEG		EAST	LEFT	**173**	WEST LEG	
BOUND	THRU	**687**	IN ...	**950**	BOUND	THRU	**813**	IN ...	**1,190**
	RIGHT	**76**	OUT ...	**1,250**		RIGHT	**118**	OUT ...	**1,060**
WEST	LEFT	**305**	EAST LEG		WEST	LEFT	**148**	EAST LEG	
BOUND	THRU	**937**	IN ...	**1,440**	BOUND	THRU	**782**	IN ...	**1,110**
	RIGHT	**93**	OUT ...	**1,160**		RIGHT	**95**	OUT ...	**1,190**

YEAR 2045 TRAFFIC CONDITIONS										
MORNING PEAK HOUR RESULTS						EVENING PEAK HOUR RESULTS				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP		APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2045 FORECAST	PEAK - DAILY RELATIONSHIP	
NORTH	LEFT	**113**	**172**	NORTH LEG		NORTH	LEFT	**104**	**157**	NORTH LEG	
BOUND	THRU	**176**	**426**	RATIO	**10.9%**	BOUND	THRU	**300**	**377**	RATIO	**8.8%**
	RIGHT	**290**	**369**	ADT	11,600		RIGHT	**202**	**279**	ADT	11,600
SOUTH	LEFT	**94**	**103**	SOUTH LEG		SOUTH	LEFT	**84**	**92**	SOUTH LEG	
BOUND	THRU	**301**	**331**	RATIO	**12.4%**	BOUND	THRU	**130**	**152**	RATIO	**9.4%**
	RIGHT	**105**	**120**	ADT	13,900		RIGHT	**92**	**101**	ADT	13,900
EAST	LEFT	**68**	**132**	EAST LEG		EAST	LEFT	**173**	**190**	EAST LEG	
BOUND	THRU	**687**	**756**	RATIO	**9.8%**	BOUND	THRU	**813**	**894**	RATIO	**8.6%**
	RIGHT	**76**	**84**	ADT	28,100		RIGHT	**118**	**156**	ADT	28,100
WEST	LEFT	**305**	**336**	WEST LEG		WEST	LEFT	**148**	**182**	WEST LEG	
BOUND	THRU	**937**	**1,031**	RATIO	**8.3%**	BOUND	THRU	**782**	**860**	RATIO	**8.6%**
	RIGHT	**93**	**151**	ADT	27,500		RIGHT	**95**	**105**	ADT	27,500



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