Appendix C
Traffic Impact Analysis

FOCUSED TRAFFIC IMPACT ANALYSIS

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PROPOSED CORDOVA COMPLEX DEVELOPMENT

APN: 0463-213-05

TOWN OF APPLE VALLEY, CALIFORNIA

Prepared by:

DAVID EVANS AND ASSOCIATES INC.

FINAL REPORT
September 11, 2023
REVISED JANUARY 29, 2024

DAVID EVANS
AND ASSOCIATES INC.

September 11, 2023 Job No. VVLI0000-0001

Ramsey Sheehan
Josh Malhi
VVLIG Holdings, LLC

c/o Jessica Haughton
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410 Patti Ann Woods Drive
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RE: FINAL FOCUSED TRAFFIC IMPACT ANALYSIS FOR THE PROPOSED CORDOVA COMPLEX DEVELOPMENT (PRE-APPLICATION NO. 2022-005) LOCATED AT THE SWC OF CORDOVA ROAD AND NAVAJO ROAD IN THE TOWN OF APPLE VALLEY, CA (APN: 0463-213-05)

Dear Ms. Haughton,

David Evans and Associates, Inc. is pleased to submit this Final Traffic Impact Analysis report for your proposed warehouse development in Apple Valley. The proposed project consists of a 1,559,952 square foot warehouse located on 78.8-acres in the Town of Apple Valley, California.

This report was prepared in accordance with San Bernardino County's Traffic Impact Study Guidelines for level of service (LOS) assessment published in July 2019, and the Town's adopted Resolution No. 2021-08 (May 2021) establishing thresholds of significance for a development's project-generated vehicle miles traveled (VMT) and the development's overall effect of VMT on the town's circulation system.

A VMT analysis was prepared to identify potentially significant transportation impacts for environmental clearance under the California Environmental Quality Act (CEQA). The VMT analysis findings and conclusions are summarized in the Executive Summary of this report and the full VMT analysis report is included in the appendix.

We are pleased to have been of assistance to you in processing and obtaining approval for the project. If you have any questions or comments, please feel free to contact me at 909-912-7304.

Respectfully submitted,

DAVID EVANS AND ASSOCIATES, INC.

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



DAVID EVANS AND ASSOCIATES INC.

TABLE OF CONTENTS

1 EXECUTIVE SUMMARY 5
1.1 Project Description 5
1.2 Town of Apple Valley and Caltrans Intersection Level of Service Policies 5
1.3 Analysis Scenarios 5
1.4 Recommended Measures to Improve Level of Service at Deficient Intersections 8
1.5 Project Fair-Share Contribution to Level of Service Deficiency Improvements 13
1.6 Project Fair-Share Fee Contribution to Level of Service Deficiency Improvements 13
1.7 Level of Service with Recommended Improvements 14
1.8 Traffic Signal Warrant Analysis 18
1.9 Project-Specific Frontage and Access Improvements 18
1.10 Vehicle Miles of Travel (VMT) Analysis 19
2 INTRODUCTION 22
2.1 Analysis Scenarios 22
3 EXISTING CONDITIONS 25
3.1 Town of Apple Valley and Caltrans Intersection Level of Service Policies 25
3.2 Study Intersections 25
3.3 Existing Traffic Volumes 25
3.4 Intersection Capacity Analysis Methodology 25
3.5 Existing Traffic Analysis 28
4 BACKGROUND CONDITIONS (WITHOUT QUARRY COMPLEX) 30
4.1 Background Conditions Traffic Analysis (Without Quarry Complex) 30
5 BACKGROUND PLUS PROJECT CONDITIONS (WITHOUT QUARRY COMPLEX) 31
5.1 Project Description and Trip Generation 31
5.2 Project Trip Distribution and Assignment 32
5.3 Background + Project Conditions Traffic Analysis (Without Quarry Complex) 34
6 FUTURE 2040 CONDITIONS (WITHOUT THE QUARRY COMPLEX) 36
6.1 Future Conditions Traffic Analysis 36
7 FUTURE 2040 PLUS PROJECT CONDITIONS (WITHOUT THE QUARRY COMPLEX) 37
7.1 Future Plus Project Traffic Analysis 37
8 BACKGROUND CONDITIONS TRAFFIC ANALYSIS (WITH QUARRY COMPLEX) 39
8.1 Background Conditions Traffic Analysis (With Quarry Complex) 39
9 BACKGROUND PLUS PROJECT CONDITIONS TRAFFIC ANALYSIS (WITH QUARRY COMPLEX) 40
9.1 Background Plus Project Conditions Traffic Analysis 40
10 FUTURE 2040 CONDITIONS TRAFFIC ANALYSIS (WITH QUARRY COMPLEX) 42
10.1 Future 2040 Conditions Traffic Analysis 42
11 FUTURE 2040 PLUS PROJECT CONDITIONS TRAFFIC ANALYSIS (WITH QUARRY COMPLEX) 43
11.1 Future 2040 Plus Project Conditions Traffic Analysis 43
12 RECOMMENDED MITIGATION MEASURES AND PROJECT-SPECIFIC FRONTAGE IMPROVEMENTS 45
12.1 Recommended Mitigation Measures to Improve LOS Deficiencies 45
12.2 Project-Specific Frontage and Access Improvements 45
13 VEHICLE MILES TRAVELLED (VMT) ANALYSIS 45
14 APPENDICES 46

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LIST OF FIGURES

Figure ES- 1: Project-Specific Intersection Improvements 11
Figure ES- 2: Future 2040 + Project Intersection Improvements 12
Figure 1: Vicinity Map 23
Figure 2: Site Plan 24
Figure 3: Study Intersections 26
Figure 4: Existing Traffic Volumes 27
Figure 5: Existing Intersection Geometrics 29
Figure 6: Total Project PCE Trips 33
Figure 7: Background Plus Project Traffic Volumes (Without Quarry Complex) 35
Figure 8: Future 2040 Plus Project Traffic Volumes (Without Quarry Complex) 38
Figure 9: Background Plus Project Traffic Volumes (With Quarry Complex) 41
Figure 10: Future 2040 Plus Project Traffic Volumes (With Quarry Complex) 44

LIST OF TABLES

Table 1-1: Comparison of Background (Without Quarry Complex) and Background Plus Project LOS 6
Table 1-2: Comparison of Future 2040 (Without Quarry Complex) and Future 2040 Plus Project LOS 7
Table 1-3: Comparison of Background (With Quarry Complex) and Background Plus Project LOS 7
Table 1-4: Comparison of Future 2040 (With Quarry Complex) and Future 2040 Plus Project LOS 8
Table 1-5: Recommended Project-Specific and Cumulative Improvements to Mitigate LOS Deficiencies 9
Table 1-6: Project's Percent Contribution (Fair Share) to Deficient Intersections by Year and Peak Hour 13
Table 1-7: Project's Fair Share Fee for Near-Term Project-Specific Improvements 13
Table 1-8: Project's Fair Share Fee for Long-Range Cumulative Measures 13
Table 1-9: Improved Level of Service for the Near-Term Project-Specific Improvements 14
Table 1-10: Improved Level of Service for the Long-Range Cumulative Measures 15
Table 1-11: Improved Level of Service for the Near-Term Project-Specific Improvements 15
Table 1-12: Improved Level of Service for the Long-Range Cumulative Measures 16
Table 1-13: Improved Level of Service for the Near-Term Project-Specific Improvements 16
Table 1-14: Improved Level of Service for the Long-Range Cumulative Measures 17
Table 1-15: Improved Level of Service for the Near-Term Project-Specific Improvements 17
Table 1-16: Improved Level of Service for the Long-Range Cumulative Measures 17
Table 1-17: Summary of Traffic Signal Warrant Analyses of Deficient Intersections 18
Table 1-18: Project-Generated VMT Analysis 20
Table 1-19: Project Effect on Roadway VMT within Town of Apple Valley 21
Table 3-1: Level of Service Criteria for Two-Way and All-Way Stop Controlled (TWSC & AWSC) Intersections 28
Table 3-2: Intersection Level of Service for Existing (2022) Conditions 28
Table 4-1: Intersection Level of Service for Background Conditions 30
Table 5-1: Trip Generation Rates for ITE Land Use Categories of Warehousing 31
Table 5-2: Cordova Complex Project Trip Generation 32
Table 5-3: Comparison of Background (Without Quarry Complex) and Background Plus Project LOS 34
Table 6-1: Intersection Level of Service for Future Year 2040 Conditions (Without Quarry Complex) 36
Table 7-1: Comparison of Future 2040 (Without Quarry Complex) and Future 2040 Plus Project LOS 37
Table 8-1: Intersection Level of Service for Background Conditions 39
Table 9-1: Comparison of Background (With Quarry Complex) and Background Plus Project LOS 40
Table 10-1: Intersection Level of Service for Future 2040 (With Quarry Complex) Conditions 42
Table 11-1: Comparison of Future 2040 (With Quarry Complex) and Future 2040 Plus Project LOS 43

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LIST OF APPENDICES

Appendix A: Approved Scope Agreement
Appendix B: Traffic Counts
Appendix C: Forecast Model Plots and Volume Development
Appendix D: Intersection Capacity Analysis Worksheets
Appendix E: VMT Analysis

1 EXECUTIVE SUMMARY

This executive summary presents the findings and recommendations of this study.

1.1 Project Description

The proposed project consists of a 1,559,952 square foot speculative warehouse facility located on approximately 79-acres in the north part of the town and within the North Apple Valley Industrial Specific Plan area. The project site is located at the southwest corner of Cordova Road and Navajo Road.

Access to the site is from driveways on Cordova Road, Dachshund Avenue, and Navajo Road. The proposed circulation and access plan includes constructing Cordova Road from Dale Evans Parkway to Navajo Road (with full improvements of the street segment fronting the project) and constructing and improving Navajo Road from Cordova Road to the project's southern property line and potentially extending Navajo Road to Johnson Road for employee/truck and emergency vehicle access. Dachshund Avenue would be constructed and improved from Cordova Road to the south property line for providing driveway access.

1.2 Town of Apple Valley and Caltrans Intersection Level of Service Policies

The Town of Apple Valley's General Plan policy (Policy 1.A, Program 1.A.4) on level of service is to maintain a level of service (LOS) D in the AM and PM peak hours on all its roadways. This level of service policy applies to local Apple Valley roadways, roads of regional importance as part of the county's Congestion Management Program (CMP) network, and state highways.

The Caltrans' Guide for the Preparation of Traffic Impact Studies (December 2002) states "Caltrans endeavors to maintain a target level of service at the transition between LOS "C" and LOS "D" on State highway facilities. However, Caltrans acknowledges that this may not always be feasible, so their practice is to allow level of service thresholds equal to the threshold of the jurisdiction where the facility is located but preferably no greater than a 45 second average delay per vehicle in the peak hour (mid LOS D). For this study, the town's LOS D is assumed to be the minimum level of service criteria for the study intersections.

1.3 Analysis Scenarios

The scenarios analyzed in this study are consistent with the requirements of the county's Transportation Impact Study Guidelines (July 2019). Additional analysis scenarios are included in this study to reflect conditions with and without the Cordova Complex's (project) sister warehouse development—Quarry Complex —located at the northeast corner of extensions of Cordova Road and Pawnee Road.

The project's sister site, the Quarry Complex, is expected to develop generally in the same timeframe as the Cordova Complex project. The proposed project is analyzed, however, in scenarios without the Quarry Complex warehouse to represent a potential situation in which the Quarry Complex project is significantly delayed, or the application is abandoned or withdrawn, and the sister project is never built. In either case, the Cordova Complex could be responsible for a larger share of off-site improvements that would normally be shared between the two developments. The additional scenario without the Quarry Complex assumed as background development will produce more realistic off-site improvements and more reasonable and accurate fair-share estimates of the cost of the off-site improvements in the event the Quarry Complex project does not develop. The same set of analysis scenarios (with and without the Cordova Complex Project) is included in the traffic analysis for the Quarry Complex project. The expanded list of analysis scenarios includes:

<u>Scenarios Without Development of the Quarry Complex</u>

- Existing conditions
- Background conditions (year 2024) without Quarry Complex
- Background + project conditions (year 2024) without Quarry Complex
- Future year 2040 conditions without Quarry Complex
- Future year 2040 + project conditions without Quarry Complex

Scenarios With Development of the Quarry Complex

- Background conditions (year 2024) with Quarry Complex
- Background + project conditions (year 2024) with Quarry Complex
- Future year 2040 conditions with Quarry Complex
- Future year 2040 + project conditions with Quarry Complex

A. Level of Service Comparison with and without the Proposed Project (Without Quarry Complex)

Table 1-1 compares the weekday AM and PM peak hour background and background plus project LOS at the study intersections. Background conditions represent the project's opening year of 2024 and includes growth in ambient traffic from regional and local development equaling 3.5 percent annually but excludes the Quarry Complex in the cumulative traffic forecasts. In this scenario, the addition of project traffic causes intersection LOS deficiencies (from LOS D or better to LOS E or F) at Dale Evans Parkway / Johnson Road, Stoddard Wells Road / Johnson Road, and Stoddard Wells Road / I-15 Northbound Ramps.

Table 1-1: Comparison of Background (Without Quarry Complex) and Background Plus Project LOS

Intersection	Control Type	Background Conditions				Background + Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	10.7	B	9.4	A	11.2	B	9.5	A
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	10.2	B	8.9	A	10.6	B	9.0	A
3. Dale Evans Parkway / Quarry Road	TWSC	11.1	B	13.8	B	11.6	B	14.6	B
4. Dale Evans Parkway / Johnson Road	AWSC	8.9	A	13.3	B	15.2	C	53.4	F
5. Stoddard Wells Road / Johnson Road	TWSC	10.5	B	15.7	C	14.0	B	68.8	F
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	22.0	C	25.5	D	362.7†	F	249.7	F
7. Stoddard Wells Road / Quarry Road	TWSC	18.1	C	13.5	B	20.2	C	13.7	B
8. I-15 Southbound Ramps / Quarry Road	TWSC	10.9	B	11.7	B	11.4	B	14.0	B
9. Johnson Road / Navajo Road	TWSC	10.4	B	9.9	A	10.4	B	9.9	A
10. Dale Evans Parkway / Cordova Road	TWSC	9.5	A	10.1	B	12.5	B	16.3	C

Notes:
† Exponentially high delays, although unrealistic, represent over-saturated conditions. The Highway Capacity Manual 6th Edition designates this magnitude of delay simply as >300 seconds per vehicle.
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

Table 1-2 on the following page compares the weekday AM and PM peak hour future year 2040 and future year 2040 plus project LOS at the study intersections. Future year 2040 conditions represent a long-range forecast for addressing the cumulative impacts of regional growth in traffic as determined through traffic forecasts from the San Bernardino Countywide Traffic Analysis Model (SBTAM). The Quarry Complex is not included in these scenarios.

In this scenario, the growth in background traffic through the year 2040 causes intersection LOS deficiencies in the 2040 background without project scenario (from LOS D or better to LOS E or F) at the Stoddard Wells Road / I-15 Northbound Ramps intersection.

The addition of project traffic in this scenario exacerbates the intersection LOS deficiencies at the same intersections impacted by the addition of project traffic to year 2024 conditions: Dale Evans Parkway / Johnson Road, Stoddard Wells Road / Johnson Road, and Stoddard Wells Road / I-15 Northbound Ramps, but with substantially higher delays.

Table 1-2: Comparison of Future 2040 (Without Quarry Complex) and Future 2040 Plus Project LOS

Intersection	Control Type	Future Year 2040 Conditions				Future Year 2040 + Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	12.9	B	10.9	B	13.8	B	11.1	B
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	11.4	B	9.7	A	11.8	B	9.8	A
3. Dale Evans Parkway / Quarry Road	TWSC	12.7	B	17.5	C	13.4	B	18.7	C
4. Dale Evans Parkway / Johnson Road	AWSC	13.1	B	58.6	F	42.5	E	208.8	F
5. Stoddard Wells Road / Johnson Road	TWSC	20.9	C	307.9†	F	73.8	F	989.8†	F
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	144.1	F	680.9†	F	804.2†	F	1,993.4†	F
7. Stoddard Wells Road / Quarry Road	TWSC	20.8	C	15.6	C	23.6	C	16.0	C
8. I-15 Southbound Ramps / Quarry Road	TWSC	11.5	B	14.8	B	12.1	B	19.1	C
9. Johnson Road / Navajo Road	TWSC	10.5	B	10.0	B	10.5	B	10.0	B
10. Dale Evans Parkway / Cordova Road	TWSC	12.6	B	12.6	B	18.7	C	29.4	D

Notes:
† Exponentially high delays, although unrealistic, represent over-saturated conditions. The Highway Capacity Manual 6th Edition designates this magnitude of delay simply as >300 seconds per vehicle.
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

Table 1-3 compares the weekday AM and PM peak hour background and background plus project LOS at the study intersections with the inclusion of traffic generated by the Quarry Complex. In addition, background conditions represent the project's opening year of 2024 with growth in ambient traffic from other regional and local development equaling 3.5 percent annually.

Table 1-3: Comparison of Background (With Quarry Complex) and Background Plus Project LOS

Intersection	Control Type	Background Conditions				Background + Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	11.2	B	9.5	A	11.7	B	9.6	A
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	10.6	B	9.0	A	11.0	B	9.1	A
3. Dale Evans Parkway / Quarry Road	TWSC	11.5	B	14.6	B	12.1	B	15.4	C
4. Dale Evans Parkway / Johnson Road	AWSC	14.9	B	58.0	F	89.5	F	204.2	F
5. Stoddard Wells Road / Johnson Road	TWSC	13.9	B	66.7	F	24.6	C	300.5	F
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	601.2	F	683.1	F	1888.0	F	2710.5	F
7. Stoddard Wells Road / Quarry Road	TWSC	18.1	C	13.5	B	20.2	C	13.7	B
8. I-15 Southbound Ramps / Quarry Road	TWSC	11.4	B	14.0	B	11.9	B	17.6	C
9. Johnson Road / Navajo Road	TWSC	10.4	B	9.9	A	10.4	B	9.9	A
10. Dale Evans Parkway / Cordova Road	TWSC	11.7	B	14.3	B	17.1	C	39.0	E

Notes:
† Exponentially high delays, although unrealistic, represent over-saturated conditions. The Highway Capacity Manual 6th Edition designates this magnitude of delay simply as >300 seconds per vehicle.
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

In this scenario, the addition of traffic from the Quarry Complex traffic further exacerbates the intersection LOS deficiencies at Dale Evans Parkway / Johnson Road, Stoddard Wells Road / Johnson Road, and Stoddard Wells Road / I-15 Northbound Ramps, with exponential increases in the delay for the stop-controlled movements.

Table 1-4 on the following page compares the weekday AM and PM peak hour future year 2040 and future year 2040 plus project LOS at the study intersections, with traffic generated by the Quarry Complex included.

The Quarry Complex, as cumulative development, adds over 500 peak hour trips to the circulation system. This additional traffic, added to stop controlled movements, causes unstable operations whereas the delay experienced by the stop-controlled approaches increases exponentially. This is caused by a combination of the traffic added to the stop-controlled approaches and an increase in the uncontrolled movements on the major street resulting in fewer acceptable gaps in the flow of traffic in both directions.

Table 1-4: Comparison of Future 2040 (With Quarry Complex) and Future 2040 Plus Project LOS

Intersection	Control Type	Future Year 2040 Conditions				Future Year 2040 + Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	13.7	B	11.1	B	14.9	B	11.3	B
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	11.8	B	9.8	A	12.3	B	9.9	A
3. Dale Evans Parkway / Quarry Road	TWSC	13.3	B	18.7	C	14.0	B	20.1	C
4. Dale Evans Parkway / Johnson Road	AWSC	38.2	E	192.3	F	174.4	F	370.8†	F
5. Stoddard Wells Road / Johnson Road	TWSC	71.6	F	982.9†	F	289.5	F	1,818.4†	F
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	1,048.1†	F	3,911.3†	F	2,241.0†	F	11,415.4†	F
7. Stoddard Wells Road / Quarry Road	TWSC	20.8	C	15.6	C	23.6	C	16.0	C
8. I-15 Southbound Ramps / Quarry Road	TWSC	12.1	B	19.0	C	12.7	B	26.4	D
9. Johnson Road / Navajo Road	TWSC	10.5	B	10.0	B	10.5	B	10.0	B
10. Dale Evans Parkway / Cordova Road	TWSC	16.8	C	22.3	C	35.4	E	152.4	F

Notes:
† Exponentially high delays, although unrealistic, represent over-saturated conditions. The Highway Capacity Manual 6th Edition designates this magnitude of delay simply as >300 seconds per vehicle.
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

When the proposed project's traffic is added to year 2040 background conditions (with Quarry Complex) there is a complete breakdown in the operation of the stop-controlled approaches with spikes in the calculated delay that are not achievable in real life conditions. These unrealistically high delays are indications of complete over-saturation of the stop-controlled approaches and the need for a traffic control strategy with significantly greater capacity such as a traffic signal.

The addition of traffic from the proposed project in the future year 2040 (with Quarry Complex) conditions causes a LOS deficiency at the previously unimpacted intersection of Dale Evans Parkway / Cordova Road. Project traffic causes the PM peak hour LOS at the stop-controlled approach (Cordova Road) to change from a LOS C in the future year 2040 background conditions to a LOS F in future year 2040 background + project conditions.

1.4 Recommended Measures to Improve Level of Service at Deficient Intersections

Table 1-5 summarizes the recommended near-term project-specific and long-range cumulative intersection improvements required to improve deficient intersection levels of service to conform with the town's general plan policy of maintaining a minimum LOS D during peak hours. The near-term project-specific improvements are based on background + project scenario without traffic from the Quarry Complex project. The long-range cumulative measures are based on the future 2040 + project conditions with traffic from the Quarry Complex project.

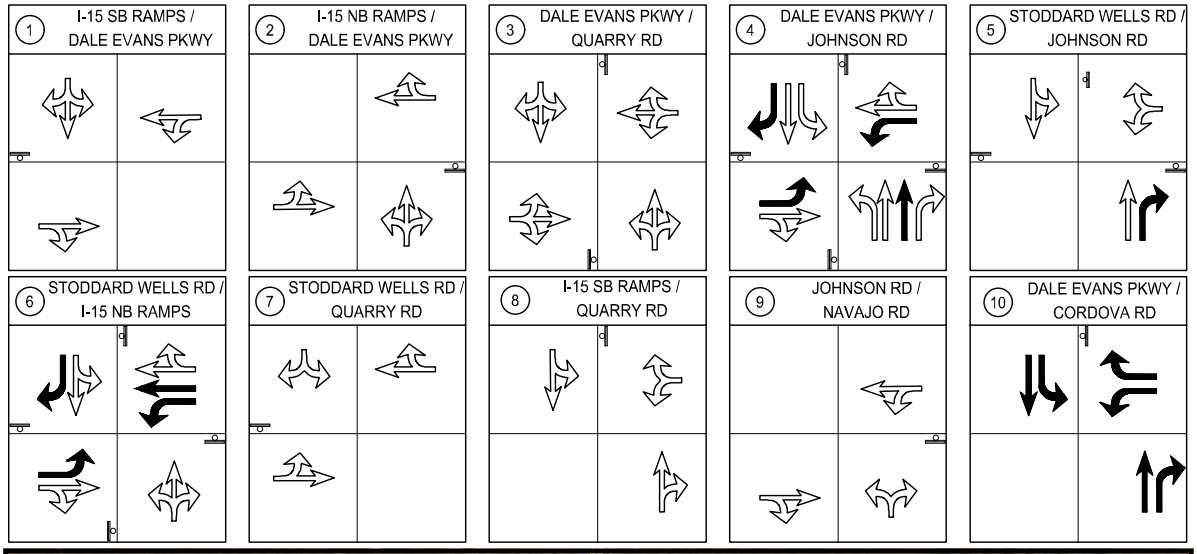
Figure ES- 1 illustrates the near-term project-specific intersection improvements required to improve deficient intersection levels of service in the background (year 2024) plus project scenario. **Figure ES- 2** illustrates the long-range cumulative intersection improvements required to improve deficiencies in the future 2040 plus project scenario.

Table 1-5: Recommended Project-Specific and Cumulative Improvements to Mitigate LOS Deficiencies

Intersection	Cordova Complex Project-Specific Improvements (See **Figure ES- 1**)	Cumulative Long-Term Improvements (See **Figure ES- 2**)
Dale Evans Parkway and Johnson Road	**Retain existing all-way stop control** Reconfigure intersection: □ Westbound approach: remove free right and convert the lane to a through-right lane, and convert the existing shared through-left lane to an exclusive left turn lane (250 feet long + a 120-foot transition) □ Eastbound approach: provide an exclusive left turn lane (250 feet long + 120-foot transition) and shared through-right lane □ Northbound approach: remove the northbound offset right turn lane and add a second though lane and an exclusive right turn lane □ Southbound approach: provide an exclusive right turn lane If the Quarry Complex is constructed concurrently with the Cordova Complex, then the following additional improvements are required: ■ Westbound approach: provide an additional through lane prior to occupancy of the Quarry Complex **[a]** ■ Westbound departure: widen Johnson Road's east leg departure approach to accommodate two receiving lanes and merge to single westbound lane after 750 feet **[a]**	**Install a traffic signal at Dale Evans Parkway and Johnson Road** □ Retain the project-specific improvements implemented with construction of the Cordova Complex Project and the Quarry Complex
[a] These are Quarry Complex project-specific improvements		
Stoddard Wells Road and Johnson Road	**Convert intersection to all-way stop-control** Reconfigure intersection: □ Northbound approach: add an exclusive right turn lane (250 feet long + a 120-foot transition) If the Quarry Complex is constructed concurrently with the Cordova Complex Project, then the following additional improvements are required: ■ Convert intersection to all-way stop-control **[a]** ■ Westbound approach: add a second left turn lane, retain existing shared left-right lane **[a]** ■ Northbound approach: convert the Cordova Complex Project project-specific improvement to add an exclusive right turn lane into a free-right turn lane with an exclusive receiving lane eastbound on Johnson Road; design radius of free right turn lane to accommodate an STAA or California legal truck at a speed of 25 to 30 mph **[a]** ■ Southbound approach: add a second through lane; retain the existing shared through left-turn lane **[a]**	<u>Two mitigation options</u> **1. Convert intersection to all-way stop-control – Preferred Alternative** Reconfigure intersection: □ Westbound approach: widen approach to accommodate dual left-turn lanes and an exclusive right-turn lane □ Northbound approach: convert exclusive right turn lane into a free-right turn lane with an exclusive receiving lane eastbound on Johnson Road; design radius of free right turn lane to accommodate an STAA or California legal truck at a speed of 25 to 30 mph □ Southbound approach: add an exclusive left-turn lane and an additional through lane **2. Install traffic signal and reconfigure approaches** Reconfigure intersection: □ Westbound approach: widen approach to accommodate an exclusive left turn lane and an exclusive right turn lane □ Northbound approach: retain project-specific improvement to add an exclusive right turn lane; retain one through lane □ Southbound approach: provide an exclusive left turn / deceleration lane; retain one through lane

Table 1-5: Recommended Project-Specific and Cumulative Improvements to Mitigate LOS Deficiencies

Intersection	Cordova Complex Project-Specific Improvements (See **Figure ES- 1**)	Cumulative Long-Term Improvements (See **Figure ES- 2**)
[a] These are Quarry Complex project-specific improvements		
Stoddard Wells Road and I-15 Northbound Ramps	**Convert intersection to all-way stop control** Widen the eastbound, westbound, and southbound approaches to accommodate turn lanes Reconfigure intersection: □ Eastbound approach: add left turn lane from Stoddard Wells Road to I-15 NB on-ramp (250 feet long + a 120-foot transition) and maintain a shared through-right lane □ Westbound approach: add left turn lane from Stoddard Wells Road to Outer Highway 15 N (250 feet long + a 120-foot transition), add a second through lane, maintain the existing lane as a through-right turn lane. □ Northbound approach: retain existing shared left-through-right lane □ Southbound approach: widen and configure the I-15 southbound off-ramp to add a right turn lane (250-feet long + 120-foot transition) and shared left-through lane	**Install a traffic signal** Reconfigure approaches: □ Westbound approach: retain project-specific improvement □ Southbound approach: provide a left turn lane from the I-15 NB off-ramp to Stoddard Wells Road and a shared through-right turn lane □ Eastbound approach: retain project-specific improvement
Dale Evans Parkway and Cordova Road	**Construct Cordova Road from Dale Evans Parkway to Navajo Road concurrent with project for access** Maintain side-street (Cordova Road) stop-control at intersection. Configure the approaches of Cordova Road and Dale Evans Parkway: □ Westbound approach: flare the westbound approach to accommodate an exclusive left turn lane and an exclusive right turn lane with both lanes having storage for four 75-foot STAA or 75-foot California Legal trucks (350 feet long + adequate transition for speed of road) with right turn curb return radius adequate for the swept path and overhang of a 75-foot STAA or 75-foot California legal truck □ Northbound approach: maintain existing through lane and add a northbound right turn storage / deceleration lane (consistent with the design standards in the Caltrans Highway Design Manual Section 405) □ Southbound approach: maintain existing through lane and add a southbound left turn storage / deceleration lane (consistent with the design standards in the Caltrans Highway Design Manual Section 405) □ The southbound left turn storage / deceleration lane should transition into a center two way left turn lane along Dale Evans Parkway for approximately 1,000 feet □ Add in a two-way-left turn lane along Dale Evans Parkway	Retain the project-specific improvements implemented with construction of the Cordova Complex Project and the Quarry Complex





N

NOT TO SCALE

LEGEND

- EXISTING GEOMETRICS
- PROJECT GEOMETRICS
- (#) - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH
- * - FREE RIGHT TURN

DAVID EVANS AND ASSOCIATES INC.

FIGURE ES-1: PROJECT-SPECIFIC INTERSECTION IMPROVEMENTS CORDOVA COMPLEX APPLE VALLEY

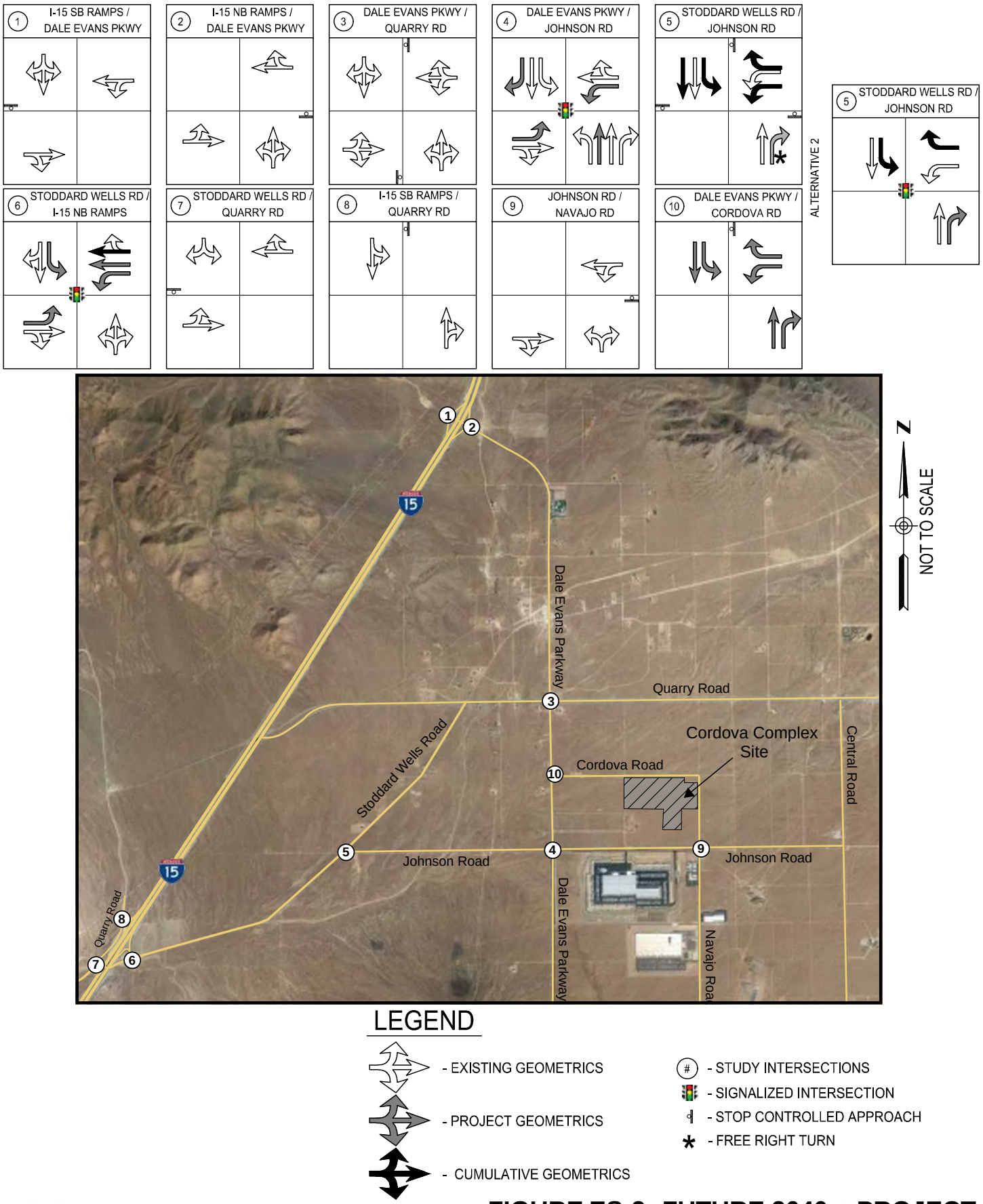


FIGURE ES-2: FUTURE 2040 + PROJECT INTERSECTION IMPROVEMENTS CORDOVA COMPLEX APPLE VALLEY

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1.5 Project Fair-Share Contribution to Level of Service Deficiency Improvements

Table 1-6 shows the proposed project's percent contribution to the total growth in entering traffic volumes, otherwise known as the fair-share calculation. The formula for calculating the percentages in the table is:

$$\text{Percent of Total} = \frac{\text{(Total Project Trips)}}{\text{((Total Non-Project Forecasted Trips + Total Project Trips) - Existing Trips)}} \text{ X } 100\%$$

Table 1-6: Project's Percent Contribution (Fair Share) to Deficient Intersections by Year and Peak Hour

Intersection	Near-Term Conditions*		Long-Range Cumulative Conditions**	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
4.Dale Evans Parkway / Johnson Road	93.1%	89.5%	33.0%	31.3%
5.Stoddard Wells Road / Johnson Road	94.3%	90.9%	28.6%	25.7%
6.Stoddard Wells Road / I-15 Northbound Ramps	87.7%	85.0%	27.2%	25.0%

Notes:
* Scenario excluding traffic from the Quarry Complex. ** Scenario including traffic from the Quarry Complex.
Project traffic used in calculating the fair-share percentage is based on Passenger Car Equivalents (PCEs).

1.6 Project Fair-Share Fee Contribution to Level of Service Deficiency Improvements

The fair share percentages calculated in **Chapter 1.5** are used to determine the Fair Share Fee for each intersection and by forecast year.

The Fair Share Fee provided in **Table 1-7** represent the estimated cost associated with the near-term project-specific improvements described in **Table 1-5** and are based on background + project scenario without traffic from the Quarry Complex project. The near-term Project-Specific Improvements are improvements for which the Cordova Complex Project is solely responsible. Therefore, these improvements do not include the Quarry Complex as background development to isolate only the Cordova Complex Project's required improvements. The traffic impact study for the Quarry Complex project is analyzed in the same manner so that it's project-specific improvements can be isolated.

Table 1-7: Project's Fair Share Fee for Near-Term Project-Specific Improvements

Intersection	Cost ($)	Fair Share %	Fair Share Fee
4. Dale Evans Parkway / Johnson Road	$200,000	93.1%	$186,300
5. Stoddard Wells Road / Johnson Road	$300,000	94.3%	$282,800
6. Stoddard Wells Road / I-15 Northbound Ramps	$450,000	87.7%	$394,800

Notes:
Project traffic used in calculating the fair-share percentage is based on Passenger Car Equivalents (PCEs).
The project specific improvements excluding traffic from the Quarry Complex.

The Fair Share Fee provided in **Table 1-8** represent the estimated cost associated with the long-range cumulative measures described in **Table 1-5** and are based on the future 2040 + project conditions with traffic from the Cordova Complex project.

Table 1-8: Project's Fair Share Fee for Long-Range Cumulative Measures

Intersection	Cost	Fair Share %	Fair Share Fee
4. Dale Evans Parkway / Johnson Road	$700,000	33.0%	$230,700
5. Stoddard Wells Road / Johnson Road*	$900,000	28.6%	$257,000
6. Stoddard Wells Road / I-15 Northbound Ramps	$1,100,000	27.2%	$299,300

Notes:
* - Based on Option 1: Convert intersection to all-way stop-control – Preferred Alternative
Project traffic used in calculating the fair-share percentage is based on Passenger Car Equivalents (PCEs).
The ultimate cumulative improvements include traffic from the Quarry Complex

1.7 Level of Service with Recommended Improvements

This section presents the level of service at deficient intersections before and after implementation of the recommended mitigation measures summarized in **Table 1.5**. The near-term background + project scenarios in the following tables present the mitigated levels of service for project-specific improvements—improvements for which the Cordova Complex Project is solely responsible. Therefore, the mitigated levels of service for the near-term scenarios do not include the Quarry Complex as background development to isolate only the Cordova Complex Project's required improvements. The traffic impact study for the Quarry Complex project is analyzed in the same manner so that it's project-specific improvements can be isolated.

If the Quarry Complex and Cordova Complex are developed concurrently then **Table 1-5** also presents the improvements needed if both projects are developed simultaneously. Regardless of which complex develops first, both projects will likely share in the cost of improving Cordova Road and its intersection with Dale Evans Parkway.

The improved level of service under the long-term future 2040 + project scenarios include traffic from the Quarry Complex project because the long-term scenarios reflect cumulative conditions for which all development is responsible for its fair-share of the cost of the improvements. The last columns in the series of tables in this section present the change in delay (the measurement used to establish LOS). The top row shows the increase in delay caused by the proposed project's traffic added to the without project scenario. The bottom row shows the reduction in delay after implementation of the mitigation measure.

Because most of the study intersections are side-street stop-controlled intersections, for which level of service is defined as the LOS of the worst stop-controlled movement, the method of calculating average delay at saturated intersections produces exponentially high delays. Calculated delays in the thousands of seconds are not at all realistic but, suffice it say, the method is making a clear statement that side-street stop as a form of traffic control at high volume intersections will fail.

A. Dale Evans Parkway and Johnson Road

Table 1-9 shows the intersection level of service under background plus project conditions with the near-term project-specific improvements of adding northbound through lane, southbound right turn lane, eastbound left turn lane, and westbound left turn lane. The intersection of Dale Evans Parkway / Johnson Road, with its current all-way stop-control, will begin to fail as development occurs in north Apple Valley. The near-term project-specific improvements mitigations will improve the intersection to a LOS D or better in this scenario for both peak hours.

Table 1-9: Improved Level of Service for the Near-Term Project-Specific Improvements

Intersection	Background Conditions (Without Quarry Complex)				Background + Project Conditions (Without Quarry Complex)				Change in Delay (Seconds)	
	AM Peak		PM Peak		AM Peak		PM Peak			
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
Dale Evans Parkway / Johnson Road	8.9	A	13.3	B	15.2	C	53.4	F	N/A	40.1
w/Improvements: Reconfigure intersection add NBTH, SBR, EBL, and WBL	Not Applicable				11.9	B	26.8	D		13.5
Notes: *Positive numbers represent increases in delay, or impacts, while negative numbers (shown in parenthesis) represent reductions, or improvements, in delay.										

Table 1-10 on the following page shows the intersection level of service under future year 2040 plus project conditions with the long-range cumulative measures of installing a traffic signal intersection. In the long-term further lane capacity added to Dale Evans Parkway consistent with the general plan will keep up with traffic growth.

The long-range cumulative measures will improve the intersection to a LOS D or better in this scenario for both peak hours.

Table 1-10: Improved Level of Service for the Long-Range Cumulative Measures

Intersection	Future Year 2040 Conditions (With Quarry Complex)				Future Year 2040 + Project Conditions (With Quarry Complex)				Change in Delay (Seconds)	
	AM Peak		PM Peak		AM Peak		PM Peak			
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
Dale Evans Parkway / Johnson Road	38.2	E	192.3	F	174.4	F	370.8[†]	F	136.2	178.5
w/cumulative improvements: Retain the project-specific improvements implemented and install traffic signal and install traffic signal	Not Applicable				20.3	C	39.9	D	(17.9)	(152.4)

Notes:
[†] Exponentially high delays, although unrealistic, represent over-saturated conditions. The Highway Capacity Manual 6th Edition designates this magnitude of delay simply as >300 seconds per vehicle.
*Positive numbers represent increases in delay while negative numbers (shown in parenthesis) represent reductions, or improvements, in delay.

B. Stoddard Wells Road and Johnson Road

Table 1-11 shows the level of service under background plus project conditions with the near-term project-specific improvements of conversion to all-way stop control and the addition of northbound right turn lane.

The growth in traffic at this skewed intersection with stop-control on Johnson Road primarily affects movements traveling to and from I-15 via the on and off-ramps at Stoddard Wells Road. The northbound right turn from Stoddard Wells Road to Johnson Road and the stop-controlled westbound left turn from Johnson Road to Stoddard Wells Road experience the intersection's highest growth in traffic and the largest increase in associated delay for these movements. The near-term project-specific improvements mitigations will improve the intersection to a LOS D or better in this scenario.

Table 1-11: Improved Level of Service for the Near-Term Project-Specific Improvements

Intersection	Background Conditions (Without Quarry Complex)				Background + Project Conditions (Without Quarry Complex)				Change in Delay (Seconds)	
	AM Peak		PM Peak		AM Peak		PM Peak			
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
Stoddard Wells Road / Johnson Road	10.5	B	15.7	C	14.0	B	68.8	F	N/A	53.1
w/Improvements: convert to AWSC and provide NBR	Not Applicable				10.8	B	34.4	D		18.7

Notes:
*Positive numbers represent increases in delay, or impacts, while negative numbers (shown in parenthesis) represent reductions, or improvements, in delay.

While the addition of a northbound right turn lane and converting the intersection to all way stop control mitigates the LOS deficiency in the near-term, as development continues in north Apple Valley, the stop-controlled east leg of Johnson Road will eventually fail.

Table 1-12 on the following page shows the intersection level of service under future year 2040 plus project conditions with the long-range cumulative measures.

Preferred Option 1 is to convert the intersection to all-way stop-control, add a southbound left turn, a southbound through lane, a westbound left turn, a westbound right turn, and converting the northbound right turn to a free right turn.

Option 2 install a traffic signal and add a southbound left turn and a westbound right turn. With the Preferred Option 1 mitigations of adding turn lanes will improve the intersection to a LOS D or better in this scenario.

Table 1-12: Improved Level of Service for the Long-Range Cumulative Measures

Intersection	Future Year 2040 Conditions (With Quarry Complex)				Future Year 2040 + Project Conditions (With Quarry Complex)				Change in Delay (Seconds)	
	AM Peak		PM Peak		AM Peak		PM Peak			
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
Stoddard Wells Road / Johnson Road	71.6	F	982.9†	F	289.5	F	1,818.4†	F	217.9	835.5
w/cumulative improvements Preferred Option 1: convert to AWSC, add SBL, SBTH, WBL, WBR, and free NBR	Not Applicable				12.0	B	35.0	D	(59.6)	(947.9)
w/cumulative improvements Option 2: install traffic signal, add SBL and WBR	Not Applicable				16.3	B	19.4	B	(55.3)	(963.5)

Notes:
† Exponentially high delays, although unrealistic, represent over-saturated conditions. The Highway Capacity Manual 6th Edition designates this magnitude of delay simply as >300 seconds per vehicle.
*Positive numbers represent increases in delay while negative numbers (shown in parenthesis) represent reductions, or improvements, in delay.

C. Stoddard Wells Road / I-15 Northbound Ramps

The existing side-street stop-controlled approach (I-15 southbound on and off ramps) of this intersection will experience failure in background plus project conditions.

Table 1-13 shows the level of service under background plus project conditions with the near-term project-specific improvements of conversion to all-way stop control, and the addition of southbound right lane, eastbound left, westbound left and exclusive westbound through lane.

All-way stop control is frequently used as an interim solution prior to installing a traffic signal and that is the case in this scenario[1]. The near-term project-specific improvements mitigations will improve the intersection to a LOS C in both peak hours.

Table 1-13: Improved Level of Service for the Near-Term Project-Specific Improvements

Intersection	Background Conditions (Without Quarry Complex)				Background + Project Conditions (Without Quarry Complex)				Change in Delay (Seconds)	
	AM Peak		PM Peak		AM Peak		PM Peak			
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
Stoddard Wells Road / I-15 Northbound Ramps	22.0	C	25.5	D	362.7†	F	249.7	F	340.7	224.2
w/Improvements: convert to AWSC and provide SBR, EBL, WBL and WBTH	Not Applicable				15.4	C	20.1	C	(6.6)	(5.4)

Notes:
† Exponentially high delays, although unrealistic, represent over-saturated conditions. The Highway Capacity Manual 6th Edition designates this magnitude of delay simply as >300 seconds per vehicle.
*Positive numbers represent increases in delay while negative numbers (shown in parenthesis) represent reductions, or improvements, in delay.

Table 1-14 on the following page shows the intersection level of service under future year 2040 plus project conditions with the recommended long-term improvement of installing a traffic signal and reconfigure the southbound lanes.

The long-range cumulative measures will improve the intersection to a LOS D or better in this scenario for both peak hours.

[1] Section 2B.07 of the California Manual on Uniform Traffic Control Devices (CA MUTCD) provides requirements or "warrants" to consider before implementing all-way stop control. This intersection in this scenario meets at least one warrant justifying the installation of a traffic signal which is one of the requirements when considering all-way stop control. Further study of the all-way stop requirements is required to fully justify the implementation of this mitigation measure.

Table 1-14: Improved Level of Service for the Long-Range Cumulative Measures

Intersection	Future Year 2040 Conditions (With Quarry Complex)				Future Year 2040 + Project Conditions (With Quarry Complex)				Change in Delay (Seconds)	
	AM Peak		PM Peak		AM Peak		PM Peak			
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
Stoddard Wells Road / I-15 Northbound Ramps	1,048.1†	F	3,911.3†	F	2,241.0†	F	11,415.4†	F	1,192.9	7,504.1
w/cumulative improvements: Traffic Signal and SB reconfiguration	Not Applicable				34.9	C	37.2	D	(1013.2)	(3874.1)

Notes:
† Exponentially high delays, although unrealistic, represent over-saturated conditions. The Highway Capacity Manual 6th Edition designates this magnitude of delay simply as >300 seconds per vehicle.
*Positive numbers represent increases in delay while negative numbers (shown in parenthesis) represent reductions, or improvements, in delay.

D. Dale Evans Parkway / Cordova Road

Table 1-15 shows the level of service under background plus project conditions with the proposed project specific improvements of adding a northbound right, southbound left, westbound right, and a two way left turn lane along Dale Evans Parkway. Dale Evans Parkway and Cordova Road intersection—a primary access road serving both the Quarry Complex and the Cordova Complex projects.

Cordova Road needs to be constructed to provide access to project site and the intersection widening improvements summarized in **Table 1-5** should be implemented when Cordova Road is constructed. These improvements are discussed in **Section 1.9** (Project-Specific Frontage and Access Improvements). The near-term project-specific improvements mitigations will improve the intersection to a LOS B in both peak hours.

Table 1-15: Improved Level of Service for the Near-Term Project-Specific Improvements

Intersection	Background Conditions (Without Quarry Complex)				Background + Project Conditions (Without Quarry Complex)				Change in Delay (Seconds)	
	AM Peak		PM Peak		AM Peak		PM Peak			
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
Dale Evans Parkway / Cordova Road	9.5	A	10.1	B	12.5	B	16.3	C	N/A	
w/ improvements: provide NBR, SBL, TWLTL, WBL	Not Applicable				11.1	B	13.8	B		

Notes:
*Positive numbers represent increases in delay, or impacts, while negative numbers (shown in parenthesis) represent reductions, or improvements, in delay.

Table 1-16 shows the intersection level of service under future year 2040 plus project conditions with the project specific improvements of adding a northbound right, southbound left, westbound right, and a two way left turn lane along Dale Evans Parkway. The near-term project-specific improvements mitigations will improve the intersection to a LOS D or better in both peak hours.

Table 1-16: Improved Level of Service for the Long-Range Cumulative Measures

Intersection	Future Year 2040 Conditions (With Quarry Complex)				Future Year 2040 + Project Conditions (With Quarry Complex)				Change in Delay (Seconds)	
	AM Peak		PM Peak		AM Peak		PM Peak			
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
Dale Evans Parkway / Cordova Road	16.8	C	22.3	C	35.4	E	152.4	F	18.6	130.1
w/ improvements: Retain the project-specific improvements	Not Applicable				16.3	C	34.1	D	(0.5)	11.8

Notes:
*Positive numbers represent increases in delay, or impacts, while negative numbers (shown in parenthesis) represent reductions, or improvements, in delay.

1.8 Traffic Signal Warrant Analysis

Stop-controlled intersections operating with a LOS deficiency in any project-related scenario are subject to a warrant analysis to determine the need for a traffic signal. Satisfying a warrant or multiple warrants for a traffic signal does not automatically require the installation of a signal. Warrants are tools used in conjunction with engineering assessment and judgement regarding improving safety and operating conditions at stop-controlled intersections.

Table 1-17 summarizes the findings of the signal warrant analyses conducted for each deficient intersection under each project-related scenario. The three study intersections experiencing the most dramatic increases in delay meet the signal warrant in all project-related scenarios.

Table 1-17: Summary of Traffic Signal Warrant Analyses of Deficient Intersections

Deficient Intersection	Scenarios Satisfying Warrant 3 (Peak Hour) at Deficient Intersections [a]			
	Year 2024 Project Conditions *	Year 2024 Project Conditions **	Future 2040 + Project Conditions *	Future 2040 + Project Conditions **
Dale Evans Parkway / Johnson Road	YES	YES	YES	YES
Stoddard Wells Road / Johnson Road	YES	YES	YES	YES
Stoddard Wells Road / I-15 Northbound Ramps	YES	YES	YES	YES
Dale Evans Parkway / Cordova Road	NO	NO	NO	YES

Notes:
* Scenario excluding traffic from the Quarry Complex project. ** Scenario including traffic from the Quarry Complex project.

[a] The California Manual on Uniform Traffic Control Devices (CA MUTCD) provides procedures and standards for evaluating the need for installation of a traffic signal at a stop-controlled intersection. Of the nine warrants included in the MUTCD, warrant 3 (based on peak hour traffic volumes) is frequently used in planning and impact studies because it is standard practice to evaluate peak hour operating conditions using traffic forecasts. The other warrants generally require data that cannot be accurately forecasted.

The MUTCD emphasizes that satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic signal and a traffic signal should not be installed unless an engineering study indicates that installing a traffic signal will improve the overall safety and/or operation of the intersection.

1.9 Project-Specific Frontage and Access Improvements

This study recommends the following site frontage and access improvements typically required in the town's Conditions of Approval:

1. **Construct access and site frontage improvements on Cordova Road:**
   a. Construct Cordova Road[2] from Dale Evans Parkway to Navajo Road.
      - The project will need to construct the non-fronting portion of Cordova Road from Dachshund Avenue to Dale Evans Parkway for access purposes. This segment of Cordova Road should be constructed as the two inner lanes of the Secondary Road typical section (or as required by the Town).
      - If Cordova Road is not extended east to serve the Quarry Complex concurrently with construction of the Cordova Complex project, and Navajo Road is not extended south to Johnson Road, a temporary turnaround will be required at the eastern terminus of Cordova Road east of Navajo Road.
      - Construction of Cordova Road may be shared (or with cost reimbursement) with the Quarry Complex if it is constructed in a similar timeframe as the project.
   b. Construct and improve the project's frontage with Cordova Road from Dachshund Avenue to the eastern

[2] Cordova Road is designated as a Secondary Road in the General Plan with an 88-foot right of way to accommodate a four-lane traveled way with shoulder, bike lanes, or street parking, and a 12-foot parkway / sidewalk on both side of the street

property line.

- The project will be required to dedicate land and construct the 44-foot half-width of a secondary road section including the project's primary truck access driveway. Until the northern half of Cordova Road is constructed by others the two travel lanes constructed with the half-width section can provide for two-way traffic.
- The project should also construct a minimum two-way two-lane (one in each direction) roadway between its eastern property line and Navajo Road to fill the gap created by the non-project owned property in the southwest corner of Cordova and Navajo.

2. Construct access and site frontage improvements on Dachshund Avenue:

a. Construct and improve the project's frontage with Dachshund Avenue between Cordova Road and the project's southern property line.

- Dachshund Avenue is also designated a secondary road with and 88-foot right of way. The project will be required to construct the 44-foot half-width of a secondary road section including the proposed driveways accessing the project from Dachshund Avenue.
- If the project does not extend and improve Dachshund Avenue south to Johnson Road for access, a temporary turnaround will be required at the southern terminus of Dachshund Avenue.

3. Construct access and site frontage improvements on Navajo Road:

a. Construct and improve the project's frontage with Navajo Road.

- The project will be required to dedicate land and construct the 44-foot half-width of Navajo Road's secondary road designation including the proposed driveways accessing Navajo Road.
- The project should construct the section of Navajo Road fronting non-project owned property between Cordova Road and the project's property line as a minimum two-way two-lane (one in each direction) roadway to close this gap.

b. Fire Department secondary access requirements.

- The fire department will require a secondary paved access road to the project site from an existing paved street.
- The project should consider extending Navajo Road to Johnson Road to provide access to the project for employees and trucks destined to the project which will also serve as a secondary access road for emergency vehicles.
- The extension need only be a minimum two-way, two-lane paved roadway 24-feet in width until the surrounding properties develop and improve Navajo Road to Town standards.

1.10 Vehicle Miles of Travel (VMT) Analysis

The VMT analysis screening assessment included in the approved October 19, 2022, scoping agreement concluded that the Cordova Complex project was required to prepare a detailed analysis of project-generated VMT and its effect on VMT town-wide as part of the project's environmental clearance under CEQA.

The VMT analysis was prepared in accordance with the Town's adopted Resolution No. 2021-08 (Adopting Thresholds of Significance for Vehicle Miles Traveled (VMT) Under the California Environmental Quality Act (CEQA)) which states that a development project would result in a significant project-generated VMT impact if either of the following conditions are satisfied:

1. The baseline project generated VMT per service population (population plus employees) exceeds the Town of Apple Valley General Plan Buildout VMT per service population, or

2. The cumulative (2040) project generated VMT per service population exceeds the Town of Apple Valley General Plan Buildout VMT per service population.

In addition to project-generated VMT, the Town adopted significance thresholds for a project's effect on VMT in Apple Valley. The resolution states that a project's effect on VMT would be considered significant if it resulted in either of the following conditions to be satisfied:

3. The baseline link-level boundary Town-wide VMT per service population increases under the plus project condition compared to the no project condition, or
4. The cumulative link-level boundary Town-wide VMT per service population increases under the plus project condition compared to the no project condition.

The term "link-level boundary Town-wide" refers to all vehicle miles of travel on all roadways with the town limits of Apple Valley. The following describes the key findings and the conclusions of the VMT analysis. The full report is in **Appendix E**.

A. Project-Generated VMT Analysis

The SBTAM model is used estimate project-generated VMT for both baseline (2016) and horizon year (2040) scenarios. The SBTAM socioeconomic database for each scenario were updated with the project land use to calculate project VMT. The databases were also used to obtain the town's population and employment to estimate service population.

The VMT analysis for the adjacent Quarry Complex project is used as a baseline to update the anticipated VMT generated by the expansion of the Cordova Complex project. The Cordova Complex Project is 1,559,952 SF and the Quarry Complex project is 1,540,120 SF. This is a difference of 19,832 SF. The VMT analysis is calculated based on employee estimates. When comparing the two project sites the Cordova Complex project is anticipated to utilize 9 additional employees (based on a factor of 2,111 SF per employee).

Table 1-18 on the following page present the outcome of the project-generated VMT analyses for the baseline and horizon year scenarios. As shown in **Table 1-18**, in both the baseline and horizon year scenarios, the VMT/service population metric for the Cordova Complex project is less than the Town of Apple Valley's general plan buildout significance threshold.

The OD VMT is estimated based on the Quarry Complex Project and an average trip length of 30 miles for the additional 9 employees. The Quarry Complex Project is provided in **Table 1-18** and **Appendix E.**

Table 1-18: Project-Generated VMT Analysis

Metric	2016 Baseline Conditions			2040 Conditions		
	Quarry Complex Warehouse (project)	Cordova Complex Warehouse (project)	Town of Apple Valley General Plan Buildout (Threshold) [a]	Quarry Complex Warehouse (project)	Cordova Complex Warehouse (project)	Town of Apple Valley General Plan Buildout (Threshold) [a]
Population	0	0		0	0	
Employment [b]	730	739		730	739	
Service Population	730	739		730	739	
OD VMT [c]	23,469	23,766[d]		22,310	22,580[d]	
OD VMT per service population	32.186	32.160	33.2	30.562	30.555	33.2

Notes:
[a] Source: SBCTA VMT Screening Tool: https://www.gosbcta.com/vmtscreening
[b] Source: SCAG Employment Density Study Summary Report, October 31, 2001 (using 2,111 square feet per employee).
[c] The project's Origin/Destination (OD) VMT derived from the San Bernardino Traffic Analysis Model (SBTAM)
[d] Calculation assumed an average trip length of 30 miles for the additional 9 employees. This is added to the VMT calculated by the model for the Quarry Complex Project.
Source of analysis: General Technologies and Solutions (GTS)

The outcome of the second analysis, the project's effect on town-wide VMT, is presented in **Table 1-19.** The SBTAM model was used to estimate the VMT on all roadways within the town's limits for the baseline and 2040 scenarios with and without the project. Using the resulting town-wide VMT, the metric indicating a significant impact (VMT/Service population) at a town-wide scale was calculated.

Table 1-19 shows that the VMT/Service population metric under the "with project" conditions compared to the metric under the "without project" conditions in both scenarios does not increase and does not satisfy the town's significance threshold described above.

Table 1-19: Project Effect on Roadway VMT within Town of Apple Valley

Metric	2016 Baseline		2040 Conditions	
	With Project	Without Project	With Project	Without Project
Roadway VMT [a]	854,224	847,823	1,364,732	1,362,981
Service population [b]	91,852	91,113	127,545	126,806
VMT per service population	9.3	9.3	10.7	10.7

Notes:
[a] Roadway VMT = sum of all vehicle miles travel on all streets within the town limits of Apple Valley
[b] Service population = sum of residents and employees in Apple Valley in the scenario being analyzed. Source: 2016 and 2040 land use summaries from the San Bernardino Traffic Analysis Model (SBTAM)
Source of analysis: General Technologies and Solutions (GTS)

B. Conclusions of the VMT Analyses

The VMT analysis conducted to identify potentially significant project-generated VMT impacts under CEQA concludes that the proposed project generates a VMT / Service population less than the VMT / Service population representing buildout of Apple Valley's general plan and, therefore, does not cause a significant impact based on the town's adopted significance thresholds for project-generated VMT.

Another VMT analysis conducted to identify potentially significant impacts of the project's "effects on town-wide VMT" under CEQA concludes that the VMT / service population metric for the baseline and horizon year scenarios "with the project" do not increase the metric over the "without project" scenarios. Therefore, the proposed Cordova Complex project does not cause a significant impact based on the town's adopted significance thresholds for the project's effect on town-wide VMT.

Based on the assumption of an average trip length of 30 miles for the additional 9 employees beyond the estimate for the Quarry Complex project the OD VMT per service population is estimated to be same for the 2016 Baseline and the 2040 Conditions. As such the estimated additional 270 VMT has a negligible effect on VMT.

2 INTRODUCTION

This report identifies the traffic impacts and presents recommendations for access and traffic mitigation for the proposed Cordova Complex project in the Town of Apple Valley, California. The proposed project consists of a 1,559,952 square foot speculative warehouse facility located on approximately 38.4-acres in the north part of the town and within the North Apple Valley Industrial Specific Plan area.

The North Apple Valley Industrial Specific Plan is the regulatory plan that governs all development within its boundaries. It designates land uses and provides design standards for the construction of buildings and defines the area's required infrastructure for transportation / circulation, public services, and utilities.

The project site is located at the southwest corner of Cordova Road and Navajo Road, as illustrated in the vicinity map shown in **Figure 1**. The site is bounded to the north by unimproved Cordova Road and undeveloped land; to the south by undeveloped land and the existing Walmart Distribution Center south of Johnson Road; to the west by unimproved Dachshund Avenue and undeveloped land; and to the east by unimproved Navajo Road and undeveloped land. **Figure 2** illustrates the proposed project site plan.

The intent of this report is to evaluate potentially significant traffic impacts caused by the proposed development in accordance with the Town of Apple Valley and San Bernardino County traffic impact analysis requirements under the following scenarios:

2.1 Analysis Scenarios

The scenarios analyzed in this study are consistent with the requirements of San Bernardino County's Transportation Impact Study Guidelines (July 2019). Additional analysis scenarios are included in this study to reflect conditions with and without the Cordova Complex's (project) sister warehouse development—Quarry Complex—located at the northeast corner of extensions of Cordova Road and Pawnee Road.

The project's sister site, the Quarry Complex, is expected to develop generally in the same timeframe as the Cordova Complex (project). The proposed project is analyzed, however, in scenarios without the Quarry Complex warehouse to represent a potential situation in which the Quarry Complex is significantly delayed, or the application is abandoned or withdrawn, and the sister project is never built. In either case, the Cordova Complex could be responsible for a larger share of off-site improvements that would normally be proportionately shared between the two developments. The additional scenario without the Quarry Complex assumed as background development will produce more realistic off-site improvements and more reasonable and accurate fair-share estimates of the cost of the off-site improvements in the event the Quarry Complex does not develop. The same set of analysis scenarios (with and without the Cordova Complex) is included in the traffic impact analysis for the Quarry Complex project. The expanded list of analysis scenarios includes:

<u>Scenarios Without Development of the Quarry Complex</u>

- Existing conditions
- Background conditions (year 2024) without Quarry Complex
- Background + project conditions (year 2024) without Quarry Complex
- Future year 2040 conditions without Quarry Complex
- Future year 2040 + project conditions without Quarry Complex

<u>Scenarios With Development of the Quarry Complex</u>

- Background conditions (year 2024) with Quarry Complex
- Background + project conditions (year 2024) with Quarry Complex
- Future year 2040 conditions with Quarry Complex
- Future year 2040 + project conditions with Quarry Complex



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FIGURE 1: VICINITY MAP
CORDOVA COMPLEX
APPLE VALLEY

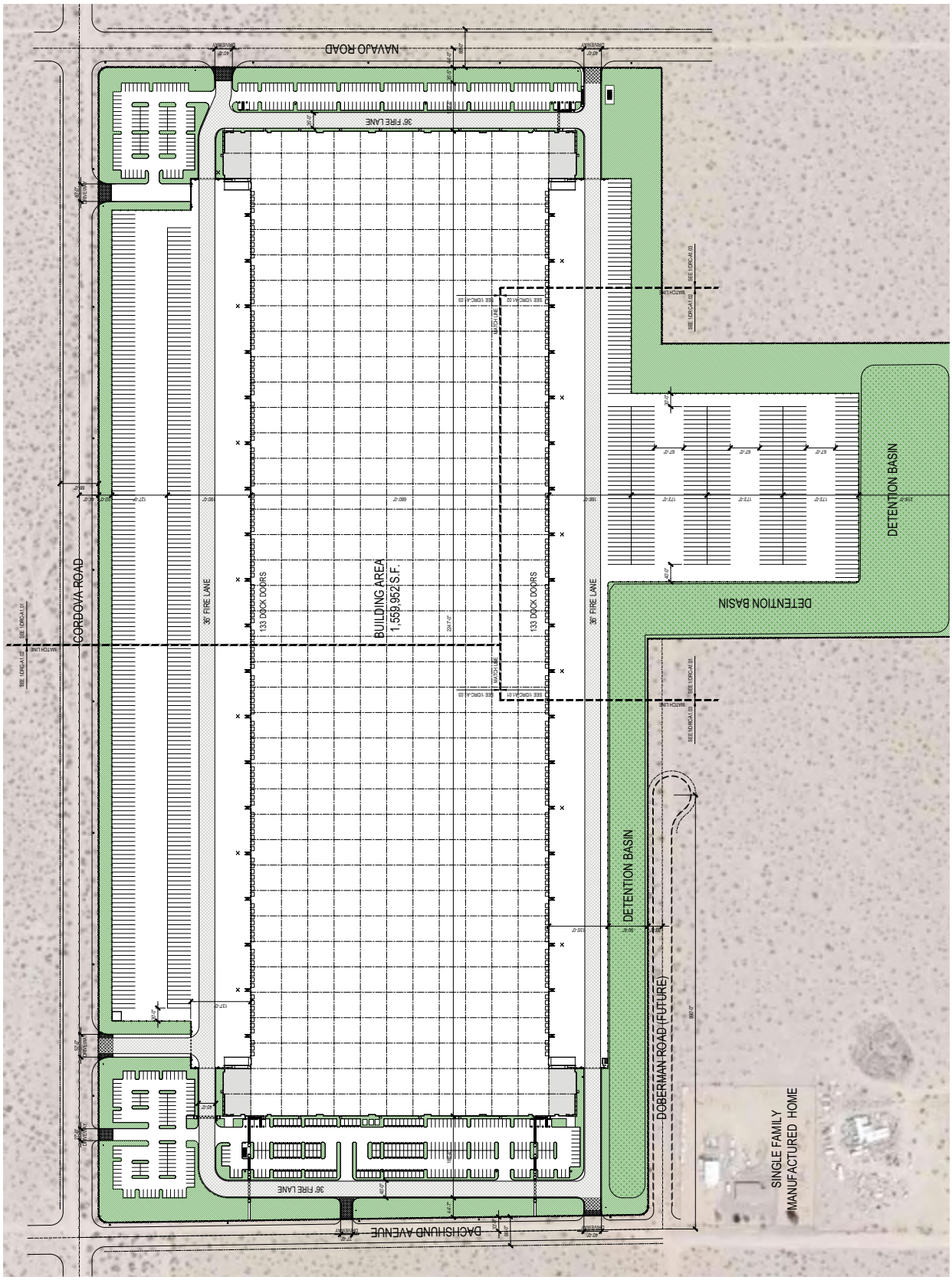


FIGURE 2: PROJECT SITE PLAN

CORDOVA COMPLEX

APPLE VALLEY

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3 EXISTING CONDITIONS

3.1 Town of Apple Valley and Caltrans Intersection Level of Service Policies

The Town of Apple Valley's General Plan policy (Policy 1.A, Program 1.A.4) on level of service is to maintain a level of service (LOS) D in the AM and PM peak hours on all its roadways. This level of service policy applies to local Apple Valley roadways, roads of regional importance as part of the county's Congestion Management Program (CMP) network, and state highways.

The Caltrans' Guide for the Preparation of Traffic Impact Studies (December 2002) states "Caltrans endeavors to maintain a target level of service at the transition between LOS "C" and LOS "D" on State highway facilities. However, Caltrans acknowledges that this may not always be feasible, so their practice is to allow level of service thresholds equal to the threshold of the jurisdiction where the facility is located but preferably no greater than a 45 second average delay per vehicle in the peak hour (mid LOS D). For this study, the town's LOS D is assumed to be the minimum level of service criteria for the study intersections.

3.2 Study Intersections

This focused traffic study evaluates key intersections on routes expected to be used by project traffic to access the site. **Figure 3** and the list below identifies the intersections analyzed in this study.

1. I-15 Southbound Ramps / Dale Evans Parkway
2. I-15 Northbound Ramps / Dale Evans Parkway
3. Dale Evans Parkway / Quarry Road
4. Dale Evans Parkway / Johnson Road
5. Stoddard Wells Road / Johnson Road
6. Stoddard Wells Road / I-15 Northbound Ramps
7. Stoddard Wells Road / Quarry Road
8. I-15 Southbound Ramps / Quarry Road
9. Johnson Road / Navajo Road
10. Dale Evans Parkway / Cordova Road

The intersection of Dale Evans Parkway / Johnson Road is currently all-way stop-controlled. All the remaining study intersections are currently side street stop controlled.

3.3 Existing Traffic Volumes

Turn movement counts were conducted in November 2022 by Newport Traffic Studies, an independent traffic data collection company. These counts were collected during the AM (7:00-9:00 AM) and PM (4:00-6:00 PM) peak periods. The existing turn movement counts are included in **Appendix B** of this study. **Figure 4** illustrates the existing peak hour traffic volumes in the study area.

3.4 Intersection Capacity Analysis Methodology

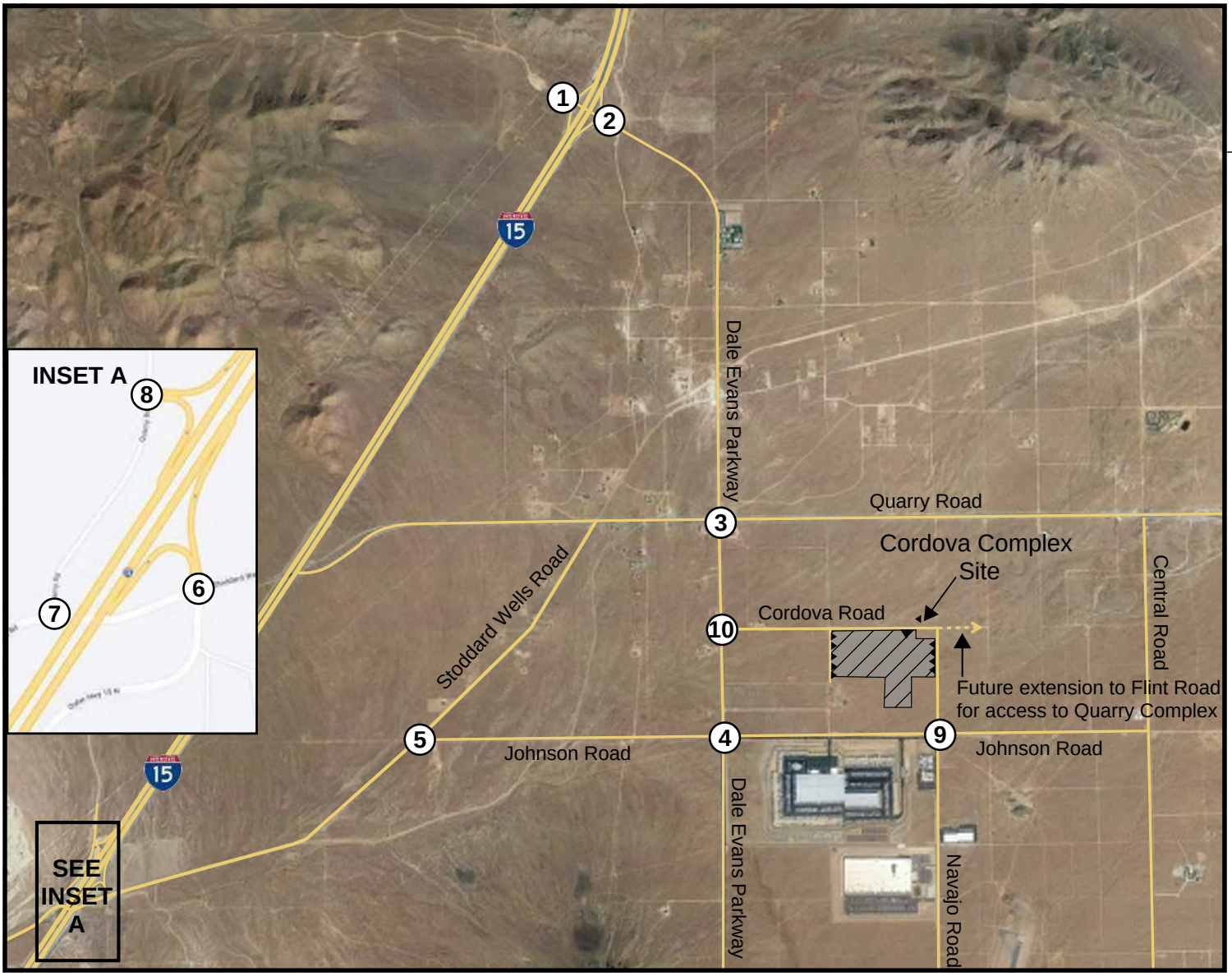
In this study, intersection level of service (LOS) was determined using Synchro software[3] which implements the methodologies in Chapter 19 and Chapter 20 of the Highway Capacity Manual, 6th Edition (HCM 6)[4] and conforms to the procedures and assumptions in the county's Traffic Impact Analysis Guidelines.

The intersection analyses use existing intersection geometrics and existing traffic volumes in determining AM and PM peak hour intersection level of service. **Table 3-1** provides LOS thresholds for both two-way stop-controlled (TWSC) and all-way stop-controlled intersections which is determined by the computed or measured control delay. Unsignalized intersections have lower delay criteria than signalized intersections because stop-control is associated with more uncertainty for users, as delays are less predictable than they are at signals, which reduces the user's tolerance for delay.

The level of service at TWSC intersections is measured as the control delay for the worst stop-controlled movement at the intersection regardless of the movement's traffic volume.

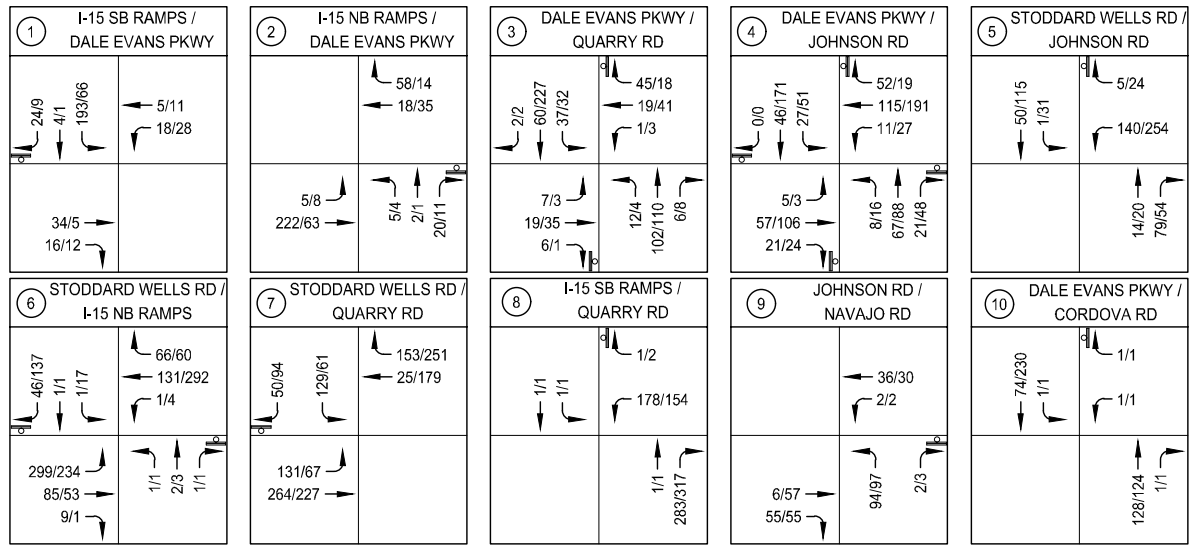
[3] Trafficware Ltd, version 10.

[4] Transportation Research Board, Washington D.C., 2010.



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FIGURE 3: STUDY INTERSECTIONS
CORDOVA COMPLEX
APPLE VALLEY





N

NOT TO SCALE

LEGEND

XX/XX - AM/PM TRAFFIC VOLUMES

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

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FIGURE 4: EXISTING TRAFFIC VOLUMES
CORDOVA COMPLEX
APPLE VALLEY

The level of service at AWSC intersections is also measured as the control delay, but it applies to the entire intersection not individual movements.

Table 3-1: Level of Service Criteria for Two-Way and All-Way Stop Controlled (TWSC & AWSC) Intersections

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio [a]	
	≤1.0	>1.0
0 - 10	A	F
> 10 -15	B	F
> 15 - 25	C	F
> 25 - 35	D	F
> 35 - 50	E	F
> 50	F	F

Note:
The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for the uncontrolled major-Street approaches or for the intersection as a whole.
[a] For approaches and intersectionwide assessment, LOS is defined solely by control delay.
Source: Highway Capacity Manual 6th Edition, Exhibit 20-2.

3.5 Existing Traffic Analysis

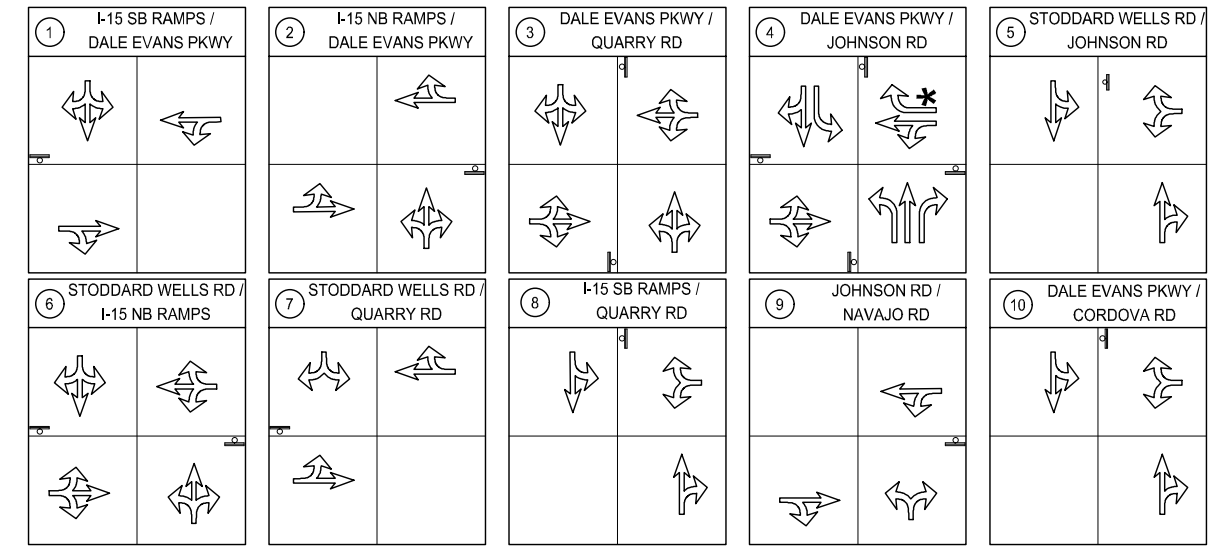
Existing intersection geometrics and existing AM and PM peak hour traffic counts are used in analyzing existing intersection capacity. **Table 3-2** and **Appendix D** provide the results of the analysis. **Figure 5** illustrates the existing intersection geometrics utilized in the capacity analysis.

Table 3-2: Intersection Level of Service for Existing (2022) Conditions

Intersection	Control Type	Existing Conditions			
		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	10.5	B	9.3	A
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	10.0	B	8.8	A
3. Dale Evans Parkway / Quarry Road	TWSC	10.9	B	13.3	B
4. Dale Evans Parkway / Johnson Road	AWSC	8.7	A	12.4	B
5. Stoddard Wells Road / Johnson Road	TWSC	10.2	B	14.5	B
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	20.5	C	23.0	C
7. Stoddard Wells Road / Quarry Road	TWSC	16.6	C	12.8	B
8. I-15 Southbound Ramps / Quarry Road	TWSC	10.7	B	11.3	B
9. Johnson Road / Navajo Road	TWSC	10.2	B	9.7	A
10. Dale Evans Parkway / Cordova Road	TWSC	9.4	A	10.0	B

Notes:
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

As presented in **Table 3-2**, under existing conditions, all study intersections currently operate at LOS C or better in both peak hours.





N

NOT TO SCALE

LEGEND

- EXISTING GEOMETRICS
- (#) - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH
- * - FREE RIGHT TURN

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FIGURE 5: EXISTING INTERSECTION GEOMETRICS

CORDOVA COMPLEX

APPLE VALLEY

4 BACKGROUND CONDITIONS (WITHOUT QUARRY COMPLEX)

This scenario evaluates impacts due to ambient growth in traffic and traffic generated by other area development projects affecting the study area up to the year 2024 when project construction is expected to be completed. An annual growth rate in traffic of 3.5% represents both ambient growth and other area development projects.

4.1 Background Conditions Traffic Analysis (Without Quarry Complex)

The background conditions intersection level of service analysis uses existing intersection geometrics and the projected AM and PM peak hour traffic for background conditions. The background projections in this scenario exclude traffic from the Quarry Complex—the Cordova Complex's sister project. **Table 4-1** and **Appendix D** provides the results of the analysis.

Table 4-1: Intersection Level of Service for Background Conditions

Intersection	Control Type	Background Conditions (Without Quarry Complex)			
		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	10.7	B	9.4	A
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	10.2	B	8.9	A
3. Dale Evans Parkway / Quarry Road	TWSC	11.1	B	13.8	B
4. Dale Evans Parkway / Johnson Road	AWSC	8.9	A	13.3	B
5. Stoddard Wells Road / Johnson Road	TWSC	10.5	B	15.7	C
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	22.0	C	25.5	D
7. Stoddard Wells Road / Quarry Road	TWSC	18.1	C	13.5	B
8. I-15 Southbound Ramps / Quarry Road	TWSC	10.9	B	11.7	B
9. Johnson Road / Navajo Road	TWSC	10.4	B	9.9	A
10. Dale Evans Parkway / Cordova Road	TWSC	9.5	A	10.1	B

Notes:
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

As presented in **Table 4-1**, under background conditions, the study intersections operate at a LOS C or better in both peak hours.

5 BACKGROUND PLUS PROJECT CONDITIONS (WITHOUT QUARRY COMPLEX)

This scenario evaluates potential impacts with the project generated traffic at opening day (2024) conditions added to the background conditions scenario.

5.1 Project Description and Trip Generation

The proposed project is a speculative warehouse where the tenant(s) and function as a potential short term storage facility, distribution center, fulfillment center, etc. is unknown. While the impact analysis needs to reflect a reasonable spectrum of tenant types, there is a risk when estimating trip generation of over or under-estimating traffic. The 11th Edition of the Institute of Transportation Engineers' Trip Generation manual contains data for the most common types of warehouse operations with a wide range of rates. **Table 5-1** summarizes the trip generation rates for warehouse facilities in the current edition of ITE's Trip Generation.

Table 5-1: Trip Generation Rates for ITE Land Use Categories of Warehousing

Warehouse Type	ITE Land Use Code	Average Trip Generation Rates for Warehouse Types (Trips Per KSF) (Source: ITE Trip Generation 11th Edition)		
		Average Daily Traffic	AM Peak Hour of Adjacent Street Traffic	PM Peak Hour of Adjacent Street Traffic
		Total (In + Out)	Total (In + Out)	Total (In + Out)
High-Cube Transload and Short-Term Storage Warehouse	154	1.54	0.08	0.10
High-Cube Cold Storage Warehouse	157	2.12	0.11	0.12
High-Cube Fulfillment Center Warehouse - Non-Sort	155	1.81	0.15	0.16
General Warehouse	150	1.71	0.17	0.18
High-Cube Parcel Hub Warehouse	156	4.63	0.70	0.64
High-Cube Fulfillment Center Warehouse - Sort	155	6.44	0.87	1.20
Average of All Warehouse Types		3.04	0.35	0.40
Average Without High-Cube Sort Fulfillment Center		2.36	0.24	0.24

To help select a trip generation rate for the proposed project representative of the range of potential owners/tenants, **Table 5-1** includes the average of the rates for all warehouse types in the ITE Trip Generation manual and the average of the rates for all warehouse types except High-Cube Fulfillment Sort Facility—the most intensive type of warehouse which is not expected for the proposed project. The secondary average rate (excluding High-Cube Fulfillment Sort Facility) represents two thirds the ITE warehouse types and covers a broad range of tenant types and operations.

Table 5-2 summarizes the estimated trip generation of the proposed project for an average weekday, and weekday AM (7-9 AM) and PM (4-6 PM) peak hours, based on the secondary average rates identified in **Table 5-1**. The proposed warehouse complex would generate about 3,682 vehicle trips per day and 375 vehicle trips in both the AM and PM peak hours.

It is standard practice to convert vehicle trips to passenger car equivalents (PCEs) for intersection capacity analysis. This conversion reflects the effects of large vehicles on intersection operations both from the physical space a truck occupies but also from their effect on the intersection's saturation flow rate due to the slower acceleration of trucks.

When converted to PCEs, the Cordova complex generates about 5,173 daily PCEs, and 528 PCEs in both the AM and PM peak hour.

Table 5-2: Cordova Complex Project Trip Generation

Land Use	Gross Floor Area (KSF)	Daily	AM Peak Hour of Adjacent Street Traffic			PM Peak Hour of Adjacent Street Traffic		
			In	Out	Total	In	Out	Total
Warehouse (ITE Land Use Category 150)	1,559.95	Vehicle Trip Generation Rates (Trips Per 1,000 Square Feet of Gross Floor Area)						
		2.36	0.18	0.06	0.24	0.07	0.17	0.24
		Total Vehicle Trip Generation						
		3,682	289	86	375	105	270	375
	Mode Share	Project Trip Generation by Vehicle Type						
Passenger Cars (Percent of Total)	74.21%	2,732	214	64	278	78	200	278
2-Axle Trucks (Percent of Total)	4.55%	168	13	4	17	5	12	17
3-Axle Trucks (Percent of Total)	4.18%	154	12	4	16	4	11	16
4-Axle Trucks (Percent of Total)	17.04%	627	49	15	64	18	46	64
	PCE Factor	Project Trip Generation in Passenger Car Equivalents (PCE)						
Passenger Cars)	1.0	2732	214	64	278	78	200	278
2-Axle Trucks	1.5	252	20	6	26	7	19	26
3-Axle Trucks	2.0	308	24	8	32	9	23	32
4 + Axle Trucks	3.0	1881	147	45	192	54	138	192
Total Passenger Car Equivalents (PCE)		**5,173**	**405**	**123**	**528**	**148**	**380**	**528**

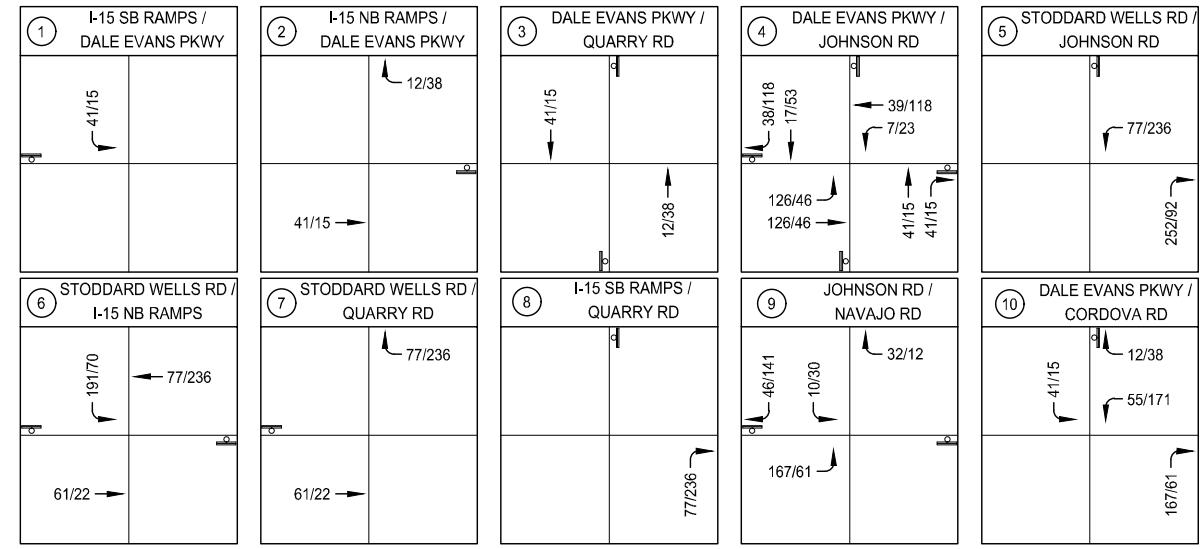
Notes:
KSF = Thousands of Square Feet.
AM / PM Peak Hour of Adjacent Street Traffic = Trip generation coinciding with the highest hourly volumes of traffic on the adjacent streets during the AM (7:00 AM and 9:00 AM) and PM (4:00 PM and 6:00 PM) commuter peak periods.
Source of trip generation rates: Institute of Transportation Engineers (ITE) Trip Generation (11th Edition). Average rates for land use category 150 (Warehouse).
Source of passenger car / truck mode share (percentage of total): South Coast Air Quality Management District High Cube Warehouse Trip Generation Study (2016). Based on data from eight high cube warehouses in the Inland Empire over 1,000,000 square feet in size. The average warehouse building size is 1,364,496 square feet.
Passenger Car Equivalents (PCE) factors: Industry standard values utilized in neighboring jurisdictions

5.2 Project Trip Distribution and Assignment

Project traffic is distributed by direction separately for automobiles (employees) and trucks. The automobile distribution is based on where the warehouse employees are likely to reside or perform other activities (e.g., concentration of residential neighborhoods and commercial centers). The truck distribution is based on the most direct routes to major roadways and highways trucks are likely to use to access the project and depart for delivery of freight. Project trips are assigned to the area streets that provide the most direct route to the destinations.

An exhibit showing the distribution of project-generated automobile and truck trips to roadways as a percentage by direction and route can be viewed in the approved scoping memorandum in **Appendix A** (Exhibit D).

The assignment of updated project generated traffic at the study intersections for the AM and PM peak hours can be viewed in the **Figure 6**. In this figure, truck traffic volumes have been converted into passenger car equivalents (PCEs) as required in the San Bernardino County guidelines for intersection capacity analysis.





N

NOT TO SCALE

TOTAL PROJECT PCE TRIPS

AM PEAK PERIOD - 405 IN / 123 OUT
PM PEAK PERIOD - 148 IN / 380 OUT

LEGEND

XX/XX - AM/PM TRAFFIC VOLUMES
(#) - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH

FIGURE 6: TOTAL PROJECT PCE TRIPS
CORDOVA COMPLEX
APPLE VALLEY

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5.3 Background + Project Conditions Traffic Analysis (Without Quarry Complex)

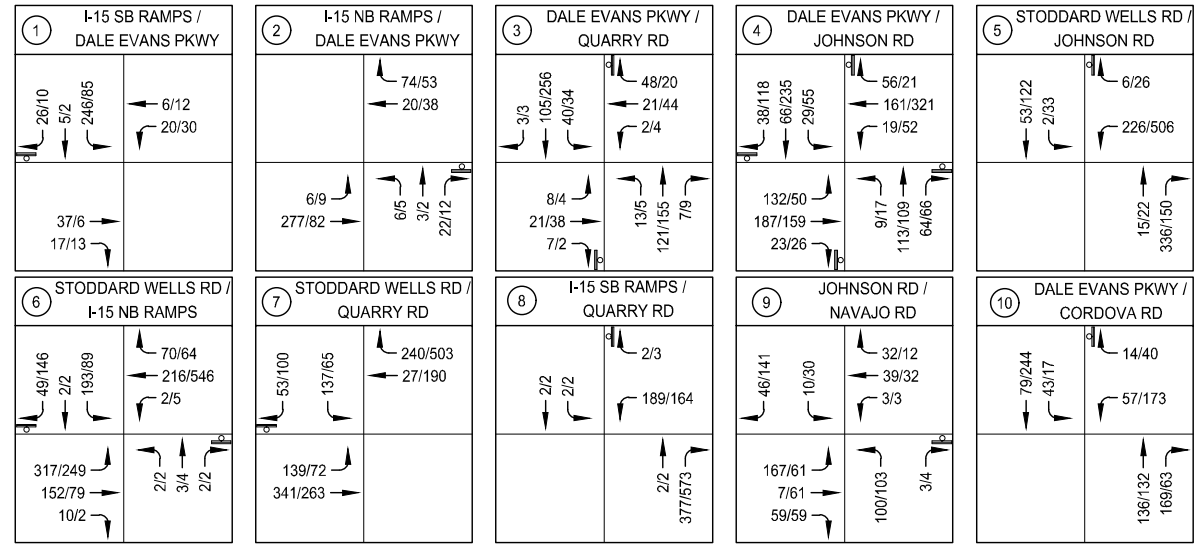
Table 5-3 compares intersection level of service of background and background plus project conditions based on the AM and PM peak hour traffic volumes shown in **Figure 7.** The capacity analysis worksheets are in **Appendix D**.

Table 5-3: Comparison of Background (Without Quarry Complex) and Background Plus Project LOS

Intersection	Control Type	Background Conditions				Background + Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	10.7	B	9.4	A	11.2	B	9.5	A
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	10.2	B	8.9	A	10.6	B	9.0	A
3. Dale Evans Parkway / Quarry Road	TWSC	11.1	B	13.8	B	11.6	B	14.6	B
4. Dale Evans Parkway / Johnson Road	AWSC	8.9	A	13.3	B	15.2	C	53.4	F
5. Stoddard Wells Road / Johnson Road	TWSC	10.5	B	15.7	C	14.0	B	68.8	F
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	22.0	C	25.5	D	362.7	F	249.7	F
7. Stoddard Wells Road / Quarry Road	TWSC	18.1	C	13.5	B	20.2	C	13.7	B
8. I-15 Southbound Ramps / Quarry Road	TWSC	10.9	B	11.7	B	11.4	B	14.0	B
9. Johnson Road / Navajo Road	TWSC	10.4	B	9.9	A	10.4	B	9.9	A
10. Dale Evans Parkway / Cordova Road	TWSC	9.5	A	10.1	B	12.5	B	16.3	C

Notes:
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

As presented in **Table 5-3**, under background + project conditions, three of the study intersections experience substantial increases in delay and degrade from LOS D or better to LOS F in at least one peak hour.





N

NOT TO SCALE

LEGEND

XX/XX - AM/PM TRAFFIC VOLUMES

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

FIGURE 7: BACKGROUND + PROJECT TRAFFIC VOLUMES (W/O QUARRY COMPLEX) CORDOVA COMPLEX APPLE VALLEY

6 FUTURE 2040 CONDITIONS (WITHOUT THE QUARRY COMPLEX)

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

6.1 Future Conditions Traffic Analysis

The future year 2040 conditions intersection capacity analysis uses existing intersection geometrics and the projected AM and PM peak hour traffic volumes using the process described above. **Table 6-1** and **Appendix D** provide the results of the analysis.

Table 6-1: Intersection Level of Service for Future Year 2040 Conditions (Without Quarry Complex)

Intersection	Control Type	Future 2040 Conditions (Without Quarry Complex)			
		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	12.9	B	10.9	B
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	11.4	B	9.7	A
3. Dale Evans Parkway / Quarry Road	TWSC	12.7	B	17.5	C
4. Dale Evans Parkway / Johnson Road	AWSC	13.1	B	58.6	F
5. Stoddard Wells Road / Johnson Road	TWSC	20.9	C	307.9	F
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	144.1	F	680.9	F
7. Stoddard Wells Road / Quarry Road	TWSC	20.8	C	15.6	C
8. I-15 Southbound Ramps / Quarry Road	TWSC	11.5	B	14.8	B
9. Johnson Road / Navajo Road	TWSC	10.5	B	10.0	B
10. Dale Evans Parkway / Cordova Road	TWSC	12.6	B	12.6	B

Notes:
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

As presented in **Table 6-1***,* under future year 2040 conditions, three intersections are projected to operate at deficient levels of service even without the proposed project. These three will be consistently showing LOS deficiencies as traffic volumes increase in later scenarios. The fact that Dale Evans Parkway and Johnson Road, Stoddard Wells Road and Johnson Road, and Stoddard Wells Road and I-15 Northbound Ramps are located on primary routes for trucks and automobiles accessing I-15 is an important contributing factor.

7 FUTURE 2040 PLUS PROJECT CONDITIONS (WITHOUT THE QUARRY COMPLEX)

The future plus project conditions scenario adds the project's estimated traffic generation to the future condition's scenario described in section 6. As described in the previous section, the forecasted future year 2040 traffic intersection turn movements were derived from post processing forecasted approach volumes from the SBTAM model for each study intersection. The SBTAM traffic model plots are provided in **Appendix C**.

7.1 Future Plus Project Traffic Analysis

The intersection level of service analysis for future plus project conditions uses existing intersection geometrics and the projected AM and PM peak hour traffic volumes shown in **Figure 8**. **Table 7-1** and **Appendix D** provide the results of the analysis.

Table 7-1: Comparison of Future 2040 (Without Quarry Complex) and Future 2040 Plus Project LOS

Intersection	Control Type	Future Year 2040 Conditions				Future Year 2040 + Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	12.9	B	10.9	B	13.8	B	11.1	B
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	11.4	B	9.7	A	11.8	B	9.8	A
3. Dale Evans Parkway / Quarry Road	TWSC	12.7	B	17.5	C	13.4	B	18.7	C
4. Dale Evans Parkway / Johnson Road	AWSC	13.1	B	58.6	F	42.5	E	208.8	F
5. Stoddard Wells Road / Johnson Road	TWSC	20.9	C	307.9	F	73.8	F	989.8	F
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	144.1	F	680.9	F	804.2	F	1993.4	F
7. Stoddard Wells Road / Quarry Road	TWSC	20.8	C	15.6	C	23.6	C	16.0	C
8. I-15 Southbound Ramps / Quarry Road	TWSC	11.5	B	14.8	B	12.1	B	19.1	C
9. Johnson Road / Navajo Road	TWSC	10.5	B	10.0	B	10.5	B	10.0	B
10. Dale Evans Parkway / Cordova Road	TWSC	12.6	B	12.6	B	18.7	C	29.4	D

Notes:
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

As presented in **Table 7-1**, the addition of project traffic in this scenario exacerbates the intersection LOS deficiencies at the same intersections impacted by the addition of project traffic to future year 2040 conditions: Dale Evans Parkway / Johnson Road, Stoddard Wells Road / Johnson Road, and Stoddard Wells Road / I-15 Northbound Ramps, but with substantially higher delays.

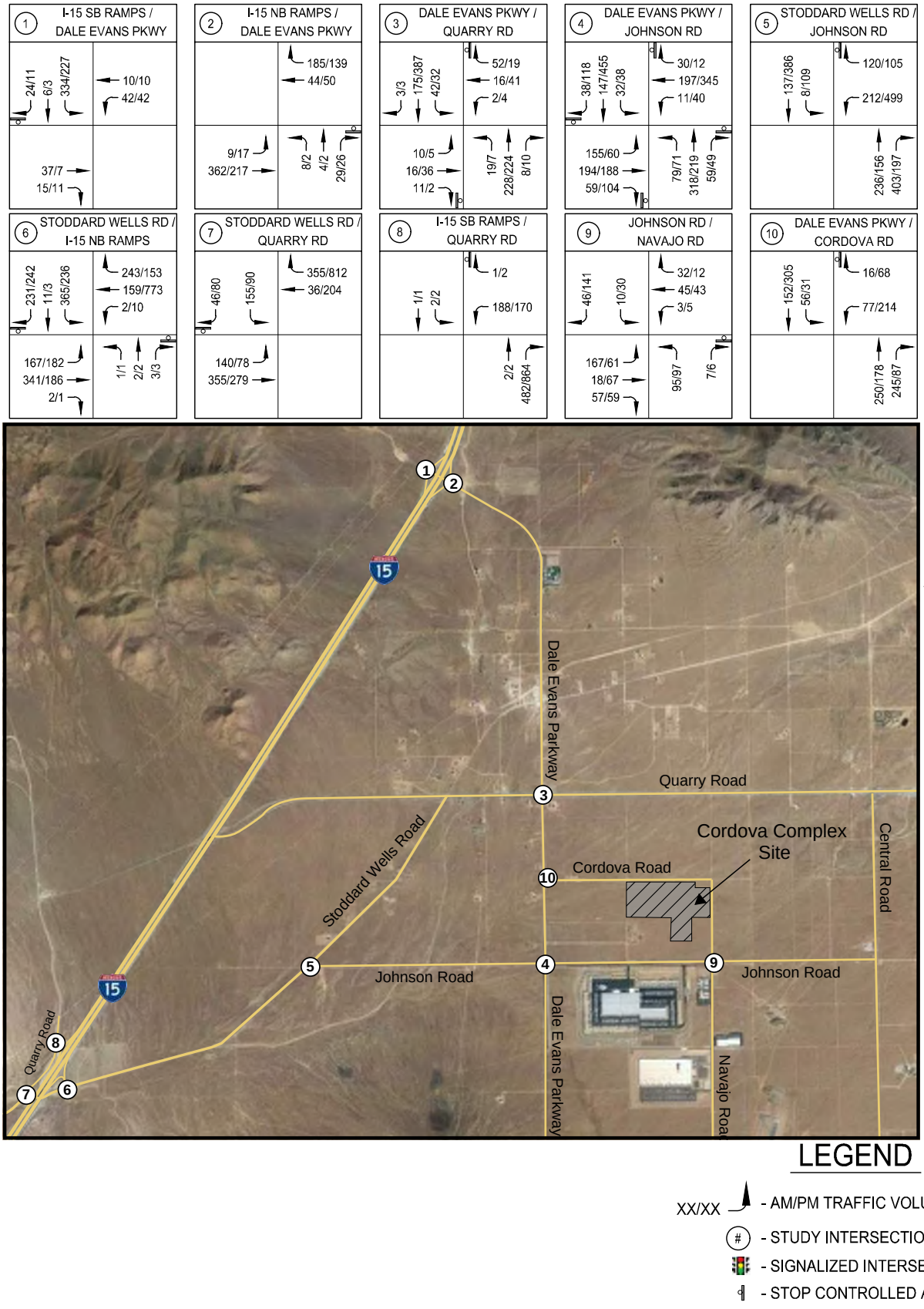


FIGURE 8: FUTURE 2040 + PROJECT TRAFFIC VOLUMES (W/O QUARRY COMPLEX)
CORDOVA COMPLEX
APPLE VALLEY

DAVID EVANS AND ASSOCIATES INC.

8 BACKGROUND CONDITIONS TRAFFIC ANALYSIS (WITH QUARRY COMPLEX)

This scenario evaluates impacts due to ambient growth in traffic and traffic generated by other area development projects affecting the study area up to the year 2024 when project construction is expected to be completed. An annual growth rate in traffic of 3.5% represents both ambient growth and other area development projects. Traffic from the proposed project's sister development, the Quarry Complex, is included in this scenario

8.1 Background Conditions Traffic Analysis (With Quarry Complex)

The background conditions intersection level of service analysis uses existing intersection geometrics and the projected AM and PM peak hour traffic volumes from Section 4 plus traffic from the Quarry Complex. **Table 8-1** and **Appendix D** provides the results of the analysis.

Table 8-1: Intersection Level of Service for Background Conditions

Intersection	Control Type	Background Conditions (With Quarry Complex)			
		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	11.2	B	9.5	A
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	10.6	B	9.0	A
3. Dale Evans Parkway / Quarry Road	TWSC	11.5	B	14.6	B
4. Dale Evans Parkway / Johnson Road	AWSC	14.9	B	58.0	F
5. Stoddard Wells Road / Johnson Road	TWSC	13.9	B	66.7	F
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	601.2	F	683.1	F
7. Stoddard Wells Road / Quarry Road	TWSC	18.1	C	13.5	B
8. I-15 Southbound Ramps / Quarry Road	TWSC	11.4	B	14.0	B
9. Johnson Road / Navajo Road	TWSC	10.4	B	9.9	A
10. Dale Evans Parkway / Cordova Road	TWSC	11.7	B	14.3	B

Notes:
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

As presented in **Table 8-1**, under background conditions with traffic from the Quarry Complex , the study intersections operate at a LOS C or better in both peak hours except for the three consistently deficient intersections of Dale Evans Parkway / Johnson Road, Stoddard Wells Road / Johnson Road, and Stoddard Wells Road / I-15 Northbound Ramps.

9 BACKGROUND PLUS PROJECT CONDITIONS TRAFFIC ANALYSIS (WITH QUARRY COMPLEX)

9.1 Background Plus Project Conditions Traffic Analysis

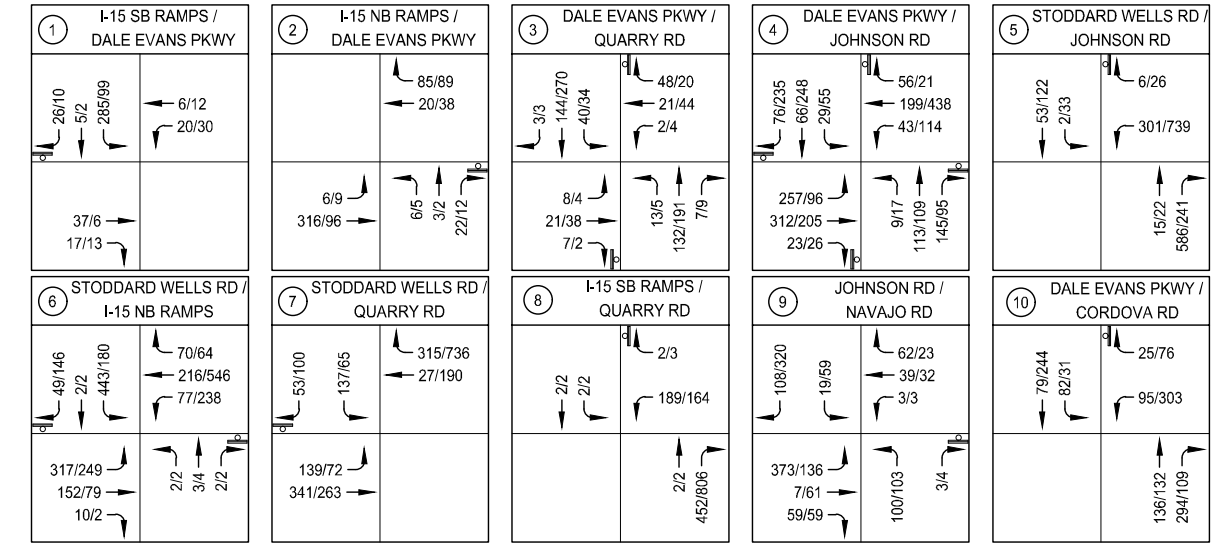
Table 9-1 compares the weekday AM and PM peak hour background and background plus project LOS at the study intersections with the inclusion of traffic generated by the Quarry Complex. The background plus project (With Quarry Complex) intersection capacity analysis uses existing intersection geometrics and the projected AM and PM peak hour traffic shown in **Figure 9**. The capacity analysis worksheets are in **Appendix D.**

Table 9-1: Comparison of Background (With Quarry Complex) and Background Plus Project LOS

Intersection	Control Type	Background Conditions (With Quarry Complex)				Background + Project Conditions (With Quarry Complex)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	11.2	B	9.5	A	11.7	B	9.6	A
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	10.6	B	9.0	A	11.0	B	9.1	A
3. Dale Evans Parkway / Quarry Road	TWSC	11.5	B	14.6	B	12.1	B	15.4	C
4. Dale Evans Parkway / Johnson Road	AWSC	14.9	B	58.0	F	89.5	F	204.2	F
5. Stoddard Wells Road / Johnson Road	TWSC	13.9	B	66.7	F	24.6	C	300.5	F
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	601.2	F	683.1	F	1888.0	F	2710.5	F
7. Stoddard Wells Road / Quarry Road	TWSC	18.1	C	13.5	B	20.2	C	13.7	B
8. I-15 Southbound Ramps / Quarry Road	TWSC	11.4	B	14.0	B	11.9	B	17.6	C
9. Johnson Road / Navajo Road	TWSC	10.4	B	9.9	A	10.4	B	9.9	A
10. Dale Evans Parkway / Cordova Road	TWSC	11.7	B	14.3	B	17.1	C	39.0	E

Notes:
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

In this scenario, the addition of project traffic and traffic from the Quarry Complex further exacerbates the intersection LOS deficiencies at Dale Evans Parkway / Johnson Road, Stoddard Wells Road / Johnson Road, and Stoddard Wells Road / I-15 Northbound Ramps, with exponential increases in the delay for the stop-controlled movements. In addition, LOS deficiencies are anticipated to occur at the intersection of Dale Evans Parkway / Cordova Road during the PM peak hour.





N

NOT TO SCALE

LEGEND

XX/XX - AM/PM TRAFFIC VOLUMES

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

FIGURE 9: BACKGROUND + PROJECT TRAFFIC VOLUMES (WITH QUARRY COMPLEX)
CORDOVA COMPLEX
APPLE VALLEY

10 FUTURE 2040 CONDITIONS TRAFFIC ANALYSIS (WITH QUARRY COMPLEX)

The future 2040 conditions scenario in this section is the same scenario presented in Section 6 except that traffic from the Quarry Complex has been added as cumulative development. The cumulative growth in traffic is from forecasts from the San Bernardino County Transportation Analysis Model (SBTAM), but the Quarry Complex traffic has been added manually on top of the SBTAM model projections.

10.1 Future 2040 Conditions Traffic Analysis

The intersection capacity analysis for the future year 2040 conditions uses existing intersection geometrics and the projected 2040 AM and PM peak hour traffic volumes developed in Section 6 plus traffic from the Quarry Complex. **Table 10-1** and **Appendix D** provide the results of the analysis.

Table 10-1: Intersection Level of Service for Future 2040 (With Quarry Complex) Conditions

Intersection	Control Type	Future 2040 Conditions (With Quarry Complex)			
		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	13.7	B	11.1	B
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	11.8	B	9.8	A
3. Dale Evans Parkway / Quarry Road	TWSC	13.3	B	18.7	C
4. Dale Evans Parkway / Johnson Road	AWSC	38.2	E	192.3	F
5. Stoddard Wells Road / Johnson Road	TWSC	71.6	F	982.9	F
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	1048.1	F	3911.3	F
7. Stoddard Wells Road / Quarry Road	TWSC	20.8	C	15.6	C
8. I-15 Southbound Ramps / Quarry Road	TWSC	12.1	B	19.0	C
9. Johnson Road / Navajo Road	TWSC	10.5	B	10.0	B
10. Dale Evans Parkway / Cordova Road	TWSC	16.8	C	22.3	C

Notes:
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

The Quarry Complex, as cumulative development, adds nearly 500 peak hour trips to the circulation system. This additional traffic, added to stop controlled movements, causes unstable operations whereas the delay experienced by the stop-controlled approaches increases exponentially. This is caused by a combination of the traffic added to the stop-controlled approaches and an increase in the uncontrolled movements on the major street resulting in fewer acceptable gaps in the flow of traffic in both directions.

11 FUTURE 2040 PLUS PROJECT CONDITIONS TRAFFIC ANALYSIS (WITH QUARRY COMPLEX)

The future 2040 conditions scenario in this section is the same scenario presented in Section 7 where the traffic from the proposed Cordova Complex project is added to the future 2040 background conditions which also includes traffic from the Quarry Complex as cumulative development. This final long-range scenario in this study results in the highest traffic volumes at the study intersections than in any previous scenario.

11.1 Future 2040 Plus Project Conditions Traffic Analysis

The intersection capacity analysis for the future year 2040 plus project conditions with the addition of traffic from the Quarry Complex uses existing intersection geometrics and the projected AM and PM peak hour traffic shown in **Figure 10. Table 11-1** and **Appendix D** provide the results of the analysis.

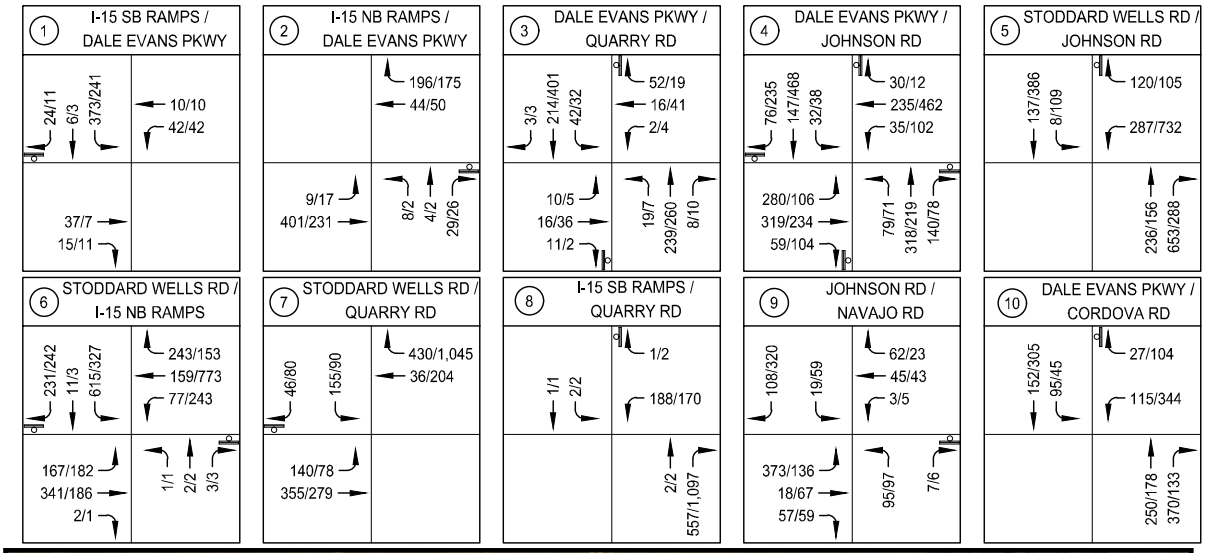
Table 11-1: Comparison of Future 2040 (With Quarry Complex) and Future 2040 Plus Project LOS

Intersection	Control Type	Future Year 2040 Conditions				Future Year 2040 + Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	13.7	B	11.1	B	14.9	B	11.3	B
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	11.8	B	9.8	A	12.3	B	9.9	A
3. Dale Evans Parkway / Quarry Road	TWSC	13.3	B	18.7	C	14.0	B	20.1	C
4. Dale Evans Parkway / Johnson Road	AWSC	38.2	E	192.3	F	174.4	F	370.8	F
5. Stoddard Wells Road / Johnson Road	TWSC	71.6	F	982.9	F	289.5	F	1818.4	F
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	1048.1	F	3911.3	F	2241.0	F	11415.4	F
7. Stoddard Wells Road / Quarry Road	TWSC	20.8	C	15.6	C	23.6	C	16.0	C
8. I-15 Southbound Ramps / Quarry Road	TWSC	12.1	B	19.0	C	12.7	B	26.4	D
9. Johnson Road / Navajo Road	TWSC	10.5	B	10.0	B	10.5	B	10.0	B
10. Dale Evans Parkway / Cordova Road	TWSC	16.8	C	22.3	C	35.4	E	152.4	F

Notes:
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

When the proposed project's traffic is added to year 2040 background conditions (with Quarry Complex) there is a complete breakdown in the operation of the single lane stop-controlled approaches with spikes in the calculated delay that are not achievable in real life conditions. These theoretical and unrealistically high delays are indications of complete over-saturation of the stop-controlled approaches and the need for traffic control strategies with significantly greater capacity.

The addition of traffic from the proposed project (Cordova Complex) in the future year 2040 conditions (with Quarry Complex) exacerbates the three consistently impacted intersections of Dale Evans Parkway and Johnson Road, Stoddard Wells Road and Johnson Road, and Stoddard Wells Road and I-15 Northbound Ramps and causes a LOS deficiency at the previously unimpacted intersection of Dale Evans Parkway and Cordova Road. Project traffic causes the PM peak hour LOS at the stop-controlled approach (Cordova Road) to change from a LOS C in the future year 2040 background conditions to a LOS F in future year 2040 background + project conditions.





N

NOT TO SCALE

LEGEND

XX/XX - AM/PM TRAFFIC VOLUMES

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

FIGURE 10: FUTURE 2040 + PROJECT TRAFFIC VOLUMES (WITH QUARRY COMPLEX)
CORDOVA COMPLEX
APPLE VALLEY

12 RECOMMENDED MITIGATION MEASURES AND PROJECT-SPECIFIC FRONTAGE IMPROVEMENTS

12.1 Recommended Mitigation Measures to Improve LOS Deficiencies

The recommended mitigation measures to improve intersections with deficient levels of service is described comprehensively beginning in **Section 1.4** of Section 1 (Executive Summary).

12.2 Project-Specific Frontage and Access Improvements

The required project-specific frontage and access improvements are described in detail **Section 1.9** of the Executive Summary.

13 VEHICLE MILES TRAVELLED (VMT) ANALYSIS

A comprehensive summary of the VMT analysis conducted for the Cordova Complex (proposed project) is presented in Section **1.10** of Section 1 (Executive Summary). The full VMT analysis report is in **Appendix E**.

FOCUSED TRAFFIC IMPACT ANALYSIS

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Fax 760.524.9101

www.deainc

PROPOSED QUARRY INDUSTRIAL COMPLEX DEVELOPMENT

APN: 0463-214-06, 07, 08, & 09

TOWN OF APPLE VALLEY, CALIFORNIA

Prepared by:

DAVID EVANS AND ASSOCIATES INC.

FINAL REPORT

September 11, 2023

REVISED JANUARY 29, 2024

14 APPENDICES

Appendix A: Approved Scope Agreement

Appendix B: Traffic Counts

Appendix C: Forecast Model Plots and Volume Development

Appendix D: Intersection Capacity Analysis Worksheets

Appendix E: VMT Analysis

Trisha Munoz

From: Jim Daisa
Sent: Tuesday, December 13, 2022 1:40 PM
To: Trisha Munoz
Subject: FW: Scoping Agreements, N. Apple Valley

See below

James M. Daisa, PE | Sr. Project Manager, Transportation
David Evans and Associates, Inc.
4141 E. Inland Empire Boulevard, Suite 250 | Ontario, CA, 91764 | www.deainc.com
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ENERGY | LAND DEVELOPMENT | MARINE SERVICES | SURVEYING AND GEOMATICS | TRANSPORTATION | WATER AND ENVIRONMENT

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From: Richard Pedersen <RPedersen@applevalley.org>
Sent: Wednesday, October 26, 2022 7:57 AM
To: Jessica Haughton <jhaughton@synergyconsultingca.com>
Cc: Daniel Alcayaga <dalcayaga@applevalley.org>; Jim Daisa <Jim.Daisa@deainc.com>; Robert Kilpatrick <RKilpatrick@deainc.com>; Dean Paradise <DParadise@deainc.com>; Orlando Acevedo <OAcevedo@applevalley.org>
Subject: Re: Scoping Agreements, N. Apple Valley

Hi Jessica,

I have reviewed the scoping agreements. I am satisfied that the scope of the analysis covers the potential traffic impacts at and around the project. I have one suggestion, that the ingress and egress driveway(s) be reviewed to determine if they are sufficient to handle the capacity of the projects themselves. Though, the project on Navajo Road appears to have sufficient driveway access, the other project on Cordova could have issues. The Walmart Distribution Center on Johnson Road has experienced congestion at their main driveway at the end of their work day shifts. They have requested that a traffic signal be installed at their main driveway on Johnson Road.

If you would like to discuss please contact me at 760-240-7000 ext. 7352

Thank you,
Richard

On Oct 21, 2022, at 9:47 AM, Jessica Haughton <jhaughton@synergyconsultingca.com> wrote:

Mr. Pedersen,

Good morning, I hope your week has gone well. This email contains two (2) traffic scoping agreements for our 2 proposed projects located in the Industrial Specific Plan (I-SP); also known as **PA2022-005** and **PA2022-006**. We are anticipating a November '22 formal application submittal date. Therefore, if you find these agreements to be acceptable, please let me know so we may move forward with the traffic study.

@Daniel Alcayaga,
Will a ***completed*** Traffic Study be a requirement to submit our formal application? Could we (*once the above traffic scoping agreements are approved)* submit the application with the items on the checklist and reference on our transmittal letter that *"the traffic study is underway"* and proceed with our formal application? Please advise.

Jessica Haughton
President
Mobile (702) 330-1715
jhaughton@synergyconsultingca.com
<image001.png>
<image002.png> <image004.png>

<Quarry_Traffic Scope_Agreement_10-19-22.pdf><Cordova_Traffic Scope_Agreement_10-19-22.pdf>

DAVID EVANS
AND ASSOCIATES INC.

October 19, 2022 Job No. VVLI0000-0001

MEMORANDUM



To: Ramsey Sheehan
Josh Malhi
VVLIG Holdings, LLC

c/o Jessica Haughton
Synergy Consulting
410 Patti Ann Woods Drive
Henderson, NV 89002

From: James Daisa, PE
Senior Transportation Project Manager / Associate

RE: FOCUSED TRAFFIC IMPACT ANALYSIS SCOPING AGREEMENT FOR THE PROPOSED CORDOVA COMPLEX WAREHOUSE DEVELOPMENT (PRE-APPLICATION NO. 2022-005) LOCATED AT THE SWC OF CORDOVA ROAD AND NAVAJO ROAD IN THE TOWN OF APPLE VALLEY, CA (APN: 0463-213-05)

This memorandum presents key elements of the proposed Focused Traffic Impact Analysis (TIA Report) scope of work for the above referenced development project. The purpose of this memorandum is to inform the Town of Apple Valley of the TIA's assumptions and methodologies prior to preparing the analysis. We will incorporate any changes specified by the Town, and once approved, this document will serve as our notification to proceed.

The Town of Apple Valley does not have guidelines for conducting intersection level of service deficiency studies, therefore the assumptions and methods described in this document conform to San Bernardino County's Transportation Impact Study Guidelines (July 2019).

With respect to VMT impacts, the Town of Apple Valley adopted Resolution No. 2021-08 in May 2021. This resolution defines the Town's thresholds of significance for project generated VMT and the project's overall effect of VMT at the town-wide scale. The resolution also defines the specific methods for analyzing VMT in Apple Valley.

The Town has not, however, adopted criteria for screening development from requiring a VMT analysis under CEQA. This scoping agreement uses the county's screening criteria to identify if the proposed project requires a VMT analysis as part of its environmental review.

A. Project Description

The proposed project consists of a 1,388,220 square foot speculative warehouse facility located on approximately 79-acres in the north part of the town and within the North Apple Valley Industrial Specific Plan area. The floor area includes 5,000 square feet of office space on the first floor and the mezzanine level (2nd floor). The North Apple Valley Industrial Specific Plan is the regulatory plan that governs all development within its boundaries. It designates land uses and provides design standards for the construction of buildings and defines the area's required infrastructure for transportation / circulation, public services, and utilities.

The project site is located at the southeast corner of Cordova Road and Dachshund Avenue, as illustrated in **Exhibit A**. The site is bounded to the north by unimproved Cordova Road and undeveloped land; to the south by undeveloped land and the existing Walmart Distribution Center south of Johnson Road; to the west by unimproved Dachshund Avenue and undeveloped land; and to the east by unimproved Navajo Road and

undeveloped land. The warehouse building includes 129 loading docks on both the north and south sides, 561 automobile parking spaces, and 911 trailer parking spaces within a secured yard. **Exhibit B** shows the proposed site plan.

Site Access and Circulation Improvements

Access to the site will be from driveways on Cordova Road, Dachshund Avenue, and Navajo Road. The proposed circulation and access include improving Cordova Road from Dale Evans Parkway to Navajo Road and improving Navajo Road from Johnson Road to Cordova Road and providing driveways on the improved roads as shown in the site plan. Dachshund Avenue would be improved from Cordova Road to the south property line for providing driveway access. The driveways accessed from Dachshund Avenue and Navajo Road provide access to employee parking and are segregated from truck access and internal truck circulation. The primary gated truck access driveway is on Cordova Road at the eastern end of the site as shown in **Exhibit B**.

To gain access to a related development (the Quarry Complex site) Cordova Road would be further extended east to Flint Road to provide access to that site as described in a separate scoping memorandum.

B. Project Trip Generation

The proposed project is a speculative warehouse where the tenant(s) and function as a potential short term storage facility, distribution center, fulfillment center, etc. is unknown. While the impact analysis needs to reflect a reasonable spectrum of tenant types, there is a risk when estimating trip generation of over or under-estimating traffic. The 11th Edition of the Institute of Transportation Engineers' Trip Generation manual contains data for the most common types of warehouse operations with a wide range of rates. **Table 1** summarizes the trip generation rates for warehouse facilities in the current edition of ITE's Trip Generation.

Table 1: Trip Generation Rates for ITE Land Use Categories of Warehousing

Warehouse Type	ITE Land Use Code	Average Trip Generation Rates for Warehouse Types (Trips Per KSF) (Source: ITE Trip Generation 11th Edition)		
		Average Daily Traffic	AM Peak Hour of Adjacent Street Traffic	PM Peak Hour of Adjacent Street Traffic
		Total (In + Out)	Total (In + Out)	Total (In + Out)
High-Cube Transload and Short-Term Storage Warehouse	154	1.54	0.08	0.10
High-Cube Cold Storage Warehouse	157	2.12	0.11	0.12
High-Cube Fulfillment Center Warehouse - Non-Sort	155	1.81	0.15	0.16
General Warehouse	150	1.71	0.17	0.18
High-Cube Parcel Hub Warehouse	156	4.63	0.70	0.64
High-Cube Fulfillment Center Warehouse - Sort	155	6.44	0.87	1.20
Average of All Warehouse Types		3.04	0.35	0.40
Average Without High-Cube Sort Fulfillment Center		2.36	0.24	0.24

To help select a trip generation rate for the proposed project representative of the range of potential owners/tenants, **Table 1** includes the average of the rates for all warehouse types in the ITE Trip Generation manual and the average of the rates for all warehouse types except High-Cube Fulfillment Sort Facility—the most intensive type of warehouse. The secondary average rate (excluding High-Cube Fulfillment Sort Facility) represents two thirds the ITE warehouse types and covers a broad range of tenant types and operations.

Table 2 summarizes the estimated trip generation of the proposed project for an average weekday, and weekday AM (7-9 AM) and PM (4-6 PM) peak hours, based on the secondary average rates identified in

Table 1. The proposed warehouse complex would generate about 3,300 vehicle trips per day and 336 and 333 vehicle trips in the AM and PM peak hours respectively.

It is standard practice to convert vehicle trips to passenger car equivalents (PCEs) for intersection capacity analysis. This conversion reflects the effects of large vehicles on intersection operations both from the physical space a truck occupies but also from their effect on the intersection's saturation flow rate due to the slower acceleration of trucks.

When converted to PCEs, the Cordova complex generates about 4,600 daily PCEs, and 468 PCEs in both the AM and PM peak hour.

Table 2: Cordova Complex Project Trip Generation

Land Use	Gross Floor Area (KSF)	Daily	AM Peak Hour of Adjacent Street Traffic			PM Peak Hour of Adjacent Street Traffic		
			In	Out	Total	In	Out	Total
Warehouse (Rates are the Average of ITE Land Use Categories 150, 154, 156, and 157)	1,388.22	Vehicle Trip Generation Rates (Trips Per 1,000 Square Feet of Gross Floor Area)						
		2.36	0.18	0.06	0.24	0.07	0.17	0.24
		Total Vehicle Trip Generation						
		3,276	257	77	333	93	240	333
	Mode Share	Project Trip Generation by Vehicle Type						
Passenger Cars (Percent of Total)	74.21%	2,431	190	57	247	69	178	247
2-Axle Trucks (Percent of Total)	4.55%	149	12	3	15	4	11	15
3-Axle Trucks (Percent of Total)	4.18%	137	11	3	14	4	10	14
4-Axle Trucks (Percent of Total)	17.04%	558	44	13	57	16	41	57
	PCE Factor	Project Trip Generation in Passenger Car Equivalents (PCE)						
Passenger Cars)	1.0	2,431	190	57	247	69	178	247
2-Axle Trucks	1.5	224	18	5	23	6	16	23
3-Axle Trucks	2.0	274	21	6	28	8	20	28
4 + Axle Trucks	3.0	1675	131	39	170	48	123	170
Total Passenger Car Equivalents (PCE)		**4,604**	**360**	**108**	**468**	**131**	**337**	**468**

Notes:
[1] Trip generation rates are the average of the rates of each ITE warehouse type except the High-Cube Fulfillment Sort Center Warehouse, which is the most intense use like an Amazon Fulfillment Center which sorts individual packages for delivery to end users. This type of use is not anticipated for the Cardova Complex. See Table 1.
KSF = Thousands of Square Feet.
AM / PM Peak Hour of Adjacent Street Traffic = Trip generation coinciding with the highest hourly volumes of traffic on the adjacent streets during the AM (7:00 AM and 9:00 AM) and PM (4:00 PM and 6:00 PM) commuter peak periods.
Source of trip generation rates: Institute of Transportation Engineers (ITE) Trip Generation (11th Edition).

Source of passenger car / truck mode share (percentage of total): South Coast Air Quality Management District High Cube Warehouse Trip Generation Study (2016). Based on data from eight high cube warehouses in the Inland Empire over 1,000,000 square feet in size. The average warehouse building size is 1,364,496 square feet.
Passenger Car Equivalents (PCE) factors: Industry standard values utilized in neighboring jurisdictions

C. Study Intersections

This focused traffic study evaluates key intersections on routes expected to be used by project traffic to access the site. **Exhibit C** and the list below identify the intersections proposed for inclusion in the study.

1. I-15 Southbound Ramps / Dale Evans Parkway
2. I-15 Northbound Ramps / Dale Evans Parkway
3. Dale Evans Parkway / Quarry Road
4. Dale Evans Parkway / Johnson Road
5. Stoddard Wells Road / Johnson Road
6. Stoddard Wells Road / I-15 Northbound Ramps
7. Stoddard Wells Road / Quarry Road
8. I-15 Southbound Ramps / Quarry Road
9. Johnson Road / Navajo Road
10. Dale Evans Parkway / Cordova Road

Project driveways will be reviewed for required traffic control and the primary truck gated driveway will be analyzed for traffic control, lane geometries, and queuing behind the access gate based on industry standard gate processing time.

All the study intersections are currently side-street stop controlled, or all-way stop-controlled.

D. Project Trip Distribution and Assignment

Project traffic is distributed by direction separately for automobiles (employees) and trucks. The automobile distribution is based on where the warehouse employees are likely to reside or perform other activities (e.g., concentration of residential neighborhoods and commercial centers). The truck distribution is based on the most direct routes to major roadways and highways trucks are likely to use to access the project and depart for delivery of freight. Project trips are assigned to the area streets that provide the most direct route to the destinations.

Exhibit D shows the distribution of project-generated automobile and truck trips to roadways as a percentage by direction and route. The following exhibits show the assignment of project generated traffic at the study intersections. Truck traffic volumes have been converted into passenger car equivalents (PCEs) as required in the San Bernardino County guidelines for intersection capacity analysis.

- **Exhibit E1** and **E2** – Total Project PCE Trips (AM Peak Hour)
- **Exhibit F1** and **F2** – Total Project PCE Trips (PM Peak Hour)

E. Traffic Analysis Scenarios

The traffic analysis scenarios, consistent with the county's impact analysis guidelines, include:

1. Existing conditions AM (7-9 AM) and PM (4-6 PM)
2. Background conditions (representing the project's opening year of 2024 with growth in background traffic without the project):
    a. Growth forecasts (based on the estimated combination of the ambient growth in traffic plus traffic generated by nearby, but unidentified, development equaling 3.5% annually).
3. Project conditions
    a. Project traffic in PCE's added to background condition forecasts
4. Future year 2040 conditions (representing the regional planning horizon of 2040 without project)[1]
    a. Forecasts derived from the San Bernardino Transportation Analysis Model (SBTAM) representing buildout of the General Plan
    b. If required by the Town, the future year 2040 conditions will include proposed development within and affecting the study area.
5. Future year 2040 plus project
    a. Project traffic in PCE's added to the forecasts developed for future year 2040 conditions

F. Level of Service Standard

The Town's General Plan policy on level of service is to maintain a level of service (LOS) D in the AM and PM peak hours.

G. Analyses Included in Traffic Impact Analysis

- Intersection capacity analyses will be conducted using SYNCHRO software based on the unsignalized methods in the 6th Edition of the Highway Capacity Manual.

[1] Caltrans typically requires that cumulative traffic forecasts represent a 20-year design life for infrastructure. If required, the cumulative scenario will be linearly extrapolated to the year 2044.

- A traffic signal warrant analysis (warrant 3 – peak hour) will be conducted at public intersections found to operate at LOS E or F under any project scenario.
- A queuing analysis will be conducted at intersections with high left turn volumes but currently do not provide left turn storage lanes. The 95th percentile queue will inform the roadway improvement design process. See Section C regarding project driveways.

H. Vehicle Miles of Travel (VMT) Screening

The Town of Apple Valley has adopted thresholds of significance for potential VMT impacts of development as well as the specific methodology for analyzing VMT impacts (Resolution No. 2021-08 - Adopting Thresholds of Significance for Vehicle Miles Traveled (VMT) Under the California Environmental Quality Act (CEQA)). According to the Town's resolution a development project would result in a significant project-generated VMT impact if either of the following conditions are satisfied:

1. The baseline (2022) project generated VMT per service population (population plus employees) exceeds the Town of Apple Valley General Plan Buildout VMT per service population, or
2. The cumulative (2040-44) project generated VMT per service population exceeds the Town of Apple Valley General Plan Buildout VMT per service population

The Town, however, has not adopted criteria for screening projects from requiring a VMT analysis. The county and nearby municipalities have adopted such criteria consistent with the technical advisories published by the Governor's Office of Planning and Research. In this scoping agreement, the county's screening criteria are applied to the proposed project for the Town's consideration.

Applying the county's VMT screening criteria results in demonstrating that the proposed project requires a detailed VMT analysis under CEQA.

Screening criteria includes:

1. The project serves the local community and has the potential to reduce VMT by providing services that capture trips locally (the proposed Cordova Complex is not a locally serving type of land use).
2. The project is located within a Transit Priority Area (the proposed Cordova Complex is not located in a TPA).
3. The project generates less than 110 daily vehicle trips (the proposed Cordova Complex generates more than 110 daily trips).
4. The project is in a low VMT generating traffic analysis zone (the proposed Cordova Complex is not located in a low VMT generating zone in baseline year 2022, see **Figure 1**).

The proposed project does not meet the county's four screening criteria and therefore is required to conduct a VMT analysis to identify potentially significant impacts under CEQA.

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

Attachments:

1. Exhibit A – Cordova Complex Vicinity Map
2. Exhibit B – Project Site Plan
3. Exhibit C – Study Intersections
4. Exhibit D – Project Automobile and Truck Trip Distribution
5. Exhibit E1 – Total Project PCE Trips (AM Peak Hour)
6. Exhibit E2 – Total Project PCE Trips (AM Peak Hour) (continued)
7. Exhibit F1 – Total Project PCE Trips (PM Peak Hour)
8. Exhibit F2 – Total Project PCE Trips (PM Peak Hour) (continued)

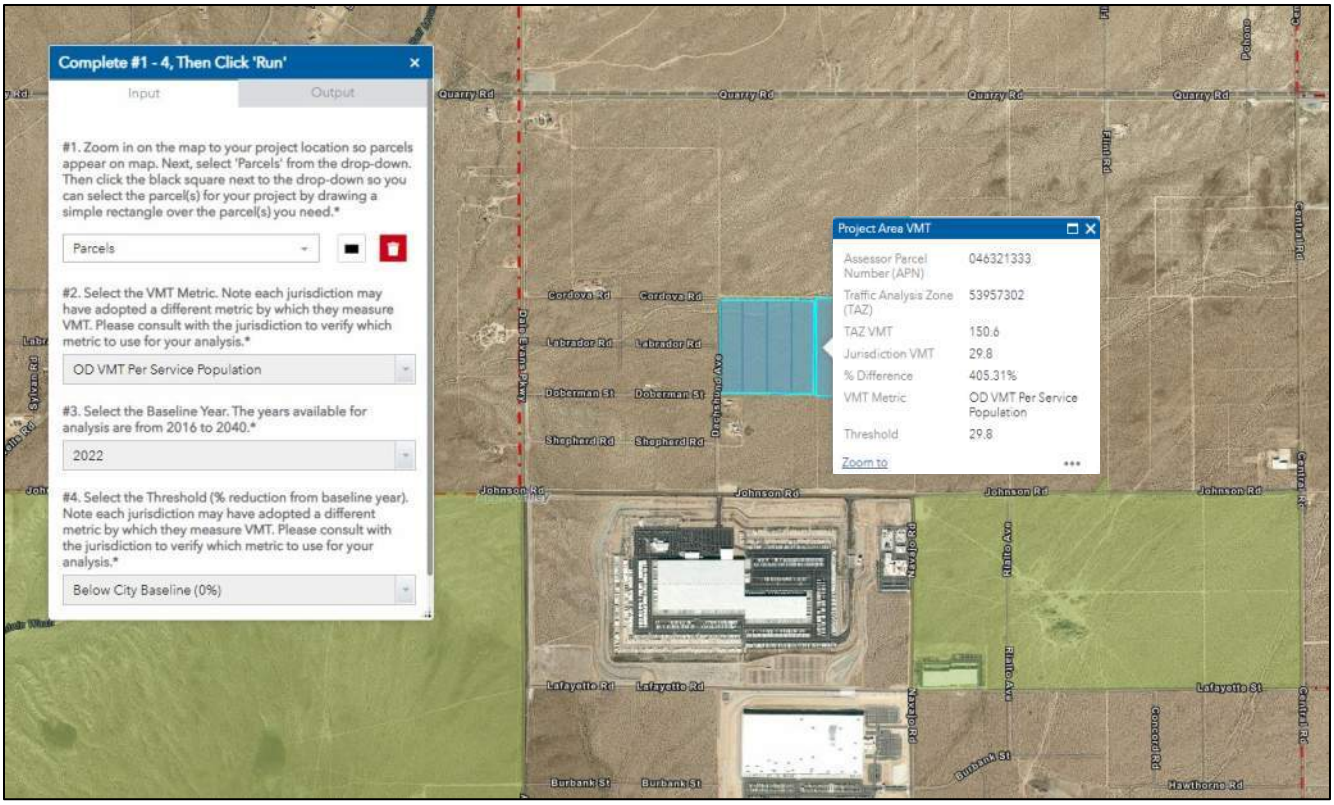


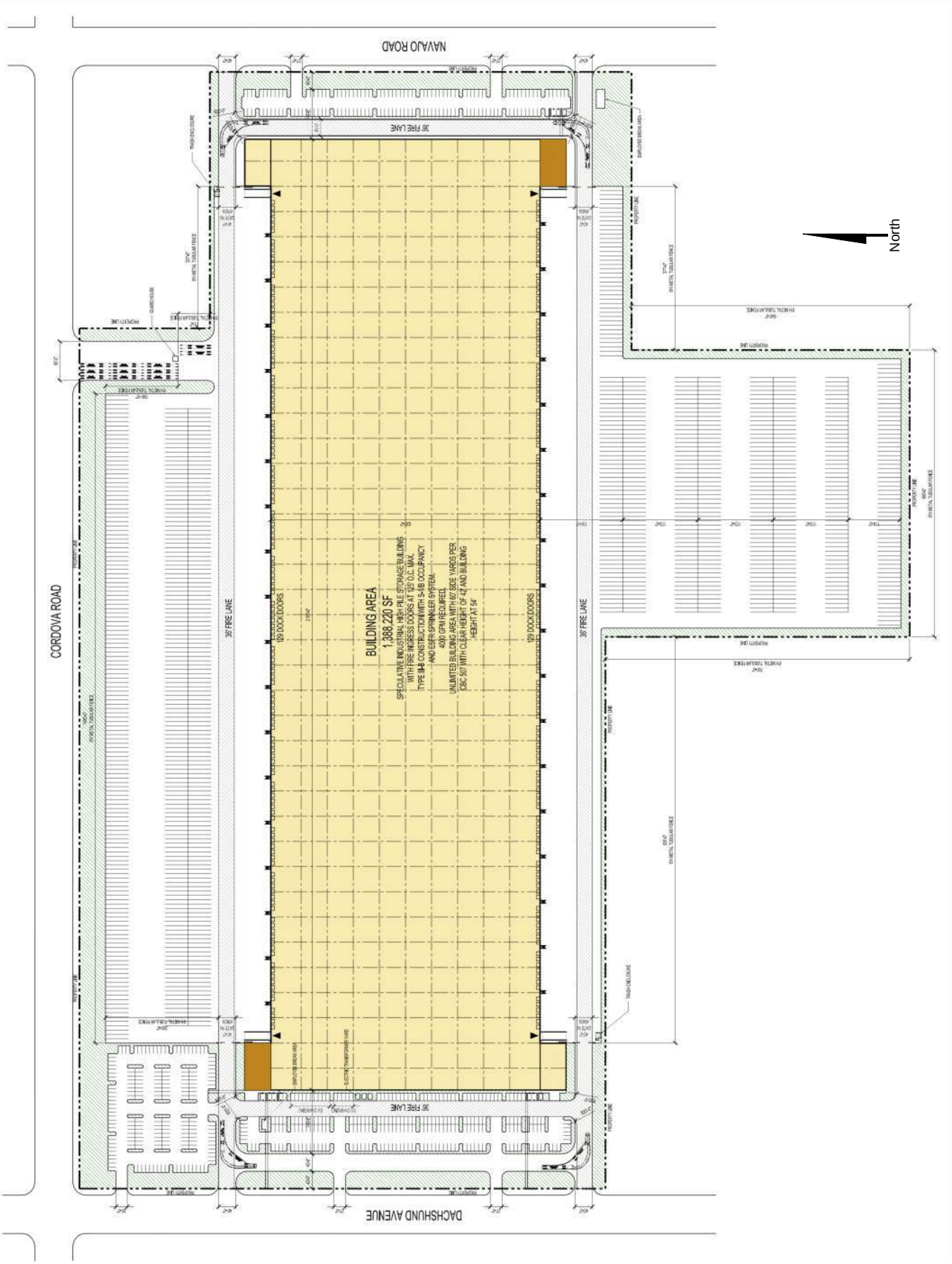
Figure 1: low VMT generating traffic analysis zones are highlighted in green. The traffic analysis zone in which the project is located is forecast to generate VMT that exceeds the jurisdictional threshold based on allowed General Plan land uses. Therefore, the proposed project is not located in a low VMT generating area.



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EXHIBIT A

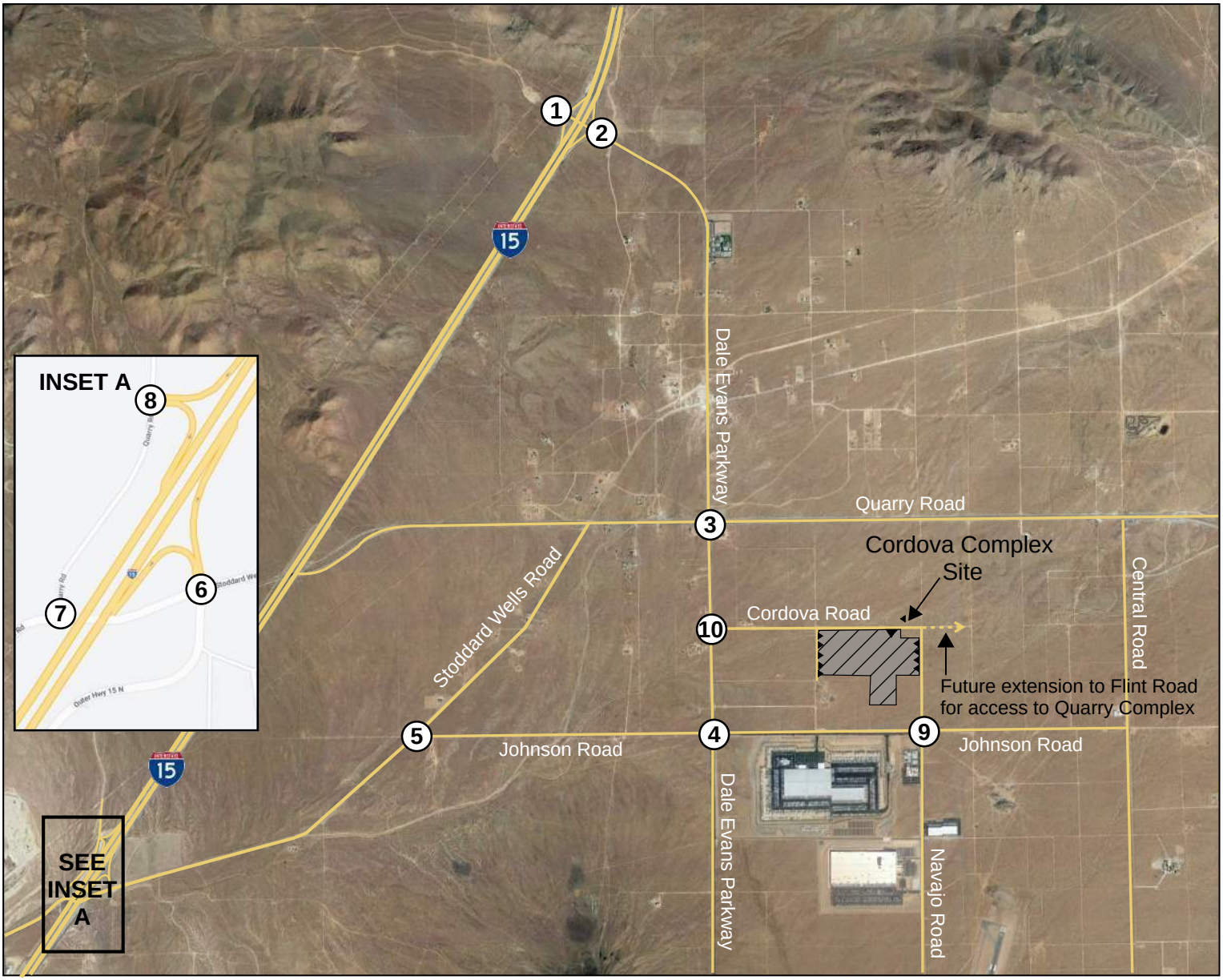
CORDOVA COMPLEX VICINITY MAP



DAVID EVANS AND ASSOCIATES INC.

EXHIBIT B

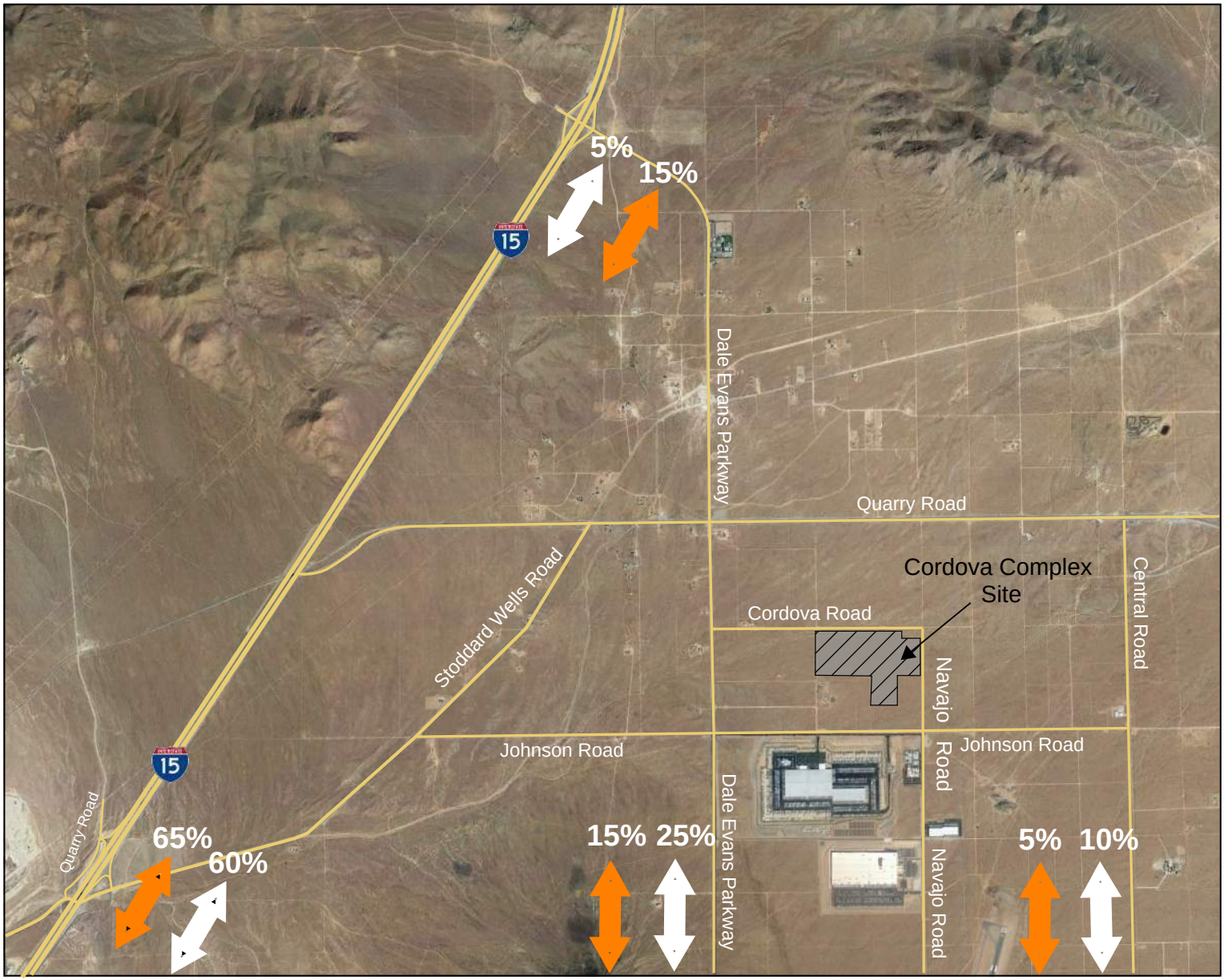
PROJECT SITE PLAN



DAVID EVANS AND ASSOCIATES INC.

EXHIBIT C

STUDY INTERSECTIONS



LEGEND

Directional Distribution of Project Traffic
(xx% = Percent of Total Trips)

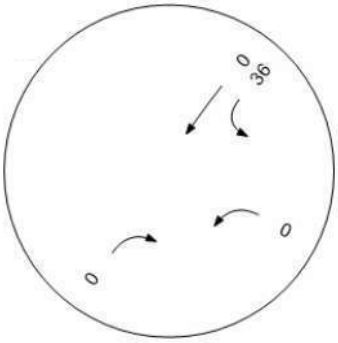
XX% Automobiles

XX% Trucks

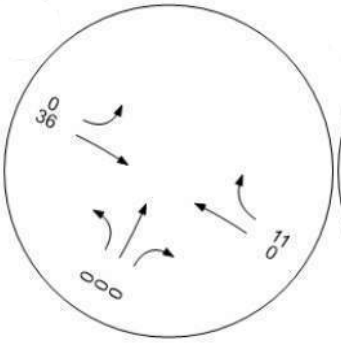
DAVID EVANS AND ASSOCIATES INC.

EXHIBIT D
PROJECT AUTOMOBILE AND TRUCK TRIP DISTRIBUTION

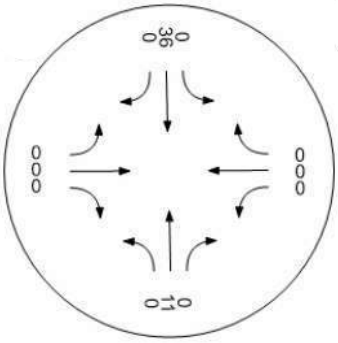
1. I-15 SB Ramps / Dale Evans Pkwy



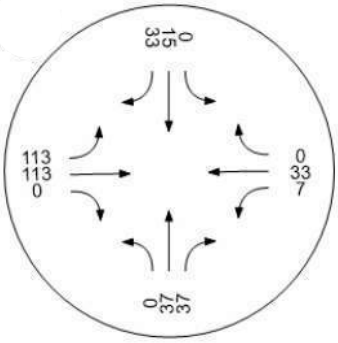
2. I-15 NB Ramps / Dale Evans Pkwy



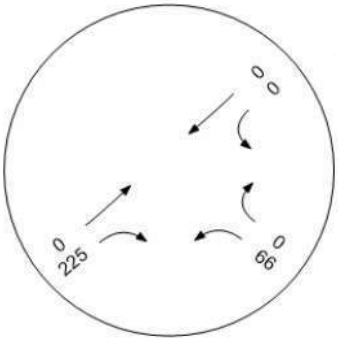
3. Quarry Road / Dale Evans Pkwy



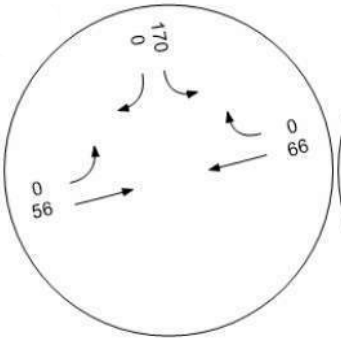
4. Johnson Road / Dale Evans Pkwy



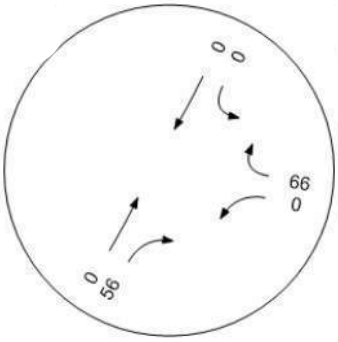
5. Johnson Road / Stoddard Wells Road



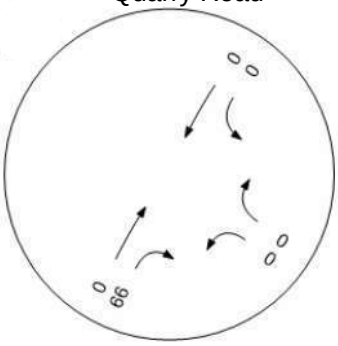
6. I-15 NB Ramps / Stoddard Wells Road



7. Quarry Road / Stoddard Wells Road



8. I-15 SB Ramps / Quarry Road



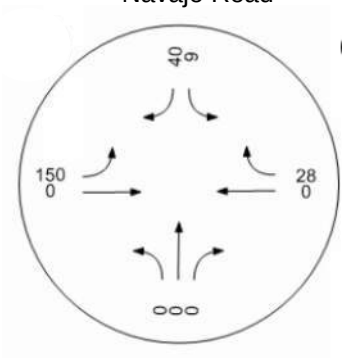


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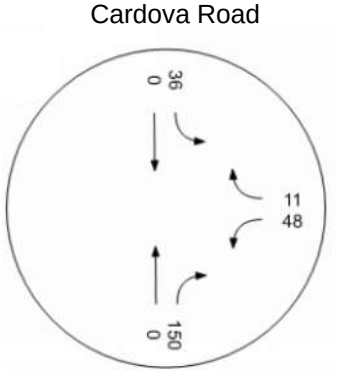
EXHIBIT E1

TOTAL PROJECT PCE TRIPS (AM PEAK HOUR)

9. Johnson Road / Navajo Road



10. Dale Evans Parkway / Cardova Road



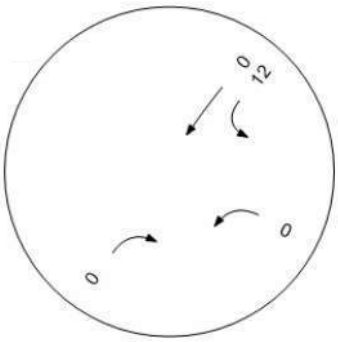


DAVID EVANS AND ASSOCIATES INC.

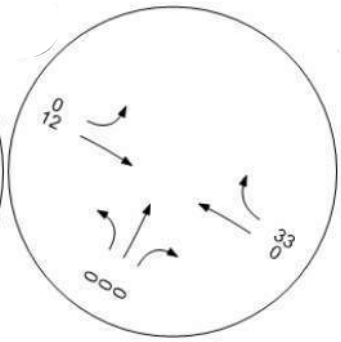
EXHIBIT E2

TOTAL PROJECT PCE TRIPS (AM PEAK HOUR)

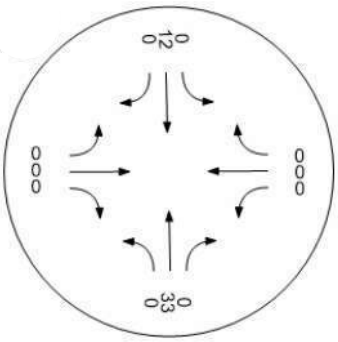
1. I-15 SB Ramps / Dale Evans Pkwy



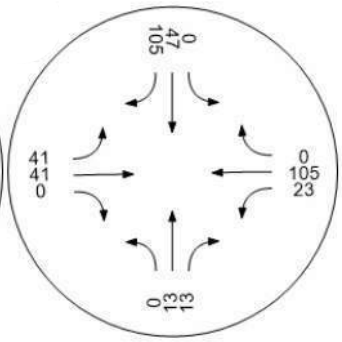
2. I-15 NB Ramps / Dale Evans Pkwy



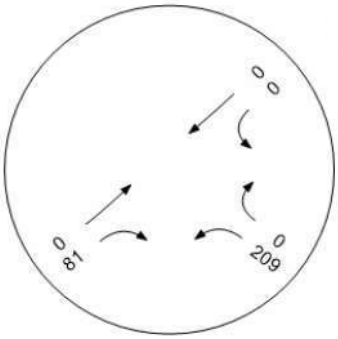
3. Quarry Road / Dale Evans Pkwy



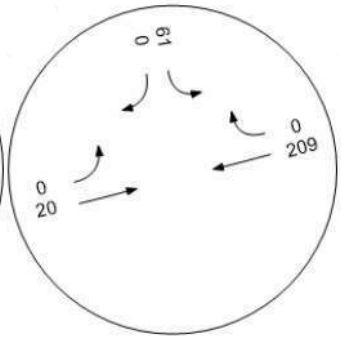
4. Johnson Road / Dale Evans Pkwy



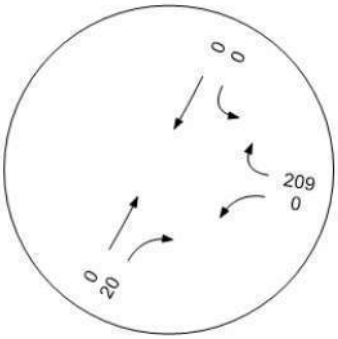
5. Johnson Road / Stoddard Wells Road



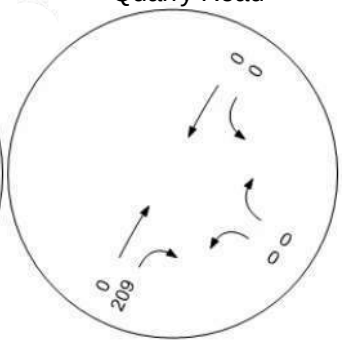
6. I-15 NB Ramps / Stoddard Wells Road



7. Quarry Road / Stoddard Wells Road



8. I-15 SB Ramps / Quarry Road



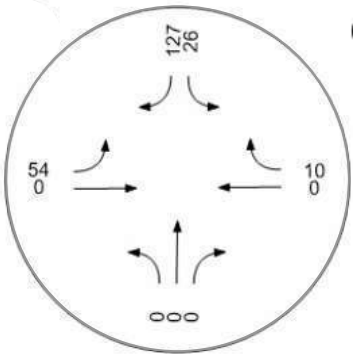


DAVID EVANS AND ASSOCIATES INC.

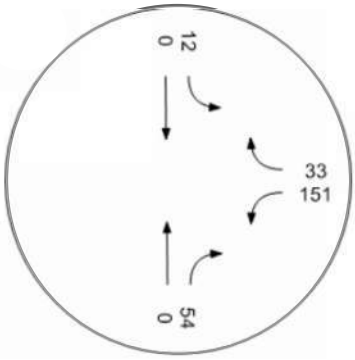
EXHIBIT F1

TOTAL PROJECT PCE TRIPS (PM PEAK HOUR)

9. Johnson Road / Navajo Road



10. Dale Evans Parkway / Cordova Road





DAVID EVANS AND ASSOCIATES INC.

EXHIBIT F2

TOTAL PROJECT PCE TRIPS (PM PEAK HOUR)

Appendix B: Traffic Counts

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: DALE EVANS PKWY
EAST-WEST STREET: QUARRY RD
JURISDICTION: APPLE VALLEY

DATE: 11-03-22

PEAK HOUR: 07:15AM

NORTH LEG

TOTAL: 83

Rt	Thru	Lt	
3	43	37	Total
0	16	7	1st
2	6	14	2nd
0	12	10	3rd
1	9	6	4th

EAST LEG TOTAL: 65

	1st	2nd	3rd	4th	Total
Rt	12	10	13	10	45
Thru	3	3	6	7	19
Lt	0	1	0	0	1

WEST LEG TOTAL: 32

Total	1st	2nd	3rd	4th	
7	0	2	2	3	Lt
19	3	5	5	6	Thru
6	0	2	1	3	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.90
SOUTH LEG = 0.77
EAST LEG = 0.86
WEST LEG = 0.67

ALL LEGS = 0.95

SOUTH LEG

TOTAL: 102

	Lt	Thru	Rt
1st	4	29	0
2nd	3	14	2
3rd	2	22	1
4th	3	20	2
Total	12	85	5

HOUR TOTAL: 282

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : DALE EVANS PKWY — APPLE VALLEY

EAST-WEST STREET : QUARRY RD — 11-03-22

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
					NORTH LEG							
0	14	2	0	1	0	0	0	0	0	3	0	20
0	16	7	0	0	0	0	0	0	0	0	0	23
2	5	14	0	1	0	0	0	0	0	0	0	22
0	7	10	0	0	0	0	0	0	0	5	0	22
1	5	6	0	1	0	0	0	0	0	3	0	16
1	10	9	0	0	0	0	0	0	0	2	0	22
0	8	8	0	0	0	0	0	0	0	1	0	17
1	12	6	0	1	0	0	0	0	0	3	0	23
5	77	62	0	4	0	0	0	0	0	17	0	165
					SOUTH LEG							
0	29	1	0	0	0	0	0	0	0	2	0	32
0	27	4	0	1	0	0	1	0	0	0	0	33
1	11	3	1	0	0	0	0	0	0	3	0	19
1	19	2	0	1	0	0	0	0	0	2	0	25
2	16	3	0	2	0	0	0	0	0	2	0	25
1	14	3	0	1	0	0	0	0	0	0	0	19
0	11	0	0	0	0	0	0	0	0	1	0	12
1	14	2	0	0	0	0	0	0	0	1	0	18
6	141	18	1	5	0	0	1	0	0	11	0	183
					EAST LEG							
6	2	0	0	0	0	0	0	0	0	0	0	8
12	3	0	0	0	0	0	0	0	0	0	0	15
10	3	1	0	0	0	0	0	0	0	0	0	14
13	6	0	0	0	0	0	0	0	0	0	0	19
10	7	0	0	0	0	0	0	0	0	0	0	17
12	5	2	0	0	0	0	0	0	0	0	0	19
8	4	1	0	0	0	0	0	0	0	0	0	13
8	7	0	0	0	0	0	0	0	0	0	0	15
79	37	4	0	0	0	0	0	0	0	0	0	120
					WEST LEG							
0	4	0	0	0	0	0	0	0	0	0	0	4
0	3	0	0	0	0	0	0	0	0	0	0	3
2	5	2	0	0	0	0	0	0	0	0	0	9
1	5	2	0	0	0	0	0	0	0	0	0	8
3	6	3	0	0	0	0	0	0	0	0	0	12
0	4	2	0	0	0	0	0	0	0	0	0	6
1	4	0	0	0	0	0	0	0	0	0	0	5
1	5	0	0	0	0	0	0	0	0	0	0	6
8	36	9	0	0	0	0	0	0	0	0	0	53

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DALE EVANS PKWY

EAST-WEST STREET: QUARRY RD

TIME: 07:00AM-08:00AM DATE: 11-03-22

NORTH LEG

Rt	Thru	Lt	
2	52	33	Total
0	18	2	1st
0	16	7	2nd
2	6	14	3rd
0	12	10	4th

	1st	2nd	3rd	4th	Total
Rt	6	12	10	13	41
Thru	2	3	3	6	14
Lt	0	0	1	0	1

Total	1st	2nd	3rd	4th	
4	0	0	2	2	Lt
17	4	3	5	5	Thru
3	0	0	2	1	Rt

	Lt	Thru	Rt
1st	1	31	0
2nd	4	29	0
3rd	3	14	2
4th	2	22	1
Total	10	96	3

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DALE EVANS PKWY

EAST-WEST STREET: QUARRY RD

TIME: 08:00AM-09:00AM DATE: 11-03-22

NORTH LEG

Rt	Thru	Lt	
3	46	29	Total
1	9	6	1st
1	12	9	2nd
0	9	8	3rd
1	16	6	4th

	1st	2nd	3rd	4th	Total
Rt	10	12	8	8	38
Thru	7	5	4	7	23
Lt	0	2	1	0	3

Total	1st	2nd	3rd	4th	
5	3	2	0	0	Lt
19	6	4	4	5	Thru
5	3	0	1	1	Rt

	Lt	Thru	Rt
1st	3	20	2
2nd	3	15	1
3rd	0	12	0
4th	2	15	1
Total	8	62	4

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: DALE EVANS PKWY
EAST-WEST STREET: QUARRY RD
JURISDICTION: APPLE VALLEY

DATE: 11-03-22

PEAK HOUR: 04:30PM

NORTH LEG

TOTAL: 253

Rt	Thru	Lt	
2	219	32	Total
1	64	5	1st
0	50	9	2nd
1	57	11	3rd
0	48	7	4th

EAST LEG TOTAL: 62

	1st	2nd	3rd	4th	Total
Rt	4	2	6	6	18
Thru	13	9	4	15	41
Lt	1	1	1	0	3

WEST LEG TOTAL: 39

Total	1st	2nd	3rd	4th	
3	2	0	0	1	Lt
35	10	7	6	12	Thru
1	0	1	0	0	Rt

SOUTH LEG

TOTAL: 112

	Lt	Thru	Rt
1st	0	29	2
2nd	2	12	1
3rd	1	25	3
4th	1	34	2
Total	4	100	8

PEAK HOUR FACTORS

NORTH LEG = 0.90
SOUTH LEG = 0.76
EAST LEG = 0.74
WEST LEG = 0.75

ALL LEGS = 0.89

HOUR TOTAL: 466

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : DALE EVANS PKWY — APPLE VALLEY

EAST-WEST STREET : QUARRY RD — 11-03-22

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
					NORTH LEG							
0	29	8	0	1	0	0	0	0	0	1	0	39
1	41	6	0	0	0	0	0	0	0	0	0	48
1	61	5	0	1	0	0	1	0	0	1	0	70
0	48	9	0	0	0	0	1	0	0	1	0	59
1	56	11	0	1	0	0	0	0	0	0	0	69
0	46	7	0	2	0	0	0	0	0	0	0	55
1	37	12	0	0	0	0	0	0	0	3	0	53
1	32	10	0	0	0	0	0	0	0	1	0	44
5	350	68	0	5	0	0	2	0	0	7	0	437
					SOUTH LEG							
0	16	2	0	0	0	0	0	0	0	1	0	19
2	22	1	0	0	0	0	0	0	0	1	0	26
2	28	0	0	0	0	0	0	0	0	1	0	31
1	10	2	0	0	0	0	0	0	0	2	0	15
3	25	1	0	0	0	0	0	0	0	0	0	29
2	32	1	0	0	0	0	0	0	0	2	0	37
2	10	0	0	0	0	0	0	0	0	1	0	13
0	11	1	0	0	0	0	0	0	0	0	0	12
12	154	8	0	0	0	0	0	0	0	8	0	182
					EAST LEG							
3	10	2	0	0	0	0	0	0	0	0	0	15
5	19	0	0	0	0	0	0	0	0	0	0	24
4	13	1	0	0	0	0	0	0	0	0	0	18
2	9	1	0	0	0	0	0	0	0	0	0	12
6	4	1	0	0	0	0	0	0	0	0	0	11
6	15	0	0	0	0	0	0	0	0	0	0	21
4	11	0	0	0	0	0	0	0	0	0	0	15
3	14	1	0	0	0	0	0	0	0	0	0	18
33	95	6	0	0	0	0	0	0	0	0	0	134
					WEST LEG							
1	11	0	0	0	0	0	0	0	0	0	0	12
0	15	0	0	0	0	0	0	0	0	0	0	15
0	10	2	0	0	0	0	0	0	0	0	0	12
1	7	0	0	0	0	0	0	0	0	0	0	8
0	6	0	0	0	0	0	0	0	0	0	0	6
0	12	1	0	0	0	0	0	0	0	0	0	13
2	7	1	0	0	0	0	0	0	0	0	0	10
1	8	1	0	0	0	0	0	0	0	0	0	10
5	76	5	0	0	0	0	0	0	0	0	0	86

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DALE EVANS PKWY

EAST-WEST STREET: QUARRY RD

TIME: 04:00PM-05:00PM DATE: 11-03-22

NORTH LEG

Rt	Thru	Lt	
2	186	28	Total
0	31	8	1st
1	41	6	2nd
1	64	5	3rd
0	50	9	4th

	1st	2nd	3rd	4th	Total
Rt	3	5	4	2	14
Thru	10	19	13	9	51
Lt	2	0	1	1	4

Total	1st	2nd	3rd	4th	
2	0	0	2	0	Lt
43	11	15	10	7	Thru
2	1	0	0	1	Rt

	Lt	Thru	Rt
1st	2	17	0
2nd	1	23	2
3rd	0	29	2
4th	2	12	1
Total	5	81	5

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DALE EVANS PKWY

EAST-WEST STREET: QUARRY RD

TIME: 05:00PM-06:00PM DATE: 11-03-22

NORTH LEG

Rt	Thru	Lt	
3	178	40	Total
1	57	11	1st
0	48	7	2nd
1	40	12	3rd
1	33	10	4th

	1st	2nd	3rd	4th	Total
Rt	6	6	4	3	19
Thru	4	15	11	14	44
Lt	1	0	0	1	2

Total	1st	2nd	3rd	4th	
3	0	1	1	1	Lt
33	6	12	7	8	Thru
3	0	0	2	1	Rt

	Lt	Thru	Rt
1st	1	25	3
2nd	1	34	2
3rd	0	11	2
4th	1	11	0
Total	3	81	7

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: DALE EVANS PKWY
EAST-WEST STREET: JOHNSON RD
JURISDICTION: APPLE VALLEY

DATE: 11-03-22

PEAK HOUR: 07:15AM

NORTH LEG

TOTAL: 55

	35	20	Total
0	13	4	1st
0	5	8	2nd
0	8	5	3rd
0	9	3	4th
Rt	Thru	Lt	

EAST LEG TOTAL: 153

Rt	6	6	10	11	33
Thru	26	32	22	29	109
Lt	3	2	3	3	11
	1st	2nd	3rd	4th	Total

WEST LEG TOTAL: 69

Total	1st	2nd	3rd	4th	
5	2	0	2	1	Lt
50	15	11	14	10	Thru
14	0	3	7	4	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.81
SOUTH LEG = 0.82
EAST LEG = 0.89
WEST LEG = 0.75

ALL LEGS = 0.95

SOUTH LEG

TOTAL: 95

	Lt	Thru	Rt
1st	0	25	4
2nd	2	13	5
3rd	3	15	5
4th	3	14	6
Total	8	67	20

HOUR TOTAL: 372

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : DALE EVANS PKWY — APPLE VALLEY

EAST-WEST STREET : JOHNSON RD — 11-03-22

BEGINNING TIME : 07:00AM

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
						NORTH LEG						
0	12	1	0	1	0	0	0	0	0	2	1	17
0	13	3	0	0	1	0	0	0	0	0	0	17
0	4	8	0	1	0	0	0	0	0	0	0	13
0	5	3	0	0	0	0	0	0	0	3	2	13
0	6	2	0	1	0	0	0	0	0	2	1	12
0	6	6	0	0	0	0	0	0	0	3	0	15
0	6	5	0	0	0	0	0	0	0	0	0	11
0	12	1	0	0	1	0	0	0	0	0	3	17
0	64	29	0	3	2	0	0	0	0	10	7	115
						SOUTH LEG						
5	25	0	0	0	0	0	0	0	0	0	0	30
3	25	0	1	0	0	0	0	0	0	0	0	29
5	13	2	0	0	0	0	0	0	0	0	0	20
5	15	3	0	0	0	0	0	0	0	0	0	23
6	14	3	0	0	0	0	0	0	0	0	0	23
4	9	2	0	0	0	0	0	0	0	0	0	15
6	8	2	0	0	0	0	0	0	0	0	0	16
5	11	0	0	0	0	0	0	0	0	0	0	16
39	120	12	1	0	0	0	0	0	0	0	0	172
						EAST LEG						
3	24	1	0	1	0	0	0	0	2	1	0	32
5	24	3	0	1	0	1	1	0	0	0	0	35
4	30	2	0	0	0	0	1	0	2	1	0	40
6	18	3	1	2	0	0	1	0	3	1	0	35
10	28	3	1	0	0	0	0	0	0	1	0	43
9	27	2	1	1	0	0	1	0	0	0	0	41
3	30	2	0	0	0	0	1	0	1	0	0	37
6	48	0	0	0	0	0	0	0	1	0	0	55
46	229	16	3	5	0	1	5	0	9	4	0	318
						WEST LEG						
0	9	2	0	0	0	0	1	0	0	0	0	12
0	14	2	0	1	0	0	0	0	0	0	0	17
2	9	0	0	1	0	0	0	0	1	1	0	14
6	14	2	0	0	0	1	0	0	0	0	0	23
2	7	1	0	1	0	0	1	0	2	1	0	15
5	16	0	0	0	0	0	0	0	0	0	0	21
5	14	0	0	0	0	0	0	0	0	0	0	19
3	8	1	0	0	0	0	1	0	0	0	0	13
23	91	8	0	3	0	1	3	0	3	2	0	134

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DALE EVANS PKWY

EAST-WEST STREET: JOHNSON RD

TIME: 07:00AM-08:00AM DATE: 11-03-22

NORTH LEG

Rt	Thru	Lt	
0	41	19	Total
0	15	2	1st
0	13	4	2nd
0	5	8	3rd
0	8	5	4th

	1st	2nd	3rd	4th	Total
Rt	5	6	6	10	27
Thru	26	26	32	22	106
Lt	1	3	2	3	9

Total	1st	2nd	3rd	4th	
6	2	2	0	2	Lt
50	10	15	11	14	Thru
10	0	0	3	7	Rt

	Lt	Thru	Rt
1st	0	25	5
2nd	0	25	4
3rd	2	13	5
4th	3	15	5
Total	5	78	19

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DALE EVANS PKWY

EAST-WEST STREET: JOHNSON RD

TIME: 08:00AM-09:00AM DATE: 11-03-22

NORTH LEG

Rt	Thru	Lt	
0	36	19	Total
0	9	3	1st
0	9	6	2nd
0	6	5	3rd
0	12	5	4th

	1st	2nd	3rd	4th	Total
Rt	11	10	4	7	32
Thru	29	29	31	48	137
Lt	3	2	2	0	7

Total	1st	2nd	3rd	4th	
2	1	0	0	1	Lt
49	10	16	14	9	Thru
17	4	5	5	3	Rt

	Lt	Thru	Rt
1st	3	14	6
2nd	2	9	4
3rd	2	8	6
4th	0	11	5
Total	7	42	21

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: DALE EVANS PKWY
EAST-WEST STREET: JOHNSON RD
JURISDICTION: APPLE VALLEY

DATE: 11-03-22

PEAK HOUR: 04:15PM

NORTH LEG

TOTAL: 214

	170	44	Total
0	29	12	1st
0	50	15	2nd
0	40	11	3rd
0	51	6	4th
Rt	Thru	Lt	

EAST LEG TOTAL: 231

Rt	7	5	4	3	19
Thru	45	50	44	46	185
Lt	10	8	5	4	27
	1st	2nd	3rd	4th	Total

Total	1st	2nd	3rd	4th	
3	2	1	0	0	Lt
101	26	31	29	15	Thru
22	3	7	5	7	Rt

WEST LEG TOTAL: 126

PEAK HOUR FACTORS

NORTH LEG = 0.82
SOUTH LEG = 0.88
EAST LEG = 0.92
WEST LEG = 0.81

ALL LEGS = 0.86

	Lt	Thru	Rt
1st	2	18	15
2nd	5	25	11
3rd	3	11	14
4th	6	26	8
Total	16	80	48

TOTAL: 144

SOUTH LEG

HOUR TOTAL: 715

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : DALE EVANS PKWY — APPLE VALLEY

EAST-WEST STREET : JOHNSON RD — 11-03-22

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
0	21	11	0	0	1	0	0	0	0	1	0	34
0	29	12	0	0	0	0	0	0	0	0	0	41
0	50	13	0	0	1	0	0	1	0	0	0	65
0	40	8	0	0	0	0	0	1	0	0	2	51
0	50	6	0	1	0	0	0	0	0	0	0	57
0	40	6	0	0	2	0	0	0	0	0	0	48
0	38	2	0	0	0	0	0	0	0	0	3	43
0	29	5	0	0	0	0	0	0	0	0	1	35
0	297	63	0	1	4	0	0	2	0	1	6	374
SOUTH LEG												
10	13	3	0	0	0	0	0	0	0	1	0	27
15	17	2	0	0	0	0	0	0	0	1	0	35
11	24	5	0	0	0	0	0	0	0	1	0	41
14	9	3	0	0	0	0	0	0	0	2	0	28
8	26	6	0	0	0	0	0	0	0	0	0	40
10	27	5	0	0	0	0	0	0	0	3	0	45
6	7	3	0	0	0	0	0	0	0	0	0	16
6	9	5	0	0	0	0	0	0	0	0	0	20
80	132	32	0	0	0	0	0	0	0	8	0	252
EAST LEG												
5	30	3	0	0	0	0	0	0	0	3	0	41
7	45	10	0	0	0	0	0	0	0	0	0	62
5	48	8	0	0	0	0	0	0	0	2	0	63
4	44	5	0	0	0	0	0	0	0	0	0	53
3	45	4	0	0	0	0	0	0	0	1	0	53
5	35	4	0	0	0	0	0	0	0	0	0	44
5	39	5	0	0	0	0	0	0	0	0	0	49
3	42	3	0	0	0	0	0	0	0	0	0	48
37	328	42	0	0	0	0	0	0	0	6	0	413
WEST LEG												
3	24	0	0	1	0	0	0	0	0	0	0	28
3	26	2	0	0	0	0	0	0	0	0	0	31
6	30	1	0	1	0	0	0	0	1	0	0	39
5	28	0	0	0	0	0	0	0	0	1	0	34
7	14	0	0	0	0	0	0	0	0	1	0	22
7	13	1	0	0	0	0	0	0	0	0	0	21
4	14	1	0	0	0	0	0	0	0	0	0	19
4	11	1	0	0	0	0	0	0	1	0	0	17
39	160	6	0	2	0	0	0	0	2	2	0	211

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DALE EVANS PKWY

EAST-WEST STREET: JOHNSON RD

TIME: 04:00PM-05:00PM DATE: 11-03-22

NORTH LEG

Rt	Thru	Lt	
0	141	50	Total
0	22	12	1st
0	29	12	2nd
0	50	15	3rd
0	40	11	4th

	1st	2nd	3rd	4th	Total
Rt	5	7	5	4	21
Thru	33	45	50	44	172
Lt	3	10	8	5	26

Total	1st	2nd	3rd	4th	
3	0	2	1	0	Lt
111	25	26	31	29	Thru
18	3	3	7	5	Rt

	Lt	Thru	Rt
1st	3	14	10
2nd	2	18	15
3rd	5	25	11
4th	3	11	14
Total	13	68	50

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DALE EVANS PKWY

EAST-WEST STREET: JOHNSON RD

TIME: 05:00PM-06:00PM DATE: 11-03-22

NORTH LEG

Rt	Thru	Lt	
0	158	25	Total
0	51	6	1st
0	40	8	2nd
0	38	5	3rd
0	29	6	4th

	1st	2nd	3rd	4th	Total
Rt	3	5	5	3	16
Thru	46	35	39	42	162
Lt	4	4	5	3	16

Total	1st	2nd	3rd	4th	
3	0	1	1	1	Lt
53	15	13	14	11	Thru
23	7	7	4	5	Rt

	Lt	Thru	Rt
1st	6	26	8
2nd	5	30	10
3rd	3	7	6
4th	5	9	6
Total	19	72	30

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: STODDARD WELLS RD
EAST-WEST STREET: JOHNSON RD
JURISDICTION: APPLE VALLEY

DATE: 11-09-22

PEAK HOUR: 07:15AM

NORTH LEG

TOTAL: 50

	49	1	Total
0	12	0	1st
0	15	1	2nd
0	11	0	3rd
0	11	0	4th
Rt	Thru	Lt	

EAST LEG TOTAL: 138

Rt	2	0	1	2	5
Thru	0	0	0	0	
Lt	25	38	40	30	133
	1st	2nd	3rd	4th	Total

WEST LEG TOTAL: 0

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

PEAK HOUR FACTORS

NORTH LEG = 0.78
SOUTH LEG = 0.46
EAST LEG = 0.84
WEST LEG =

ALL LEGS = 0.79

SOUTH LEG

TOTAL: 88

	Lt	Thru	Rt
1st	0	8	40
2nd	0	0	15
3rd	0	1	7
4th	0	4	13
Total		13	75

HOUR TOTAL: 276

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : STODDARD WELLS RD — APPLE VALLEY

EAST-WEST STREET : JOHNSON RD — 11-09-22

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
0	10	0	0	0	0	0	0	0	0	0	0	10
0	12	0	0	0	0	0	0	0	0	0	0	12
0	15	1	0	0	0	0	0	0	0	0	0	16
0	11	0	0	0	0	0	0	0	0	0	0	11
0	10	0	0	0	0	0	1	0	0	0	0	11
0	12	0	0	1	0	0	1	0	0	0	0	14
0	10	2	0	0	0	0	0	0	0	0	0	12
0	8	1	0	0	0	0	0	0	0	0	0	9
0	88	4	0	1	0	0	2	0	0	0	0	95
SOUTH LEG												
12	1	0	0	0	0	1	0	0	0	0	0	14
38	8	0	0	0	0	1	0	0	1	0	0	48
15	0	0	0	0	0	0	0	0	0	0	0	15
6	1	0	1	0	0	0	0	0	0	0	0	8
13	3	0	0	0	0	0	1	0	0	0	0	17
3	1	0	0	0	0	0	0	0	1	0	0	5
8	2	0	0	0	0	0	0	0	0	0	0	10
3	0	0	0	0	0	0	0	0	0	0	0	3
98	16	0	1	0	0	2	1	0	2	0	0	120
EAST LEG												
0	0	30	0	0	0	0	0	1	0	0	1	32
2	0	20	0	0	2	0	0	1	0	0	2	27
0	0	38	0	0	0	0	0	0	0	0	0	38
1	0	39	0	0	1	0	0	0	0	0	0	41
2	0	30	0	0	0	0	0	0	0	0	0	32
2	0	29	0	0	1	0	0	4	0	0	0	36
1	0	20	0	0	0	0	0	0	0	0	0	21
2	0	13	0	0	0	0	0	0	0	0	0	15
10	0	219	0	0	4	0	0	6	0	0	3	242
WEST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: STODDARD WELLS RD

EAST-WEST STREET: JOHNSON RD

TIME: 07:00AM-08:00AM DATE: 11-09-22

NORTH LEG

Rt	Thru	Lt	
0	48	1	Total
0	10	0	1st
0	12	0	2nd
0	15	1	3rd
0	11	0	4th

	1st	2nd	3rd	4th	Total
Rt	0	2	0	1	3
Thru	0	0	0	0	0
Lt	32	25	38	40	135

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

	Lt	Thru	Rt
1st	0	1	13
2nd	0	8	40
3rd	0	0	15
4th	0	1	7
Total	0	10	75

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: STODDARD WELLS RD

EAST-WEST STREET: JOHNSON RD

TIME: 08:00AM-09:00AM DATE: 11-09-22

NORTH LEG

Rt	Thru	Lt	
0	43	3	Total
0	11	0	1st
0	14	0	2nd
0	10	2	3rd
0	8	1	4th

	1st	2nd	3rd	4th	Total
Rt	2	2	1	2	7
Thru	0	0	0	0	0
Lt	30	34	20	13	97

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

	Lt	Thru	Rt
1st	0	4	13
2nd	0	1	4
3rd	0	2	8
4th	0	0	3
Total	0	7	28

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: STODDARD WELLS RD
EAST-WEST STREET: JOHNSON RD
JURISDICTION: APPLE VALLEY

DATE: 11-09-22

PEAK HOUR: 04:00PM

NORTH LEG

TOTAL: 146

Rt	Thru	Lt	
	115	31	Total
0	32	6	1st
0	25	6	2nd
0	28	8	3rd
0	30	11	4th

EAST LEG TOTAL: 267

	1st	2nd	3rd	4th	Total
Rt	6	5	9	4	24
Thru	0	0	0	0	
Lt	84	34	64	61	243

WEST LEG TOTAL: 0

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

PEAK HOUR FACTORS

NORTH LEG = 0.89
SOUTH LEG = 0.80
EAST LEG = 0.74
WEST LEG =

ALL LEGS = 0.81

SOUTH LEG

TOTAL: 70

	Lt	Thru	Rt
1st	0	5	16
2nd	0	7	15
3rd	0	4	10
4th	0	4	9
Total		20	50

HOUR TOTAL: 483

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : STODDARD WELLS RD — APPLE VALLEY

EAST-WEST STREET : JOHNSON RD — 11-09-22

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
0	32	6	0	0	0	0	0	0	0	0	0	38
0	25	6	0	0	0	0	0	0	0	0	0	31
0	28	8	0	0	0	0	0	0	0	0	0	36
0	30	11	0	0	0	0	0	0	0	0	0	41
0	28	4	0	0	0	0	0	0	0	0	0	32
0	35	5	0	0	0	0	0	0	0	0	0	40
0	22	5	0	0	0	0	0	0	0	0	0	27
0	25	4	0	0	0	0	0	0	0	0	0	29
0	225	49	0	0	0	0	0	0	0	0	0	274
SOUTH LEG												
16	5	0	0	0	0	0	0	0	0	0	0	21
15	7	0	0	0	0	0	0	0	0	0	0	22
8	4	0	0	0	0	0	0	0	2	0	0	14
9	4	0	0	0	0	0	0	0	0	0	0	13
11	4	0	0	0	0	0	0	0	0	0	0	15
16	5	0	0	0	0	0	0	0	0	0	0	21
12	5	0	0	0	0	0	0	0	0	0	0	17
10	4	0	0	0	0	0	0	0	0	0	0	14
97	38	0	0	0	0	0	0	0	2	0	0	137
EAST LEG												
6	0	78	0	0	1	0	0	0	0	0	5	90
5	0	34	0	0	0	0	0	0	0	0	0	39
9	0	64	0	0	0	0	0	0	0	0	0	73
4	0	61	0	0	0	0	0	0	0	0	0	65
5	0	42	0	0	0	0	0	0	0	0	0	47
5	0	62	0	0	0	0	0	0	0	0	0	67
7	0	40	0	0	0	0	0	0	0	0	0	47
4	0	45	0	0	0	0	0	0	0	0	0	49
45	0	426	0	0	1	0	0	0	0	0	5	477
WEST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: STODDARD WELLS RD

EAST-WEST STREET: JOHNSON RD

TIME: 04:00PM-05:00PM DATE: 11-09-22

NORTH LEG

Rt	Thru	Lt	
0	115	31	Total
0	32	6	1st
0	25	6	2nd
0	28	8	3rd
0	30	11	4th

	1st	2nd	3rd	4th	Total
Rt	6	5	9	4	24
Thru	0	0	0	0	0
Lt	84	34	64	61	243

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

	Lt	Thru	Rt
1st	0	5	16
2nd	0	7	15
3rd	0	4	10
4th	0	4	9
Total	0	20	50

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: STODDARD WELLS RD

EAST-WEST STREET: JOHNSON RD

TIME: 05:00PM-06:00PM DATE: 11-09-22

NORTH LEG

Rt	Thru	Lt	
0	110	18	Total
0	28	4	1st
0	35	5	2nd
0	22	5	3rd
0	25	4	4th

	1st	2nd	3rd	4th	Total
Rt	5	5	7	4	21
Thru	0	0	0	0	0
Lt	42	62	40	45	189

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

	Lt	Thru	Rt
1st	0	4	11
2nd	0	5	16
3rd	0	5	12
4th	0	4	10
Total	0	18	49

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: I-15 NB RAMPS
EAST-WEST STREET: STODDARD WELLS RD
JURISDICTION: APPLE VALLEY

DATE: 11-09-22

PEAK HOUR: 07:00AM

NORTH LEG

TOTAL: 43

Rt	Thru	Lt	
42		1	Total
1	0	1	1st
16	0	0	2nd
19	0	0	3rd
6	0	0	4th

EAST LEG TOTAL: 183

	1st	2nd	3rd	4th	Total
Rt	7	14	15	21	57
Thru	34	23	38	30	125
Lt	1	0	0	0	1

WEST LEG TOTAL: 345

Total	1st	2nd	3rd	4th	
256	93	25	77	61	Lt
80	11	58	4	7	Thru
9	2	5	2	0	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.57
SOUTH LEG = 0.25
EAST LEG = 0.86
WEST LEG = 0.81

ALL LEGS = 0.92

SOUTH LEG

TOTAL: 2

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

HOUR TOTAL: 573

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : I-15 NB RAMPS — APPLE VALLEY

EAST-WEST STREET : STODDARD WELLS RD — 11-09-22

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
					NORTH LEG							
0	0	0	1	0	0	0	0	1	0	0	0	2
15	0	0	1	0	0	0	0	0	0	0	0	16
18	0	0	0	0	0	1	0	0	0	0	0	19
6	0	0	0	0	0	0	0	0	0	0	0	6
10	0	2	1	0	0	2	0	0	0	0	0	15
13	0	3	4	0	0	2	0	0	0	0	0	22
18	0	1	0	0	0	0	0	0	0	0	0	19
12	0	0	0	0	0	0	0	0	0	0	0	12
92	0	6	7	0	0	5	0	1	0	0	0	111
					SOUTH LEG							
0	2	0	0	0	0	0	0	0	0	0	0	2
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	6
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
6	2	0	0	0	0	0	0	0	0	0	0	8
					EAST LEG							
5	34	1	0	0	0	1	0	0	1	0	0	42
10	22	0	2	0	0	1	0	0	1	1	0	37
15	38	0	0	0	0	0	0	0	0	0	0	53
20	30	0	1	0	0	0	0	0	0	0	0	51
12	28	0	0	0	0	1	0	0	0	0	0	41
18	22	0	2	1	0	5	0	0	0	0	0	48
10	20	0	0	0	0	0	0	0	0	0	0	30
9	13	0	0	0	0	0	0	0	0	0	0	22
99	207	1	5	1	0	8	0	0	2	1	0	324
					WEST LEG							
2	11	88	0	0	1	0	0	0	0	0	4	106
5	57	15	0	0	4	0	0	1	0	1	5	88
2	4	69	0	0	1	0	0	4	0	0	3	83
0	6	58	0	1	1	0	0	1	0	0	1	68
0	8	39	0	0	3	0	1	1	0	0	9	61
0	1	6	0	0	0	0	0	2	0	1	8	18
1	9	40	0	0	0	0	0	0	0	0	1	51
0	3	49	0	0	0	0	0	0	0	0	1	53
10	99	364	0	1	10	0	1	9	0	2	32	528

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: I-15 NB RAMPS

EAST-WEST STREET: STODDARD WELLS RD

TIME: 07:00AM-08:00AM DATE: 11-09-22

NORTH LEG

Rt	Thru	Lt	
42	0	1	Total
1	0	1	1st
16	0	0	2nd
19	0	0	3rd
6	0	0	4th

	1st	2nd	3rd	4th	Total
Rt	7	14	15	21	57
Thru	34	23	38	30	125
Lt	1	0	0	0	1

Total	1st	2nd	3rd	4th	
256	93	25	77	61	Lt
80	11	58	4	7	Thru
9	2	5	2	0	Rt

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: I-15 NB RAMPS

EAST-WEST STREET: STODDARD WELLS RD

TIME: 08:00AM-09:00AM DATE: 11-09-22

NORTH LEG

Rt	Thru	Lt	
62	0	6	Total
13	0	2	1st
19	0	3	2nd
18	0	1	3rd
12	0	0	4th

	1st	2nd	3rd	4th	Total
Rt	13	25	10	9	57
Thru	28	23	20	13	84
Lt	0	0	0	0	0

Total	1st	2nd	3rd	4th	
159	52	16	41	50	Lt
23	9	2	9	3	Thru
1	0	0	1	0	Rt

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: I-15 NB RAMPS
EAST-WEST STREET: STODDARD WELLS RD
JURISDICTION: APPLE VALLEY

DATE: 11-09-22

PEAK HOUR: 04:30PM

NORTH LEG

TOTAL: 152

Rt	Thru	Lt	
135		17	Total
20	0	4	1st
19	0	4	2nd
64	0	5	3rd
32	0	4	4th

EAST LEG TOTAL: 354

	1st	2nd	3rd	4th	Total
Rt	17	14	12	17	60
Thru	74	81	57	78	290
Lt	0	0	1	3	4

WEST LEG TOTAL: 264

Total	1st	2nd	3rd	4th	
217	53	48	52	64	Lt
46	10	9	10	17	Thru
1	0	0	0	1	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.55
SOUTH LEG = 0.75
EAST LEG = 0.90
WEST LEG = 0.80

ALL LEGS = 0.89

SOUTH LEG

TOTAL: 3

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

HOUR TOTAL: 773

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : I-15 NB RAMPS — APPLE VALLEY

EAST-WEST STREET : STODDARD WELLS RD — 11-09-22

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
					NORTH LEG							
17	0	1	2	0	0	1	0	0	0	0	0	21
29	0	3	0	0	0	0	0	0	0	0	0	32
19	0	4	0	0	0	1	0	0	0	0	0	24
19	0	4	0	0	0	0	0	0	0	0	0	23
64	0	5	0	0	0	0	0	0	0	0	0	69
32	0	4	0	0	0	0	0	0	0	0	0	36
57	0	6	0	0	0	0	0	0	0	0	0	63
11	0	1	0	0	0	0	0	0	0	0	0	12
248	0	28	2	0	0	2	0	0	0	0	0	280
					SOUTH LEG							
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0	0	0	1
0	1	0	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0	0	0	0	0	1
0	1	0	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	3	1	0	0	0	0	0	0	0	0	0	4
					EAST LEG							
15	95	0	1	0	0	0	0	0	5	0	0	116
37	22	0	0	0	0	0	0	0	0	0	0	59
17	74	0	0	0	0	0	0	0	0	0	0	91
14	81	0	0	0	0	0	0	0	0	0	0	95
12	57	1	0	0	0	0	0	0	0	0	0	70
17	78	3	0	0	0	0	0	0	0	0	0	98
7	52	3	0	0	0	0	0	0	0	0	0	62
11	60	7	0	0	0	0	0	0	0	0	0	78
130	519	14	1	0	0	0	0	0	5	0	0	669
					WEST LEG							
0	20	57	0	0	2	0	0	5	0	0	6	90
0	19	62	0	0	0	0	0	4	0	0	7	92
0	8	50	0	0	0	0	0	1	0	2	2	63
0	9	48	0	0	0	0	0	0	0	0	0	57
0	10	52	0	0	0	0	0	0	0	0	0	62
1	17	64	0	0	0	0	0	0	0	0	0	82
0	11	37	0	0	0	0	0	0	0	0	0	48
1	13	35	0	0	0	0	0	0	0	0	1	50
2	107	405	0	0	2	0	0	10	0	2	16	544

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: I-15 NB RAMPS

EAST-WEST STREET: STODDARD WELLS RD

TIME: 04:00PM-05:00PM DATE: 11-09-22

NORTH LEG

Rt	Thru	Lt	
88	0	12	Total
20	0	1	1st
29	0	3	2nd
20	0	4	3rd
19	0	4	4th

	1st	2nd	3rd	4th	Total
Rt	21	37	17	14	89
Thru	95	22	74	81	272
Lt	0	0	0	0	0

Total	1st	2nd	3rd	4th	
244	70	73	53	48	Lt
58	20	19	10	9	Thru
0	0	0	0	0	Rt

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: I-15 NB RAMPS

EAST-WEST STREET: STODDARD WELLS RD

TIME: 05:00PM-06:00PM DATE: 11-09-22

NORTH LEG

Rt	Thru	Lt	
164	0	16	Total
64	0	5	1st
32	0	4	2nd
57	0	6	3rd
11	0	1	4th

	1st	2nd	3rd	4th	Total
Rt	12	17	7	11	47
Thru	57	78	52	60	247
Lt	1	3	3	7	14

Total	1st	2nd	3rd	4th	
189	52	64	37	36	Lt
51	10	17	11	13	Thru
2	0	1	0	1	Rt

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: STODDARD WELLS RD
EAST-WEST STREET: QUARRY RD
JURISDICTION: APPLE VALLEY

DATE: 11-09-22

PEAK HOUR: 07:00AM

NORTH LEG

TOTAL: 148

Rt	Thru	Lt	
40		108	Total
6		11	1st
5		44	2nd
14		29	3rd
15		24	4th

EAST LEG TOTAL: 167

	1st	2nd	3rd	4th	Total
Rt	29	34	46	32	141
Thru	6	5	11	4	26
Lt					

WEST LEG TOTAL: 368

Total	1st	2nd	3rd	4th	
131	27	33	31	40	Lt
237	95	44	54	44	Thru
					Rt

PEAK HOUR FACTORS

NORTH LEG = 0.76
SOUTH LEG =
EAST LEG = 0.73
WEST LEG = 0.75

ALL LEGS = 0.92

SOUTH LEG

TOTAL: 0

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

HOUR TOTAL: 683

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : STODDARD WELLS RD — APPLE VALLEY

EAST-WEST STREET : QUARRY RD — 11-09-22

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
6	0	9	0	0	0	0	0	0	0	0	2	17
4	0	41	0	0	1	0	0	0	1	0	2	49
12	0	28	0	0	0	0	0	1	2	0	0	43
13	0	22	2	0	1	0	0	0	0	0	1	39
9	0	10	0	0	1	1	0	0	0	0	3	24
9	0	2	1	0	0	0	0	1	0	0	0	13
11	0	9	0	0	0	2	0	0	0	0	2	24
8	0	9	0	0	0	0	0	0	1	0	0	18
72	0	130	3	0	3	3	0	2	4	0	10	227
SOUTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
EAST LEG												
28	5	0	1	1	0	0	0	0	0	0	0	35
33	4	0	0	1	0	0	0	0	1	0	0	39
46	10	0	0	0	0	0	1	0	0	0	0	57
32	4	0	0	0	0	0	0	0	0	0	0	36
26	12	0	0	1	0	2	0	0	0	0	0	41
20	15	0	1	4	0	1	1	0	0	0	0	42
22	16	0	0	0	0	0	0	0	0	0	0	38
13	12	0	0	0	0	0	0	0	0	0	0	25
220	78	0	2	7	0	3	2	0	1	0	0	313
WEST LEG												
0	91	27	0	2	0	0	0	0	0	2	0	122
0	36	33	0	3	0	0	1	0	0	4	0	77
0	47	31	0	1	0	0	3	0	0	3	0	85
0	42	40	0	1	0	0	1	0	0	0	0	84
0	37	23	0	2	0	0	2	0	0	6	0	70
0	7	20	0	0	0	0	1	0	0	7	0	35
0	39	16	0	0	0	0	0	0	0	1	0	56
0	43	19	0	0	0	0	0	0	0	1	0	63
0	342	209	0	9	0	0	8	0	0	24	0	592

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: STODDARD WELLS RD

EAST-WEST STREET: QUARRY RD

TIME: 07:00AM-08:00AM DATE: 11-09-22

NORTH LEG

Rt	Thru	Lt	
40		108	Total
6		11	1st
5		44	2nd
14		29	3rd
15		24	4th

	1st	2nd	3rd	4th	Total
Rt	29	34	46	32	141
Thru	6	5	11	4	26
Lt					

Total	1st	2nd	3rd	4th	
131	27	33	31	40	Lt
237	95	44	54	44	Thru
					Rt

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: STODDARD WELLS RD

EAST-WEST STREET: QUARRY RD

TIME: 08:00AM-09:00AM DATE: 11-09-22

NORTH LEG

Rt	Thru	Lt	
42		37	Total
10		14	1st
10		3	2nd
13		11	3rd
9		9	4th

	1st	2nd	3rd	4th	Total
Rt	28	22	22	13	85
Thru	13	20	16	12	61
Lt					

Total	1st	2nd	3rd	4th	
78	23	20	16	19	Lt
146	47	15	40	44	Thru
					Rt

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: STODDARD WELLS RD
EAST-WEST STREET: QUARRY RD
JURISDICTION: APPLE VALLEY

DATE: 11-09-22

PEAK HOUR: 04:30PM

NORTH LEG

TOTAL: 102

Rt	Thru	Lt	
58		44	Total
16		8	1st
19		13	2nd
10		7	3rd
13		16	4th

EAST LEG TOTAL: 425

	1st	2nd	3rd	4th	Total
Rt	66	70	53	57	246
Thru	28	30	69	52	179
Lt					

WEST LEG TOTAL: 286

Total	1st	2nd	3rd	4th	
66	13	21	14	18	Lt
220	55	44	55	66	Thru
					Rt

PEAK HOUR FACTORS

NORTH LEG = 0.80
SOUTH LEG =
EAST LEG = 0.87
WEST LEG = 0.85

ALL LEGS = 0.92

SOUTH LEG

TOTAL: 0

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

HOUR TOTAL: 813

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : STODDARD WELLS RD — APPLE VALLEY

EAST-WEST STREET : QUARRY RD — 11-09-22

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
					NORTH LEG							
7	0	18	0	0	2	1	0	2	2	0	2	34
16	0	12	0	0	0	0	0	1	0	0	4	33
13	0	7	1	0	0	2	0	0	0	0	1	24
14	0	13	1	0	0	0	0	0	4	0	0	32
10	0	7	0	0	0	0	0	0	0	0	0	17
11	0	16	2	0	0	0	0	0	0	0	0	29
10	0	9	0	0	0	1	0	0	0	0	0	20
6	0	14	1	0	0	0	0	0	1	0	1	23
87	0	96	5	0	2	4	0	3	7	0	8	212
					SOUTH LEG							
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
					EAST LEG							
89	23	0	1	1	0	0	1	0	0	0	0	115
20	31	0	0	0	0	0	0	0	0	0	0	51
65	28	0	0	0	0	1	0	0	0	0	0	94
70	30	0	0	0	0	0	0	0	0	0	0	100
53	69	0	0	0	0	0	0	0	0	0	0	122
57	52	0	0	0	0	0	0	0	0	0	0	109
47	63	0	0	0	0	0	0	0	0	0	0	110
40	31	0	0	0	0	0	0	0	0	0	0	71
441	327	0	1	1	0	1	1	0	0	0	0	772
					WEST LEG							
0	60	22	0	0	0	0	3	0	0	3	0	88
0	69	16	0	0	0	0	3	0	0	3	0	91
0	51	13	0	0	0	0	1	0	0	3	0	68
0	44	21	0	0	0	0	0	0	0	0	0	65
0	55	14	0	0	0	0	0	0	0	0	0	69
0	66	18	0	0	0	0	0	0	0	0	0	84
0	39	15	0	0	0	0	0	0	0	0	0	54
0	35	10	0	0	0	0	0	0	0	0	0	45
0	419	129	0	0	0	0	7	0	0	9	0	564

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: STODDARD WELLS RD

EAST-WEST STREET: QUARRY RD

TIME: 04:00PM-05:00PM DATE: 11-09-22

NORTH LEG

61		62	Total
10		24	1st
16		17	2nd
16		8	3rd
19		13	4th
Rt	Thru	Lt	

Rt	90	20	66	70	246
Thru	25	31	28	30	114
Lt					
	1st	2nd	3rd	4th	Total

Total	1st	2nd	3rd	4th	
72	22	16	13	21	Lt
240	66	75	55	44	Thru
					Rt

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: STODDARD WELLS RD

EAST-WEST STREET: QUARRY RD

TIME: 05:00PM-06:00PM DATE: 11-09-22

NORTH LEG

Rt	Thru	Lt	
42		47	Total
10		7	1st
13		16	2nd
11		9	3rd
8		15	4th

	1st	2nd	3rd	4th	Total
Rt	53	57	47	40	197
Thru	69	52	63	31	215
Lt					

Total	1st	2nd	3rd	4th	
57	14	18	15	10	Lt
195	55	66	39	35	Thru
					Rt

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: QUARRY RD
EAST-WEST STREET: I-15 SB RAMPS
JURISDICTION: APPLE VALLEY

DATE: 11-09-22

PEAK HOUR: 07:15AM

NORTH LEG

TOTAL: 1

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

EAST LEG TOTAL: 156

	1st	2nd	3rd	4th	Total
Rt	0	0	1	0	1
Thru					
Lt	49	43	39	24	155

WEST LEG TOTAL: 0

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

PEAK HOUR FACTORS

NORTH LEG = 0.25
SOUTH LEG = 0.89
EAST LEG = 0.80
WEST LEG =

ALL LEGS = 0.90

SOUTH LEG

TOTAL: 266

	Lt	Thru	Rt
1st		0	67
2nd		0	75
3rd		0	73
4th		1	50
Total		1	265

HOUR TOTAL: 423

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : QUARRY RD
EAST-WEST STREET : I-15 SB RAMPS
BEGINNING TIME : 07:00AM

APPLE VALLEY
11-09-22

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	2	0	0	0	0	0	0	0	0	0	2
SOUTH LEG												
54	2	0	1	0	0	0	0	0	0	0	0	57
66	0	0	0	0	0	0	0	0	1	0	0	67
75	0	0	0	0	0	0	0	0	0	0	0	75
73	0	0	0	0	0	0	0	0	0	0	0	73
48	1	0	0	0	0	2	0	0	0	0	0	51
40	0	0	1	0	0	1	0	0	0	0	0	42
39	0	0	0	0	0	0	0	0	0	0	0	39
31	1	0	0	0	0	0	0	0	0	0	0	32
426	4	0	2	0	0	3	0	0	1	0	0	436
EAST LEG												
0	0	15	0	0	0	0	0	0	0	0	2	17
0	0	45	0	0	1	0	0	0	0	0	3	49
0	0	40	0	0	0	0	0	1	0	0	2	43
1	0	35	0	0	3	0	0	0	0	0	1	40
0	0	19	0	0	1	0	0	1	0	0	3	24
0	0	12	0	0	1	0	0	1	0	0	0	14
0	0	21	0	0	0	0	0	2	0	0	2	25
0	0	15	0	0	0	0	0	0	0	0	1	16
1	0	202	0	0	6	0	0	5	0	0	14	228
WEST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: QUARRY RD

EAST-WEST STREET: I-15 SB RAMPS

TIME: 07:00AM-08:00AM DATE: 11-09-22

NORTH LEG

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

Rt	0	0	0	1	1
Thru					
Lt	17	49	43	39	148
	1st	2nd	3rd	4th	Total

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

	Lt	Thru	Rt
1st		2	55
2nd		0	67
3rd		0	75
4th		0	73
Total		2	270

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: QUARRY RD

EAST-WEST STREET: I-15 SB RAMPS

TIME: 08:00AM-09:00AM DATE: 11-09-22

NORTH LEG

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

Rt	0	0	0	0	0
Thru					
Lt	24	14	25	16	79
	1st	2nd	3rd	4th	Total

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

	Lt	Thru	Rt
1st		1	50
2nd		0	42
3rd		0	39
4th		1	31
Total		2	162

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: QUARRY RD
EAST-WEST STREET: I-15 SB RAMPS
JURISDICTION: APPLE VALLEY

DATE: 11-09-22

PEAK HOUR: 04:00PM

NORTH LEG

TOTAL: 1

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

EAST LEG TOTAL: 122

	1st	2nd	3rd	4th	Total
Rt	0	0	2	0	2
Thru					
Lt	33	32	24	31	120

WEST LEG TOTAL: 0

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

PEAK HOUR FACTORS

NORTH LEG = 0.25
SOUTH LEG = 0.71
EAST LEG = 0.92
WEST LEG =

ALL LEGS = 0.76

SOUTH LEG

TOTAL: 316

	Lt	Thru	Rt
1st		0	111
2nd		0	36
3rd		1	78
4th		0	90
Total		1	315

HOUR TOTAL: 439

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : QUARRY RD — APPLE VALLEY

EAST-WEST STREET : I-15 SB RAMPS — 11-09-22

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0	0	0	1
0	0	1	0	0	0	0	0	0	0	0	0	1
0	1	2	0	0	0	0	0	0	0	0	0	3
SOUTH LEG												
109	0	0	2	0	0	0	0	0	0	0	0	111
36	0	0	0	0	0	0	0	0	0	0	0	36
77	1	0	0	0	0	1	0	0	0	0	0	79
90	0	0	0	0	0	0	0	0	0	0	0	90
66	1	0	0	0	0	0	0	0	0	0	0	67
75	0	0	0	0	0	0	0	0	0	0	0	75
66	0	0	0	0	0	0	0	0	0	0	0	66
48	0	0	0	0	0	0	0	0	0	0	0	48
567	2	0	2	0	0	1	0	0	0	0	0	572
EAST LEG												
0	0	24	0	0	2	0	0	3	0	0	4	33
0	0	27	0	0	0	0	0	1	0	0	4	32
2	0	20	0	0	1	0	0	2	0	0	1	26
0	0	26	0	0	1	0	0	0	0	0	4	31
0	0	17	0	0	0	0	0	0	0	0	0	17
0	0	27	0	0	2	0	0	0	0	0	0	29
1	0	19	0	0	0	0	0	1	0	0	0	21
0	0	20	0	0	1	0	0	0	0	0	2	23
3	0	180	0	0	7	0	0	7	0	0	15	212
WEST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: QUARRY RD

EAST-WEST STREET: I-15 SB RAMPS

TIME: 04:00PM-05:00PM DATE: 11-09-22

NORTH LEG

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

Rt	0	0	2	0	2
Thru					
Lt	33	32	24	31	120
	1st	2nd	3rd	4th	Total

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

	Lt	Thru	Rt
1st		0	111
2nd		0	36
3rd		1	78
4th		0	90
Total		1	315

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: QUARRY RD

EAST-WEST STREET: I-15 SB RAMPS

TIME: 05:00PM-06:00PM DATE: 11-09-22

NORTH LEG

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

Rt	0	0	1	0	1
Thru					
Lt	17	29	20	23	89
	1st	2nd	3rd	4th	Total

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

	Lt	Thru	Rt
1st		1	66
2nd		0	75
3rd		0	66
4th		0	48
Total		1	255

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: NAVAJO RD
EAST-WEST STREET: JOHNSON RD
JURISDICTION: APPLE VALLEY

DATE: 11-03-22

PEAK HOUR: 07:45AM

NORTH LEG

TOTAL: 0

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

EAST LEG TOTAL: 35

	1st	2nd	3rd	4th	Total
Rt	0	0	0	0	
Thru	1	8	14	10	33
Lt	2	0	0	0	2

WEST LEG TOTAL: 59

Total	1st	2nd	3rd	4th	
	0	0	0	0	Lt
6	3	0	1	2	Thru
53	10	11	20	12	Rt

PEAK HOUR FACTORS

NORTH LEG =
SOUTH LEG = 0.81
EAST LEG = 0.63
WEST LEG = 0.70

ALL LEGS = 0.73

SOUTH LEG

TOTAL: 87

	Lt	Thru	Rt
1st	22	0	0
2nd	22	0	0
3rd	25	0	2
4th	16	0	0
Total	85		2

HOUR TOTAL: 181

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : NAVAJO RD — APPLE VALLEY

EAST-WEST STREET : JOHNSON RD — 11-03-22

BEGINNING TIME : 07:00AM

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH LEG												
0	0	13	0	0	0	0	0	0	0	0	2	15
0	0	18	0	0	1	0	0	1	0	0	0	20
0	0	19	0	0	0	0	0	0	0	0	2	21
0	0	17	0	0	2	0	0	1	0	0	2	22
0	0	22	0	0	0	0	0	0	0	0	0	22
2	0	23	0	0	1	0	0	0	0	0	1	27
0	0	16	0	0	0	0	0	0	0	0	0	16
1	0	15	0	0	0	0	0	0	0	0	0	16
3	0	143	0	0	4	0	0	2	0	0	7	159
EAST LEG												
0	3	0	0	0	0	0	0	0	0	0	0	3
0	5	0	0	0	0	0	0	0	0	0	0	5
0	1	2	0	0	0	0	1	0	0	0	0	4
0	1	2	0	0	0	0	0	0	0	0	0	3
0	7	0	0	0	0	0	0	0	0	1	0	8
0	14	0	0	0	0	0	0	0	0	0	0	14
0	9	0	0	0	0	0	1	0	0	0	0	10
0	9	1	0	0	0	0	0	0	0	1	0	11
0	49	5	0	0	0	0	2	0	0	2	0	58
WEST LEG												
8	2	0	0	0	0	1	0	0	1	0	0	12
9	2	0	2	0	0	0	0	0	0	0	0	13
8	4	0	0	0	0	0	0	0	2	0	0	14
10	3	0	0	0	0	0	0	0	0	0	0	13
10	0	0	0	0	0	0	0	0	1	0	0	11
20	1	0	0	0	0	0	0	0	0	0	0	21
12	2	0	0	0	0	0	0	0	0	0	0	14
11	0	0	0	0	0	0	0	0	0	0	0	11
88	14	0	2	0	0	1	0	0	4	0	0	109

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: NAVAJO RD

EAST-WEST STREET: JOHNSON RD

TIME: 07:00AM-08:00AM DATE: 11-03-22

NORTH LEG

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

	1st	2nd	3rd	4th	Total
Rt	0	0	0	0	0
Thru	3	5	2	1	11
Lt	0	0	2	2	4

Total	1st	2nd	3rd	4th	
0	0	0	0	0	Lt
11	2	2	4	3	Thru
41	10	11	10	10	Rt

	Lt	Thru	Rt
1st	15	0	0
2nd	20	0	0
3rd	21	0	0
4th	22	0	0
Total	78	0	0

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: NAVAJO RD

EAST-WEST STREET: JOHNSON RD

TIME: 08:00AM-09:00AM DATE: 11-03-22

NORTH LEG

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

	1st	2nd	3rd	4th	Total
Rt	0	0	0	0	0
Thru	8	14	10	10	42
Lt	0	0	0	1	1

Total	1st	2nd	3rd	4th	
0	0	0	0	0	Lt
3	0	1	2	0	Thru
54	11	20	12	11	Rt

	Lt	Thru	Rt
1st	22	0	0
2nd	25	0	2
3rd	16	0	0
4th	15	0	1
Total	78	0	3

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: NAVAJO RD
EAST-WEST STREET: JOHNSON RD
JURISDICTION: APPLE VALLEY

DATE: 11-03-22

PEAK HOUR: 04:15PM

NORTH LEG

TOTAL: 0

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

EAST LEG

EAST LEG TOTAL: 32

	1st	2nd	3rd	4th	Total
Rt	0	0	0	0	
Thru	6	5	9	10	30
Lt	1	1	0	0	2

WEST LEG

Total	1st	2nd	3rd	4th	
	0	0	0	0	Lt
57	10	10	16	21	Thru
52	21	10	11	10	Rt

WEST LEG TOTAL: 109

SOUTH LEG

	Lt	Thru	Rt
1st	27	0	1
2nd	33	0	1
3rd	21	0	1
4th	14	0	0
Total	95		3

TOTAL: 98

PEAK HOUR FACTORS

NORTH LEG =
SOUTH LEG = 0.72
EAST LEG = 0.80
WEST LEG = 0.88

ALL LEGS = 0.91

HOUR TOTAL: 239

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : NAVAJO RD
EAST-WEST STREET : JOHNSON RD

APPLE VALLEY
11-03-22

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
					NORTH LEG							
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
					SOUTH LEG							
0	0	13	0	0	0	0	0	0	0	0	3	16
1	0	27	0	0	0	0	0	0	0	0	0	28
1	0	33	0	0	0	0	0	0	0	0	0	34
1	0	21	0	0	0	0	0	0	0	0	0	22
0	0	13	0	0	0	0	0	0	0	0	1	14
1	0	19	0	0	0	0	0	0	0	0	0	20
0	0	25	0	0	0	0	0	0	0	0	0	25
1	0	16	0	0	0	0	0	0	0	0	0	17
5	0	167	0	0	0	0	0	0	0	0	4	176
					EAST LEG							
0	8	0	0	0	0	0	0	0	0	0	0	8
0	6	1	0	0	0	0	0	0	0	0	0	7
0	5	1	0	0	0	0	0	0	0	0	0	6
0	9	0	0	0	0	0	0	0	0	0	0	9
0	10	0	0	0	0	0	0	0	0	0	0	10
0	8	2	0	0	0	0	0	0	0	0	0	10
0	11	1	0	0	0	0	0	0	0	0	0	12
0	6	0	0	0	0	0	0	0	0	0	0	6
0	63	5	0	0	0	0	0	0	0	0	0	68
					WEST LEG							
14	14	0	1	0	0	0	0	0	0	0	0	29
21	10	0	0	0	0	0	0	0	0	0	0	31
8	10	0	0	0	0	1	0	0	1	0	0	20
11	16	0	0	0	0	0	0	0	0	0	0	27
10	21	0	0	0	0	0	0	0	0	0	0	31
6	16	0	1	0	0	0	0	0	1	0	0	24
16	10	0	0	0	0	0	0	0	0	0	0	26
10	10	0	0	0	0	0	0	0	0	0	0	20
96	107	0	2	0	0	1	0	0	2	0	0	208

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: NAVAJO RD

EAST-WEST STREET: JOHNSON RD

TIME: 04:00PM-05:00PM DATE: 11-03-22

NORTH LEG

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

	1st	2nd	3rd	4th	Total
Rt	0	0	0	0	0
Thru	8	6	5	9	28
Lt	0	1	1	0	2

Total	1st	2nd	3rd	4th	
0	0	0	0	0	Lt
50	14	10	10	16	Thru
57	15	21	10	11	Rt

	Lt	Thru	Rt
1st	16	0	0
2nd	27	0	1
3rd	33	0	1
4th	21	0	1
Total	97	0	3

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: NAVAJO RD

EAST-WEST STREET: JOHNSON RD

TIME: 05:00PM-06:00PM DATE: 11-03-22

NORTH LEG

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

	1st	2nd	3rd	4th	Total
Rt	0	0	0	0	0
Thru	10	8	11	6	35
Lt	0	2	1	0	3

Total	1st	2nd	3rd	4th	
0	0	0	0	0	Lt
57	21	16	10	10	Thru
44	10	8	16	10	Rt

	Lt	Thru	Rt
1st	14	0	0
2nd	19	0	1
3rd	25	0	0
4th	16	0	1
Total	74	0	2

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: DALE EVAND PKWY
EAST-WEST STREET: CARDOVA RD
JURISDICTION: APPLE VALLEY

DATE: 11-03-22

PEAK HOUR: 07:00AM

NORTH LEG

TOTAL: 56

	56		Total
	18	0	1st
	16	0	2nd
	9	0	3rd
	13	0	4th
Rt	Thru	Lt	

EAST LEG TOTAL: 0

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

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

WEST LEG TOTAL: 0

PEAK HOUR FACTORS

NORTH LEG = 0.78
SOUTH LEG = 0.83
EAST LEG =
WEST LEG =

ALL LEGS = 0.83

	Lt	Thru	Rt
1st		32	0
2nd		33	0
3rd		19	0
4th		25	0
Total		109	

SOUTH LEG

TOTAL: 109

HOUR TOTAL: 165

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : DALE EVAND PKWY — APPLE VALLEY

EAST-WEST STREET : CARDOVA RD — 11-03-22

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
0	14	0	0	1	0	0	0	0	0	3	0	18
0	15	0	0	1	0	0	0	0	0	0	0	16
0	8	0	0	1	0	0	0	0	0	0	0	9
0	8	0	0	0	0	0	0	0	0	5	0	13
0	8	0	0	1	0	0	0	0	0	3	0	12
0	12	0	0	0	0	0	0	0	0	3	0	15
0	11	1	0	0	0	0	0	0	0	0	0	12
0	12	0	0	2	0	0	0	0	0	3	0	17
0	88	1	0	6	0	0	0	0	0	17	0	112
SOUTH LEG												
0	30	0	0	0	0	0	0	0	0	2	0	32
0	31	0	0	1	0	0	1	0	0	0	0	33
0	15	0	0	1	0	0	0	0	0	3	0	19
0	21	0	0	1	0	0	0	0	0	3	0	25
0	22	0	0	2	0	0	0	0	0	1	0	25
0	18	0	0	1	0	0	0	0	0	0	0	19
0	11	0	0	0	0	0	0	0	0	1	0	12
0	16	0	0	0	0	0	0	0	0	1	0	17
0	164	0	0	6	0	0	1	0	0	11	0	182
EAST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
WEST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DALE EVAND PKWY

EAST-WEST STREET: CARDOVA RD

TIME: 07:00AM-08:00AM **DATE:** 11-03-22

NORTH LEG

	56	0	Total
	18	0	1st
	16	0	2nd
	9	0	3rd
	13	0	4th

Rt Thru Lt

Rt	0	0	0	0	0
Thru					
Lt	0	0	0	0	0

1st 2nd 3rd 4th Total

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

	Lt	Thru	Rt
1st		32	0
2nd		33	0
3rd		19	0
4th		25	0
Total		109	0

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DALE EVAND PKWY

EAST-WEST STREET: CARDOVA RD

TIME: 08:00AM-09:00AM DATE: 11-03-22

NORTH LEG

	55	1	Total
	12	0	1st
	15	0	2nd
	11	1	3rd
	17	0	4th

Rt Thru Lt

Rt	0	0	0	0	0
Thru					
Lt	0	0	0	0	0

1st 2nd 3rd 4th Total

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

	Lt	Thru	Rt
1st		25	0
2nd		19	0
3rd		12	0
4th		17	0
Total		73	0

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: DALE EVAND PKWY
EAST-WEST STREET: CARDOVA RD
JURISDICTION: APPLE VALLEY

DATE: 11-03-22

PEAK HOUR: 04:30PM

NORTH LEG

TOTAL: 223

	Rt	Thru	Lt	
Total		222	1	
1st		65	0	
2nd		51	1	
3rd		58	0	
4th		48	0	

EAST LEG TOTAL: 0

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

WEST LEG TOTAL: 0

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

SOUTH LEG

TOTAL: 112

	Lt	Thru	Rt
1st		31	0
2nd		15	0
3rd		29	0
4th		37	0
Total		112	

PEAK HOUR FACTORS

NORTH LEG = 0.86
SOUTH LEG = 0.76
EAST LEG =
WEST LEG =

ALL LEGS = 0.87

HOUR TOTAL: 335

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : DALE EVAND PKWY — APPLE VALLEY

EAST-WEST STREET : CARDOVA RD — 11-03-22

BEGINNING TIME : 04:00PM

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
0	32	0	0	1	0	0	0	0	0	1	0	34
0	41	0	0	0	0	0	0	0	0	0	0	41
0	63	0	0	1	0	0	1	0	0	0	0	65
0	48	1	0	0	0	0	1	0	0	2	0	52
0	57	0	0	1	0	0	0	0	0	0	0	58
0	46	0	0	2	0	0	0	0	0	0	0	48
0	40	0	0	0	0	0	0	0	0	3	0	43
0	34	0	0	0	0	0	0	0	0	1	0	35
0	361	1	0	5	0	0	2	0	0	7	0	376
SOUTH LEG												
0	18	0	0	0	0	0	0	0	0	1	0	19
1	25	0	0	0	0	0	0	0	0	1	0	27
0	30	0	0	0	0	0	0	0	0	1	0	31
0	13	0	0	0	0	0	0	0	0	2	0	15
0	29	0	0	0	0	0	0	0	0	0	0	29
0	34	0	0	0	0	0	0	0	0	3	0	37
0	12	0	0	0	0	0	0	0	0	0	0	12
0	12	0	0	0	0	0	0	0	0	0	0	12
1	173	0	0	0	0	0	0	0	0	8	0	182
EAST LEG												
2	0	1	0	0	0	0	0	0	0	0	0	3
1	0	0	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	1	0	0	0	0	0	0	0	0	0	4
WEST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DALE EVAND PKWY

EAST-WEST STREET: CARDOVA RD

TIME: 04:00PM-05:00PM DATE: 11-03-22

NORTH LEG

	191	1	Total
	34	0	1st
	41	0	2nd
	65	0	3rd
	51	1	4th
Rt	Thru	Lt	

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

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

	Lt	Thru	Rt
1st		19	0
2nd		26	1
3rd		31	0
4th		15	0
Total		91	1

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DALE EVAND PKWY

EAST-WEST STREET: CARDOVA RD

TIME: 05:00PM-06:00PM DATE: 11-03-22

NORTH LEG

	184	0	Total
	58	0	1st
	48	0	2nd
	43	0	3rd
	35	0	4th
Rt	Thru	Lt	

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

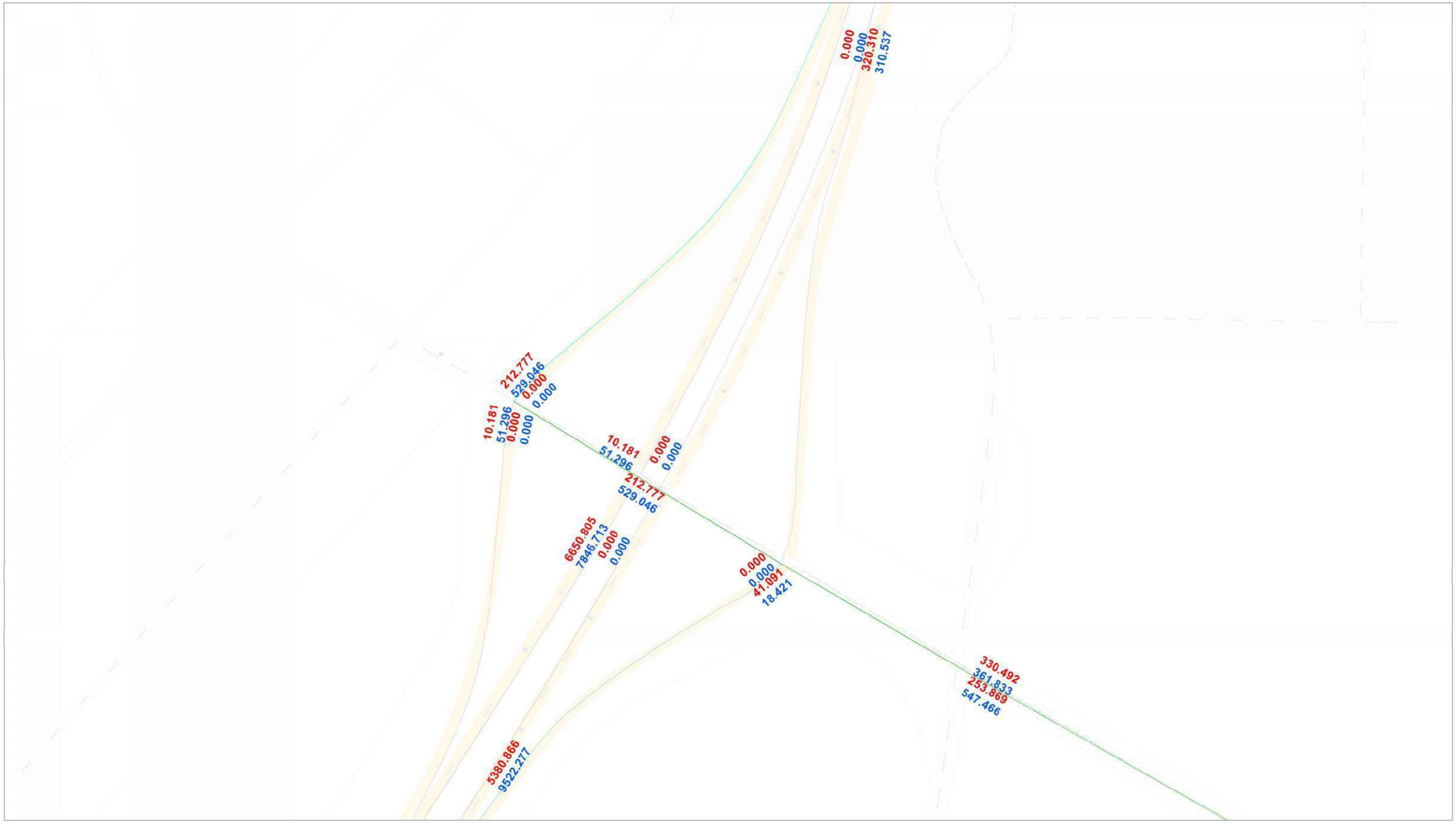
Total	1st	2nd	3rd	4th	
					Lt
					Thru
					Rt

	Lt	Thru	Rt
1st		29	0
2nd		37	0
3rd		12	0
4th		12	0
Total		90	0

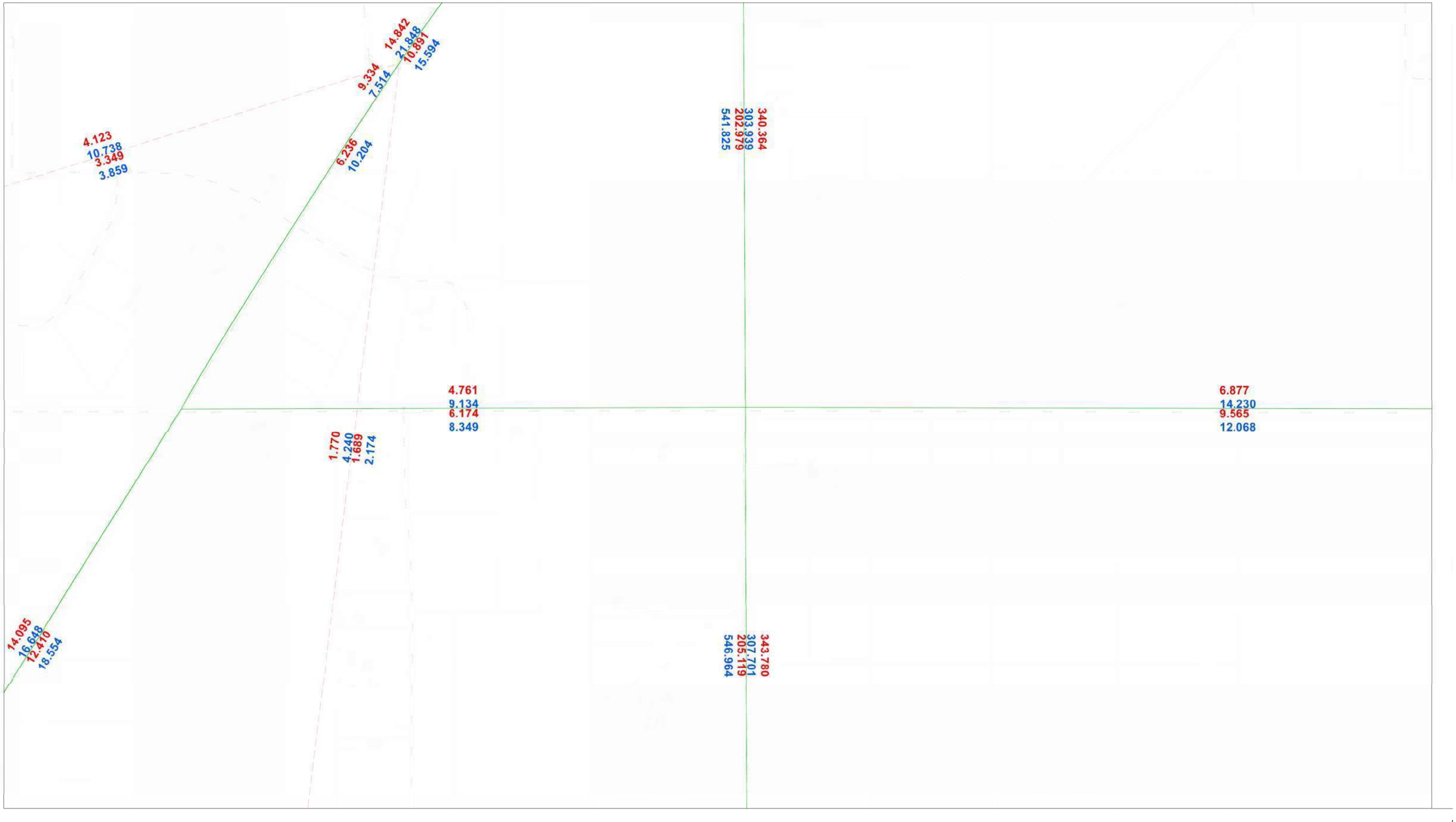
Prepared by NEWPORT TRAFFIC STUDIES

Appendix C: Forecast Model Plots and Volume Development

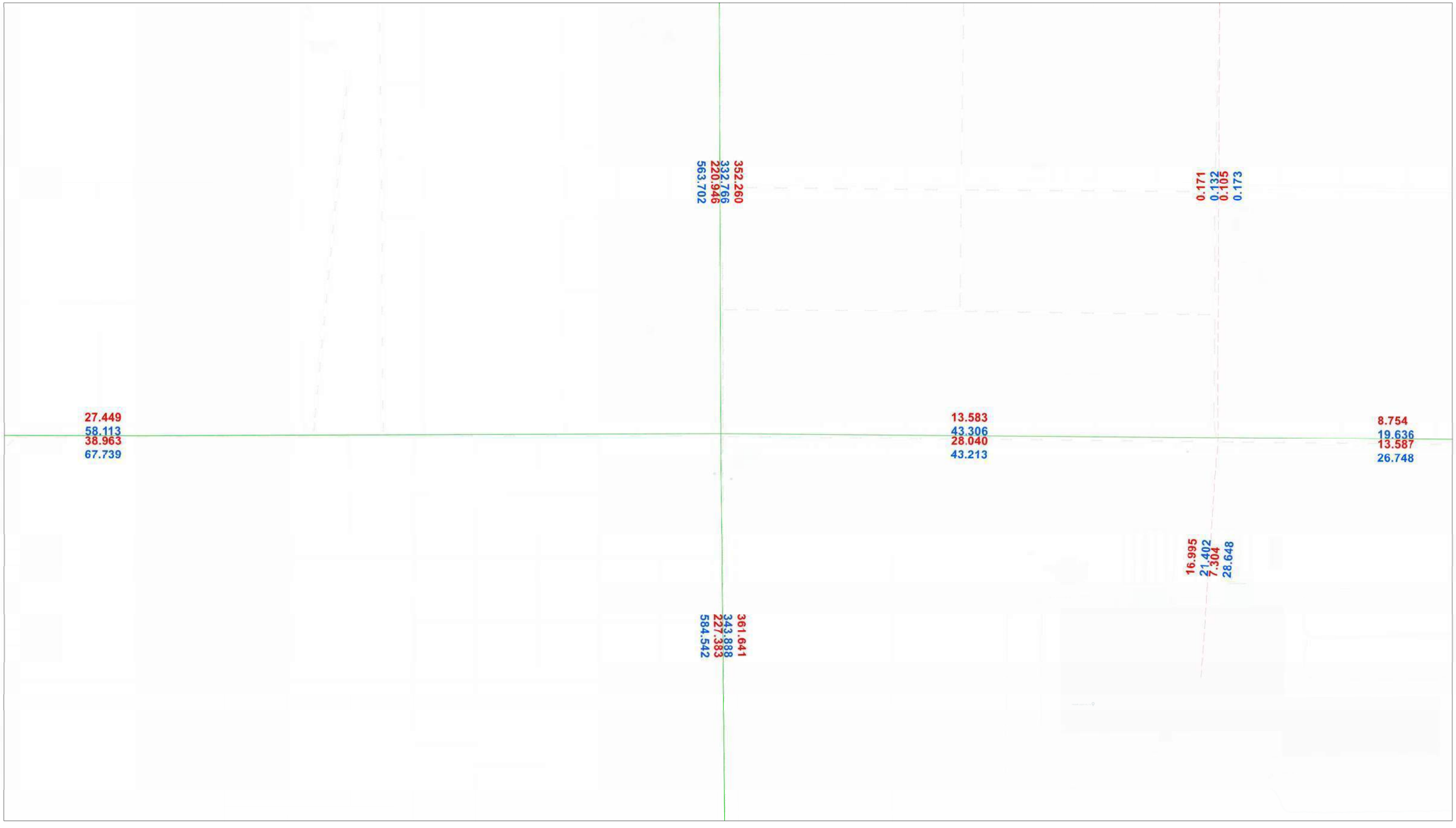
AM Volumes PM Volumes Intersection 1 & 2



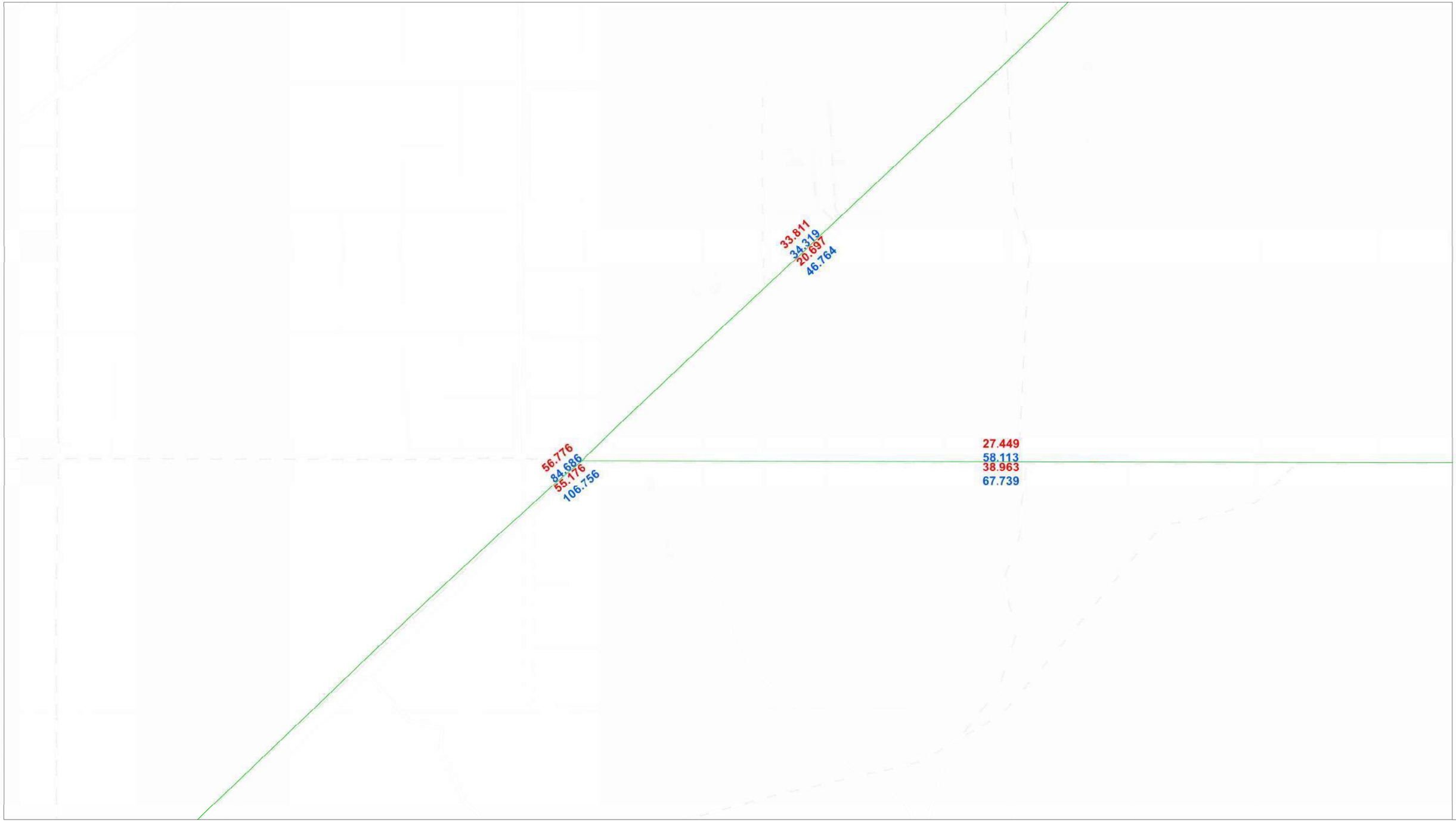
AM Volumes PM Volumes Intersection 3



AM Volumes PM Volumes Intersection 4



AM Volumes PM Volumes Intersection 5



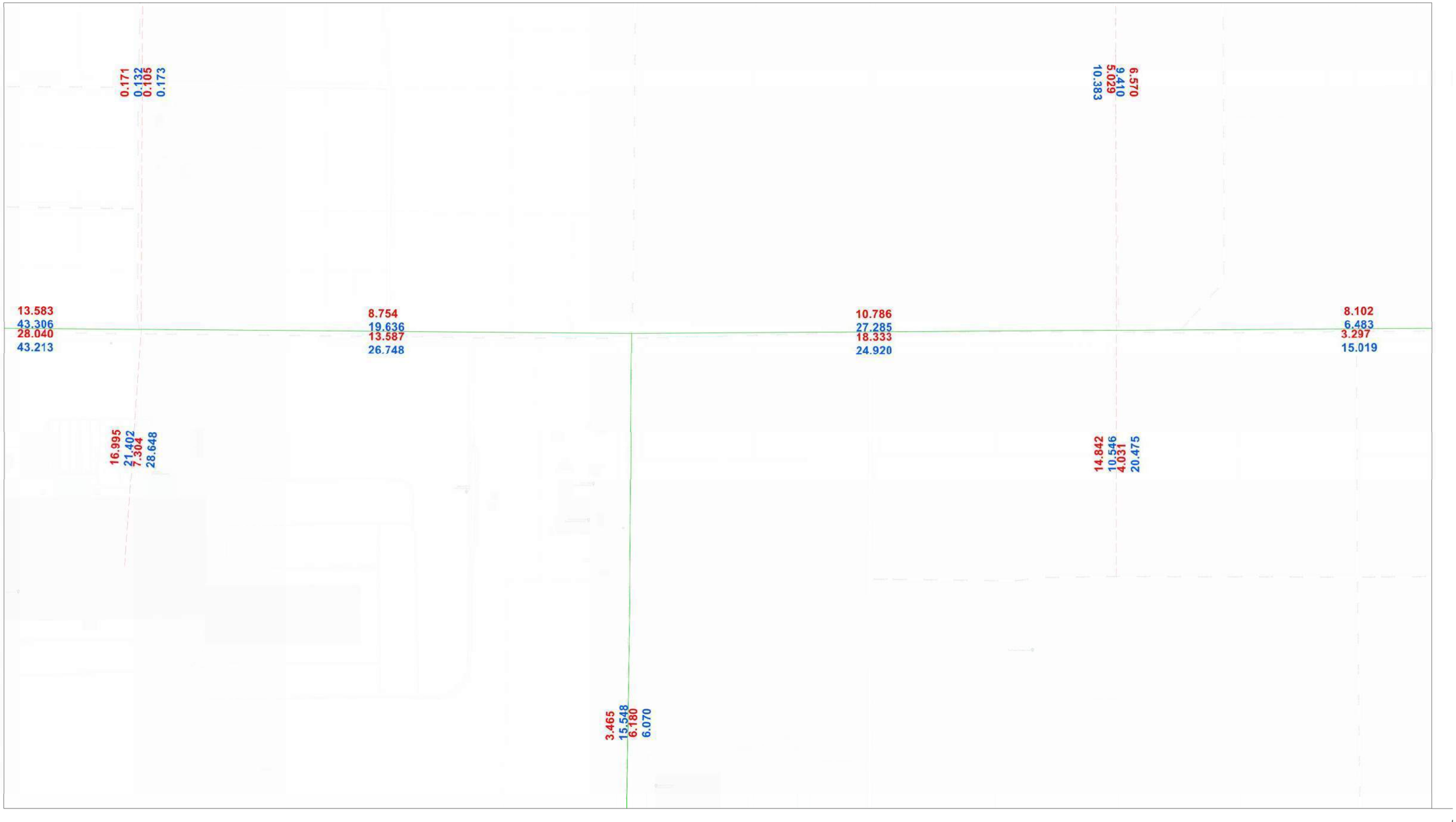
AM Volumes PM Volumes Intersection 6 & 7



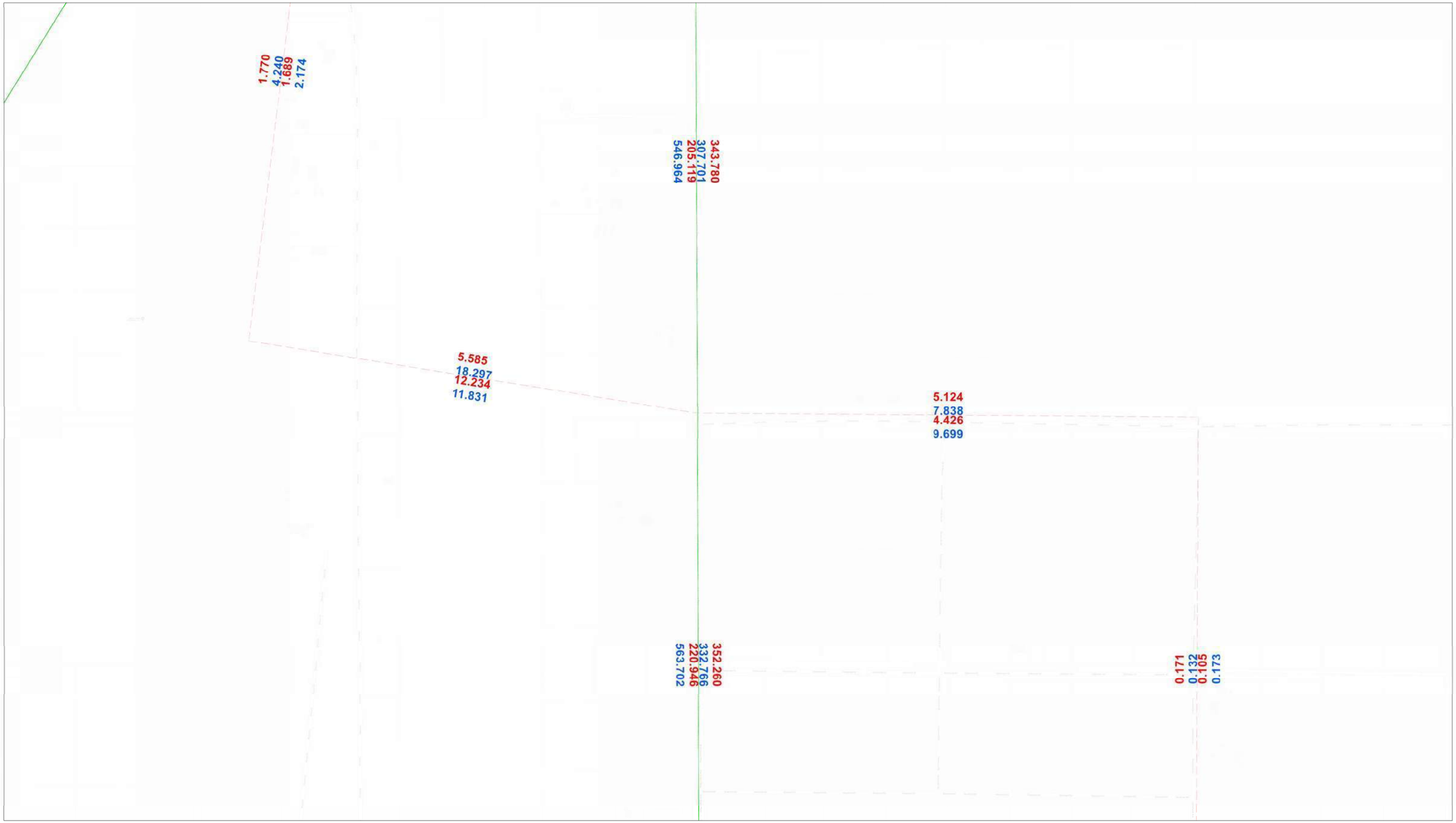
AM Volumes PM Volumes Intersection 8



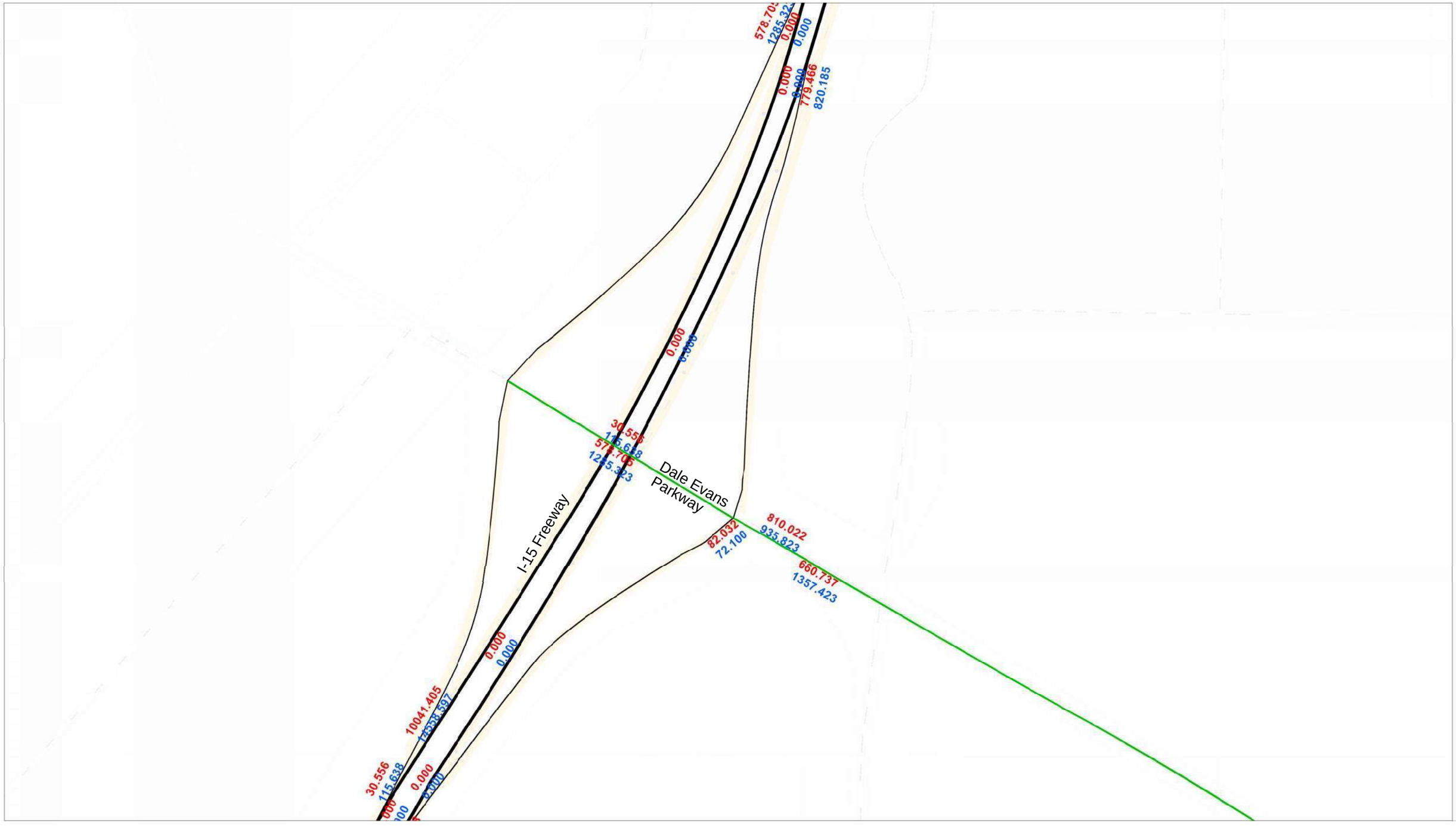
AM Volumes PM Volumes Intersection 9



AM Volumes PM Volumes Intersection 10



AM Volumes PM Volumes Intersection 1&2 - 2040



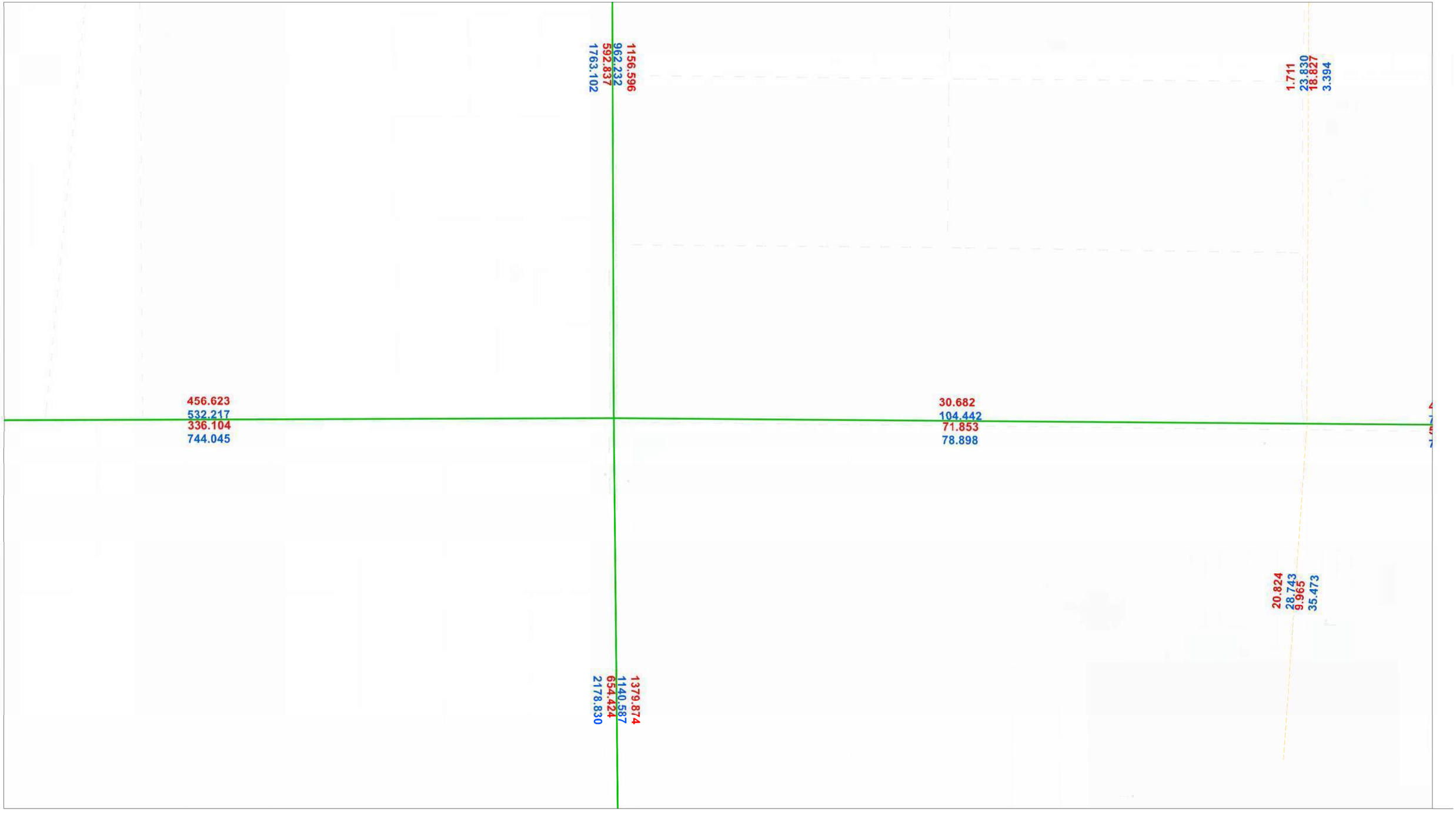
AM Volumes PM Volumes

Intersection 3 - 2040

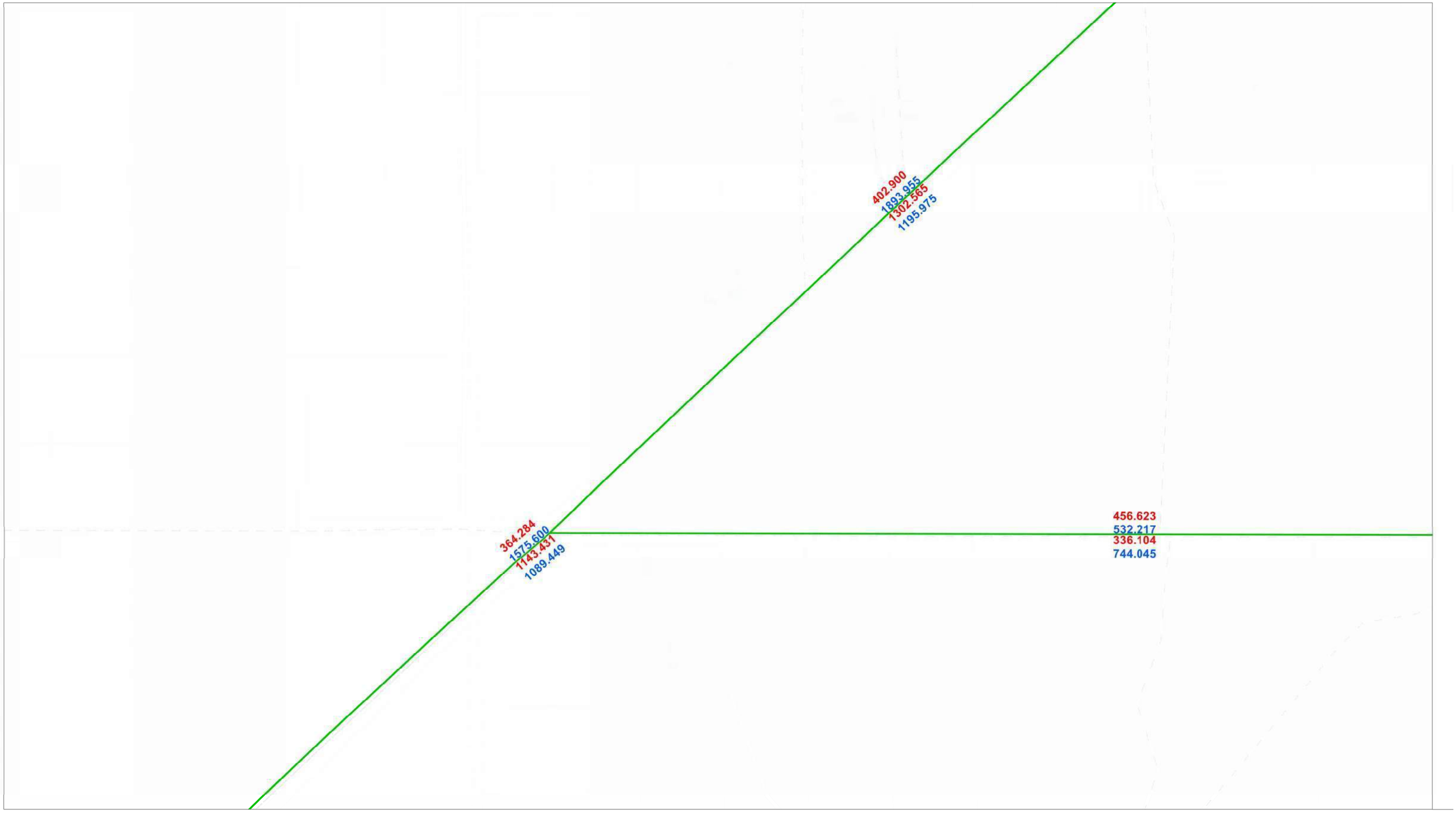


AM Volumes PM Volumes

Intersection 4 - 2040



AM Volumes PM Volumes Intersection 5 - 2040



AM Volumes PM Volumes Intersection 6 & 7 - 2040



AM Volumes PM Volumes Intersection 8 - 2040

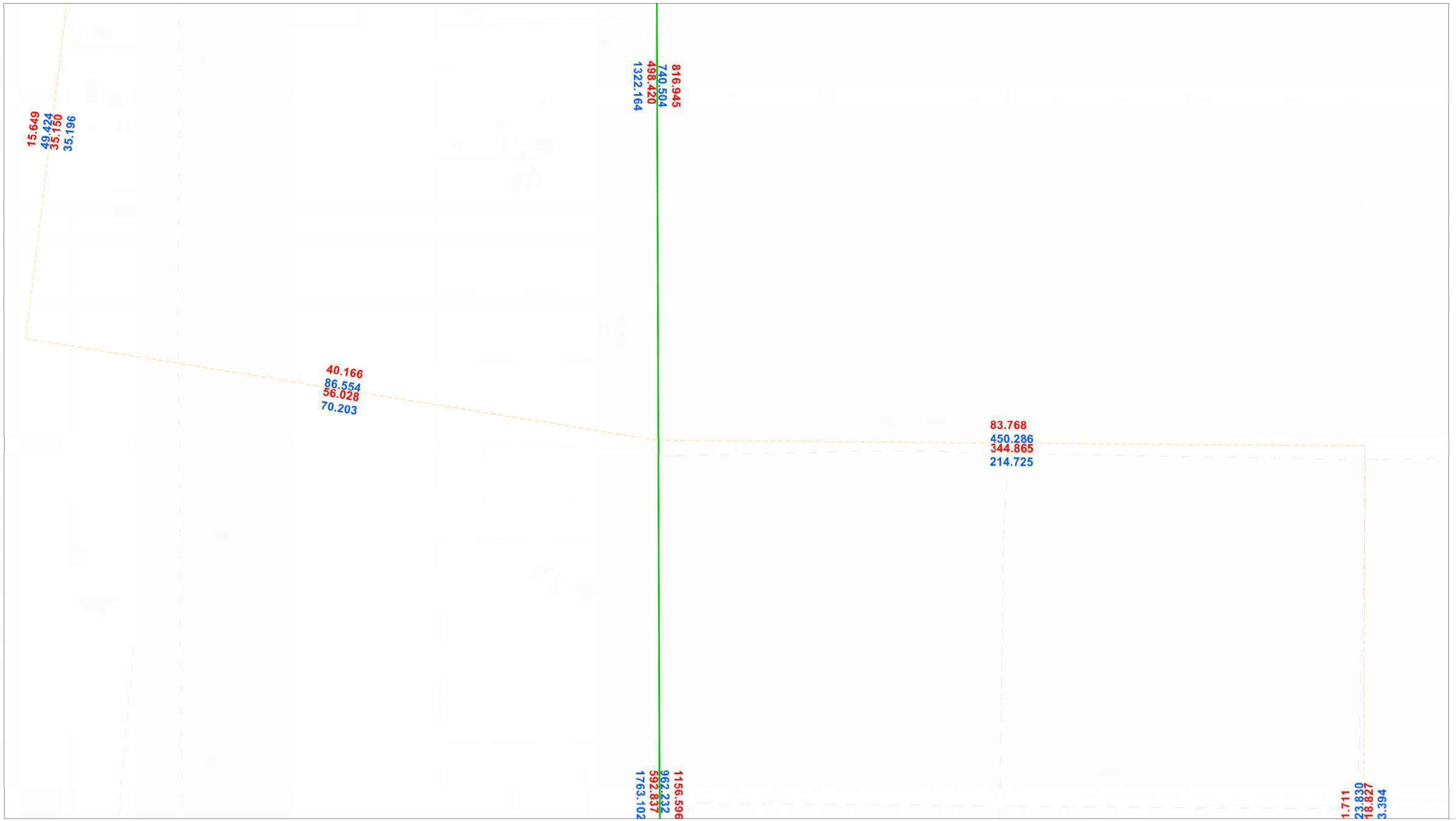


AM Volumes PM Volumes

Intersection 9 - 2040



AM Volumes PM Volumes Intersection 10 - 2040



Appendix D: Intersection Capacity Analysis

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : DALE EVANS PKWY
N/S STREET : I-15 SB RAMPS
CONDITION : AM PEAK HOUR

INTERSECTION : 1
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	1		3		5		7	9	11	13	15	17
DALE EVANS PKWY												
EB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
EB THRU	34	3	37	0	37	0	37	37	37	37	37	37
EB RIGHT	16	1	17	0	17	0	17	17	15	15	15	15
WB LEFT	18	2	20	0	20	0	20	20	42	42	42	42
WB THRU	5	1	6	0	6	0	6	6	10	10	10	10
WB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
I-15 SB RAMPS												
NB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
NB THRU	0	0	0	0	0	0	0	0	0	0	0	0
NB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
SB LEFT	193	12	205	39	244	41	246	285	293	332	334	373
SB THRU	4	1	5	0	5	0	5	5	6	6	6	6
SB RIGHT	24	2	26	0	26	0	26	26	24	24	24	24
TOTALS	**294**	**22**	**316**	**39**	**355**	**41**	**357**	**396**	**427**	**466**	**468**	**507**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : DALE EVANS PKWY
N/S STREET : I-15 SB RAMPS
CONDITION : AM PEAK HOUR
PHF : 0.87

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	1	60	1	0	1	0	0	0	1	0	0
5	0	48	0	0	0	0	0	0	0	0	2
5	1	31	1	0	0	0	0	0	0	0	0
5	2	40	0	0	0	0	0	0	1	0	0

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

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	2	1	0	0	0	0	0	0	0	0	0
0	2	3	0	0	0	0	0	1	0	0	1
0	1	3	0	1	0	0	0	0	0	0	0
0	0	6	0	0	0	0	0	0	0	0	0

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

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
DALE EVANS PKWY					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	4	23	**27**	**33**	**34**
EB RIGHT	1	14	**15**	**16**	**16**
WB LEFT	2	13	**15**	**18**	**18**
WB THRU	1	5	**6**	**5**	**5**
WB RIGHT	0	0	**0**	**0**	**0**
I-15 SB RAMPS					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	0	0	**0**	**0**	**0**
NB RIGHT	0	0	**0**	**0**	**0**
SB LEFT	3	179	**182**	**187**	**193**
SB THRU	0	4	**4**	**4**	**4**
SB RIGHT	4	15	**19**	**24**	**24**

Intersection	
Int Delay, s/veh	8.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	34	16	18	5	0	0	0	0	193	4	24
Future Vol, veh/h	0	34	16	18	5	0	0	0	0	193	4	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	39	18	21	6	0	0	0	0	222	5	28

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	57	0	0	96	105	6
Stage 1	-	-	-	-	-	-	48	48	-
Stage 2	-	-	-	-	-	-	48	57	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1560	-	0	908	789	1083
Stage 1	0	-	-	-	-	0	980	859	-
Stage 2	0	-	-	-	-	0	980	851	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1560	-	-	895	0	1083
Mov Cap-2 Maneuver	-	-	-	-	-	-	895	0	-
Stage 1	-	-	-	-	-	-	980	0	-
Stage 2	-	-	-	-	-	-	966	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.7	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1560	-	913
HCM Lane V/C Ratio	-	-	0.013	-	0.278
HCM Control Delay (s)	-	-	7.3	0	10.5
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0	-	1.1

Intersection	
Int Delay, s/veh	8.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	37	17	20	6	0	0	0	0	205	5	26
Future Vol, veh/h	0	37	17	20	6	0	0	0	0	205	5	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	43	20	23	7	0	0	0	0	236	6	30

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	63	0	0	106	116	7
Stage 1	-	-	-	-	-	-	53	53	-
Stage 2	-	-	-	-	-	-	53	63	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1553	-	0	897	778	1081
Stage 1	0	-	-	-	-	0	975	855	-
Stage 2	0	-	-	-	-	0	975	846	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1553	-	-	884	0	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	884	0	-
Stage 1	-	-	-	-	-	-	975	0	-
Stage 2	-	-	-	-	-	-	960	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.7	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1553	-	903
HCM Lane V/C Ratio	-	-	0.015	-	0.3
HCM Control Delay (s)	-	-	7.4	0	10.7
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0	-	1.3

Intersection	
Int Delay, s/veh	9.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	37	17	20	6	0	0	0	0	244	5	26
Future Vol, veh/h	0	37	17	20	6	0	0	0	0	244	5	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	43	20	23	7	0	0	0	0	280	6	30

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	63	0	0	106	116	7
Stage 1	-	-	-	-	-	-	53	53	-
Stage 2	-	-	-	-	-	-	53	63	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1553	-	0	897	778	1081
Stage 1	0	-	-	-	-	0	975	855	-
Stage 2	0	-	-	-	-	0	975	846	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1553	-	-	884	0	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	884	0	-
Stage 1	-	-	-	-	-	-	975	0	-
Stage 2	-	-	-	-	-	-	960	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.7	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1553	-	900
HCM Lane V/C Ratio	-	-	0.015	-	0.351
HCM Control Delay (s)	-	-	7.4	0	11.2
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0	-	1.6

Intersection	
Int Delay, s/veh	9.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	37	17	20	6	0	0	0	0	246	5	26
Future Vol, veh/h	0	37	17	20	6	0	0	0	0	246	5	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	43	20	23	7	0	0	0	0	283	6	30

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	63	0	0	106	116	7
Stage 1	-	-	-	-	-	-	53	53	-
Stage 2	-	-	-	-	-	-	53	63	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1553	-	0	897	778	1081
Stage 1	0	-	-	-	-	0	975	855	-
Stage 2	0	-	-	-	-	0	975	846	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1553	-	-	884	0	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	884	0	-
Stage 1	-	-	-	-	-	-	975	0	-
Stage 2	-	-	-	-	-	-	960	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.7	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1553	-	900
HCM Lane V/C Ratio	-	-	0.015	-	0.354
HCM Control Delay (s)	-	-	7.4	0	11.2
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0	-	1.6

Intersection	
Int Delay, s/veh	9.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	37	17	20	6	0	0	0	0	285	5	26
Future Vol, veh/h	0	37	17	20	6	0	0	0	0	285	5	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	43	20	23	7	0	0	0	0	328	6	30

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	63	0	0	106	116	7
Stage 1	-	-	-	-	-	-	53	53	-
Stage 2	-	-	-	-	-	-	53	63	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1553	-	0	897	778	1081
Stage 1	0	-	-	-	-	0	975	855	-
Stage 2	0	-	-	-	-	0	975	846	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1553	-	-	884	0	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	884	0	-
Stage 1	-	-	-	-	-	-	975	0	-
Stage 2	-	-	-	-	-	-	960	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.7	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1553	-	898
HCM Lane V/C Ratio	-	-	0.015	-	0.404
HCM Control Delay (s)	-	-	7.4	0	11.7
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0	-	2

Intersection	
Int Delay, s/veh	10.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	37	15	42	10	0	0	0	0	293	6	24
Future Vol, veh/h	0	37	15	42	10	0	0	0	0	293	6	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	43	17	48	11	0	0	0	0	337	7	28

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	60	0	0	159	167	11
Stage 1	-	-	-	-	-	-	107	107	-
Stage 2	-	-	-	-	-	-	52	60	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1556	-	0	837	729	1076
Stage 1	0	-	-	-	-	0	922	811	-
Stage 2	0	-	-	-	-	0	976	849	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1556	-	-	811	0	1076
Mov Cap-2 Maneuver	-	-	-	-	-	-	811	0	-
Stage 1	-	-	-	-	-	-	922	0	-
Stage 2	-	-	-	-	-	-	946	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	6	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1556	-	826
HCM Lane V/C Ratio	-	-	0.031	-	0.449
HCM Control Delay (s)	-	-	7.4	0	12.9
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0.1	-	2.4

Intersection	
Int Delay, s/veh	11.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	37	15	42	10	0	0	0	0	332	6	24
Future Vol, veh/h	0	37	15	42	10	0	0	0	0	332	6	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	43	17	48	11	0	0	0	0	382	7	28

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	60	0	0	159	167	11
Stage 1	-	-	-	-	-	-	107	107	-
Stage 2	-	-	-	-	-	-	52	60	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1556	-	0	837	729	1076
Stage 1	0	-	-	-	-	0	922	811	-
Stage 2	0	-	-	-	-	0	976	849	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1556	-	-	811	0	1076
Mov Cap-2 Maneuver	-	-	-	-	-	-	811	0	-
Stage 1	-	-	-	-	-	-	922	0	-
Stage 2	-	-	-	-	-	-	946	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	6	13.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1556	-	825
HCM Lane V/C Ratio	-	-	0.031	-	0.504
HCM Control Delay (s)	-	-	7.4	0	13.7
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0.1	-	2.9

Intersection	
Int Delay, s/veh	11.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	37	15	42	10	0	0	0	0	334	6	24
Future Vol, veh/h	0	37	15	42	10	0	0	0	0	334	6	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	43	17	48	11	0	0	0	0	384	7	28

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	60	0	0	159	167	11
Stage 1	-	-	-	-	-	-	107	107	-
Stage 2	-	-	-	-	-	-	52	60	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1556	-	0	837	729	1076
Stage 1	0	-	-	-	-	0	922	811	-
Stage 2	0	-	-	-	-	0	976	849	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1556	-	-	811	0	1076
Mov Cap-2 Maneuver	-	-	-	-	-	-	811	0	-
Stage 1	-	-	-	-	-	-	922	0	-
Stage 2	-	-	-	-	-	-	946	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	6	13.8
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1556	-	825
HCM Lane V/C Ratio	-	-	0.031	-	0.507
HCM Control Delay (s)	-	-	7.4	0	13.8
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0.1	-	2.9

Intersection	
Int Delay, s/veh	12.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	37	15	42	10	0	0	0	0	373	6	24
Future Vol, veh/h	0	37	15	42	10	0	0	0	0	373	6	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	43	17	48	11	0	0	0	0	429	7	28

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	60	0	0	159	167	11
Stage 1	-	-	-	-	-	-	107	107	-
Stage 2	-	-	-	-	-	-	52	60	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1556	-	0	837	729	1076
Stage 1	0	-	-	-	-	0	922	811	-
Stage 2	0	-	-	-	-	0	976	849	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1556	-	-	811	0	1076
Mov Cap-2 Maneuver	-	-	-	-	-	-	811	0	-
Stage 1	-	-	-	-	-	-	922	0	-
Stage 2	-	-	-	-	-	-	946	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	6	14.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1556	-	823
HCM Lane V/C Ratio	-	-	0.031	-	0.563
HCM Control Delay (s)	-	-	7.4	0	14.9
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0.1	-	3.6

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : DALE EVANS PKWY
N/S STREET : I-15 SB RAMPS
CONDITION : PM PEAK HOUR

INTERSECTION : 1
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	2		4		6		8	10	12	14	16	18
DALE EVANS PKWY												
EB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
EB THRU	5	1	6	0	6	0	6	6	7	7	7	7
EB RIGHT	12	1	13	0	13	0	13	13	11	11	11	11
WB LEFT	28	2	30	0	30	0	30	30	42	42	42	42
WB THRU	11	1	12	0	12	0	12	12	10	10	10	10
WB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
I-15 SB RAMPS												
NB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
NB THRU	0	0	0	0	0	0	0	0	0	0	0	0
NB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
SB LEFT	66	4	70	14	84	15	85	99	212	226	227	241
SB THRU	1	1	2	0	2	0	2	2	3	3	3	3
SB RIGHT	9	1	10	0	10	0	10	10	11	11	11	11
TOTALS	**132**	**11**	**143**	**14**	**157**	**15**	**158**	**172**	**296**	**310**	**311**	**325**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : DALE EVANS PKWY
N/S STREET : I-15 SB RAMPS
CONDITION : PM PEAK HOUR
PHF : 0.88

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
2	0	12	0	0	0	0	0	0	0	0	2
3	0	20	0	0	0	0	0	0	0	0	1
2	0	10	0	0	0	0	0	0	0	0	0
2	1	15	0	0	0	0	0	0	0	0	0

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

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

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

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
DALE EVANS PKWY					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	5	**5**	**5**	**5**
EB RIGHT	1	9	**10**	**12**	**12**
WB LEFT	3	19	**22**	**28**	**28**
WB THRU	1	8	**9**	**11**	**11**
WB RIGHT	0	0	**0**	**0**	**0**
I-15 SB RAMPS					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	0	0	**0**	**0**	**0**
NB RIGHT	0	0	**0**	**0**	**0**
SB LEFT	3	57	**60**	**66**	**66**
SB THRU	0	1	**1**	**1**	**1**
SB RIGHT	0	9	**9**	**9**	**9**

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	5	12	28	11	0	0	0	0	66	1	9
Future Vol, veh/h	0	5	12	28	11	0	0	0	0	66	1	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	6	14	32	13	0	0	0	0	75	1	10

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	20	0	0	90	97	13
Stage 1	-	-	-	-	-	-	77	77	-
Stage 2	-	-	-	-	-	-	13	20	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1609	-	0	915	797	1073
Stage 1	0	-	-	-	-	0	951	835	-
Stage 2	0	-	-	-	-	0	1015	883	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1609	-	-	897	0	1073
Mov Cap-2 Maneuver	-	-	-	-	-	-	897	0	-
Stage 1	-	-	-	-	-	-	951	0	-
Stage 2	-	-	-	-	-	-	995	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.2	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1609	-	915
HCM Lane V/C Ratio	-	-	0.02	-	0.094
HCM Control Delay (s)	-	-	7.3	0	9.3
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	-	0.3

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	6	13	30	12	0	0	0	0	70	2	10
Future Vol, veh/h	0	6	13	30	12	0	0	0	0	70	2	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	7	15	34	14	0	0	0	0	80	2	11

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	22	0	0	97	104	14
Stage 1	-	-	-	-	-	-	82	82	-
Stage 2	-	-	-	-	-	-	15	22	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1607	-	0	907	790	1072
Stage 1	0	-	-	-	-	0	946	831	-
Stage 2	0	-	-	-	-	0	1013	881	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1607	-	-	888	0	1072
Mov Cap-2 Maneuver	-	-	-	-	-	-	888	0	-
Stage 1	-	-	-	-	-	-	946	0	-
Stage 2	-	-	-	-	-	-	992	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.2	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1607	-	907
HCM Lane V/C Ratio	-	-	0.021	-	0.103
HCM Control Delay (s)	-	-	7.3	0	9.4
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	-	0.3

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	6	13	30	12	0	0	0	0	84	2	10
Future Vol, veh/h	0	6	13	30	12	0	0	0	0	84	2	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	7	15	34	14	0	0	0	0	95	2	11

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	22	0	0	97	104	14
Stage 1	-	-	-	-	-	-	82	82	-
Stage 2	-	-	-	-	-	-	15	22	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1607	-	0	907	790	1072
Stage 1	0	-	-	-	-	0	946	831	-
Stage 2	0	-	-	-	-	0	1013	881	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1607	-	-	888	0	1072
Mov Cap-2 Maneuver	-	-	-	-	-	-	888	0	-
Stage 1	-	-	-	-	-	-	946	0	-
Stage 2	-	-	-	-	-	-	992	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.2	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1607	-	905
HCM Lane V/C Ratio	-	-	0.021	-	0.121
HCM Control Delay (s)	-	-	7.3	0	9.5
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	-	0.4

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	6	13	30	12	0	0	0	0	85	2	10
Future Vol, veh/h	0	6	13	30	12	0	0	0	0	85	2	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	7	15	34	14	0	0	0	0	97	2	11

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	22	0	0	97	104	14
Stage 1	-	-	-	-	-	-	82	82	-
Stage 2	-	-	-	-	-	-	15	22	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1607	-	0	907	790	1072
Stage 1	0	-	-	-	-	0	946	831	-
Stage 2	0	-	-	-	-	0	1013	881	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1607	-	-	888	0	1072
Mov Cap-2 Maneuver	-	-	-	-	-	-	888	0	-
Stage 1	-	-	-	-	-	-	946	0	-
Stage 2	-	-	-	-	-	-	992	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.2	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1607	-	904
HCM Lane V/C Ratio	-	-	0.021	-	0.122
HCM Control Delay (s)	-	-	7.3	0	9.5
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	-	0.4

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	6	13	30	12	0	0	0	0	99	2	10
Future Vol, veh/h	0	6	13	30	12	0	0	0	0	99	2	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	7	15	34	14	0	0	0	0	113	2	11

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	22	0	0	97	104	14
Stage 1	-	-	-	-	-	-	82	82	-
Stage 2	-	-	-	-	-	-	15	22	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1607	-	0	907	790	1072
Stage 1	0	-	-	-	-	0	946	831	-
Stage 2	0	-	-	-	-	0	1013	881	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1607	-	-	888	0	1072
Mov Cap-2 Maneuver	-	-	-	-	-	-	888	0	-
Stage 1	-	-	-	-	-	-	946	0	-
Stage 2	-	-	-	-	-	-	992	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.2	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1607	-	902
HCM Lane V/C Ratio	-	-	0.021	-	0.14
HCM Control Delay (s)	-	-	7.3	0	9.6
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	-	0.5

Intersection	
Int Delay, s/veh	9.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	7	11	42	10	0	0	0	0	212	3	11
Future Vol, veh/h	0	7	11	42	10	0	0	0	0	212	3	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	8	13	48	11	0	0	0	0	241	3	13

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	21	0	0	122	128	11
Stage 1	-	-	-	-	-	-	107	107	-
Stage 2	-	-	-	-	-	-	15	21	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1608	-	0	878	766	1076
Stage 1	0	-	-	-	-	0	922	811	-
Stage 2	0	-	-	-	-	0	1013	882	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1608	-	-	852	0	1076
Mov Cap-2 Maneuver	-	-	-	-	-	-	852	0	-
Stage 1	-	-	-	-	-	-	922	0	-
Stage 2	-	-	-	-	-	-	983	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.9	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1608	-	861
HCM Lane V/C Ratio	-	-	0.03	-	0.298
HCM Control Delay (s)	-	-	7.3	0	10.9
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0.1	-	1.3

Intersection	
Int Delay, s/veh	9.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	7	11	42	10	0	0	0	0	226	3	11
Future Vol, veh/h	0	7	11	42	10	0	0	0	0	226	3	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	8	13	48	11	0	0	0	0	257	3	13

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	21	0	0	122	128	11
Stage 1	-	-	-	-	-	-	107	107	-
Stage 2	-	-	-	-	-	-	15	21	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1608	-	0	878	766	1076
Stage 1	0	-	-	-	-	0	922	811	-
Stage 2	0	-	-	-	-	0	1013	882	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1608	-	-	852	0	1076
Mov Cap-2 Maneuver	-	-	-	-	-	-	852	0	-
Stage 1	-	-	-	-	-	-	922	0	-
Stage 2	-	-	-	-	-	-	983	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.9	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1608	-	860
HCM Lane V/C Ratio	-	-	0.03	-	0.317
HCM Control Delay (s)	-	-	7.3	0	11.1
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0.1	-	1.4

Intersection	
Int Delay, s/veh	9.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	7	11	42	10	0	0	0	0	227	3	11
Future Vol, veh/h	0	7	11	42	10	0	0	0	0	227	3	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	8	13	48	11	0	0	0	0	258	3	13

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	21	0	0	122	128	11
Stage 1	-	-	-	-	-	-	107	107	-
Stage 2	-	-	-	-	-	-	15	21	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1608	-	0	878	766	1076
Stage 1	0	-	-	-	-	0	922	811	-
Stage 2	0	-	-	-	-	0	1013	882	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1608	-	-	852	0	1076
Mov Cap-2 Maneuver	-	-	-	-	-	-	852	0	-
Stage 1	-	-	-	-	-	-	922	0	-
Stage 2	-	-	-	-	-	-	983	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.9	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1608	-	860
HCM Lane V/C Ratio	-	-	0.03	-	0.318
HCM Control Delay (s)	-	-	7.3	0	11.1
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0.1	-	1.4

Intersection	
Int Delay, s/veh	9.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	7	11	42	10	0	0	0	0	241	3	11
Future Vol, veh/h	0	7	11	42	10	0	0	0	0	241	3	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	8	13	48	11	0	0	0	0	274	3	13

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	21	0	0	122	128	11
Stage 1	-	-	-	-	-	-	107	107	-
Stage 2	-	-	-	-	-	-	15	21	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1608	-	0	878	766	1076
Stage 1	0	-	-	-	-	0	922	811	-
Stage 2	0	-	-	-	-	0	1013	882	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1608	-	-	852	0	1076
Mov Cap-2 Maneuver	-	-	-	-	-	-	852	0	-
Stage 1	-	-	-	-	-	-	922	0	-
Stage 2	-	-	-	-	-	-	983	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.9	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1608	-	860
HCM Lane V/C Ratio	-	-	0.03	-	0.337
HCM Control Delay (s)	-	-	7.3	0	11.3
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0.1	-	1.5

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

Intersection No.: 1
North/South Street: I-15 SB RAMPS
East/West Street: DALE EVANS PKWY

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	0	Left	0	0
NB	Through	0	Departure	44	Through	0	0
	Right	0			Right	0	0
North leg	Left	193	Approach	317	Left	288	293
SB	Through	4	Departure	0	Through	5	6
	Right	24			Right	24	24
West leg	Left	0	Approach	50	Left	0	0
EB	Through	34	Departure	29	Through	35	37
	Right	16			Right	15	15
East leg	Left	18	Approach	29	Left	24	42
WB	Through	5	Departure	323	Through	5	10
	Right	0			Right	0	0

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	0	Left	0	0
NB	Through	0	Departure	53	Through	0	0
	Right	0			Right	0	0
North leg	Left	66	Approach	218	Left	206	212
SB	Through	1	Departure	0	Through	2	3
	Right	9			Right	11	11
West leg	Left	0	Approach	17	Left	0	0
EB	Through	5	Departure	20	Through	7	7
	Right	12			Right	10	11
East leg	Left	28	Approach	51	Left	41	42
WB	Through	11	Departure	213	Through	9	10
	Right	0			Right	0	0

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : DALE EVANS PKWY
N/S STREET : I-15 NB RAMPS
CONDITION : AM PEAK HOUR

INTERSECTION : 2
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	1		3		5		7	9	11	13	15	17
DALE EVANS PKWY												
EB LEFT	5	1	6	0	6	0	6	6	9	9	9	9
EB THRU	222	14	236	39	275	41	277	316	321	360	362	401
EB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
WB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
WB THRU	18	2	20	0	20	0	20	20	44	44	44	44
WB RIGHT	58	4	62	11	73	12	74	85	173	184	185	196
I-15 NB RAMPS												
NB LEFT	5	1	6	0	6	0	6	6	8	8	8	8
NB THRU	2	1	3	0	3	0	3	3	4	4	4	4
NB RIGHT	20	2	22	0	22	0	22	22	29	29	29	29
SB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
SB THRU	0	0	0	0	0	0	0	0	0	0	0	0
SB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**330**	**25**	**355**	**50**	**405**	**53**	**408**	**458**	**588**	**638**	**641**	**691**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : DALE EVANS PKWY
N/S STREET : I-15 NB RAMPS
CONDITION : AM PEAK HOUR
PHF : 0.83

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

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

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
16	3	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	1	1	0
13	3	0	1	0	0	0	0	0	1	0	0
9	2	0	0	1	0	0	1	0	0	1	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	35	1	0	0	0	0	0	0	0	0	0
0	51	0	0	2	0	0	0	0	0	2	0
0	64	0	0	0	0	0	1	0	0	0	0
0	50	4	0	1	0	0	0	0	0	3	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
DALE EVANS PKWY					
EB LEFT	0	5	**5**	**5**	**5**
EB THRU	9	200	**209**	**222**	**222**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	0	0	**0**	**0**	**0**
WB THRU	4	8	**12**	**16**	**18**
WB RIGHT	3	47	**50**	**58**	**58**
I-15 NB RAMPS					
NB LEFT	0	4	**4**	**4**	**5**
NB THRU	0	2	**2**	**2**	**2**
NB RIGHT	2	14	**16**	**20**	**20**
SB LEFT	0	0	**0**	**0**	**0**
SB THRU	0	0	**0**	**0**	**0**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	222	0	0	18	58	5	2	20	0	0	0
Future Vol, veh/h	5	222	0	0	18	58	5	2	20	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	267	0	0	22	70	6	2	24	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	92	0	-	-	-	0	336	371	267
Stage 1	-	-	-	-	-	-	279	279	-
Stage 2	-	-	-	-	-	-	57	92	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1515	-	0	0	-	-	663	562	777
Stage 1	-	-	0	0	-	-	773	683	-
Stage 2	-	-	0	0	-	-	971	823	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1515	-	-	-	-	-	660	0	777
Mov Cap-2 Maneuver	-	-	-	-	-	-	660	0	-
Stage 1	-	-	-	-	-	-	769	0	-
Stage 2	-	-	-	-	-	-	971	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	750	1515	-	-	-
HCM Lane V/C Ratio	0.043	0.004	-	-	-
HCM Control Delay (s)	10	7.4	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	236	0	0	20	62	6	3	22	0	0	0
Future Vol, veh/h	6	236	0	0	20	62	6	3	22	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	284	0	0	24	75	7	4	27	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	99	0	-	-	-	0	360	397	284
Stage 1	-	-	-	-	-	-	298	298	-
Stage 2	-	-	-	-	-	-	62	99	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1507	-	0	0	-	-	643	544	760
Stage 1	-	-	0	0	-	-	758	671	-
Stage 2	-	-	0	0	-	-	966	817	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1507	-	-	-	-	-	639	0	760
Mov Cap-2 Maneuver	-	-	-	-	-	-	639	0	-
Stage 1	-	-	-	-	-	-	753	0	-
Stage 2	-	-	-	-	-	-	966	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	730	1507	-	-	-
HCM Lane V/C Ratio	0.051	0.005	-	-	-
HCM Control Delay (s)	10.2	7.4	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	0	-	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	275	0	0	20	73	6	3	22	0	0	0
Future Vol, veh/h	6	275	0	0	20	73	6	3	22	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	331	0	0	24	88	7	4	27	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	112	0	-	-	-	0	413	457	331
Stage 1	-	-	-	-	-	-	345	345	-
Stage 2	-	-	-	-	-	-	68	112	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1490	-	0	0	-	-	599	503	715
Stage 1	-	-	0	0	-	-	722	640	-
Stage 2	-	-	0	0	-	-	960	807	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1490	-	-	-	-	-	595	0	715
Mov Cap-2 Maneuver	-	-	-	-	-	-	595	0	-
Stage 1	-	-	-	-	-	-	718	0	-
Stage 2	-	-	-	-	-	-	960	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	685	1490	-	-	-
HCM Lane V/C Ratio	0.055	0.005	-	-	-
HCM Control Delay (s)	10.6	7.4	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	0	-	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	277	0	0	20	74	6	3	22	0	0	0
Future Vol, veh/h	6	277	0	0	20	74	6	3	22	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	334	0	0	24	89	7	4	27	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	113	0	-	-	-	0	417	461	334
Stage 1	-	-	-	-	-	-	348	348	-
Stage 2	-	-	-	-	-	-	69	113	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1489	-	0	0	-	-	596	500	712
Stage 1	-	-	0	0	-	-	719	638	-
Stage 2	-	-	0	0	-	-	959	806	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1489	-	-	-	-	-	592	0	712
Mov Cap-2 Maneuver	-	-	-	-	-	-	592	0	-
Stage 1	-	-	-	-	-	-	715	0	-
Stage 2	-	-	-	-	-	-	959	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	682	1489	-	-	-
HCM Lane V/C Ratio	0.055	0.005	-	-	-
HCM Control Delay (s)	10.6	7.4	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	0	-	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	316	0	0	20	85	6	3	22	0	0	0
Future Vol, veh/h	6	316	0	0	20	85	6	3	22	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	381	0	0	24	102	7	4	27	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	126	0	-	-	-	0	470	521	381
Stage 1	-	-	-	-	-	-	395	395	-
Stage 2	-	-	-	-	-	-	75	126	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1473	-	0	0	-	-	556	463	671
Stage 1	-	-	0	0	-	-	685	608	-
Stage 2	-	-	0	0	-	-	953	796	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1473	-	-	-	-	-	553	0	671
Mov Cap-2 Maneuver	-	-	-	-	-	-	553	0	-
Stage 1	-	-	-	-	-	-	681	0	-
Stage 2	-	-	-	-	-	-	953	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.1	0	11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	642	1473	-	-	-
HCM Lane V/C Ratio	0.058	0.005	-	-	-
HCM Control Delay (s)	11	7.5	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	0	-	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	321	0	0	44	173	8	4	29	0	0	0
Future Vol, veh/h	9	321	0	0	44	173	8	4	29	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	387	0	0	53	208	10	5	35	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	261	0	-	-	-	0	566	670	387
Stage 1	-	-	-	-	-	-	409	409	-
Stage 2	-	-	-	-	-	-	157	261	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1315	-	0	0	-	-	489	381	665
Stage 1	-	-	0	0	-	-	675	600	-
Stage 2	-	-	0	0	-	-	876	696	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1315	-	-	-	-	-	484	0	665
Mov Cap-2 Maneuver	-	-	-	-	-	-	484	0	-
Stage 1	-	-	-	-	-	-	668	0	-
Stage 2	-	-	-	-	-	-	876	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	615	1315	-	-	-
HCM Lane V/C Ratio	0.08	0.008	-	-	-
HCM Control Delay (s)	11.4	7.8	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.3	0	-	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	360	0	0	44	184	8	4	29	0	0	0
Future Vol, veh/h	9	360	0	0	44	184	8	4	29	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	434	0	0	53	222	10	5	35	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	275	0	-	-	-	0	620	731	434
Stage 1	-	-	-	-	-	-	456	456	-
Stage 2	-	-	-	-	-	-	164	275	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1300	-	0	0	-	-	455	351	626
Stage 1	-	-	0	0	-	-	643	572	-
Stage 2	-	-	0	0	-	-	870	686	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1300	-	-	-	-	-	450	0	626
Mov Cap-2 Maneuver	-	-	-	-	-	-	450	0	-
Stage 1	-	-	-	-	-	-	636	0	-
Stage 2	-	-	-	-	-	-	870	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	577	1300	-	-	-
HCM Lane V/C Ratio	0.086	0.008	-	-	-
HCM Control Delay (s)	11.8	7.8	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.3	0	-	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	362	0	0	44	185	8	4	29	0	0	0
Future Vol, veh/h	9	362	0	0	44	185	8	4	29	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	436	0	0	53	223	10	5	35	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	276	0	-	-	-	0	623	734	436
Stage 1	-	-	-	-	-	-	458	458	-
Stage 2	-	-	-	-	-	-	165	276	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1299	-	0	0	-	-	453	350	625
Stage 1	-	-	0	0	-	-	641	570	-
Stage 2	-	-	0	0	-	-	869	685	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1299	-	-	-	-	-	448	0	625
Mov Cap-2 Maneuver	-	-	-	-	-	-	448	0	-
Stage 1	-	-	-	-	-	-	634	0	-
Stage 2	-	-	-	-	-	-	869	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	576	1299	-	-	-
HCM Lane V/C Ratio	0.086	0.008	-	-	-
HCM Control Delay (s)	11.8	7.8	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.3	0	-	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	401	0	0	44	196	8	4	29	0	0	0
Future Vol, veh/h	9	401	0	0	44	196	8	4	29	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	483	0	0	53	236	10	5	35	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	289	0	-	-	-	0	676	794	483
Stage 1	-	-	-	-	-	-	505	505	-
Stage 2	-	-	-	-	-	-	171	289	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1284	-	0	0	-	-	422	323	588
Stage 1	-	-	0	0	-	-	610	544	-
Stage 2	-	-	0	0	-	-	864	677	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1284	-	-	-	-	-	417	0	588
Mov Cap-2 Maneuver	-	-	-	-	-	-	417	0	-
Stage 1	-	-	-	-	-	-	603	0	-
Stage 2	-	-	-	-	-	-	864	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	12.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	540	1284	-	-	-
HCM Lane V/C Ratio	0.091	0.008	-	-	-
HCM Control Delay (s)	12.3	7.8	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.3	0	-	-	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : DALE EVANS PKWY
N/S STREET : I-15 NB RAMPS
CONDITION : PM PEAK HOUR

INTERSECTION : 2
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	2		4		6		8	10	12	14	16	18
DALE EVANS PKWY												
EB LEFT	8	1	9	0	9	0	9	9	17	17	17	17
EB THRU	63	4	67	14	81	15	82	96	202	216	217	231
EB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
WB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
WB THRU	35	3	38	0	38	0	38	38	50	50	50	50
WB RIGHT	14	1	15	36	51	38	53	89	101	137	139	175
I-15 NB RAMPS												
NB LEFT	4	1	5	0	5	0	5	5	2	2	2	2
NB THRU	1	1	2	0	2	0	2	2	2	2	2	2
NB RIGHT	11	1	12	0	12	0	12	12	26	26	26	26
SB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
SB THRU	0	0	0	0	0	0	0	0	0	0	0	0
SB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**136**	**12**	**148**	**50**	**198**	**53**	**201**	**251**	**400**	**450**	**453**	**503**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : DALE EVANS PKWY
N/S STREET : I-15 NB RAMPS
CONDITION : PM PEAK HOUR
PHF : 0.91

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

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

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
3	6	0	0	0	0	0	0	0	0	1	0
3	8	0	0	0	0	0	0	0	0	0	0
5	2	0	0	0	0	0	0	0	0	2	0
3	4	0	0	0	0	0	0	0	0	1	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	15	0	0	0	0	0	0	0	0	2	0
0	8	1	0	0	0	0	0	0	0	1	0
0	12	4	0	0	0	0	0	0	0	0	0
0	13	3	0	0	0	0	0	0	0	1	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
DALE EVANS PKWY					
EB LEFT	0	8	**8**	**8**	**8**
EB THRU	4	48	**52**	**60**	**63**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	0	0	**0**	**0**	**0**
WB THRU	4	20	**24**	**32**	**35**
WB RIGHT	0	14	**14**	**14**	**14**
I-15 NB RAMPS					
NB LEFT	0	4	**4**	**4**	**4**
NB THRU	0	0	**1**	**1**	**1**
NB RIGHT	2	5	**7**	**11**	**11**
SB LEFT	0	0	**0**	**0**	**0**
SB THRU	0	0	**0**	**0**	**0**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	63	0	0	35	14	4	1	11	0	0	0
Future Vol, veh/h	8	63	0	0	35	14	4	1	11	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	9	69	0	0	38	15	4	1	12	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	53	0	-	-	-	0	133	140	69
Stage 1	-	-	-	-	-	-	87	87	-
Stage 2	-	-	-	-	-	-	46	53	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1566	-	0	0	-	-	866	755	1000
Stage 1	-	-	0	0	-	-	941	827	-
Stage 2	-	-	0	0	-	-	982	855	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1566	-	-	-	-	-	861	0	1000
Mov Cap-2 Maneuver	-	-	-	-	-	-	861	0	-
Stage 1	-	-	-	-	-	-	935	0	-
Stage 2	-	-	-	-	-	-	982	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.8	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	959	1566	-	-	-
HCM Lane V/C Ratio	0.018	0.006	-	-	-
HCM Control Delay (s)	8.8	7.3	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	67	0	0	38	15	5	2	12	0	0	0
Future Vol, veh/h	9	67	0	0	38	15	5	2	12	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	10	74	0	0	42	16	5	2	13	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	58	0	-	-	-	0	144	152	74
Stage 1	-	-	-	-	-	-	94	94	-
Stage 2	-	-	-	-	-	-	50	58	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1559	-	0	0	-	-	853	743	993
Stage 1	-	-	0	0	-	-	935	821	-
Stage 2	-	-	0	0	-	-	978	851	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1559	-	-	-	-	-	847	0	993
Mov Cap-2 Maneuver	-	-	-	-	-	-	847	0	-
Stage 1	-	-	-	-	-	-	928	0	-
Stage 2	-	-	-	-	-	-	978	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.9	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	945	1559	-	-	-
HCM Lane V/C Ratio	0.022	0.006	-	-	-
HCM Control Delay (s)	8.9	7.3	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	81	0	0	38	51	5	2	12	0	0	0
Future Vol, veh/h	9	81	0	0	38	51	5	2	12	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	10	89	0	0	42	56	5	2	13	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	98	0	-	-	-	0	179	207	89
Stage 1	-	-	-	-	-	-	109	109	-
Stage 2	-	-	-	-	-	-	70	98	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1508	-	0	0	-	-	815	693	975
Stage 1	-	-	0	0	-	-	921	809	-
Stage 2	-	-	0	0	-	-	958	818	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1508	-	-	-	-	-	809	0	975
Mov Cap-2 Maneuver	-	-	-	-	-	-	809	0	-
Stage 1	-	-	-	-	-	-	915	0	-
Stage 2	-	-	-	-	-	-	958	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.7	0	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	920	1508	-	-	-
HCM Lane V/C Ratio	0.023	0.007	-	-	-
HCM Control Delay (s)	9	7.4	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	82	0	0	38	53	5	2	12	0	0	0
Future Vol, veh/h	9	82	0	0	38	53	5	2	12	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	10	90	0	0	42	58	5	2	13	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	100	0	-	-	-	0	181	210	90
Stage 1	-	-	-	-	-	-	110	110	-
Stage 2	-	-	-	-	-	-	71	100	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1505	-	0	0	-	-	813	691	973
Stage 1	-	-	0	0	-	-	920	808	-
Stage 2	-	-	0	0	-	-	957	816	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1505	-	-	-	-	-	807	0	973
Mov Cap-2 Maneuver	-	-	-	-	-	-	807	0	-
Stage 1	-	-	-	-	-	-	914	0	-
Stage 2	-	-	-	-	-	-	957	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.7	0	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	917	1505	-	-	-
HCM Lane V/C Ratio	0.023	0.007	-	-	-
HCM Control Delay (s)	9	7.4	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	96	0	0	38	89	5	2	12	0	0	0
Future Vol, veh/h	9	96	0	0	38	89	5	2	12	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	10	105	0	0	42	98	5	2	13	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	140	0	-	-	-	0	216	265	105
Stage 1	-	-	-	-	-	-	125	125	-
Stage 2	-	-	-	-	-	-	91	140	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1456	-	0	0	-	-	777	644	955
Stage 1	-	-	0	0	-	-	906	796	-
Stage 2	-	-	0	0	-	-	938	785	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1456	-	-	-	-	-	772	0	955
Mov Cap-2 Maneuver	-	-	-	-	-	-	772	0	-
Stage 1	-	-	-	-	-	-	900	0	-
Stage 2	-	-	-	-	-	-	938	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.6	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	893	1456	-	-	-
HCM Lane V/C Ratio	0.023	0.007	-	-	-
HCM Control Delay (s)	9.1	7.5	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	202	0	0	50	101	2	2	26	0	0	0
Future Vol, veh/h	17	202	0	0	50	101	2	2	26	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	19	222	0	0	55	111	2	2	29	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	166	0	-	-	-	0	371	426	222
Stage 1	-	-	-	-	-	-	260	260	-
Stage 2	-	-	-	-	-	-	111	166	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1424	-	0	0	-	-	634	524	823
Stage 1	-	-	0	0	-	-	788	697	-
Stage 2	-	-	0	0	-	-	919	765	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1424	-	-	-	-	-	624	0	823
Mov Cap-2 Maneuver	-	-	-	-	-	-	624	0	-
Stage 1	-	-	-	-	-	-	776	0	-
Stage 2	-	-	-	-	-	-	919	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.6	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	805	1424	-	-	-
HCM Lane V/C Ratio	0.041	0.013	-	-	-
HCM Control Delay (s)	9.7	7.6	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	216	0	0	50	137	2	2	26	0	0	0
Future Vol, veh/h	17	216	0	0	50	137	2	2	26	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	19	237	0	0	55	151	2	2	29	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	206	0	-	-	-	0	406	481	237
Stage 1	-	-	-	-	-	-	275	275	-
Stage 2	-	-	-	-	-	-	131	206	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1377	-	0	0	-	-	605	487	807
Stage 1	-	-	0	0	-	-	776	686	-
Stage 2	-	-	0	0	-	-	900	735	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1377	-	-	-	-	-	595	0	807
Mov Cap-2 Maneuver	-	-	-	-	-	-	595	0	-
Stage 1	-	-	-	-	-	-	764	0	-
Stage 2	-	-	-	-	-	-	900	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.6	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	787	1377	-	-	-
HCM Lane V/C Ratio	0.042	0.014	-	-	-
HCM Control Delay (s)	9.8	7.7	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	217	0	0	50	139	2	2	26	0	0	0
Future Vol, veh/h	17	217	0	0	50	139	2	2	26	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	19	238	0	0	55	153	2	2	29	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	208	0	-	-	-	0	408	484	238
Stage 1	-	-	-	-	-	-	276	276	-
Stage 2	-	-	-	-	-	-	132	208	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1375	-	0	0	-	-	603	486	806
Stage 1	-	-	0	0	-	-	775	685	-
Stage 2	-	-	0	0	-	-	899	734	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1375	-	-	-	-	-	593	0	806
Mov Cap-2 Maneuver	-	-	-	-	-	-	593	0	-
Stage 1	-	-	-	-	-	-	763	0	-
Stage 2	-	-	-	-	-	-	899	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.6	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	786	1375	-	-	-
HCM Lane V/C Ratio	0.042	0.014	-	-	-
HCM Control Delay (s)	9.8	7.7	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	231	0	0	50	175	2	2	26	0	0	0
Future Vol, veh/h	17	231	0	0	50	175	2	2	26	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	19	254	0	0	55	192	2	2	29	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	247	0	-	-	-	0	443	539	254
Stage 1	-	-	-	-	-	-	292	292	-
Stage 2	-	-	-	-	-	-	151	247	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1331	-	0	0	-	-	576	452	790
Stage 1	-	-	0	0	-	-	762	675	-
Stage 2	-	-	0	0	-	-	882	706	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1331	-	-	-	-	-	566	0	790
Mov Cap-2 Maneuver	-	-	-	-	-	-	566	0	-
Stage 1	-	-	-	-	-	-	749	0	-
Stage 2	-	-	-	-	-	-	882	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.5	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	768	1331	-	-	-
HCM Lane V/C Ratio	0.043	0.014	-	-	-
HCM Control Delay (s)	9.9	7.7	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

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

Intersection No.: 2
North/South Street: I-15 NB RAMPS
East/West Street: DALE EVANS PKWY

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	5	Approach	38	Left	7	8
NB	Through	2	Departure	0	Through	3	4
	Right	20			Right	28	29
North leg	Left	0	Approach	0	Left	0	0
SB	Through	0	Departure	185	Through	0	0
	Right	0			Right	0	0
West leg	Left	5	Approach	323	Left	9	9
EB	Through	222	Departure	51	Through	321	321
	Right	0			Right	0	0
East leg	Left	0	Approach	209	Left	0	0
WB	Through	18	Departure	349	Through	44	44
	Right	58			Right	173	173

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	4	Approach	27	Left	1	2
NB	Through	1	Departure	0	Through	2	2
	Right	11			Right	25	26
North leg	Left	0	Approach	0	Left	0	0
SB	Through	0	Departure	119	Through	0	0
	Right	0			Right	0	0
West leg	Left	8	Approach	213	Left	17	17
EB	Through	63	Departure	51	Through	202	202
	Right	0			Right	0	0
East leg	Left	0	Approach	157	Left	0	0
WB	Through	35	Departure	227	Through	50	50
	Right	14			Right	101	101

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : QUARRY RD
N/S STREET : DALE EVANS PKWY
CONDITION : AM PEAK HOUR

INTERSECTION : 3
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	1		3		5		7	9	11	13	15	17
QUARRY RD												
EB LEFT	7	1	8	0	8	0	8	8	10	10	10	10
EB THRU	19	2	21	0	21	0	21	21	16	16	16	16
EB RIGHT	6	1	7	0	7	0	7	7	11	11	11	11
WB LEFT	1	1	2	0	2	0	2	2	2	2	2	2
WB THRU	19	2	21	0	21	0	21	21	16	16	16	16
WB RIGHT	45	3	48	0	48	0	48	48	52	52	52	52
DALE EVANS PKWY												
NB LEFT	12	1	13	0	13	0	13	13	19	19	19	19
NB THRU	102	7	109	11	120	12	121	132	216	227	228	239
NB RIGHT	6	1	7	0	7	0	7	7	8	8	8	8
SB LEFT	37	3	40	0	40	0	40	40	42	42	42	42
SB THRU	60	4	64	39	103	41	105	144	134	173	175	214
SB RIGHT	2	1	3	0	3	0	3	3	3	3	3	3
TOTALS	**316**	**27**	**343**	**50**	**393**	**53**	**396**	**446**	**529**	**579**	**582**	**632**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : QUARRY RD
CONDITION : AM PEAK HOUR
N/S STREET : DALE EVANS PKWY
PHF : 0.95

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	16	7	0	0	0	0	0	0	0	0	0
2	5	14	0	1	0	0	0	0	0	0	0
0	7	10	0	0	0	0	0	0	0	5	0
0	5	6	0	1	0	0	0	0	0	3	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	27	4	0	1	0	0	1	0	0	0	0
1	11	3	1	0	0	0	0	0	0	3	0
1	19	2	0	1	0	0	0	0	0	2	0
2	16	3	0	2	0	0	0	0	0	2	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
12	3	0	0	0	0	0	0	0	0	0	0
10	3	1	0	0	0	0	0	0	0	0	0
13	6	0	0	0	0	0	0	0	0	0	0
10	7	0	0	0	0	0	0	0	0	0	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	3	0	0	0	0	0	0	0	0	0	0
2	5	2	0	0	0	0	0	0	0	0	0
1	5	2	0	0	0	0	0	0	0	0	0
3	6	3	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
QUARRY RD					
EB LEFT	0	7	**7**	**7**	**7**
EB THRU	0	19	**19**	**19**	**19**
EB RIGHT	0	6	**6**	**6**	**6**
WB LEFT	0	1	**1**	**1**	**1**
WB THRU	0	19	**19**	**19**	**19**
WB RIGHT	0	45	**45**	**45**	**45**
DALE EVANS PKWY					
NB LEFT	0	12	**12**	**12**	**12**
NB THRU	12	73	**85**	**102**	**102**
NB RIGHT	1	4	**5**	**6**	**6**
SB LEFT	0	37	**37**	**37**	**37**
SB THRU	10	33	**43**	**60**	**60**
SB RIGHT	0	2	**2**	**2**	**2**

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	19	6	1	19	45	12	102	6	37	60	2
Future Vol, veh/h	7	19	6	1	19	45	12	102	6	37	60	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	20	6	1	20	47	13	107	6	39	63	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	312	281	64	291	279	110	65	0	0	113	0	0
Stage 1	142	142	-	136	136	-	-	-	-	-	-	-
Stage 2	170	139	-	155	143	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	644	631	1006	665	632	949	1550	-	-	1489	-	-
Stage 1	866	783	-	872	788	-	-	-	-	-	-	-
Stage 2	837	785	-	852	782	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	580	608	1006	626	609	949	1550	-	-	1489	-	-
Mov Cap-2 Maneuver	580	608	-	626	609	-	-	-	-	-	-	-
Stage 1	858	762	-	864	781	-	-	-	-	-	-	-
Stage 2	768	778	-	802	761	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.9	9.9	0.7	2.8
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1550	-	-	649	810	1489	-	-
HCM Lane V/C Ratio	0.008	-	-	0.052	0.084	0.026	-	-
HCM Control Delay (s)	7.3	0	-	10.9	9.9	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	21	7	2	21	48	13	109	7	40	64	3
Future Vol, veh/h	8	21	7	2	21	48	13	109	7	40	64	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	8	22	7	2	22	51	14	115	7	42	67	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	336	303	69	314	301	119	70	0	0	122	0	0
Stage 1	153	153	-	147	147	-	-	-	-	-	-	-
Stage 2	183	150	-	167	154	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	622	613	1000	643	615	938	1544	-	-	1478	-	-
Stage 1	854	775	-	860	779	-	-	-	-	-	-	-
Stage 2	823	777	-	840	774	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	554	588	1000	601	590	938	1544	-	-	1478	-	-
Mov Cap-2 Maneuver	554	588	-	601	590	-	-	-	-	-	-	-
Stage 1	845	752	-	851	771	-	-	-	-	-	-	-
Stage 2	749	769	-	785	751	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.1	10	0.7	2.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1544	-	-	630	788	1478	-	-
HCM Lane V/C Ratio	0.009	-	-	0.06	0.095	0.028	-	-
HCM Control Delay (s)	7.4	0	-	11.1	10	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	21	7	2	21	48	13	120	7	40	103	3
Future Vol, veh/h	8	21	7	2	21	48	13	120	7	40	103	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	8	22	7	2	22	51	14	126	7	42	108	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	388	355	110	366	353	130	111	0	0	133	0	0
Stage 1	194	194	-	158	158	-	-	-	-	-	-	-
Stage 2	194	161	-	208	195	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	574	574	949	594	575	925	1492	-	-	1464	-	-
Stage 1	812	744	-	849	771	-	-	-	-	-	-	-
Stage 2	812	769	-	799	743	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	510	550	949	554	551	925	1492	-	-	1464	-	-
Mov Cap-2 Maneuver	510	550	-	554	551	-	-	-	-	-	-	-
Stage 1	804	721	-	841	763	-	-	-	-	-	-	-
Stage 2	738	761	-	745	720	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.5	10.3	0.7	2.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1492	-	-	588	758	1464	-	-
HCM Lane V/C Ratio	0.009	-	-	0.064	0.099	0.029	-	-
HCM Control Delay (s)	7.4	0	-	11.5	10.3	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	21	7	2	21	48	13	121	7	40	105	3
Future Vol, veh/h	8	21	7	2	21	48	13	121	7	40	105	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	8	22	7	2	22	51	14	127	7	42	111	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	392	359	113	370	357	131	114	0	0	134	0	0
Stage 1	197	197	-	159	159	-	-	-	-	-	-	-
Stage 2	195	162	-	211	198	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	571	571	945	590	572	924	1488	-	-	1463	-	-
Stage 1	809	742	-	848	770	-	-	-	-	-	-	-
Stage 2	811	768	-	796	741	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	507	548	945	550	549	924	1488	-	-	1463	-	-
Mov Cap-2 Maneuver	507	548	-	550	549	-	-	-	-	-	-	-
Stage 1	801	719	-	840	762	-	-	-	-	-	-	-
Stage 2	737	760	-	742	718	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.6	10.3	0.7	2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1488	-	-	585	757	1463	-	-
HCM Lane V/C Ratio	0.009	-	-	0.065	0.099	0.029	-	-
HCM Control Delay (s)	7.4	0	-	11.6	10.3	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	21	7	2	21	48	13	132	7	40	144	3
Future Vol, veh/h	8	21	7	2	21	48	13	132	7	40	144	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	8	22	7	2	22	51	14	139	7	42	152	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	445	412	154	423	410	143	155	0	0	146	0	0
Stage 1	238	238	-	171	171	-	-	-	-	-	-	-
Stage 2	207	174	-	252	239	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	527	533	897	545	534	910	1438	-	-	1448	-	-
Stage 1	770	712	-	836	761	-	-	-	-	-	-	-
Stage 2	800	759	-	757	711	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	466	510	897	506	511	910	1438	-	-	1448	-	-
Mov Cap-2 Maneuver	466	510	-	506	511	-	-	-	-	-	-	-
Stage 1	762	689	-	827	753	-	-	-	-	-	-	-
Stage 2	725	751	-	703	688	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.1	10.5	0.6	1.6
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1438	-	-	544	726	1448	-	-
HCM Lane V/C Ratio	0.01	-	-	0.07	0.103	0.029	-	-
HCM Control Delay (s)	7.5	0	-	12.1	10.5	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	16	11	2	16	52	19	216	8	42	134	3
Future Vol, veh/h	10	16	11	2	16	52	19	216	8	42	134	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	17	12	2	17	55	20	227	8	44	141	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	538	506	143	516	503	231	144	0	0	235	0	0
Stage 1	231	231	-	271	271	-	-	-	-	-	-	-
Stage 2	307	275	-	245	232	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	457	472	910	473	474	813	1451	-	-	1344	-	-
Stage 1	776	717	-	739	689	-	-	-	-	-	-	-
Stage 2	707	686	-	763	716	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	398	448	910	436	450	813	1451	-	-	1344	-	-
Mov Cap-2 Maneuver	398	448	-	436	450	-	-	-	-	-	-	-
Stage 1	764	691	-	727	678	-	-	-	-	-	-	-
Stage 2	633	675	-	708	690	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.7	11	0.6	1.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1451	-	-	507	672	1344	-	-
HCM Lane V/C Ratio	0.014	-	-	0.077	0.11	0.033	-	-
HCM Control Delay (s)	7.5	0	-	12.7	11	7.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	16	11	2	16	52	19	227	8	42	173	3
Future Vol, veh/h	10	16	11	2	16	52	19	227	8	42	173	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	17	12	2	17	55	20	239	8	44	182	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	591	559	184	569	556	243	185	0	0	247	0	0
Stage 1	272	272	-	283	283	-	-	-	-	-	-	-
Stage 2	319	287	-	286	273	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	422	440	864	436	442	801	1402	-	-	1331	-	-
Stage 1	738	688	-	728	681	-	-	-	-	-	-	-
Stage 2	697	678	-	726	688	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	365	417	864	400	419	801	1402	-	-	1331	-	-
Mov Cap-2 Maneuver	365	417	-	400	419	-	-	-	-	-	-	-
Stage 1	725	663	-	716	669	-	-	-	-	-	-	-
Stage 2	622	666	-	672	663	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.3	11.3	0.6	1.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1402	-	-	471	648	1331	-	-
HCM Lane V/C Ratio	0.014	-	-	0.083	0.114	0.033	-	-
HCM Control Delay (s)	7.6	0	-	13.3	11.3	7.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	16	11	2	16	52	19	228	8	42	175	3
Future Vol, veh/h	10	16	11	2	16	52	19	228	8	42	175	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	17	12	2	17	55	20	240	8	44	184	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	594	562	186	572	559	244	187	0	0	248	0	0
Stage 1	274	274	-	284	284	-	-	-	-	-	-	-
Stage 2	320	288	-	288	275	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	420	439	861	434	440	800	1399	-	-	1330	-	-
Stage 1	736	687	-	727	680	-	-	-	-	-	-	-
Stage 2	696	677	-	724	686	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	364	416	861	398	417	800	1399	-	-	1330	-	-
Mov Cap-2 Maneuver	364	416	-	398	417	-	-	-	-	-	-	-
Stage 1	723	662	-	715	668	-	-	-	-	-	-	-
Stage 2	621	665	-	670	661	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.4	11.3	0.6	1.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1399	-	-	470	646	1330	-	-
HCM Lane V/C Ratio	0.014	-	-	0.083	0.114	0.033	-	-
HCM Control Delay (s)	7.6	0	-	13.4	11.3	7.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	16	11	2	16	52	19	239	8	42	214	3
Future Vol, veh/h	10	16	11	2	16	52	19	239	8	42	214	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	17	12	2	17	55	20	252	8	44	225	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	647	615	227	625	612	256	228	0	0	260	0	0
Stage 1	315	315	-	296	296	-	-	-	-	-	-	-
Stage 2	332	300	-	329	316	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	387	409	817	400	411	788	1352	-	-	1316	-	-
Stage 1	700	659	-	717	672	-	-	-	-	-	-	-
Stage 2	686	669	-	688	659	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	334	387	817	366	389	788	1352	-	-	1316	-	-
Mov Cap-2 Maneuver	334	387	-	366	389	-	-	-	-	-	-	-
Stage 1	688	634	-	705	661	-	-	-	-	-	-	-
Stage 2	612	658	-	635	634	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14	11.6	0.6	1.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1352	-	-	437	622	1316	-	-
HCM Lane V/C Ratio	0.015	-	-	0.089	0.118	0.034	-	-
HCM Control Delay (s)	7.7	0	-	14	11.6	7.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.4	0.1	-	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : QUARRY RD
N/S STREET : DALE EVANS PKWY
CONDITION : PM PEAK HOUR

INTERSECTION : 3
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	2		4		6		8	10	12	14	16	18
QUARRY RD												
EB LEFT	3	1	4	0	4	0	4	4	5	5	5	5
EB THRU	35	3	38	0	38	0	38	38	36	36	36	36
EB RIGHT	1	1	2	0	2	0	2	2	2	2	2	2
WB LEFT	3	1	4	0	4	0	4	4	4	4	4	4
WB THRU	41	3	44	0	44	0	44	44	41	41	41	41
WB RIGHT	18	2	20	0	20	0	20	20	19	19	19	19
DALE EVANS PKWY												
NB LEFT	4	1	5	0	5	0	5	5	7	7	7	7
NB THRU	110	7	117	36	153	38	155	191	186	222	224	260
NB RIGHT	8	1	9	0	9	0	9	9	10	10	10	10
SB LEFT	32	2	34	0	34	0	34	34	32	32	32	32
SB THRU	227	14	241	14	255	15	256	270	372	386	387	401
SB RIGHT	2	1	3	0	3	0	3	3	3	3	3	3
TOTALS	**484**	**37**	**521**	**50**	**571**	**53**	**574**	**624**	**717**	**767**	**770**	**820**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : QUARRY RD
CONDITION : PM PEAK HOUR
N/S STREET : DALE EVANS PKWY
PHF : 0.89

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
1	61	5	0	1	0	0	1	0	0	1	0
0	48	9	0	0	0	0	1	0	0	1	0
1	56	11	0	1	0	0	0	0	0	0	0
0	46	7	0	2	0	0	0	0	0	0	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
2	28	0	0	0	0	0	0	0	0	1	0
1	10	2	0	0	0	0	0	0	0	2	0
3	25	1	0	0	0	0	0	0	0	0	0
2	32	1	0	0	0	0	0	0	0	2	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
4	13	1	0	0	0	0	0	0	0	0	0
2	9	1	0	0	0	0	0	0	0	0	0
6	4	1	0	0	0	0	0	0	0	0	0
6	15	0	0	0	0	0	0	0	0	0	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	10	2	0	0	0	0	0	0	0	0	0
1	7	0	0	0	0	0	0	0	0	0	0
0	6	0	0	0	0	0	0	0	0	0	0
0	12	1	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
QUARRY RD					
EB LEFT	0	3	**3**	**3**	**3**
EB THRU	0	35	**35**	**35**	**35**
EB RIGHT	0	1	**1**	**1**	**1**
WB LEFT	0	3	**3**	**3**	**3**
WB THRU	0	41	**41**	**41**	**41**
WB RIGHT	0	18	**18**	**18**	**18**
DALE EVANS PKWY					
NB LEFT	0	4	**4**	**4**	**4**
NB THRU	5	95	**100**	**110**	**110**
NB RIGHT	0	8	**8**	**8**	**8**
SB LEFT	0	32	**32**	**32**	**32**
SB THRU	8	211	**219**	**227**	**227**
SB RIGHT	0	2	**2**	**2**	**2**

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	35	1	3	41	18	4	110	8	32	227	2
Future Vol, veh/h	3	35	1	3	41	18	4	110	8	32	227	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	39	1	3	46	20	4	124	9	36	255	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	498	469	256	485	466	129	257	0	0	133	0	0
Stage 1	328	328	-	137	137	-	-	-	-	-	-	-
Stage 2	170	141	-	348	329	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	486	495	788	496	497	926	1320	-	-	1464	-	-
Stage 1	689	651	-	871	787	-	-	-	-	-	-	-
Stage 2	837	784	-	672	650	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	430	479	788	453	481	926	1320	-	-	1464	-	-
Mov Cap-2 Maneuver	430	479	-	453	481	-	-	-	-	-	-	-
Stage 1	687	632	-	868	785	-	-	-	-	-	-	-
Stage 2	768	782	-	611	631	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.3	12.4	0.3	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1320	-	-	480	557	1464	-	-
HCM Lane V/C Ratio	0.003	-	-	0.091	0.125	0.025	-	-
HCM Control Delay (s)	7.7	0	-	13.3	12.4	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	38	2	4	44	20	5	117	9	34	241	3
Future Vol, veh/h	4	38	2	4	44	20	5	117	9	34	241	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	43	2	4	49	22	6	131	10	38	271	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	533	502	273	519	498	136	274	0	0	141	0	0
Stage 1	349	349	-	148	148	-	-	-	-	-	-	-
Stage 2	184	153	-	371	350	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	461	474	771	471	477	918	1301	-	-	1455	-	-
Stage 1	671	637	-	859	779	-	-	-	-	-	-	-
Stage 2	822	775	-	653	636	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	402	457	771	424	460	918	1301	-	-	1455	-	-
Mov Cap-2 Maneuver	402	457	-	424	460	-	-	-	-	-	-	-
Stage 1	668	617	-	855	775	-	-	-	-	-	-	-
Stage 2	747	771	-	587	616	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.8	12.8	0.3	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1301	-	-	460	536	1455	-	-
HCM Lane V/C Ratio	0.004	-	-	0.107	0.143	0.026	-	-
HCM Control Delay (s)	7.8	0	-	13.8	12.8	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.5	0.1	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	38	2	4	44	20	5	153	9	34	255	3
Future Vol, veh/h	4	38	2	4	44	20	5	153	9	34	255	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	43	2	4	49	22	6	172	10	38	287	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	590	559	289	576	555	177	290	0	0	182	0	0
Stage 1	365	365	-	189	189	-	-	-	-	-	-	-
Stage 2	225	194	-	387	366	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	422	440	755	431	443	871	1283	-	-	1405	-	-
Stage 1	658	627	-	817	748	-	-	-	-	-	-	-
Stage 2	782	744	-	641	626	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	364	424	755	386	427	871	1283	-	-	1405	-	-
Mov Cap-2 Maneuver	364	424	-	386	427	-	-	-	-	-	-	-
Stage 1	655	607	-	813	744	-	-	-	-	-	-	-
Stage 2	708	740	-	575	606	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.6	13.5	0.2	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1283	-	-	426	499	1405	-	-
HCM Lane V/C Ratio	0.004	-	-	0.116	0.153	0.027	-	-
HCM Control Delay (s)	7.8	0	-	14.6	13.5	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.5	0.1	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	38	2	4	44	20	5	155	9	34	256	3
Future Vol, veh/h	4	38	2	4	44	20	5	155	9	34	256	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	43	2	4	49	22	6	174	10	38	288	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	593	562	290	579	558	179	291	0	0	184	0	0
Stage 1	366	366	-	191	191	-	-	-	-	-	-	-
Stage 2	227	196	-	388	367	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	420	439	754	429	441	869	1282	-	-	1403	-	-
Stage 1	657	626	-	815	746	-	-	-	-	-	-	-
Stage 2	780	742	-	640	626	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	362	423	754	384	425	869	1282	-	-	1403	-	-
Mov Cap-2 Maneuver	362	423	-	384	425	-	-	-	-	-	-	-
Stage 1	654	606	-	811	742	-	-	-	-	-	-	-
Stage 2	706	738	-	574	606	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.6	13.6	0.2	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1282	-	-	425	496	1403	-	-
HCM Lane V/C Ratio	0.004	-	-	0.116	0.154	0.027	-	-
HCM Control Delay (s)	7.8	0	-	14.6	13.6	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.5	0.1	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	38	2	4	44	20	5	191	9	34	270	3
Future Vol, veh/h	4	38	2	4	44	20	5	191	9	34	270	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	43	2	4	49	22	6	215	10	38	303	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	649	618	305	635	614	220	306	0	0	225	0	0
Stage 1	381	381	-	232	232	-	-	-	-	-	-	-
Stage 2	268	237	-	403	382	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	386	408	740	394	410	825	1266	-	-	1356	-	-
Stage 1	645	617	-	775	716	-	-	-	-	-	-	-
Stage 2	742	713	-	628	616	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	330	392	740	349	394	825	1266	-	-	1356	-	-
Mov Cap-2 Maneuver	330	392	-	349	394	-	-	-	-	-	-	-
Stage 1	642	596	-	771	712	-	-	-	-	-	-	-
Stage 2	668	709	-	561	595	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.4	14.4	0.2	0.9
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1266	-	-	394	461	1356	-	-
HCM Lane V/C Ratio	0.004	-	-	0.125	0.166	0.028	-	-
HCM Control Delay (s)	7.9	0	-	15.4	14.4	7.7	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.6	0.1	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	36	2	4	41	19	7	186	10	32	372	3
Future Vol, veh/h	5	36	2	4	41	19	7	186	10	32	372	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	40	2	4	46	21	8	209	11	36	418	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	756	728	420	744	724	215	421	0	0	220	0	0
Stage 1	492	492	-	231	231	-	-	-	-	-	-	-
Stage 2	264	236	-	513	493	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	327	353	638	333	354	830	1149	-	-	1361	-	-
Stage 1	562	551	-	776	717	-	-	-	-	-	-	-
Stage 2	746	713	-	548	550	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	276	338	638	292	339	830	1149	-	-	1361	-	-
Mov Cap-2 Maneuver	276	338	-	292	339	-	-	-	-	-	-	-
Stage 1	558	532	-	770	711	-	-	-	-	-	-	-
Stage 2	674	707	-	487	531	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.5	15.8	0.3	0.6
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1149	-	-	337	406	1361	-	-
HCM Lane V/C Ratio	0.007	-	-	0.143	0.177	0.026	-	-
HCM Control Delay (s)	8.2	0	-	17.5	15.8	7.7	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.6	0.1	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	36	2	4	41	19	7	222	10	32	386	3
Future Vol, veh/h	5	36	2	4	41	19	7	222	10	32	386	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	40	2	4	46	21	8	249	11	36	434	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	812	784	436	800	780	255	437	0	0	260	0	0
Stage 1	508	508	-	271	271	-	-	-	-	-	-	-
Stage 2	304	276	-	529	509	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	300	327	625	306	329	789	1134	-	-	1316	-	-
Stage 1	551	542	-	739	689	-	-	-	-	-	-	-
Stage 2	710	685	-	537	541	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	251	313	625	266	315	789	1134	-	-	1316	-	-
Mov Cap-2 Maneuver	251	313	-	266	315	-	-	-	-	-	-	-
Stage 1	547	522	-	733	683	-	-	-	-	-	-	-
Stage 2	639	680	-	476	522	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.7	16.7	0.2	0.6
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1134	-	-	311	378	1316	-	-
HCM Lane V/C Ratio	0.007	-	-	0.155	0.19	0.027	-	-
HCM Control Delay (s)	8.2	0	-	18.7	16.7	7.8	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.7	0.1	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	36	2	4	41	19	7	224	10	32	387	3
Future Vol, veh/h	5	36	2	4	41	19	7	224	10	32	387	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	40	2	4	46	21	8	252	11	36	435	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	816	788	437	804	784	258	438	0	0	263	0	0
Stage 1	509	509	-	274	274	-	-	-	-	-	-	-
Stage 2	307	279	-	530	510	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	298	326	624	304	327	786	1133	-	-	1313	-	-
Stage 1	550	541	-	736	687	-	-	-	-	-	-	-
Stage 2	707	683	-	536	541	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	249	312	624	264	313	786	1133	-	-	1313	-	-
Mov Cap-2 Maneuver	249	312	-	264	313	-	-	-	-	-	-	-
Stage 1	546	522	-	730	682	-	-	-	-	-	-	-
Stage 2	636	678	-	475	522	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.7	16.8	0.2	0.6
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1133	-	-	310	376	1313	-	-
HCM Lane V/C Ratio	0.007	-	-	0.156	0.191	0.027	-	-
HCM Control Delay (s)	8.2	0	-	18.7	16.8	7.8	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.7	0.1	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	36	2	4	41	19	7	260	10	32	401	3
Future Vol, veh/h	5	36	2	4	41	19	7	260	10	32	401	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	40	2	4	46	21	8	292	11	36	451	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	872	844	453	860	840	298	454	0	0	303	0	0
Stage 1	525	525	-	314	314	-	-	-	-	-	-	-
Stage 2	347	319	-	546	526	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	273	302	611	278	304	746	1117	-	-	1269	-	-
Stage 1	540	533	-	701	660	-	-	-	-	-	-	-
Stage 2	673	657	-	526	532	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	225	288	611	239	290	746	1117	-	-	1269	-	-
Mov Cap-2 Maneuver	225	288	-	239	290	-	-	-	-	-	-	-
Stage 1	535	513	-	695	654	-	-	-	-	-	-	-
Stage 2	602	651	-	464	512	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.1	18	0.2	0.6
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1117	-	-	286	349	1269	-	-
HCM Lane V/C Ratio	0.007	-	-	0.169	0.206	0.028	-	-
HCM Control Delay (s)	8.2	0	-	20.1	18	7.9	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.8	0.1	-	-

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

Intersection No.: 3
North/South Street: DALE EVANS PKWY
East/West Street: QUARRY RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	12	Approach	237	Left	18	19
NB	Through	102	Departure	145	Through	215	216
	Right	6			Right	8	8
North leg	Left	37	Approach	174	Left	41	42
SB	Through	60	Departure	276	Through	134	134
	Right	2			Right	3	3
West leg	Left	7	Approach	35	Left	10	10
EB	Through	19	Departure	36	Through	16	16
	Right	6			Right	10	11
East leg	Left	1	Approach	67	Left	1	2
WB	Through	19	Departure	65	Through	15	16
	Right	45			Right	51	52

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	4	Approach	204	Left	6	7
NB	Through	110	Departure	377	Through	186	186
	Right	8			Right	10	10
North leg	Left	32	Approach	403	Left	31	32
SB	Through	227	Departure	209	Through	372	372
	Right	2			Right	3	3
West leg	Left	3	Approach	42	Left	4	5
EB	Through	35	Departure	50	Through	36	36
	Right	1			Right	2	2
East leg	Left	3	Approach	64	Left	4	4
WB	Through	41	Departure	77	Through	41	41
	Right	18			Right	19	19

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : JOHNSON RD
N/S STREET : DALE EVANS PKWY
CONDITION : AM PEAK HOUR

INTERSECTION : 4
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	1		3		5		7	9	11	13	15	17
JOHNSON RD												
EB LEFT	5	1	6	125	131	126	132	257	29	154	155	280
EB THRU	57	4	61	125	186	126	187	312	68	193	194	319
EB RIGHT	21	2	23	0	23	0	23	23	59	59	59	59
WB LEFT	11	1	12	24	36	7	19	43	4	28	11	35
WB THRU	115	7	122	38	160	39	161	199	158	196	197	235
WB RIGHT	52	4	56	0	56	0	56	56	30	30	30	30
DALE EVANS PKWY												
NB LEFT	8	1	9	0	9	0	9	9	79	79	79	79
NB THRU	67	5	72	0	72	41	113	113	277	277	318	318
NB RIGHT	21	2	23	81	104	41	64	145	18	99	59	140
SB LEFT	27	2	29	0	29	0	29	29	32	32	32	32
SB THRU	46	3	49	0	49	17	66	66	130	130	147	147
SB RIGHT	0	0	0	38	38	38	38	76	0	38	38	76
TOTALS	**430**	**32**	**462**	**431**	**893**	**435**	**897**	**1328**	**884**	**1315**	**1319**	**1750**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : JOHNSON RD
CONDITION : AM PEAK HOUR
N/S STREET : DALE EVANS PKWY
PHF : 0.95

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	13	3	0	0	1	0	0	0	0	0	0
0	4	8	0	1	0	0	0	0	0	0	0
0	5	3	0	0	0	0	0	0	0	3	2
0	6	2	0	1	0	0	0	0	0	2	1

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
3	25	0	1	0	0	0	0	0	0	0	0
5	13	2	0	0	0	0	0	0	0	0	0
5	15	3	0	0	0	0	0	0	0	0	0
6	14	3	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
5	24	3	0	1	0	1	1	0	0	0	0
4	30	2	0	0	0	0	1	0	2	1	0
6	18	3	1	2	0	0	1	0	3	1	0
10	28	3	1	0	0	0	0	0	0	1	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	14	2	0	1	0	0	0	0	0	0	0
2	9	0	0	1	0	0	0	0	1	1	0
6	14	2	0	0	0	1	0	0	0	0	0
2	7	1	0	1	0	0	1	0	2	1	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
JOHNSON RD					
EB LEFT	0	5	**5**	**5**	**5**
EB THRU	6	44	**50**	**57**	**57**
EB RIGHT	4	10	**14**	**21**	**21**
WB LEFT	0	11	**11**	**11**	**11**
WB THRU	9	100	**109**	**115**	**115**
WB RIGHT	8	25	**33**	**52**	**52**
DALE EVANS PKWY					
NB LEFT	0	8	**8**	**8**	**8**
NB THRU	0	67	**67**	**67**	**67**
NB RIGHT	1	19	**20**	**21**	**21**
SB LEFT	4	16	**20**	**27**	**27**
SB THRU	7	28	**35**	**46**	**46**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	57	21	11	115	52	8	67	21	27	46	0
Future Vol, veh/h	5	57	21	11	115	52	8	67	21	27	46	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	60	22	12	121	55	8	71	22	28	48	0
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	8.8	8.7	8.5	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	6%	9%	0%	100%	0%
Vol Thru, %	0%	100%	0%	69%	91%	0%	0%	100%
Vol Right, %	0%	0%	100%	25%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	67	21	83	126	52	27	46
LT Vol	8	0	0	5	11	0	27	0
Through Vol	0	67	0	57	115	0	0	46
RT Vol	0	0	21	21	0	52	0	0
Lane Flow Rate	8	71	22	87	133	55	28	48
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.014	0.106	0.029	0.127	0.193	0.068	0.047	0.074
Departure Headway (Hd)	5.94	5.436	4.731	5.233	5.236	4.491	5.988	5.484
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	601	657	753	682	684	795	596	651
Service Time	3.69	3.186	2.481	2.983	2.978	2.233	3.742	3.237
HCM Lane V/C Ratio	0.013	0.108	0.029	0.128	0.194	0.069	0.047	0.074
HCM Control Delay	8.8	8.8	7.6	8.8	9.2	7.6	9	8.7
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0	0.4	0.1	0.4	0.7	0.2	0.1	0.2

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	61	23	12	122	56	9	72	23	29	49	0
Future Vol, veh/h	6	61	23	12	122	56	9	72	23	29	49	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	64	24	13	128	59	9	76	24	31	52	0
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	8.9	8.9	8.7	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	7%	9%	0%	100%	0%
Vol Thru, %	0%	100%	0%	68%	91%	0%	0%	100%
Vol Right, %	0%	0%	100%	26%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	72	23	90	134	56	29	49
LT Vol	9	0	0	6	12	0	29	0
Through Vol	0	72	0	61	122	0	0	49
RT Vol	0	0	23	23	0	56	0	0
Lane Flow Rate	9	76	24	95	141	59	31	52
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.016	0.116	0.032	0.14	0.208	0.075	0.051	0.08
Departure Headway (Hd)	6.013	5.509	4.804	5.307	5.299	4.552	6.069	5.565
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	593	647	740	673	676	783	587	640
Service Time	3.775	3.271	2.565	3.065	3.048	2.301	3.835	3.33
HCM Lane V/C Ratio	0.015	0.117	0.032	0.141	0.209	0.075	0.053	0.081
HCM Control Delay	8.9	9	7.7	8.9	9.4	7.7	9.2	8.8
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0	0.4	0.1	0.5	0.8	0.2	0.2	0.3

Intersection	
Intersection Delay, s/veh	14.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	131	186	23	36	160	56	9	72	104	29	49	38
Future Vol, veh/h	131	186	23	36	160	56	9	72	104	29	49	38
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	138	196	24	38	168	59	9	76	109	31	52	40
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	20.2	12.6	10.8	11.2
HCM LOS	C	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	39%	18%	0%	100%	0%
Vol Thru, %	0%	100%	0%	55%	82%	0%	0%	56%
Vol Right, %	0%	0%	100%	7%	0%	100%	0%	44%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	72	104	340	196	56	29	87
LT Vol	9	0	0	131	36	0	29	0
Through Vol	0	72	0	186	160	0	0	49
RT Vol	0	0	104	23	0	56	0	38
Lane Flow Rate	9	76	109	358	206	59	31	92
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.02	0.15	0.194	0.641	0.383	0.096	0.066	0.178
Departure Headway (Hd)	7.621	7.11	6.394	6.443	6.783	5.881	7.825	6.996
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	473	508	565	558	534	603	460	516
Service Time	5.321	4.81	4.094	4.231	4.483	3.68	5.532	4.704
HCM Lane V/C Ratio	0.019	0.15	0.193	0.642	0.386	0.098	0.067	0.178
HCM Control Delay	10.5	11.1	10.6	20.2	13.6	9.3	11.1	11.2
HCM Lane LOS	B	B	B	C	B	A	B	B
HCM 95th-tile Q	0.1	0.5	0.7	4.5	1.8	0.3	0.2	0.6

Intersection	
Intersection Delay, s/veh	15.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	132	187	23	19	161	56	9	113	64	29	66	38
Future Vol, veh/h	132	187	23	19	161	56	9	113	64	29	66	38
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	139	197	24	20	169	59	9	119	67	31	69	40
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	20.7	12.5	11.2	11.6
HCM LOS	C	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	39%	11%	0%	100%	0%
Vol Thru, %	0%	100%	0%	55%	89%	0%	0%	63%
Vol Right, %	0%	0%	100%	7%	0%	100%	0%	37%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	113	64	342	180	56	29	104
LT Vol	9	0	0	132	19	0	29	0
Through Vol	0	113	0	187	161	0	0	66
RT Vol	0	0	64	23	0	56	0	38
Lane Flow Rate	9	119	67	360	189	59	31	109
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.02	0.236	0.12	0.649	0.361	0.1	0.066	0.214
Departure Headway (Hd)	7.643	7.132	6.416	6.597	6.853	6.089	7.812	7.035
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	470	506	561	551	529	592	460	511
Service Time	5.363	4.852	4.136	4.297	4.553	3.789	5.536	4.758
HCM Lane V/C Ratio	0.019	0.235	0.119	0.653	0.357	0.1	0.067	0.213
HCM Control Delay	10.5	12	10	20.7	13.4	9.5	11.1	11.7
HCM Lane LOS	B	B	A	C	B	A	B	B
HCM 95th-tile Q	0.1	0.9	0.4	4.6	1.6	0.3	0.2	0.8

Intersection	
Intersection Delay, s/veh	11.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	132	187	23	19	161	56	9	113	64	29	66	38
Future Vol, veh/h	132	187	23	19	161	56	9	113	64	29	66	38
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	139	197	24	20	169	59	9	119	67	31	69	40
Number of Lanes	1	1	0	1	1	0	1	2	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay	12.4	13	10.8	10.5
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	37%	0%	89%	0%	74%	0%	100%	0%
Vol Right, %	0%	0%	63%	0%	11%	0%	26%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	75	102	132	210	19	217	29	66	38
LT Vol	9	0	0	132	0	19	0	29	0	0
Through Vol	0	75	38	0	187	0	161	0	66	0
RT Vol	0	0	64	0	23	0	56	0	0	38
Lane Flow Rate	9	79	107	139	221	20	228	31	69	40
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.019	0.151	0.191	0.261	0.379	0.039	0.401	0.064	0.135	0.07
Departure Headway (Hd)	7.383	6.874	6.424	6.759	6.18	6.999	6.316	7.521	7.011	6.297
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	483	519	555	529	579	510	566	474	509	565
Service Time	5.162	4.651	4.202	4.521	3.942	4.765	4.081	5.303	4.792	4.078
HCM Lane V/C Ratio	0.019	0.152	0.193	0.263	0.382	0.039	0.403	0.065	0.136	0.071
HCM Control Delay	10.3	10.9	10.7	11.9	12.7	10.1	13.3	10.8	10.9	9.6
HCM Lane LOS	B	B	B	B	B	B	B	B	B	A
HCM 95th-tile Q	0.1	0.5	0.7	1	1.8	0.1	1.9	0.2	0.5	0.2

Intersection	
Intersection Delay, s/veh	89.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	257	312	23	43	199	56	9	113	145	29	66	76
Future Vol, veh/h	257	312	23	43	199	56	9	113	145	29	66	76
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	271	328	24	45	209	59	9	119	153	31	69	80
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	179.6	20	14.8	15.7
HCM LOS	F	C	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	43%	18%	0%	100%	0%
Vol Thru, %	0%	100%	0%	53%	82%	0%	0%	46%
Vol Right, %	0%	0%	100%	4%	0%	100%	0%	54%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	113	145	592	242	56	29	142
LT Vol	9	0	0	257	43	0	29	0
Through Vol	0	113	0	312	199	0	0	66
RT Vol	0	0	145	23	0	56	0	76
Lane Flow Rate	9	119	153	623	255	59	31	149
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.023	0.27	0.317	1.317	0.562	0.117	0.076	0.335
Departure Headway (Hd)	9.565	9.044	8.314	7.61	8.685	7.87	9.944	9.021
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	376	400	435	480	418	459	362	401
Service Time	7.265	6.744	6.014	5.31	6.385	5.57	7.644	6.721
HCM Lane V/C Ratio	0.024	0.297	0.352	1.298	0.61	0.129	0.086	0.372
HCM Control Delay	12.5	15.1	14.8	179.6	22	11.6	13.5	16.2
HCM Lane LOS	B	C	B	F	C	B	B	C
HCM 95th-tile Q	0.1	1.1	1.3	27.3	3.4	0.4	0.2	1.4

Intersection	
Intersection Delay, s/veh	17.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	257	312	23	43	199	56	9	113	145	29	66	76
Future Vol, veh/h	257	312	23	43	199	56	9	113	145	29	66	76
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	271	328	24	45	209	59	9	119	153	31	69	80
Number of Lanes	1	1	0	1	2	0	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	2
HCM Control Delay	22.3	13.4	13.7	12.5
HCM LOS	C	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	93%	0%	100%	54%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	7%	0%	0%	46%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	113	145	257	335	43	133	122	29	66	76
LT Vol	9	0	0	257	0	43	0	0	29	0	0
Through Vol	0	113	0	0	312	0	133	66	0	66	0
RT Vol	0	0	145	0	23	0	0	56	0	0	76
Lane Flow Rate	9	119	153	271	353	45	140	129	31	69	80
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.023	0.269	0.315	0.57	0.689	0.105	0.306	0.27	0.076	0.163	0.172
Departure Headway (Hd)	8.662	8.152	7.439	7.58	7.032	8.386	7.881	7.556	8.963	8.452	7.736
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	413	440	482	476	515	427	455	474	399	424	462
Service Time	6.426	5.916	5.202	5.332	4.784	6.149	5.643	5.319	6.731	6.22	5.504
HCM Lane V/C Ratio	0.022	0.27	0.317	0.569	0.685	0.105	0.308	0.272	0.078	0.163	0.173
HCM Control Delay	11.6	13.9	13.6	20	24	12.1	14.1	13.1	12.5	12.9	12.1
HCM Lane LOS	B	B	B	C	C	B	B	B	B	B	B
HCM 95th-tile Q	0.1	1.1	1.3	3.5	5.3	0.3	1.3	1.1	0.2	0.6	0.6

Intersection	
Intersection Delay, s/veh	13.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	68	59	4	158	30	79	277	18	32	130	0
Future Vol, veh/h	29	68	59	4	158	30	79	277	18	32	130	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	31	72	62	4	166	32	83	292	19	34	137	0
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	12.5	12.3	14.3	11.8
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	19%	2%	0%	100%	0%
Vol Thru, %	0%	100%	0%	44%	98%	0%	0%	100%
Vol Right, %	0%	0%	100%	38%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	79	277	18	156	162	30	32	130
LT Vol	79	0	0	29	4	0	32	0
Through Vol	0	277	0	68	158	0	0	130
RT Vol	0	0	18	59	0	30	0	0
Lane Flow Rate	83	292	19	164	171	32	34	137
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.158	0.513	0.03	0.307	0.323	0.054	0.069	0.26
Departure Headway (Hd)	6.836	6.329	5.618	6.724	6.821	6.101	7.357	6.847
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	522	566	633	530	524	582	484	521
Service Time	4.611	4.103	3.392	4.513	4.609	3.888	5.151	4.64
HCM Lane V/C Ratio	0.159	0.516	0.03	0.309	0.326	0.055	0.07	0.263
HCM Control Delay	10.9	15.7	8.6	12.5	12.9	9.2	10.7	12.1
HCM Lane LOS	B	C	A	B	B	A	B	B
HCM 95th-tile Q	0.6	2.9	0.1	1.3	1.4	0.2	0.2	1

Intersection	
Intersection Delay, s/veh	38.2
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	154	193	59	28	196	30	79	277	99	32	130	38
Future Vol, veh/h	154	193	59	28	196	30	79	277	99	32	130	38
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	162	203	62	29	206	32	83	292	104	34	137	40
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	75.1	22.9	22.6	18.5
HCM LOS	F	C	C	C

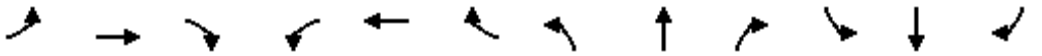
Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	38%	12%	0%	100%	0%
Vol Thru, %	0%	100%	0%	48%	88%	0%	0%	77%
Vol Right, %	0%	0%	100%	15%	0%	100%	0%	23%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	79	277	99	406	224	30	32	168
LT Vol	79	0	0	154	28	0	32	0
Through Vol	0	277	0	193	196	0	0	130
RT Vol	0	0	99	59	0	30	0	38
Lane Flow Rate	83	292	104	427	236	32	34	177
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.208	0.688	0.226	1.008	0.592	0.072	0.091	0.447
Departure Headway (Hd)	9.184	8.665	7.938	8.488	9.186	8.396	10.064	9.37
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	393	420	455	432	396	429	358	387
Service Time	6.884	6.365	5.638	6.195	6.886	6.096	7.764	7.07
HCM Lane V/C Ratio	0.211	0.695	0.229	0.988	0.596	0.075	0.095	0.457
HCM Control Delay	14.3	28.4	12.9	75.1	24.4	11.7	13.8	19.4
HCM Lane LOS	B	D	B	F	C	B	B	C
HCM 95th-tile Q	0.8	5	0.9	12.9	3.7	0.2	0.3	2.2

Intersection	
Intersection Delay, s/veh	42.5
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	155	194	59	11	197	30	79	318	59	32	147	38
Future Vol, veh/h	155	194	59	11	197	30	79	318	59	32	147	38
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	163	204	62	12	207	32	83	335	62	34	155	40
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	80.4	21.7	30.2	19.8
HCM LOS	F	C	D	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	38%	5%	0%	100%	0%
Vol Thru, %	0%	100%	0%	48%	95%	0%	0%	79%
Vol Right, %	0%	0%	100%	14%	0%	100%	0%	21%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	79	318	59	408	208	30	32	185
LT Vol	79	0	0	155	11	0	32	0
Through Vol	0	318	0	194	197	0	0	147
RT Vol	0	0	59	59	0	30	0	38
Lane Flow Rate	83	335	62	429	219	32	34	195
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.209	0.793	0.135	1.026	0.556	0.074	0.091	0.49
Departure Headway (Hd)	9.237	8.717	7.99	8.602	9.351	8.596	10.101	9.422
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	391	418	452	425	388	419	357	386
Service Time	6.937	6.417	5.69	6.288	7.051	6.296	7.801	7.122
HCM Lane V/C Ratio	0.212	0.801	0.137	1.009	0.564	0.076	0.095	0.505
HCM Control Delay	14.4	37.5	11.9	80.4	23.1	12	13.8	20.8
HCM Lane LOS	B	E	B	F	C	B	B	C
HCM 95th-tile Q	0.8	7	0.5	13.4	3.3	0.2	0.3	2.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	194	59	11	197	30	79	318	59	32	147	38
Future Volume (veh/h)	155	194	59	11	197	30	79	318	59	32	147	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	163	204	62	12	207	32	83	335	62	34	155	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	205	428	130	20	318	49	99	666	122	51	362	500
Arrive On Green	0.13	0.32	0.32	0.01	0.21	0.21	0.06	0.23	0.23	0.03	0.20	0.20
Sat Flow, veh/h	1619	1325	403	1619	1522	235	1619	2887	528	1619	1800	1525
Grp Volume(v), veh/h	163	0	266	12	0	239	83	197	200	34	155	40
Grp Sat Flow(s),veh/h/ln	1619	0	1728	1619	0	1758	1619	1710	1705	1619	1800	1525
Q Serve(g_s), s	3.9	0.0	4.9	0.3	0.0	5.0	2.0	4.0	4.1	0.8	3.0	0.7
Cycle Q Clear(g_c), s	3.9	0.0	4.9	0.3	0.0	5.0	2.0	4.0	4.1	0.8	3.0	0.7
Prop In Lane	1.00		0.23	1.00		0.13	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	205	0	558	20	0	367	99	395	394	51	362	500
V/C Ratio(X)	0.79	0.00	0.48	0.59	0.00	0.65	0.83	0.50	0.51	0.67	0.43	0.08
Avail Cap(c_a), veh/h	407	0	1823	244	0	1678	325	1289	1285	244	1266	1266
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.9	0.0	10.8	19.6	0.0	14.4	18.5	13.3	13.3	19.1	13.9	9.2
Incr Delay (d2), s/veh	6.8	0.0	0.6	24.7	0.0	1.9	16.2	1.0	1.0	14.0	0.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.5	0.2	0.0	1.8	1.1	1.3	1.3	0.5	1.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.7	0.0	11.4	44.3	0.0	16.4	34.7	14.3	14.4	33.0	14.7	9.3
LnGrp LOS	C	A	B	D	A	B	C	B	B	C	B	A
Approach Vol, veh/h		429			251			480			229	
Approach Delay, s/veh		16.1			17.7			17.8			16.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.3	13.2	4.5	16.9	6.4	12.0	9.0	12.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	30.0	6.0	42.0	8.0	28.0	10.0	38.0
Max Q Clear Time (g_c+I1), s	2.8	6.1	2.3	6.9	4.0	5.0	5.9	7.0
Green Ext Time (p_c), s	0.0	2.3	0.0	1.6	0.1	0.9	0.1	1.4

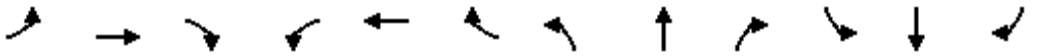
Intersection Summary	
HCM 6th Ctrl Delay	17.1
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	174.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	280	319	59	35	235	30	79	318	140	32	147	76
Future Vol, veh/h	280	319	59	35	235	30	79	318	140	32	147	76
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	295	336	62	37	247	32	83	335	147	34	155	80
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	403.2	40.4	37.5	30.2
HCM LOS	F	E	E	D

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	43%	13%	0%	100%	0%
Vol Thru, %	0%	100%	0%	48%	87%	0%	0%	66%
Vol Right, %	0%	0%	100%	9%	0%	100%	0%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	79	318	140	658	270	30	32	223
LT Vol	79	0	0	280	35	0	32	0
Through Vol	0	318	0	319	235	0	0	147
RT Vol	0	0	140	59	0	30	0	76
Lane Flow Rate	83	335	147	693	284	32	34	235
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.22	0.838	0.34	1.824	0.761	0.078	0.096	0.624
Departure Headway (Hd)	11.458	10.927	10.183	9.48	11.569	10.754	12.604	11.8
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	315	335	355	388	315	335	286	308
Service Time	9.158	8.627	7.883	7.266	9.269	8.454	10.304	9.5
HCM Lane V/C Ratio	0.263	1	0.414	1.786	0.902	0.096	0.119	0.763
HCM Control Delay	17.4	51	18	403.2	43.3	14.4	16.6	32.2
HCM Lane LOS	C	F	C	F	E	B	C	D
HCM 95th-tile Q	0.8	7.4	1.5	44.5	5.9	0.3	0.3	3.9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	319	59	35	235	30	79	318	140	32	147	76
Future Volume (veh/h)	280	319	59	35	235	30	79	318	140	32	147	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	295	336	62	37	247	32	83	335	147	34	155	80
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	366	580	107	55	330	43	102	523	225	49	345	293
Arrive On Green	0.21	0.39	0.39	0.03	0.21	0.21	0.06	0.22	0.22	0.03	0.19	0.19
Sat Flow, veh/h	1714	1478	273	1714	1561	202	1619	2327	1002	1619	1800	1525
Grp Volume(v), veh/h	295	0	398	37	0	279	83	244	238	34	155	80
Grp Sat Flow(s),veh/h/ln	1714	0	1751	1714	0	1764	1619	1710	1620	1619	1800	1525
Q Serve(g_s), s	8.2	0.0	8.9	1.1	0.0	7.4	2.5	6.5	6.7	1.0	3.8	2.2
Cycle Q Clear(g_c), s	8.2	0.0	8.9	1.1	0.0	7.4	2.5	6.5	6.7	1.0	3.8	2.2
Prop In Lane	1.00		0.16	1.00		0.11	1.00		0.62	1.00		1.00
Lane Grp Cap(c), veh/h	366	0	688	55	0	373	102	384	364	49	345	293
V/C Ratio(X)	0.81	0.00	0.58	0.67	0.00	0.75	0.81	0.64	0.65	0.70	0.45	0.27
Avail Cap(c_a), veh/h	755	0	1297	206	0	742	324	856	811	195	757	642
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.7	0.0	11.9	23.9	0.0	18.4	23.1	17.5	17.6	24.0	17.8	17.2
Incr Delay (d2), s/veh	4.2	0.0	0.8	13.2	0.0	3.0	14.3	1.8	2.0	16.4	0.9	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	2.9	0.6	0.0	2.9	1.3	2.4	2.3	0.6	1.5	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	0.0	12.7	37.1	0.0	21.5	37.4	19.3	19.6	40.4	18.8	17.7
LnGrp LOS	C	A	B	D	A	C	D	B	B	D	B	B
Approach Vol, veh/h		693			316			565			269	
Approach Delay, s/veh		17.0			23.3			22.1			21.2	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.5	15.2	5.6	23.6	7.1	13.6	14.7	14.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	25.0	6.0	37.0	10.0	21.0	22.0	21.0
Max Q Clear Time (g_c+I1), s	3.0	8.7	3.1	10.9	4.5	5.8	10.2	9.4
Green Ext Time (p_c), s	0.0	2.6	0.0	2.5	0.1	0.9	0.7	1.2

Intersection Summary	
HCM 6th Ctrl Delay	20.3
HCM 6th LOS	C

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : JOHNSON RD
N/S STREET : DALE EVANS PKWY
CONDITION : PM PEAK HOUR

INTERSECTION : 4
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	2		4		6		8	10	12	14	16	18
JOHNSON RD												
EB LEFT	3	1	4	46	50	46	50	96	14	60	60	106
EB THRU	106	7	113	46	159	46	159	205.00	142	188.00	188	234.00
EB RIGHT	24	2	26	0	26	0	26	26.00	104	104	104	104
WB LEFT	27	2	29	62	91	23	52	114	17	79	40	102
WB THRU	191	12	203	117	320	118	321	438	227	344	345	462
WB RIGHT	19	2	21	0	21	0	21	21	12	12	12	12
DALE EVANS PKWY												
NB LEFT	16	1	17	0	17	0	17	17	71	71	71	71
NB THRU	88	6	94	0	94	15	109	109	204	204	219	219
NB RIGHT	48	3	51	29	80	15	66	95	34	63	49	78
SB LEFT	51	4	55	0	55	0	55	55	38	38	38	38
SB THRU	171	11	182	13	195	53	235	248	402	415	455	468
SB RIGHT	0	0	0	117	117	118	118	235	0	117	118	235
TOTALS	**744**	**51**	**795**	**430**	**1225**	**434**	**1229**	**1659**	**1265**	**1695**	**1699**	**2129**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : JOHNSON RD
CONDITION : PM PEAK HOUR
N/S STREET : DALE EVANS PKWY
PHF : 0.86

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	29	12	0	0	0	0	0	0	0	0	0
0	50	13	0	0	1	0	0	1	0	0	0
0	40	8	0	0	0	0	0	1	0	0	2
0	50	6	0	1	0	0	0	0	0	0	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
15	17	2	0	0	0	0	0	0	0	1	0
11	24	5	0	0	0	0	0	0	0	1	0
14	9	3	0	0	0	0	0	0	0	2	0
8	26	6	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
7	45	10	0	0	0	0	0	0	0	0	0
5	48	8	0	0	0	0	0	0	0	2	0
4	44	5	0	0	0	0	0	0	0	0	0
3	45	4	0	0	0	0	0	0	0	1	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
3	26	2	0	0	0	0	0	0	0	0	0
6	30	1	0	1	0	0	0	0	1	0	0
5	28	0	0	0	0	0	0	0	0	1	0
7	14	0	0	0	0	0	0	0	0	1	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
JOHNSON RD					
EB LEFT	0	3	**3**	**3**	**3**
EB THRU	3	98	**101**	**106**	**106**
EB RIGHT	1	21	**22**	**24**	**24**
WB LEFT	0	27	**27**	**27**	**27**
WB THRU	3	182	**185**	**191**	**191**
WB RIGHT	0	19	**19**	**19**	**19**
DALE EVANS PKWY					
NB LEFT	0	16	**16**	**16**	**16**
NB THRU	4	76	**80**	**88**	**88**
NB RIGHT	0	48	**48**	**48**	**48**
SB LEFT	5	39	**44**	**51**	**51**
SB THRU	1	169	**170**	**171**	**171**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	106	24	27	191	19	16	88	48	51	171	0
Future Vol, veh/h	3	106	24	27	191	19	16	88	48	51	171	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	123	28	31	222	22	19	102	56	59	199	0
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	11.9	14	10.5	12.4
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	2%	12%	0%	100%	0%
Vol Thru, %	0%	100%	0%	80%	88%	0%	0%	100%
Vol Right, %	0%	0%	100%	18%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	16	88	48	133	218	19	51	171
LT Vol	16	0	0	3	27	0	51	0
Through Vol	0	88	0	106	191	0	0	171
RT Vol	0	0	48	24	0	19	0	0
Lane Flow Rate	19	102	56	155	253	22	59	199
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.037	0.191	0.093	0.282	0.454	0.035	0.116	0.36
Departure Headway (Hd)	7.235	6.726	6.013	6.576	6.449	5.68	7.02	6.51
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	493	531	592	543	555	627	509	551
Service Time	5.012	4.503	3.79	4.352	4.216	3.447	4.79	4.28
HCM Lane V/C Ratio	0.039	0.192	0.095	0.285	0.456	0.035	0.116	0.361
HCM Control Delay	10.3	11.1	9.4	11.9	14.5	8.7	10.7	12.9
HCM Lane LOS	B	B	A	B	B	A	B	B
HCM 95th-tile Q	0.1	0.7	0.3	1.2	2.3	0.1	0.4	1.6

Intersection	
Intersection Delay, s/veh	13.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	113	26	29	203	21	17	94	51	55	182	0
Future Vol, veh/h	4	113	26	29	203	21	17	94	51	55	182	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	131	30	34	236	24	20	109	59	64	212	0
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	12.6	15.2	10.9	13.2
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	3%	12%	0%	100%	0%
Vol Thru, %	0%	100%	0%	79%	88%	0%	0%	100%
Vol Right, %	0%	0%	100%	18%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	94	51	143	232	21	55	182
LT Vol	17	0	0	4	29	0	55	0
Through Vol	0	94	0	113	203	0	0	182
RT Vol	0	0	51	26	0	21	0	0
Lane Flow Rate	20	109	59	166	270	24	64	212
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.041	0.21	0.102	0.312	0.496	0.04	0.128	0.393
Departure Headway (Hd)	7.433	6.923	6.209	6.765	6.614	5.844	7.199	6.688
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	478	515	572	527	542	608	495	533
Service Time	5.231	4.721	4.006	4.563	4.4	3.63	4.99	4.479
HCM Lane V/C Ratio	0.042	0.212	0.103	0.315	0.498	0.039	0.129	0.398
HCM Control Delay	10.6	11.6	9.7	12.6	15.8	8.9	11.1	13.8
HCM Lane LOS	B	B	A	B	C	A	B	B
HCM 95th-tile Q	0.1	0.8	0.3	1.3	2.7	0.1	0.4	1.9

Intersection	
Intersection Delay, s/veh	58
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	159	26	91	320	21	17	94	80	55	195	117
Future Vol, veh/h	50	159	26	91	320	21	17	94	80	55	195	117
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	58	185	30	106	372	24	20	109	93	64	227	136
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	29.4	109.4	15.2	38.2
HCM LOS	D	F	C	E

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	21%	22%	0%	100%	0%
Vol Thru, %	0%	100%	0%	68%	78%	0%	0%	62%
Vol Right, %	0%	0%	100%	11%	0%	100%	0%	38%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	94	80	235	411	21	55	312
LT Vol	17	0	0	50	91	0	55	0
Through Vol	0	94	0	159	320	0	0	195
RT Vol	0	0	80	26	0	21	0	117
Lane Flow Rate	20	109	93	273	478	24	64	363
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.053	0.28	0.222	0.677	1.135	0.052	0.161	0.833
Departure Headway (Hd)	10.329	9.804	9.069	9.311	8.548	7.714	9.57	8.769
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	349	368	398	391	425	466	377	417
Service Time	8.029	7.504	6.769	7.011	6.271	5.437	7.27	6.469
HCM Lane V/C Ratio	0.057	0.296	0.234	0.698	1.125	0.052	0.17	0.871
HCM Control Delay	13.6	16.3	14.3	29.4	114.4	10.9	14.1	42.4
HCM Lane LOS	B	C	B	D	F	B	B	E
HCM 95th-tile Q	0.2	1.1	0.8	4.8	17.4	0.2	0.6	7.8

Intersection	
Intersection Delay, s/veh	53.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	159	26	52	321	21	17	109	66	55	235	118
Future Vol, veh/h	50	159	26	52	321	21	17	109	66	55	235	118
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	58	185	30	60	373	24	20	127	77	64	273	137
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	30.7	83.8	15.9	54.9
HCM LOS	D	F	C	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	21%	14%	0%	100%	0%
Vol Thru, %	0%	100%	0%	68%	86%	0%	0%	67%
Vol Right, %	0%	0%	100%	11%	0%	100%	0%	33%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	109	66	235	373	21	55	353
LT Vol	17	0	0	50	52	0	55	0
Through Vol	0	109	0	159	321	0	0	235
RT Vol	0	0	66	26	0	21	0	118
Lane Flow Rate	20	127	77	273	434	24	64	410
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.055	0.333	0.186	0.691	1.049	0.054	0.16	0.946
Departure Headway (Hd)	10.384	9.859	9.124	9.417	8.704	7.911	9.468	8.698
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	347	368	396	385	416	450	381	419
Service Time	8.084	7.559	6.824	7.117	6.499	5.705	7.168	6.398
HCM Lane V/C Ratio	0.058	0.345	0.194	0.709	1.043	0.053	0.168	0.979
HCM Control Delay	13.7	17.4	13.9	30.7	87.9	11.2	14	61.3
HCM Lane LOS	B	C	B	D	F	B	B	F
HCM 95th-tile Q	0.2	1.4	0.7	5	14	0.2	0.6	10.8

Intersection	
Intersection Delay, s/veh	26.8
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	159	26	52	321	21	17	109	66	55	235	118
Future Vol, veh/h	50	159	26	52	321	21	17	109	66	55	235	118
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	58	185	30	60	373	24	20	127	77	64	273	137
Number of Lanes	1	1	0	1	1	0	1	2	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay	18.9	44.2	14.6	20.3
HCM LOS	C	E	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	36%	0%	86%	0%	94%	0%	100%	0%
Vol Right, %	0%	0%	64%	0%	14%	0%	6%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	73	102	50	185	52	342	55	235	118
LT Vol	17	0	0	50	0	52	0	55	0	0
Through Vol	0	73	36	0	159	0	321	0	235	0
RT Vol	0	0	66	0	26	0	21	0	0	118
Lane Flow Rate	20	84	119	58	215	60	398	64	273	137
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.053	0.216	0.289	0.149	0.516	0.145	0.894	0.159	0.641	0.294
Departure Headway (Hd)	9.721	9.199	8.729	9.238	8.628	8.645	8.096	8.961	8.443	7.718
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	368	390	412	388	417	415	449	400	429	465
Service Time	7.484	6.962	6.491	6.993	6.383	6.393	5.843	6.713	6.195	5.47
HCM Lane V/C Ratio	0.054	0.215	0.289	0.149	0.516	0.145	0.886	0.16	0.636	0.295
HCM Control Delay	13	14.5	15	13.6	20.3	12.9	49	13.4	25.2	13.7
HCM Lane LOS	B	B	B	B	C	B	E	B	D	B
HCM 95th-tile Q	0.2	0.8	1.2	0.5	2.9	0.5	9.6	0.6	4.4	1.2

Intersection	
Intersection Delay, s/veh	204.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	96	205	26	114	438	21	17	109	95	55	248	235
Future Vol, veh/h	96	205	26	114	438	21	17	109	95	55	248	235
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	112	238	30	133	509	24	20	127	110	64	288	273
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	88	340.1	20.9	205.4
HCM LOS	F	F	C	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	29%	21%	0%	100%	0%
Vol Thru, %	0%	100%	0%	63%	79%	0%	0%	51%
Vol Right, %	0%	0%	100%	8%	0%	100%	0%	49%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	109	95	327	552	21	55	483
LT Vol	17	0	0	96	114	0	55	0
Through Vol	0	109	0	205	438	0	0	248
RT Vol	0	0	95	26	0	21	0	235
Lane Flow Rate	20	127	110	380	642	24	64	562
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.059	0.358	0.29	1.001	1.701	0.059	0.175	1.405
Departure Headway (Hd)	13.386	12.846	12.091	11.893	10.544	9.7	11.507	10.603
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	269	283	299	308	353	371	314	348
Service Time	11.086	10.546	9.791	9.593	8.244	7.4	9.207	8.303
HCM Lane V/C Ratio	0.074	0.449	0.368	1.234	1.819	0.065	0.204	1.615
HCM Control Delay	16.9	22.5	19.7	88	352.5	13	16.6	226.9
HCM Lane LOS	C	C	C	F	F	B	C	F
HCM 95th-tile Q	0.2	1.6	1.2	10.7	36	0.2	0.6	24.5

Intersection	
Intersection Delay, s/veh	34.5
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	96	205	26	114	438	21	17	109	95	55	248	235
Future Vol, veh/h	96	205	26	114	438	21	17	109	95	55	248	235
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	112	238	30	133	509	24	20	127	110	64	288	273
Number of Lanes	1	1	0	1	2	0	1	1	1	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	3	2
HCM Control Delay	32.8	41	19.3	34.8
HCM LOS	D	E	C	D

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	89%	0%	100%	87%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	11%	0%	0%	13%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	109	95	96	231	114	292	167	55	248	235
LT Vol	17	0	0	96	0	114	0	0	55	0	0
Through Vol	0	109	0	0	205	0	292	146	0	248	0
RT Vol	0	0	95	0	26	0	0	21	0	0	235
Lane Flow Rate	20	127	110	112	269	133	340	194	64	288	273
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.064	0.393	0.32	0.332	0.757	0.377	0.918	0.52	0.186	0.798	0.701
Departure Headway (Hd)	11.685	11.164	10.435	10.72	10.141	10.245	9.735	9.645	10.476	9.959	9.237
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	307	323	345	336	357	351	373	375	343	363	391
Service Time	9.447	8.926	8.197	8.475	7.897	7.997	7.486	7.396	8.228	7.712	6.988
HCM Lane V/C Ratio	0.065	0.393	0.319	0.333	0.754	0.379	0.912	0.517	0.187	0.793	0.698
HCM Control Delay	15.2	21	18.1	18.7	38.6	19.1	60.2	22.4	15.6	42.5	31.1
HCM Lane LOS	C	C	C	C	E	C	F	C	C	E	D
HCM 95th-tile Q	0.2	1.8	1.3	1.4	6	1.7	9.5	2.9	0.7	6.8	5.2

Intersection	
Intersection Delay, s/veh	58.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	142	104	17	227	12	71	204	34	38	402	0
Future Vol, veh/h	14	142	104	17	227	12	71	204	34	38	402	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	16	165	121	20	264	14	83	237	40	44	467	0
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	35.4	33.6	21.9	112.6
HCM LOS	E	D	C	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	5%	7%	0%	100%	0%
Vol Thru, %	0%	100%	0%	55%	93%	0%	0%	100%
Vol Right, %	0%	0%	100%	40%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	71	204	34	260	244	12	38	402
LT Vol	71	0	0	14	17	0	38	0
Through Vol	0	204	0	142	227	0	0	402
RT Vol	0	0	34	104	0	12	0	0
Lane Flow Rate	83	237	40	302	284	14	44	467
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.22	0.6	0.092	0.748	0.729	0.033	0.115	1.152
Departure Headway (Hd)	10.136	9.612	8.879	9.429	9.786	9.019	9.396	8.873
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	357	377	406	387	372	399	381	411
Service Time	7.836	7.312	6.579	7.129	7.486	6.719	7.165	6.641
HCM Lane V/C Ratio	0.232	0.629	0.099	0.78	0.763	0.035	0.115	1.136
HCM Control Delay	15.7	25.7	12.5	35.4	34.7	12	13.4	122
HCM Lane LOS	C	D	B	E	D	B	B	F
HCM 95th-tile Q	0.8	3.7	0.3	6	5.6	0.1	0.4	17.6

Intersection	
Intersection Delay, s/veh	192.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	188	104	79	344	12	71	204	63	38	415	117
Future Vol, veh/h	60	188	104	79	344	12	71	204	63	38	415	117
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	70	219	121	92	400	14	83	237	73	44	483	136
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	122.5	210.8	30.6	317.2
HCM LOS	F	F	D	F

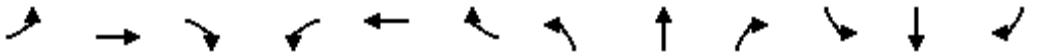
Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	17%	19%	0%	100%	0%
Vol Thru, %	0%	100%	0%	53%	81%	0%	0%	78%
Vol Right, %	0%	0%	100%	30%	0%	100%	0%	22%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	71	204	63	352	423	12	38	532
LT Vol	71	0	0	60	79	0	38	0
Through Vol	0	204	0	188	344	0	0	415
RT Vol	0	0	63	104	0	12	0	117
Lane Flow Rate	83	237	73	409	492	14	44	619
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.244	0.669	0.192	1.112	1.367	0.036	0.127	1.665
Departure Headway (Hd)	13.403	12.863	12.107	12.27	11.975	11.128	11.813	11.108
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	270	282	298	299	310	324	305	334
Service Time	11.103	10.563	9.807	9.97	9.675	8.828	9.513	8.808
HCM Lane V/C Ratio	0.307	0.84	0.245	1.368	1.587	0.043	0.144	1.853
HCM Control Delay	20.4	38.1	17.7	122.5	216.4	14.2	16.2	338.7
HCM Lane LOS	C	E	C	F	F	B	C	F
HCM 95th-tile Q	0.9	4.4	0.7	13.3	21.1	0.1	0.4	33.1

Intersection	
Intersection Delay, s/veh	208.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	188	104	40	345	12	71	219	49	38	455	118
Future Vol, veh/h	60	188	104	40	345	12	71	219	49	38	455	118
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	70	219	121	47	401	14	83	255	57	44	529	137
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	127.1	168	34.4	379.2
HCM LOS	F	F	D	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	17%	10%	0%	100%	0%
Vol Thru, %	0%	100%	0%	53%	90%	0%	0%	79%
Vol Right, %	0%	0%	100%	30%	0%	100%	0%	21%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	71	219	49	352	385	12	38	573
LT Vol	71	0	0	60	40	0	38	0
Through Vol	0	219	0	188	345	0	0	455
RT Vol	0	0	49	104	0	12	0	118
Lane Flow Rate	83	255	57	409	448	14	44	666
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.244	0.718	0.15	1.125	1.253	0.036	0.128	1.815
Departure Headway (Hd)	13.482	12.942	12.185	12.359	12.308	11.503	11.643	10.949
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	268	283	296	299	300	313	310	340
Service Time	11.182	10.642	9.885	10.059	10.008	9.203	9.343	8.649
HCM Lane V/C Ratio	0.31	0.901	0.193	1.368	1.493	0.045	0.142	1.959
HCM Control Delay	20.5	42.8	17	127.1	172.8	14.6	16	403.3
HCM Lane LOS	C	E	C	F	F	B	C	F
HCM 95th-tile Q	0.9	5	0.5	13.6	17.2	0.1	0.4	39.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	188	104	40	345	12	71	219	49	38	455	118
Future Volume (veh/h)	60	188	104	40	345	12	71	219	49	38	455	118
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	70	219	121	47	401	14	83	255	57	44	529	137
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	86	331	183	57	495	17	103	1062	233	55	633	617
Arrive On Green	0.05	0.30	0.30	0.04	0.29	0.29	0.06	0.38	0.38	0.03	0.35	0.35
Sat Flow, veh/h	1619	1090	602	1619	1729	60	1619	2788	612	1619	1800	1525
Grp Volume(v), veh/h	70	0	340	47	0	415	83	155	157	44	529	137
Grp Sat Flow(s),veh/h/ln	1619	0	1692	1619	0	1789	1619	1710	1690	1619	1800	1525
Q Serve(g_s), s	2.8	0.0	11.4	1.9	0.0	14.0	3.3	4.0	4.1	1.8	17.6	3.8
Cycle Q Clear(g_c), s	2.8	0.0	11.4	1.9	0.0	14.0	3.3	4.0	4.1	1.8	17.6	3.8
Prop In Lane	1.00		0.36	1.00		0.03	1.00		0.36	1.00		1.00
Lane Grp Cap(c), veh/h	86	0	515	57	0	512	103	652	644	55	633	617
V/C Ratio(X)	0.82	0.00	0.66	0.82	0.00	0.81	0.81	0.24	0.24	0.81	0.84	0.22
Avail Cap(c_a), veh/h	149	0	1014	149	0	1072	149	841	831	174	913	854
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.5	0.0	19.7	31.2	0.0	21.6	30.1	13.7	13.7	31.2	19.4	12.7
Incr Delay (d2), s/veh	16.8	0.0	1.5	24.5	0.0	3.1	18.6	0.2	0.2	23.3	4.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	4.3	1.1	0.0	5.9	1.8	1.4	1.5	1.0	7.4	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.3	0.0	21.2	55.7	0.0	24.7	48.7	13.9	13.9	54.6	24.0	12.9
LnGrp LOS	D	A	C	E	A	C	D	B	B	D	C	B
Approach Vol, veh/h		410			462			395			710	
Approach Delay, s/veh		25.6			27.8			21.2			23.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.2	28.8	6.3	23.8	8.1	26.9	7.4	22.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	7.0	32.0	6.0	39.0	6.0	33.0	6.0	39.0
Max Q Clear Time (g_c+I1), s	3.8	6.1	3.9	13.4	5.3	19.6	4.8	16.0
Green Ext Time (p_c), s	0.0	1.9	0.0	2.2	0.0	3.3	0.0	2.6

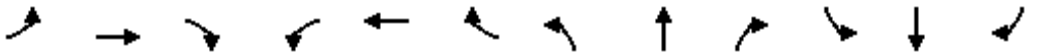
Intersection Summary	
HCM 6th Ctrl Delay	24.6
HCM 6th LOS	C

Intersection	
Intersection Delay, s/veh	370.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	106	234	104	102	462	12	71	219	78	38	468	235
Future Vol, veh/h	106	234	104	102	462	12	71	219	78	38	468	235
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	123	272	121	119	537	14	83	255	91	44	544	273
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	257.7	423.8	40.5	561.3
HCM LOS	F	F	E	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	24%	18%	0%	100%	0%
Vol Thru, %	0%	100%	0%	53%	82%	0%	0%	67%
Vol Right, %	0%	0%	100%	23%	0%	100%	0%	33%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	71	219	78	444	564	12	38	703
LT Vol	71	0	0	106	102	0	38	0
Through Vol	0	219	0	234	462	0	0	468
RT Vol	0	0	78	104	0	12	0	235
Lane Flow Rate	83	255	91	516	656	14	44	817
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.244	0.716	0.237	1.443	1.86	0.037	0.129	2.228
Departure Headway (Hd)	16.899	16.348	15.575	15.011	14.186	13.323	13.689	12.881
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	215	224	232	248	262	270	264	294
Service Time	14.599	14.048	13.275	12.711	11.886	11.023	11.389	10.581
HCM Lane V/C Ratio	0.386	1.138	0.392	2.081	2.504	0.052	0.167	2.779
HCM Control Delay	25	51.8	23	257.7	432.5	16.5	18.4	590.6
HCM Lane LOS	C	F	C	F	F	C	C	F
HCM 95th-tile Q	0.9	4.7	0.9	19.8	32.7	0.1	0.4	47.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	234	104	102	462	12	71	219	78	38	468	235
Future Volume (veh/h)	106	234	104	102	462	12	71	219	78	38	468	235
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	123	272	121	119	537	14	83	255	91	44	544	273
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	141	383	171	148	574	15	103	914	318	53	606	513
Arrive On Green	0.08	0.32	0.32	0.09	0.33	0.33	0.06	0.37	0.37	0.03	0.34	0.34
Sat Flow, veh/h	1714	1180	525	1714	1746	46	1619	2488	866	1619	1800	1525
Grp Volume(v), veh/h	123	0	393	119	0	551	83	173	173	44	544	273
Grp Sat Flow(s),veh/h/ln	1714	0	1705	1714	0	1792	1619	1710	1644	1619	1800	1525
Q Serve(g_s), s	6.0	0.0	17.2	5.8	0.0	25.3	4.3	6.1	6.3	2.3	24.4	12.3
Cycle Q Clear(g_c), s	6.0	0.0	17.2	5.8	0.0	25.3	4.3	6.1	6.3	2.3	24.4	12.3
Prop In Lane	1.00		0.31	1.00		0.03	1.00		0.53	1.00		1.00
Lane Grp Cap(c), veh/h	141	0	554	148	0	589	103	628	604	53	606	513
V/C Ratio(X)	0.87	0.00	0.71	0.80	0.00	0.94	0.81	0.28	0.29	0.83	0.90	0.53
Avail Cap(c_a), veh/h	141	0	554	182	0	612	114	628	604	134	679	575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	0.0	25.1	38.1	0.0	27.6	39.2	18.9	19.0	40.8	26.8	22.7
Incr Delay (d2), s/veh	40.2	0.0	4.2	18.7	0.0	21.5	30.5	0.2	0.3	26.5	13.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	7.2	3.1	0.0	13.6	2.5	2.3	2.3	1.3	12.1	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.7	0.0	29.3	56.7	0.0	49.1	69.7	19.1	19.2	67.3	40.6	23.6
LnGrp LOS	E	A	C	E	A	D	E	B	B	E	D	C
Approach Vol, veh/h		516			670			429			861	
Approach Delay, s/veh		41.1			50.4			28.9			36.6	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.8	35.2	11.3	31.6	9.4	32.6	11.0	31.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	7.0	31.0	9.0	27.0	6.0	32.0	7.0	29.0
Max Q Clear Time (g_c+I1), s	4.3	8.3	7.8	19.2	6.3	26.4	8.0	27.3
Green Ext Time (p_c), s	0.0	1.9	0.0	1.4	0.0	2.2	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	39.9
HCM 6th LOS	D

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

Intersection No.: 4
North/South Street: DALE EVANS PKWY
East/West Street: JOHNSON RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	8	Approach	363	Left	79	79
NB	Through	67	Departure	191	Through	276	277
	Right	21			Right	18	18
North leg	Left	27	Approach	171	Left	32	32
SB	Through	46	Departure	335	Through	129	130
	Right	0			Right	0	0
West leg	Left	5	Approach	161	Left	29	29
EB	Through	57	Departure	236	Through	67	68
	Right	21			Right	59	59
East leg	Left	11	Approach	183	Left	3	4
WB	Through	115	Departure	117	Through	157	158
	Right	52			Right	30	30

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	16	Approach	302	Left	70	71
NB	Through	88	Departure	521	Through	203	204
	Right	48			Right	34	34
North leg	Left	51	Approach	447	Left	37	38
SB	Through	171	Departure	228	Through	401	402
	Right	0			Right	0	0
West leg	Left	3	Approach	261	Left	13	14
EB	Through	106	Departure	297	Through	141	142
	Right	24			Right	103	104
East leg	Left	27	Approach	249	Left	17	17
WB	Through	191	Departure	212	Through	227	227
	Right	19			Right	12	12

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : JOHNSON RD
N/S STREET : STODDARD WELLS RD
CONDITION : AM PEAK HOUR

INTERSECTION : 5
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	1		3		5		7	9	11	13	15	17
JOHNSON RD												
EB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0	0	0	0	0
EB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
WB LEFT	140	9	149	75	224	77	226	301	135	210	212	287
WB THRU	0	0	0	0	0	0	0	0	0	0	0	0
WB RIGHT	5	1	6	0	6	0	6	6	120	120	120	120
STODDARD WELLS RD												
NB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
NB THRU	14	1	15	0	15	0	15	15	236	236	236	236
NB RIGHT	79	5	84	250	334	252	336	586	151	401	403	653
SB LEFT	1	1	2	0	2	0	2	2	8	8	8	8
SB THRU	50	3	53	0	53	0	53	53	137	137	137	137
SB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**289**	**20**	**309**	**325**	**634**	**329**	**638**	**963**	**787**	**1112**	**1116**	**1441**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : JOHNSON RD
CONDITION : AM PEAK HOUR
N/S STREET : STODDARD WELLS RD
PHF : 0.79

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	12	0	0	0	0	0	0	0	0	0	0
0	15	1	0	0	0	0	0	0	0	0	0
0	11	0	0	0	0	0	0	0	0	0	0
0	10	0	0	0	0	0	1	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
38	8	0	0	0	0	1	0	0	1	0	0
15	0	0	0	0	0	0	0	0	0	0	0
6	1	0	1	0	0	0	0	0	0	0	0
13	3	0	0	0	0	0	1	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
2	0	20	0	0	2	0	0	1	0	0	2
0	0	38	0	0	0	0	0	0	0	0	0
1	0	39	0	0	1	0	0	0	0	0	0
2	0	30	0	0	0	0	0	0	0	0	0

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

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
JOHNSON RD					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	6	127	**133**	**140**	**140**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	0	5	**5**	**5**	**5**
STODDARD WELLS RD					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	1	12	**13**	**14**	**14**
NB RIGHT	3	72	**75**	**79**	**79**
SB LEFT	0	1	**1**	**1**	**1**
SB THRU	1	48	**49**	**50**	**50**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	5.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	140	5	14	79	1	50
Future Vol, veh/h	140	5	14	79	1	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	177	6	18	100	1	63

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	133	68	0	0	118	0
Stage 1	68	-	-	-	-	-
Stage 2	65	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	866	1001	-	-	1483	-
Stage 1	960	-	-	-	-	-
Stage 2	963	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	865	1001	-	-	1483	-
Mov Cap-2 Maneuver	865	-	-	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	962	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	869	1483	-
HCM Lane V/C Ratio	-	-	0.211	0.001	-
HCM Control Delay (s)	-	-	10.2	7.4	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.8	0	-

Intersection	
Int Delay, s/veh	5.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	149	6	15	84	2	53
Future Vol, veh/h	149	6	15	84	2	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	189	8	19	106	3	67

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	145	72	0	0	125	0
Stage 1	72	-	-	-	-	-
Stage 2	73	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	852	996	-	-	1474	-
Stage 1	956	-	-	-	-	-
Stage 2	955	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	850	996	-	-	1474	-
Mov Cap-2 Maneuver	850	-	-	-	-	-
Stage 1	956	-	-	-	-	-
Stage 2	953	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	855	1474	-
HCM Lane V/C Ratio	-	-	0.229	0.002	-
HCM Control Delay (s)	-	-	10.5	7.4	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0	-

Intersection	
Int Delay, s/veh	5.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	224	6	15	334	2	53
Future Vol, veh/h	224	6	15	334	2	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	284	8	19	423	3	67

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	304	231	0	0	442	0
Stage 1	231	-	-	-	-	-
Stage 2	73	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	692	813	-	-	1129	-
Stage 1	812	-	-	-	-	-
Stage 2	955	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	690	813	-	-	1129	-
Mov Cap-2 Maneuver	690	-	-	-	-	-
Stage 1	812	-	-	-	-	-
Stage 2	952	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.9	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	693	1129	-
HCM Lane V/C Ratio	-	-	0.42	0.002	-
HCM Control Delay (s)	-	-	13.9	8.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	2.1	0	-

Intersection	
Int Delay, s/veh	5.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	226	6	15	336	2	53
Future Vol, veh/h	226	6	15	336	2	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	286	8	19	425	3	67

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	305	232	0	0	444	0
Stage 1	232	-	-	-	-	-
Stage 2	73	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	691	812	-	-	1127	-
Stage 1	811	-	-	-	-	-
Stage 2	955	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	689	812	-	-	1127	-
Mov Cap-2 Maneuver	689	-	-	-	-	-
Stage 1	811	-	-	-	-	-
Stage 2	952	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	692	1127	-
HCM Lane V/C Ratio	-	-	0.424	0.002	-
HCM Control Delay (s)	-	-	14	8.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	2.1	0	-

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	226	6	15	336	2	53
Future Vol, veh/h	226	6	15	336	2	53
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	286	8	19	425	3	67
Number of Lanes	1	0	1	1	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	12.3	12.9	9.1
HCM LOS	B	B	A

Lane	NBLn1	NBLn2	WBLn1	SBLn1
Vol Left, %	0%	0%	97%	4%
Vol Thru, %	100%	0%	0%	96%
Vol Right, %	0%	100%	3%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	336	232	55
LT Vol	0	0	226	2
Through Vol	15	0	0	53
RT Vol	0	336	6	0
Lane Flow Rate	19	425	294	70
Geometry Grp	7	7	2	5
Degree of Util (X)	0.028	0.552	0.428	0.103
Departure Headway (Hd)	5.376	4.67	5.25	5.335
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	662	766	678	664
Service Time	3.136	2.43	3.331	3.429
HCM Lane V/C Ratio	0.029	0.555	0.434	0.105
HCM Control Delay	8.3	13.1	12.3	9.1
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.1	3.4	2.1	0.3

Intersection	
Int Delay, s/veh	7.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	301	6	15	586	2	53
Future Vol, veh/h	301	6	15	586	2	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	381	8	19	742	3	67

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	463	390	0	0	761	0
Stage 1	390	-	-	-	-	-
Stage 2	73	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	561	663	-	-	860	-
Stage 1	689	-	-	-	-	-
Stage 2	955	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	559	663	-	-	860	-
Mov Cap-2 Maneuver	559	-	-	-	-	-
Stage 1	689	-	-	-	-	-
Stage 2	951	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.6	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	561	860	-
HCM Lane V/C Ratio	-	-	0.693	0.003	-
HCM Control Delay (s)	-	-	24.6	9.2	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	5.4	0	-

Intersection	
Intersection Delay, s/veh	53.6
Intersection LOS	F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	301	6	15	586	2	53
Future Vol, veh/h	301	6	15	586	2	53
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	381	8	19	742	3	67
Number of Lanes	2	0	1	1	0	2

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	15.3	77.2	10.1
HCM LOS	C	F	B

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	94%	10%	0%
Vol Thru, %	100%	0%	0%	0%	90%	100%
Vol Right, %	0%	100%	0%	6%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	586	201	106	20	35
LT Vol	0	0	201	100	2	0
Through Vol	15	0	0	0	18	35
RT Vol	0	586	0	6	0	0
Lane Flow Rate	19	742	254	135	25	45
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.031	1.078	0.497	0.261	0.046	0.082
Departure Headway (Hd)	5.941	5.232	7.238	7.17	6.918	6.866
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	604	697	500	505	521	525
Service Time	3.66	2.951	4.938	4.87	4.618	4.566
HCM Lane V/C Ratio	0.031	1.065	0.508	0.267	0.048	0.086
HCM Control Delay	8.9	78.9	16.9	12.4	10	10.2
HCM Lane LOS	A	F	C	B	A	B
HCM 95th-tile Q	0.1	20.3	2.7	1	0.1	0.3

Intersection	
Int Delay, s/veh	6.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	135	120	236	151	8	137
Future Vol, veh/h	135	120	236	151	8	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	171	152	299	191	10	173

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	588	395	0	0	490	0
Stage 1	395	-	-	-	-	-
Stage 2	193	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	475	659	-	-	1084	-
Stage 1	685	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	470	659	-	-	1084	-
Mov Cap-2 Maneuver	470	-	-	-	-	-
Stage 1	685	-	-	-	-	-
Stage 2	837	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.9	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	543	1084	-
HCM Lane V/C Ratio	-	-	0.594	0.009	-
HCM Control Delay (s)	-	-	20.9	8.4	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	3.9	0	-

Intersection	
Int Delay, s/veh	21.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	210	120	236	401	8	137
Future Vol, veh/h	210	120	236	401	8	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	266	152	299	508	10	173

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	746	553	0	0	807	0
Stage 1	553	-	-	-	-	-
Stage 2	193	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	384	537	-	-	827	-
Stage 1	580	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	379	537	-	-	827	-
Mov Cap-2 Maneuver	379	-	-	-	-	-
Stage 1	580	-	-	-	-	-
Stage 2	834	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	71.6	0	0.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	424	827	-
HCM Lane V/C Ratio	-	-	0.985	0.012	-
HCM Control Delay (s)	-	-	71.6	9.4	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	12.1	0	-

Intersection	
Int Delay, s/veh	22

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	212	120	236	403	8	137
Future Vol, veh/h	212	120	236	403	8	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	268	152	299	510	10	173

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	747	554	0	0	809	0
Stage 1	554	-	-	-	-	-
Stage 2	193	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	383	536	-	-	825	-
Stage 1	580	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	378	536	-	-	825	-
Mov Cap-2 Maneuver	378	-	-	-	-	-
Stage 1	580	-	-	-	-	-
Stage 2	834	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	73.8	0	0.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	423	825	-
HCM Lane V/C Ratio	-	-	0.994	0.012	-
HCM Control Delay (s)	-	-	73.8	9.4	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	12.4	0	-

Intersection	
Intersection Delay, s/veh	18.2
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	212	120	236	403	8	137
Future Vol, veh/h	212	120	236	403	8	137
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	268	152	299	510	10	173
Number of Lanes	2	1	1	1	0	2

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	3
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	3	0
HCM Control Delay	11.3	23.1	12.3
HCM LOS	B	C	B

Lane	NBLn1	NBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	100%	0%	15%	0%
Vol Thru, %	100%	0%	0%	0%	0%	85%	100%
Vol Right, %	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	236	403	106	106	120	54	91
LT Vol	0	0	106	106	0	8	0
Through Vol	236	0	0	0	0	46	91
RT Vol	0	403	0	0	120	0	0
Lane Flow Rate	299	510	134	134	152	68	116
Geometry Grp	8	8	7	7	7	8	8
Degree of Util (X)	0.526	0.799	0.277	0.277	0.189	0.143	0.24
Departure Headway (Hd)	6.343	5.636	7.422	7.422	4.482	7.56	7.484
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	568	638	483	483	794	471	477
Service Time	4.106	3.398	5.184	5.184	2.244	5.351	5.275
HCM Lane V/C Ratio	0.526	0.799	0.277	0.277	0.191	0.144	0.243
HCM Control Delay	16	27.2	13	13	8.3	11.6	12.7
HCM Lane LOS	C	D	B	B	A	B	B
HCM 95th-tile Q	3	7.9	1.1	1.1	0.7	0.5	0.9



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	212	120	236	403	8	137
Future Volume (veh/h)	212	120	236	403	8	137
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	268	152	299	510	10	173
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	416	370	848	718	508	848
Arrive On Green	0.24	0.24	0.47	0.47	0.47	0.47
Sat Flow, veh/h	1714	1525	1800	1525	685	1800
Grp Volume(v), veh/h	268	152	299	510	10	173
Grp Sat Flow(s),veh/h/ln	1714	1525	1800	1525	685	1800
Q Serve(g_s), s	3.9	2.3	2.9	7.4	0.3	1.6
Cycle Q Clear(g_c), s	3.9	2.3	2.9	7.4	3.2	1.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	416	370	848	718	508	848
V/C Ratio(X)	0.64	0.41	0.35	0.71	0.02	0.20
Avail Cap(c_a), veh/h	1228	1092	2062	1748	970	2062
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.5	8.9	4.7	5.9	5.7	4.3
Incr Delay (d2), s/veh	1.7	0.7	0.2	1.3	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.5	0.4	1.0	0.0	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.2	9.6	4.9	7.2	5.7	4.4
LnGrp LOS	B	A	A	A	A	A
Approach Vol, veh/h	420		809			183
Approach Delay, s/veh	10.6		6.4			4.5
Approach LOS	B		A			A

Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		17.2			17.2	10.8
Change Period (Y+Rc), s		4.0			4.0	4.0
Max Green Setting (Gmax), s		32.0			32.0	20.0
Max Q Clear Time (g_c+I1), s		9.4			5.2	5.9
Green Ext Time (p_c), s		3.7			1.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	7.4
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	81.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	287	120	236	653	8	137
Future Vol, veh/h	287	120	236	653	8	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	363	152	299	827	10	173

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	906	713	0	0	1126	0
Stage 1	713	-	-	-	-	-
Stage 2	193	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 309	435	-	-	628	-
Stage 1	489	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 303	435	-	-	628	-
Mov Cap-2 Maneuver	~ 303	-	-	-	-	-
Stage 1	489	-	-	-	-	-
Stage 2	830	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	289.5	0	0.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	333	628	-
HCM Lane V/C Ratio	-	-	1.547	0.016	-
HCM Control Delay (s)	-	-	289.5	10.8	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	29.4	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	287	120	236	0	8	137
Future Vol, veh/h	287	120	236	0	8	137
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	363	152	299	0	10	173
Number of Lanes	2	1	1	1	1	2

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	3	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	3
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	3	3	0
HCM Control Delay	10.6	15.9	9.6
HCM LOS	B	C	A

Lane	NBLn1	NBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	0%	100%	100%	0%	100%	0%	0%
Vol Thru, %	100%	100%	0%	0%	0%	0%	100%	100%
Vol Right, %	0%	0%	0%	0%	100%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	236	0	144	144	120	8	69	69
LT Vol	0	0	144	144	0	8	0	0
Through Vol	236	0	0	0	0	0	69	69
RT Vol	0	0	0	0	120	0	0	0
Lane Flow Rate	299	0	182	182	152	10	87	87
Geometry Grp	8	8	7	7	7	8	8	8
Degree of Util (X)	0.526	0	0.323	0.323	0.147	0.02	0.161	0.12
Departure Headway (Hd)	6.336	6.336	6.409	6.409	3.492	7.205	6.698	4.973
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	571	0	561	561	1022	497	535	719
Service Time	4.074	4.074	4.146	4.146	1.228	4.953	4.446	2.72
HCM Lane V/C Ratio	0.524	0	0.324	0.324	0.149	0.02	0.163	0.121
HCM Control Delay	15.9	9.1	12.2	12.2	6.8	10.1	10.7	8.4
HCM Lane LOS	C	N	B	B	A	B	B	A
HCM 95th-tile Q	3.1	0	1.4	1.4	0.5	0.1	0.6	0.4



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	287	120	236	653	8	137
Future Volume (veh/h)	287	120	236	653	8	137
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1700	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	363	152	299	827	10	173
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	436	411	1077	913	382	1077
Arrive On Green	0.27	0.27	0.60	0.60	0.60	0.60
Sat Flow, veh/h	1619	1525	1800	1525	508	1800
Grp Volume(v), veh/h	363	152	299	827	10	173
Grp Sat Flow(s),veh/h/ln	1619	1525	1800	1525	508	1800
Q Serve(g_s), s	12.8	4.9	4.8	28.8	0.6	2.6
Cycle Q Clear(g_c), s	12.8	4.9	4.8	28.8	5.4	2.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	436	411	1077	913	382	1077
V/C Ratio(X)	0.83	0.37	0.28	0.91	0.03	0.16
Avail Cap(c_a), veh/h	857	807	1488	1261	499	1488
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	17.9	5.8	10.6	7.2	5.4
Incr Delay (d2), s/veh	4.2	0.6	0.1	7.4	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	1.6	1.3	8.5	0.1	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.0	18.5	6.0	18.1	7.2	5.5
LnGrp LOS	C	B	A	B	A	A
Approach Vol, veh/h	515		1126			183
Approach Delay, s/veh	23.1		14.9			5.6
Approach LOS	C		B			A

Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		40.2			40.2	20.3
Change Period (Y+Rc), s		4.0			4.0	4.0
Max Green Setting (Gmax), s		50.0			50.0	32.0
Max Q Clear Time (g_c+I1), s		30.8			7.4	14.8
Green Ext Time (p_c), s		5.4			1.1	1.5

Intersection Summary	
HCM 6th Ctrl Delay	16.3
HCM 6th LOS	B

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : JOHNSON RD
N/S STREET : STODDARD WELLS RD
CONDITION : PM PEAK HOUR

INTERSECTION : 5
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	2		4		6		8	10	12	14	16	18
JOHNSON RD												
EB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0.00	0	0.00	0	0.00
EB RIGHT	0	0	0	0	0	0	0	0.00	0	0	0	0
WB LEFT	254	16	270	233	503	236	506	739	263	496	499	732
WB THRU	0	0	0	0	0	0	0	0	0	0	0	0
WB RIGHT	24	2	26	0	26	0	26	26	105	105	105	105
STODDARD WELLS RD												
NB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
NB THRU	20	2	22	0	22	0	22	22	156	156	156	156
NB RIGHT	54	4	58	91	149	92	150	241	105	196	197	288
SB LEFT	31	2	33	0	33	0	33	33	109	109	109	109
SB THRU	115	7	122	0	122	0	122	122	386	386	386	386
SB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**498**	**33**	**531**	**324**	**855**	**328**	**859**	**1183**	**1124**	**1448**	**1452**	**1776**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : JOHNSON RD
CONDITION : PM PEAK HOUR
N/S STREET : STODDARD WELLS RD
PHF : 0.81

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	32	6	0	0	0	0	0	0	0	0	0
0	25	6	0	0	0	0	0	0	0	0	0
0	28	8	0	0	0	0	0	0	0	0	0
0	30	11	0	0	0	0	0	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
16	5	0	0	0	0	0	0	0	0	0	0
15	7	0	0	0	0	0	0	0	0	0	0
8	4	0	0	0	0	0	0	0	2	0	0
9	4	0	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
6	0	78	0	0	1	0	0	0	0	0	5
5	0	34	0	0	0	0	0	0	0	0	0
9	0	64	0	0	0	0	0	0	0	0	0
4	0	61	0	0	0	0	0	0	0	0	0

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

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
JOHNSON RD					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	6	237	**243**	**254**	**254**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	0	24	**24**	**24**	**24**
STODDARD WELLS RD					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	0	20	**20**	**20**	**20**
NB RIGHT	2	48	**50**	**54**	**54**
SB LEFT	0	31	**31**	**31**	**31**
SB THRU	0	115	**115**	**115**	**115**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	8.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	254	24	20	54	31	115
Future Vol, veh/h	254	24	20	54	31	115
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	314	30	25	67	38	142

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	277	59	0	0	92	0
Stage 1	59	-	-	-	-	-
Stage 2	218	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	717	1012	-	-	1515	-
Stage 1	969	-	-	-	-	-
Stage 2	823	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	698	1012	-	-	1515	-
Mov Cap-2 Maneuver	698	-	-	-	-	-
Stage 1	969	-	-	-	-	-
Stage 2	801	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.5	0	1.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	717	1515	-
HCM Lane V/C Ratio	-	-	0.479	0.025	-
HCM Control Delay (s)	-	-	14.5	7.4	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	2.6	0.1	-

Intersection	
Int Delay, s/veh	9.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	270	26	22	58	33	122
Future Vol, veh/h	270	26	22	58	33	122
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	333	32	27	72	41	151

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	296	63	0	0	99	0
Stage 1	63	-	-	-	-	-
Stage 2	233	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	699	1007	-	-	1507	-
Stage 1	965	-	-	-	-	-
Stage 2	810	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	678	1007	-	-	1507	-
Mov Cap-2 Maneuver	678	-	-	-	-	-
Stage 1	965	-	-	-	-	-
Stage 2	786	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.7	0	1.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	698	1507	-
HCM Lane V/C Ratio	-	-	0.524	0.027	-
HCM Control Delay (s)	-	-	15.7	7.5	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	3.1	0.1	-

Intersection	
Int Delay, s/veh	41.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	503	26	22	149	33	122
Future Vol, veh/h	503	26	22	149	33	122
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	621	32	27	184	41	151

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	352	119	0	0	211	0
Stage 1	119	-	-	-	-	-
Stage 2	233	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	650	938	-	-	1372	-
Stage 1	911	-	-	-	-	-
Stage 2	810	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	629	938	-	-	1372	-
Mov Cap-2 Maneuver	629	-	-	-	-	-
Stage 1	911	-	-	-	-	-
Stage 2	783	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	66.7	0	1.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	639	1372	-
HCM Lane V/C Ratio	-	-	1.022	0.03	-
HCM Control Delay (s)	-	-	66.7	7.7	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	16.6	0.1	-

Intersection	
Int Delay, s/veh	42.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	506	26	22	150	33	122
Future Vol, veh/h	506	26	22	150	33	122
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	625	32	27	185	41	151

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	353	120	0	0	212	0
Stage 1	120	-	-	-	-	-
Stage 2	233	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	649	937	-	-	1370	-
Stage 1	910	-	-	-	-	-
Stage 2	810	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	628	937	-	-	1370	-
Mov Cap-2 Maneuver	628	-	-	-	-	-
Stage 1	910	-	-	-	-	-
Stage 2	783	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	68.8	0	1.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	638	1370	-
HCM Lane V/C Ratio	-	-	1.029	0.03	-
HCM Control Delay (s)	-	-	68.8	7.7	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	16.9	0.1	-

Intersection	
Intersection Delay, s/veh	34.4
Intersection LOS	D

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	506	26	22	150	33	122
Future Vol, veh/h	506	26	22	150	33	122
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	625	32	27	185	41	151
Number of Lanes	1	0	1	1	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	48.2	11.3	12.6
HCM LOS	E	B	B

Lane	NBLn1	NBLn2	WBLn1	SBLn1
Vol Left, %	0%	0%	95%	21%
Vol Thru, %	100%	0%	0%	79%
Vol Right, %	0%	100%	5%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	22	150	532	155
LT Vol	0	0	506	33
Through Vol	22	0	0	122
RT Vol	0	150	26	0
Lane Flow Rate	27	185	657	191
Geometry Grp	7	7	2	5
Degree of Util (X)	0.051	0.311	0.961	0.336
Departure Headway (Hd)	6.753	6.037	5.265	6.319
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	528	593	690	566
Service Time	4.522	3.806	3.304	4.387
HCM Lane V/C Ratio	0.051	0.312	0.952	0.337
HCM Control Delay	9.9	11.5	48.2	12.6
HCM Lane LOS	A	B	E	B
HCM 95th-tile Q	0.2	1.3	14.1	1.5

Intersection	
Int Delay, s/veh	194.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	739	26	22	241	33	122
Future Vol, veh/h	739	26	22	241	33	122
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	912	32	27	298	41	151

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	409	176	0	0	325	0
Stage 1	176	-	-	-	-	-
Stage 2	233	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 602	872	-	-	1246	-
Stage 1	~ 859	-	-	-	-	-
Stage 2	~ 810	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 580	872	-	-	1246	-
Mov Cap-2 Maneuver	~ 580	-	-	-	-	-
Stage 1	~ 859	-	-	-	-	-
Stage 2	~ 781	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 300.5	0	1.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	587	1246	-
HCM Lane V/C Ratio	-	-	1.609	0.033	-
HCM Control Delay (s)	-	-	$ 300.5	8	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	51.6	0.1	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Intersection Delay, s/veh	52.6
Intersection LOS	F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	739	26	22	241	33	122
Future Vol, veh/h	739	26	22	241	33	122
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	912	32	27	298	41	151
Number of Lanes	2	0	1	1	0	2

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	73.2	16.5	12.4
HCM LOS	F	C	B

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	90%	45%	0%
Vol Thru, %	100%	0%	0%	0%	55%	100%
Vol Right, %	0%	100%	0%	10%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	22	241	493	272	74	81
LT Vol	0	0	493	246	33	0
Through Vol	22	0	0	0	41	81
RT Vol	0	241	0	26	0	0
Lane Flow Rate	27	298	608	336	91	100
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.054	0.536	1.128	0.613	0.192	0.205
Departure Headway (Hd)	7.483	6.765	6.676	6.56	7.892	7.662
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	482	536	547	555	457	471
Service Time	5.183	4.465	4.376	4.26	5.592	5.362
HCM Lane V/C Ratio	0.056	0.556	1.112	0.605	0.199	0.212
HCM Control Delay	10.6	17	103.1	19.1	12.5	12.3
HCM Lane LOS	B	C	F	C	B	B
HCM 95th-tile Q	0.2	3.1	20	4.1	0.7	0.8

Intersection	
Int Delay, s/veh	101.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	263	105	156	105	109	386
Future Vol, veh/h	263	105	156	105	109	386
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	325	130	193	130	135	477

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1005	258	0	0	323	0
Stage 1	258	-	-	-	-	-
Stage 2	747	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 270	786	-	-	1248	-
Stage 1	790	-	-	-	-	-
Stage 2	472	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 230	786	-	-	1248	-
Mov Cap-2 Maneuver	~ 230	-	-	-	-	-
Stage 1	790	-	-	-	-	-
Stage 2	403	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 307.9	0	1.8
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	288	1248	-
HCM Lane V/C Ratio	-	-	1.578	0.108	-
HCM Control Delay (s)	-	-	$ 307.9	8.2	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	27.1	0.4	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	408.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	496	105	156	196	109	386
Future Vol, veh/h	496	105	156	196	109	386
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	612	130	193	242	135	477

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1061	314	0	0	435	0
Stage 1	314	-	-	-	-	-
Stage 2	747	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 250	731	-	-	1135	-
Stage 1	745	-	-	-	-	-
Stage 2	~ 472	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 210	731	-	-	1135	-
Mov Cap-2 Maneuver	~ 210	-	-	-	-	-
Stage 1	745	-	-	-	-	-
Stage 2	~ 396	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 982.9	0	1.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	240	1135	-
HCM Lane V/C Ratio	-	-	3.092	0.119	-
HCM Control Delay (s)	-	-	$ 982.9	8.6	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	66.9	0.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	412.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	499	105	156	197	109	386
Future Vol, veh/h	499	105	156	197	109	386
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	616	130	193	243	135	477

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1062	315	0	0	436	0
Stage 1	315	-	-	-	-	-
Stage 2	747	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 250	730	-	-	1134	-
Stage 1	744	-	-	-	-	-
Stage 2	~ 472	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 210	730	-	-	1134	-
Mov Cap-2 Maneuver	~ 210	-	-	-	-	-
Stage 1	744	-	-	-	-	-
Stage 2	~ 396	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 989.8	0	1.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	240	1134	-
HCM Lane V/C Ratio	-	-	3.107	0.119	-
HCM Control Delay (s)	-	-	$ 989.8	8.6	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	67.4	0.4	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Intersection Delay, s/veh	22
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	499	105	156	197	109	386
Future Vol, veh/h	499	105	156	197	109	386
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	616	130	193	243	135	477
Number of Lanes	2	1	1	1	0	2

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	25.7	15.9	22.6
HCM LOS	D	C	C

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	100%	46%	0%
Vol Thru, %	100%	0%	0%	0%	54%	100%
Vol Right, %	0%	100%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	156	197	250	250	238	257
LT Vol	0	0	250	250	109	0
Through Vol	156	0	0	0	129	257
RT Vol	0	197	0	0	0	0
Lane Flow Rate	193	243	308	308	293	318
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.413	0.473	0.678	0.678	0.622	0.653
Departure Headway (Hd)	7.721	6.999	7.926	7.926	7.633	7.397
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	466	516	459	459	475	489
Service Time	5.461	4.739	5.626	5.626	5.368	5.132
HCM Lane V/C Ratio	0.414	0.471	0.671	0.671	0.617	0.65
HCM Control Delay	15.8	15.9	25.7	25.7	22.2	23
HCM Lane LOS	C	C	D	D	C	C
HCM 95th-tile Q	2	2.5	5	5	4.2	4.6



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	499	105	156	197	109	386
Future Volume (veh/h)	499	105	156	197	109	386
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	616	130	193	243	135	477
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	740	659	648	550	461	648
Arrive On Green	0.43	0.43	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1714	1525	1800	1525	968	1800
Grp Volume(v), veh/h	616	130	193	243	135	477
Grp Sat Flow(s),veh/h/ln	1714	1525	1800	1525	968	1800
Q Serve(g_s), s	12.3	2.0	3.0	4.7	4.5	8.9
Cycle Q Clear(g_c), s	12.3	2.0	3.0	4.7	7.4	8.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	740	659	648	550	461	648
V/C Ratio(X)	0.83	0.20	0.30	0.44	0.29	0.74
Avail Cap(c_a), veh/h	1292	1150	1076	912	691	1076
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.7	6.8	8.8	9.4	11.5	10.7
Incr Delay (d2), s/veh	2.5	0.1	0.3	0.6	0.3	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.5	0.9	1.2	0.8	2.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.2	6.9	9.1	9.9	11.8	12.4
LnGrp LOS	B	A	A	A	B	B
Approach Vol, veh/h	746		436			612
Approach Delay, s/veh	11.3		9.6			12.2
Approach LOS	B		A			B

Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		17.9			17.9	20.6
Change Period (Y+Rc), s		4.0			4.0	4.0
Max Green Setting (Gmax), s		23.0			23.0	29.0
Max Q Clear Time (g_c+I1), s		6.7			10.9	14.3
Green Ext Time (p_c), s		1.8			3.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	11.2
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	857.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	732	105	156	288	109	386
Future Vol, veh/h	732	105	156	288	109	386
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	904	130	193	356	135	477

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1118	371	0	0	549	0
Stage 1	371	-	-	-	-	-
Stage 2	747	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 231	679	-	-	1031	-
Stage 1	~ 702	-	-	-	-	-
Stage 2	~ 472	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 190	679	-	-	1031	-
Mov Cap-2 Maneuver	~ 190	-	-	-	-	-
Stage 1	~ 702	-	-	-	-	-
Stage 2	~ 388	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, $	1818.4	0	2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	209	1031	-
HCM Lane V/C Ratio	-	-	4.944	0.131	-
HCM Control Delay (s)	-	-	$ 1818.4	9	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	106.7	0.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	35
Intersection LOS	D

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	732	105	156	0	109	386
Future Vol, veh/h	732	105	156	0	109	386
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	904	130	193	0	135	477
Number of Lanes	2	1	1	1	1	2

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	3	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	3
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	3	3	0
HCM Control Delay	48.8	20.3	16.3
HCM LOS	E	C	C

Lane	NBLn1	NBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	0%	100%	100%	0%	100%	0%	0%
Vol Thru, %	100%	100%	0%	0%	0%	0%	100%	100%
Vol Right, %	0%	0%	0%	0%	100%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	156	0	366	366	105	109	193	193
LT Vol	0	0	366	366	0	109	0	0
Through Vol	156	0	0	0	0	0	193	193
RT Vol	0	0	0	0	105	0	0	0
Lane Flow Rate	193	0	452	452	130	135	238	238
Geometry Grp	8	8	7	7	7	8	8	8
Degree of Util (X)	0.488	0	0.94	0.94	0.164	0.32	0.533	0.418
Departure Headway (Hd)	9.114	9.114	7.488	7.488	4.546	8.556	8.046	6.312
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	395	0	488	488	793	421	448	569
Service Time	6.883	6.883	5.188	5.188	2.246	6.3	5.789	4.055
HCM Lane V/C Ratio	0.489	0	0.926	0.926	0.164	0.321	0.531	0.418
HCM Control Delay	20.3	11.9	54.6	54.6	8.1	15.3	19.6	13.5
HCM Lane LOS	C	N	F	F	A	C	C	B
HCM 95th-tile Q	2.6	0	11.3	11.3	0.6	1.4	3.1	2.1



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	732	105	156	288	109	386
Future Volume (veh/h)	732	105	156	288	109	386
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	904	130	193	356	135	477
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	973	866	569	1348	309	569
Arrive On Green	0.57	0.57	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1714	1525	1800	1525	872	1800
Grp Volume(v), veh/h	904	130	193	356	135	477
Grp Sat Flow(s),veh/h/ln	1714	1525	1800	1525	872	1800
Q Serve(g_s), s	33.2	2.8	5.7	2.4	9.7	17.0
Cycle Q Clear(g_c), s	33.2	2.8	5.7	2.4	15.3	17.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	973	866	569	1348	309	569
V/C Ratio(X)	0.93	0.15	0.34	0.26	0.44	0.84
Avail Cap(c_a), veh/h	1293	1151	784	1530	412	784
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.6	7.0	18.0	0.6	23.9	21.9
Incr Delay (d2), s/veh	9.8	0.1	0.3	0.1	1.0	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.6	0.8	2.2	4.7	1.9	7.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.4	7.1	18.4	0.7	24.9	27.8
LnGrp LOS	C	A	B	A	C	C
Approach Vol, veh/h	1034		549			612
Approach Delay, s/veh	21.4		6.9			27.1
Approach LOS	C		A			C

Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		25.8			25.8	43.1
Change Period (Y+Rc), s		4.0			4.0	4.0
Max Green Setting (Gmax), s		30.0			30.0	52.0
Max Q Clear Time (g_c+I1), s		7.7			19.0	35.2
Green Ext Time (p_c), s		2.3			2.8	3.9

Intersection Summary	
HCM 6th Ctrl Delay	19.4
HCM 6th LOS	B

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

Intersection No.: 5
North/South Street: STODDARD WELLS RD
East/West Street: JOHNSON RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	379	Left	0	0
NB	Through	14	Departure	271	Through	236	236
	Right	79			Right	150	151
North leg	Left	1	Approach	149	Left	8	8
SB	Through	50	Departure	355	Through	136	137
	Right	0			Right	0	0
West leg	Left	0	Approach	0	Left	0	0
EB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
East leg	Left	140	Approach	258	Left	135	135
WB	Through	0	Departure	158	Through	0	0
	Right	5			Right	119	120

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	259	Left	0	0
NB	Through	20	Departure	648	Through	155	156
	Right	54			Right	104	105
North leg	Left	31	Approach	495	Left	109	109
SB	Through	115	Departure	260	Through	385	386
	Right	0			Right	0	0
West leg	Left	0	Approach	0	Left	0	0
EB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
East leg	Left	254	Approach	368	Left	263	263
WB	Through	0	Departure	213	Through	0	0
	Right	24			Right	105	105

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : I-15 NB RAMPS
CONDITION : AM PEAK HOUR

INTERSECTION : 6
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	1		3		5		7	9	11	13	15	17
STODDARD WELLS RD												
EB LEFT	299	18	317	0	317	0	317	317	167	167	167	167
EB THRU	85	6	91	0	91	61	152	152	280	280	341	341
EB RIGHT	9	1	10	0	10	0	10	10	2	2	2	2
WB LEFT	1	1	2	75	77	0	2	77	2	77	2	77
WB THRU	131	8	139	0	139	77	216	216	82	82	159	159
WB RIGHT	66	4	70	0	70	0	70	70	243	243	243	243
I-15 NB RAMPS												
NB LEFT	1	1	2	0	2	0	2	2	1	1	1	1
NB THRU	2	1	3	0	3	0	3	3	2	2	2	2
NB RIGHT	1	1	2	0	2	0	2	2	3	3	3	3
SB LEFT	1	1	2	250	252	191	193	443	174	424	365	615
SB THRU	1	1	2	0	2	0	2	2	11	11	11	11
SB RIGHT	46	3	49	0	49	0	49	49	231	231	231	231
TOTALS	**643**	**46**	**689**	**325**	**1014**	**329**	**1018**	**1343**	**1198**	**1523**	**1527**	**1852**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : I-15 NB RAMPS
CONDITION : AM PEAK HOUR
PHF : 0.92

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	1	0	0	0	0	1	0	0	0
15	0	0	1	0	0	0	0	0	0	0	0
18	0	0	0	0	0	1	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

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

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
5	34	1	0	0	0	1	0	0	1	0	0
10	22	0	2	0	0	1	0	0	1	1	0
15	38	0	0	0	0	0	0	0	0	0	0
20	30	0	1	0	0	0	0	0	0	0	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
2	11	88	0	0	1	0	0	0	0	0	4
5	57	15	0	0	4	0	0	1	0	1	5
2	4	69	0	0	1	0	0	4	0	0	3
0	6	58	0	1	1	0	0	1	0	0	1

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
STODDARD WELLS RD					
EB LEFT	26	230	**256**	**292**	**299**
EB THRU	2	78	**80**	**83**	**85**
EB RIGHT	0	9	**9**	**9**	**9**
WB LEFT	0	1	**1**	**1**	**1**
WB THRU	1	124	**125**	**127**	**131**
WB RIGHT	7	50	**57**	**66**	**66**
I-15 NB RAMPS					
NB LEFT	0	0	**1**	**1**	**1**
NB THRU	0	2	**2**	**2**	**2**
NB RIGHT	0	0	**1**	**1**	**1**
SB LEFT	1	0	**1**	**1**	**1**
SB THRU	0	0	**1**	**1**	**1**
SB RIGHT	3	39	**42**	**44**	**46**

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	299	85	9	1	131	66	1	2	1	1	1	46
Future Vol, veh/h	299	85	9	1	131	66	1	2	1	1	1	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	325	92	10	1	142	72	1	2	1	1	1	50

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	214	0	0	102	0	0	953	963	97	929	932	178
Stage 1	-	-	-	-	-	-	747	747	-	180	180	-
Stage 2	-	-	-	-	-	-	206	216	-	749	752	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1368	-	-	1503	-	-	241	258	965	250	269	870
Stage 1	-	-	-	-	-	-	408	423	-	826	754	-
Stage 2	-	-	-	-	-	-	801	728	-	407	421	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1368	-	-	1503	-	-	182	193	965	199	201	870
Mov Cap-2 Maneuver	-	-	-	-	-	-	182	193	-	199	201	-
Stage 1	-	-	-	-	-	-	305	316	-	618	753	-
Stage 2	-	-	-	-	-	-	753	727	-	302	315	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	6.4	0	20.5	10.1
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	237	1368	-	-	1503	-	-	763
HCM Lane V/C Ratio	0.018	0.238	-	-	0.001	-	-	0.068
HCM Control Delay (s)	20.5	8.4	0	-	7.4	0	-	10.1
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.9	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	317	91	10	2	139	70	2	3	2	2	2	49
Future Vol, veh/h	317	91	10	2	139	70	2	3	2	2	2	49
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	345	99	11	2	151	76	2	3	2	2	2	53

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	227	0	0	110	0	0	1016	1026	105	990	993	189
Stage 1	-	-	-	-	-	-	795	795	-	193	193	-
Stage 2	-	-	-	-	-	-	221	231	-	797	800	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1353	-	-	1493	-	-	218	237	955	227	247	858
Stage 1	-	-	-	-	-	-	384	402	-	813	745	-
Stage 2	-	-	-	-	-	-	786	717	-	383	400	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1353	-	-	1493	-	-	160	172	955	176	180	858
Mov Cap-2 Maneuver	-	-	-	-	-	-	160	172	-	176	180	-
Stage 1	-	-	-	-	-	-	280	293	-	592	744	-
Stage 2	-	-	-	-	-	-	734	716	-	275	291	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	6.5	0.1	22	10.9
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	219	1353	-	-	1493	-	-	666
HCM Lane V/C Ratio	0.035	0.255	-	-	0.001	-	-	0.086
HCM Control Delay (s)	22	8.6	0	-	7.4	0	-	10.9
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	1	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	183.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	317	91	10	77	139	70	2	3	2	252	2	49
Future Vol, veh/h	317	91	10	77	139	70	2	3	2	252	2	49
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	345	99	11	84	151	76	2	3	2	274	2	53

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	227	0	0	110	0	0	1180	1190	105	1154	1157	189
Stage 1	-	-	-	-	-	-	795	795	-	357	357	-
Stage 2	-	-	-	-	-	-	385	395	-	797	800	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1353	-	-	1493	-	-	169	189	955	~ 176	198	858
Stage 1	-	-	-	-	-	-	384	402	-	665	632	-
Stage 2	-	-	-	-	-	-	642	608	-	383	400	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1353	-	-	1493	-	-	118	129	955	~ 130	135	858
Mov Cap-2 Maneuver	-	-	-	-	-	-	118	129	-	~ 130	135	-
Stage 1	-	-	-	-	-	-	280	293	-	484	591	-
Stage 2	-	-	-	-	-	-	561	568	-	275	291	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	6.5	2	27.9	$ 601.2
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	165	1353	-	-	1493	-	-	151
HCM Lane V/C Ratio	0.046	0.255	-	-	0.056	-	-	2.181
HCM Control Delay (s)	27.9	8.6	0	-	7.6	0	-	$ 601.2
HCM Lane LOS	D	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.1	1	-	-	0.2	-	-	26.9

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	89.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	317	152	10	2	216	70	2	3	2	193	2	49
Future Vol, veh/h	317	152	10	2	216	70	2	3	2	193	2	49
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	345	165	11	2	235	76	2	3	2	210	2	53

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	311	0	0	176	0	0	1166	1176	171	1140	1143	273
Stage 1	-	-	-	-	-	-	861	861	-	277	277	-
Stage 2	-	-	-	-	-	-	305	315	-	863	866	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1261	-	-	1412	-	-	172	193	878	~ 180	202	771
Stage 1	-	-	-	-	-	-	353	375	-	734	685	-
Stage 2	-	-	-	-	-	-	709	659	-	352	373	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1261	-	-	1412	-	-	121	134	878	~ 135	140	771
Mov Cap-2 Maneuver	-	-	-	-	-	-	121	134	-	~ 135	140	-
Stage 1	-	-	-	-	-	-	246	261	-	511	684	-
Stage 2	-	-	-	-	-	-	657	658	-	241	260	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.9	0.1	27.2	$ 362.7
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	170	1261	-	-	1412	-	-	162
HCM Lane V/C Ratio	0.045	0.273	-	-	0.002	-	-	1.637
HCM Control Delay (s)	27.2	8.9	0	-	7.6	0	-	$ 362.7
HCM Lane LOS	D	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.1	1.1	-	-	0	-	-	18.3

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	16
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	317	152	10	2	216	70	2	3	2	193	2	49
Future Vol, veh/h	317	152	10	2	216	70	2	3	2	193	2	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	345	165	11	2	235	76	2	3	2	210	2	53
Number of Lanes	1	1	0	1	2	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	3	2
HCM Control Delay	18.8	12.2	10.8	15.1
HCM LOS	C	B	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	29%	100%	0%	100%	0%	0%	99%	0%
Vol Thru, %	43%	0%	94%	0%	100%	51%	1%	0%
Vol Right, %	29%	0%	6%	0%	0%	49%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	317	162	2	144	142	195	49
LT Vol	2	317	0	2	0	0	193	0
Through Vol	3	0	152	0	144	72	2	0
RT Vol	2	0	10	0	0	70	0	49
Lane Flow Rate	8	345	176	2	157	154	212	53
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.017	0.662	0.311	0.004	0.3	0.281	0.446	0.094
Departure Headway (Hd)	7.997	6.915	6.364	7.403	6.895	6.544	7.577	6.37
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	450	520	562	481	518	545	473	559
Service Time	5.697	4.688	4.136	5.188	4.679	4.328	5.363	4.155
HCM Lane V/C Ratio	0.018	0.663	0.313	0.004	0.303	0.283	0.448	0.095
HCM Control Delay	10.8	22.3	12	10.2	12.6	11.9	16.4	9.8
HCM Lane LOS	B	C	B	B	B	B	C	A
HCM 95th-tile Q	0.1	4.8	1.3	0	1.3	1.1	2.3	0.3

Intersection	
Int Delay, s/veh	697.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	317	152	10	77	216	70	2	3	2	443	2	49
Future Vol, veh/h	317	152	10	77	216	70	2	3	2	443	2	49
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	345	165	11	84	235	76	2	3	2	482	2	53

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	311	0	0	176	0	0	1330	1340	171	1304	1307	273
Stage 1	-	-	-	-	-	-	861	861	-	441	441	-
Stage 2	-	-	-	-	-	-	469	479	-	863	866	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1261	-	-	1412	-	-	133	154	878	~ 139	161	771
Stage 1	-	-	-	-	-	-	353	375	-	599	580	-
Stage 2	-	-	-	-	-	-	579	558	-	~ 352	373	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1261	-	-	1412	-	-	88	99	878	~ 98	104	771
Mov Cap-2 Maneuver	-	-	-	-	-	-	88	99	-	~ 98	104	-
Stage 1	-	-	-	-	-	-	246	261	-	~ 417	538	-
Stage 2	-	-	-	-	-	-	498	517	-	~ 241	260	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.9	1.6	35.1	$ 1888
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	127	1261	-	-	1412	-	-	107
HCM Lane V/C Ratio	0.06	0.273	-	-	0.059	-	-	5.018
HCM Control Delay (s)	35.1	8.9	0	-	7.7	0	-	$ 1888
HCM Lane LOS	E	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.2	1.1	-	-	0.2	-	-	57.3

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	30.8
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	317	152	10	77	216	70	2	3	2	443	2	49
Future Vol, veh/h	317	152	10	77	216	70	2	3	2	443	2	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	345	165	11	84	235	76	2	3	2	482	2	53
Number of Lanes	1	1	0	1	1	-1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	19.6	12.1	10.6	44.9
HCM LOS	C	B	B	E

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	29%	100%	0%	100%	100%	0%
Vol Thru, %	43%	0%	94%	0%	0%	0%
Vol Right, %	29%	0%	6%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	317	162	77	445	49
LT Vol	2	317	0	77	443	0
Through Vol	3	0	152	0	2	0
RT Vol	2	0	10	0	0	49
Lane Flow Rate	8	345	176	84	484	53
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.016	0.674	0.317	0.173	0.924	0.084
Departure Headway (Hd)	7.355	7.04	6.489	7.459	6.875	5.662
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	483	513	551	479	527	631
Service Time	5.454	4.807	4.256	5.546	4.631	3.417
HCM Lane V/C Ratio	0.017	0.673	0.319	0.175	0.918	0.084
HCM Control Delay	10.6	23.3	12.3	12.1	48.9	8.9
HCM Lane LOS	B	C	B	B	E	A
HCM 95th-tile Q	0	5	1.4	0.6	11.2	0.3

Intersection	
Int Delay, s/veh	51.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	167	280	2	2	82	243	1	2	3	174	11	231
Future Vol, veh/h	167	280	2	2	82	243	1	2	3	174	11	231
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	182	304	2	2	89	264	1	2	3	189	12	251

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	353	0	0	306	0	0	1026	1026	305	897	895	221
Stage 1	-	-	-	-	-	-	669	669	-	225	225	-
Stage 2	-	-	-	-	-	-	357	357	-	672	670	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1217	-	-	1266	-	-	215	237	740	263	282	824
Stage 1	-	-	-	-	-	-	450	459	-	782	721	-
Stage 2	-	-	-	-	-	-	665	632	-	449	459	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1217	-	-	1266	-	-	124	194	740	224	231	824
Mov Cap-2 Maneuver	-	-	-	-	-	-	124	194	-	224	231	-
Stage 1	-	-	-	-	-	-	369	376	-	641	720	-
Stage 2	-	-	-	-	-	-	454	631	-	364	376	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.2	0	18.8	144.1
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	268	1217	-	-	1266	-	-	377
HCM Lane V/C Ratio	0.024	0.149	-	-	0.002	-	-	1.199
HCM Control Delay (s)	18.8	8.5	0	-	7.8	0	-	144.1
HCM Lane LOS	C	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.1	0.5	-	-	0	-	-	18.5

Intersection	
Int Delay, s/veh	459.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	167	280	2	77	82	243	1	2	3	424	11	231
Future Vol, veh/h	167	280	2	77	82	243	1	2	3	424	11	231
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	182	304	2	84	89	264	1	2	3	461	12	251

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	353	0	0	306	0	0	1190	1190	305	1061	1059	221
Stage 1	-	-	-	-	-	-	669	669	-	389	389	-
Stage 2	-	-	-	-	-	-	521	521	-	672	670	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1217	-	-	1266	-	-	166	189	740	~ 203	226	824
Stage 1	-	-	-	-	-	-	450	459	-	639	612	-
Stage 2	-	-	-	-	-	-	542	535	-	~ 449	459	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1217	-	-	1266	-	-	88	142	740	~ 161	169	824
Mov Cap-2 Maneuver	-	-	-	-	-	-	88	142	-	~ 161	169	-
Stage 1	-	-	-	-	-	-	369	376	-	524	559	-
Stage 2	-	-	-	-	-	-	337	489	-	~ 364	376	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.2	1.5	23.3	$ 1048.1
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	203	1217	-	-	1266	-	-	224
HCM Lane V/C Ratio	0.032	0.149	-	-	0.066	-	-	3.232
HCM Control Delay (s)	23.3	8.5	0	-	8	0	-	$ 1048.1
HCM Lane LOS	C	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.1	0.5	-	-	0.2	-	-	66.6

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	320.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	167	341	2	2	159	243	1	2	3	365	11	231
Future Vol, veh/h	167	341	2	2	159	243	1	2	3	365	11	231
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	182	371	2	2	173	264	1	2	3	397	12	251

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	437	0	0	373	0	0	1177	1177	372	1048	1046	305
Stage 1	-	-	-	-	-	-	736	736	-	309	309	-
Stage 2	-	-	-	-	-	-	441	441	-	739	737	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1134	-	-	1197	-	-	169	193	678	~ 208	230	740
Stage 1	-	-	-	-	-	-	414	428	-	705	663	-
Stage 2	-	-	-	-	-	-	599	580	-	412	428	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1134	-	-	1197	-	-	90	154	678	~ 173	183	740
Mov Cap-2 Maneuver	-	-	-	-	-	-	90	154	-	~ 173	183	-
Stage 1	-	-	-	-	-	-	330	342	-	563	662	-
Stage 2	-	-	-	-	-	-	388	579	-	~ 325	342	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.9	0	22.7	$ 804.2
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	210	1134	-	-	1197	-	-	245
HCM Lane V/C Ratio	0.031	0.16	-	-	0.002	-	-	2.693
HCM Control Delay (s)	22.7	8.8	0	-	8	0	-	$ 804.2
HCM Lane LOS	C	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.1	0.6	-	-	0	-	-	56.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	167	341	2	2	159	243	1	2	3	365	11	231
Future Volume (veh/h)	167	341	2	2	159	243	1	2	3	365	11	231
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	182	371	2	2	173	264	1	2	3	397	12	251
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	231	652	4	4	417	354	143	233	277	673	25	513
Arrive On Green	0.13	0.36	0.36	0.00	0.23	0.23	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1714	1789	10	1714	1800	1525	126	665	792	1434	70	1466
Grp Volume(v), veh/h	182	0	373	2	173	264	6	0	0	397	0	263
Grp Sat Flow(s),veh/h/ln	1714	0	1798	1714	1800	1525	1583	0	0	1434	0	1536
Q Serve(g_s), s	4.4	0.0	7.0	0.0	3.5	6.8	0.0	0.0	0.0	10.4	0.0	5.7
Cycle Q Clear(g_c), s	4.4	0.0	7.0	0.0	3.5	6.8	0.1	0.0	0.0	10.5	0.0	5.7
Prop In Lane	1.00		0.01	1.00		1.00	0.17		0.50	1.00		0.95
Lane Grp Cap(c), veh/h	231	0	655	4	417	354	654	0	0	673	0	538
V/C Ratio(X)	0.79	0.00	0.57	0.49	0.41	0.75	0.01	0.00	0.00	0.59	0.00	0.49
Avail Cap(c_a), veh/h	364	0	806	243	680	576	946	0	0	949	0	834
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.7	0.0	10.8	21.1	13.8	15.1	9.0	0.0	0.0	12.4	0.0	10.8
Incr Delay (d2), s/veh	5.9	0.0	0.8	71.5	0.7	3.1	0.0	0.0	0.0	0.8	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.8	0.1	1.0	1.9	0.0	0.0	0.0	2.9	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.6	0.0	11.6	92.6	14.5	18.3	9.0	0.0	0.0	13.2	0.0	11.5
LnGrp LOS	C	A	B	F	B	B	A	A	A	B	A	B
Approach Vol, veh/h		555			439			6			660	
Approach Delay, s/veh		15.5			17.1			9.0			12.5	
Approach LOS		B			B			A			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		18.8	4.1	19.4		18.8	9.7	13.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		23.0	6.0	19.0		23.0	9.0	16.0				
Max Q Clear Time (g_c+I1), s		2.1	2.0	9.0		12.5	6.4	8.8				
Green Ext Time (p_c), s		0.0	0.0	1.3		2.3	0.1	1.0				

Intersection Summary												
HCM 6th Ctrl Delay			14.7									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	1038.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	167	341	2	77	159	243	1	2	3	615	11	231
Future Vol, veh/h	167	341	2	77	159	243	1	2	3	615	11	231
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	182	371	2	84	173	264	1	2	3	668	12	251

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	437	0	0	373	0	0	1341	1341	372	1212	1210	305
Stage 1	-	-	-	-	-	-	736	736	-	473	473	-
Stage 2	-	-	-	-	-	-	605	605	-	739	737	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1134	-	-	1197	-	-	131	154	678	~ 160	184	740
Stage 1	-	-	-	-	-	-	414	428	-	~ 576	562	-
Stage 2	-	-	-	-	-	-	488	491	-	~ 412	428	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1134	-	-	1197	-	-	64	111	678	~ 123	133	740
Mov Cap-2 Maneuver	-	-	-	-	-	-	64	111	-	~ 123	133	-
Stage 1	-	-	-	-	-	-	330	342	-	~ 460	508	-
Stage 2	-	-	-	-	-	-	285	444	-	~ 325	342	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.9	1.3	28.8	$ 2241
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	158	1134	-	-	1197	-	-	159
HCM Lane V/C Ratio	0.041	0.16	-	-	0.07	-	-	5.859
HCM Control Delay (s)	28.8	8.8	0	-	8.2	0	-	$ 2241
HCM Lane LOS	D	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.1	0.6	-	-	0.2	-	-	100.1

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	167	341	2	77	159	243	1	2	3	615	11	231
Future Volume (veh/h)	167	341	2	77	159	243	1	2	3	615	11	231
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	182	371	2	84	173	264	1	2	3	668	12	251
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	214	468	3	104	331	296	154	305	408	802	37	773
Arrive On Green	0.13	0.26	0.26	0.06	0.19	0.19	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	1619	1789	10	1619	1710	1525	195	578	773	1354	70	1466
Grp Volume(v), veh/h	182	0	373	84	173	264	6	0	0	668	0	263
Grp Sat Flow(s),veh/h/ln	1619	0	1798	1619	1710	1525	1546	0	0	1354	0	1536
Q Serve(g_s), s	9.0	0.0	15.8	4.2	7.4	13.8	0.0	0.0	0.0	37.5	0.0	8.0
Cycle Q Clear(g_c), s	9.0	0.0	15.8	4.2	7.4	13.8	0.1	0.0	0.0	37.6	0.0	8.0
Prop In Lane	1.00		0.01	1.00		1.00	0.17		0.50	1.00		0.95
Lane Grp Cap(c), veh/h	214	0	470	104	331	296	867	0	0	802	0	810
V/C Ratio(X)	0.85	0.00	0.79	0.81	0.52	0.89	0.01	0.00	0.00	0.83	0.00	0.32
Avail Cap(c_a), veh/h	218	0	470	119	335	298	1013	0	0	933	0	958
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.7	0.0	28.1	37.7	29.6	32.1	9.2	0.0	0.0	18.0	0.0	11.0
Incr Delay (d2), s/veh	25.7	0.0	9.0	29.0	1.4	26.7	0.0	0.0	0.0	5.8	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	7.2	2.4	2.9	6.8	0.0	0.0	0.0	11.9	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.3	0.0	37.1	66.7	31.0	58.9	9.2	0.0	0.0	23.8	0.0	11.3
LnGrp LOS	E	A	D	E	C	E	A	A	A	C	A	B
Approach Vol, veh/h		555			521			6			931	
Approach Delay, s/veh		44.7			50.9			9.2			20.2	
Approach LOS		D			D			A			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	47.1	9.3	25.4	47.1	14.8	19.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	51.0	6.0	21.0	51.0	11.0	16.0
Max Q Clear Time (g_c+I1), s	2.1	6.2	17.8	39.6	11.0	15.8
Green Ext Time (p_c), s	0.0	0.0	0.6	3.5	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	34.9
HCM 6th LOS	C

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : I-15 NB RAMPS
CONDITION : PM PEAK HOUR

INTERSECTION : 6
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	2		4		6		8	10	12	14	16	18
STODDARD WELLS RD												
EB LEFT	234	15	249	0	249	0	249	249	182	182	182	182
EB THRU	53	4	57	0	57	22	79	79.00	164	164.00	186	186.00
EB RIGHT	1	1	2	0	2	0	2	2.00	1	1	1	1
WB LEFT	4	1	5	233	238	0	5	238	10	243	10	243
WB THRU	292	18	310	0	310	236	546	546	537	537	773	773
WB RIGHT	60	4	64	0	64	0	64	64	153	153	153	153
I-15 NB RAMPS												
NB LEFT	1	1	2	0	2	0	2	2	1	1	1	1
NB THRU	3	1	4	0	4	0	4	4	2	2	2	2
NB RIGHT	1	1	2	0	2	0	2	2	3	3	3	3
SB LEFT	17	2	19	91	110	70	89	180	166	257	236	327
SB THRU	1	1	2	0	2	0	2	2	3	3	3	3
SB RIGHT	137	9	146	0	146	0	146	146	242	242	242	242
TOTALS	**804**	**58**	**862**	**324**	**1186**	**328**	**1190**	**1514**	**1464**	**1788**	**1792**	**2116**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : I-15 NB RAMPS
CONDITION : PM PEAK HOUR
PHF : 0.89

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
19	0	4	0	0	0	1	0	0	0	0	0
19	0	4	0	0	0	0	0	0	0	0	0
64	0	5	0	0	0	0	0	0	0	0	0
32	0	4	0	0	0	0	0	0	0	0	0

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

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
17	74	0	0	0	0	0	0	0	0	0	0
14	81	0	0	0	0	0	0	0	0	0	0
12	57	1	0	0	0	0	0	0	0	0	0
17	78	3	0	0	0	0	0	0	0	0	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	8	50	0	0	0	0	0	1	0	2	2
0	9	48	0	0	0	0	0	0	0	0	0
0	10	52	0	0	0	0	0	0	0	0	0
1	17	64	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
STODDARD WELLS RD					
EB LEFT	3	214	**217**	**222**	**234**
EB THRU	2	44	**46**	**50**	**53**
EB RIGHT	0	1	**1**	**1**	**1**
WB LEFT	0	4	**4**	**4**	**4**
WB THRU	0	290	**290**	**290**	**292**
WB RIGHT	0	60	**60**	**60**	**60**
I-15 NB RAMPS					
NB LEFT	0	0	**1**	**1**	**1**
NB THRU	0	3	**3**	**3**	**3**
NB RIGHT	0	0	**1**	**1**	**1**
SB LEFT	0	17	**17**	**17**	**17**
SB THRU	0	0	**1**	**1**	**1**
SB RIGHT	1	134	**135**	**136**	**137**

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	234	53	1	4	292	60	1	3	1	17	1	137
Future Vol, veh/h	234	53	1	4	292	60	1	3	1	17	1	137
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	263	60	1	4	328	67	1	3	1	19	1	154

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	395	0	0	61	0	0	1034	990	61	959	957	362
Stage 1	-	-	-	-	-	-	587	587	-	370	370	-
Stage 2	-	-	-	-	-	-	447	403	-	589	587	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1175	-	-	1555	-	-	212	248	1010	239	260	687
Stage 1	-	-	-	-	-	-	499	500	-	654	624	-
Stage 2	-	-	-	-	-	-	595	603	-	498	500	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1175	-	-	1555	-	-	134	190	1010	193	199	687
Mov Cap-2 Maneuver	-	-	-	-	-	-	134	190	-	193	199	-
Stage 1	-	-	-	-	-	-	383	384	-	502	622	-
Stage 2	-	-	-	-	-	-	459	601	-	379	384	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	7.3	0.1	23	15.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	206	1175	-	-	1555	-	-	530
HCM Lane V/C Ratio	0.027	0.224	-	-	0.003	-	-	0.329
HCM Control Delay (s)	23	8.9	0	-	7.3	0	-	15.1
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0.9	-	-	0	-	-	1.4

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	249	57	2	5	310	64	2	4	2	19	2	146
Future Vol, veh/h	249	57	2	5	310	64	2	4	2	19	2	146
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	280	64	2	6	348	72	2	4	2	21	2	164

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	420	0	0	66	0	0	1104	1057	65	1024	1022	384
Stage 1	-	-	-	-	-	-	625	625	-	396	396	-
Stage 2	-	-	-	-	-	-	479	432	-	628	626	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1150	-	-	1549	-	-	190	227	1005	216	238	668
Stage 1	-	-	-	-	-	-	476	480	-	633	607	-
Stage 2	-	-	-	-	-	-	571	586	-	474	480	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1150	-	-	1549	-	-	114	169	1005	170	177	668
Mov Cap-2 Maneuver	-	-	-	-	-	-	114	169	-	170	177	-
Stage 1	-	-	-	-	-	-	356	359	-	473	604	-
Stage 2	-	-	-	-	-	-	427	583	-	349	359	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	7.4	0.1	25.5	16.9
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	185	1150	-	-	1549	-	-	489
HCM Lane V/C Ratio	0.049	0.243	-	-	0.004	-	-	0.384
HCM Control Delay (s)	25.5	9.1	0	-	7.3	0	-	16.9
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	1	-	-	0	-	-	1.8

Intersection	
Int Delay, s/veh	152.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	249	57	2	238	310	64	2	4	2	110	2	146
Future Vol, veh/h	249	57	2	238	310	64	2	4	2	110	2	146
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	280	64	2	267	348	72	2	4	2	124	2	164

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	420	0	0	66	0	0	1626	1579	65	1546	1544	384
Stage 1	-	-	-	-	-	-	625	625	-	918	918	-
Stage 2	-	-	-	-	-	-	1001	954	-	628	626	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1150	-	-	1549	-	-	83	110	1005	~ 94	116	668
Stage 1	-	-	-	-	-	-	476	480	-	328	353	-
Stage 2	-	-	-	-	-	-	295	340	-	474	480	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1150	-	-	1549	-	-	41	63	1005	~ 60	67	668
Mov Cap-2 Maneuver	-	-	-	-	-	-	41	63	-	~ 60	67	-
Stage 1	-	-	-	-	-	-	356	359	-	245	273	-
Stage 2	-	-	-	-	-	-	171	263	-	349	359	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	7.4	3	63.9	$ 683.1
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	70	1150	-	-	1549	-	-	124
HCM Lane V/C Ratio	0.128	0.243	-	-	0.173	-	-	2.338
HCM Control Delay (s)	63.9	9.1	0	-	7.8	0	-	$ 683.1
HCM Lane LOS	F	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.4	1	-	-	0.6	-	-	25.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	52.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	249	79	2	5	546	64	2	4	2	89	2	146
Future Vol, veh/h	249	79	2	5	546	64	2	4	2	89	2	146
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	280	89	2	6	613	72	2	4	2	100	2	164

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	685	0	0	91	0	0	1394	1347	90	1314	1312	649
Stage 1	-	-	-	-	-	-	650	650	-	661	661	-
Stage 2	-	-	-	-	-	-	744	697	-	653	651	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	918	-	-	1517	-	-	120	152	973	136	160	473
Stage 1	-	-	-	-	-	-	461	468	-	455	463	-
Stage 2	-	-	-	-	-	-	410	446	-	460	468	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	918	-	-	1517	-	-	58	103	973	~ 98	108	473
Mov Cap-2 Maneuver	-	-	-	-	-	-	58	103	-	~ 98	108	-
Stage 1	-	-	-	-	-	-	313	318	-	309	460	-
Stage 2	-	-	-	-	-	-	265	443	-	307	318	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8	0.1	42.1	249.7
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	106	918	-	-	1517	-	-	192
HCM Lane V/C Ratio	0.085	0.305	-	-	0.004	-	-	1.387
HCM Control Delay (s)	42.1	10.6	0	-	7.4	0	-	249.7
HCM Lane LOS	E	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.3	1.3	-	-	0	-	-	15.7

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	20.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	249	79	2	5	546	64	2	4	2	89	2	146
Future Vol, veh/h	249	79	2	5	546	64	2	4	2	89	2	146
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	280	89	2	6	613	72	2	4	2	100	2	164
Number of Lanes	1	1	0	1	2	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	3	2
HCM Control Delay	19.2	23.3	11.6	13.4
HCM LOS	C	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	25%	100%	0%	100%	0%	0%	98%	0%
Vol Thru, %	50%	0%	98%	0%	100%	74%	2%	0%
Vol Right, %	25%	0%	2%	0%	0%	26%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	249	81	5	364	246	91	146
LT Vol	2	249	0	5	0	0	89	0
Through Vol	4	0	79	0	364	182	2	0
RT Vol	2	0	2	0	0	64	0	146
Lane Flow Rate	9	280	91	6	409	276	102	164
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.022	0.604	0.183	0.011	0.769	0.505	0.235	0.323
Departure Headway (Hd)	8.674	7.767	7.24	7.276	6.768	6.583	8.29	7.081
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	412	464	496	495	540	550	434	509
Service Time	6.434	5.508	4.981	4.976	4.468	4.283	6.034	4.825
HCM Lane V/C Ratio	0.022	0.603	0.183	0.012	0.757	0.502	0.235	0.322
HCM Control Delay	11.6	21.7	11.6	10.1	28.5	15.8	13.6	13.2
HCM Lane LOS	B	C	B	B	D	C	B	B
HCM 95th-tile Q	0.1	3.9	0.7	0	6.9	2.8	0.9	1.4

Intersection	
Int Delay, s/veh	590.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	249	79	2	238	546	64	2	4	2	180	2	146
Future Vol, veh/h	249	79	2	238	546	64	2	4	2	180	2	146
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	280	89	2	267	613	72	2	4	2	202	2	164

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	685	0	0	91	0	0	1916	1869	90	1836	1834	649
Stage 1	-	-	-	-	-	-	650	650	-	1183	1183	-
Stage 2	-	-	-	-	-	-	1266	1219	-	653	651	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	918	-	-	1517	-	-	52	73	973	~ 59	77	473
Stage 1	-	-	-	-	-	-	461	468	-	233	265	-
Stage 2	-	-	-	-	-	-	209	255	-	460	468	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	918	-	-	1517	-	-	19	35	973	~ 32	37	473
Mov Cap-2 Maneuver	-	-	-	-	-	-	19	35	-	~ 32	37	-
Stage 1	-	-	-	-	-	-	313	318	-	~ 158	189	-
Stage 2	-	-	-	-	-	-	96	182	-	307	318	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8	2.2	135.5	$ 2710.5
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	36	918	-	-	1517	-	-	55
HCM Lane V/C Ratio	0.25	0.305	-	-	0.176	-	-	6.701
HCM Control Delay (s)	135.5	10.6	0	-	7.9	0	-	$ 2710.5
HCM Lane LOS	F	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.8	1.3	-	-	0.6	-	-	42.4

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	65.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	249	79	2	238	546	64	2	4	2	180	2	146
Future Vol, veh/h	249	79	2	238	546	64	2	4	2	180	2	146
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	280	89	2	267	613	72	2	4	2	202	2	164
Number of Lanes	1	1	0	1	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay	18.7	103.9	12	15.5
HCM LOS	C	F	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	25%	100%	0%	100%	0%	100%	0%
Vol Thru, %	50%	0%	98%	0%	90%	0%	1%
Vol Right, %	25%	0%	2%	0%	10%	0%	99%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	249	81	238	610	180	148
LT Vol	2	249	0	238	0	180	0
Through Vol	4	0	79	0	546	0	2
RT Vol	2	0	2	0	64	0	146
Lane Flow Rate	9	280	91	267	685	202	166
Geometry Grp	6	7	7	7	7	7	7
Degree of Util (X)	0.021	0.584	0.177	0.521	1.224	0.447	0.313
Departure Headway (Hd)	8.793	7.858	7.327	7.013	6.429	8.329	7.108
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	410	462	492	513	569	435	509
Service Time	6.793	5.558	5.027	4.755	4.171	6.029	4.808
HCM Lane V/C Ratio	0.022	0.606	0.185	0.52	1.204	0.464	0.326
HCM Control Delay	12	21	11.6	17.2	137.7	17.6	13
HCM Lane LOS	B	C	B	C	F	C	B
HCM 95th-tile Q	0.1	3.7	0.6	3	25.6	2.3	1.3

Intersection	
Int Delay, s/veh	192.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	182	164	1	10	537	153	1	2	3	166	3	242
Future Vol, veh/h	182	164	1	10	537	153	1	2	3	166	3	242
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	204	184	1	11	603	172	1	2	3	187	3	272

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	775	0	0	185	0	0	1442	1390	185	1306	1304	689
Stage 1	-	-	-	-	-	-	593	593	-	711	711	-
Stage 2	-	-	-	-	-	-	849	797	-	595	593	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	850	-	-	1402	-	-	111	144	862	~ 138	162	449
Stage 1	-	-	-	-	-	-	496	497	-	427	439	-
Stage 2	-	-	-	-	-	-	358	401	-	494	497	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	850	-	-	1402	-	-	34	104	862	~ 106	117	449
Mov Cap-2 Maneuver	-	-	-	-	-	-	34	104	-	~ 106	117	-
Stage 1	-	-	-	-	-	-	363	364	-	313	433	-
Stage 2	-	-	-	-	-	-	138	395	-	358	364	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.5	0.1	38.2	$ 680.9
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	115	850	-	-	1402	-	-	193
HCM Lane V/C Ratio	0.059	0.241	-	-	0.008	-	-	2.393
HCM Control Delay (s)	38.2	10.6	0	-	7.6	0	-	$ 680.9
HCM Lane LOS	E	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.2	0.9	-	-	0	-	-	38.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1100.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	182	164	1	243	537	153	1	2	3	257	3	242
Future Vol, veh/h	182	164	1	243	537	153	1	2	3	257	3	242
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	204	184	1	273	603	172	1	2	3	289	3	272

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	775	0	0	185	0	0	1966	1914	185	1830	1828	689
Stage 1	-	-	-	-	-	-	593	593	-	1235	1235	-
Stage 2	-	-	-	-	-	-	1373	1321	-	595	593	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	850	-	-	1402	-	-	48	69	862	~ 60	78	449
Stage 1	-	-	-	-	-	-	496	497	-	~ 218	251	-
Stage 2	-	-	-	-	-	-	182	228	-	494	497	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	850	-	-	1402	-	-	10	33	862	~ 33	37	449
Mov Cap-2 Maneuver	-	-	-	-	-	-	10	33	-	~ 33	37	-
Stage 1	-	-	-	-	-	-	363	364	-	~ 160	162	-
Stage 2	-	-	-	-	-	-	45	147	-	358	364	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.5	2.1	122.8	$ 3911.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	37	850	-	-	1402	-	-	60
HCM Lane V/C Ratio	0.182	0.241	-	-	0.195	-	-	9.401
HCM Control Delay (s)	122.8	10.6	0	-	8.2	0	-	$ 3911.3
HCM Lane LOS	F	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.6	0.9	-	-	0.7	-	-	66.2

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	536.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	182	186	1	10	773	153	1	2	3	236	3	242
Future Vol, veh/h	182	186	1	10	773	153	1	2	3	236	3	242
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	204	209	1	11	869	172	1	2	3	265	3	272

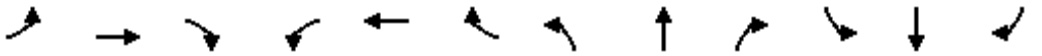
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1041	0	0	210	0	0	1733	1681	210	1597	1595	955
Stage 1	-	-	-	-	-	-	618	618	-	977	977	-
Stage 2	-	-	-	-	-	-	1115	1063	-	620	618	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	676	-	-	1373	-	-	70	96	835	~ 87	108	316
Stage 1	-	-	-	-	-	-	480	484	-	304	332	-
Stage 2	-	-	-	-	-	-	255	302	-	479	484	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	676	-	-	1373	-	-	7	62	835	~ 61	70	316
Mov Cap-2 Maneuver	-	-	-	-	-	-	7	62	-	~ 61	70	-
Stage 1	-	-	-	-	-	-	316	318	-	~ 200	325	-
Stage 2	-	-	-	-	-	-	35	296	-	312	318	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	6.2	0.1	135.4	$ 1993.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	34	676	-	-	1373	-	-	103
HCM Lane V/C Ratio	0.198	0.303	-	-	0.008	-	-	5.247
HCM Control Delay (s)	135.4	12.6	0	-	7.6	0	-	$ 1993.4
HCM Lane LOS	F	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.6	1.3	-	-	0	-	-	58.2

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	186	1	10	773	153	1	2	3	236	3	242
Future Volume (veh/h)	182	186	1	10	773	153	1	2	3	236	3	242
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	204	209	1	11	869	172	1	2	3	265	3	272
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	229	905	4	19	690	585	102	172	203	424	5	428
Arrive On Green	0.13	0.51	0.51	0.01	0.38	0.38	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1714	1790	9	1714	1800	1525	112	607	718	1434	17	1511
Grp Volume(v), veh/h	204	0	210	11	869	172	6	0	0	265	0	275
Grp Sat Flow(s),veh/h/ln	1714	0	1798	1714	1800	1525	1437	0	0	1434	0	1528
Q Serve(g_s), s	7.0	0.0	3.9	0.4	23.0	4.7	0.0	0.0	0.0	5.5	0.0	9.4
Cycle Q Clear(g_c), s	7.0	0.0	3.9	0.4	23.0	4.7	9.4	0.0	0.0	15.0	0.0	9.4
Prop In Lane	1.00		0.00	1.00		1.00	0.17		0.50	1.00		0.99
Lane Grp Cap(c), veh/h	229	0	910	19	690	585	477	0	0	424	0	432
V/C Ratio(X)	0.89	0.00	0.23	0.57	1.26	0.29	0.01	0.00	0.00	0.62	0.00	0.64
Avail Cap(c_a), veh/h	229	0	910	429	690	585	477	0	0	425	0	433
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.6	0.0	8.3	29.5	18.5	12.8	15.5	0.0	0.0	21.8	0.0	18.8
Incr Delay (d2), s/veh	32.4	0.0	0.1	24.3	128.0	0.3	0.0	0.0	0.0	2.8	0.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	1.3	0.3	32.8	1.5	0.1	0.0	0.0	3.7	0.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.0	0.0	8.4	53.9	146.5	13.1	15.5	0.0	0.0	24.7	0.0	21.9
LnGrp LOS	E	A	A	D	F	B	B	A	A	C	A	C
Approach Vol, veh/h		414			1052			6			540	
Approach Delay, s/veh		32.8			123.7			15.5			23.2	
Approach LOS		C			F			B			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		21.0	4.7	34.3		21.0	12.0	27.0				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		17.0	15.0	16.0		17.0	8.0	23.0				
Max Q Clear Time (g_c+I1), s		11.4	2.4	5.9		17.0	9.0	25.0				
Green Ext Time (p_c), s		0.0	0.0	0.8		0.0	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			77.7									
HCM 6th LOS			E									

Intersection	
Int Delay, s/veh	3089.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	182	186	1	243	773	153	1	2	3	327	3	242
Future Vol, veh/h	182	186	1	243	773	153	1	2	3	327	3	242
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	204	209	1	273	869	172	1	2	3	367	3	272

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1041	0	0	210	0	0	2257	2205	210	2121	2119	955
Stage 1	-	-	-	-	-	-	618	618	-	1501	1501	-
Stage 2	-	-	-	-	-	-	1639	1587	-	620	618	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	676	-	-	1373	-	-	30	45	835	~ 37	51	316
Stage 1	-	-	-	-	-	-	480	484	-	~ 154	187	-
Stage 2	-	-	-	-	-	-	128	170	-	479	484	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	676	-	-	1373	-	-	2	15	835	~ 15	17	316
Mov Cap-2 Maneuver	-	-	-	-	-	-	2	15	-	~ 15	17	-
Stage 1	-	-	-	-	-	-	316	318	-	~ 101	95	-
Stage 2	-	-	-	-	-	-	9	86	-	~ 312	318	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	6.2	1.7	$ 720	$ 11415.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	9	676	-	-	1373	-	-	25
HCM Lane V/C Ratio	0.749	0.303	-	-	0.199	-	-	25.708
HCM Control Delay (s)	$ 720	12.6	0	-	8.3	0	$	11415.4
HCM Lane LOS	F	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	1.5	1.3	-	-	0.7	-	-	80.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	186	1	243	773	153	1	2	3	327	3	242
Future Volume (veh/h)	182	186	1	243	773	153	1	2	3	327	3	242
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	204	209	1	273	869	172	1	2	3	367	3	272
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	238	530	3	313	973	193	108	208	266	484	6	556
Arrive On Green	0.15	0.30	0.30	0.19	0.34	0.34	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1619	1790	9	1619	2846	563	157	565	722	1354	17	1511
Grp Volume(v), veh/h	204	0	210	273	522	519	6	0	0	367	0	275
Grp Sat Flow(s),veh/h/ln	1619	0	1798	1619	1710	1699	1445	0	0	1354	0	1528
Q Serve(g_s), s	10.3	0.0	7.8	13.7	24.2	24.3	0.0	0.0	0.0	16.5	0.0	11.6
Cycle Q Clear(g_c), s	10.3	0.0	7.8	13.7	24.2	24.3	11.6	0.0	0.0	28.2	0.0	11.6
Prop In Lane	1.00		0.00	1.00		0.33	0.17		0.50	1.00		0.99
Lane Grp Cap(c), veh/h	238	0	532	313	585	581	581	0	0	484	0	562
V/C Ratio(X)	0.86	0.00	0.39	0.87	0.89	0.89	0.01	0.00	0.00	0.76	0.00	0.49
Avail Cap(c_a), veh/h	290	0	532	483	632	628	602	0	0	503	0	583
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.9	0.0	23.5	32.8	26.1	26.1	16.9	0.0	0.0	27.9	0.0	20.4
Incr Delay (d2), s/veh	18.7	0.0	0.5	10.6	14.3	14.4	0.0	0.0	0.0	6.4	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.0	3.0	5.8	10.8	10.8	0.1	0.0	0.0	7.8	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.6	0.0	24.0	43.4	40.5	40.6	16.9	0.0	0.0	34.3	0.0	21.1
LnGrp LOS	D	A	C	D	D	D	B	A	A	C	A	C
Approach Vol, veh/h		414			1314			6			642	
Approach Delay, s/veh		38.6			41.1			16.9			28.6	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	34.8	20.2	28.8	34.8	16.3	32.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	32.0	25.0	21.0	32.0	15.0	31.0
Max Q Clear Time (g_c+I1), s	13.6	15.7	9.8	30.2	12.3	26.3
Green Ext Time (p_c), s	0.0	0.5	0.7	0.6	0.1	2.4

Intersection Summary	
HCM 6th Ctrl Delay	37.2
HCM 6th LOS	D

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

Intersection No.: 6
North/South Street: I-15 NB RAMPS
East/West Street: STODDARD WELLS RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	1	Approach	4	Left	0	1
NB	Through	2	Departure	14	Through	1	2
	Right	1			Right	3	3
North leg	Left	1	Approach	408	Left	174	174
SB	Through	1	Departure	410	Through	11	11
	Right	46			Right	231	231
West leg	Left	299	Approach	438	Left	166	167
EB	Through	85	Departure	313	Through	279	280
	Right	9			Right	2	2
East leg	Left	1	Approach	319	Left	1	2
WB	Through	131	Departure	456	Through	82	82
	Right	66			Right	243	243

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	1	Approach	5	Left	0	1
NB	Through	3	Departure	13	Through	2	2
	Right	1			Right	3	3
North leg	Left	17	Approach	401	Left	165	166
SB	Through	1	Departure	336	Through	2	3
	Right	137			Right	242	242
West leg	Left	234	Approach	338	Left	181	182
EB	Through	53	Departure	779	Through	163	164
	Right	1			Right	1	1
East leg	Left	4	Approach	686	Left	10	10
WB	Through	292	Departure	331	Through	537	537
	Right	60			Right	153	153

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : QUARRY RD
CONDITION : AM PEAK HOUR

INTERSECTION : 7
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	1		3		5		7	9	11	13	15	17
STODDARD WELLS RD												
EB LEFT	131	8	139	0	139	0	139	139	140	140	140	140
EB THRU	264	16	280	0	280	61	341	341	294	294	355	355
EB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
WB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
WB THRU	25	2	27	0	27	0	27	27	36	36	36	36
WB RIGHT	153	10	163	75	238	77	240	315	278	353	355	430
QUARRY RD												
NB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
NB THRU	0	0	0	0	0	0	0	0	0	0	0	0
NB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
SB LEFT	129	8	137	0	137	0	137	137	155	155	155	155
SB THRU	0	0	0	0	0	0	0	0	0	0	0	0
SB RIGHT	50	3	53	0	53	0	53	53	46	46	46	46
TOTALS	**752**	**47**	**799**	**75**	**874**	**138**	**937**	**1012**	**949**	**1024**	**1087**	**1162**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : QUARRY RD
CONDITION : AM PEAK HOUR
PHF : 0.92

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
6	0	9	0	0	0	0	0	0	0	0	2
4	0	41	0	0	1	0	0	0	1	0	2
12	0	28	0	0	0	0	0	1	2	0	0
13	0	22	2	0	1	0	0	0	0	0	1

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

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
28	5	0	1	1	0	0	0	0	0	0	0
33	4	0	0	1	0	0	0	0	1	0	0
46	10	0	0	0	0	0	1	0	0	0	0
32	4	0	0	0	0	0	0	0	0	0	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	91	27	0	2	0	0	0	0	0	2	0
0	36	33	0	3	0	0	1	0	0	4	0
0	47	31	0	1	0	0	3	0	0	3	0
0	42	40	0	1	0	0	1	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
STODDARD WELLS RD					
EB LEFT	0	131	**131**	**131**	**131**
EB THRU	21	216	**237**	**264**	**264**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	0	0	**0**	**0**	**0**
WB THRU	3	23	**26**	**25**	**25**
WB RIGHT	2	139	**141**	**153**	**153**
QUARRY RD					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	0	0	**0**	**0**	**0**
NB RIGHT	0	0	**0**	**0**	**0**
SB LEFT	8	100	**108**	**120**	**129**
SB THRU	0	0	**0**	**0**	**0**
SB RIGHT	5	35	**40**	**47**	**50**

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	131	264	25	153	129	50
Future Vol, veh/h	131	264	25	153	129	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	142	287	27	166	140	54

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	27	0	-	0	598	27
Stage 1	-	-	-	-	27	-
Stage 2	-	-	-	-	571	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1600	-	-	0	468	1054
Stage 1	-	-	-	0	1001	-
Stage 2	-	-	-	0	569	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1600	-	-	-	418	1054
Mov Cap-2 Maneuver	-	-	-	-	418	-
Stage 1	-	-	-	-	895	-
Stage 2	-	-	-	-	569	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	16.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1600	-	-	503
HCM Lane V/C Ratio	0.089	-	-	0.387
HCM Control Delay (s)	7.5	0	-	16.6
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.3	-	-	1.8

Intersection	
Int Delay, s/veh	7.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	139	280	27	163	137	53
Future Vol, veh/h	139	280	27	163	137	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	151	304	29	177	149	58

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	29	0	-	0	635	29
Stage 1	-	-	-	-	29	-
Stage 2	-	-	-	-	606	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1597	-	-	0	446	1052
Stage 1	-	-	-	0	999	-
Stage 2	-	-	-	0	548	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1597	-	-	-	395	1052
Mov Cap-2 Maneuver	-	-	-	-	395	-
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	548	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	18.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1597	-	-	478
HCM Lane V/C Ratio	0.095	-	-	0.432
HCM Control Delay (s)	7.5	0	-	18.1
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.3	-	-	2.1

Intersection	
Int Delay, s/veh	7.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	139	280	27	238	137	53
Future Vol, veh/h	139	280	27	238	137	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	151	304	29	259	149	58

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	29	0	-	0	635	29
Stage 1	-	-	-	-	29	-
Stage 2	-	-	-	-	606	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1597	-	-	0	446	1052
Stage 1	-	-	-	0	999	-
Stage 2	-	-	-	0	548	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1597	-	-	-	395	1052
Mov Cap-2 Maneuver	-	-	-	-	395	-
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	548	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	18.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1597	-	-	478
HCM Lane V/C Ratio	0.095	-	-	0.432
HCM Control Delay (s)	7.5	0	-	18.1
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.3	-	-	2.1

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	139	341	27	240	137	53
Future Vol, veh/h	139	341	27	240	137	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	151	371	29	261	149	58

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	29	0	-	0	702	29
Stage 1	-	-	-	-	29	-
Stage 2	-	-	-	-	673	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1597	-	-	0	407	1052
Stage 1	-	-	-	0	999	-
Stage 2	-	-	-	0	511	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1597	-	-	-	359	1052
Mov Cap-2 Maneuver	-	-	-	-	359	-
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	511	-

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	20.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1597	-	-	440
HCM Lane V/C Ratio	0.095	-	-	0.469
HCM Control Delay (s)	7.5	0	-	20.2
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.3	-	-	2.4

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	139	341	27	315	137	53
Future Vol, veh/h	139	341	27	315	137	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	151	371	29	342	149	58

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	29	0	-	0	702	29
Stage 1	-	-	-	-	29	-
Stage 2	-	-	-	-	673	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1597	-	-	0	407	1052
Stage 1	-	-	-	0	999	-
Stage 2	-	-	-	0	511	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1597	-	-	-	359	1052
Mov Cap-2 Maneuver	-	-	-	-	359	-
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	511	-

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	20.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1597	-	-	440
HCM Lane V/C Ratio	0.095	-	-	0.469
HCM Control Delay (s)	7.5	0	-	20.2
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.3	-	-	2.4

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	140	294	36	278	155	46
Future Vol, veh/h	140	294	36	278	155	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	152	320	39	302	168	50

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	39	0	-	0	663	39
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	624	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1584	-	-	0	429	1038
Stage 1	-	-	-	0	989	-
Stage 2	-	-	-	0	538	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1584	-	-	-	379	1038
Mov Cap-2 Maneuver	-	-	-	-	379	-
Stage 1	-	-	-	-	873	-
Stage 2	-	-	-	-	538	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	20.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1584	-	-	443
HCM Lane V/C Ratio	0.096	-	-	0.493
HCM Control Delay (s)	7.5	0	-	20.8
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.3	-	-	2.7

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	140	294	36	353	155	46
Future Vol, veh/h	140	294	36	353	155	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	152	320	39	384	168	50

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	39	0	-	0	663	39
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	624	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1584	-	-	0	429	1038
Stage 1	-	-	-	0	989	-
Stage 2	-	-	-	0	538	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1584	-	-	-	379	1038
Mov Cap-2 Maneuver	-	-	-	-	379	-
Stage 1	-	-	-	-	873	-
Stage 2	-	-	-	-	538	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	20.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1584	-	-	443
HCM Lane V/C Ratio	0.096	-	-	0.493
HCM Control Delay (s)	7.5	0	-	20.8
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.3	-	-	2.7

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	140	355	36	355	155	46
Future Vol, veh/h	140	355	36	355	155	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	152	386	39	386	168	50

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	39	0	-	0	729	39
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	690	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1584	-	-	0	393	1038
Stage 1	-	-	-	0	989	-
Stage 2	-	-	-	0	502	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1584	-	-	-	345	1038
Mov Cap-2 Maneuver	-	-	-	-	345	-
Stage 1	-	-	-	-	868	-
Stage 2	-	-	-	-	502	-

Approach	EB	WB	SB
HCM Control Delay, s	2.1	0	23.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1584	-	-	407
HCM Lane V/C Ratio	0.096	-	-	0.537
HCM Control Delay (s)	7.5	0	-	23.6
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.3	-	-	3.1

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	140	355	36	430	155	46
Future Vol, veh/h	140	355	36	430	155	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	152	386	39	467	168	50

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	39	0	-	0	729	39
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	690	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1584	-	-	0	393	1038
Stage 1	-	-	-	0	989	-
Stage 2	-	-	-	0	502	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1584	-	-	-	345	1038
Mov Cap-2 Maneuver	-	-	-	-	345	-
Stage 1	-	-	-	-	868	-
Stage 2	-	-	-	-	502	-

Approach	EB	WB	SB
HCM Control Delay, s	2.1	0	23.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1584	-	-	407
HCM Lane V/C Ratio	0.096	-	-	0.537
HCM Control Delay (s)	7.5	0	-	23.6
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.3	-	-	3.1

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : QUARRY RD
CONDITION : PM PEAK HOUR

INTERSECTION : 7
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	2		4		6		8	10	12	14	16	18
STODDARD WELLS RD												
EB LEFT	67	5	72	0	72	0	72	72	78	78	78	78
EB THRU	227	14	241	0	241	22	263	263.00	257	257.00	279	279.00
EB RIGHT	0	0	0	0	0	0	0	0.00	0	0	0	0
WB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
WB THRU	179	11	190	0	190	0	190	190	204	204	204	204
WB RIGHT	251	16	267	233	500	236	503	736	576	809	812	1045
QUARRY RD												
NB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
NB THRU	0	0	0	0	0	0	0	0	0	0	0	0
NB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
SB LEFT	61	4	65	0	65	0	65	65	90	90	90	90
SB THRU	0	0	0	0	0	0	0	0	0	0	0	0
SB RIGHT	94	6	100	0	100	0	100	100	80	80	80	80
TOTALS	**879**	**56**	**935**	**233**	**1168**	**258**	**1193**	**1426**	**1285**	**1518**	**1543**	**1776**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : QUARRY RD
CONDITION : PM PEAK HOUR
PHF : 0.92

NORTH LEG

AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
13	0	7	1	0	0	2	0	0	0	0	1
14	0	13	1	0	0	0	0	0	4	0	0
10	0	7	0	0	0	0	0	0	0	0	0
11	0	16	2	0	0	0	0	0	0	0	0

SOUTH LEG

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

EAST LEG

AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
65	28	0	0	0	0	1	0	0	0	0	0
70	30	0	0	0	0	0	0	0	0	0	0
53	69	0	0	0	0	0	0	0	0	0	0
57	52	0	0	0	0	0	0	0	0	0	0

WEST LEG

AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	51	13	0	0	0	0	1	0	0	3	0
0	44	21	0	0	0	0	0	0	0	0	0
0	55	14	0	0	0	0	0	0	0	0	0
0	66	18	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
STODDARD WELLS RD					
EB LEFT	0	66	**66**	**66**	**67**
EB THRU	4	216	**220**	**227**	**227**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	0	0	**0**	**0**	**0**
WB THRU	0	179	**179**	**179**	**179**
WB RIGHT	1	245	**246**	**247**	**251**
QUARRY RD					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	0	0	**0**	**0**	**0**
NB RIGHT	0	0	**0**	**0**	**0**
SB LEFT	1	43	**44**	**46**	**61**
SB THRU	0	0	**0**	**0**	**0**
SB RIGHT	10	48	**58**	**70**	**94**

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	67	227	179	251	61	94
Future Vol, veh/h	67	227	179	251	61	94
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	73	247	195	273	66	102

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	195	0	-	0	588	195
Stage 1	-	-	-	-	195	-
Stage 2	-	-	-	-	393	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1390	-	-	0	475	851
Stage 1	-	-	-	0	843	-
Stage 2	-	-	-	0	686	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1390	-	-	-	446	851
Mov Cap-2 Maneuver	-	-	-	-	446	-
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	686	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	12.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1390	-	-	627
HCM Lane V/C Ratio	0.052	-	-	0.269
HCM Control Delay (s)	7.7	0	-	12.8
HCM Lane LOS	A	A	-	B
HCM 95th %tile Q(veh)	0.2	-	-	1.1

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	72	241	190	267	65	100
Future Vol, veh/h	72	241	190	267	65	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	78	262	207	290	71	109

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	207	0	-	0	625	207
Stage 1	-	-	-	-	207	-
Stage 2	-	-	-	-	418	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1376	-	-	0	452	839
Stage 1	-	-	-	0	832	-
Stage 2	-	-	-	0	669	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1376	-	-	-	422	839
Mov Cap-2 Maneuver	-	-	-	-	422	-
Stage 1	-	-	-	-	777	-
Stage 2	-	-	-	-	669	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	13.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1376	-	-	604
HCM Lane V/C Ratio	0.057	-	-	0.297
HCM Control Delay (s)	7.8	0	-	13.5
HCM Lane LOS	A	A	-	B
HCM 95th %tile Q(veh)	0.2	-	-	1.2

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	72	241	190	500	65	100
Future Vol, veh/h	72	241	190	500	65	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	78	262	207	543	71	109

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	207	0	-	0	625	207
Stage 1	-	-	-	-	207	-
Stage 2	-	-	-	-	418	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1376	-	-	0	452	839
Stage 1	-	-	-	0	832	-
Stage 2	-	-	-	0	669	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1376	-	-	-	422	839
Mov Cap-2 Maneuver	-	-	-	-	422	-
Stage 1	-	-	-	-	777	-
Stage 2	-	-	-	-	669	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	13.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1376	-	-	604
HCM Lane V/C Ratio	0.057	-	-	0.297
HCM Control Delay (s)	7.8	0	-	13.5
HCM Lane LOS	A	A	-	B
HCM 95th %tile Q(veh)	0.2	-	-	1.2

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	72	263	190	503	65	100
Future Vol, veh/h	72	263	190	503	65	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	78	286	207	547	71	109

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	207	0	-	0	649	207
Stage 1	-	-	-	-	207	-
Stage 2	-	-	-	-	442	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1376	-	-	0	438	839
Stage 1	-	-	-	0	832	-
Stage 2	-	-	-	0	652	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1376	-	-	-	409	839
Mov Cap-2 Maneuver	-	-	-	-	409	-
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	652	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	13.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1376	-	-	593
HCM Lane V/C Ratio	0.057	-	-	0.302
HCM Control Delay (s)	7.8	0	-	13.7
HCM Lane LOS	A	A	-	B
HCM 95th %tile Q(veh)	0.2	-	-	1.3

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	72	263	190	736	65	100
Future Vol, veh/h	72	263	190	736	65	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	78	286	207	800	71	109

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	207	0	-	0	649	207
Stage 1	-	-	-	-	207	-
Stage 2	-	-	-	-	442	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1376	-	-	0	438	839
Stage 1	-	-	-	0	832	-
Stage 2	-	-	-	0	652	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1376	-	-	-	409	839
Mov Cap-2 Maneuver	-	-	-	-	409	-
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	652	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	13.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1376	-	-	593
HCM Lane V/C Ratio	0.057	-	-	0.302
HCM Control Delay (s)	7.8	0	-	13.7
HCM Lane LOS	A	A	-	B
HCM 95th %tile Q(veh)	0.2	-	-	1.3

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	78	257	204	576	90	80
Future Vol, veh/h	78	257	204	576	90	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	85	279	222	626	98	87

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	222	0	-	0	671	222
Stage 1	-	-	-	-	222	-
Stage 2	-	-	-	-	449	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1359	-	-	0	425	823
Stage 1	-	-	-	0	820	-
Stage 2	-	-	-	0	647	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1359	-	-	-	394	823
Mov Cap-2 Maneuver	-	-	-	-	394	-
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	647	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1359	-	-	522
HCM Lane V/C Ratio	0.062	-	-	0.354
HCM Control Delay (s)	7.8	0	-	15.6
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.2	-	-	1.6

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	78	257	204	809	90	80
Future Vol, veh/h	78	257	204	809	90	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	85	279	222	879	98	87

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	222	0	-	0	671	222
Stage 1	-	-	-	-	222	-
Stage 2	-	-	-	-	449	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1359	-	-	0	425	823
Stage 1	-	-	-	0	820	-
Stage 2	-	-	-	0	647	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1359	-	-	-	394	823
Mov Cap-2 Maneuver	-	-	-	-	394	-
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	647	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1359	-	-	522
HCM Lane V/C Ratio	0.062	-	-	0.354
HCM Control Delay (s)	7.8	0	-	15.6
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.2	-	-	1.6

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	78	279	204	812	90	80
Future Vol, veh/h	78	279	204	812	90	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	85	303	222	883	98	87

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	222	0	-	0	695	222
Stage 1	-	-	-	-	222	-
Stage 2	-	-	-	-	473	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1359	-	-	0	411	823
Stage 1	-	-	-	0	820	-
Stage 2	-	-	-	0	631	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1359	-	-	-	380	823
Mov Cap-2 Maneuver	-	-	-	-	380	-
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	631	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	16
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1359	-	-	509
HCM Lane V/C Ratio	0.062	-	-	0.363
HCM Control Delay (s)	7.8	0	-	16
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.2	-	-	1.6

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	78	279	204	1045	90	80
Future Vol, veh/h	78	279	204	1045	90	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	85	303	222	1136	98	87

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	222	0	-	0	695	222
Stage 1	-	-	-	-	222	-
Stage 2	-	-	-	-	473	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1359	-	-	0	411	823
Stage 1	-	-	-	0	820	-
Stage 2	-	-	-	0	631	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1359	-	-	-	380	823
Mov Cap-2 Maneuver	-	-	-	-	380	-
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	631	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	16
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1359	-	-	509
HCM Lane V/C Ratio	0.062	-	-	0.363
HCM Control Delay (s)	7.8	0	-	16
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.2	-	-	1.6

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

Intersection No.: 7
North/South Street: QUARRY RD
East/West Street: STODDARD WELLS RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	0	Left	0	0
NB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
North leg	Left	129	Approach	193	Left	148	155
SB	Through	0	Departure	417	Through	0	0
	Right	50			Right	45	46
West leg	Left	131	Approach	421	Left	140	140
EB	Through	264	Departure	81	Through	281	294
	Right	0			Right	0	0
East leg	Left	0	Approach	313	Left	0	0
WB	Through	25	Departure	429	Through	36	36
	Right	153			Right	277	278

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	0	Left	0	0
NB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
North leg	Left	61	Approach	152	Left	83	90
SB	Through	0	Departure	652	Through	0	0
	Right	94			Right	70	80
West leg	Left	67	Approach	316	Left	78	78
EB	Through	227	Departure	273	Through	240	257
	Right	0			Right	0	0
East leg	Left	0	Approach	775	Left	0	0
WB	Through	179	Departure	323	Through	203	204
	Right	251			Right	574	576

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : I-15 SB RAMPS
N/S STREET : QUARRY RD
CONDITION : AM PEAK HOUR

INTERSECTION : 8
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	1		3		5		7	9	11	13	15	17
I-15 SB RAMPS												
EB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0	0	0	0	0
EB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
WB LEFT	178	11	189	0	189	0	189	189	188	188	188	188
WB THRU	0	0	0	0	0	0	0	0	0	0	0	0
WB RIGHT	1	1	2	0	2	0	2	2	1	1	1	1
QUARRY RD												
NB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
NB THRU	1	1	2	0	2	0	2	2	2	2	2	2
NB RIGHT	283	17	300	75	375	77	377	452	405	480	482	557
SB LEFT	1	1	2	0	2	0	2	2	2	2	2	2
SB THRU	1	1	2	0	2	0	2	2	1	1	1	1
SB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**465**	**32**	**497**	**75**	**572**	**77**	**574**	**649**	**599**	**674**	**676**	**751**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : I-15 SB RAMPS
N/S STREET : QUARRY RD
CONDITION : AM PEAK HOUR
PHF : 0.90

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

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
66	0	0	0	0	0	0	0	0	1	0	0
75	0	0	0	0	0	0	0	0	0	0	0
73	0	0	0	0	0	0	0	0	0	0	0
48	1	0	0	0	0	2	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	45	0	0	1	0	0	0	0	0	3
0	0	40	0	0	0	0	0	1	0	0	2
1	0	35	0	0	3	0	0	0	0	0	1
0	0	19	0	0	1	0	0	1	0	0	3

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

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
I-15 SB RAMPS					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	16	139	**155**	**178**	**178**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	0	1	**1**	**1**	**1**
QUARRY RD					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	0	1	**1**	**1**	**1**
NB RIGHT	3	262	**265**	**269**	**283**
SB LEFT	0	1	**1**	**1**	**1**
SB THRU	0	0	**1**	**1**	**1**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	178	1	1	283	1	1
Future Vol, veh/h	178	1	1	283	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	198	1	1	314	1	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	161	158	0	0	315	0
Stage 1	158	-	-	-	-	-
Stage 2	3	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	835	893	-	-	1257	-
Stage 1	875	-	-	-	-	-
Stage 2	1025	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	834	893	-	-	1257	-
Mov Cap-2 Maneuver	834	-	-	-	-	-
Stage 1	875	-	-	-	-	-
Stage 2	1024	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	3.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	834	1257	-
HCM Lane V/C Ratio	-	-	0.238	0.001	-
HCM Control Delay (s)	-	-	10.7	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0	-

Intersection	
Int Delay, s/veh	4.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	189	2	2	300	2	2
Future Vol, veh/h	189	2	2	300	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	210	2	2	333	2	2

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	175	169	0	0	335	0
Stage 1	169	-	-	-	-	-
Stage 2	6	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	819	880	-	-	1236	-
Stage 1	866	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	817	880	-	-	1236	-
Mov Cap-2 Maneuver	817	-	-	-	-	-
Stage 1	866	-	-	-	-	-
Stage 2	1020	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	818	1236	-
HCM Lane V/C Ratio	-	-	0.259	0.002	-
HCM Control Delay (s)	-	-	10.9	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1	0	-

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	189	2	2	375	2	2
Future Vol, veh/h	189	2	2	375	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	210	2	2	417	2	2

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	217	211	0	0	419	0
Stage 1	211	-	-	-	-	-
Stage 2	6	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	776	834	-	-	1151	-
Stage 1	829	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	774	834	-	-	1151	-
Mov Cap-2 Maneuver	774	-	-	-	-	-
Stage 1	829	-	-	-	-	-
Stage 2	1020	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	4.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	775	1151	-
HCM Lane V/C Ratio	-	-	0.274	0.002	-
HCM Control Delay (s)	-	-	11.4	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.1	0	-

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	189	2	2	377	2	2
Future Vol, veh/h	189	2	2	377	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	210	2	2	419	2	2

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	218	212	0	0	421	0
Stage 1	212	-	-	-	-	-
Stage 2	6	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	775	833	-	-	1149	-
Stage 1	828	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	773	833	-	-	1149	-
Mov Cap-2 Maneuver	773	-	-	-	-	-
Stage 1	828	-	-	-	-	-
Stage 2	1020	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	4.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	774	1149	-
HCM Lane V/C Ratio	-	-	0.274	0.002	-
HCM Control Delay (s)	-	-	11.4	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.1	0	-

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	189	2	2	452	2	2
Future Vol, veh/h	189	2	2	452	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	210	2	2	502	2	2

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	259	253	0	0	504	0
Stage 1	253	-	-	-	-	-
Stage 2	6	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	734	791	-	-	1071	-
Stage 1	794	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	733	791	-	-	1071	-
Mov Cap-2 Maneuver	733	-	-	-	-	-
Stage 1	794	-	-	-	-	-
Stage 2	1020	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	4.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	734	1071	-
HCM Lane V/C Ratio	-	-	0.289	0.002	-
HCM Control Delay (s)	-	-	11.9	8.4	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.2	0	-

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	188	1	2	405	2	1
Future Vol, veh/h	188	1	2	405	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	209	1	2	450	2	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	232	227	0	0	452	0
Stage 1	227	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	761	817	-	-	1119	-
Stage 1	815	-	-	-	-	-
Stage 2	1023	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	759	817	-	-	1119	-
Mov Cap-2 Maneuver	759	-	-	-	-	-
Stage 1	815	-	-	-	-	-
Stage 2	1021	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.5	0	5.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	759	1119	-
HCM Lane V/C Ratio	-	-	0.277	0.002	-
HCM Control Delay (s)	-	-	11.5	8.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.1	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	188	1	2	480	2	1
Future Vol, veh/h	188	1	2	480	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	209	1	2	533	2	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	274	269	0	0	535	0
Stage 1	269	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	720	775	-	-	1043	-
Stage 1	781	-	-	-	-	-
Stage 2	1023	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	719	775	-	-	1043	-
Mov Cap-2 Maneuver	719	-	-	-	-	-
Stage 1	781	-	-	-	-	-
Stage 2	1021	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.1	0	5.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	719	1043	-
HCM Lane V/C Ratio	-	-	0.292	0.002	-
HCM Control Delay (s)	-	-	12.1	8.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.2	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	188	1	2	482	2	1
Future Vol, veh/h	188	1	2	482	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	209	1	2	536	2	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	275	270	0	0	538	0
Stage 1	270	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	719	774	-	-	1040	-
Stage 1	780	-	-	-	-	-
Stage 2	1023	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	718	774	-	-	1040	-
Mov Cap-2 Maneuver	718	-	-	-	-	-
Stage 1	780	-	-	-	-	-
Stage 2	1021	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.1	0	5.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	718	1040	-
HCM Lane V/C Ratio	-	-	0.292	0.002	-
HCM Control Delay (s)	-	-	12.1	8.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.2	0	-

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	188	1	2	557	2	1
Future Vol, veh/h	188	1	2	557	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	209	1	2	619	2	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	317	312	0	0	621	0
Stage 1	312	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	680	733	-	-	969	-
Stage 1	747	-	-	-	-	-
Stage 2	1023	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	679	733	-	-	969	-
Mov Cap-2 Maneuver	679	-	-	-	-	-
Stage 1	747	-	-	-	-	-
Stage 2	1021	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.7	0	5.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	679	969	-
HCM Lane V/C Ratio	-	-	0.309	0.002	-
HCM Control Delay (s)	-	-	12.7	8.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.3	0	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : I-15 SB RAMPS
N/S STREET : QUARRY RD
CONDITION : PM PEAK HOUR

INTERSECTION : 8
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	2		4		6		8	10	12	14	16	18
I-15 SB RAMPS												
EB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0.00	0	0.00	0	0.00
EB RIGHT	0	0	0	0	0	0	0	0.00	0	0	0	0
WB LEFT	154	10	164	0	164	0	164	164	170	170	170	170
WB THRU	0	0	0	0	0	0	0	0	0	0	0	0
WB RIGHT	2	1	3	0	3	0	3	3	2	2	2	2
QUARRY RD												
NB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
NB THRU	1	1	2	0	2	0	2	2	2	2	2	2
NB RIGHT	317	20	337	233	570	236	573	806	628	861	864	1097
SB LEFT	1	1	2	0	2	0	2	2	2	2	2	2
SB THRU	1	1	2	0	2	0	2	2	1	1	1	1
SB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**476**	**34**	**510**	**233**	**743**	**236**	**746**	**979**	**805**	**1038**	**1041**	**1274**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : I-15 SB RAMPS
N/S STREET : QUARRY RD
CONDITION : PM PEAK HOUR
PHF : 0.76

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

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
109	0	0	2	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0
77	1	0	0	0	0	1	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	24	0	0	2	0	0	3	0	0	4
0	0	27	0	0	0	0	0	1	0	0	4
2	0	20	0	0	1	0	0	2	0	0	1
0	0	26	0	0	1	0	0	0	0	0	4

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

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
I-15 SB RAMPS					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	23	97	**120**	**154**	**154**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	0	2	**2**	**2**	**2**
QUARRY RD					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	0	1	**1**	**1**	**1**
NB RIGHT	3	312	**315**	**317**	**317**
SB LEFT	0	0	**1**	**1**	**1**
SB THRU	0	1	**1**	**1**	**1**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	154	2	1	317	1	1
Future Vol, veh/h	154	2	1	317	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	203	3	1	417	1	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	213	210	0	0	418	0
Stage 1	210	-	-	-	-	-
Stage 2	3	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	780	835	-	-	1152	-
Stage 1	830	-	-	-	-	-
Stage 2	1025	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	779	835	-	-	1152	-
Mov Cap-2 Maneuver	779	-	-	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	1024	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.3	0	4.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	780	1152	-
HCM Lane V/C Ratio	-	-	0.263	0.001	-
HCM Control Delay (s)	-	-	11.3	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.1	0	-

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	164	3	2	337	2	2
Future Vol, veh/h	164	3	2	337	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	216	4	3	443	3	3

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	234	225	0	0	446	0
Stage 1	225	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	759	819	-	-	1125	-
Stage 1	817	-	-	-	-	-
Stage 2	1019	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	757	819	-	-	1125	-
Mov Cap-2 Maneuver	757	-	-	-	-	-
Stage 1	817	-	-	-	-	-
Stage 2	1016	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	4.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	758	1125	-
HCM Lane V/C Ratio	-	-	0.29	0.002	-
HCM Control Delay (s)	-	-	11.7	8.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.2	0	-

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	164	3	2	570	2	2
Future Vol, veh/h	164	3	2	570	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	216	4	3	750	3	3

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	387	378	0	0	753	0
Stage 1	378	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	620	673	-	-	866	-
Stage 1	697	-	-	-	-	-
Stage 2	1019	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	618	673	-	-	866	-
Mov Cap-2 Maneuver	618	-	-	-	-	-
Stage 1	697	-	-	-	-	-
Stage 2	1016	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14	0	4.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	619	866	-
HCM Lane V/C Ratio	-	-	0.355	0.003	-
HCM Control Delay (s)	-	-	14	9.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.6	0	-

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	164	3	2	573	2	2
Future Vol, veh/h	164	3	2	573	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	216	4	3	754	3	3

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	389	380	0	0	757	0
Stage 1	380	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	619	671	-	-	863	-
Stage 1	696	-	-	-	-	-
Stage 2	1019	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	617	671	-	-	863	-
Mov Cap-2 Maneuver	617	-	-	-	-	-
Stage 1	696	-	-	-	-	-
Stage 2	1016	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14	0	4.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	618	863	-
HCM Lane V/C Ratio	-	-	0.356	0.003	-
HCM Control Delay (s)	-	-	14	9.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.6	0	-

Intersection	
Int Delay, s/veh	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	164	3	2	806	2	2
Future Vol, veh/h	164	3	2	806	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	216	4	3	1061	3	3

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	543	534	0	0	1064	0
Stage 1	534	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	504	550	-	-	662	-
Stage 1	592	-	-	-	-	-
Stage 2	1019	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	501	550	-	-	662	-
Mov Cap-2 Maneuver	501	-	-	-	-	-
Stage 1	592	-	-	-	-	-
Stage 2	1014	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.6	0	5.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	502	662	-
HCM Lane V/C Ratio	-	-	0.438	0.004	-
HCM Control Delay (s)	-	-	17.6	10.5	0
HCM Lane LOS	-	-	C	B	A
HCM 95th %tile Q(veh)	-	-	2.2	0	-

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	170	2	2	628	2	1
Future Vol, veh/h	170	2	2	628	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	224	3	3	826	3	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	423	416	0	0	829	0
Stage 1	416	-	-	-	-	-
Stage 2	7	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	591	641	-	-	811	-
Stage 1	670	-	-	-	-	-
Stage 2	1021	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	589	641	-	-	811	-
Mov Cap-2 Maneuver	589	-	-	-	-	-
Stage 1	670	-	-	-	-	-
Stage 2	1017	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.8	0	6.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	590	811	-
HCM Lane V/C Ratio	-	-	0.384	0.003	-
HCM Control Delay (s)	-	-	14.8	9.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.8	0	-

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	170	2	2	861	2	1
Future Vol, veh/h	170	2	2	861	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	224	3	3	1133	3	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	577	570	0	0	1136	0
Stage 1	570	-	-	-	-	-
Stage 2	7	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	482	525	-	-	622	-
Stage 1	570	-	-	-	-	-
Stage 2	1021	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	480	525	-	-	622	-
Mov Cap-2 Maneuver	480	-	-	-	-	-
Stage 1	570	-	-	-	-	-
Stage 2	1016	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19	0	7.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	480	622	-
HCM Lane V/C Ratio	-	-	0.471	0.004	-
HCM Control Delay (s)	-	-	19	10.8	0
HCM Lane LOS	-	-	C	B	A
HCM 95th %tile Q(veh)	-	-	2.5	0	-

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	170	2	2	864	2	1
Future Vol, veh/h	170	2	2	864	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	224	3	3	1137	3	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	579	572	0	0	1140	0
Stage 1	572	-	-	-	-	-
Stage 2	7	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	481	523	-	-	620	-
Stage 1	569	-	-	-	-	-
Stage 2	1021	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	479	523	-	-	620	-
Mov Cap-2 Maneuver	479	-	-	-	-	-
Stage 1	569	-	-	-	-	-
Stage 2	1016	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.1	0	7.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	479	620	-
HCM Lane V/C Ratio	-	-	0.472	0.004	-
HCM Control Delay (s)	-	-	19.1	10.8	0
HCM Lane LOS	-	-	C	B	A
HCM 95th %tile Q(veh)	-	-	2.5	0	-

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	170	2	2	1097	2	1
Future Vol, veh/h	170	2	2	1097	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	224	3	3	1443	3	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	732	725	0	0	1446	0
Stage 1	725	-	-	-	-	-
Stage 2	7	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	391	428	-	-	475	-
Stage 1	483	-	-	-	-	-
Stage 2	1021	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	389	428	-	-	475	-
Mov Cap-2 Maneuver	389	-	-	-	-	-
Stage 1	483	-	-	-	-	-
Stage 2	1015	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.4	0	8.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	389	475	-
HCM Lane V/C Ratio	-	-	0.582	0.006	-
HCM Control Delay (s)	-	-	26.4	12.6	0
HCM Lane LOS	-	-	D	B	A
HCM 95th %tile Q(veh)	-	-	3.6	0	-

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

Intersection No.: 8
North/South Street: QUARRY RD
East/West Street: I-15 SB RAMPS

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	406	Left	0	0
NB	Through	1	Departure	188	Through	1	2
	Right	283			Right	405	405
North leg	Left	1	Approach	2	Left	1	2
SB	Through	1	Departure	2	Through	1	1
	Right	0			Right	0	0
West leg	Left	0	Approach	0	Left	0	0
EB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
East leg	Left	178	Approach	188	Left	187	188
WB	Through	0	Departure	406	Through	0	0
	Right	1			Right	1	1

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	629	Left	0	0
NB	Through	1	Departure	170	Through	1	2
	Right	317			Right	628	628
North leg	Left	1	Approach	2	Left	1	2
SB	Through	1	Departure	3	Through	1	1
	Right	0			Right	0	0
West leg	Left	0	Approach	0	Left	0	0
EB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
East leg	Left	154	Approach	171	Left	169	170
WB	Through	0	Departure	629	Through	0	0
	Right	2			Right	2	2

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : NAVAJO RD
N/S STREET : JOHNSON RD
CONDITION : AM PEAK HOUR

INTERSECTION : 9
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	1		3		5		7	9	11	13	15	17
NAVAJO RD												
EB LEFT	0	0	0	206	206	167	167	373	0	206	167	373
EB THRU	6	1	7	0	7	0	7	7	18	18	18	18
EB RIGHT	55	4	59	0	59	0	59	59	57	57	57	57
WB LEFT	2	1	3	0	3	0	3	3	3	3	3	3
WB THRU	36	3	39	0	39	0	39	39	45	45	45	45
WB RIGHT	0	0	0	30	30	32	32	62	0	30	32	62
JOHNSON RD												
NB LEFT	94	6	100	0	100	0	100	100	95	95	95	95
NB THRU	0	0	0	0	0	0	0	0	0	0	0	0
NB RIGHT	2	1	3	0	3	0	3	3	7	7	7	7
SB LEFT	0	0	0	9	9	10	10	19	0	9	10	19
SB THRU	0	0	0	0	0	0	0	0	0	0	0	0
SB RIGHT	0	0	0	62	62	46	46	108	0	62	46	108
TOTALS	**195**	**16**	**211**	**307**	**518**	**255**	**466**	**773**	**225**	**532**	**480**	**787**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : NAVAJO RD
CONDITION : AM PEAK HOUR
N/S STREET : JOHNSON RD
PHF : 0.73

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

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	17	0	0	2	0	0	1	0	0	2
0	0	22	0	0	0	0	0	0	0	0	0
2	0	23	0	0	1	0	0	0	0	0	1
0	0	16	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	1	2	0	0	0	0	0	0	0	0	0
0	7	0	0	0	0	0	0	0	0	1	0
0	14	0	0	0	0	0	0	0	0	0	0
0	9	0	0	0	0	0	1	0	0	0	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
10	3	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	1	0	0
20	1	0	0	0	0	0	0	0	0	0	0
12	2	0	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
NAVAJO RD					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	6	**6**	**6**	**6**
EB RIGHT	1	52	**53**	**55**	**55**
WB LEFT	0	2	**2**	**2**	**2**
WB THRU	2	31	**33**	**36**	**36**
WB RIGHT	0	0	**0**	**0**	**0**
JOHNSON RD					
NB LEFT	7	78	**85**	**94**	**94**
NB THRU	0	0	**0**	**0**	**0**
NB RIGHT	0	2	**2**	**2**	**2**
SB LEFT	0	0	**0**	**0**	**0**
SB THRU	0	0	**0**	**0**	**0**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	57	55	2	36	94	2
Future Vol, veh/h	57	55	2	36	94	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	78	75	3	49	129	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	153	0	171	116
Stage 1	-	-	-	-	116	-
Stage 2	-	-	-	-	55	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1440	-	824	942
Stage 1	-	-	-	-	914	-
Stage 2	-	-	-	-	973	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1440	-	822	942
Mov Cap-2 Maneuver	-	-	-	-	822	-
Stage 1	-	-	-	-	914	-
Stage 2	-	-	-	-	971	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	824	-	-	1440	-
HCM Lane V/C Ratio	0.16	-	-	0.002	-
HCM Control Delay (s)	10.2	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	61	59	3	39	100	3
Future Vol, veh/h	61	59	3	39	100	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	84	81	4	53	137	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	165	0	186	125
Stage 1	-	-	-	-	125	-
Stage 2	-	-	-	-	61	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1426	-	808	931
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	967	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1426	-	806	931
Mov Cap-2 Maneuver	-	-	-	-	806	-
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	964	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	809	-	-	1426	-
HCM Lane V/C Ratio	0.174	-	-	0.003	-
HCM Control Delay (s)	10.4	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	61	59	3	39	100	3
Future Vol, veh/h	61	59	3	39	100	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	84	81	4	53	137	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	165	0	186	125
Stage 1	-	-	-	-	125	-
Stage 2	-	-	-	-	61	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1426	-	808	931
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	967	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1426	-	806	931
Mov Cap-2 Maneuver	-	-	-	-	806	-
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	964	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	809	-	-	1426	-
HCM Lane V/C Ratio	0.174	-	-	0.003	-
HCM Control Delay (s)	10.4	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	61	59	3	39	100	3
Future Vol, veh/h	61	59	3	39	100	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	84	81	4	53	137	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	165	0	186	125
Stage 1	-	-	-	-	125	-
Stage 2	-	-	-	-	61	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1426	-	808	931
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	967	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1426	-	806	931
Mov Cap-2 Maneuver	-	-	-	-	806	-
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	964	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	809	-	-	1426	-
HCM Lane V/C Ratio	0.174	-	-	0.003	-
HCM Control Delay (s)	10.4	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	61	59	3	39	100	3
Future Vol, veh/h	61	59	3	39	100	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	84	81	4	53	137	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	165	0	186	125
Stage 1	-	-	-	-	125	-
Stage 2	-	-	-	-	61	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1426	-	808	931
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	967	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1426	-	806	931
Mov Cap-2 Maneuver	-	-	-	-	806	-
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	964	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	809	-	-	1426	-
HCM Lane V/C Ratio	0.174	-	-	0.003	-
HCM Control Delay (s)	10.4	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	67	59	3	45	95	7
Future Vol, veh/h	67	59	3	45	95	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	92	81	4	62	130	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	173	0	203	133
Stage 1	-	-	-	-	133	-
Stage 2	-	-	-	-	70	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1416	-	790	922
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	958	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1416	-	788	922
Mov Cap-2 Maneuver	-	-	-	-	788	-
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	955	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	796	-	-	1416	-
HCM Lane V/C Ratio	0.176	-	-	0.003	-
HCM Control Delay (s)	10.5	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	67	59	3	45	95	7
Future Vol, veh/h	67	59	3	45	95	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	92	81	4	62	130	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	173	0	203	133
Stage 1	-	-	-	-	133	-
Stage 2	-	-	-	-	70	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1416	-	790	922
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	958	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1416	-	788	922
Mov Cap-2 Maneuver	-	-	-	-	788	-
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	955	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	796	-	-	1416	-
HCM Lane V/C Ratio	0.176	-	-	0.003	-
HCM Control Delay (s)	10.5	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	67	59	3	45	95	7
Future Vol, veh/h	67	59	3	45	95	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	92	81	4	62	130	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	173	0	203	133
Stage 1	-	-	-	-	133	-
Stage 2	-	-	-	-	70	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1416	-	790	922
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	958	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1416	-	788	922
Mov Cap-2 Maneuver	-	-	-	-	788	-
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	955	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	796	-	-	1416	-
HCM Lane V/C Ratio	0.176	-	-	0.003	-
HCM Control Delay (s)	10.5	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	67	59	3	45	95	7
Future Vol, veh/h	67	59	3	45	95	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	92	81	4	62	130	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	173	0	203	133
Stage 1	-	-	-	-	133	-
Stage 2	-	-	-	-	70	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1416	-	790	922
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	958	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1416	-	788	922
Mov Cap-2 Maneuver	-	-	-	-	788	-
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	955	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	796	-	-	1416	-
HCM Lane V/C Ratio	0.176	-	-	0.003	-
HCM Control Delay (s)	10.5	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : NAVAJO RD
N/S STREET : JOHNSON RD
CONDITION : PM PEAK HOUR

INTERSECTION : 9
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	2		4		6		8	10	12	14	16	18
NAVAJO RD												
EB LEFT	0	0	0	75	75	61	61	136	0	75	61	136
EB THRU	57	4	61	0	61	0	61	61.00	67	67.00	67	67.00
EB RIGHT	55	4	59	0	59	0	59	59.00	59	59	59	59
WB LEFT	2	1	3	0	3	0	3	3	5	5	5	5
WB THRU	30	2	32	0	32	0	32	32	43	43	43	43
WB RIGHT	0	0	0	11	11	12	12	23	0	11	12	23
JOHNSON RD												
NB LEFT	97	6	103	0	103	0	103	103	97	97	97	97
NB THRU	0	0	0	0	0	0	0	0	0	0	0	0
NB RIGHT	3	1	4	0	4	0	4	4	6	6	6	6
SB LEFT	0	0	0	29	29	30	30	59	0	29	30	59
SB THRU	0	0	0	0	0	0	0	0	0	0	0	0
SB RIGHT	0	0	0	179	179	141	141	320	0	179	141	320
TOTALS	**244**	**18**	**262**	**294**	**556**	**244**	**506**	**800**	**277**	**571**	**521**	**815**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : NAVAJO RD
CONDITION : PM PEAK HOUR
N/S STREET : JOHNSON RD
PHF : 0.91

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

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
1	0	27	0	0	0	0	0	0	0	0	0
1	0	33	0	0	0	0	0	0	0	0	0
1	0	21	0	0	0	0	0	0	0	0	0
0	0	13	0	0	0	0	0	0	0	0	1

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	6	1	0	0	0	0	0	0	0	0	0
0	5	1	0	0	0	0	0	0	0	0	0
0	9	0	0	0	0	0	0	0	0	0	0
0	10	0	0	0	0	0	0	0	0	0	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
21	10	0	0	0	0	0	0	0	0	0	0
8	10	0	0	0	0	1	0	0	1	0	0
11	16	0	0	0	0	0	0	0	0	0	0
10	21	0	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
NAVAJO RD					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	57	**57**	**57**	**57**
EB RIGHT	2	50	**52**	**55**	**55**
WB LEFT	0	2	**2**	**2**	**2**
WB THRU	0	30	**30**	**30**	**30**
WB RIGHT	0	0	**0**	**0**	**0**
JOHNSON RD					
NB LEFT	1	94	**95**	**97**	**97**
NB THRU	0	0	**0**	**0**	**0**
NB RIGHT	0	3	**3**	**3**	**3**
SB LEFT	0	0	**0**	**0**	**0**
SB THRU	0	0	**0**	**0**	**0**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	57	55	2	30	97	3
Future Vol, veh/h	57	55	2	30	97	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	63	60	2	33	107	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	123	0	130	93
Stage 1	-	-	-	-	93	-
Stage 2	-	-	-	-	37	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1477	-	869	970
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	991	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1477	-	868	970
Mov Cap-2 Maneuver	-	-	-	-	868	-
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	990	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	871	-	-	1477	-
HCM Lane V/C Ratio	0.126	-	-	0.001	-
HCM Control Delay (s)	9.7	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	61	59	3	32	103	4
Future Vol, veh/h	61	59	3	32	103	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	67	65	3	35	113	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	132	0	141	100
Stage 1	-	-	-	-	100	-
Stage 2	-	-	-	-	41	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1466	-	857	961
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	987	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1466	-	855	961
Mov Cap-2 Maneuver	-	-	-	-	855	-
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	985	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	859	-	-	1466	-
HCM Lane V/C Ratio	0.137	-	-	0.002	-
HCM Control Delay (s)	9.9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	61	59	3	32	103	4
Future Vol, veh/h	61	59	3	32	103	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	67	65	3	35	113	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	132	0	141	100
Stage 1	-	-	-	-	100	-
Stage 2	-	-	-	-	41	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1466	-	857	961
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	987	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1466	-	855	961
Mov Cap-2 Maneuver	-	-	-	-	855	-
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	985	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	859	-	-	1466	-
HCM Lane V/C Ratio	0.137	-	-	0.002	-
HCM Control Delay (s)	9.9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	61	59	3	32	103	4
Future Vol, veh/h	61	59	3	32	103	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	67	65	3	35	113	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	132	0	141	100
Stage 1	-	-	-	-	100	-
Stage 2	-	-	-	-	41	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1466	-	857	961
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	987	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1466	-	855	961
Mov Cap-2 Maneuver	-	-	-	-	855	-
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	985	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	859	-	-	1466	-
HCM Lane V/C Ratio	0.137	-	-	0.002	-
HCM Control Delay (s)	9.9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	61	59	3	32	103	4
Future Vol, veh/h	61	59	3	32	103	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	67	65	3	35	113	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	132	0	141	100
Stage 1	-	-	-	-	100	-
Stage 2	-	-	-	-	41	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1466	-	857	961
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	987	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1466	-	855	961
Mov Cap-2 Maneuver	-	-	-	-	855	-
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	985	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	859	-	-	1466	-
HCM Lane V/C Ratio	0.137	-	-	0.002	-
HCM Control Delay (s)	9.9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	67	59	5	43	97	6
Future Vol, veh/h	67	59	5	43	97	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	74	65	5	47	107	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	139	0	164	107
Stage 1	-	-	-	-	107	-
Stage 2	-	-	-	-	57	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1457	-	831	953
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	971	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1457	-	828	953
Mov Cap-2 Maneuver	-	-	-	-	828	-
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	967	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	834	-	-	1457	-
HCM Lane V/C Ratio	0.136	-	-	0.004	-
HCM Control Delay (s)	10	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	67	59	5	43	97	6
Future Vol, veh/h	67	59	5	43	97	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	74	65	5	47	107	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	139	0	164	107
Stage 1	-	-	-	-	107	-
Stage 2	-	-	-	-	57	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1457	-	831	953
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	971	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1457	-	828	953
Mov Cap-2 Maneuver	-	-	-	-	828	-
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	967	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	834	-	-	1457	-
HCM Lane V/C Ratio	0.136	-	-	0.004	-
HCM Control Delay (s)	10	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	67	59	5	43	97	6
Future Vol, veh/h	67	59	5	43	97	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	74	65	5	47	107	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	139	0	164	107
Stage 1	-	-	-	-	107	-
Stage 2	-	-	-	-	57	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1457	-	831	953
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	971	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1457	-	828	953
Mov Cap-2 Maneuver	-	-	-	-	828	-
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	967	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	834	-	-	1457	-
HCM Lane V/C Ratio	0.136	-	-	0.004	-
HCM Control Delay (s)	10	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	67	59	5	43	97	6
Future Vol, veh/h	67	59	5	43	97	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	74	65	5	47	107	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	139	0	164	107
Stage 1	-	-	-	-	107	-
Stage 2	-	-	-	-	57	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1457	-	831	953
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	971	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1457	-	828	953
Mov Cap-2 Maneuver	-	-	-	-	828	-
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	967	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	834	-	-	1457	-
HCM Lane V/C Ratio	0.136	-	-	0.004	-
HCM Control Delay (s)	10	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

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

Intersection No.: 9
North/South Street: JOHNSON RD
East/West Street: NAVAJO RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	94	Approach	102	Left	94	95
NB	Through	0	Departure	59	Through	0	0
	Right	2			Right	6	7
North leg	Left	0	Approach	0	Left	0	0
SB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
West leg	Left	0	Approach	73	Left	0	0
EB	Through	6	Departure	139	Through	18	18
	Right	55			Right	56	57
East leg	Left	2	Approach	48	Left	3	3
WB	Through	36	Departure	24	Through	45	45
	Right	0			Right	0	0

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	97	Approach	103	Left	96	97
NB	Through	0	Departure	63	Through	0	0
	Right	3			Right	5	6
North leg	Left	0	Approach	0	Left	0	0
SB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
West leg	Left	0	Approach	122	Left	0	0
EB	Through	57	Departure	139	Through	67	67
	Right	55			Right	59	59
East leg	Left	2	Approach	48	Left	4	5
WB	Through	30	Departure	72	Through	43	43
	Right	0			Right	0	0

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : CORDOVA RD
N/S STREET : DALE EVANS PKWY
CONDITION : AM PEAK HOUR

INTERSECTION : 10
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	1		3		5		7	9	11	13	15	17
CORDOVA RD												
EB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0	0	0	0	0
EB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
WB LEFT	1	1	2	38	40	55	57	95	22	60	77	115
WB THRU	0	0	0	0	0	0	0	0	0	0	0	0
WB RIGHT	1	1	2	11	13	12	14	25	4	15	16	27
DALE EVANS PKWY												
NB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
NB THRU	128	8	136	0	136	0	136	136	250	250	250	250
NB RIGHT	1	1	2	125	127	167	169	294	78	203	245	370
SB LEFT	1	1	2	39	41	41	43	82	15	54	56	95
SB THRU	74	5	79	0	79	0	79	79	152	152	152	152
SB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**206**	**17**	**223**	**213**	**436**	**275**	**498**	**711**	**521**	**734**	**796**	**1009**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : CORDOVA RD
CONDITION : AM PEAK HOUR
N/S STREET : DALE EVANS PKWY
PHF : 0.83

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	14	0	0	1	0	0	0	0	0	3	0
0	15	0	0	1	0	0	0	0	0	0	0
0	8	0	0	1	0	0	0	0	0	0	0
0	8	0	0	0	0	0	0	0	0	5	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	30	0	0	0	0	0	0	0	0	2	0
0	31	0	0	1	0	0	1	0	0	0	0
0	15	0	0	1	0	0	0	0	0	3	0
0	21	0	0	1	0	0	0	0	0	3	0

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

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

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
CORDOVA RD					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	0	0	**1**	**1**	**1**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	0	0	**1**	**1**	**1**
DALE EVANS PKWY					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	12	97	**109**	**128**	**128**
NB RIGHT	0	0	**1**	**1**	**1**
SB LEFT	0	0	**1**	**1**	**1**
SB THRU	11	45	**56**	**74**	**74**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	1	128	1	1	74
Future Vol, veh/h	1	1	128	1	1	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	1	154	1	1	89

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	246	155	0	0	155	0
Stage 1	155	-	-	-	-	-
Stage 2	91	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	747	896	-	-	1438	-
Stage 1	878	-	-	-	-	-
Stage 2	938	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	746	896	-	-	1438	-
Mov Cap-2 Maneuver	746	-	-	-	-	-
Stage 1	878	-	-	-	-	-
Stage 2	937	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	814	1438	-
HCM Lane V/C Ratio	-	-	0.003	0.001	-
HCM Control Delay (s)	-	-	9.4	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	2	136	2	2	79
Future Vol, veh/h	2	2	136	2	2	79
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	2	164	2	2	95

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	264	165	0	0	166	0
Stage 1	165	-	-	-	-	-
Stage 2	99	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	729	885	-	-	1424	-
Stage 1	869	-	-	-	-	-
Stage 2	930	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	728	885	-	-	1424	-
Mov Cap-2 Maneuver	728	-	-	-	-	-
Stage 1	869	-	-	-	-	-
Stage 2	929	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	799	1424	-
HCM Lane V/C Ratio	-	-	0.006	0.002	-
HCM Control Delay (s)	-	-	9.5	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	40	13	136	127	41	79
Future Vol, veh/h	40	13	136	127	41	79
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	48	16	164	153	49	95

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	434	241	0	0	317	0
Stage 1	241	-	-	-	-	-
Stage 2	193	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	583	803	-	-	1255	-
Stage 1	804	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	559	803	-	-	1255	-
Mov Cap-2 Maneuver	559	-	-	-	-	-
Stage 1	804	-	-	-	-	-
Stage 2	810	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	2.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	604	1255	-
HCM Lane V/C Ratio	-	-	0.106	0.039	-
HCM Control Delay (s)	-	-	11.7	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	14	136	169	43	79
Future Vol, veh/h	57	14	136	169	43	79
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	69	17	164	204	52	95

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	465	266	0	0	368	0
Stage 1	266	-	-	-	-	-
Stage 2	199	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	559	778	-	-	1202	-
Stage 1	783	-	-	-	-	-
Stage 2	839	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	533	778	-	-	1202	-
Mov Cap-2 Maneuver	533	-	-	-	-	-
Stage 1	783	-	-	-	-	-
Stage 2	800	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.5	0	2.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	568	1202	-
HCM Lane V/C Ratio	-	-	0.151	0.043	-
HCM Control Delay (s)	-	-	12.5	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	14	136	169	43	79
Future Vol, veh/h	57	14	136	169	43	79
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	350	-	250	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	69	17	164	204	52	95

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	363	164	0	0	368	0
Stage 1	164	-	-	-	-	-
Stage 2	199	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	640	886	-	-	1202	-
Stage 1	870	-	-	-	-	-
Stage 2	839	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	612	886	-	-	1202	-
Mov Cap-2 Maneuver	659	-	-	-	-	-
Stage 1	870	-	-	-	-	-
Stage 2	803	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	2.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	659	886	1202	-
HCM Lane V/C Ratio	-	-	0.104	0.019	0.043	-
HCM Control Delay (s)	-	-	11.1	9.1	8.1	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	0.1	-

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	95	25	136	294	82	79
Future Vol, veh/h	95	25	136	294	82	79
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	114	30	164	354	99	95

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	634	341	0	0	518	0
Stage 1	341	-	-	-	-	-
Stage 2	293	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	446	706	-	-	1058	-
Stage 1	725	-	-	-	-	-
Stage 2	762	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	402	706	-	-	1058	-
Mov Cap-2 Maneuver	402	-	-	-	-	-
Stage 1	725	-	-	-	-	-
Stage 2	687	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.1	0	4.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	442	1058	-
HCM Lane V/C Ratio	-	-	0.327	0.093	-
HCM Control Delay (s)	-	-	17.1	8.8	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.4	0.3	-

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	95	25	136	294	82	79
Future Vol, veh/h	95	25	136	294	82	79
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	250	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	114	30	164	354	99	95

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	457	164	0	0	518	0
Stage 1	164	-	-	-	-	-
Stage 2	293	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	565	886	-	-	1058	-
Stage 1	870	-	-	-	-	-
Stage 2	762	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	512	886	-	-	1058	-
Mov Cap-2 Maneuver	576	-	-	-	-	-
Stage 1	870	-	-	-	-	-
Stage 2	690	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.1	0	4.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	576	886	1058	-
HCM Lane V/C Ratio	-	-	0.199	0.034	0.093	-
HCM Control Delay (s)	-	-	12.8	9.2	8.8	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.1	0.3	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	4	250	78	15	152
Future Vol, veh/h	22	4	250	78	15	152
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	27	5	301	94	18	183

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	567	348	0	0	395	0
Stage 1	348	-	-	-	-	-
Stage 2	219	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	488	700	-	-	1175	-
Stage 1	719	-	-	-	-	-
Stage 2	822	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	480	700	-	-	1175	-
Mov Cap-2 Maneuver	480	-	-	-	-	-
Stage 1	719	-	-	-	-	-
Stage 2	808	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.6	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	504	1175	-
HCM Lane V/C Ratio	-	-	0.062	0.015	-
HCM Control Delay (s)	-	-	12.6	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	60	15	250	203	54	152
Future Vol, veh/h	60	15	250	203	54	152
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	72	18	301	245	65	183

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	737	424	0	0	546	0
Stage 1	424	-	-	-	-	-
Stage 2	313	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	389	634	-	-	1033	-
Stage 1	664	-	-	-	-	-
Stage 2	746	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	362	634	-	-	1033	-
Mov Cap-2 Maneuver	362	-	-	-	-	-
Stage 1	664	-	-	-	-	-
Stage 2	694	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.8	0	2.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	396	1033	-
HCM Lane V/C Ratio	-	-	0.228	0.063	-
HCM Control Delay (s)	-	-	16.8	8.7	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0.2	-

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	77	16	250	245	56	152
Future Vol, veh/h	77	16	250	245	56	152
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	93	19	301	295	67	183

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	766	449	0	0	596	0
Stage 1	449	-	-	-	-	-
Stage 2	317	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	374	614	-	-	990	-
Stage 1	647	-	-	-	-	-
Stage 2	743	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	346	614	-	-	990	-
Mov Cap-2 Maneuver	346	-	-	-	-	-
Stage 1	647	-	-	-	-	-
Stage 2	687	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.7	0	2.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	374	990	-
HCM Lane V/C Ratio	-	-	0.3	0.068	-
HCM Control Delay (s)	-	-	18.7	8.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.2	0.2	-

Intersection	
Int Delay, s/veh	5.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	115	27	250	370	95	152
Future Vol, veh/h	115	27	250	370	95	152
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	139	33	301	446	114	183

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	935	524	0	0	747	0
Stage 1	524	-	-	-	-	-
Stage 2	411	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	297	557	-	-	870	-
Stage 1	598	-	-	-	-	-
Stage 2	674	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	254	557	-	-	870	-
Mov Cap-2 Maneuver	254	-	-	-	-	-
Stage 1	598	-	-	-	-	-
Stage 2	576	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	35.4	0	3.8
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	283	870	-
HCM Lane V/C Ratio	-	-	0.605	0.132	-
HCM Control Delay (s)	-	-	35.4	9.8	0
HCM Lane LOS	-	-	E	A	A
HCM 95th %tile Q(veh)	-	-	3.6	0.5	-

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	115	27	250	370	95	152
Future Vol, veh/h	115	27	250	370	95	152
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	350	-	250	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	139	33	301	446	114	183

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	712	301	0	0	747	0
Stage 1	301	-	-	-	-	-
Stage 2	411	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	402	743	-	-	870	-
Stage 1	755	-	-	-	-	-
Stage 2	674	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	349	743	-	-	870	-
Mov Cap-2 Maneuver	455	-	-	-	-	-
Stage 1	755	-	-	-	-	-
Stage 2	586	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.1	0	3.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	455	743	870	-
HCM Lane V/C Ratio	-	-	0.305	0.044	0.132	-
HCM Control Delay (s)	-	-	16.3	10.1	9.8	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	1.3	0.1	0.5	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : CORDOVA RD
N/S STREET : DALE EVANS PKWY
CONDITION : PM PEAK HOUR

INTERSECTION : 10
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	2		4		6		8	10	12	14	16	18

CORDOVA RD

EB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0.00	0	0.00	0	0.00
EB RIGHT	0	0	0	0	0	0	0	0.00	0	0	0	0
WB LEFT	1	1	2	130	132	171	173	303	43	173	214	344
WB THRU	0	0	0	0	0	0	0	0	0	0	0	0
WB RIGHT	1	1	2	36	38	38	40	76	30	66	68	104

DALE EVANS PKWY

NB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
NB THRU	124	8	132	0	132	0	132	132	178	178	178	178
NB RIGHT	1	1	2	46	48	61	63	109	26	72	87	133
SB LEFT	1	1	2	14	16	15	17	31	16	30	31	45
SB THRU	230	14	244	0	244	0	244	244	305	305	305	305
SB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**358**	**26**	**384**	**226**	**610**	**285**	**669**	**895**	**598**	**824**	**883**	**1109**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : CORDOVA RD
CONDITION : PM PEAK HOUR
N/S STREET : DALE EVANS PKWY
PHF : 0.87

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	63	0	0	1	0	0	1	0	0	0	0
0	48	1	0	0	0	0	1	0	0	2	0
0	57	0	0	1	0	0	0	0	0	0	0
0	46	0	0	2	0	0	0	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	30	0	0	0	0	0	0	0	0	1	0
0	13	0	0	0	0	0	0	0	0	2	0
0	29	0	0	0	0	0	0	0	0	0	0
0	34	0	0	0	0	0	0	0	0	3	0

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

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

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
CORDOVA RD					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	0	0	**1**	**1**	**1**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	0	0	**1**	**1**	**1**
DALE EVANS PKWY					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	6	106	**112**	**124**	**124**
NB RIGHT	0	0	**1**	**1**	**1**
SB LEFT	0	1	**1**	**1**	**1**
SB THRU	8	214	**222**	**230**	**230**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	1	124	1	1	230
Future Vol, veh/h	1	1	124	1	1	230
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	1	143	1	1	264

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	410	144	0	0	144	0
Stage 1	144	-	-	-	-	-
Stage 2	266	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	602	909	-	-	1451	-
Stage 1	888	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	601	909	-	-	1451	-
Mov Cap-2 Maneuver	601	-	-	-	-	-
Stage 1	888	-	-	-	-	-
Stage 2	782	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	724	1451	-
HCM Lane V/C Ratio	-	-	0.003	0.001	-
HCM Control Delay (s)	-	-	10	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	2	132	2	2	244
Future Vol, veh/h	2	2	132	2	2	244
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	2	152	2	2	280

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	437	153	0	0	154	0
Stage 1	153	-	-	-	-	-
Stage 2	284	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	581	898	-	-	1439	-
Stage 1	880	-	-	-	-	-
Stage 2	769	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	580	898	-	-	1439	-
Mov Cap-2 Maneuver	580	-	-	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	767	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	705	1439	-
HCM Lane V/C Ratio	-	-	0.007	0.002	-
HCM Control Delay (s)	-	-	10.1	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	4.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	132	38	132	48	16	244
Future Vol, veh/h	132	38	132	48	16	244
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	152	44	152	55	18	280

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	496	180	0	0	207	0
Stage 1	180	-	-	-	-	-
Stage 2	316	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	537	868	-	-	1376	-
Stage 1	856	-	-	-	-	-
Stage 2	744	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	529	868	-	-	1376	-
Mov Cap-2 Maneuver	529	-	-	-	-	-
Stage 1	856	-	-	-	-	-
Stage 2	733	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.3	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	580	1376	-
HCM Lane V/C Ratio	-	-	0.337	0.013	-
HCM Control Delay (s)	-	-	14.3	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.5	0	-

Intersection	
Int Delay, s/veh	5.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	173	40	132	63	17	244
Future Vol, veh/h	173	40	132	63	17	244
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	199	46	152	72	20	280

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	508	188	0	0	224	0
Stage 1	188	-	-	-	-	-
Stage 2	320	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	528	859	-	-	1357	-
Stage 1	849	-	-	-	-	-
Stage 2	741	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	519	859	-	-	1357	-
Mov Cap-2 Maneuver	519	-	-	-	-	-
Stage 1	849	-	-	-	-	-
Stage 2	728	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.3	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	561	1357	-
HCM Lane V/C Ratio	-	-	0.436	0.014	-
HCM Control Delay (s)	-	-	16.3	7.7	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	2.2	0	-

Intersection	
Int Delay, s/veh	4.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	173	40	132	63	17	244
Future Vol, veh/h	173	40	132	63	17	244
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	350	-	250	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	199	46	152	72	20	280

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	472	152	0	0	224	0
Stage 1	152	-	-	-	-	-
Stage 2	320	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	554	900	-	-	1357	-
Stage 1	881	-	-	-	-	-
Stage 2	741	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	546	900	-	-	1357	-
Mov Cap-2 Maneuver	607	-	-	-	-	-
Stage 1	881	-	-	-	-	-
Stage 2	730	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.9	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	607	900	1357	-
HCM Lane V/C Ratio	-	-	0.328	0.051	0.014	-
HCM Control Delay (s)	-	-	13.8	9.2	7.7	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	1.4	0.2	0	-

Intersection	
Int Delay, s/veh	16.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	303	76	132	109	31	244
Future Vol, veh/h	303	76	132	109	31	244
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	348	87	152	125	36	280

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	567	215	0	0	277	0
Stage 1	215	-	-	-	-	-
Stage 2	352	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	488	830	-	-	1298	-
Stage 1	826	-	-	-	-	-
Stage 2	716	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	472	830	-	-	1298	-
Mov Cap-2 Maneuver	472	-	-	-	-	-
Stage 1	826	-	-	-	-	-
Stage 2	692	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	39	0	0.9
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	517	1298	-
HCM Lane V/C Ratio	-	-	0.843	0.027	-
HCM Control Delay (s)	-	-	39	7.9	0
HCM Lane LOS	-	-	E	A	A
HCM 95th %tile Q(veh)	-	-	8.7	0.1	-

Intersection	
Int Delay, s/veh	7.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	303	76	132	109	31	244
Future Vol, veh/h	303	76	132	109	31	244
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	250	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	348	87	152	125	36	280

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	504	152	0	0	277	0
Stage 1	152	-	-	-	-	-
Stage 2	352	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	531	900	-	-	1298	-
Stage 1	881	-	-	-	-	-
Stage 2	716	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	516	900	-	-	1298	-
Mov Cap-2 Maneuver	581	-	-	-	-	-
Stage 1	881	-	-	-	-	-
Stage 2	696	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.9	0	0.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	581	900	1298	-
HCM Lane V/C Ratio	-	-	0.599	0.097	0.027	-
HCM Control Delay (s)	-	-	20	9.4	7.9	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th %tile Q(veh)	-	-	4	0.3	0.1	-

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	43	30	178	26	16	305
Future Vol, veh/h	43	30	178	26	16	305
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	49	34	205	30	18	351

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	607	220	0	0	235	0
Stage 1	220	-	-	-	-	-
Stage 2	387	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	463	825	-	-	1344	-
Stage 1	821	-	-	-	-	-
Stage 2	691	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	455	825	-	-	1344	-
Mov Cap-2 Maneuver	455	-	-	-	-	-
Stage 1	821	-	-	-	-	-
Stage 2	679	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.6	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	558	1344	-
HCM Lane V/C Ratio	-	-	0.15	0.014	-
HCM Control Delay (s)	-	-	12.6	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0	-

Intersection	
Int Delay, s/veh	6.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	173	66	178	72	30	305
Future Vol, veh/h	173	66	178	72	30	305
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	199	76	205	83	34	351

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	666	247	0	0	288	0
Stage 1	247	-	-	-	-	-
Stage 2	419	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	428	797	-	-	1286	-
Stage 1	799	-	-	-	-	-
Stage 2	668	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	414	797	-	-	1286	-
Mov Cap-2 Maneuver	414	-	-	-	-	-
Stage 1	799	-	-	-	-	-
Stage 2	646	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.3	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	477	1286	-
HCM Lane V/C Ratio	-	-	0.576	0.027	-
HCM Control Delay (s)	-	-	22.3	7.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	3.6	0.1	-

Intersection	
Int Delay, s/veh	9.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	214	68	178	87	31	305
Future Vol, veh/h	214	68	178	87	31	305
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	246	78	205	100	36	351

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	678	255	0	0	305	0
Stage 1	255	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	421	789	-	-	1267	-
Stage 1	792	-	-	-	-	-
Stage 2	665	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	406	789	-	-	1267	-
Mov Cap-2 Maneuver	406	-	-	-	-	-
Stage 1	792	-	-	-	-	-
Stage 2	642	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	29.4	0	0.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	460	1267	-
HCM Lane V/C Ratio	-	-	0.705	0.028	-
HCM Control Delay (s)	-	-	29.4	7.9	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	5.4	0.1	-

Intersection	
Int Delay, s/veh	61.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	344	104	178	133	45	305
Future Vol, veh/h	344	104	178	133	45	305
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	395	120	205	153	52	351

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	737	282	0	0	358	0
Stage 1	282	-	-	-	-	-
Stage 2	455	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 389	762	-	-	1212	-
Stage 1	770	-	-	-	-	-
Stage 2	643	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 368	762	-	-	1212	-
Mov Cap-2 Maneuver	~ 368	-	-	-	-	-
Stage 1	770	-	-	-	-	-
Stage 2	609	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	152.4	0	1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	418	1212	-
HCM Lane V/C Ratio	-	-	1.232	0.043	-
HCM Control Delay (s)	-	-	152.4	8.1	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	21.2	0.1	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	11.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	344	104	178	133	45	305
Future Vol, veh/h	344	104	178	133	45	305
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	350	-	250	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	395	120	205	153	52	351

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	660	205	0	0	358	0
Stage 1	205	-	-	-	-	-
Stage 2	455	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	431	841	-	-	1212	-
Stage 1	834	-	-	-	-	-
Stage 2	643	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	412	841	-	-	1212	-
Mov Cap-2 Maneuver	501	-	-	-	-	-
Stage 1	834	-	-	-	-	-
Stage 2	615	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	28.5	0	1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	501	841	1212	-
HCM Lane V/C Ratio	-	-	0.789	0.142	0.043	-
HCM Control Delay (s)	-	-	34.1	10	8.1	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	7.3	0.5	0.1	-

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

Intersection No.: 10
North/South Street: DALE EVANS PKWY
East/West Street: CORDOVA RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	340	Left	0	0
NB	Through	128	Departure	173	Through	249	250
	Right	1			Right	78	78
North leg	Left	1	Approach	153	Left	14	15
SB	Through	74	Departure	253	Through	152	152
	Right	0			Right	0	0
West leg	Left	0	Approach	0	Left	0	0
EB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
East leg	Left	1	Approach	23	Left	21	22
WB	Through	0	Departure	92	Through	0	0
	Right	1			Right	4	4

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	243	Left	0	0
NB	Through	124	Departure	347	Through	177	178
	Right	1			Right	25	26
North leg	Left	1	Approach	377	Left	16	16
SB	Through	230	Departure	207	Through	304	305
	Right	0			Right	0	0
West leg	Left	0	Approach	0	Left	0	0
EB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
East leg	Left	1	Approach	86	Left	43	43
WB	Through	0	Departure	41	Through	0	0
	Right	1			Right	30	30

Appendix F: VMT Analysis

Table 1: Cordova Complex Warehouse – Employment Estimates - September 7, 2023

Land Use Type	Square Footage (SF)	SF/Employee*	Total Employees
Warehouse	1,559,952	2,111	**739**
Total	**1,559,952**		**739**

Table 2: Project VMT Analysis

2016	Cordova Complex Warehouse (project)	Town of Apple Valley General Plan Buildout (Threshold) *
Population	0	
Employment	739	
Service Population	739	
OD VMT	23766	
OD VMT per service population	32.16	33.2

2040	Cordova Complex Warehouse (project)	Town of Apple Valley General Plan Buildout (Threshold) *
Population	0	
Employment	739	
Service Population	739	
OD VMT	22580	
OD VMT per service population	30.55	33.2

Table 3: Roadway VMT within Town of Apple Valley

2016	With Project	Without Project
Roadway VMT	854,224	847,823
Service population	91,852	91,113
VMT per service population	9.3	9.3

2040	With Project	Without Project
Roadway VMT	1,364,732	1,362,981
Service population	127,545	126,806
VMT per service population	10.7	10.7

Following this page, see the VMT analysis for the Quarry Complex which is used to derive the VMT used in the calculations presented above.

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MEMORANDUM

Date:	December 07, 2022	**GTS:** 221106.1
To:	James M. Daisa, DEA	
From:	Rawad Hani, GTS	
Subject:	**Vehicle Miles Traveled (VMT) Analysis** **Quarry Complex Warehouse, Town of Apple Valley, CA**	

This memorandum describes the development of vehicle miles traveled (VMT) analysis for the proposed Quarry Complex Warehouse in the Town of Apple Valley (City), CA. The project is located at the northeast corner of Cordova Road and Pawnee Road (within the North Apple Valley Industrial Specific Plan area) in the Town of Apple Valley. The project proposes development of approximately 78-acres into 1,540,120 square foot (SF) speculative warehouse. This VMT analysis evaluated the project using the 2016 and 2040 model years obtained from the San Bernardino County Transportation Authority (SBCTA).

Background

On December 28, 2018, the California Office of Administrative Law cleared the revised California Environmental Quality Act (CEQA) guidelines for use. Among the changes to the guidelines was removal of vehicle delay and level of service from consideration under CEQA. With the adopted guidelines, transportation impacts are to be evaluated based on a project's effect on vehicle miles traveled (VMT).

Methodology

The project VMT analysis was conducted using the Town of Apple Valley Resolution Number 2021-08, *"A Resolution of the City Council of the Town of Apple Valley, California, Adopting Thresholds of Significance for Vehicle Miles Traveled (VMT) Under the California Environmental Quality Act (CEQA)"* adopted during the Town Council Meeting, May 11, 2021. A full VMT analysis was conducted using San Bernardino County Transportation Analysis Model (SBTAM). The guidelines recommend use of VMT per service population to evaluate land use projects. The project would have a significant impact if the project VMT per service population is greater than Town of Apple Valley's General Plan Buildout VMT per service population.

SBTAM model is a socioeconomic data-based model and so the project land uses were converted into model employment categories using conversion factors from SCAG's "*Employment Density Study Summary Report – dated October 31, 2001*". The land use conversion yielded a total of 730 employees as shown in Table 1 which was used as input for the model runs.

Table 1: Quarry Complex Warehouse – Employment Estimates

Land Use Type	Square Footage (SF)	SF/Employee *	Total Employees
Warehouse	1,540,120	2,111	**730**
Total	**1,540,120**		**730**

Source: SCAG Employment Density Study Summary Report, October 31, 2001

VMT Analysis

Both baseline (2016) and horizon year (2040) model runs were used to estimate project's VMT impacts. SBTAM socioeconomic databases for the scenarios were updated with the project land use to calculate project VMT. Typically, project VMT is calculated by isolating the project in a new TAZ or multiple TAZs depending on the diversity of project land uses and project size. Since, SBTAM does not allow addition of new TAZs, one TAZ was borrowed for this project. The project TAZ was utilized to calculate project specific VMT per service population.

No project specific network modifications were conducted for the model scenarios. Full model runs with feedback loops were conducted for all of the project scenarios. It should be noted that the project land use was included in the model as additional land use in the cumulative (2040) scenario and no shifting of land use from other TAZs was used. In that regard, the cumulative VMT analysis can be considered as a conservative estimate.

The project's Origin/Destination (OD) VMT per service population can be used to evaluate project impact according to the guidelines. Origin-destination matrix outputs were used as trips and the trip lengths were derived from the skimming step to estimate OD VMT. OD matrix outputs include vehicle trips and hence no conversion for auto occupancy was applied. The trip length or distance was obtained using the model outputs from the "Skimming" step. The model skim outputs include peak and off-peak skim matrices by mode, similar to trip outputs from the model. OD VMT was estimated for both peak and off-peak and added together to estimate the total daily VMT for the project.

Based on the guidelines, the project would constitute a significant impact if the project OD VMT per service population for base and cumulative scenarios is greater than Town of Apple Valley General Plan Buildout OD VMT per service population. The Town of Apple Valley General Plan Buildout OD VMT per service population was obtained from SBCTA VMT Screening Tool.

Table 2 below shows the project VMT metrics for both baseline (2016) and cumulative (2040) conditions along with the regional VMT thresholds.

Table 2: Project VMT Analysis

2016	Quarry Complex Warehouse (project)	Town of Apple Valley General Plan Buildout (Threshold) *
Population	0	
Employment	730	
Service Population	730	
OD VMT	23,496	
OD VMT per service population	32.2	33.2
2040	**Quarry Complex Warehouse (project)**	**Town of Apple Valley General Plan Buildout (Threshold) ***
Population	0	
Employment	730	
Service Population	730	
OD VMT	22,310	
OD VMT per service population	30.6	33.2

** Threshold value obtained from SBCTA VMT Screening Tool: https://www.gosbcta.com/vmtscreening*

Table 3 illustrates the project's effect on VMT. The project's effect on VMT is a comparison of roadway VMT within Town of Apple Valley for both "With project" and "Without project" conditions.

Table 3: Roadway VMT within Town of Apple Valley

2016	With Project	Without Project
Roadway VMT	854,590	847,823
Service population	91,843	91,113
VMT per service population	9.3	9.3
2040	**With Project**	**Without Project**
Roadway VMT	1,367,015	1,362,981
Service population	127,536	126,806
VMT per service population	10.7	10.7

Conclusion

Based on the VMT analysis as shown in above Tables 2 and 3, the project doesn't constitute a significant impact for both "project generated VMT" and "project's effect on VMT".

Appendix A: Approved Scope Agreement

Appendix B: Traffic Counts

Appendix C: Forecast Model Plots and Volume Development

Appendix D: Intersection Capacity Analysis

Appendix E: VMT Analysis

FOCUSED TRAFFIC IMPACT ANALYSIS

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PROPOSED QUARRY INDUSTRIAL COMPLEX DEVELOPMENT

APN: 0463-214-06, 07, 08, & 09

TOWN OF APPLE VALLEY, CALIFORNIA

Prepared by:

DAVID EVANS AND ASSOCIATES INC.

FINAL REPORT
October 11, 2023
REVISED JANUARY 29, 2024

DAVID EVANS
AND ASSOCIATES INC.

October 11, 2023 Job No. VVLI0000-0001

Ramsey Sheehan
Josh Malhi
VVLIG Holdings, LLC

c/o Jessica Haughton
Synergy Consulting
410 Patti Ann Woods Drive
Henderson, NV 89002

RE: FINAL FOCUSED TRAFFIC IMPACT ANALYSIS REPORT FOR THE PROPOSED QUARRY COMPLEX WAREHOUSE DEVELOPMENT (PRE-APPLICATION NO. 2022-006) LOCATED AT THE NWC OF CORDOVA ROAD AND FLINT ROAD IN THE TOWN OF APPLE VALLEY, CALIFORNIA (APN: 0463-214-06, 07, 08, & 09)

Dear Ms. Haughton,

David Evans and Associates, Inc. is pleased to submit this Final Traffic Impact Analysis report for your proposed warehouse development in Apple Valley. The proposed project consists of a 1,462,342 square foot warehouse located on 78.14-acres in the Town of Apple Valley, California.

This report was prepared in accordance with San Bernardino County's Traffic Impact Study Guidelines for level of service (LOS) assessment published in July 2019, and the Town's adopted Resolution No. 2021-08 (May 2021) establishing thresholds of significance for a development's project-generated vehicle miles traveled (VMT) and the development's overall effect of VMT on the town's circulation system.

A VMT analysis was prepared to identify potentially significant transportation impacts for environmental clearance under the California Environmental Quality Act (CEQA). The VMT analysis findings and conclusions are summarized in the Executive Summary of this report and the full VMT analysis report is included in the appendix.

We are pleased to have been of assistance to you in processing and obtaining approval for the project. If you have any questions or comments, please feel free to contact me at 909-912-7304.

Respectfully submitted,

DAVID EVANS AND ASSOCIATES, INC.

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



DAVID EVANS AND ASSOCIATES INC.

TABLE OF CONTENTS

1 EXECUTIVE SUMMARY 1
1.1 Project Description 1
1.2 Town of Apple Valley and Caltrans Intersection Level of Service Policies 1
1.3 Analysis Scenarios 1
1.4 Recommended Measures to Improve Level of Service at Deficient Intersections 4
1.5 Project Fair-Share Contribution to Level of Service Deficiency Improvements 10
1.6 Project Fair-Share Fee Contribution to Level of Service Deficiency Improvements 10
1.7 Level of Service With Recommended Improvements 11
1.8 Traffic Signal Warrant Analysis 15
1.9 Project-Specific Frontage and Access Improvements 15
1.10 Vehicle Miles of Travel (VMT) Analysis 16
2 INTRODUCTION 19
2.1 Analysis Scenarios 19
3 EXISTING CONDITIONS 22
3.1 Town of Apple Valley and Caltrans Intersection Level of Service Policies 22
3.2 Study Intersections 22
3.3 Existing Traffic Volumes 22
3.4 Intersection Capacity Analysis Methodology 22
3.5 Existing Traffic Analysis 25
4 BACKGROUND CONDITIONS (WITHOUT CORDOVA COMPLEX) 27
4.1 Background Conditions Traffic Analysis (Without Cordova Complex) 27
5 BACKGROUND PLUS PROJECT CONDITIONS (WITHOUT CORDOVA COMPLEX) 28
5.1 Project Description and Trip Generation 28
5.2 Project Trip Distribution and Assignment 29
5.3 Background + Project Conditions Traffic Analysis (Without Cordova Complex) 30
6 FUTURE 2040 CONDITIONS (WITHOUT CORDOVA COMPLEX) 32
6.1 Future Conditions Traffic Analysis 32
7 FUTURE 2040 PLUS PROJECT CONDITIONS (WITHOUT CORDOVA COMPLEX) 33
7.1 Future Plus Project Traffic Analysis 33
8 BACKGROUND CONDITIONS TRAFFIC ANALYSIS (WITH CORDOVA COMPLEX) 35
8.1 Background Conditions Traffic Analysis (With Cordova Complex) 35
9 BACKGROUND PLUS PROJECT CONDITIONS TRAFFIC ANALYSIS (WITH CORDOVA COMPLEX) 36
9.1 Background Plus Project Conditions Traffic Analysis 36
10 FUTURE 2040 CONDITIONS TRAFFIC ANALYSIS (WITH CORDOVA COMPLEX) 38
10.1 Future 2040 Conditions Traffic Analysis 38
11 FUTURE 2040 PLUS PROJECT CONDITIONS TRAFFIC ANALYSIS (WITH CORDOVA COMPLEX) 39
11.1 Future 2040 Plus Project Conditions Traffic Analysis 39
12 RECOMMENDED MITIGATION MEASURES AND PROJECT-SPECIFIC FRONTAGE IMPROVEMENTS 41
12.1 Recommended Mitigation Measures to Improve LOS Deficiencies 41
12.2 Project-Specific Frontage and Access Improvements 41
13 VEHICLE MILES TRAVELLED (VMT) ANALYSIS 41
14 APPENDICES 42

DAVID EVANS AND ASSOCIATES INC.

LIST OF FIGURES

Figure ES- 1: Project-Specific Intersection Improvements 8
Figure ES- 2: Future 2040 + Project Intersection Improvements 9
Figure 1: Vicinity Map 20
Figure 2: Site Plan 21
Figure 3: Study Intersections 23
Figure 4: Existing Traffic Volumes 24
Figure 5: Existing Intersection Geometrics 26
Figure 6: Background Plus Project Traffic Volumes (Without Cordova Complex) 31
Figure 7: Future 2040 Plus Project Traffic Volumes (Without Cordova Complex) 34
Figure 8: Background Plus Project Traffic Volumes (With Cordova Complex) 37
Figure 9: Future 2040 Plus Project Traffic Volumes (With Cordova Complex) 40

LIST OF TABLES

Table 1-1: Comparison of 2024 Background (Without Cordova) and 2024 Background Plus Project LOS 2
Table 1-2: Comparison of Future 2040 (Without Quarry Complex) and Future 2040 Plus Project LOS 3
Table 1-3: Comparison of Background (With Cordova Complex) and Background Plus Project LOS 3
Table 1-4: Comparison of Future 2040 (With Cordova Complex) and Future 2040 Plus Project LOS 4
Table 1-5: Recommended Project-Specific and Cumulative Improvements to Mitigate LOS Deficiencies 6
Table 1-6: Project's Percent Contribution (Fair Share) to Deficient Intersections by Year and Peak Hour 10
Table 1-7: Project's Fair Share Fee for Near-Term Project-Specific Improvements 10
Table 1-8: Project's Fair Share Fee for Long-Range Cumulative Measures 10
Table 1-9: Improved Level of Service for the Near-Term Project-Specific Improvements 11
Table 1-10: Improved Level of Service for the Long-Range Cumulative Measures 12
Table 1-11: Improved Level of Service for the Near-Term Project-Specific Improvements 12
Table 1-12: Improved Level of Service for the Long-Range Cumulative Measures 13
Table 1-13: Improved Level of Service for the Near-Term Project-Specific Improvements 13
Table 1-14: Improved Level of Service for the Long-Range Cumulative Measures 14
Table 1-15: Improved Level of Service for the Near-Term Project-Specific Improvements 14
Table 1-16: Improved Level of Service for the Long-Range Cumulative Measures 14
Table 1-17: Summary of Traffic Signal Warrant Analyses of Deficient Intersections 15
Table 1-18: Project-Generated VMT Analysis 17
Table 1-19: Project Effect on Roadway VMT within Town of Apple Valley 18
Table 3-1: Level of Service Criteria for Two-Way and All-Way Stop Controlled (TWSC & AWSC) Intersections 25
Table 3-2: Intersection Level of Service for Existing (2022) Conditions 25
Table 4-1: Intersection Level of Service for Background Conditions 27
Table 5-1: Trip Generation Rates for ITE Land Use Categories of Warehousing 28
Table 5-2: Quarry Complex Project Trip Generation 29
Table 5-3: Comparison of Background (Without Quarry Complex) and Background Plus Project LOS 30
Table 6-1: Intersection Level of Service for Future Year 2040 Conditions (Without Cordova Complex project) 32
Table 7-1: Comparison of Future 2040 (Without Cordova Complex) and Future 2040 Plus Project LOS 33
Table 8-1: Intersection Level of Service for Background Conditions (With Cordova Complex) 35
Table 9-1: Comparison of Background (With Cordova Complex) and Background Plus Project LOS 36
Table 10-1: Intersection Level of Service for Future 2040 (With Cordova Complex) Conditions 38
Table 11-1: Comparison of Future 2040 (With Cordova Complex) and Future 2040 Plus Project LOS 39

LIST OF APPENDICES

Appendix A: Approved Scope Agreement
Appendix B: Traffic Counts
Appendix C: Forecast Model Plots and Volume Development
Appendix D: Intersection Capacity Analysis Worksheets
Appendix E: Vehicle Miles Traveled (VMT) Analysis

1 EXECUTIVE SUMMARY

This executive summary presents the findings and recommendations of this study.

1.1 Project Description

The proposed project consists of a 1,462,342 square foot speculative warehouse facility located on approximately 78-acres in the north part of the town and within the North Apple Valley Industrial Specific Plan area. The project site is located at the northwest corner of Cordova Road and Flint Road. The project includes automobile parking spaces on the north side and northeast corner of the site, loading docks on the west and east sides of the building, and trailer parking spaces within the secure loading areas on both sides of the building.

Access to the site is from Flint Road which parallels the project's eastern property line with three driveways accessing the site. Quarry Road, paralleling the northern property line, is a private road owned and operated by Cemex and is used to convey raw materials extracted from their White Mountain quarry. Further, an active railroad spur runs parallel to the north side of Quarry Road separated from the paved lanes by about 20-feet of dirt shoulder. No access from Quarry Road is proposed.

1.2 Town of Apple Valley and Caltrans Intersection Level of Service Policies

The Town of Apple Valley's General Plan policy (Policy 1.A, Program 1.A.4) on level of service is to maintain a level of service (LOS) D in the AM and PM peak hours on all its roadways. This level of service policy applies to local Apple Valley roadways, roads of regional importance as part of the county's Congestion Management Program (CMP) network, and state highways.

The Caltrans' Guide for the Preparation of Traffic Impact Studies (December 2002) states "Caltrans endeavors to maintain a target level of service at the transition between LOS "C" and LOS "D" on State highway facilities. However, Caltrans acknowledges that this may not always be feasible, so their practice is to allow level of service thresholds equal to the threshold of the jurisdiction where the facility is located but preferably no greater than a 45 second average delay per vehicle in the peak hour (mid LOS D). For this study, the town's LOS D is assumed to be the minimum level of service criteria for the study intersections.

1.3 Analysis Scenarios

The scenarios analyzed in this study are consistent with the requirements of the county's Transportation Impact Study Guidelines (July 2019). Additional analysis scenarios are included in this study to reflect conditions with and without the Quarry Complex's (project) sister warehouse development—Cordova Complex—located at the southwest corner of extensions of Cordova Road and Navajo Road.

The project's sister site, the Cordova Complex, is expected to develop generally in the same timeframe as the Quarry Complex (project). The proposed project is analyzed, however, in scenarios without the Cordova Complex warehouse to represent a potential situation in which the Cordova Complex project is significantly delayed, or the application is abandoned or withdrawn, and the sister project is never built. In either case, the project could be responsible for a larger share of off-site improvements that would normally be shared between the two developments. The additional scenario without the Cordova Complex assumed as background development will produce more realistic off-site improvements and more reasonable and accurate fair-share estimates of the cost of the off-site improvements in the event the Cordova Complex project does not develop. The same set of analysis scenarios (with and without the Quarry Complex) is included in the traffic analysis for the Cordova Complex project. The expanded list of analysis scenarios includes:

<u>Scenarios Without Development of the Cordova Complex</u>

- Existing conditions
- Background conditions (year 2024) without Cordova Complex
- Background + project conditions (year 2024) without Cordova Complex
- Future year 2040 conditions without Cordova Complex
- Future year 2040 + project conditions without Cordova Complex

Scenarios With Development of the Cordova Complex

- Background conditions (year 2024) with Cordova Complex
- Background + project conditions (year 2024) with Cordova Complex
- Future year 2040 conditions with Cordova Complex
- Future year 2040 + project conditions with Cordova Complex

A. Level of Service Comparison With and Without the Proposed Project (Without Cordova Complex)

Table 1-1 compares the weekday AM and PM peak hour background and background plus project LOS at the study intersections. Background conditions represent the project's opening year of 2024 and includes growth in ambient traffic from regional and local development equaling 3.5 percent annually but excludes the Cordova Complex in the cumulative traffic forecasts. In this scenario, the addition of project traffic causes intersection LOS deficiencies (from LOS D or better to LOS E or F) at Dale Evans Parkway / Johnson Road, Stoddard Wells Road / Johnson Road, and Stoddard Wells Road / I-15 Northbound Ramps.

Table 1-1: Comparison of 2024 Background (Without Cordova Complex) and 2024 Background Plus Project LOS

Intersection	Control Type	Background W/O Project Conditions				Background + Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	10.7	B	9.4	A	11.2	B	9.5	A
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	10.2	B	8.9	A	10.6	B	9.0	A
3. Dale Evans Parkway / Quarry Road	TWSC	11.1	B	13.8	B	11.5	B	14.6	B
4. Dale Evans Parkway / Johnson Road	AWSC	8.9	A	13.3	B	14.9	B	58.0	F
5. Stoddard Wells Road / Johnson Road	TWSC	10.5	B	15.7	C	13.9	B	66.7	F
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	22.0	C	25.5	D	601.2†	F	683.1†	F
7. Stoddard Wells Road / Quarry Road	TWSC	18.1	C	13.5	B	18.1	C	13.5	B
8. I-15 Southbound Ramps / Quarry Road	TWSC	10.9	B	11.7	B	11.4	B	14.0	B
9. Johnson Road / Navajo Road	TWSC	10.4	B	9.9	A	10.4	B	9.9	A
10. Dale Evans Parkway / Cordova Road	TWSC	9.5	A	10.1	B	11.7	B	14.3	B

Notes:
† Exponentially high delays, although unrealistic, represent over-saturated conditions. The Highway Capacity Manual 6th Edition designates this magnitude of delay simply as >300 seconds per vehicle.
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

Table 1-2 compares the weekday AM and PM peak hour future year 2040 and future year 2040 plus project LOS at the study intersections. Future year 2040 conditions represent a long-range forecast for addressing the cumulative impacts of regional growth in traffic as determined through traffic forecasts from the San Bernardino Countywide Traffic Analysis Model (SBTAM). The Cordova Complex is not included in the future 2040 scenarios.

In the future year 2040 without project scenario, the growth in background traffic through the year 2040 causes intersection LOS deficiencies (changes from LOS D or better to LOS E or F) at Dale Evans Parkway / Johnson Road (PM peak hour), Stoddard Wells Road / Johnson Road (PM peak hour), and Stoddard Wells Road / I-15 Northbound Ramps (AM and PM peak hour).

The addition of project traffic in this future year 2040 scenario exacerbates the intersection LOS deficiencies at the same three intersections impacted by the addition of project traffic to year 2024 conditions: Dale Evans Parkway / Johnson Road, Stoddard Wells Road / Johnson Road, and Stoddard Wells Road / I-15 Northbound Ramps, but with substantially higher delays and impacts both peak hours.

Table 1-2: Comparison of Future 2040 (Without Quarry Complex) and Future 2040 Plus Project LOS

Intersection	Control Type	Future Year 2040 W/O Project Conditions				Future Year 2040 + Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	12.9	B	10.9	B	13.7	B	11.1	B
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	11.4	B	9.7	A	11.8	B	9.8	A
3. Dale Evans Parkway / Quarry Road	TWSC	12.7	B	17.5	C	13.3	B	18.7	C
4. Dale Evans Parkway / Johnson Road	AWSC	13.1	B	58.6	F	38.2	E	192.3	F
5. Stoddard Wells Road / Johnson Road	TWSC	20.9	C	307.9	F	71.6	F	982.9†	F
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	144.1	F	680.9†	F	1,048.1†	F	3,911.3†	F
7. Stoddard Wells Road / Quarry Road	TWSC	20.8	C	15.6	C	20.8	C	15.6	C
8. I-15 Southbound Ramps / Quarry Road	TWSC	11.5	B	14.8	B	12.1	B	19.0	C
9. Johnson Road / Navajo Road	TWSC	10.5	B	10.0	B	10.5	B	10.0	B
10. Dale Evans Parkway / Cordova Road	TWSC	12.6	B	12.6	B	16.8	C	22.3	C

Notes:
† Exponentially high delays, although unrealistic, represent over-saturated conditions. The Highway Capacity Manual 6th Edition designates this magnitude of delay simply as >300 seconds per vehicle.
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

Table 1-3 compares the weekday AM and PM peak hour opening year of 2024 background and opening year of 2024 background plus project LOS at the study intersections reflecting growth in ambient traffic from other regional and local development (equaling 3.5 percent annually) and including traffic generated by the Cordova Complex.

In the opening year 2024 background scenarios, cumulative traffic from the Cordova Complex combined with project traffic exacerbates the intersection LOS deficiencies at Dale Evans Parkway / Johnson Road, Stoddard Wells Road / Johnson Road, and Stoddard Wells Road / I-15 Northbound Ramps, with exponential increases in the delay for the stop-controlled movements.

Table 1-3: Comparison of Background (With Cordova Complex) and Background Plus Project LOS

Intersection	Control Type	Background W/O Project Conditions				Background + Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	11.2	B	9.5	A	11.7	B	9.6	A
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	10.6	B	9.0	A	11.0	B	9.1	A
3. Dale Evans Parkway / Quarry Road	TWSC	11.6	B	14.6	B	12.1	B	15.4	C
4. Dale Evans Parkway / Johnson Road	AWSC	15.2	C	53.4	E	89.5	F	204.2	F
5. Stoddard Wells Road / Johnson Road	TWSC	14.0	B	68.8	F	24.6	C	300.5†	F
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	362.7†	F	249.7	F	1,888.0†	F	2,710.5†	F
7. Stoddard Wells Road / Quarry Road	TWSC	20.2	C	13.7	B	20.2	C	13.7	B
8. I-15 Southbound Ramps / Quarry Road	TWSC	11.4	B	14.0	B	11.9	B	17.6	C
9. Johnson Road / Navajo Road	TWSC	10.4	B	9.9	A	10.4	B	9.9	A
10. Dale Evans Parkway / Cordova Road	TWSC	12.5	B	16.3	C	17.1	C	39.0	E

Notes:
† Exponentially high delays, although unrealistic, represent over-saturated conditions. The Highway Capacity Manual 6th Edition designates this magnitude of delay simply as >300 seconds per vehicle.
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

Table 1-4 on the following page compares the weekday AM and PM peak hour future year 2040 and future year 2040 plus project LOS at the study intersections, including cumulative traffic generated by the Cordova Complex.

The Cordova Complex, as cumulative development, adds over 450 peak hour trips to the circulation system. When combined with project traffic added to stop controlled movements, the combination of Quarry (project) and Cordova Complex traffic results in unstable operations whereas the delay experienced by the stop-controlled approaches increases exponentially. This is caused by both a significant increase in traffic at stop-controlled approaches and an increase in traffic at the uncontrolled approaches on the major streets resulting in fewer acceptable gaps in the flow of traffic in both directions.

Table 1-4: Comparison of Future 2040 (With Cordova Complex) and Future 2040 Plus Project LOS

Intersection	Control Type	Future Year 2040 W/O Project Conditions				Future Year 2040 + Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	13.8	B	11.1	B	14.9	B	11.3	B
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	11.8	B	9.8	A	12.3	B	9.9	A
3. Dale Evans Parkway / Quarry Road	TWSC	13.4	B	18.7	C	14.0	B	20.1	C
4. Dale Evans Parkway / Johnson Road	AWSC	42.5	E	208.8	F	174.4	F	370.8†	F
5. Stoddard Wells Road / Johnson Road	TWSC	73.8	F	989.8†	F	289.5	F	1,818.4†	F
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	804.2†	F	1,993.4†	F	22,41.0†	F	11,415.4†	F
7. Stoddard Wells Road / Quarry Road	TWSC	23.6	C	16.0	C	23.6	C	16.0	C
8. I-15 Southbound Ramps / Quarry Road	TWSC	12.1	B	19.1	C	12.7	B	26.4	D
9. Johnson Road / Navajo Road	TWSC	10.5	B	10.0	B	10.5	B	10.0	B
10. Dale Evans Parkway / Cordova Road	TWSC	18.7	C	29.4	D	35.4	E	152.4	F

Notes:
† Exponentially high delays, although unrealistic, represent over-saturated conditions. The Highway Capacity Manual 6th Edition designates this magnitude of delay simply as >300 seconds per vehicle.
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

When the proposed project's traffic is added to future year 2040 background conditions (with Cordova Complex) there is a complete breakdown in the operation of the stop-controlled approaches with spikes in the calculated delay that are not achievable in real life conditions. These unrealistically high delays are indications of over-saturation of the stop-controlled approaches and the need for a traffic control strategy with significantly greater capacity.

The addition of traffic from the proposed project in the future year 2040 (with Cordova Complex) conditions causes a LOS deficiency at the previously unimpacted intersection of Dale Evans Parkway / Cordova Road. This intersection becomes the primary access road for both the Quarry and the Cordova Complexes. The addition of project traffic causes the PM peak hour LOS at the stop-controlled approach (Cordova Road) to change from a LOS C in the future year 2040 background conditions to a LOS F in future year 2040 background + project conditions.

1.4 Recommended Measures to Improve Level of Service at Deficient Intersections

Table 1-5 summarizes the recommended near-term project-specific and long-range cumulative intersection improvements required to improve deficient intersection levels of service to conform with the town's general plan policy of maintaining a minimum LOS D during peak hours. The near-term project-specific improvements are based on background + project scenario without traffic from the Cordova Complex project. The long-range cumulative measures are based on the future 2040 + project conditions with traffic from the Cordova Complex project.

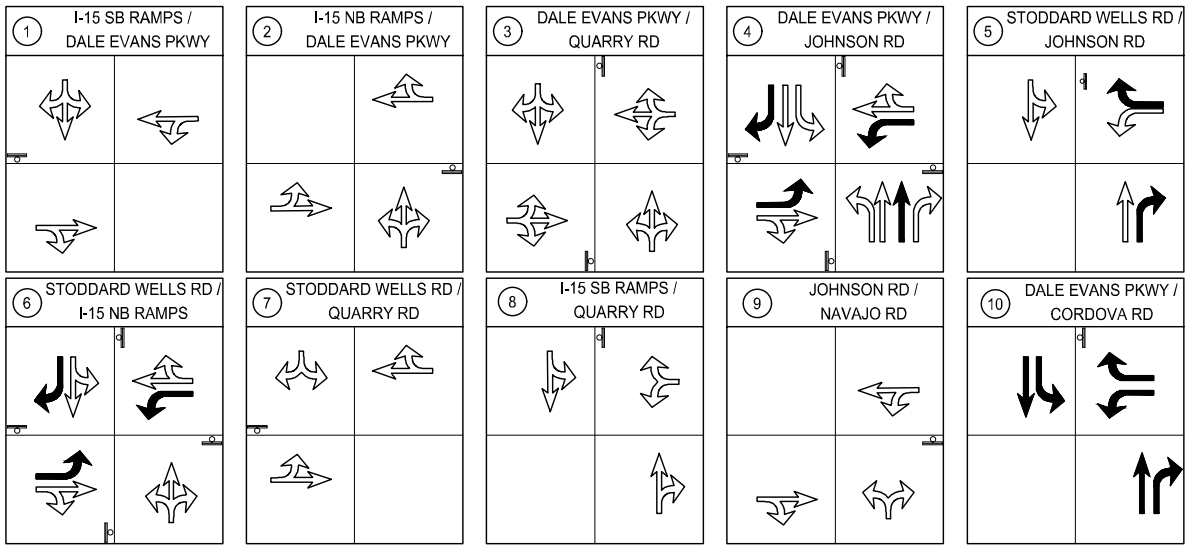
Figure ES- 1 illustrates the near-term project-specific intersection improvements required to improve deficient intersection levels of service in the background (year 2024) plus project scenario. **Figure ES- 2** illustrates the long-range cumulative intersection improvements required to improve deficiencies in the future 2040 plus project scenario.

Table 1-5: Recommended Project-Specific and Cumulative Improvements to Mitigate LOS Deficiencies

Intersection	Quarry Complex Project-Specific Improvements (See **Figure ES- 1**)	Cumulative Long-Term Improvements (See **Figure ES- 2**)
Dale Evans Parkway and Johnson Road	**Retain existing all-way stop control** Reconfigure intersection: □ Westbound approach: remove free right and convert the lane to a through-right lane, and convert the existing shared through-left lane to an exclusive left turn lane (250 feet long + a 120-foot transition) □ Eastbound approach: provide an exclusive left turn lane (250 feet long + 120-foot transition) and shared through-right lane □ Northbound approach: remove the northbound offset right turn lane and add a second though lane and an exclusive right turn lane □ Southbound approach: provide an exclusive right turn lane If the Cordova Complex is constructed concurrently with the Quarry Complex, then the following additional improvements are required: ■ Westbound approach: provide an additional through lane prior to occupancy of the Cordova Complex project **[a]** ■ Westbound departure: widen Johnson Road's east leg departure approach to accommodate two receiving lanes and merge to single westbound lane after 750 feet **[a]**	**Install a traffic signal at Dale Evans Parkway and Johnson Road** □ Retain the project-specific improvements implemented with construction of the Quarry and Cordova Complex developments.
[a] These are Cordova Complex project-specific improvements		
Stoddard Wells Road and Johnson Road	**Retain side-street stop-control of Johnson Road** Reconfigure intersection: □ Northbound approach: add an exclusive right turn lane (250 feet long + a 120-foot transition) □ Westbound approach: add an exclusive westbound right turn lane If the Cordova Complex is constructed concurrently with the Quarry Complex, then the following additional improvements are required: ■ Convert intersection to all-way stop-control **[a]** ■ Westbound approach: provide an exclusive left turn lane and a shared left-right lane **[a]** ■ Northbound approach: provide a free-right turn lane with an exclusive receiving lane eastbound on Johnson Road; design radius of free right turn lane to accommodate an STAA or California legal truck at a speed of 25 to 30 mph **[a]** ■ Southbound approach: add a second through lane; retain the existing shared through left-turn lane **[a]**	<u>Two mitigation options</u> **1. Convert intersection to all-way stop-control – Preferred Alternative** Reconfigure intersection: □ Westbound approach: widen approach to accommodate dual left-turn lanes and an exclusive right-turn lane □ Northbound approach: convert exclusive right turn lane into a free-right turn lane with an exclusive receiving lane eastbound on Johnson Road; design radius of free right turn lane to accommodate an STAA or California legal truck at a speed of 25 to 30 mph □ Southbound approach: add an exclusive left-turn lane and an additional through lane **2. Install traffic signal and reconfigure approaches** Reconfigure intersection: □ Westbound approach: widen approach to accommodate an exclusive left turn lane and an exclusive right turn lane □ Northbound approach: retain project-specific improvement to add an exclusive right turn lane; retain one through lane □ Southbound approach: provide an exclusive left turn / deceleration lane; retain one through lane

Table 1-5: Recommended Project-Specific and Cumulative Improvements to Mitigate LOS Deficiencies

Intersection	Quarry Complex Project-Specific Improvements (See **Figure ES- 1**)	Cumulative Long-Term Improvements (See **Figure ES- 2**)
[a] These are Cordova Complex project-specific improvements		
Stoddard Wells Road and I-15 Northbound Ramps	**Convert intersection to all-way stop control** Widen the eastbound, westbound, and southbound approaches to accommodate turn lanes Reconfigure intersection: □ Eastbound approach: add left turn lane from Stoddard Wells Road to I-15 NB on-ramp (250 feet long + a 120-foot transition) and maintain a shared through-right lane □ Westbound approach: add left turn lane from Stoddard Wells Road to Outer Highway 15 N (250 feet long + a 120-foot transition) and maintain a shared through-right lane □ Northbound approach: retain existing shared left-through-right lane □ Southbound approach: widen and configure the I-15 southbound off-ramp to add a right turn lane (250-feet long + 120-foot transition) and shared left-through lane	**Install a traffic signal** Reconfigure approaches: □ Westbound approach: add an exclusive through lane. Reconfigure approach to accommodate an exclusive left turn lane, through lane, and maintain a shared through-right lane □ Southbound approach: provide a left turn lane from the I-15 NB off-ramp to Stoddard Wells Road and a shared through-right turn lane □ Eastbound approach: retain project-specific improvement
Dale Evans Parkway and Cordova Road	**Construct Cordova Road from Dale Evans Parkway to Navajo Road concurrent with project for access** Maintain side-street (Cordova Road) stop-control at intersection. Configure the approaches of Cordova Road and Dale Evans Parkway: □ Westbound approach: flare the westbound approach to accommodate an exclusive left turn lane and an exclusive right turn lane with both lanes having storage for four 75-foot STAA or 75-foot California Legal trucks (350 feet long + adequate transition for speed of road) with right turn curb return radius adequate for the swept path and overhang of a 75-foot STAA or 75-foot California legal truck □ Northbound approach: maintain existing through lane and add a northbound right turn storage / deceleration lane (consistent with the design standards in the Caltrans Highway Design Manual Section 405) □ Southbound approach: maintain existing through lane and add a southbound left turn storage / deceleration lane (consistent with the design standards in the Caltrans Highway Design Manual Section 405) □ The southbound left turn storage / deceleration lane should transition into a center two way left turn lane along Dale Evans Parkway for approximately 1,000 feet □ Add in a two-way-left turn lane along Dale Evans Parkway	Retain the project-specific improvements implemented with construction of the Cordova Complex Project and the Quarry Complex





N

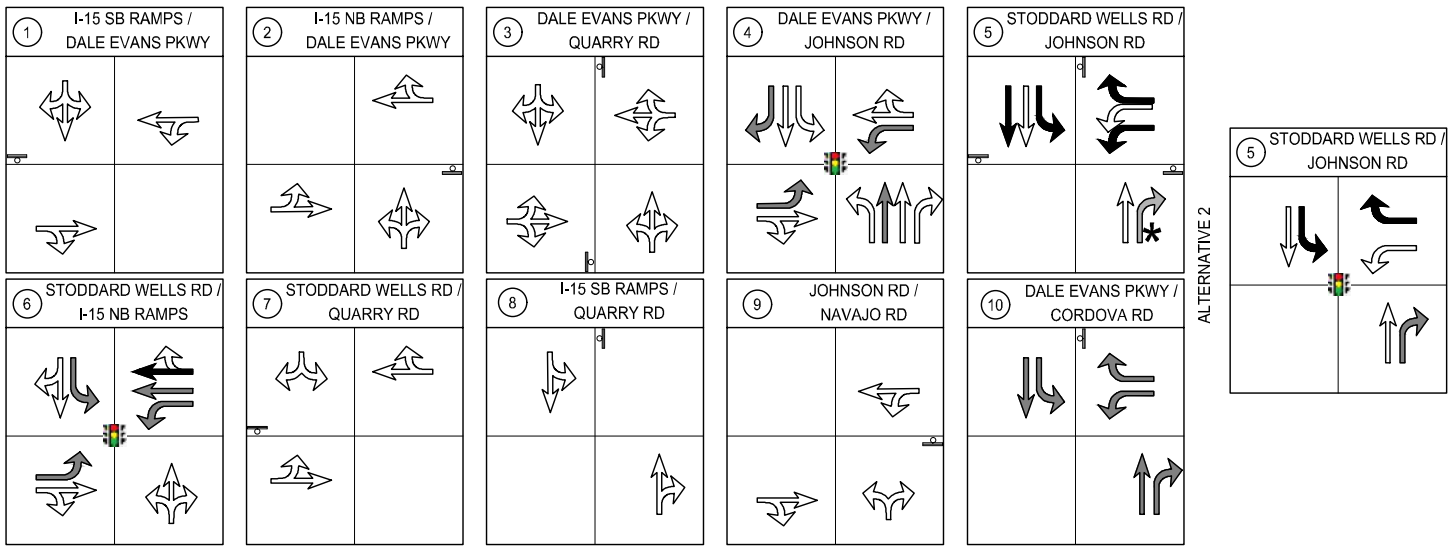
NOT TO SCALE

LEGEND

- EXISTING GEOMETRICS
- PROJECT GEOMETRICS
- (#) - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH
- * - FREE RIGHT TURN

FIGURE ES-1: PROJECT-SPECIFIC INTERSECTION IMPROVEMENTS QUARRY COMPLEX APPLE VALLEY

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N

NOT TO SCALE

LEGEND

- EXISTING GEOMETRICS
- PROJECT GEOMETRICS
- CUMULATIVE GEOMETRICS

(#) - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH
* - FREE RIGHT TURN

DAVID EVANS AND ASSOCIATES INC.

FIGURE ES-2: FUTURE 2040 + PROJECT INTERSECTION IMPROVEMENTS QUARRY COMPLEX APPLE VALLEY

1.5 Project Fair-Share Contribution to Level of Service Deficiency Improvements

Table 1-6 shows the proposed project's percent contribution to the total growth in entering traffic volumes, otherwise known as the fair-share calculation. The formula for calculating the percentages in the table is:

$$\text{Percent of Total} = \frac{\text{(Total Project Trips)}}{\text{((Total Non-Project Forecasted Trips + Total Project Trips) - Existing Trips)}} \text{ X } 100\%$$

Table 1-6: Project's Percent Contribution (Fair Share) to Deficient Intersections by Year and Peak Hour

Intersection	Near-Term Conditions*		Long-Range Cumulative Conditions**	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
4.Dale Evans Parkway / Johnson Road	93.1%	89.4%	32.7%	31.0%
5.Stoddard Wells Road / Johnson Road	94.2%	90.8%	28.2%	25.4%
6.Stoddard Wells Road / I-15 Northbound Ramps	87.6%	84.8%	26.9%	24.7%

Notes:
* Scenario excluding traffic from the Cordova Complex project. ** Scenario including traffic from the Cordova Complex project.
Project traffic used in calculating the fair-share percentage is based on Passenger Car Equivalents (PCEs).

1.6 Project Fair-Share Fee Contribution to Level of Service Deficiency Improvements

The fair share percentages calculated in **Chapter 1.5** are used to determine the Fair Share Fee for each intersection and by forecast year.

The Fair Share Fee provided in **Table 1-7** represent the estimated cost associated with the near-term project-specific improvements described in **Table 1-5** and are based on background + project scenario without traffic from the Cordova Complex project. The near-term Project-Specific Improvements are improvements for which the Quarry Complex project is solely responsible. Therefore, these improvements do not include the Cordova Complex as background development to isolate only the Quarry Complex's required improvements. The traffic impact study for the Cordova Complex project is analyzed in the same manner so that it's project-specific improvements can be isolated.

Table 1-7: Project's Fair Share Fee for Near-Term Project-Specific Improvements

Intersection	Cost ($)	Fair Share %	Fair Share Fee
4. Dale Evans Parkway / Johnson Road	$200,000	93.1%	$186,177
5. Stoddard Wells Road / Johnson Road	$300,000	94.2%	$282,609
6. Stoddard Wells Road / I-15 Northbound Ramps/	$300,000	87.6%	$262,803

Notes:
Project traffic used in calculating the fair-share percentage is based on Passenger Car Equivalents (PCEs).
The project specific improvements exclude traffic from the Cordova Complex project.

The Fair Share Fee provided in **Table 1-8** represent the estimated cost associated with the long-range cumulative measures described in **Table 1-5** and are based on the future 2040 + project conditions with traffic from the Cordova Complex project.

Table 1-8: Project's Fair Share Fee for Long-Range Cumulative Measures

Intersection	Cost	Fair Share %	Fair Share Fee
4. Dale Evans Parkway / Johnson Road	$700,000	32.7%	$228,561
5. Stoddard Wells Road / Johnson Road*	$900,000	28.2%	$253,906
6. Stoddard Wells Road / I-15 Northbound Ramps	$1,100,000	26.9%	$295,699

Notes:
* - Based on Option 1: Convert intersection to all-way stop-control – Preferred Alternative
Project traffic used in calculating the fair-share percentage is based on Passenger Car Equivalents (PCEs).
The ultimate cumulative improvements include traffic from the Cordova Complex project.

1.7 Level of Service With Recommended Improvements

This section presents the level of service at deficient intersections before and after implementation of the recommended mitigation measures summarized in **Table 1.5**. The near-term background + project scenarios in the following tables present the mitigated levels of service for project-specific improvements—improvements for which the Quarry Complex project is solely responsible. Therefore, the mitigated levels of service for the near-term scenarios do not include the Cordova Complex as background development to isolate only the Quarry Complex's required improvements. The traffic impact study for the Cordova Complex project is analyzed in the same manner so that it's project-specific improvements can be isolated.

If the Quarry Complex and Cordova Complex are developed concurrently then **Table 1-5** also presents the improvements needed if both projects are developed simultaneously. Regardless of which complex develops first, both projects will likely share in the cost of improving Cordova Road and its intersection with Dale Evans Parkway.

The improved level of service under the long-term future 2040 + project scenarios include traffic from the Cordova Complex project because the long-term scenarios reflect cumulative conditions for which all development is responsible for its fair-share of the cost of the improvements. The last columns in the series of tables in this section present the change in delay (the measurement used to establish LOS). The top row shows the increase in delay caused by the proposed project's traffic added to the without project scenario. The bottom row shows the reduction in delay after implementation of the mitigation measure.

Because most of the study intersections are side-street stop-controlled intersections, for which level of service is defined as the LOS of the worst stop-controlled movement, the method of calculating average delay at saturated intersections produces exponentially high delays. Calculated delays in the thousands of seconds are not at all realistic but, suffice it say, the method is making a clear statement that side-street stop as a form of traffic control at high volume intersections will fail.

A. Dale Evans Parkway and Johnson Road

Table 1-9 shows the intersection level of service under background plus project conditions with the near-term project-specific improvements of adding northbound through lane, southbound right turn lane, eastbound left turn lane, and westbound left turn lane. The intersection of Dale Evans Parkway / Johnson Road, with its current all-way stop-control, will begin to fail as development occurs in north Apple Valley. The near-term project-specific improvements mitigation will improve the intersection to a LOS C or better in this scenario for both peak hours.

Table 1-9: Improved Level of Service for the Near-Term Project-Specific Improvements

Intersection	Background Conditions (Without Cordova Complex)				Background + Project Conditions (Without Cordova Complex)				Change in Delay (Seconds) *	
	AM Peak		PM Peak		AM Peak		PM Peak			
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
Dale Evans Parkway / Johnson Road	8.9	A	13.3	B	14.9	B	58.0	F	N/A	44.7
w/Improvements: Reconfigure intersection add NBTH, SBR, EBL, and WBL	Not Applicable				11.8	B	24.6	C		11.3
Notes: *Positive numbers represent increases in delay, or impacts, while negative numbers (shown in parenthesis) represent reductions, or improvements, in delay.										

Table 1-10 on the following page shows the intersection level of service under future year 2040 plus project conditions with the long-range cumulative measures of installing a traffic signal intersection. In the long-term further lane capacity added to Dale Evans Parkway consistent with the general plan's ultimate section for this road will keep up with traffic growth. The long-range cumulative measures will improve the intersection to a LOS D or better in this scenario for both peak hours.

Table 1-10: Improved Level of Service for the Long-Range Cumulative Measures

Intersection	Future Year 2040 Conditions (With Cordova Complex)				Future Year 2040 + Project Conditions (With Cordova Complex)				Change in Delay (Seconds) *	
	AM Peak		PM Peak		AM Peak		PM Peak			
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
Dale Evans Parkway / Johnson Road	42.5	E	208.8	F	174.4	F	370.8[†]	F	131.9	162.0
w/cumulative improvements: Retain the project-specific improvements implemented and install traffic signal	Not Applicable				20.3	C	39.9	D	(22.2)	(168.9)

Notes:
[†] Exponentially high delays, although unrealistic, represent over-saturated conditions. The Highway Capacity Manual 6th Edition designates this magnitude of delay simply as >300 seconds per vehicle.
*Positive numbers represent increases in delay while negative numbers (shown in parenthesis) represent reductions, or improvements, in delay.

B. Stoddard Wells Road and Johnson Road

Table 1-11 shows the intersection level of service under background plus project conditions with the near-term project-specific improvements of adding exclusive turn lanes at the busiest approaches.

The growth in traffic at this skewed intersection with stop-control on Johnson Road primarily affects movements traveling to and from I-15 via the on and off-ramps at Stoddard Wells Road. The northbound right turn from Stoddard Wells Road to Johnson Road and the stop-controlled westbound left turn from Johnson Road to Stoddard Wells Road experience the intersection's highest growth in traffic and the largest increase in associated delay for these movements. The near-term project-specific improvements mitigation will improve the intersection to a LOS D or better in this scenario.

Table 1-11: Improved Level of Service for the Near-Term Project-Specific Improvements

Intersection	Background Conditions (Without Cordova Complex)				Background + Project Conditions (Without Cordova Complex)				Change in Delay (Seconds) *	
	AM Peak		PM Peak		AM Peak		PM Peak			
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
Stoddard Wells Road / Johnson Road	10.5	B	15.7	C	13.9	B	66.7	F	N/A	51.0
w/Improvements: Reconfigure intersection add a NBR and WBR	Not Applicable				10.7	B	34.9	D		19.2

Notes:
*Positive numbers represent increases in delay, or impacts, while negative numbers (shown in parenthesis) represent reductions, or improvements, in delay.

While the addition of lanes mitigates the LOS deficiency in the near-term, as development continues in north Apple Valley, the stop-controlled east leg of Johnson Road will eventually fail.

Table 1-12 on the following page shows the intersection level of service under future year 2040 plus project conditions with the long-range cumulative measures. Preferred Option 1 is to convert the intersection to all-way stop-control, add a southbound left turn, a southbound through lane, a westbound left turn, a westbound right turn, and converting the northbound right turn to a free right turn. Option 2 install a traffic signal and add a southbound left turn and a westbound right turn. With the Preferred Option 1 mitigations of adding turn lanes will improve the intersection to a LOS D or better in this scenario.

Table 1-12: Improved Level of Service for the Long-Range Cumulative Measures

Intersection	Future Year 2040 Conditions (With Cordova Complex)				Future Year 2040 + Project Conditions (With Cordova Complex)				Change in Delay (Seconds)*	
	AM Peak		PM Peak		AM Peak		PM Peak			
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
Stoddard Wells Road / Johnson Road	73.8	F	989.8†	F	289.5	F	1,818.4†	F	215.7	828.6
w/cumulative improvements Preferred Option 1: convert to AWSC, add SBL, SBTH, WBL, WBR, and free NBR	Not Applicable				12.0	B	35.0	D	(61.8)	(954.8)
w/cumulative improvements Option 2: install traffic signal, add SBL and WBR					16.3	B	19.4	B	(57.5)	(970.4)

Notes:
† Exponentially high delays, although unrealistic, represent over-saturated conditions. The Highway Capacity Manual 6th Edition designates this magnitude of delay simply as >300 seconds per vehicle.
*Positive numbers represent increases in delay while negative numbers (shown in parenthesis) represent reductions, or improvements, in delay.

C. Stoddard Wells Road / I-15 Northbound Ramps

The existing side-street stop-controlled approach (I-15 southbound on and off ramps) of this intersection will experience failure in background plus project conditions.

Table 1-13 shows the intersection level of service under background plus project conditions with the near-term project-specific improvements of conversion to all-way stop control, and the addition of southbound right lane, eastbound left, westbound left and exclusive westbound through lane.

All-way stop control is frequently used as an interim solution prior to installing a traffic signal and that is the case in this scenario[1]. The near-term project-specific improvements mitigations will improve the intersection to a LOS C or better in both peak hours.

Table 1-13: Improved Level of Service for the Near-Term Project-Specific Improvements

Intersection	Background Conditions (Without Cordova Complex)				Background + Project Conditions (Without Cordova Complex)				Change in Delay (Seconds)*	
	AM Peak		PM Peak		AM Peak		PM Peak			
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
Stoddard Wells Road / I-15 Northbound Ramps	22.0	C	25.5	D	601.2†	F	683.1†	F	579.2	657.6
w/Improvements: convert to AWSC and provide SBR, EBL, WBL and WBTH	Not Applicable				14.8	B	16.7	C	(586.4)	(666.4)

Notes:
† Exponentially high delays, although unrealistic, represent over-saturated conditions. The Highway Capacity Manual 6th Edition designates this magnitude of delay simply as >300 seconds per vehicle.
*Positive numbers represent increases in delay while negative numbers (shown in parenthesis) represent reductions, or improvements, in delay.

Table 1-14 on the following page shows the intersection level of service under future year 2040 plus project conditions with the recommended long-term improvement of installing a traffic signal and reconfigure the southbound lanes.

The long-range cumulative measures will improve the intersection to a LOS D or better in this scenario for both peak hours.

[1] Section 2B.07 of the California Manual on Uniform Traffic Control Devices (CA MUTCD) provides requirements or "warrants" to consider before implementing all-way stop control. This intersection in this scenario meets at least one warrant justifying the installation of a traffic signal which is one of the requirements when considering all-way stop control. Further study of the all-way stop requirements is required to fully justify the implementation of this mitigation measure.

Table 1-14: Improved Level of Service for the Long-Range Cumulative Measures

Intersection	Future Year 2040 Conditions (With Cordova Complex)				Future Year 2040 + Project Conditions (With Cordova Complex)				Change in Delay (Seconds)*	
	AM Peak		PM Peak		AM Peak		PM Peak			
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
Stoddard Wells Road / I-15 Northbound Ramps	804.2†	F	1,993.4†	F	2,241.0†	F	11,415.4†	F	1,436.8	9,422.0
w/cumulative improvements: Traffic Signal and SB reconfiguration	Not Applicable				34.9	C	37.2	D	(769.3)	(1956.2)

Notes:
† Exponentially high delays, although unrealistic, represent over-saturated conditions. The Highway Capacity Manual 6th Edition designates this magnitude of delay simply as >300 seconds per vehicle.
*Positive numbers represent increases in delay while negative numbers (shown in parenthesis) represent reductions, or improvements, in delay.

D. Dale Evans Parkway / Cordova Road (With Cordova Complex)

Table 1-15 shows the level of service under background plus project conditions with the proposed project specific improvements of adding a northbound right, southbound left, westbound right, and a two way left turn lane along Dale Evans Parkway. Dale Evans Parkway and Cordova Road intersection—a primary access road serving both the Quarry Complex and the Cordova Complex projects.

Cordova Road needs to be constructed to provide access to project site and the intersection widening improvements summarized in **Table 1-5** should be implemented when Cordova Road is constructed. These improvements are discussed in **Section 1.9** (Project-Specific Frontage and Access Improvements). The near-term project-specific improvements mitigations will improve the intersection to a LOS B in both peak hours.

Table 1-15: Improved Level of Service for the Near-Term Project-Specific Improvements

Intersection	Background Conditions (Without Cordova Complex)				Background + Project Conditions (Without Cordova Complex)				Change in Delay (Seconds) *	
	AM Peak		PM Peak		AM Peak		PM Peak			
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
Dale Evans Parkway / Cordova Road	9.5	A	10.1	B	11.7	B	14.3	B	N/A	
w/ improvements: provide NBR, SBL, TWLTL, WBL	Not Applicable				10.8	B	12.8	B		

Notes:
*Positive numbers represent increases in delay while negative numbers (shown in parenthesis) represent reductions, or improvements, in delay.

Table 1-16 shows the intersection level of service under future year 2040 plus project conditions with the project specific improvements of adding a northbound right, southbound left, westbound right, and a two way left turn lane along Dale Evans Parkway. The near-term project-specific improvements mitigations will improve the intersection to a LOS D or better in both peak hours.

Table 1-16: Improved Level of Service for the Long-Range Cumulative Measures

Intersection	Future Year 2040 Conditions (With Cordova Complex)				Future Year 2040 + Project Conditions (With Cordova Complex)				Change in Delay (Seconds) *	
	AM Peak		PM Peak		AM Peak		PM Peak			
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
Dale Evans Parkway / Cordova Road	17.6	C	24.7	C	31.2	D	117.4	F	13.6	92.7
w/ improvements: Retain the project-specific improvements	Not Applicable				16.3	C	34.1	D	(0.5)	11.8

Notes:
*Positive numbers represent increases in delay while negative numbers (shown in parenthesis) represent reductions, or improvements, in delay.

1.8 Traffic Signal Warrant Analysis

Stop-controlled intersections operating with a LOS deficiency in any project-related scenario are subject to a warrant analysis to determine the need for a traffic signal. Satisfying a warrant or multiple warrants for a traffic signal does not automatically require the installation of a signal. Warrants are tools used in conjunction with engineering assessment and judgement regarding improving safety and operating conditions at stop-controlled intersections.

Table 1-17 summarizes the findings of the signal warrant analyses conducted for each deficient intersection under each project-related scenario. The three study intersections experiencing the most dramatic increases in delay meet the signal warrant in all project-related scenarios.

Table 1-17: Summary of Traffic Signal Warrant Analyses of Deficient Intersections

Deficient Intersection	Scenarios Satisfying Warrant 3 (Peak Hour) at Deficient Intersections [a]			
	Year 2024 Project Conditions *	Year 2024 Project Conditions **	Future 2040 + Project Conditions *	Future 2040 + Project Conditions **
Dale Evans Parkway / Johnson Road	YES	YES	YES	YES
Stoddard Wells Road / Johnson Road	YES	YES	YES	YES
Stoddard Wells Road / I-15 Northbound Ramps	YES	YES	YES	YES
Dale Evans Parkway / Cordova Road	NO	NO	NO	YES

Notes:

* Scenario excluding traffic from the Cordova Complex project. ** Scenario including traffic from the Cordova Complex project.

[a] The California Manual on Uniform Traffic Control Devices (CA MUTCD) provides procedures and standards for evaluating the need for installation of a traffic signal at a stop-controlled intersection. Of the nine warrants included in the MUTCD, warrant 3 (based on peak hour traffic volumes) is frequently used in planning and impact studies because it is standard practice to evaluate peak hour operating conditions using traffic forecasts. The other warrants generally require data that cannot be accurately forecasted.

The MUTCD emphasizes that satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic signal and a traffic signal should not be installed unless an engineering study indicates that installing a traffic signal will improve the overall safety and/or operation of the intersection.

1.9 Project-Specific Frontage and Access Improvements

This study recommends the site frontage and access improvements listed below that are typically required in the town's Conditions of Approval. Because the location of the Quarry Complex project has no improved roads accessing the site, construction of an access road is required. Further, the responsibility for the construction of certain elements of the access road depends on the timing of the Cordova Complex project. The recommended access road improvements are based on the following assumptions:

- The improvement recommendations assume that the Quarry Complex project is constructed before the Cordova Complex project. The traffic impact analysis report for the Cordova Complex project describes the access road improvements assuming the Cordova Complex project is constructed before the Quarry Complex project. If constructed concurrently, each project is responsible for their project-specific elements and their fair-share cost of non-frontage shared elements.
- The costs of constructing the non-frontage improvements to the segment of Cordova Road between Dale Evans Parkway and Dachshund Avenue are shared between the two projects, and subject to a reimbursement agreement if one of the two projects is not constructed for an extended period.

1. Construct access and site frontage improvements on Cordova Road:

a. Construct a partial section of Cordova Road[2] from Dale Evans Parkway to the western property line of the Quarry Complex project.

- The project will need to construct the non-fronting center portion of Cordova Road from Dale Evans Parkway to the site for access purposes. This segment of Cordova Road should be constructed as the two inner lanes of the Secondary Road typical section (or as required by the Town).
- The project should widen the Cordova Road approach to Dale Evans Parkway and construct the near-term intersection improvements described in **Table 1-5**.

b. Construct and improve the project's frontage with Cordova Road.

- The project will be required to dedicate land and construct the 44-foot half-width of a secondary road section of Cordova Road along its southern property line. This improvement is shown on the site plan. Until the southern half of Cordova Road is constructed by development of the property south of Cordova Road, the Town may require that the two travel lanes constructed with the half-width section provide for two-way traffic, or a third center lane be constructed for eastbound traffic.
- The project proposes a single access driveway from Cordova Road, located near the western property line. The remainder of the southern end of the site is used for a detention basin.

2. Construct access and site frontage improvements on Flint Road:

a. Construct and improve the project's frontage with Flint Road from Cordova Road to the project's northern property line.

- Flint Road is designated as an industrial and commercial local street with and 66-foot right of way. The project will be required to construct the 33-foot half-width of a local street section including the three proposed driveways accessing the project from Flint Road. This improvement is shown on the site plan with construction of 22 feet of pavement (including curb and gutter) from the future centerline of Flint Road to the face of curb.
- Flint Road will not intersect with the privately owned Quarry Road and therefore a turnaround is provided at the northern terminus of Flint Road.

1.10 Vehicle Miles of Travel (VMT) Analysis

The VMT analysis screening assessment included in the approved October 19, 2022, scoping agreement concluded that the Cordova Complex project was required to prepare a detailed analysis of project-generated VMT and its effect on VMT town-wide as part of the project's environmental clearance under CEQA.

The VMT analysis was prepared in accordance with the Town's adopted Resolution No. 2021-08 (Adopting Thresholds of Significance for Vehicle Miles Traveled (VMT) Under the California Environmental Quality Act (CEQA)) which states that a development project would result in a significant project-generated VMT impact if either of the following conditions are satisfied:

1. The baseline project generated VMT per service population (population plus employees) exceeds the Town of Apple Valley General Plan Buildout VMT per service population, or
2. The cumulative (2040) project generated VMT per service population exceeds the Town of Apple Valley General Plan Buildout VMT per service population.

[2] Cordova Road is designated as a Secondary Road in the General Plan with an 88-foot right of way to accommodate a four-lane traveled way with shoulder, bike lanes, or street parking, and a 12-foot parkway / sidewalk on both side of the street.

In addition to project-generated VMT, the Town adopted significance thresholds for a project's effect on VMT in Apple Valley. The resolution states that a project's effect on VMT would be considered significant if it resulted in either of the following conditions to be satisfied:

3. The baseline link-level boundary Town-wide VMT per service population increases under the plus project condition compared to the no project condition, or
4. The cumulative link-level boundary Town-wide VMT per service population increases under the plus project condition compared to the no project condition.

The term "link-level boundary Town-wide" refers to all vehicle miles of travel on all roadways within the town limits of Apple Valley. The following describes the key findings and the conclusions of the VMT analysis. The full report is in **Appendix E**.

A. Project-Generated VMT Analysis

The SBTAM model is used estimate project-generated VMT for both baseline (2016) and horizon year (2040) scenarios. The SBTAM socioeconomic database for each scenario was updated with the project land use to calculate project VMT. The databases were also used to obtain the town's population and employment to estimate service population.

Table 1-18 presents the results of the project-generated VMT analyses for the baseline and horizon year scenarios. As shown in **Table 1-18**, in both the baseline and horizon year scenarios, the VMT/service population metric for the Quarry Complex project is less than the Town of Apple Valley's general plan buildout significance threshold.

Table 1-18: Project-Generated VMT Analysis

Metric	2016 Baseline Conditions		2040 Conditions	
	Quarry Complex Warehouse (project)	Town of Apple Valley General Plan Buildout (Threshold) [a]	Quarry Complex Warehouse (project)	Town of Apple Valley General Plan Buildout (Threshold) [a]
Population	0		0	
Employment [b]	730		730	
Service Population	730		730	
OD VMT [c]	23,469		22,310	
OD VMT per service population	32.2	33.2	30.6	33.2

Notes:
[a] Source: SBCTA VMT Screening Tool: https://www.gosbcta.com/vmtscreening
[b] Source: SCAG Employment Density Study Summary Report, October 31, 2001 (using 2,111 square feet per employee).
[c] The project's Origin/Destination (OD) VMT derived from the San Bernardino Traffic Analysis Model (SBTAM)
Source of analysis: General Technologies and Solutions (GTS)

The outcome of the second analysis, the project's effect on town-wide VMT, is presented in **Table 1-19.** The SBTAM model was used to estimate the VMT on all roadways within the town's limits for the baseline and 2040 scenarios with and without the project. Using the resulting town-wide VMT, the metric indicating a significant impact (VMT/Service population) at a town-wide scale was calculated.

Table 1-19 on the following page shows that the VMT/Service population metric under the "with project" conditions compared to the metric under the "without project" conditions in both scenarios does not increase and does not satisfy the town's significance threshold described above.

Table 1-19: Project Effect on Roadway VMT within Town of Apple Valley

Metric	2016 Baseline		2040 Conditions	
	With Project	Without Project	With Project	Without Project
Roadway VMT [a]	854,590	847,823	1,367,015	1,362,981
Service population [b]	91,843	91,113	127,536	126,806
VMT per service population	9.3	9.3	10.7	10.7

Notes:
[a] Roadway VMT = sum of all vehicle miles travel on all streets within the town limits of Apple Valley
[b] Service population = sum of residents and employees in Apple Valley in the scenario being analyzed. Source: 2016 and 2040 land use summaries from the San Bernardino Traffic Analysis Model (SBTAM)
Source of analysis: General Technologies and Solutions (GTS)

B. Conclusions of the VMT Analyses

The VMT analysis conducted to identify potentially significant project-generated VMT impacts under CEQA concludes that the proposed project generates a VMT / Service population less than the VMT / Service population representing buildout of Apple Valley's general plan and, therefore, does not cause a significant impact based on the town's adopted significance thresholds for project-generated VMT.

Another VMT analysis conducted to identify potentially significant impacts of the project's "effects on town-wide VMT" under CEQA concludes that the VMT / service population metric for the baseline and horizon year scenarios "with the project" do not increase the metric over the "without project" scenarios. Therefore, the proposed Cordova Complex project does not cause a significant impact based on the town's adopted significance thresholds for the project's effect on town-wide VMT.

2 INTRODUCTION

This report identifies the traffic impacts and presents recommendations for access and traffic mitigation for the proposed Quarry Complex project in the Town of Apple Valley, California. The proposed project consists of a 1,462,342 square foot speculative warehouse facility located on approximately 78-acres in the north part of the Town within the North Apple Valley Industrial Specific Plan area.

The North Apple Valley Industrial Specific Plan (NAVISP) is the regulatory plan that governs all development within its boundaries. It designates land uses and provides design standards for the construction of buildings and defines the area's required infrastructure for transportation / circulation, public services, and utilities. The proposed project is consistent with the circulation element of the NAVISP.

The project site is located at the northwest corner of Cordova Road and Flint Road, as illustrated in the vicinity map shown in **Figure 1**. The site is bounded to the north by the privately owned Quarry Road and undeveloped land; to the south by unimproved Cordova Road and undeveloped land; to the west by undeveloped land; and to the east by unimproved Flint Road and undeveloped land. **Figure 2** illustrates the proposed project site plan.

The intent of this report is to evaluate potentially significant traffic impacts caused by the proposed development in accordance with the Town of Apple Valley and San Bernardino County traffic impact analysis requirements under the scenarios described in the next section.

2.1 Analysis Scenarios

The scenarios analyzed in this study are consistent with the requirements of San Bernardino County's Transportation Impact Study Guidelines (July 2019). Additional analysis scenarios are included in this study to reflect conditions with and without the Quarry Complex's (project) sister warehouse development—Cordova Complex—located at the southwest corner of extensions of Cordova Road and Navajo Road.

The project's sister site, the Cordova Complex, is expected to develop generally in the same timeframe as the Quarry Complex (project). The proposed project is analyzed, however, in scenarios without the Cordova Complex warehouse to represent a potential situation in which the Cordova Complex project is significantly delayed, or the application is abandoned or withdrawn, and the sister project is never built. In either case, the Quarry Complex could be responsible for a larger share of off-site improvements that would normally be proportionately shared between the two developments. The additional scenario without the Cordova Complex included in the background traffic projections will produce more realistic off-site improvements and more reasonable and accurate fair-share estimates of the cost of the off-site improvements in the event the Cordova Complex project does not develop. The same set of analysis scenarios (with and without the Quarry Complex) is included in the traffic impact analysis for the Cordova Complex project. The expanded list of analysis scenarios includes:

<u>Scenarios Without Development of the Cordova Complex</u>

- Existing conditions
- Background conditions (year 2024) without Cordova Complex
- Background + project conditions (year 2024) without Cordova Complex
- Future year 2040 conditions without Cordova Complex
- Future year 2040 + project conditions without Cordova Complex

<u>Scenarios With Development of the Cordova Complex</u>

- Background conditions (year 2024) with Cordova Complex
- Background + project conditions (year 2024) with Cordova Complex
- Future year 2040 conditions with Cordova Complex
- Future year 2040 + project conditions with Cordova Complex



FIGURE 1: VICINITY MAP
QUARRY COMPLEX
APPLE VALLEY

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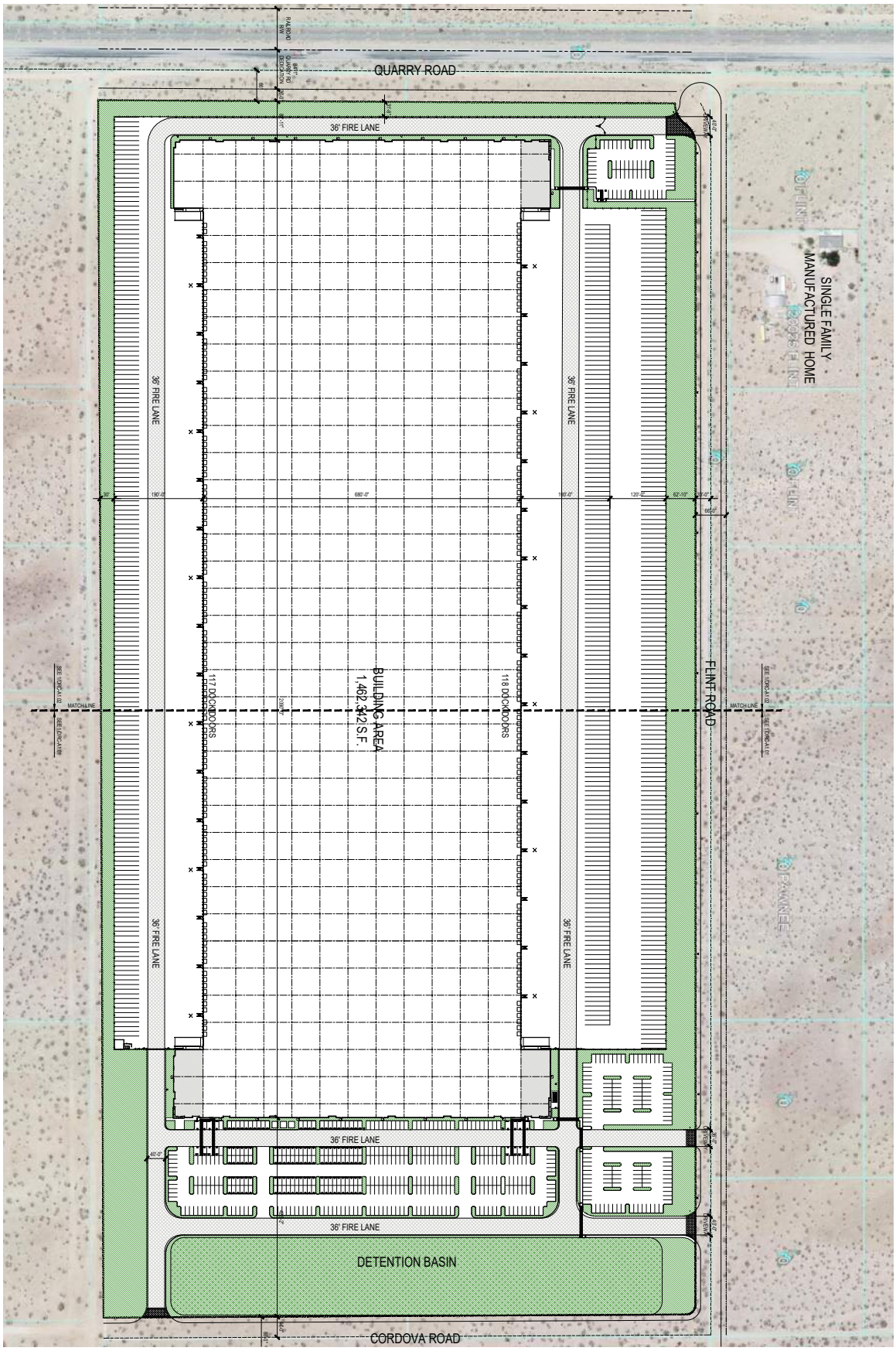


FIGURE 2: PROJECT SITE PLAN

QUARRY COMPLEX

APPLE VALLEY

DAVID EVANS AND ASSOCIATES INC.

3 EXISTING CONDITIONS

3.1 Town of Apple Valley and Caltrans Intersection Level of Service Policies

The Town of Apple Valley's General Plan policy (Policy 1.A, Program 1.A.4) on level of service is to maintain a level of service (LOS) D in the AM and PM peak hours on all its roadways. This level of service policy applies to local Apple Valley roadways, roads of regional importance as part of the county's Congestion Management Program (CMP) network, and state highways.

The Caltrans' Guide for the Preparation of Traffic Impact Studies (December 2002) states "Caltrans endeavors to maintain a target level of service at the transition between LOS "C" and LOS "D" on State highway facilities. However, Caltrans acknowledges that this may not always be feasible, so their practice is to allow level of service thresholds equal to the threshold of the jurisdiction where the facility is located but preferably no greater than a 45 second average delay per vehicle in the peak hour (mid LOS D). For this study, the town's LOS D is assumed to be the minimum level of service criteria for the study intersections.

3.2 Study Intersections

This focused traffic study evaluates key intersections on routes expected to be used by project traffic to access the site. **Figure 3** and the list below identifies the intersections analyzed in this study.

1. I-15 Southbound Ramps / Dale Evans Parkway
2. I-15 Northbound Ramps / Dale Evans Parkway
3. Dale Evans Parkway / Quarry Road
4. Dale Evans Parkway / Johnson Road
5. Stoddard Wells Road / Johnson Road
6. Stoddard Wells Road / I-15 Northbound Ramps
7. Stoddard Wells Road / Quarry Road
8. I-15 Southbound Ramps / Quarry Road
9. Johnson Road / Navajo Road
10. Dale Evans Parkway / Cordova Road

The intersection of Dale Evans Parkway / Johnson Road is currently all-way stop-controlled. All the remaining study intersections are currently side street stop controlled.

3.3 Existing Traffic Volumes

Turn movement counts were conducted in November 2022 by Newport Traffic Studies, an independent traffic data collection company. These counts were collected during the AM (7:00-9:00 AM) and PM (4:00-6:00 PM) peak periods. The existing turn movement counts are included in **Appendix B** of this study. **Figure 4** illustrates the existing peak hour traffic volumes in the study area.

3.4 Intersection Capacity Analysis Methodology

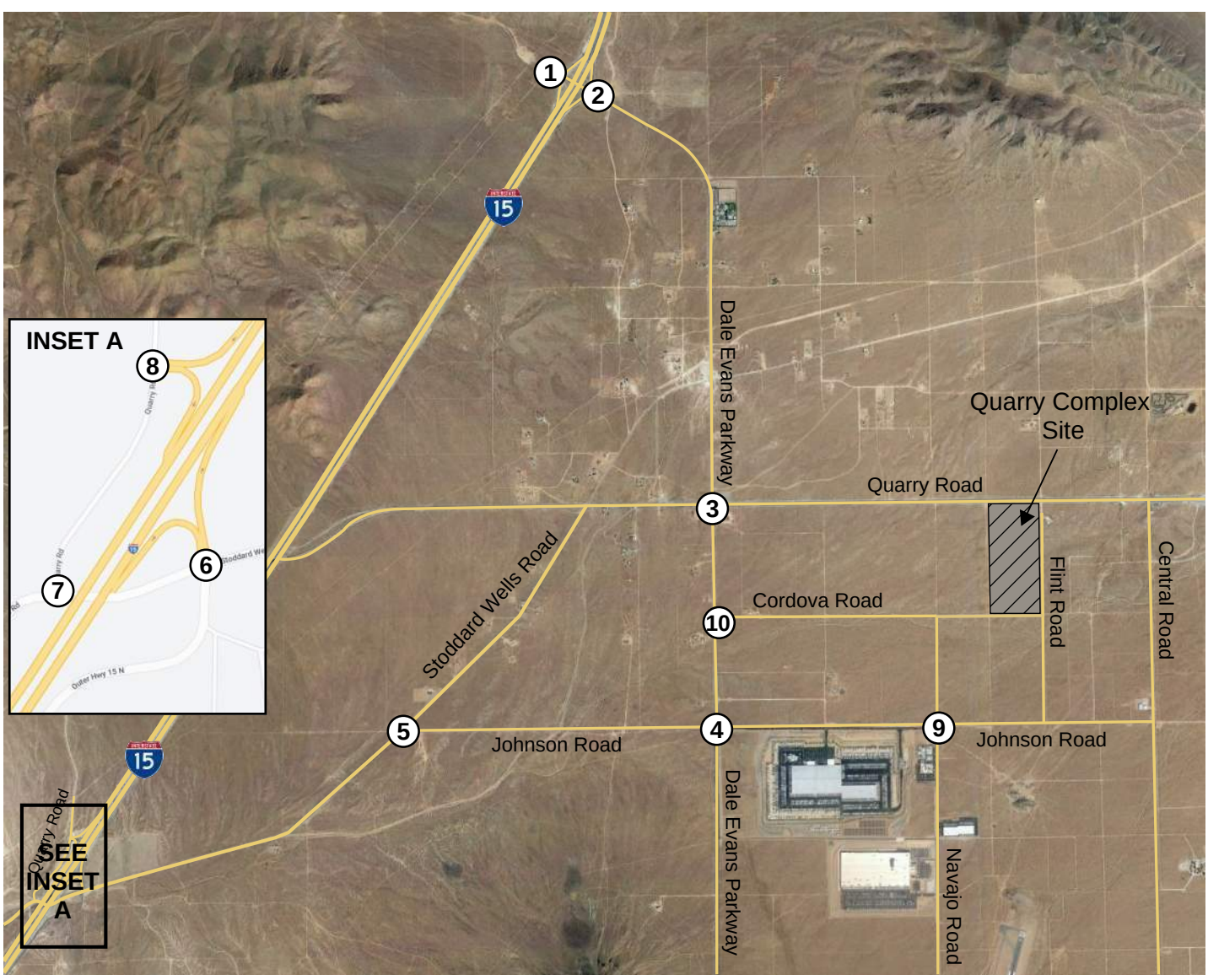
In this study, intersection level of service (LOS) was determined using Synchro software[3] which implements the methodologies in Chapter 19 and Chapter 20 of the Highway Capacity Manual, 6th Edition (HCM 6)[4] and conforms to the procedures and assumptions in the county's Traffic Impact Analysis Guidelines.

The intersection analysis uses existing intersection geometrics and existing traffic volumes in determining AM and PM peak hour intersection level of service. **Table 3-1** provides LOS thresholds for both two-way stop-controlled (TWSC) and all-way stop-controlled intersections which is determined by the computed or measured control delay. Unsignalized intersections have lower delay criteria than signalized intersections because stop-control is associated with more uncertainty for users, as delays are less predictable than they are at signals, which reduces the user's tolerance for delay.

The level of service at TWSC intersections is measured as the control delay for the worst stop-controlled movement at the intersection regardless of the movement's traffic volume.

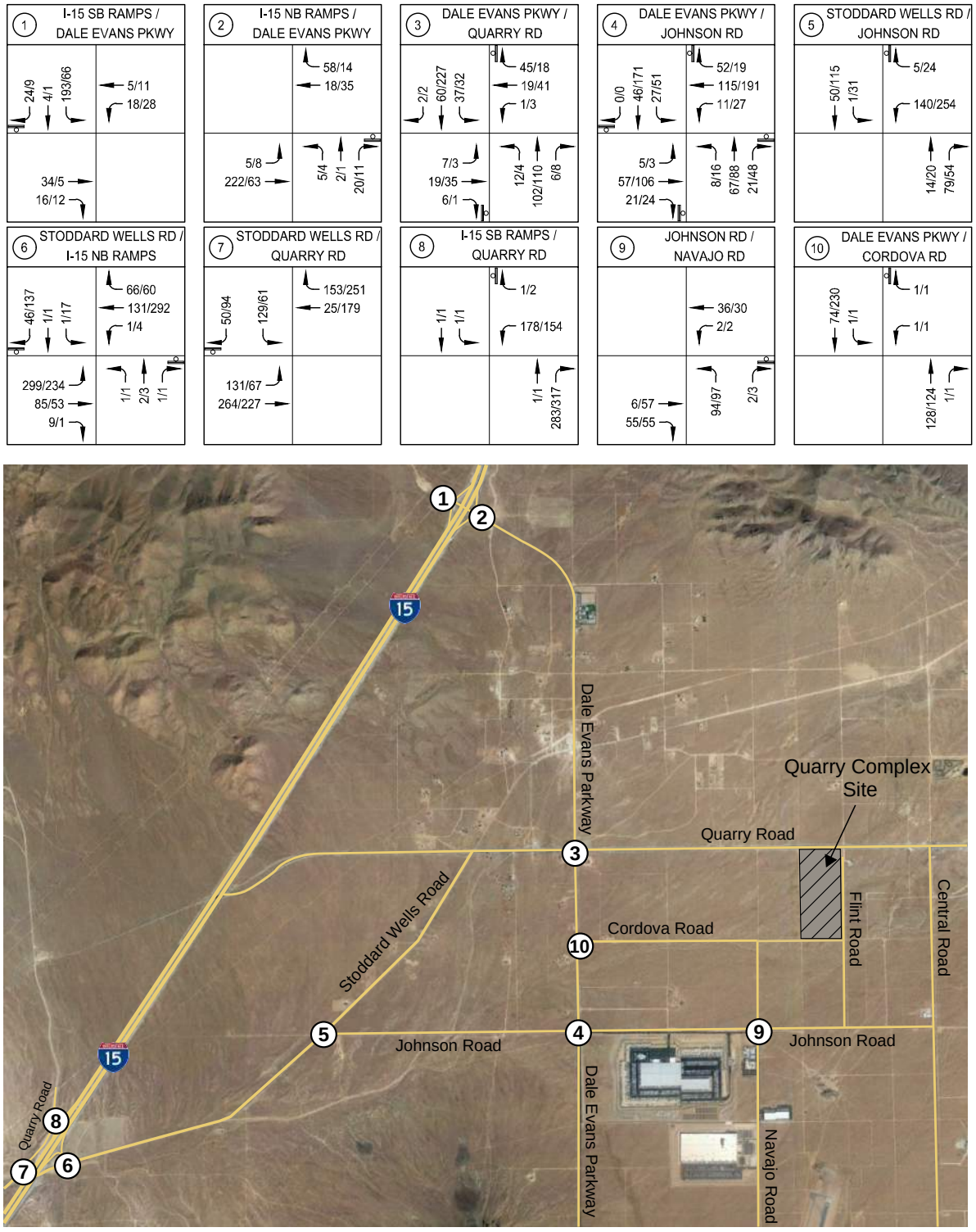
[3] Trafficware Ltd, version 10.

[4] Transportation Research Board, Washington D.C., 2010.



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FIGURE 3: STUDY INTERSECTIONS
QUARRY COMPLEX
APPLE VALLEY



LEGEND

XX/XX - AM/PM TRAFFIC VOLUMES

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

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FIGURE 4: EXISTING TRAFFIC VOLUMES
QUARRY COMPLEX
APPLE VALLEY

The level of service at AWSC intersections is also measured as the control delay, but it applies to the entire intersection not individual movements.

Table 3-1: Level of Service Criteria for Two-Way and All-Way Stop Controlled (TWSC & AWSC) Intersections

Control Delay (s/veh)	**LOS by Volume-to-Capacity Ratio [a]**	
	≤1.0	**>1.0**
0 - 10	A	F
> 10 -15	B	F
> 15 - 25	C	F
> 25 - 35	D	F
> 35 - 50	E	F
> 50	F	F

Note:
[a] For approaches and intersectionwide assessment, LOS is defined solely by control delay.
For TWSC intersections, c on the minor street and the LOS is based on the minor stop-controlled movement or approach with the highest delay. In the TWSC methodology, LOS is not calculated for the uncontrolled major-street approaches or for the entire intersection.
For AWSC intersections, the delay criteria are applied to the average controlled delay of all approaches and the LOS is presented for the entire intersection.
Source: Highway Capacity Manual 6th Edition, Exhibit 20-2.

3.5 Existing Traffic Analysis

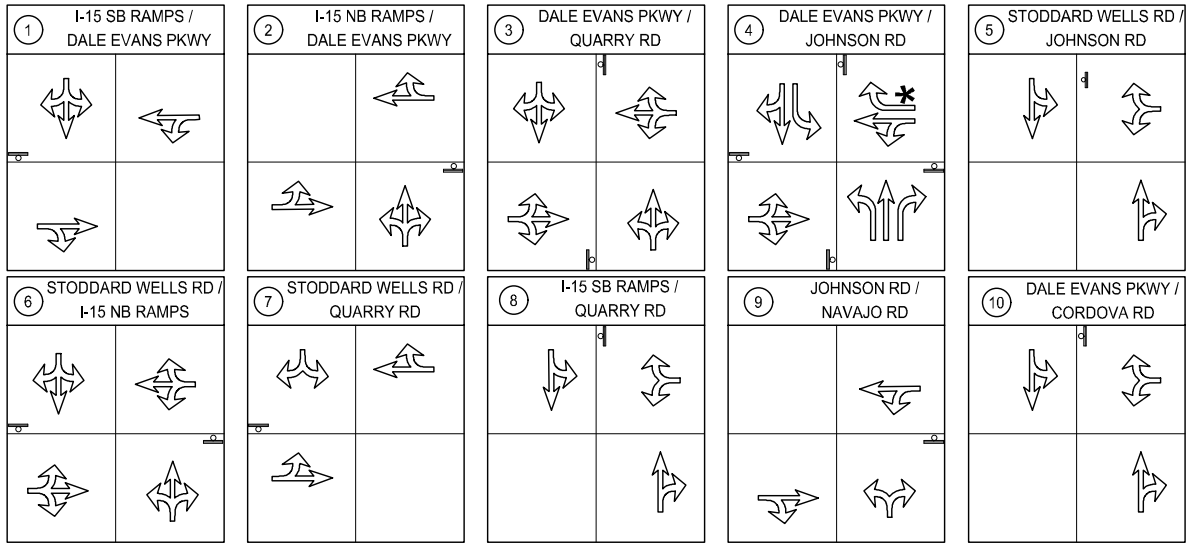
Existing intersection geometrics and existing AM and PM peak hour traffic counts are used in analyzing existing intersection capacity. **Table 3-2** and **Appendix D** provide the results of the analysis. **Figure 5** illustrates the existing intersection geometrics utilized in the capacity analysis.

Table 3-2: Intersection Level of Service for Existing (2022) Conditions

Intersection	Control Type	Existing Conditions			
		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	10.5	B	9.3	A
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	10.0	B	8.8	A
3. Dale Evans Parkway / Quarry Road	TWSC	10.9	B	13.3	B
4. Dale Evans Parkway / Johnson Road	AWSC	8.7	A	12.4	B
5. Stoddard Wells Road / Johnson Road	TWSC	10.2	B	14.5	B
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	20.5	C	23.0	C
7. Stoddard Wells Road / Quarry Road	TWSC	16.6	C	12.8	B
8. I-15 Southbound Ramps / Quarry Road	TWSC	10.7	B	11.3	B
9. Johnson Road / Navajo Road	TWSC	10.2	B	9.7	A
10. Dale Evans Parkway / Cordova Road	TWSC	9.4	A	10.0	B

Notes:
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

As presented in **Table 3-2**, under existing conditions, all study intersections currently operate at LOS C or better in both peak hours.





N

NOT TO SCALE

LEGEND

- EXISTING GEOMETRICS
- (#) - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH
- * - FREE RIGHT TURN

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FIGURE 5: EXISTING INTERSECTION GEOMETRICS
QUARRY COMPLEX
APPLE VALLEY

4 BACKGROUND CONDITIONS (WITHOUT CORDOVA COMPLEX)

This scenario evaluates impacts due to ambient growth in traffic and traffic generated by other area development affecting the study area up to the year 2024 when construction of the Quarry Complex is expected to be completed and the building occupied. An annual growth rate in traffic of 3.5% represents both ambient growth and other area development.

4.1 Background Conditions Traffic Analysis (Without Cordova Complex)

The background conditions intersection level of service analysis uses existing intersection geometrics and the projected AM and PM peak hour traffic for background conditions. The background projections in this scenario exclude traffic from the Cordova Complex—the Quarry Complex's sister project. **Table 4-1** and **Appendix D** provides the results of the analysis.

Table 4-1: Intersection Level of Service for Background Conditions

Intersection	Control Type	Background Conditions (Without Cordova Complex)			
		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	10.7	B	9.4	A
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	10.2	B	8.9	A
3. Dale Evans Parkway / Quarry Road	TWSC	11.1	B	13.8	B
4. Dale Evans Parkway / Johnson Road	AWSC	8.9	A	13.3	B
5. Stoddard Wells Road / Johnson Road	TWSC	10.5	B	15.7	C
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	22.0	C	25.5	D
7. Stoddard Wells Road / Quarry Road	TWSC	18.1	C	13.5	B
8. I-15 Southbound Ramps / Quarry Road	TWSC	10.9	B	11.7	B
9. Johnson Road / Navajo Road	TWSC	10.4	B	9.9	A
10. Dale Evans Parkway / Cordova Road	TWSC	9.5	A	10.1	B

Notes:
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

As presented in **Table 4-1***,* under background conditions, the study intersections operate at a LOS C or better in both peak hours.

5 BACKGROUND PLUS PROJECT CONDITIONS (WITHOUT CORDOVA COMPLEX)

This scenario evaluates potential impacts of the background scenario with the addition of project generated traffic in opening year (2024).

5.1 Project Description and Trip Generation

The proposed project is a speculative warehouse where the tenant(s) and function as a potential short term storage facility, distribution center, fulfillment center, etc. is unknown. While the impact analysis needs to reflect a reasonable spectrum of tenant types, there is a risk when estimating trip generation of over or under-estimating traffic. The 11th Edition of the Institute of Transportation Engineers' Trip Generation manual contains data for the most common types of warehouse operations with a wide range of rates. **Table 5-1** summarizes the trip generation rates for warehouse facilities in the current edition of ITE's Trip Generation.

Table 5-1: Trip Generation Rates for ITE Land Use Categories of Warehousing

Warehouse Type	ITE Land Use Code	Average Trip Generation Rates for Warehouse Types (Trips Per KSF) (Source: ITE Trip Generation 11th Edition)		
		Average Daily Traffic	AM Peak Hour of Adjacent Street Traffic	PM Peak Hour of Adjacent Street Traffic
		Total (In + Out)	Total (In + Out)	Total (In + Out)
High-Cube Transload and Short-Term Storage Warehouse	154	1.54	0.08	0.10
High-Cube Cold Storage Warehouse	157	2.12	0.11	0.12
High-Cube Fulfillment Center Warehouse - Non-Sort	155	1.81	0.15	0.16
General Warehouse	150	1.71	0.17	0.18
High-Cube Parcel Hub Warehouse	156	4.63	0.70	0.64
High-Cube Fulfillment Center Warehouse - Sort	155	6.44	0.87	1.20
Average of All Warehouse Types		3.04	0.35	0.40
Average Without High-Cube Sort Fulfillment Center		2.36	0.24	0.24

To help select a trip generation rate for the proposed project representative of the range of potential owners/tenants, **Table 5-1** includes the average of the rates for all warehouse types in the ITE Trip Generation manual and the average of the rates for all warehouse types except High-Cube Fulfillment Sort Facility—the most intensive type of warehouse which is not expected for the proposed project. The secondary average rate (excluding High-Cube Fulfillment Sort Facility) represents two thirds the ITE warehouse types and covers a broad range of tenant types and operations.

Table 5-2 on the following page, summarizes the estimated trip generation of the proposed project for an average weekday, and weekday AM (7-9 AM) and PM (4-6 PM) peak hours, based on the secondary average rates identified in **Table 5-1**. The proposed warehouse complex would generate about 3,451 vehicle trips per day and 351 vehicle trips in both the AM and PM peak hours.

It is standard practice to convert vehicle trips to Passenger Car Equivalents (PCEs) for intersection capacity analysis. This conversion reflects the effects of large vehicles on intersection operations both from the physical space a truck occupies and from their effect on the intersection's saturation flow rate due to the slower acceleration of trucks.

When converted to PCEs, the Cordova complex generates about 4,849 daily PCEs, and 493 PCEs in both the AM and PM peak hour.

Table 5-2: Quarry Complex Project Trip Generation

Land Use	Gross Floor Area (KSF)	Daily	AM Peak Hour of Adjacent Street Traffic			PM Peak Hour of Adjacent Street Traffic		
			In	Out	Total	In	Out	Total
Warehouse (ITE Land Use Categories 150, 154, 155, 156, 157)	1,462.342	Vehicle Trip Generation Rates [1] (Trips Per 1,000 Square Feet of Gross Floor Area)						
		2.36	0.18	0.06	0.24	0.07	0.17	0.24
		Total Vehicle Trip Generation						
		3,451	270	81	351	98	253	351
	Mode Share	Project Trip Generation by Vehicle Type						
Passenger Cars (Percent of Total)	74.21%	2,561	201	60	260	73	188	260
2-Axle Trucks (Percent of Total)	4.55%	157	12	4	16	4	11	16
3-Axle Trucks (Percent of Total)	4.18%	144	11	3	15	4	11	15
4-Axle Trucks (Percent of Total)	17.04%	588	46	14	60	17	43	60
	PCE Factor	Project Trip Generation in Passenger Car Equivalents (PCE)						
Passenger Cars)	1.0	2,561	201	60	260	73	188	260
2-Axle Trucks	1.5	236	18	6	24	7	17	24
3-Axle Trucks	2.0	289	23	7	29	8	21	29
4 + Axle Trucks	3.0	1,764	138	41	179	50	129	179
Total Passenger Car Equivalents (PCE)		**4,849**	**380**	**113**	**493**	**138**	**355**	**493**

Notes:
[1] Trip generation rates are the average of the rates of each ITE warehouse type except the High-Cube Fulfillment Sort Center Warehouse, which is the most intense use like an Amazon Fulfillment Center which sorts individual packages for delivery to end users. This type of use is not anticipated for the Quarry Complex. See Table 5-1.
KSF = Thousands of Square Feet.
AM / PM Peak Hour of Adjacent Street Traffic = Trip generation coinciding with the highest hourly volumes of traffic on the adjacent streets during the AM (7:00 AM and 9:00 AM) and PM (4:00 PM and 6:00 PM) commuter peak periods.
Source of trip generation rates: Institute of Transportation Engineers (ITE) Trip Generation (11th Edition).
Source of passenger car / truck mode share (percentage of total): South Coast Air Quality Management District High Cube Warehouse Trip Generation Study (2016). Based on data from eight high cube warehouses in the Inland Empire over 1,000,000 square feet in size. The average warehouse building size is 1,364,496 square feet.
Passenger Car Equivalents (PCE) factors: Industry standard values utilized in neighboring jurisdictions

5.2 Project Trip Distribution and Assignment

Project traffic is distributed by direction separately for automobiles (employees) and trucks. The automobile distribution is based on where the warehouse employees are likely to reside or perform other activities (e.g., concentration of residential neighborhoods and commercial centers). The truck distribution is based on the most direct routes to major roadways and highways trucks are likely to use to access the project and depart for delivery of freight. Project trips are assigned to the area streets that provide the most direct route to the destinations.

An exhibit showing the distribution of project-generated automobile and truck trips to roadways as a percentage by direction and route can be viewed in the approved scoping memorandum in **Appendix A** (Exhibit D).

The exhibits in the appendix depict the assignment of project generated traffic at the study intersections for the AM and PM peak hours and can be viewed in the approved scoping memorandum in **Appendix A** (Exhibits E1-E2 and F1-F2). In these exhibits, truck traffic volumes have been converted into passenger car equivalents (PCEs) as required in the San Bernardino County guidelines for intersection capacity analysis.

5.3 Background + Project Conditions Traffic Analysis (Without Cordova Complex)

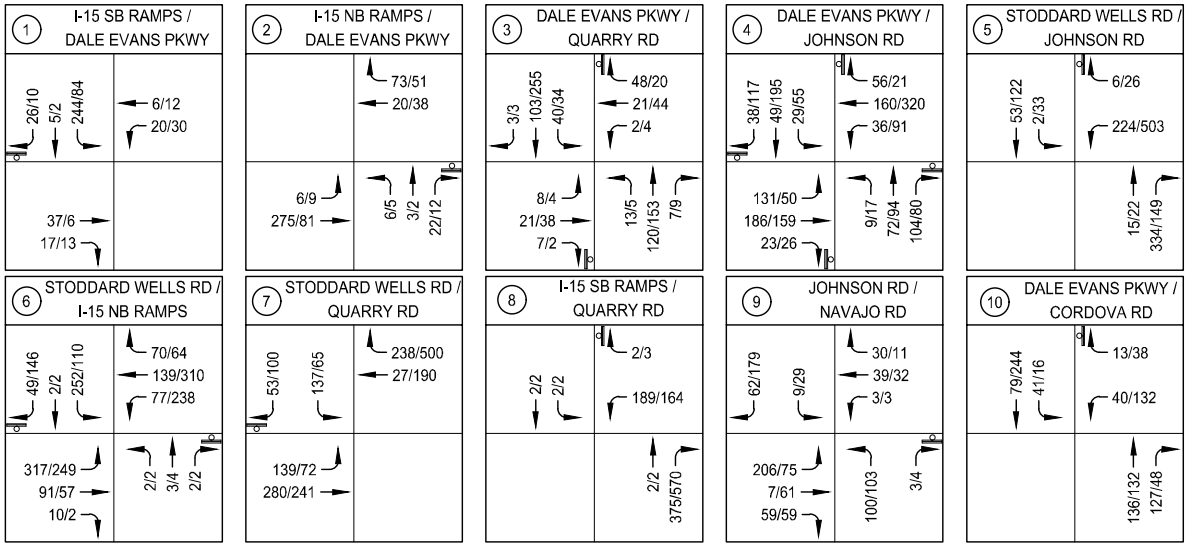
Table 5-3 compares intersection level of service of background and background plus project conditions based on the AM and PM peak hour traffic volumes shown in **Figure 6.** The capacity analysis worksheets are in **Appendix D**.

Table 5-3: Comparison of Background (Without Quarry Complex) and Background Plus Project LOS

Intersection	Control Type	Background Conditions				Background + Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	10.7	B	9.4	A	11.2	B	9.5	A
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	10.2	B	8.9	A	10.6	B	9.0	A
3. Dale Evans Parkway / Quarry Road	TWSC	11.1	B	13.8	B	11.5	B	14.6	B
4. Dale Evans Parkway / Johnson Road	AWSC	8.9	A	13.3	B	14.9	B	58.0	F
5. Stoddard Wells Road / Johnson Road	TWSC	10.5	B	15.7	C	13.9	B	66.7	F
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	22.0	C	25.5	D	601.2†	F	683.1†	F
7. Stoddard Wells Road / Quarry Road	TWSC	18.1	C	13.5	B	18.1	C	13.5	B
8. I-15 Southbound Ramps / Quarry Road	TWSC	10.9	B	11.7	B	11.4	B	14.0	B
9. Johnson Road / Navajo Road	TWSC	10.4	B	9.9	A	10.4	B	9.9	A
10. Dale Evans Parkway / Cordova Road	TWSC	9.5	A	10.1	B	11.7	B	14.3	B

Notes:
† Exponentially high delays, although unrealistic, represent over-saturated conditions. The Highway Capacity Manual 6th Edition designates this magnitude of delay simply as >300 seconds per vehicle.
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

As presented in **Table 5-3**, under background + project conditions, three of the study intersections experience substantial increases in delay and degrade from LOS D or better to LOS F in at least one peak hour.





N

NOT TO SCALE

LEGEND

XX/XX - AM/PM TRAFFIC VOLUMES

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

FIGURE 6: BACKGROUND + PROJECT TRAFFIC VOLUMES (W/O CORDOVA COMPLEX)
QUARRY COMPLEX
APPLE VALLEY

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6 FUTURE 2040 CONDITIONS (WITHOUT CORDOVA COMPLEX)

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

6.1 Future Conditions Traffic Analysis

The future year 2040 conditions intersection capacity analysis uses existing intersection geometrics and the projected AM and PM peak hour traffic volumes using the process described above. **Table 6-1** and **Appendix D** provide the results of the analysis.

Table 6-1: Intersection Level of Service for Future Year 2040 Conditions (Without Cordova Complex project)

Intersection	Control Type	Future 2040 Conditions (Without Cordova Complex)			
		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	12.9	B	10.9	B
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	11.4	B	9.7	A
3. Dale Evans Parkway / Quarry Road	TWSC	12.7	B	17.5	C
4. Dale Evans Parkway / Johnson Road	AWSC	13.1	B	58.6	F
5. Stoddard Wells Road / Johnson Road	TWSC	20.9	C	307.9	F
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	144.1	F	680.9†	F
7. Stoddard Wells Road / Quarry Road	TWSC	20.8	C	15.6	C
8. I-15 Southbound Ramps / Quarry Road	TWSC	11.5	B	14.8	B
9. Johnson Road / Navajo Road	TWSC	10.5	B	10.0	B
10. Dale Evans Parkway / Cordova Road	TWSC	12.6	B	12.6	B

Notes:
† Exponentially high delays, although unrealistic, represent over-saturated conditions. The Highway Capacity Manual 6th Edition designates this magnitude of delay simply as >300 seconds per vehicle.
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

As presented in **Table 6-1**, under future year 2040 conditions, three intersections are projected to operate at deficient levels of service even without the proposed project. These three will be consistently showing LOS deficiencies as traffic volumes increase in later scenarios. The fact that Dale Evans Parkway and Johnson Road, Stoddard Wells Road and Johnson Road, and Stoddard Wells Road and I-15 Northbound Ramps are located on primary routes for trucks and automobiles accessing I-15 is an important contributing factor.

7 FUTURE 2040 PLUS PROJECT CONDITIONS (WITHOUT CORDOVA COMPLEX)

The future plus project conditions scenario adds the project's estimated traffic generation to the future condition's scenario described in Section 6. As described in the previous section, the forecasted future year 2040 traffic intersection turn movements were derived from post processing forecasted approach volumes from the SBTAM model for each study intersection. The SBTAM traffic model plots are provided in **Appendix C**.

7.1 Future Plus Project Traffic Analysis

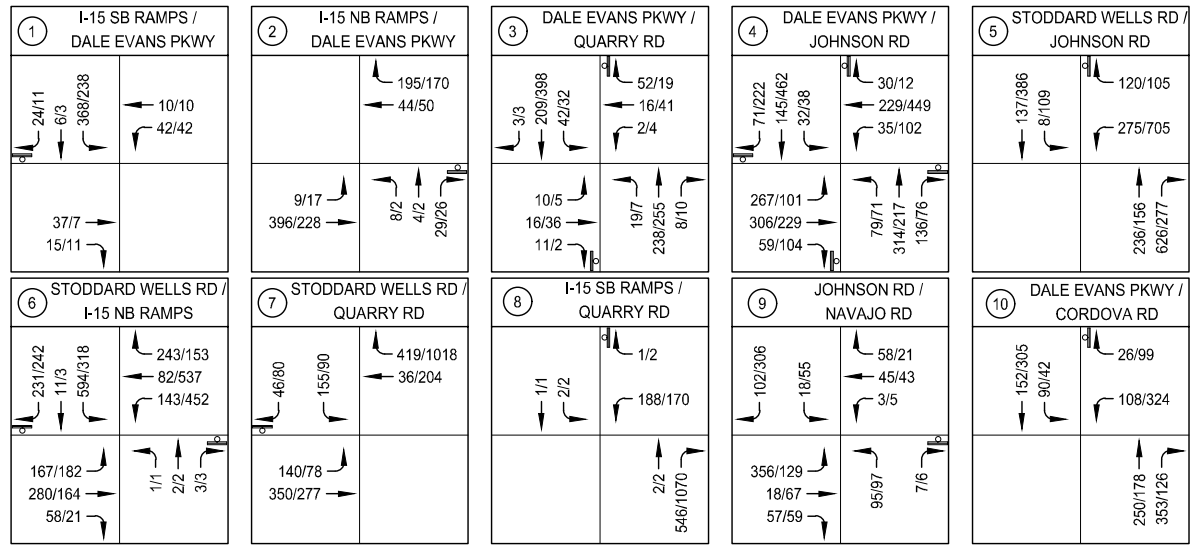
The intersection level of service analysis for future plus project conditions uses existing intersection geometrics and the projected AM and PM peak hour traffic volumes shown in **Figure 7**. **Table 7-1** and **Appendix D** provide the results of the analysis.

Table 7-1: Comparison of Future 2040 (Without Cordova Complex) and Future 2040 Plus Project LOS

Intersection	Control Type	Future Year 2040 Conditions				Future Year 2040 + Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	12.9	B	10.9	B	13.7	B	11.1	B
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	11.4	B	9.7	A	11.8	B	9.8	A
3. Dale Evans Parkway / Quarry Road	TWSC	12.7	B	17.5	C	13.3	B	18.7	C
4. Dale Evans Parkway / Johnson Road	AWSC	13.1	B	58.6	F	38.2	E	192.3	F
5. Stoddard Wells Road / Johnson Road	TWSC	20.9	C	307.9	F	71.6	F	982.9†	F
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	144.1	F	680.9†	F	1,048.1†	F	3,911.3†	F
7. Stoddard Wells Road / Quarry Road	TWSC	20.8	C	15.6	C	20.8	C	15.6	C
8. I-15 Southbound Ramps / Quarry Road	TWSC	11.5	B	14.8	B	12.1	B	19.0	C
9. Johnson Road / Navajo Road	TWSC	10.5	B	10.0	B	10.5	B	10.0	B
10. Dale Evans Parkway / Cordova Road	TWSC	12.6	B	12.6	B	16.8	C	22.3	C

Notes:
† Exponentially high delays, although unrealistic, represent over-saturated conditions. The Highway Capacity Manual 6th Edition designates this magnitude of delay simply as >300 seconds per vehicle.
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

As presented in **Table 7-1**, the addition of project traffic in this scenario exacerbates the intersection LOS deficiencies at the same intersections impacted by the addition of project traffic to year 2024 conditions: Dale Evans Parkway / Johnson Road, Stoddard Wells Road / Johnson Road, and Stoddard Wells Road / I-15 Northbound Ramps, but with substantially higher delays.





N

NOT TO SCALE

LEGEND

XX/XX - AM/PM TRAFFIC VOLUMES

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

FIGURE 7: FUTURE 2040 + PROJECT TRAFFIC VOLUMES (W/O CORDOVA COMPLEX)
QUARRY COMPLEX
APPLE VALLEY

DAVID EVANS AND ASSOCIATES INC.

8 BACKGROUND CONDITIONS TRAFFIC ANALYSIS (WITH CORDOVA COMPLEX)

This scenario evaluates impacts due to ambient growth in traffic and traffic generated by other area development projects affecting the study area up to the year 2024 when project construction is expected to be completed and the building occupied. An annual growth rate in traffic of 3.5% represents both ambient growth and other area development projects. Traffic from the proposed project's sister development, the Cordova Complex, is included in this scenario.

8.1 Background Conditions Traffic Analysis (With Cordova Complex)

The background conditions intersection level of service analysis uses existing intersection geometrics and the projected AM and PM peak hour traffic volumes from Section 4 plus traffic from the Cordova Complex project. The background and background plus project intersection capacity analysis uses existing intersection geometrics and the projected AM and PM peak hour traffic shown in **Figure 8. Table 8-1** and **Appendix D** provides the results of the analysis.

Table 8-1: Intersection Level of Service for Background Conditions (With Cordova Complex)

Intersection	Control Type	Background Conditions (With Cordova Complex)			
		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	11.2	B	9.5	A
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	10.6	B	9.0	A
3. Dale Evans Parkway / Quarry Road	TWSC	11.6	B	14.6	B
4. Dale Evans Parkway / Johnson Road	AWSC	15.2	C	53.4	E
5. Stoddard Wells Road / Johnson Road	TWSC	14.0	B	68.8	F
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	362.7	F	249.7	F
7. Stoddard Wells Road / Quarry Road	TWSC	20.2	C	13.7	B
8. I-15 Southbound Ramps / Quarry Road	TWSC	11.4	B	14.0	B
9. Johnson Road / Navajo Road	TWSC	10.4	B	9.9	A
10. Dale Evans Parkway / Cordova Road	TWSC	12.5	B	16.3	C

Notes:
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

As presented in **Table 8-1***,* under background conditions with traffic from the Cordova Complex project, the study intersections operate at a LOS C or better in both peak hours except for the three consistently deficient intersections of Dale Evans Parkway / Johnson Road, Stoddard Wells Road / Johnson Road, and Stoddard Wells Road / I-15 Northbound Ramps.

9 BACKGROUND PLUS PROJECT CONDITIONS TRAFFIC ANALYSIS (WITH CORDOVA COMPLEX)

9.1 Background Plus Project Conditions Traffic Analysis

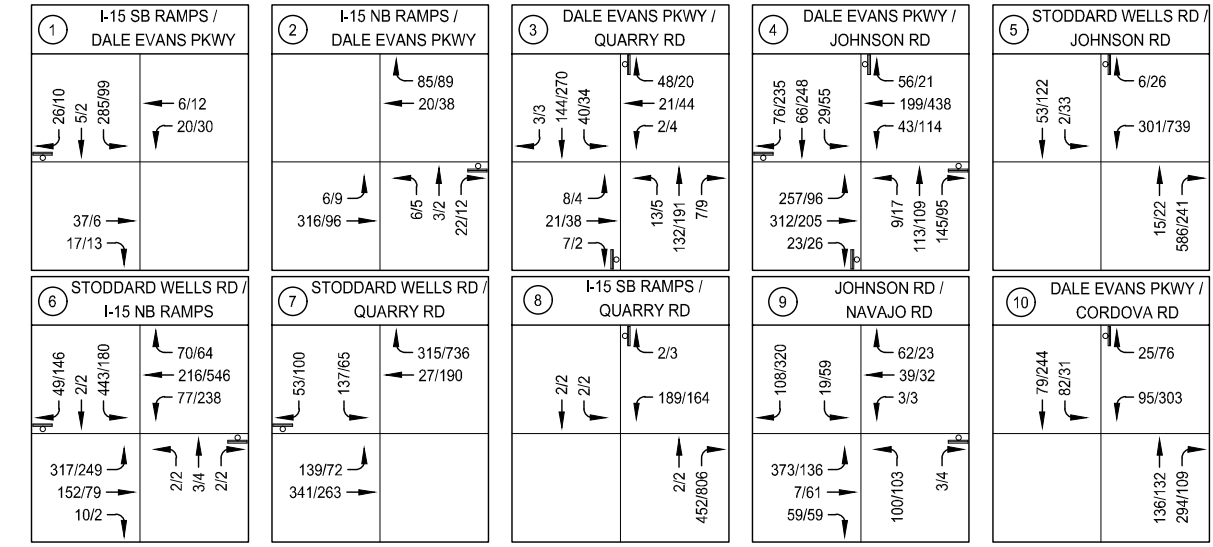
Table 9-1 compares the weekday AM and PM peak hour background and background plus project LOS at the study intersections with the inclusion of traffic generated by the Cordova Complex project. The background plus project intersection capacity analysis uses existing intersection geometrics and projected AM and PM peak hour traffic shown in **Figure 8**. The capacity analysis worksheets are in **Appendix D.**

Table 9-1: Comparison of Background (With Cordova Complex) and Background Plus Project LOS

Intersection	Control Type	Background Conditions (With Cordova Complex)				Background + Project Conditions (With Cordova Complex)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	11.2	B	9.5	A	11.7	B	9.6	A
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	10.6	B	9.0	A	11.0	B	9.1	A
3. Dale Evans Parkway / Quarry Road	TWSC	11.6	B	14.6	B	12.1	B	15.4	C
4. Dale Evans Parkway / Johnson Road	AWSC	15.2	C	53.4	E	89.5	F	204.2	F
5. Stoddard Wells Road / Johnson Road	TWSC	14.0	B	68.8	F	24.6	C	300.5	F
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	362.7	F	249.7	F	1888.0	F	2710.5	F
7. Stoddard Wells Road / Quarry Road	TWSC	20.2	C	13.7	B	20.2	C	13.7	B
8. I-15 Southbound Ramps / Quarry Road	TWSC	11.4	B	14.0	B	11.9	B	17.6	C
9. Johnson Road / Navajo Road	TWSC	10.4	B	9.9	A	10.4	B	9.9	A
10. Dale Evans Parkway / Cordova Road	TWSC	12.5	B	16.3	C	17.1	C	39.0	E

Notes:
† Exponentially high delays, although unrealistic, represent over-saturated conditions. The Highway Capacity Manual 6th Edition designates this magnitude of delay simply as >300 seconds per vehicle.
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

In this scenario, the addition of project traffic and traffic from the Cordova Complex project further exacerbates the intersection LOS deficiencies at Dale Evans Parkway / Johnson Road, Stoddard Wells Road / Johnson Road, and Stoddard Wells Road / I-15 Northbound Ramps, with exponential increases in the delay for the stop-controlled movements. In addition, LOS deficiencies are anticipated to occur at the intersection of Dale Evans Parkway / Cordova Road during the PM peak hour.





N

NOT TO SCALE

LEGEND

XX/XX - AM/PM TRAFFIC VOLUMES

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

FIGURE 8: BACKGROUND + PROJECT TRAFFIC VOLUMES (WITH CORDOVA COMPLEX)
QUARRY COMPLEX
APPLE VALLEY

10 FUTURE 2040 CONDITIONS TRAFFIC ANALYSIS (WITH CORDOVA COMPLEX)

The future 2040 conditions scenario in this section is the same scenario presented in Section 6 except that traffic from the Cordova Complex project has been added as cumulative development. The cumulative growth in traffic is from forecasts from the San Bernardino County Transportation Analysis Model (SBTAM), but the Cordova Complex traffic has been added manually on top of the SBTAM model projections.

10.1 Future 2040 Conditions Traffic Analysis

The intersection capacity analysis for the future year 2040 conditions uses existing intersection geometrics and the projected 2040 AM and PM peak hour traffic volumes developed in Section 6 plus traffic from the Cordova Complex project**. Table 10-1** and **Appendix D** provide the results of the analysis.

Table 10-1: Intersection Level of Service for Future 2040 (With Cordova Complex) Conditions

Intersection	Control Type	Future 2040 Conditions (With Cordova Complex)			
		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	13.8	B	11.1	B
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	11.8	B	9.8	A
3. Dale Evans Parkway / Quarry Road	TWSC	13.4	B	18.7	C
4. Dale Evans Parkway / Johnson Road	AWSC	42.5	E	208.8	F
5. Stoddard Wells Road / Johnson Road	TWSC	73.8	F	989.8	F
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	804.2	F	1993.4	F
7. Stoddard Wells Road / Quarry Road	TWSC	23.6	C	16.0	C
8. I-15 Southbound Ramps / Quarry Road	TWSC	12.1	B	19.1	C
9. Johnson Road / Navajo Road	TWSC	10.5	B	10.0	B
10. Dale Evans Parkway / Cordova Road	TWSC	18.7	C	29.4	D

Notes:
† Exponentially high delays, although unrealistic, represent over-saturated conditions. The Highway Capacity Manual 6th Edition designates this magnitude of delay simply as >300 seconds per vehicle.
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

The Cordova Complex, as cumulative development, adds nearly 530 peak hour trips to the circulation system. This additional traffic, added to stop controlled movements, causes unstable operations whereas the delay experienced by the stop-controlled approaches increases exponentially. This is caused by a combination of the traffic added to the stop-controlled approaches and an increase in the uncontrolled movements on the major street resulting in fewer acceptable gaps in the flow of traffic in both directions.

11 FUTURE 2040 PLUS PROJECT CONDITIONS TRAFFIC ANALYSIS (WITH CORDOVA COMPLEX)

The future 2040 conditions scenario in this section is the same scenario presented in Section 7 where the traffic from the proposed Quarry Complex (project) is added to the future 2040 background conditions which also includes traffic from the Cordova Complex as cumulative development. This final long-range scenario in this study results in the highest traffic volumes at the study intersections than in any previous scenario.

11.1 Future 2040 Plus Project Conditions Traffic Analysis

The intersection capacity analysis for the future year 2040 plus project conditions with the addition of traffic from the proposed project uses existing intersection geometrics and the projected AM and PM peak hour traffic shown in **Figure 9. Table 11-1** and **Appendix D** provide the results of the analysis.

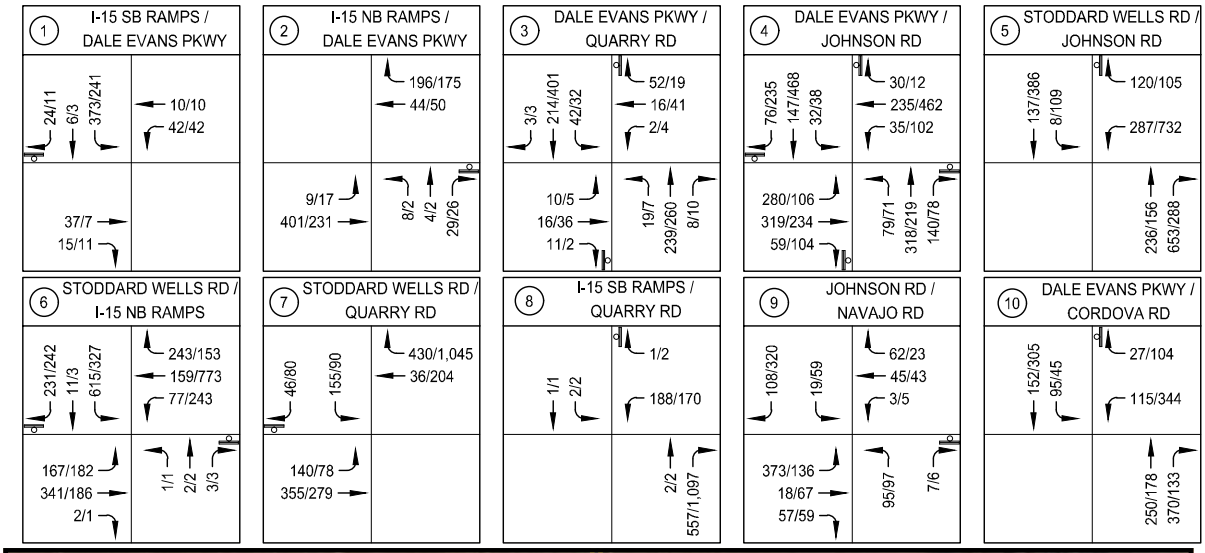
Table 11-1: Comparison of Future 2040 (With Cordova Complex) and Future 2040 Plus Project LOS

Intersection	Control Type	Future Year 2040 Conditions (With Cordova Complex)				Future Year 2040 + Project Conditions (With Cordova Complex)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. I-15 Southbound Ramps / Dale Evans Parkway	TWSC	13.8	B	11.1	B	14.9	B	11.3	B
2. I-15 Northbound Ramps / Dale Evans Parkway	TWSC	11.8	B	9.8	A	12.3	B	9.9	A
3. Dale Evans Parkway / Quarry Road	TWSC	13.4	B	18.7	C	14.0	B	20.1	C
4. Dale Evans Parkway / Johnson Road	AWSC	42.5	E	208.8	F	174.4	F	370.8	F
5. Stoddard Wells Road / Johnson Road	TWSC	73.8	F	989.8	F	289.5	F	1818.4	F
6. Stoddard Wells Road / I-15 Northbound Ramps	TWSC	804.2	F	1993.4	F	2241.0	F	11415.4	F
7. Stoddard Wells Road / Quarry Road	TWSC	23.6	C	16.0	C	23.6	C	16.0	C
8. I-15 Southbound Ramps / Quarry Road	TWSC	12.1	B	19.1	C	12.7	B	26.4	D
9. Johnson Road / Navajo Road	TWSC	10.5	B	10.0	B	10.5	B	10.0	B
10. Dale Evans Parkway / Cordova Road	TWSC	18.7	C	29.4	D	35.4	E	152.4	F

Notes:
Shaded cells in the table represent intersection peak hours with LOS deficiencies (LOS E or F).
† Exponentially high delays, although unrealistic, represent over-saturated conditions. The Highway Capacity Manual 6th Edition designates this magnitude of delay simply as >300 seconds per vehicle.
Abbreviations:
TWSC = Two-way (or side street) stop control, AWSC = All-way stop control

When the proposed project's traffic is added to year 2040 background conditions (with Cordova Complex) there is a complete breakdown in the operation of the single lane stop-controlled approaches with spikes in the calculated delay that are not achievable in real life conditions. These theoretical and unrealistically high delays are indications of complete over-saturation of the stop-controlled approaches and the need for traffic control strategies with significantly greater capacity.

The addition of traffic from the proposed project (Quarry Complex) in the future year 2040 conditions (with the Cordova Complex) exacerbates the three consistently impacted intersections of Dale Evans Parkway and Johnson Road, Stoddard Wells Road and Johnson Road, and Stoddard Wells Road and I-15 Northbound Ramps and causes a LOS deficiency at the previously unimpacted intersection of Dale Evans Parkway and Cordova Road. Project traffic causes the PM peak hour LOS at the stop-controlled approach (Cordova Road) to change from a LOS C in the future year 2040 background conditions to a LOS F in future year 2040 background + project conditions.





N

NOT TO SCALE

LEGEND

XX/XX - AM/PM TRAFFIC VOLUMES

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

FIGURE 9: FUTURE 2040 + PROJECT TRAFFIC VOLUMES (WITH CORDOVA COMPLEX)
QUARRY COMPLEX
APPLE VALLEY

DAVID EVANS AND ASSOCIATES INC.

12 RECOMMENDED MITIGATION MEASURES AND PROJECT-SPECIFIC FRONTAGE IMPROVEMENTS

12.1 Recommended Mitigation Measures to Improve LOS Deficiencies

The recommended mitigation measures to improve intersections with deficient levels of service is described comprehensively beginning in **Section 1.4** of Section 1 (Executive Summary).

12.2 Project-Specific Frontage and Access Improvements

The required project-specific frontage and access improvements are described in detail **Section 1.9** of the Executive Summary.

13 VEHICLE MILES TRAVELLED (VMT) ANALYSIS

A comprehensive summary of the VMT analysis conducted for the Quarry Complex (proposed project) is presented in **Section 1.10** of Section 1 (Executive Summary). The full VMT analysis report is in **Appendix E**.

14 APPENDICES

Appendix A: Approved Scope Agreement

Appendix B: Traffic Counts

Appendix C: Forecast Model Plots and Volume Development

Appendix D: Intersection Capacity Analysis Worksheets

Appendix E: Vehicle Miles Traveled (VMT) Analysis

FOCUSED TRAFFIC IMPACT ANALYSIS

TECHNICAL APPENDICES

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VICTORVILLE
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Apple Valley, CA, 92307
760.524.9100
Fax 760.524.9101

www.deainc

PROPOSED QUARRY INDUSTRIAL COMPLEX DEVELOPMENT

APN: 0463-214-06, 07, 08, & 09

TOWN OF APPLE VALLEY, CALIFORNIA

Prepared by:

DAVID EVANS AND ASSOCIATES INC.

FINAL REPORT

October 11, 2023

REVISED JANUARY 29, 2024

Appendix A: Approved Scope Agreement

NOTE: THE FOLLOWING APPROVED SCOPE AGREEMENT WAS BASED ON A FLOOR AREA 0F 1,540,120 SQUARE FEET WHICH WAS SUBSEQUENTLY REVISED TO A FLOOR AREA OF 1,462,342 SQUARE FEET. SOME OF THE INFORMATION IN THE APPROVED SCOPE AGREEMENT WAS REVISED DURING THE PREPARATION OF THE TRAFFIC STUDY AND IS NOW INCONSISTENT BETWEEN THE TWO DOCUMENTS. THE TRAFFIC STUDY CONTAINS THE MOST UP TO DATE INFORMATION. AFFECTED MATERIAL IN THE SCOPE AGREEMENT ARE MARKED AS “SUPERSEDED”.

Trisha Munoz

From: Jim Daisa
Sent: Tuesday, December 13, 2022 1:40 PM
To: Trisha Munoz
Subject: FW: Scoping Agreements, N. Apple Valley

See below

James M. Daisa, PE | Sr. Project Manager, Transportation
David Evans and Associates, Inc.
4141 E. Inland Empire Boulevard, Suite 250 | Ontario, CA, 91764 | www.deainc.com
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ENERGY | LAND DEVELOPMENT | MARINE SERVICES | SURVEYING AND GEOMATICS | TRANSPORTATION | WATER AND ENVIRONMENT

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From: Richard Pedersen <RPedersen@applevalley.org>
Sent: Wednesday, October 26, 2022 7:57 AM
To: Jessica Haughton <jhaughton@synergyconsultingca.com>
Cc: Daniel Alcayaga <dalcayaga@applevalley.org>; Jim Daisa <Jim.Daisa@deainc.com>; Robert Kilpatrick <RKilpatrick@deainc.com>; Dean Paradise <DParadise@deainc.com>; Orlando Acevedo <OAcevedo@applevalley.org>
Subject: Re: Scoping Agreements, N. Apple Valley

Hi Jessica,

I have reviewed the scoping agreements. I am satisfied that the scope of the analysis covers the potential traffic impacts at and around the project. I have one suggestion, that the ingress and egress driveway(s) be reviewed to determine if they are sufficient to handle the capacity of the projects themselves. Though, the project on Navajo Road appears to have sufficient driveway access, the other project on Cordova could have issues. The Walmart Distribution Center on Johnson Road has experienced congestion at their main driveway at the end of their work day shifts. They have requested that a traffic signal be installed at their main driveway on Johnson Road.

If you would like to discuss please contact me at 760-240-7000 ext. 7352

Thank you,
Richard

On Oct 21, 2022, at 9:47 AM, Jessica Haughton <jhaughton@synergyconsultingca.com> wrote:

Mr. Pedersen,

Good morning, I hope your week has gone well. This email contains two (2) traffic scoping agreements for our 2 proposed projects located in the Industrial Specific Plan (I-SP); also known as **PA2022-005** and **PA2022-006**. We are anticipating a November '22 formal application submittal date. Therefore, if you find these agreements to be acceptable, please let me know so we may move forward with the traffic study.

@Daniel Alcayaga,
Will a ***completed*** Traffic Study be a requirement to submit our formal application? Could we (*once the above traffic scoping agreements are approved)* submit the application with the items on the checklist and reference on our transmittal letter that *"the traffic study is underway"* and proceed with our formal application? Please advise.

Jessica Haughton
President
Mobile (702) 330-1715
jhaughton@synergyconsultingca.com
<image001.png>
<image002.png> <image004.png>

<Quarry_Traffic Scope_Agreement_10-19-22.pdf><Cordova_Traffic Scope_Agreement_10-19-22.pdf>

DAVID EVANS
AND ASSOCIATES INC.

October 19, 2022 Job No. VVLI0000-0001

MEMORANDUM



To: Ramsey Sheehan
Josh Malhi
VVLIG Holdings, LLC

c/o Jessica Haughton
Synergy Consulting
410 Patti Ann Woods Drive
Henderson, NV 89002

From: James Daisa, PE
Senior Transportation Project Manager / Associate

RE: FOCUSED TRAFFIC IMPACT ANALYSIS SCOPING AGREEMENT FOR THE PROPOSED QUARRY COMPLEX WAREHOUSE DEVELOPMENT (PRE-APPLICATION NO. 2022-006) LOCATED AT THE NEC OF CORDOVA ROAD AND PAWNEE ROAD IN THE TOWN OF APPLE VALLEY, CA (APN: 0463-214-06, 07, 08, & 09)

This memorandum presents key elements of the proposed Focused Traffic Impact Analysis (TIA Report) scope of work for the above referenced development project. The purpose of this memorandum is to inform the Town of Apple Valley of the TIA's assumptions and methodologies prior to preparing the analysis. We will incorporate any changes specified by the Town, and once approved, this document will serve as our notification to proceed.

The Town of Apple Valley does not have guidelines for conducting intersection level of service deficiency studies, therefore the assumptions and methods described in this document conform to San Bernardino County's Transportation Impact Study Guidelines (July 2019).

With respect to VMT impacts, the Town of Apple Valley adopted Resolution No. 2021-08 in May 2021. This resolution defines the Town's thresholds of significance for project generated VMT and the project's overall effect of VMT at the town-wide scale. The resolution also defines the specific methods for analyzing VMT in Apple Valley.

The Town has not, however, adopted criteria for screening development from requiring a VMT analysis under CEQA. This scoping agreement uses the county's screening criteria to identify if the proposed project requires a VMT analysis as part of its environmental review.

A. Project Description

The proposed project consists of a 1,540,120 square foot speculative warehouse facility located on approximately 78-acres in the north part of the town and within the North Apple Valley Industrial Specific Plan area. The North Apple Valley Industrial Specific Plan is the regulatory plan that governs all development within its boundaries. It designates land uses and provides design standards for the construction of buildings and defines the area's required infrastructure for transportation / circulation, public services, and utilities.

The project site is located at the northeast corner of Cordova Road and Pawnee Road, as illustrated in **Exhibit A**. The site is bounded to the north by the privately-owned Quarry Road and undeveloped land; to the south by Cordova Road and undeveloped land; to the west by unimproved Pawnee Road and

undeveloped land; and to the east by unimproved Flint Road and undeveloped land. The warehouse building includes 126 loading docks on the west side, and 125 loading docks on the east side of the building, 785 automobile parking spaces, and 615 trailer parking spaces within a secured yard. **Exhibit B** shows the proposed site plan.

Site Access and Circulation Improvements

The initial site plan shows access to the site from Quarry Road with five direct driveways and by improving existing Flint Road and its intersection with Quarry Road to provide access to the south end of the complex. However, Quarry Road is a private road owned and operated by Cemex and is used to convey raw materials extracted from their White Mountain quarry. Further, an active railroad spur runs parallel to the north side of Quarry Road separated from the paved lanes by about 20-feet of dirt shoulder. Cemex has no obligation to grant an access easement to the site.

A recommended access scheme is notated on the site plan shown **Exhibit B** to include the following:

- Extend and improve Cordova Road from Navajo Road to Flint Road. The improvement of Cordova Road from Dale Evans Parkway is assumed for access to the proposed Cordova Complex development, but this Cordova Road improvement may be a shared cost between both developments.
- Driveway access to the Quarry Complex is recommended from the extension of Cordova Road at the south end of the facility and/or from an improved Flint Road between Cordova Road and a recommended turnaround at the north end of Flint Road with no access to Quarry Road.
- Access to the southern end of the facility could also be provided via a driveway on Flint Road as shown in the current site plan.
- The turnaround could provide access to the automobile parking lots and gated truck access to the loading docks at the northern end of the facility as currently shown on the site plan

B. Project Trip Generation

The proposed project is a speculative warehouse where the tenant(s) and function as a potential short term storage facility, distribution center, fulfillment center, etc. is unknown. While the impact analysis needs to reflect a reasonable spectrum of tenant types, there is a risk when estimating trip generation of over or under-estimating traffic. The 11th Edition of the Institute of Transportation Engineers' Trip Generation manual contains data for the most common types of warehouse operations with a wide range of rates. **Table 1** summarizes the trip generation rates for warehouse facilities in the 11th edition of ITE's Trip Generation.

Table 1: Trip Generation Rates for ITE Land Use Categories of Warehousing

Warehouse Type	ITE Land Use Code	Average Trip Generation Rates for Warehouse Types (Trips Per KSF) (Source: ITE Trip Generation 11th Edition)		
		Average Daily Traffic	AM Peak Hour of Adjacent Street Traffic	PM Peak Hour of Adjacent Street Traffic
		Total (In + Out)	Total (In + Out)	Total (In + Out)
High-Cube Transload and Short-Term Storage Warehouse	154	1.54	0.08	0.10
High-Cube Cold Storage Warehouse	157	2.12	0.11	0.12
High-Cube Fulfillment Center Warehouse - Non-Sort	155	1.81	0.15	0.16
General Warehouse	150	1.71	0.17	0.18
High-Cube Parcel Hub Warehouse	156	4.63	0.70	0.64
High-Cube Fulfillment Center Warehouse - Sort	155	6.44	0.87	1.20
Average of All Warehouse Types		3.04	0.35	0.40
Average Without High-Cube Sort Fulfillment Center		2.36	0.24	0.24

To help select a trip generation rate for the proposed project representative of the range of potential owners/tenants, **Table 1** includes the average of the rates for all warehouse types in the ITE Trip Generation manual and the average of the rates for all warehouse types except High-Cube Fulfillment Sort Facility—the most intensive type of warehouse. The secondary average rate (excluding High-Cube Fulfillment Sort Facility) represents two thirds of the ITE warehouse types and covers a broad range of the tenant types and operations that may occur at the Quarry Complex.

Table 2 summarizes the estimated trip generation of the proposed project for an average weekday, and weekday AM (7-9 AM) and PM (4-6 PM) peak hours, based on the secondary average rates identified in **Table 1**. The proposed warehouse complex would generate about 3,600 vehicle trips per day and 370 vehicle trips in both the AM and PM peak hours.

It is standard practice to convert vehicle trips to passenger car equivalents (PCEs) for intersection capacity analysis. This conversion reflects the effects of large vehicles on intersection operations both from the physical space a truck occupies but also from their effect on the intersection's saturation flow rate due to the slower acceleration of trucks.

When converted to PCEs, the Quarry Complex generates about 5,100 daily PCEs, and 519 PCEs in both the AM and PM peak hour.

Table 2: Quarry Complex Project Trip Generation

Land Use	Gross Floor Area (KSF)	Daily	AM Peak Hour of Adjacent Street Traffic			PM Peak Hour of Adjacent Street Traffic		
			In	Out	Total	In	Out	Total
Warehouse (ITE Land Use Categories 150, 154, 155, 156, 157)	1,540.12	Vehicle Trip Generation Rates (Trips Per 1,000 Square Feet of Gross Floor Area)						
		2.36	0.18	0.06	0.24	0.07	0.17	0.24
		Total Vehicle Trip Generation						
		3,695	285	85	370	103	266	370
	Mode Share	Project Trip Generation by Vehicle Type						
Passenger Cars (Percent of Total)	74.21%	2,697	211	63	274	77	197	274
2-Axle Trucks (Percent of Total)	4.55%	165	13	4	17	5	12	17
3-Axle Trucks (Percent of Total)	4.18%	152	12	4	15	4	11	15
4-Axle Trucks (Percent of Total)	17.04%	619	48	14	63	18	45	63
	PCE Factor	Project Trip Generation in Passenger Car Equivalents (PCE)						
Passenger Cars)	1.0	2,697	211	63	274	77	197	274
2-Axle Trucks	1.5	248	19	6	25	7	18	25
3-Axle Trucks	2.0	304	24	7	31	9	22	31
4 + Axle Trucks	3.0	1,858	145	43	189	53	136	189
Total Passenger Car Equivalents (PCE)		**5,107**	**400**	**119**	**519**	**145**	**374**	**519**

SUPERSEDED (See Trip Generation Table in Report)

Notes:
KSF = Thousands of Square Feet.
AM / PM Peak Hour of Adjacent Street Traffic = Trip generation coinciding with the highest hourly volumes of traffic on the adjacent streets during the AM (7:00 AM and 9:00 AM) and PM (4:00 PM and 6:00 PM) commuter peak periods.
Source of trip generation rates: Institute of Transportation Engineers (ITE) Trip Generation (11th Edition). Average rates for land use category 150 (Warehouse).
Source of passenger car / truck mode share (percentage of total): South Coast Air Quality Management District High Cube Warehouse Trip Generation Study (2016). Based on data from eight high cube warehouses in the Inland Empire over 1,000,000 square feet in size. The average warehouse building size in the study is 1,364,496 square feet.
Passenger Car Equivalents (PCE) factors: Industry standard values utilized in neighboring jurisdictions

C. Study Intersections

This focused traffic study evaluates key intersections on routes expected to be used by project traffic to access the site. **Exhibit C** and the list below identify the intersections proposed for inclusion in the study.

1. I-15 Southbound Ramps / Dale Evans Parkway
2. I-15 Northbound Ramps / Dale Evans Parkway
3. Dale Evans Parkway / Quarry Road
4. Dale Evans Parkway / Johnson Road
5. Stoddard Wells Road / Johnson Road
6. Stoddard Wells Road / I-15 Northbound Ramps
7. Stoddard Wells Road / Quarry Road
8. I-15 Southbound Ramps / Quarry Road
9. Johnson Road / Navajo Road
10. Dale Evans Parkway / Cordova Road

Project driveways will be reviewed for required traffic control and the primary truck gated driveways will be analyzed for traffic control, lane geometries, and queuing behind the access gate based on industry standard gate processing time.

All the study intersections are currently side-street stop controlled, or all-way stop-controlled.

D. Project Trip Distribution and Assignment

Project traffic is distributed by direction separately for automobiles (employees) and trucks. The automobile distribution is based on where the warehouse employees are likely to reside or perform other activities (e.g., concentration of residential neighborhoods and commercial centers). The truck distribution is based on the most direct routes to major roadways and highways trucks are likely to use to access the project and depart for delivery of freight. Project trips are assigned to the area streets that provide the most direct route to the destinations.

Exhibit D shows the distribution of project-generated automobile and truck trips to roadways as a percentage by direction and route. The following exhibits show the assignment of project generated traffic at the study intersections. Truck traffic volumes have been converted into passenger car equivalents (PCEs) as required in the San Bernardino County guidelines for intersection capacity analysis.

- **Exhibit E1** and **E2** – Total Project PCE Trips (AM Peak Hour)
- **Exhibit F1** and **F2** – Total Project PCE Trips (PM Peak Hour)

E. Traffic Analysis Scenarios

The traffic analysis scenarios, consistent with the county's impact analysis guidelines, include:

1. Existing conditions AM (7-9 AM) and PM (4-6 PM)
2. Background conditions (representing the project's opening year of 2024 with growth in background traffic without the project):
    a. Growth forecasts (based on the estimated combination of the ambient growth in traffic plus traffic generated by nearby, but unidentified, development equaling 3.5% annually).
3. Project conditions
    a. Project traffic in PCE's added to background condition forecasts
4. Future year 2040 conditions (representing the regional planning horizon of 2040 without project)[1]
    a. Forecasts derived from the San Bernardino Transportation Analysis Model (SBTAM) representing buildout of the General Plan
    b. If required by the Town, the future year 2040 conditions will include proposed development within and affecting the study area.

[1] Caltrans typically requires that cumulative traffic forecasts represent a 20-year design life for infrastructure. If required, the cumulative scenario will be linearly extrapolated to the year 2044.

5. Future year 2040 plus project
    a. Project traffic in PCE's added to the forecasts developed for future year 2040 conditions

F. Level of Service Standard

The Town's General Plan policy on level of service is to maintain a level of service (LOS) D in the AM and PM peak hours.

G. Analyses Included in Traffic Impact Analysis

- Intersection capacity analyses will be conducted using SYNCHRO software based on the unsignalized methods in the 6th Edition of the Highway Capacity Manual.
- A traffic signal warrant analysis (warrant 3 – peak hour) will be conducted at public intersections found to operate at LOS E or F under any project scenario.
- A queuing analysis will be conducted at intersections with high left turn volumes but currently do not provide left turn storage lanes. The 95th percentile queue will inform the roadway improvement design process. See Section C regarding project driveways.

H. Vehicle Miles of Travel (VMT) Screening

The Town of Apple Valley has adopted thresholds of significance for potential VMT impacts of development as well as the specific methodology for analyzing VMT impacts (Resolution No. 2021-08 - Adopting Thresholds of Significance for Vehicle Miles Traveled (VMT) Under the California Environmental Quality Act (CEQA)). According to the Town's resolution a development project would result in a significant project-generated VMT impact if either of the following conditions are satisfied:

1. The baseline (2022) project generated VMT per service population (population plus employees) exceeds the Town of Apple Valley General Plan Buildout VMT per service population, or
2. The cumulative (2040-44) project generated VMT per service population exceeds the Town of Apple Valley General Plan Buildout VMT per service population

The Town, however, has not adopted criteria for screening projects from requiring a VMT analysis. The county and nearby municipalities have adopted such criteria consistent with the technical advisories published by the Governor's Office of Planning and Research. In this scoping agreement, the county's screening criteria are applied to the proposed project for the Town's consideration.

Applying the county's VMT screening criteria results in demonstrating that the proposed project requires a detailed VMT analysis under CEQA.

Screening criteria includes:

1. The project serves the local community and has the potential to reduce VMT by providing services that capture trips locally (the proposed Quarry Complex is not a locally serving type of land use).
2. The project is located within a Transit Priority Area (the proposed Quarry Complex is not located in a TPA).
3. The project generates less than 110 daily vehicle trips (the proposed Quarry Complex generates more than 110 daily trips).
4. The project is in a low VMT generating traffic analysis zone (the proposed Quarry Complex is not located in a low VMT generating zone in baseline year 2022, see **Figure 1**).

The proposed project does not meet the county's four screening criteria and therefore is required to conduct a VMT analysis to identify potentially significant impacts under CEQA.

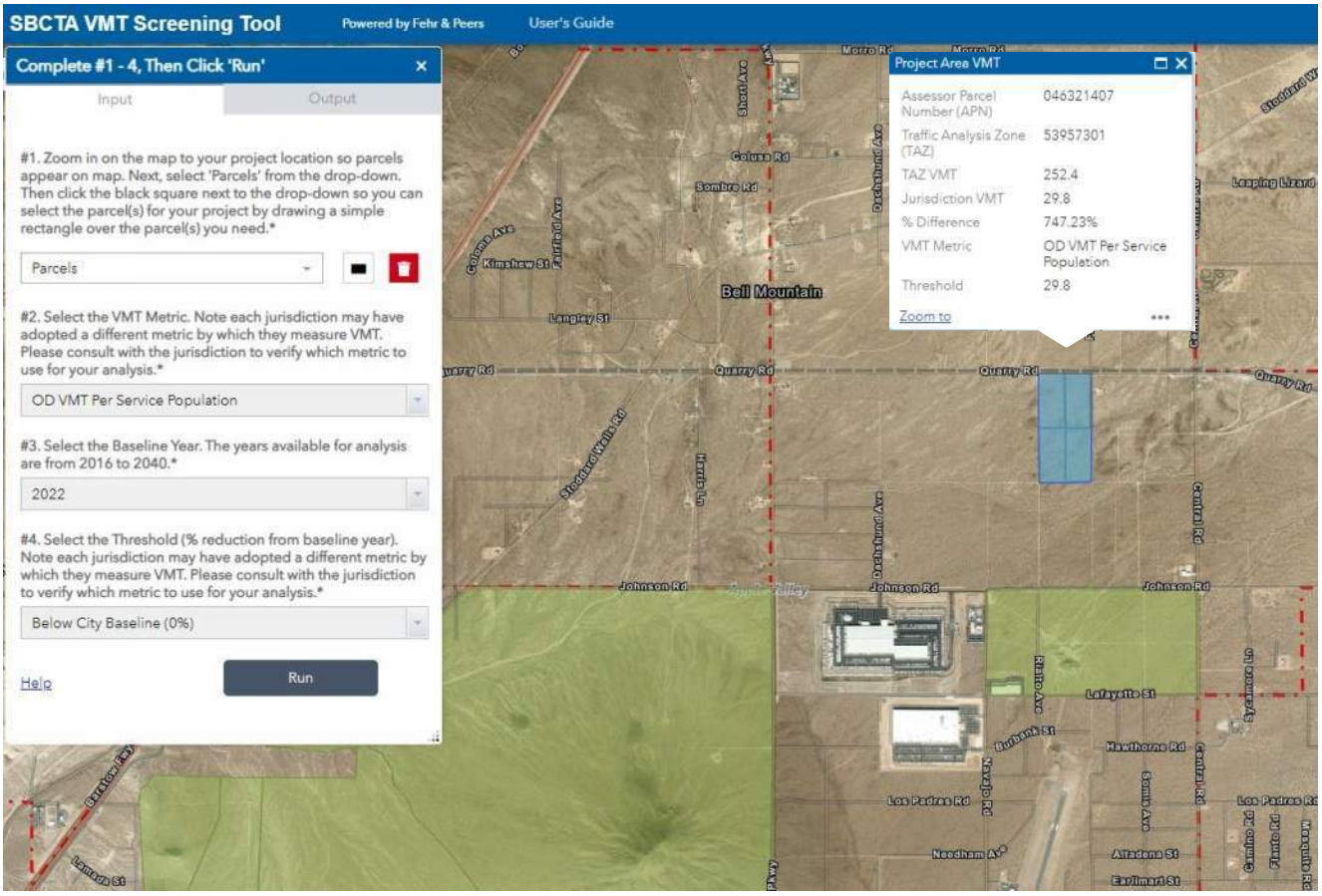


Figure 1: low VMT generating traffic analysis zones are highlighted in green. The traffic analysis zone in which the project is located is forecast to generate VMT that exceeds the jurisdictional threshold based on allowed General Plan land uses. Therefore, the proposed project is not located in a low VMT generating area.

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

Attachments:

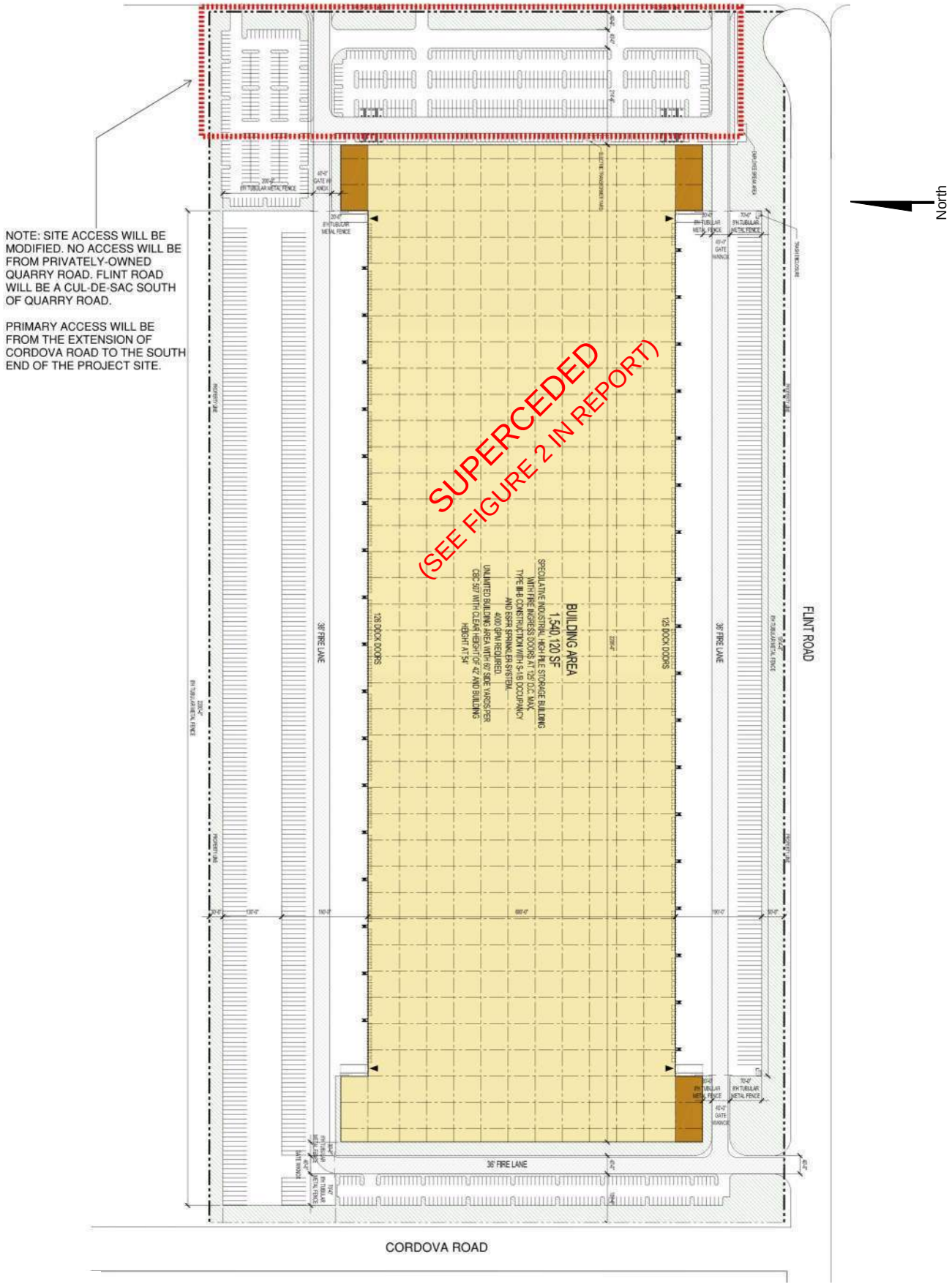
1. Exhibit A – Quarry Complex Vicinity Map
2. Exhibit B – Project Site Plan
3. Exhibit C – Study Intersections
4. Exhibit D – Project Automobile and Truck Trip Distribution
5. Exhibit E1 – Total Project PCE Trips (AM Peak Hour)
6. Exhibit E2 – Total Project PCE Trips (AM Peak Hour) (continued)
7. Exhibit F1 – Total Project PCE Trips (PM Peak Hour)
8. Exhibit F2 – Total Project PCE Trips (PM Peak Hour) (continued)



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EXHIBIT A

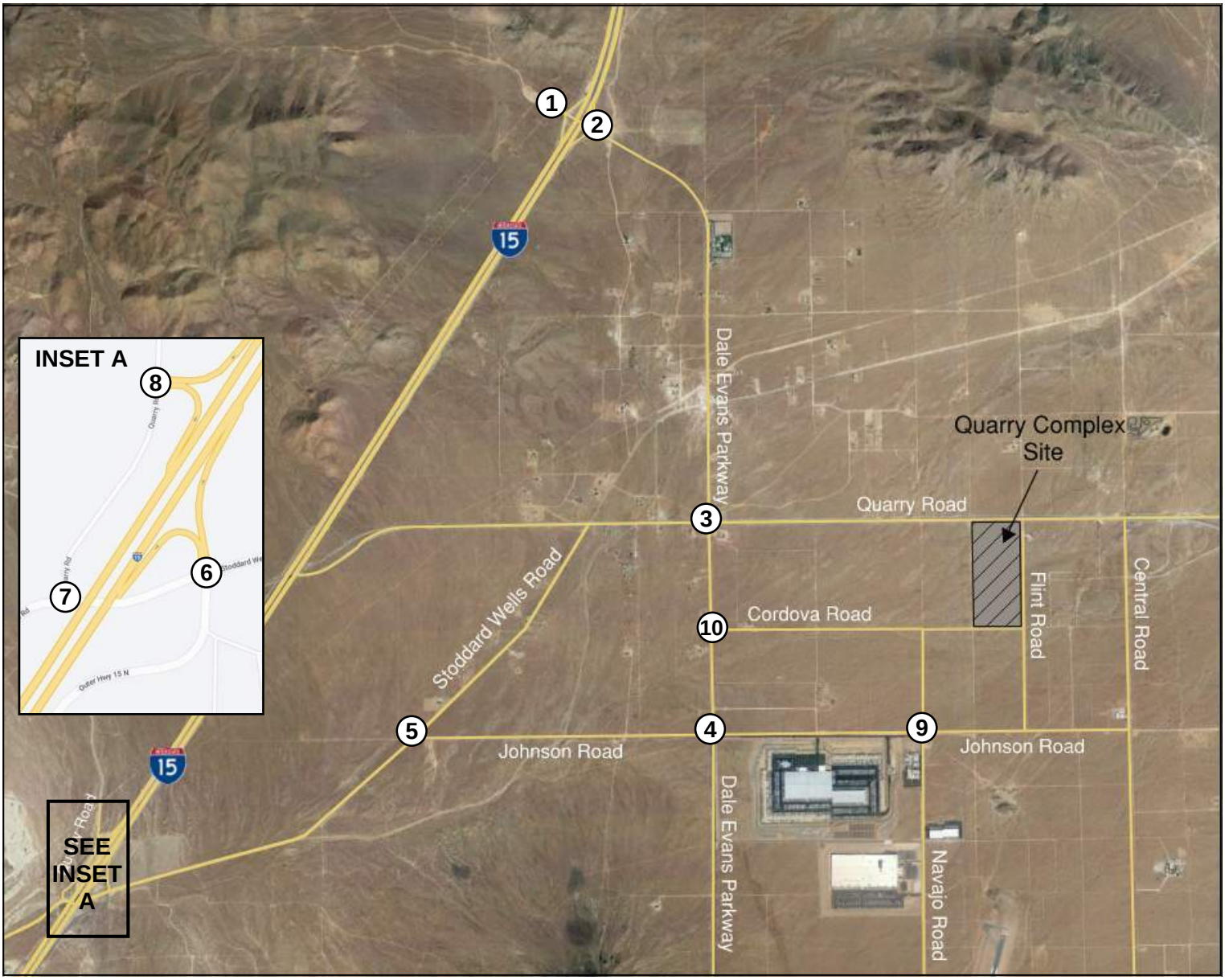
QUARRY COMPLEX VICINITY MAP



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EXHIBIT B

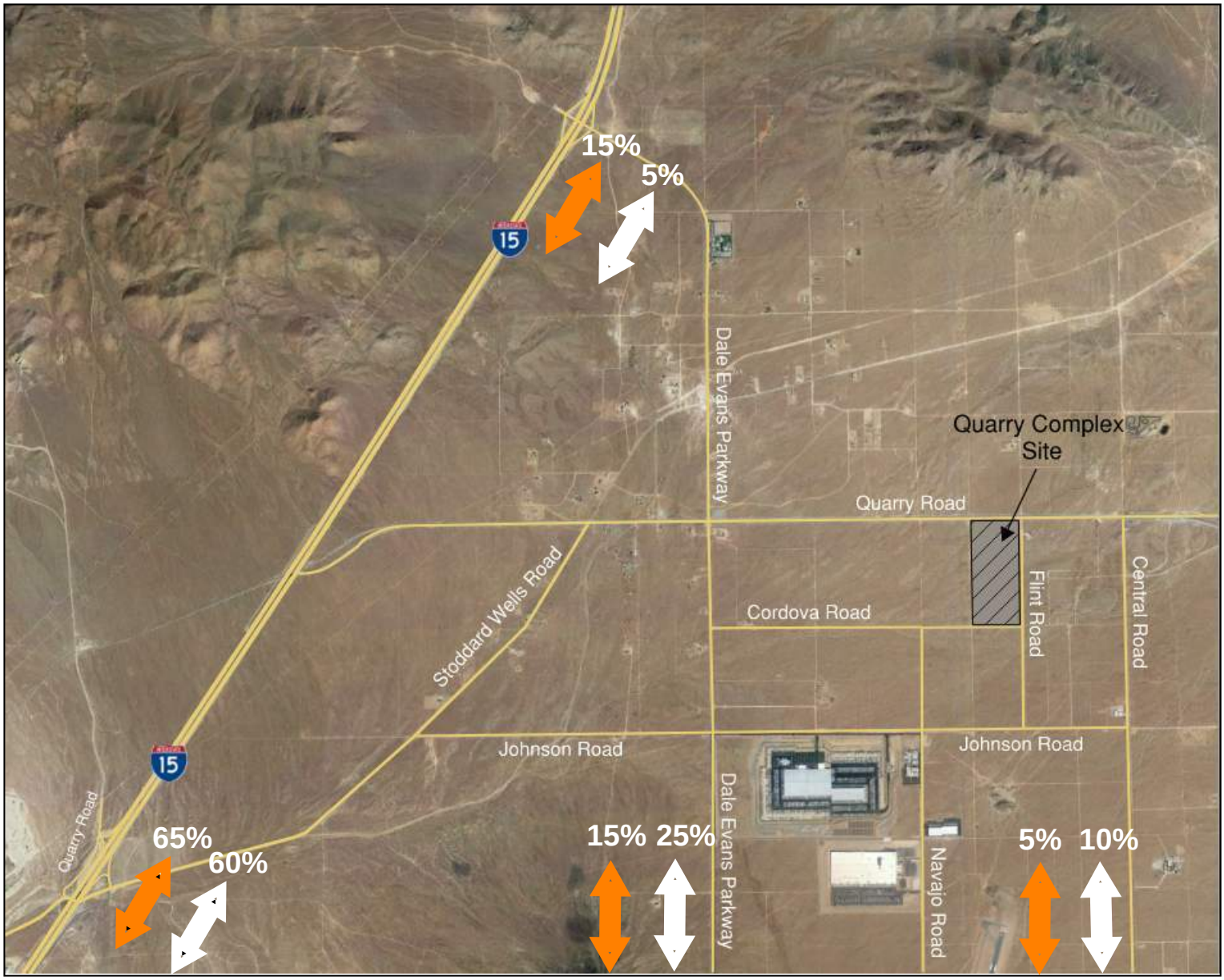
QUARRY COMPLEX SITE PLAN



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EXHIBIT C

STUDY INTERSECTIONS



LEGEND

Directional Distribution of Project Traffic
(xx% = Percent of Total Trips)

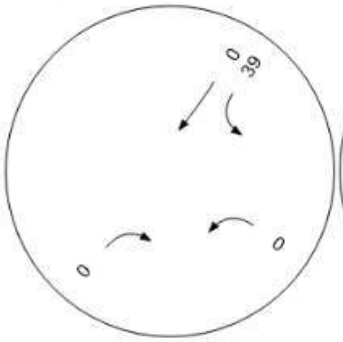
XX% Automobiles

XX% Trucks

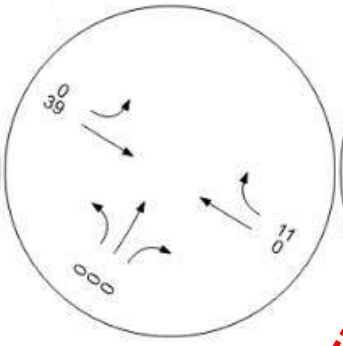
DAVID EVANS AND ASSOCIATES INC.

EXHIBIT D
PROJECT AUTOMOBILE AND TRUCK TRIP DISTRIBUTION

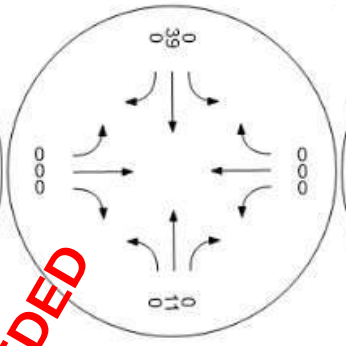
1. I-15 SB Ramps / Dale Evans Pkwy



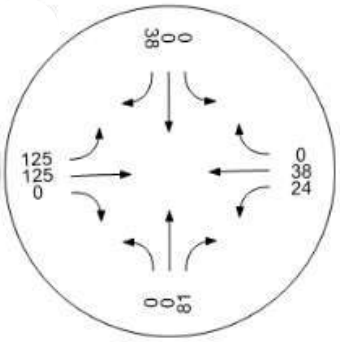
2. I-15 NB Ramps / Dale Evans Pkwy



3. Quarry Road / Dale Evans Pkwy

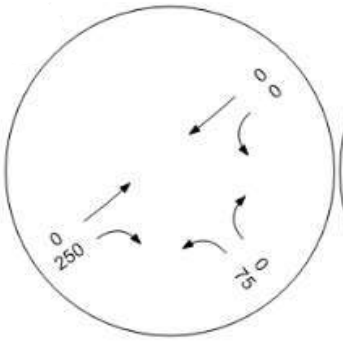


4. Johnson Road / Dale Evans Pkwy

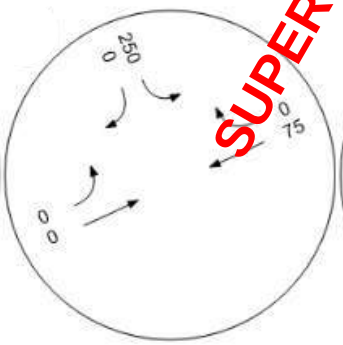


SUPERSEDED

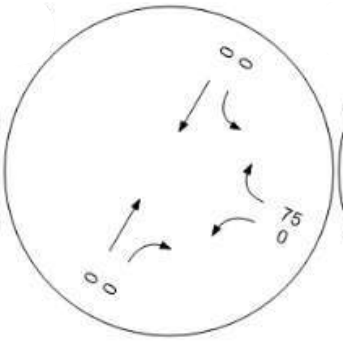
5. Johnson Road / Stoddard Wells Road



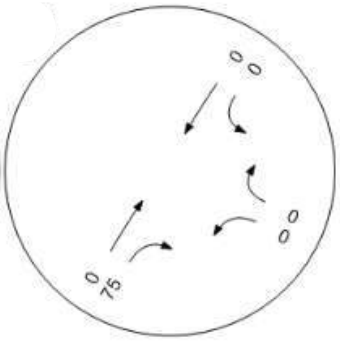
6. I-15 NB Ramps / Stoddard Wells Road



7. Quarry Road / Stoddard Wells Road



8. I-15 SB Ramps / Quarry Road



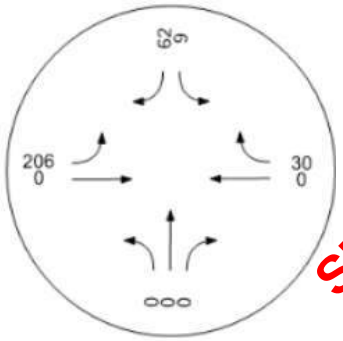


DAVID EVANS AND ASSOCIATES INC.

EXHIBIT E1

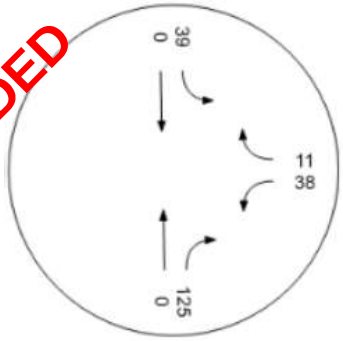
TOTAL PROJECT PCE TRIPS (AM PEAK HOUR)

9. Johnson Road / Navajo Road



SUPERSEDED

10. Dale Evans Parkway / Cardova Road



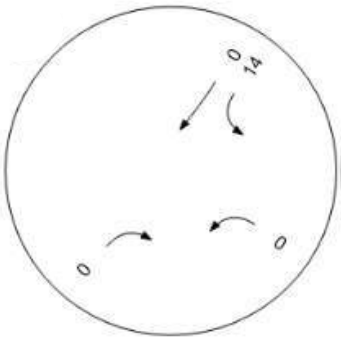


DAVID EVANS AND ASSOCIATES INC.

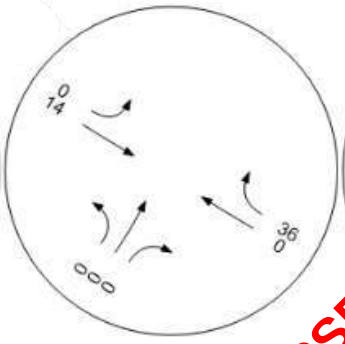
EXHIBIT E2

TOTAL PROJECT PCE TRIPS (AM PEAK HOUR)

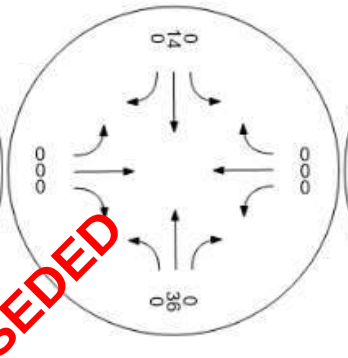
1. I-15 SB Ramps / Dale Evans Pkwy



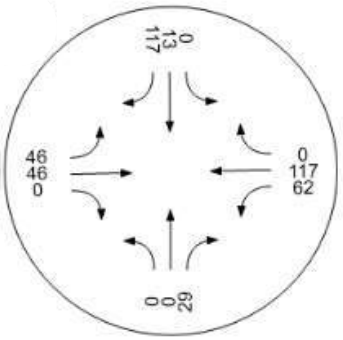
2. I-15 NB Ramps / Dale Evans Pkwy



3. Quarry Road / Dale Evans Pkwy

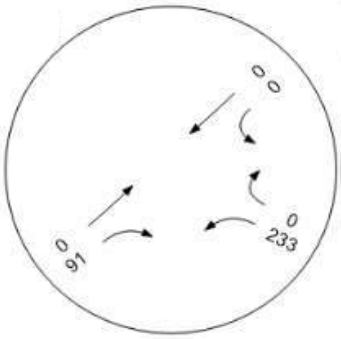


4. Johnson Road / Dale Evans Pkwy

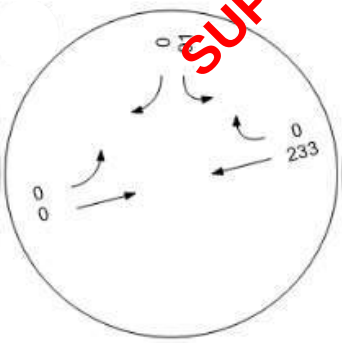


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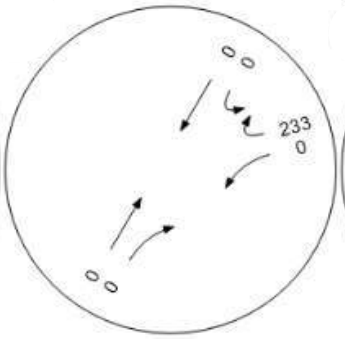
5. Johnson Road / Stoddard Wells Road



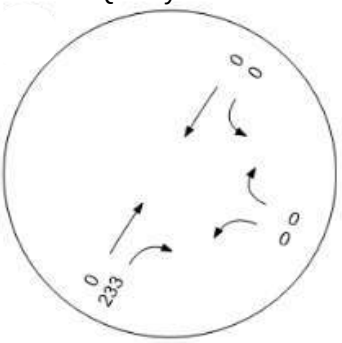
6. I-15 NB Ramps / Stoddard Wells Road



7. Quarry Road / Stoddard Wells Road



8. I-15 SB Ramps / Quarry Road



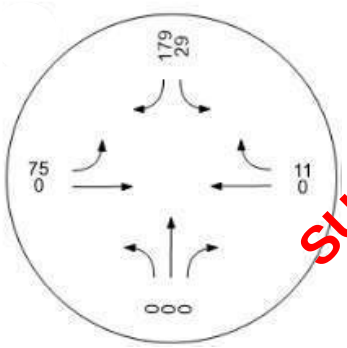


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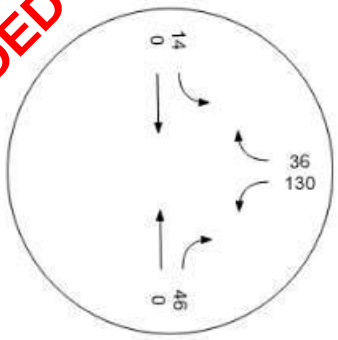
EXHIBIT F1

TOTAL PROJECT PCE TRIPS (PM PEAK HOUR)

9. Johnson Road / Navajo Road



10. Dale Evans Parkway / Cordova Road



SUPERSEDED



DAVID EVANS AND ASSOCIATES INC.

EXHIBIT F2

TOTAL PROJECT PCE TRIPS (PM PEAK HOUR)

Appendix B: Traffic Counts

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: DALE EVANS PKWY
EAST-WEST STREET: QUARRY RD
JURISDICTION: APPLE VALLEY

DATE: 11-03-22

PEAK HOUR: 07:15AM

NORTH LEG

TOTAL: 83

Rt	Thru	Lt	
3	43	37	Total
0	16	7	1st
2	6	14	2nd
0	12	10	3rd
1	9	6	4th

EAST LEG TOTAL: 65

	1st	2nd	3rd	4th	Total
Rt	12	10	13	10	45
Thru	3	3	6	7	19
Lt	0	1	0	0	1

WEST LEG TOTAL: 32

Total	1st	2nd	3rd	4th	
7	0	2	2	3	Lt
19	3	5	5	6	Thru
6	0	2	1	3	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.90
SOUTH LEG = 0.77
EAST LEG = 0.86
WEST LEG = 0.67

ALL LEGS = 0.95

SOUTH LEG

TOTAL: 102

	Lt	Thru	Rt
1st	4	29	0
2nd	3	14	2
3rd	2	22	1
4th	3	20	2
Total	12	85	5

HOUR TOTAL: 282

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : DALE EVANS PKWY — APPLE VALLEY

EAST-WEST STREET : QUARRY RD — 11-03-22

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
					NORTH LEG							
0	14	2	0	1	0	0	0	0	0	3	0	20
0	16	7	0	0	0	0	0	0	0	0	0	23
2	5	14	0	1	0	0	0	0	0	0	0	22
0	7	10	0	0	0	0	0	0	0	5	0	22
1	5	6	0	1	0	0	0	0	0	3	0	16
1	10	9	0	0	0	0	0	0	0	2	0	22
0	8	8	0	0	0	0	0	0	0	1	0	17
1	12	6	0	1	0	0	0	0	0	3	0	23
5	77	62	0	4	0	0	0	0	0	17	0	165
					SOUTH LEG							
0	29	1	0	0	0	0	0	0	0	2	0	32
0	27	4	0	1	0	0	1	0	0	0	0	33
1	11	3	1	0	0	0	0	0	0	3	0	19
1	19	2	0	1	0	0	0	0	0	2	0	25
2	16	3	0	2	0	0	0	0	0	2	0	25
1	14	3	0	1	0	0	0	0	0	0	0	19
0	11	0	0	0	0	0	0	0	0	1	0	12
1	14	2	0	0	0	0	0	0	0	1	0	18
6	141	18	1	5	0	0	1	0	0	11	0	183
					EAST LEG							
6	2	0	0	0	0	0	0	0	0	0	0	8
12	3	0	0	0	0	0	0	0	0	0	0	15
10	3	1	0	0	0	0	0	0	0	0	0	14
13	6	0	0	0	0	0	0	0	0	0	0	19
10	7	0	0	0	0	0	0	0	0	0	0	17
12	5	2	0	0	0	0	0	0	0	0	0	19
8	4	1	0	0	0	0	0	0	0	0	0	13
8	7	0	0	0	0	0	0	0	0	0	0	15
79	37	4	0	0	0	0	0	0	0	0	0	120
					WEST LEG							
0	4	0	0	0	0	0	0	0	0	0	0	4
0	3	0	0	0	0	0	0	0	0	0	0	3
2	5	2	0	0	0	0	0	0	0	0	0	9
1	5	2	0	0	0	0	0	0	0	0	0	8
3	6	3	0	0	0	0	0	0	0	0	0	12
0	4	2	0	0	0	0	0	0	0	0	0	6
1	4	0	0	0	0	0	0	0	0	0	0	5
1	5	0	0	0	0	0	0	0	0	0	0	6
8	36	9	0	0	0	0	0	0	0	0	0	53

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DALE EVANS PKWY

EAST-WEST STREET: QUARRY RD

TIME: 07:00AM-08:00AM DATE: 11-03-22

NORTH LEG

Rt	Thru	Lt	
2	52	33	Total
0	18	2	1st
0	16	7	2nd
2	6	14	3rd
0	12	10	4th

	1st	2nd	3rd	4th	Total
Rt	6	12	10	13	41
Thru	2	3	3	6	14
Lt	0	0	1	0	1

Total	1st	2nd	3rd	4th	
4	0	0	2	2	Lt
17	4	3	5	5	Thru
3	0	0	2	1	Rt

	Lt	Thru	Rt
1st	1	31	0
2nd	4	29	0
3rd	3	14	2
4th	2	22	1
Total	10	96	3

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DALE EVANS PKWY

EAST-WEST STREET: QUARRY RD

TIME: 08:00AM-09:00AM DATE: 11-03-22

NORTH LEG

Rt	Thru	Lt	
3	46	29	Total
1	9	6	1st
1	12	9	2nd
0	9	8	3rd
1	16	6	4th

	1st	2nd	3rd	4th	Total
Rt	10	12	8	8	38
Thru	7	5	4	7	23
Lt	0	2	1	0	3

Total	1st	2nd	3rd	4th	
5	3	2	0	0	Lt
19	6	4	4	5	Thru
5	3	0	1	1	Rt

	Lt	Thru	Rt
1st	3	20	2
2nd	3	15	1
3rd	0	12	0
4th	2	15	1
Total	8	62	4

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: DALE EVANS PKWY
EAST-WEST STREET: QUARRY RD
JURISDICTION: APPLE VALLEY

DATE: 11-03-22

PEAK HOUR: 04:30PM

NORTH LEG

TOTAL: 253

Rt	Thru	Lt	
2	219	32	Total
1	64	5	1st
0	50	9	2nd
1	57	11	3rd
0	48	7	4th

EAST LEG TOTAL: 62

	1st	2nd	3rd	4th	Total
Rt	4	2	6	6	18
Thru	13	9	4	15	41
Lt	1	1	1	0	3

WEST LEG TOTAL: 39

Total	1st	2nd	3rd	4th	
3	2	0	0	1	Lt
35	10	7	6	12	Thru
1	0	1	0	0	Rt

SOUTH LEG

TOTAL: 112

	Lt	Thru	Rt
1st	0	29	2
2nd	2	12	1
3rd	1	25	3
4th	1	34	2
Total	4	100	8

PEAK HOUR FACTORS

NORTH LEG = 0.90
SOUTH LEG = 0.76
EAST LEG = 0.74
WEST LEG = 0.75

ALL LEGS = 0.89

HOUR TOTAL: 466

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : DALE EVANS PKWY — APPLE VALLEY

EAST-WEST STREET : QUARRY RD — 11-03-22

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
					NORTH LEG							
0	29	8	0	1	0	0	0	0	0	1	0	39
1	41	6	0	0	0	0	0	0	0	0	0	48
1	61	5	0	1	0	0	1	0	0	1	0	70
0	48	9	0	0	0	0	1	0	0	1	0	59
1	56	11	0	1	0	0	0	0	0	0	0	69
0	46	7	0	2	0	0	0	0	0	0	0	55
1	37	12	0	0	0	0	0	0	0	3	0	53
1	32	10	0	0	0	0	0	0	0	1	0	44
5	350	68	0	5	0	0	2	0	0	7	0	437
					SOUTH LEG							
0	16	2	0	0	0	0	0	0	0	1	0	19
2	22	1	0	0	0	0	0	0	0	1	0	26
2	28	0	0	0	0	0	0	0	0	1	0	31
1	10	2	0	0	0	0	0	0	0	2	0	15
3	25	1	0	0	0	0	0	0	0	0	0	29
2	32	1	0	0	0	0	0	0	0	2	0	37
2	10	0	0	0	0	0	0	0	0	1	0	13
0	11	1	0	0	0	0	0	0	0	0	0	12
12	154	8	0	0	0	0	0	0	0	8	0	182
					EAST LEG							
3	10	2	0	0	0	0	0	0	0	0	0	15
5	19	0	0	0	0	0	0	0	0	0	0	24
4	13	1	0	0	0	0	0	0	0	0	0	18
2	9	1	0	0	0	0	0	0	0	0	0	12
6	4	1	0	0	0	0	0	0	0	0	0	11
6	15	0	0	0	0	0	0	0	0	0	0	21
4	11	0	0	0	0	0	0	0	0	0	0	15
3	14	1	0	0	0	0	0	0	0	0	0	18
33	95	6	0	0	0	0	0	0	0	0	0	134
					WEST LEG							
1	11	0	0	0	0	0	0	0	0	0	0	12
0	15	0	0	0	0	0	0	0	0	0	0	15
0	10	2	0	0	0	0	0	0	0	0	0	12
1	7	0	0	0	0	0	0	0	0	0	0	8
0	6	0	0	0	0	0	0	0	0	0	0	6
0	12	1	0	0	0	0	0	0	0	0	0	13
2	7	1	0	0	0	0	0	0	0	0	0	10
1	8	1	0	0	0	0	0	0	0	0	0	10
5	76	5	0	0	0	0	0	0	0	0	0	86

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DALE EVANS PKWY

EAST-WEST STREET: QUARRY RD

TIME: 04:00PM-05:00PM DATE: 11-03-22

NORTH LEG

Rt	Thru	Lt	
2	186	28	Total
0	31	8	1st
1	41	6	2nd
1	64	5	3rd
0	50	9	4th

	1st	2nd	3rd	4th	Total
Rt	3	5	4	2	14
Thru	10	19	13	9	51
Lt	2	0	1	1	4

Total	1st	2nd	3rd	4th	
2	0	0	2	0	Lt
43	11	15	10	7	Thru
2	1	0	0	1	Rt

	Lt	Thru	Rt
1st	2	17	0
2nd	1	23	2
3rd	0	29	2
4th	2	12	1
Total	5	81	5

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DALE EVANS PKWY

EAST-WEST STREET: QUARRY RD

TIME: 05:00PM-06:00PM DATE: 11-03-22

NORTH LEG

Rt	Thru	Lt	
3	178	40	Total
1	57	11	1st
0	48	7	2nd
1	40	12	3rd
1	33	10	4th

	1st	2nd	3rd	4th	Total
Rt	6	6	4	3	19
Thru	4	15	11	14	44
Lt	1	0	0	1	2

Total	1st	2nd	3rd	4th	
3	0	1	1	1	Lt
33	6	12	7	8	Thru
3	0	0	2	1	Rt

	Lt	Thru	Rt
1st	1	25	3
2nd	1	34	2
3rd	0	11	2
4th	1	11	0
Total	3	81	7

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: DALE EVANS PKWY
EAST-WEST STREET: JOHNSON RD
JURISDICTION: APPLE VALLEY

DATE: 11-03-22

PEAK HOUR: 07:15AM

NORTH LEG

TOTAL: 55

	35	20	Total
0	13	4	1st
0	5	8	2nd
0	8	5	3rd
0	9	3	4th
Rt	Thru	Lt	

EAST LEG TOTAL: 153

Rt	6	6	10	11	33
Thru	26	32	22	29	109
Lt	3	2	3	3	11
	1st	2nd	3rd	4th	Total

WEST LEG TOTAL: 69

Total	1st	2nd	3rd	4th	
5	2	0	2	1	Lt
50	15	11	14	10	Thru
14	0	3	7	4	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.81
SOUTH LEG = 0.82
EAST LEG = 0.89
WEST LEG = 0.75

ALL LEGS = 0.95

SOUTH LEG

TOTAL: 95

	Lt	Thru	Rt
1st	0	25	4
2nd	2	13	5
3rd	3	15	5
4th	3	14	6
Total	8	67	20

HOUR TOTAL: 372

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : DALE EVANS PKWY — APPLE VALLEY

EAST-WEST STREET : JOHNSON RD — 11-03-22

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
					NORTH LEG							
0	12	1	0	1	0	0	0	0	0	2	1	17
0	13	3	0	0	1	0	0	0	0	0	0	17
0	4	8	0	1	0	0	0	0	0	0	0	13
0	5	3	0	0	0	0	0	0	0	3	2	13
0	6	2	0	1	0	0	0	0	0	2	1	12
0	6	6	0	0	0	0	0	0	0	3	0	15
0	6	5	0	0	0	0	0	0	0	0	0	11
0	12	1	0	0	1	0	0	0	0	0	3	17
0	64	29	0	3	2	0	0	0	0	10	7	115
					SOUTH LEG							
5	25	0	0	0	0	0	0	0	0	0	0	30
3	25	0	1	0	0	0	0	0	0	0	0	29
5	13	2	0	0	0	0	0	0	0	0	0	20
5	15	3	0	0	0	0	0	0	0	0	0	23
6	14	3	0	0	0	0	0	0	0	0	0	23
4	9	2	0	0	0	0	0	0	0	0	0	15
6	8	2	0	0	0	0	0	0	0	0	0	16
5	11	0	0	0	0	0	0	0	0	0	0	16
39	120	12	1	0	0	0	0	0	0	0	0	172
					EAST LEG							
3	24	1	0	1	0	0	0	0	2	1	0	32
5	24	3	0	1	0	1	1	0	0	0	0	35
4	30	2	0	0	0	0	1	0	2	1	0	40
6	18	3	1	2	0	0	1	0	3	1	0	35
10	28	3	1	0	0	0	0	0	0	1	0	43
9	27	2	1	1	0	0	1	0	0	0	0	41
3	30	2	0	0	0	0	1	0	1	0	0	37
6	48	0	0	0	0	0	0	0	1	0	0	55
46	229	16	3	5	0	1	5	0	9	4	0	318
					WEST LEG							
0	9	2	0	0	0	0	1	0	0	0	0	12
0	14	2	0	1	0	0	0	0	0	0	0	17
2	9	0	0	1	0	0	0	0	1	1	0	14
6	14	2	0	0	0	1	0	0	0	0	0	23
2	7	1	0	1	0	0	1	0	2	1	0	15
5	16	0	0	0	0	0	0	0	0	0	0	21
5	14	0	0	0	0	0	0	0	0	0	0	19
3	8	1	0	0	0	0	1	0	0	0	0	13
23	91	8	0	3	0	1	3	0	3	2	0	134

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DALE EVANS PKWY

EAST-WEST STREET: JOHNSON RD

TIME: 07:00AM-08:00AM DATE: 11-03-22

NORTH LEG

Rt	Thru	Lt	
0	41	19	Total
0	15	2	1st
0	13	4	2nd
0	5	8	3rd
0	8	5	4th

	1st	2nd	3rd	4th	Total
Rt	5	6	6	10	27
Thru	26	26	32	22	106
Lt	1	3	2	3	9

Total	1st	2nd	3rd	4th	
6	2	2	0	2	Lt
50	10	15	11	14	Thru
10	0	0	3	7	Rt

	Lt	Thru	Rt
1st	0	25	5
2nd	0	25	4
3rd	2	13	5
4th	3	15	5
Total	5	78	19

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DALE EVANS PKWY

EAST-WEST STREET: JOHNSON RD

TIME: 08:00AM-09:00AM DATE: 11-03-22

NORTH LEG

Rt	Thru	Lt	
0	36	19	Total
0	9	3	1st
0	9	6	2nd
0	6	5	3rd
0	12	5	4th

	1st	2nd	3rd	4th	Total
Rt	11	10	4	7	32
Thru	29	29	31	48	137
Lt	3	2	2	0	7

Total	1st	2nd	3rd	4th	
2	1	0	0	1	Lt
49	10	16	14	9	Thru
17	4	5	5	3	Rt

	Lt	Thru	Rt
1st	3	14	6
2nd	2	9	4
3rd	2	8	6
4th	0	11	5
Total	7	42	21

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: DALE EVANS PKWY
EAST-WEST STREET: JOHNSON RD
JURISDICTION: APPLE VALLEY

DATE: 11-03-22

PEAK HOUR: 04:15PM

NORTH LEG

TOTAL: 214

	170	44	Total
0	29	12	1st
0	50	15	2nd
0	40	11	3rd
0	51	6	4th
Rt	Thru	Lt	

EAST LEG TOTAL: 231

Rt	7	5	4	3	19
Thru	45	50	44	46	185
Lt	10	8	5	4	27
	1st	2nd	3rd	4th	Total

Total	1st	2nd	3rd	4th	
3	2	1	0	0	Lt
101	26	31	29	15	Thru
22	3	7	5	7	Rt

WEST LEG TOTAL: 126

PEAK HOUR FACTORS

NORTH LEG = 0.82
SOUTH LEG = 0.88
EAST LEG = 0.92
WEST LEG = 0.81

ALL LEGS = 0.86

	Lt	Thru	Rt
1st	2	18	15
2nd	5	25	11
3rd	3	11	14
4th	6	26	8
Total	16	80	48

TOTAL: 144

SOUTH LEG

HOUR TOTAL: 715

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : DALE EVANS PKWY — APPLE VALLEY

EAST-WEST STREET : JOHNSON RD — 11-03-22

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
					NORTH LEG							
0	21	11	0	0	1	0	0	0	0	1	0	34
0	29	12	0	0	0	0	0	0	0	0	0	41
0	50	13	0	0	1	0	0	1	0	0	0	65
0	40	8	0	0	0	0	0	1	0	0	2	51
0	50	6	0	1	0	0	0	0	0	0	0	57
0	40	6	0	0	2	0	0	0	0	0	0	48
0	38	2	0	0	0	0	0	0	0	0	3	43
0	29	5	0	0	0	0	0	0	0	0	1	35
0	297	63	0	1	4	0	0	2	0	1	6	374
					SOUTH LEG							
10	13	3	0	0	0	0	0	0	0	1	0	27
15	17	2	0	0	0	0	0	0	0	1	0	35
11	24	5	0	0	0	0	0	0	0	1	0	41
14	9	3	0	0	0	0	0	0	0	2	0	28
8	26	6	0	0	0	0	0	0	0	0	0	40
10	27	5	0	0	0	0	0	0	0	3	0	45
6	7	3	0	0	0	0	0	0	0	0	0	16
6	9	5	0	0	0	0	0	0	0	0	0	20
80	132	32	0	0	0	0	0	0	0	8	0	252
					EAST LEG							
5	30	3	0	0	0	0	0	0	0	3	0	41
7	45	10	0	0	0	0	0	0	0	0	0	62
5	48	8	0	0	0	0	0	0	0	2	0	63
4	44	5	0	0	0	0	0	0	0	0	0	53
3	45	4	0	0	0	0	0	0	0	1	0	53
5	35	4	0	0	0	0	0	0	0	0	0	44
5	39	5	0	0	0	0	0	0	0	0	0	49
3	42	3	0	0	0	0	0	0	0	0	0	48
37	328	42	0	0	0	0	0	0	0	6	0	413
					WEST LEG							
3	24	0	0	1	0	0	0	0	0	0	0	28
3	26	2	0	0	0	0	0	0	0	0	0	31
6	30	1	0	1	0	0	0	0	1	0	0	39
5	28	0	0	0	0	0	0	0	0	1	0	34
7	14	0	0	0	0	0	0	0	0	1	0	22
7	13	1	0	0	0	0	0	0	0	0	0	21
4	14	1	0	0	0	0	0	0	0	0	0	19
4	11	1	0	0	0	0	0	0	1	0	0	17
39	160	6	0	2	0	0	0	0	2	2	0	211

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DALE EVANS PKWY

EAST-WEST STREET: JOHNSON RD

TIME: 04:00PM-05:00PM DATE: 11-03-22

NORTH LEG

Rt	Thru	Lt	
0	141	50	Total
0	22	12	1st
0	29	12	2nd
0	50	15	3rd
0	40	11	4th

	1st	2nd	3rd	4th	Total
Rt	5	7	5	4	21
Thru	33	45	50	44	172
Lt	3	10	8	5	26

Total	1st	2nd	3rd	4th	
3	0	2	1	0	Lt
111	25	26	31	29	Thru
18	3	3	7	5	Rt

	Lt	Thru	Rt
1st	3	14	10
2nd	2	18	15
3rd	5	25	11
4th	3	11	14
Total	13	68	50

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DALE EVANS PKWY

EAST-WEST STREET: JOHNSON RD

TIME: 05:00PM-06:00PM DATE: 11-03-22

NORTH LEG

Rt	Thru	Lt	
0	158	25	Total
0	51	6	1st
0	40	8	2nd
0	38	5	3rd
0	29	6	4th

	1st	2nd	3rd	4th	Total
Rt	3	5	5	3	16
Thru	46	35	39	42	162
Lt	4	4	5	3	16

Total	1st	2nd	3rd	4th	
3	0	1	1	1	Lt
53	15	13	14	11	Thru
23	7	7	4	5	Rt

	Lt	Thru	Rt
1st	6	26	8
2nd	5	30	10
3rd	3	7	6
4th	5	9	6
Total	19	72	30

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: STODDARD WELLS RD
EAST-WEST STREET: JOHNSON RD
JURISDICTION: APPLE VALLEY

DATE: 11-09-22

PEAK HOUR: 07:15AM

NORTH LEG

TOTAL: 50

	49	1	Total
0	12	0	1st
0	15	1	2nd
0	11	0	3rd
0	11	0	4th
Rt	Thru	Lt	

EAST LEG TOTAL: 138

Rt	2	0	1	2	5
Thru	0	0	0	0	
Lt	25	38	40	30	133
	1st	2nd	3rd	4th	Total

WEST LEG TOTAL: 0

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

PEAK HOUR FACTORS

NORTH LEG = 0.78
SOUTH LEG = 0.46
EAST LEG = 0.84
WEST LEG =

ALL LEGS = 0.79

SOUTH LEG

TOTAL: 88

	Lt	Thru	Rt
1st	0	8	40
2nd	0	0	15
3rd	0	1	7
4th	0	4	13
Total		13	75

HOUR TOTAL: 276

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : STODDARD WELLS RD — APPLE VALLEY

EAST-WEST STREET : JOHNSON RD — 11-09-22

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
					NORTH LEG							
0	10	0	0	0	0	0	0	0	0	0	0	10
0	12	0	0	0	0	0	0	0	0	0	0	12
0	15	1	0	0	0	0	0	0	0	0	0	16
0	11	0	0	0	0	0	0	0	0	0	0	11
0	10	0	0	0	0	0	1	0	0	0	0	11
0	12	0	0	1	0	0	1	0	0	0	0	14
0	10	2	0	0	0	0	0	0	0	0	0	12
0	8	1	0	0	0	0	0	0	0	0	0	9
0	88	4	0	1	0	0	2	0	0	0	0	95
					SOUTH LEG							
12	1	0	0	0	0	1	0	0	0	0	0	14
38	8	0	0	0	0	1	0	0	1	0	0	48
15	0	0	0	0	0	0	0	0	0	0	0	15
6	1	0	1	0	0	0	0	0	0	0	0	8
13	3	0	0	0	0	0	1	0	0	0	0	17
3	1	0	0	0	0	0	0	0	1	0	0	5
8	2	0	0	0	0	0	0	0	0	0	0	10
3	0	0	0	0	0	0	0	0	0	0	0	3
98	16	0	1	0	0	2	1	0	2	0	0	120
					EAST LEG							
0	0	30	0	0	0	0	0	1	0	0	1	32
2	0	20	0	0	2	0	0	1	0	0	2	27
0	0	38	0	0	0	0	0	0	0	0	0	38
1	0	39	0	0	1	0	0	0	0	0	0	41
2	0	30	0	0	0	0	0	0	0	0	0	32
2	0	29	0	0	1	0	0	4	0	0	0	36
1	0	20	0	0	0	0	0	0	0	0	0	21
2	0	13	0	0	0	0	0	0	0	0	0	15
10	0	219	0	0	4	0	0	6	0	0	3	242
					WEST LEG							
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: STODDARD WELLS RD

EAST-WEST STREET: JOHNSON RD

TIME: 07:00AM-08:00AM DATE: 11-09-22

NORTH LEG

Rt	Thru	Lt	
0	48	1	Total
0	10	0	1st
0	12	0	2nd
0	15	1	3rd
0	11	0	4th

	1st	2nd	3rd	4th	Total
Rt	0	2	0	1	3
Thru	0	0	0	0	0
Lt	32	25	38	40	135

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

	Lt	Thru	Rt
1st	0	1	13
2nd	0	8	40
3rd	0	0	15
4th	0	1	7
Total	0	10	75

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: STODDARD WELLS RD

EAST-WEST STREET: JOHNSON RD

TIME: 08:00AM-09:00AM DATE: 11-09-22

NORTH LEG

Rt	Thru	Lt	
0	43	3	Total
0	11	0	1st
0	14	0	2nd
0	10	2	3rd
0	8	1	4th

	1st	2nd	3rd	4th	Total
Rt	2	2	1	2	7
Thru	0	0	0	0	0
Lt	30	34	20	13	97

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

	Lt	Thru	Rt
1st	0	4	13
2nd	0	1	4
3rd	0	2	8
4th	0	0	3
Total	0	7	28

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: STODDARD WELLS RD
EAST-WEST STREET: JOHNSON RD
JURISDICTION: APPLE VALLEY

DATE: 11-09-22

PEAK HOUR: 04:00PM

NORTH LEG

TOTAL: 146

	115	31	Total
0	32	6	1st
0	25	6	2nd
0	28	8	3rd
0	30	11	4th
Rt	Thru	Lt	

EAST LEG TOTAL: 267

Rt	6	5	9	4	24
Thru	0	0	0	0	
Lt	84	34	64	61	243
	1st	2nd	3rd	4th	Total

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

WEST LEG TOTAL: 0

PEAK HOUR FACTORS

NORTH LEG = 0.89
SOUTH LEG = 0.80
EAST LEG = 0.74
WEST LEG =

ALL LEGS = 0.81

	Lt	Thru	Rt
1st	0	5	16
2nd	0	7	15
3rd	0	4	10
4th	0	4	9
Total		20	50

TOTAL: 70

SOUTH LEG

HOUR TOTAL: 483

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : STODDARD WELLS RD — APPLE VALLEY

EAST-WEST STREET : JOHNSON RD — 11-09-22

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
0	32	6	0	0	0	0	0	0	0	0	0	38
0	25	6	0	0	0	0	0	0	0	0	0	31
0	28	8	0	0	0	0	0	0	0	0	0	36
0	30	11	0	0	0	0	0	0	0	0	0	41
0	28	4	0	0	0	0	0	0	0	0	0	32
0	35	5	0	0	0	0	0	0	0	0	0	40
0	22	5	0	0	0	0	0	0	0	0	0	27
0	25	4	0	0	0	0	0	0	0	0	0	29
0	225	49	0	0	0	0	0	0	0	0	0	274
SOUTH LEG												
16	5	0	0	0	0	0	0	0	0	0	0	21
15	7	0	0	0	0	0	0	0	0	0	0	22
8	4	0	0	0	0	0	0	0	2	0	0	14
9	4	0	0	0	0	0	0	0	0	0	0	13
11	4	0	0	0	0	0	0	0	0	0	0	15
16	5	0	0	0	0	0	0	0	0	0	0	21
12	5	0	0	0	0	0	0	0	0	0	0	17
10	4	0	0	0	0	0	0	0	0	0	0	14
97	38	0	0	0	0	0	0	0	2	0	0	137
EAST LEG												
6	0	78	0	0	1	0	0	0	0	0	5	90
5	0	34	0	0	0	0	0	0	0	0	0	39
9	0	64	0	0	0	0	0	0	0	0	0	73
4	0	61	0	0	0	0	0	0	0	0	0	65
5	0	42	0	0	0	0	0	0	0	0	0	47
5	0	62	0	0	0	0	0	0	0	0	0	67
7	0	40	0	0	0	0	0	0	0	0	0	47
4	0	45	0	0	0	0	0	0	0	0	0	49
45	0	426	0	0	1	0	0	0	0	0	5	477
WEST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: STODDARD WELLS RD

EAST-WEST STREET: JOHNSON RD

TIME: 04:00PM-05:00PM DATE: 11-09-22

NORTH LEG

Rt	Thru	Lt	
0	115	31	Total
0	32	6	1st
0	25	6	2nd
0	28	8	3rd
0	30	11	4th

	1st	2nd	3rd	4th	Total
Rt	6	5	9	4	24
Thru	0	0	0	0	0
Lt	84	34	64	61	243

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

	Lt	Thru	Rt
1st	0	5	16
2nd	0	7	15
3rd	0	4	10
4th	0	4	9
Total	0	20	50

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: STODDARD WELLS RD

EAST-WEST STREET: JOHNSON RD

TIME: 05:00PM-06:00PM DATE: 11-09-22

NORTH LEG

Rt	Thru	Lt	
0	110	18	Total
0	28	4	1st
0	35	5	2nd
0	22	5	3rd
0	25	4	4th

	1st	2nd	3rd	4th	Total
Rt	5	5	7	4	21
Thru	0	0	0	0	0
Lt	42	62	40	45	189

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

	Lt	Thru	Rt
1st	0	4	11
2nd	0	5	16
3rd	0	5	12
4th	0	4	10
Total	0	18	49

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: I-15 NB RAMPS
EAST-WEST STREET: STODDARD WELLS RD
JURISDICTION: APPLE VALLEY

DATE: 11-09-22

PEAK HOUR: 07:00AM

NORTH LEG

TOTAL: 43

Rt	Thru	Lt	
42		1	Total
1	0	1	1st
16	0	0	2nd
19	0	0	3rd
6	0	0	4th

EAST LEG TOTAL: 183

	1st	2nd	3rd	4th	Total
Rt	7	14	15	21	57
Thru	34	23	38	30	125
Lt	1	0	0	0	1

WEST LEG TOTAL: 345

Total	1st	2nd	3rd	4th	
256	93	25	77	61	Lt
80	11	58	4	7	Thru
9	2	5	2	0	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.57
SOUTH LEG = 0.25
EAST LEG = 0.86
WEST LEG = 0.81

ALL LEGS = 0.92

SOUTH LEG

TOTAL: 2

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

HOUR TOTAL: 573

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : I-15 NB RAMPS — APPLE VALLEY

EAST-WEST STREET : STODDARD WELLS RD — 11-09-22

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
0	0	0	1	0	0	0	0	1	0	0	0	2
15	0	0	1	0	0	0	0	0	0	0	0	16
18	0	0	0	0	0	1	0	0	0	0	0	19
6	0	0	0	0	0	0	0	0	0	0	0	6
10	0	2	1	0	0	2	0	0	0	0	0	15
13	0	3	4	0	0	2	0	0	0	0	0	22
18	0	1	0	0	0	0	0	0	0	0	0	19
12	0	0	0	0	0	0	0	0	0	0	0	12
92	0	6	7	0	0	5	0	1	0	0	0	111
SOUTH LEG												
0	2	0	0	0	0	0	0	0	0	0	0	2
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	6
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
6	2	0	0	0	0	0	0	0	0	0	0	8
EAST LEG												
5	34	1	0	0	0	1	0	0	1	0	0	42
10	22	0	2	0	0	1	0	0	1	1	0	37
15	38	0	0	0	0	0	0	0	0	0	0	53
20	30	0	1	0	0	0	0	0	0	0	0	51
12	28	0	0	0	0	1	0	0	0	0	0	41
18	22	0	2	1	0	5	0	0	0	0	0	48
10	20	0	0	0	0	0	0	0	0	0	0	30
9	13	0	0	0	0	0	0	0	0	0	0	22
99	207	1	5	1	0	8	0	0	2	1	0	324
WEST LEG												
2	11	88	0	0	1	0	0	0	0	0	4	106
5	57	15	0	0	4	0	0	1	0	1	5	88
2	4	69	0	0	1	0	0	4	0	0	3	83
0	6	58	0	1	1	0	0	1	0	0	1	68
0	8	39	0	0	3	0	1	1	0	0	9	61
0	1	6	0	0	0	0	0	2	0	1	8	18
1	9	40	0	0	0	0	0	0	0	0	1	51
0	3	49	0	0	0	0	0	0	0	0	1	53
10	99	364	0	1	10	0	1	9	0	2	32	528

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: I-15 NB RAMPS

EAST-WEST STREET: STODDARD WELLS RD

TIME: 07:00AM-08:00AM DATE: 11-09-22

NORTH LEG

Rt	Thru	Lt	
42	0	1	Total
1	0	1	1st
16	0	0	2nd
19	0	0	3rd
6	0	0	4th

	1st	2nd	3rd	4th	Total
Rt	7	14	15	21	57
Thru	34	23	38	30	125
Lt	1	0	0	0	1

Total	1st	2nd	3rd	4th	
256	93	25	77	61	Lt
80	11	58	4	7	Thru
9	2	5	2	0	Rt

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: I-15 NB RAMPS

EAST-WEST STREET: STODDARD WELLS RD

TIME: 08:00AM-09:00AM DATE: 11-09-22

NORTH LEG

Rt	Thru	Lt	
62	0	6	Total
13	0	2	1st
19	0	3	2nd
18	0	1	3rd
12	0	0	4th

	1st	2nd	3rd	4th	Total
Rt	13	25	10	9	57
Thru	28	23	20	13	84
Lt	0	0	0	0	0

Total	1st	2nd	3rd	4th	
159	52	16	41	50	Lt
23	9	2	9	3	Thru
1	0	0	1	0	Rt

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: I-15 NB RAMPS
EAST-WEST STREET: STODDARD WELLS RD
JURISDICTION: APPLE VALLEY

DATE: 11-09-22

PEAK HOUR: 04:30PM

NORTH LEG

TOTAL: 152

Rt	Thru	Lt	
135		17	Total
20	0	4	1st
19	0	4	2nd
64	0	5	3rd
32	0	4	4th

EAST LEG TOTAL: 354

	1st	2nd	3rd	4th	Total
Rt	17	14	12	17	60
Thru	74	81	57	78	290
Lt	0	0	1	3	4

WEST LEG TOTAL: 264

Total	1st	2nd	3rd	4th	
217	53	48	52	64	Lt
46	10	9	10	17	Thru
1	0	0	0	1	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.55
SOUTH LEG = 0.75
EAST LEG = 0.90
WEST LEG = 0.80

ALL LEGS = 0.89

SOUTH LEG

TOTAL: 3

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

HOUR TOTAL: 773

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : I-15 NB RAMPS — APPLE VALLEY

EAST-WEST STREET : STODDARD WELLS RD — 11-09-22

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
					NORTH LEG							
17	0	1	2	0	0	1	0	0	0	0	0	21
29	0	3	0	0	0	0	0	0	0	0	0	32
19	0	4	0	0	0	1	0	0	0	0	0	24
19	0	4	0	0	0	0	0	0	0	0	0	23
64	0	5	0	0	0	0	0	0	0	0	0	69
32	0	4	0	0	0	0	0	0	0	0	0	36
57	0	6	0	0	0	0	0	0	0	0	0	63
11	0	1	0	0	0	0	0	0	0	0	0	12
248	0	28	2	0	0	2	0	0	0	0	0	280
					SOUTH LEG							
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0	0	0	1
0	1	0	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0	0	0	0	0	1
0	1	0	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	3	1	0	0	0	0	0	0	0	0	0	4
					EAST LEG							
15	95	0	1	0	0	0	0	0	5	0	0	116
37	22	0	0	0	0	0	0	0	0	0	0	59
17	74	0	0	0	0	0	0	0	0	0	0	91
14	81	0	0	0	0	0	0	0	0	0	0	95
12	57	1	0	0	0	0	0	0	0	0	0	70
17	78	3	0	0	0	0	0	0	0	0	0	98
7	52	3	0	0	0	0	0	0	0	0	0	62
11	60	7	0	0	0	0	0	0	0	0	0	78
130	519	14	1	0	0	0	0	0	5	0	0	669
					WEST LEG							
0	20	57	0	0	2	0	0	5	0	0	6	90
0	19	62	0	0	0	0	0	4	0	0	7	92
0	8	50	0	0	0	0	0	1	0	2	2	63
0	9	48	0	0	0	0	0	0	0	0	0	57
0	10	52	0	0	0	0	0	0	0	0	0	62
1	17	64	0	0	0	0	0	0	0	0	0	82
0	11	37	0	0	0	0	0	0	0	0	0	48
1	13	35	0	0	0	0	0	0	0	0	1	50
2	107	405	0	0	2	0	0	10	0	2	16	544

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: I-15 NB RAMPS

EAST-WEST STREET: STODDARD WELLS RD

TIME: 04:00PM-05:00PM DATE: 11-09-22

NORTH LEG

Rt	Thru	Lt	
88	0	12	Total
20	0	1	1st
29	0	3	2nd
20	0	4	3rd
19	0	4	4th

	1st	2nd	3rd	4th	Total
Rt	21	37	17	14	89
Thru	95	22	74	81	272
Lt	0	0	0	0	0

Total	1st	2nd	3rd	4th	
244	70	73	53	48	Lt
58	20	19	10	9	Thru
0	0	0	0	0	Rt

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: I-15 NB RAMPS

EAST-WEST STREET: STODDARD WELLS RD

TIME: 05:00PM-06:00PM DATE: 11-09-22

NORTH LEG

Rt	Thru	Lt	
164	0	16	Total
64	0	5	1st
32	0	4	2nd
57	0	6	3rd
11	0	1	4th

	1st	2nd	3rd	4th	Total
Rt	12	17	7	11	47
Thru	57	78	52	60	247
Lt	1	3	3	7	14

Total	1st	2nd	3rd	4th	
189	52	64	37	36	Lt
51	10	17	11	13	Thru
2	0	1	0	1	Rt

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: STODDARD WELLS RD
EAST-WEST STREET: QUARRY RD
JURISDICTION: APPLE VALLEY

DATE: 11-09-22

PEAK HOUR: 07:00AM

NORTH LEG

TOTAL: 148

Rt	Thru	Lt	
40		108	Total
6		11	1st
5		44	2nd
14		29	3rd
15		24	4th

EAST LEG TOTAL: 167

	1st	2nd	3rd	4th	Total
Rt	29	34	46	32	141
Thru	6	5	11	4	26
Lt					

WEST LEG TOTAL: 368

Total	1st	2nd	3rd	4th	
131	27	33	31	40	Lt
237	95	44	54	44	Thru
					Rt

PEAK HOUR FACTORS

NORTH LEG = 0.76
SOUTH LEG =
EAST LEG = 0.73
WEST LEG = 0.75

ALL LEGS = 0.92

SOUTH LEG

TOTAL: 0

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

HOUR TOTAL: 683

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : STODDARD WELLS RD — APPLE VALLEY

EAST-WEST STREET : QUARRY RD — 11-09-22

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
6	0	9	0	0	0	0	0	0	0	0	2	17
4	0	41	0	0	1	0	0	0	1	0	2	49
12	0	28	0	0	0	0	0	1	2	0	0	43
13	0	22	2	0	1	0	0	0	0	0	1	39
9	0	10	0	0	1	1	0	0	0	0	3	24
9	0	2	1	0	0	0	0	1	0	0	0	13
11	0	9	0	0	0	2	0	0	0	0	2	24
8	0	9	0	0	0	0	0	0	1	0	0	18
72	0	130	3	0	3	3	0	2	4	0	10	227
SOUTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
EAST LEG												
28	5	0	1	1	0	0	0	0	0	0	0	35
33	4	0	0	1	0	0	0	0	1	0	0	39
46	10	0	0	0	0	0	1	0	0	0	0	57
32	4	0	0	0	0	0	0	0	0	0	0	36
26	12	0	0	1	0	2	0	0	0	0	0	41
20	15	0	1	4	0	1	1	0	0	0	0	42
22	16	0	0	0	0	0	0	0	0	0	0	38
13	12	0	0	0	0	0	0	0	0	0	0	25
220	78	0	2	7	0	3	2	0	1	0	0	313
WEST LEG												
0	91	27	0	2	0	0	0	0	0	2	0	122
0	36	33	0	3	0	0	1	0	0	4	0	77
0	47	31	0	1	0	0	3	0	0	3	0	85
0	42	40	0	1	0	0	1	0	0	0	0	84
0	37	23	0	2	0	0	2	0	0	6	0	70
0	7	20	0	0	0	0	1	0	0	7	0	35
0	39	16	0	0	0	0	0	0	0	1	0	56
0	43	19	0	0	0	0	0	0	0	1	0	63
0	342	209	0	9	0	0	8	0	0	24	0	592

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: STODDARD WELLS RD

EAST-WEST STREET: QUARRY RD

TIME: 07:00AM-08:00AM DATE: 11-09-22

NORTH LEG

Rt	Thru	Lt	
40		108	Total
6		11	1st
5		44	2nd
14		29	3rd
15		24	4th

	1st	2nd	3rd	4th	Total
Rt	29	34	46	32	141
Thru	6	5	11	4	26
Lt					

Total	1st	2nd	3rd	4th	
131	27	33	31	40	Lt
237	95	44	54	44	Thru
					Rt

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: STODDARD WELLS RD

EAST-WEST STREET: QUARRY RD

TIME: 08:00AM-09:00AM DATE: 11-09-22

NORTH LEG

Rt	Thru	Lt	
42		37	Total
10		14	1st
10		3	2nd
13		11	3rd
9		9	4th

	1st	2nd	3rd	4th	Total
Rt	28	22	22	13	85
Thru	13	20	16	12	61
Lt					

Total	1st	2nd	3rd	4th	
78	23	20	16	19	Lt
146	47	15	40	44	Thru
					Rt

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: STODDARD WELLS RD
EAST-WEST STREET: QUARRY RD
JURISDICTION: APPLE VALLEY

DATE: 11-09-22

PEAK HOUR: 04:30PM

NORTH LEG

TOTAL: 102

Rt	Thru	Lt	
58		44	Total
16		8	1st
19		13	2nd
10		7	3rd
13		16	4th

EAST LEG TOTAL: 425

	1st	2nd	3rd	4th	Total
Rt	66	70	53	57	246
Thru	28	30	69	52	179
Lt					

WEST LEG TOTAL: 286

Total	1st	2nd	3rd	4th	
66	13	21	14	18	Lt
220	55	44	55	66	Thru
					Rt

PEAK HOUR FACTORS

NORTH LEG = 0.80
SOUTH LEG =
EAST LEG = 0.87
WEST LEG = 0.85

ALL LEGS = 0.92

SOUTH LEG

TOTAL: 0

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

HOUR TOTAL: 813

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : STODDARD WELLS RD — APPLE VALLEY

EAST-WEST STREET : QUARRY RD — 11-09-22

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
						NORTH LEG						
7	0	18	0	0	2	1	0	2	2	0	2	34
16	0	12	0	0	0	0	0	1	0	0	4	33
13	0	7	1	0	0	2	0	0	0	0	1	24
14	0	13	1	0	0	0	0	0	4	0	0	32
10	0	7	0	0	0	0	0	0	0	0	0	17
11	0	16	2	0	0	0	0	0	0	0	0	29
10	0	9	0	0	0	1	0	0	0	0	0	20
6	0	14	1	0	0	0	0	0	1	0	1	23
87	0	96	5	0	2	4	0	3	7	0	8	212
						SOUTH LEG						
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
						EAST LEG						
89	23	0	1	1	0	0	1	0	0	0	0	115
20	31	0	0	0	0	0	0	0	0	0	0	51
65	28	0	0	0	0	1	0	0	0	0	0	94
70	30	0	0	0	0	0	0	0	0	0	0	100
53	69	0	0	0	0	0	0	0	0	0	0	122
57	52	0	0	0	0	0	0	0	0	0	0	109
47	63	0	0	0	0	0	0	0	0	0	0	110
40	31	0	0	0	0	0	0	0	0	0	0	71
441	327	0	1	1	0	1	1	0	0	0	0	772
						WEST LEG						
0	60	22	0	0	0	0	3	0	0	3	0	88
0	69	16	0	0	0	0	3	0	0	3	0	91
0	51	13	0	0	0	0	1	0	0	3	0	68
0	44	21	0	0	0	0	0	0	0	0	0	65
0	55	14	0	0	0	0	0	0	0	0	0	69
0	66	18	0	0	0	0	0	0	0	0	0	84
0	39	15	0	0	0	0	0	0	0	0	0	54
0	35	10	0	0	0	0	0	0	0	0	0	45
0	419	129	0	0	0	0	7	0	0	9	0	564

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: STODDARD WELLS RD

EAST-WEST STREET: QUARRY RD

TIME: 04:00PM-05:00PM DATE: 11-09-22

NORTH LEG

61		62	Total
10		24	1st
16		17	2nd
16		8	3rd
19		13	4th
Rt	Thru	Lt	

Rt	90	20	66	70	246
Thru	25	31	28	30	114
Lt					
	1st	2nd	3rd	4th	Total

Total	1st	2nd	3rd	4th	
72	22	16	13	21	Lt
240	66	75	55	44	Thru
					Rt

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: STODDARD WELLS RD

EAST-WEST STREET: QUARRY RD

TIME: 05:00PM-06:00PM DATE: 11-09-22

NORTH LEG

Rt	Thru	Lt	
42		47	Total
10		7	1st
13		16	2nd
11		9	3rd
8		15	4th

	1st	2nd	3rd	4th	Total
Rt	53	57	47	40	197
Thru	69	52	63	31	215
Lt					

Total	1st	2nd	3rd	4th	
57	14	18	15	10	Lt
195	55	66	39	35	Thru
					Rt

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: QUARRY RD
EAST-WEST STREET: I-15 SB RAMPS
JURISDICTION: APPLE VALLEY

DATE: 11-09-22

PEAK HOUR: 07:15AM

NORTH LEG

TOTAL: 1

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

EAST LEG TOTAL: 156

	1st	2nd	3rd	4th	Total
Rt	0	0	1	0	1
Thru					
Lt	49	43	39	24	155

WEST LEG TOTAL: 0

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

PEAK HOUR FACTORS

NORTH LEG = 0.25
SOUTH LEG = 0.89
EAST LEG = 0.80
WEST LEG =

ALL LEGS = 0.90

SOUTH LEG

TOTAL: 266

	Lt	Thru	Rt
1st		0	67
2nd		0	75
3rd		0	73
4th		1	50
Total		1	265

HOUR TOTAL: 423

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : QUARRY RD — APPLE VALLEY

EAST-WEST STREET : I-15 SB RAMPS — 11-09-22

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	2	0	0	0	0	0	0	0	0	0	2
SOUTH LEG												
54	2	0	1	0	0	0	0	0	0	0	0	57
66	0	0	0	0	0	0	0	0	1	0	0	67
75	0	0	0	0	0	0	0	0	0	0	0	75
73	0	0	0	0	0	0	0	0	0	0	0	73
48	1	0	0	0	0	2	0	0	0	0	0	51
40	0	0	1	0	0	1	0	0	0	0	0	42
39	0	0	0	0	0	0	0	0	0	0	0	39
31	1	0	0	0	0	0	0	0	0	0	0	32
426	4	0	2	0	0	3	0	0	1	0	0	436
EAST LEG												
0	0	15	0	0	0	0	0	0	0	0	2	17
0	0	45	0	0	1	0	0	0	0	0	3	49
0	0	40	0	0	0	0	0	1	0	0	2	43
1	0	35	0	0	3	0	0	0	0	0	1	40
0	0	19	0	0	1	0	0	1	0	0	3	24
0	0	12	0	0	1	0	0	1	0	0	0	14
0	0	21	0	0	0	0	0	2	0	0	2	25
0	0	15	0	0	0	0	0	0	0	0	1	16
1	0	202	0	0	6	0	0	5	0	0	14	228
WEST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: QUARRY RD

EAST-WEST STREET: I-15 SB RAMPS

TIME: 07:00AM-08:00AM DATE: 11-09-22

NORTH LEG

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

Rt	0	0	0	1	1
Thru					
Lt	17	49	43	39	148
	1st	2nd	3rd	4th	Total

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

	Lt	Thru	Rt
1st		2	55
2nd		0	67
3rd		0	75
4th		0	73
Total		2	270

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: QUARRY RD

EAST-WEST STREET: I-15 SB RAMPS

TIME: 08:00AM-09:00AM DATE: 11-09-22

NORTH LEG

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

Rt	0	0	0	0	0
Thru					
Lt	24	14	25	16	79
	1st	2nd	3rd	4th	Total

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

	Lt	Thru	Rt
1st		1	50
2nd		0	42
3rd		0	39
4th		1	31
Total		2	162

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: QUARRY RD
EAST-WEST STREET: I-15 SB RAMPS
JURISDICTION: APPLE VALLEY

DATE: 11-09-22

PEAK HOUR: 04:00PM

NORTH LEG

TOTAL: 1

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

EAST LEG TOTAL: 122

	1st	2nd	3rd	4th	Total
Rt	0	0	2	0	2
Thru					
Lt	33	32	24	31	120
Total					

WEST LEG TOTAL: 0

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

PEAK HOUR FACTORS

NORTH LEG = 0.25
SOUTH LEG = 0.71
EAST LEG = 0.92
WEST LEG =

ALL LEGS = 0.76

SOUTH LEG

TOTAL: 316

	Lt	Thru	Rt
1st		0	111
2nd		0	36
3rd		1	78
4th		0	90
Total		1	315

HOUR TOTAL: 439

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : QUARRY RD — APPLE VALLEY

EAST-WEST STREET : I-15 SB RAMPS — 11-09-22

BEGINNING TIME : 04:00PM

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0	0	0	1
0	0	1	0	0	0	0	0	0	0	0	0	1
0	1	2	0	0	0	0	0	0	0	0	0	3
SOUTH LEG												
109	0	0	2	0	0	0	0	0	0	0	0	111
36	0	0	0	0	0	0	0	0	0	0	0	36
77	1	0	0	0	0	1	0	0	0	0	0	79
90	0	0	0	0	0	0	0	0	0	0	0	90
66	1	0	0	0	0	0	0	0	0	0	0	67
75	0	0	0	0	0	0	0	0	0	0	0	75
66	0	0	0	0	0	0	0	0	0	0	0	66
48	0	0	0	0	0	0	0	0	0	0	0	48
567	2	0	2	0	0	1	0	0	0	0	0	572
EAST LEG												
0	0	24	0	0	2	0	0	3	0	0	4	33
0	0	27	0	0	0	0	0	1	0	0	4	32
2	0	20	0	0	1	0	0	2	0	0	1	26
0	0	26	0	0	1	0	0	0	0	0	4	31
0	0	17	0	0	0	0	0	0	0	0	0	17
0	0	27	0	0	2	0	0	0	0	0	0	29
1	0	19	0	0	0	0	0	1	0	0	0	21
0	0	20	0	0	1	0	0	0	0	0	2	23
3	0	180	0	0	7	0	0	7	0	0	15	212
WEST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: QUARRY RD

EAST-WEST STREET: I-15 SB RAMPS

TIME: 04:00PM-05:00PM DATE: 11-09-22

NORTH LEG

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

Rt	0	0	2	0	2
Thru					
Lt	33	32	24	31	120
	1st	2nd	3rd	4th	Total

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

	Lt	Thru	Rt
1st		0	111
2nd		0	36
3rd		1	78
4th		0	90
Total		1	315

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: QUARRY RD

EAST-WEST STREET: I-15 SB RAMPS

TIME: 05:00PM-06:00PM DATE: 11-09-22

NORTH LEG

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

Rt	0	0	1	0	1
Thru					
Lt	17	29	20	23	89
	1st	2nd	3rd	4th	Total

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

	Lt	Thru	Rt
1st		1	66
2nd		0	75
3rd		0	66
4th		0	48
Total		1	255

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: NAVAJO RD
EAST-WEST STREET: JOHNSON RD
JURISDICTION: APPLE VALLEY

DATE: 11-03-22

PEAK HOUR: 07:45AM

NORTH LEG

TOTAL: 0

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

EAST LEG TOTAL: 35

	1st	2nd	3rd	4th	Total
Rt	0	0	0	0	
Thru	1	8	14	10	33
Lt	2	0	0	0	2

WEST LEG TOTAL: 59

Total	1st	2nd	3rd	4th	
	0	0	0	0	Lt
6	3	0	1	2	Thru
53	10	11	20	12	Rt

SOUTH LEG

TOTAL: 87

	Lt	Thru	Rt
1st	22	0	0
2nd	22	0	0
3rd	25	0	2
4th	16	0	0
Total	85		2

PEAK HOUR FACTORS

NORTH LEG =
SOUTH LEG = 0.81
EAST LEG = 0.63
WEST LEG = 0.70

ALL LEGS = 0.73

HOUR TOTAL: 181

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : NAVAJO RD — APPLE VALLEY

EAST-WEST STREET : JOHNSON RD — 11-03-22

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH LEG												
0	0	13	0	0	0	0	0	0	0	0	2	15
0	0	18	0	0	1	0	0	1	0	0	0	20
0	0	19	0	0	0	0	0	0	0	0	2	21
0	0	17	0	0	2	0	0	1	0	0	2	22
0	0	22	0	0	0	0	0	0	0	0	0	22
2	0	23	0	0	1	0	0	0	0	0	1	27
0	0	16	0	0	0	0	0	0	0	0	0	16
1	0	15	0	0	0	0	0	0	0	0	0	16
3	0	143	0	0	4	0	0	2	0	0	7	159
EAST LEG												
0	3	0	0	0	0	0	0	0	0	0	0	3
0	5	0	0	0	0	0	0	0	0	0	0	5
0	1	2	0	0	0	0	1	0	0	0	0	4
0	1	2	0	0	0	0	0	0	0	0	0	3
0	7	0	0	0	0	0	0	0	0	1	0	8
0	14	0	0	0	0	0	0	0	0	0	0	14
0	9	0	0	0	0	0	1	0	0	0	0	10
0	9	1	0	0	0	0	0	0	0	1	0	11
0	49	5	0	0	0	0	2	0	0	2	0	58
WEST LEG												
8	2	0	0	0	0	1	0	0	1	0	0	12
9	2	0	2	0	0	0	0	0	0	0	0	13
8	4	0	0	0	0	0	0	0	2	0	0	14
10	3	0	0	0	0	0	0	0	0	0	0	13
10	0	0	0	0	0	0	0	0	1	0	0	11
20	1	0	0	0	0	0	0	0	0	0	0	21
12	2	0	0	0	0	0	0	0	0	0	0	14
11	0	0	0	0	0	0	0	0	0	0	0	11
88	14	0	2	0	0	1	0	0	4	0	0	109

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: NAVAJO RD

EAST-WEST STREET: JOHNSON RD

TIME: 07:00AM-08:00AM DATE: 11-03-22

NORTH LEG

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

	1st	2nd	3rd	4th	Total
Rt	0	0	0	0	0
Thru	3	5	2	1	11
Lt	0	0	2	2	4

Total	1st	2nd	3rd	4th	
0	0	0	0	0	Lt
11	2	2	4	3	Thru
41	10	11	10	10	Rt

	Lt	Thru	Rt
1st	15	0	0
2nd	20	0	0
3rd	21	0	0
4th	22	0	0
Total	78	0	0

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: NAVAJO RD

EAST-WEST STREET: JOHNSON RD

TIME: 08:00AM-09:00AM DATE: 11-03-22

NORTH LEG

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

	1st	2nd	3rd	4th	Total
Rt	0	0	0	0	0
Thru	8	14	10	10	42
Lt	0	0	0	1	1

Total	1st	2nd	3rd	4th	
0	0	0	0	0	Lt
3	0	1	2	0	Thru
54	11	20	12	11	Rt

	Lt	Thru	Rt
1st	22	0	0
2nd	25	0	2
3rd	16	0	0
4th	15	0	1
Total	78	0	3

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: NAVAJO RD
EAST-WEST STREET: JOHNSON RD
JURISDICTION: APPLE VALLEY

DATE: 11-03-22

PEAK HOUR: 04:15PM

NORTH LEG

TOTAL: 0

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

EAST LEG

EAST LEG TOTAL: 32

	1st	2nd	3rd	4th	Total
Rt	0	0	0	0	
Thru	6	5	9	10	30
Lt	1	1	0	0	2

WEST LEG

Total	1st	2nd	3rd	4th	
	0	0	0	0	Lt
57	10	10	16	21	Thru
52	21	10	11	10	Rt

WEST LEG TOTAL: 109

SOUTH LEG

	Lt	Thru	Rt
1st	27	0	1
2nd	33	0	1
3rd	21	0	1
4th	14	0	0
Total	95		3

TOTAL: 98

PEAK HOUR FACTORS

NORTH LEG =
SOUTH LEG = 0.72
EAST LEG = 0.80
WEST LEG = 0.88

ALL LEGS = 0.91

HOUR TOTAL: 239

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : NAVAJO RD — APPLE VALLEY

EAST-WEST STREET : JOHNSON RD — 11-03-22

BEGINNING TIME : 04:00PM

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH LEG												
0	0	13	0	0	0	0	0	0	0	0	3	16
1	0	27	0	0	0	0	0	0	0	0	0	28
1	0	33	0	0	0	0	0	0	0	0	0	34
1	0	21	0	0	0	0	0	0	0	0	0	22
0	0	13	0	0	0	0	0	0	0	0	1	14
1	0	19	0	0	0	0	0	0	0	0	0	20
0	0	25	0	0	0	0	0	0	0	0	0	25
1	0	16	0	0	0	0	0	0	0	0	0	17
5	0	167	0	0	0	0	0	0	0	0	4	176
EAST LEG												
0	8	0	0	0	0	0	0	0	0	0	0	8
0	6	1	0	0	0	0	0	0	0	0	0	7
0	5	1	0	0	0	0	0	0	0	0	0	6
0	9	0	0	0	0	0	0	0	0	0	0	9
0	10	0	0	0	0	0	0	0	0	0	0	10
0	8	2	0	0	0	0	0	0	0	0	0	10
0	11	1	0	0	0	0	0	0	0	0	0	12
0	6	0	0	0	0	0	0	0	0	0	0	6
0	63	5	0	0	0	0	0	0	0	0	0	68
WEST LEG												
14	14	0	1	0	0	0	0	0	0	0	0	29
21	10	0	0	0	0	0	0	0	0	0	0	31
8	10	0	0	0	0	1	0	0	1	0	0	20
11	16	0	0	0	0	0	0	0	0	0	0	27
10	21	0	0	0	0	0	0	0	0	0	0	31
6	16	0	1	0	0	0	0	0	1	0	0	24
16	10	0	0	0	0	0	0	0	0	0	0	26
10	10	0	0	0	0	0	0	0	0	0	0	20
96	107	0	2	0	0	1	0	0	2	0	0	208

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: NAVAJO RD

EAST-WEST STREET: JOHNSON RD

TIME: 04:00PM-05:00PM DATE: 11-03-22

NORTH LEG

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

	1st	2nd	3rd	4th	Total
Rt	0	0	0	0	0
Thru	8	6	5	9	28
Lt	0	1	1	0	2

Total	1st	2nd	3rd	4th	
0	0	0	0	0	Lt
50	14	10	10	16	Thru
57	15	21	10	11	Rt

	Lt	Thru	Rt
1st	16	0	0
2nd	27	0	1
3rd	33	0	1
4th	21	0	1
Total	97	0	3

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: NAVAJO RD

EAST-WEST STREET: JOHNSON RD

TIME: 05:00PM-06:00PM DATE: 11-03-22

NORTH LEG

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

	1st	2nd	3rd	4th	Total
Rt	0	0	0	0	0
Thru	10	8	11	6	35
Lt	0	2	1	0	3

Total	1st	2nd	3rd	4th	
0	0	0	0	0	Lt
57	21	16	10	10	Thru
44	10	8	16	10	Rt

	Lt	Thru	Rt
1st	14	0	0
2nd	19	0	1
3rd	25	0	0
4th	16	0	1
Total	74	0	2

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: DALE EVAND PKWY
EAST-WEST STREET: CARDOVA RD
JURISDICTION: APPLE VALLEY

DATE: 11-03-22

PEAK HOUR: 07:00AM

NORTH LEG

TOTAL: 56

	56		Total
	18	0	1st
	16	0	2nd
	9	0	3rd
	13	0	4th
Rt	Thru	Lt	

EAST LEG TOTAL: 0

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

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

WEST LEG TOTAL: 0

PEAK HOUR FACTORS

NORTH LEG = 0.78
SOUTH LEG = 0.83
EAST LEG =
WEST LEG =

ALL LEGS = 0.83

	Lt	Thru	Rt
1st		32	0
2nd		33	0
3rd		19	0
4th		25	0
Total		109	

SOUTH LEG

TOTAL: 109

HOUR TOTAL: 165

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : DALE EVAND PKWY — APPLE VALLEY

EAST-WEST STREET : CARDOVA RD — 11-03-22

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
0	14	0	0	1	0	0	0	0	0	3	0	18
0	15	0	0	1	0	0	0	0	0	0	0	16
0	8	0	0	1	0	0	0	0	0	0	0	9
0	8	0	0	0	0	0	0	0	0	5	0	13
0	8	0	0	1	0	0	0	0	0	3	0	12
0	12	0	0	0	0	0	0	0	0	3	0	15
0	11	1	0	0	0	0	0	0	0	0	0	12
0	12	0	0	2	0	0	0	0	0	3	0	17
0	88	1	0	6	0	0	0	0	0	17	0	112
SOUTH LEG												
0	30	0	0	0	0	0	0	0	0	2	0	32
0	31	0	0	1	0	0	1	0	0	0	0	33
0	15	0	0	1	0	0	0	0	0	3	0	19
0	21	0	0	1	0	0	0	0	0	3	0	25
0	22	0	0	2	0	0	0	0	0	1	0	25
0	18	0	0	1	0	0	0	0	0	0	0	19
0	11	0	0	0	0	0	0	0	0	1	0	12
0	16	0	0	0	0	0	0	0	0	1	0	17
0	164	0	0	6	0	0	1	0	0	11	0	182
EAST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
WEST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DALE EVAND PKWY

EAST-WEST STREET: CARDOVA RD

TIME: 07:00AM-08:00AM DATE: 11-03-22

NORTH LEG

	56	0	Total
	18	0	1st
	16	0	2nd
	9	0	3rd
	13	0	4th

Rt Thru Lt

Rt	0	0	0	0	0
Thru					
Lt	0	0	0	0	0

1st 2nd 3rd 4th Total

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

	Lt	Thru	Rt
1st		32	0
2nd		33	0
3rd		19	0
4th		25	0
Total		109	0

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DALE EVAND PKWY

EAST-WEST STREET: CARDOVA RD

TIME: 08:00AM-09:00AM DATE: 11-03-22

NORTH LEG

	55	1	Total
	12	0	1st
	15	0	2nd
	11	1	3rd
	17	0	4th

Rt Thru Lt

Rt	0	0	0	0	0
Thru					
Lt	0	0	0	0	0

1st 2nd 3rd 4th Total

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

	Lt	Thru	Rt
1st		25	0
2nd		19	0
3rd		12	0
4th		17	0
Total		73	0

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: DALE EVAND PKWY
EAST-WEST STREET: CARDOVA RD
JURISDICTION: APPLE VALLEY

DATE: 11-03-22

PEAK HOUR: 04:30PM

NORTH LEG

TOTAL: 223

	Rt	Thru	Lt	
Total		222	1	
1st		65	0	
2nd		51	1	
3rd		58	0	
4th		48	0	

EAST LEG TOTAL: 0

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

WEST LEG TOTAL: 0

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

SOUTH LEG

TOTAL: 112

	Lt	Thru	Rt
1st		31	0
2nd		15	0
3rd		29	0
4th		37	0
Total		112	

PEAK HOUR FACTORS

NORTH LEG = 0.86
SOUTH LEG = 0.76
EAST LEG =
WEST LEG =

ALL LEGS = 0.87

HOUR TOTAL: 335

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : DALE EVAND PKWY — APPLE VALLEY

EAST-WEST STREET : CARDOVA RD — 11-03-22

BEGINNING TIME : 04:00PM

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
						NORTH LEG						
0	32	0	0	1	0	0	0	0	0	1	0	34
0	41	0	0	0	0	0	0	0	0	0	0	41
0	63	0	0	1	0	0	1	0	0	0	0	65
0	48	1	0	0	0	0	1	0	0	2	0	52
0	57	0	0	1	0	0	0	0	0	0	0	58
0	46	0	0	2	0	0	0	0	0	0	0	48
0	40	0	0	0	0	0	0	0	0	3	0	43
0	34	0	0	0	0	0	0	0	0	1	0	35
0	361	1	0	5	0	0	2	0	0	7	0	376
						SOUTH LEG						
0	18	0	0	0	0	0	0	0	0	1	0	19
1	25	0	0	0	0	0	0	0	0	1	0	27
0	30	0	0	0	0	0	0	0	0	1	0	31
0	13	0	0	0	0	0	0	0	0	2	0	15
0	29	0	0	0	0	0	0	0	0	0	0	29
0	34	0	0	0	0	0	0	0	0	3	0	37
0	12	0	0	0	0	0	0	0	0	0	0	12
0	12	0	0	0	0	0	0	0	0	0	0	12
1	173	0	0	0	0	0	0	0	0	8	0	182
						EAST LEG						
2	0	1	0	0	0	0	0	0	0	0	0	3
1	0	0	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	1	0	0	0	0	0	0	0	0	0	4
						WEST LEG						
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DALE EVAND PKWY

EAST-WEST STREET: CARDOVA RD

TIME: 04:00PM-05:00PM DATE: 11-03-22

NORTH LEG

	191	1	Total
	34	0	1st
	41	0	2nd
	65	0	3rd
	51	1	4th
	Rt	Thru	Lt

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

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

	Lt	Thru	Rt
1st		19	0
2nd		26	1
3rd		31	0
4th		15	0
Total		91	1

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DALE EVAND PKWY

EAST-WEST STREET: CARDOVA RD

TIME: 05:00PM-06:00PM DATE: 11-03-22

NORTH LEG

	184	0	Total
	58	0	1st
	48	0	2nd
	43	0	3rd
	35	0	4th
Rt	Thru	Lt	

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

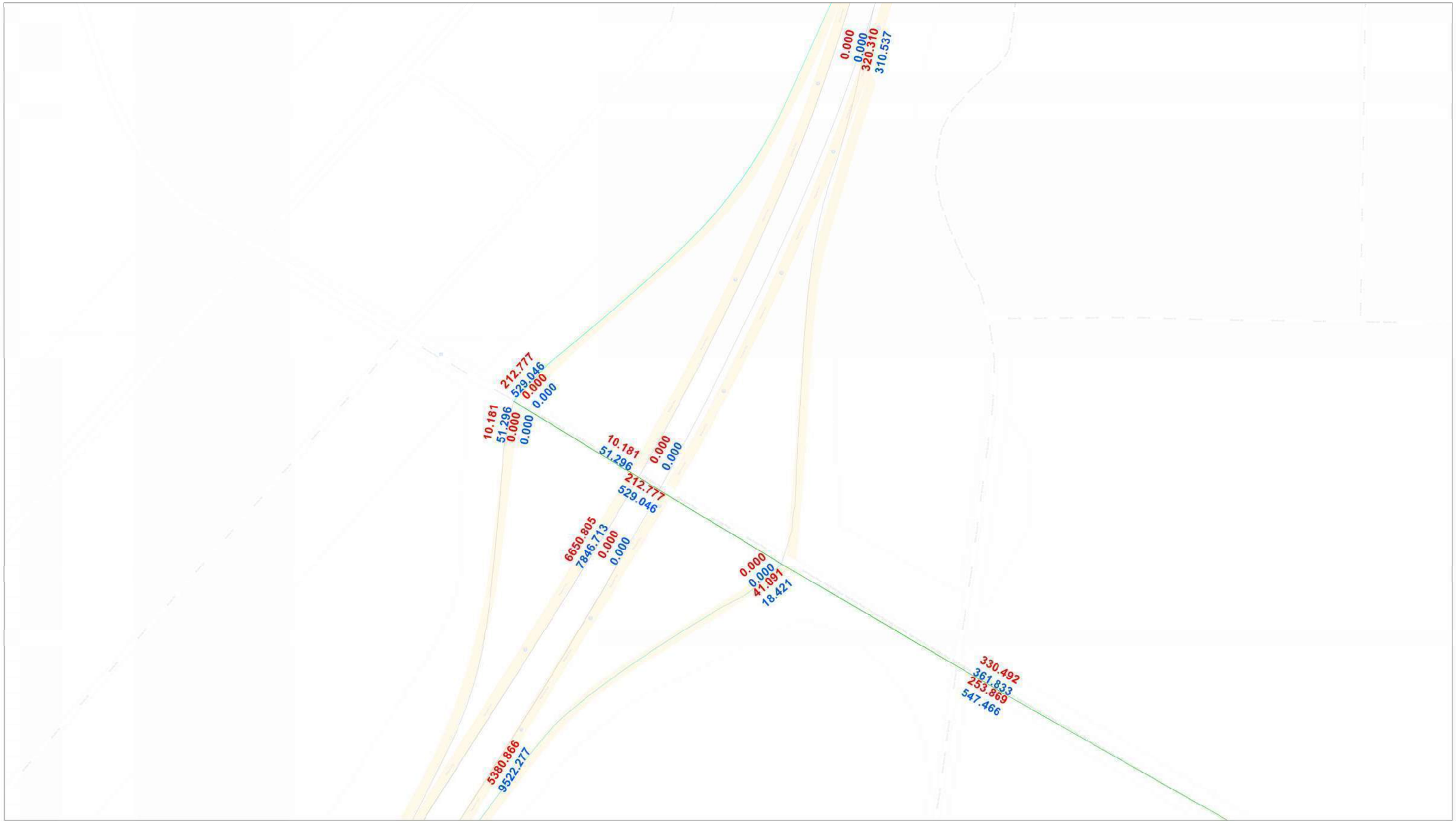
Total	1st	2nd	3rd	4th	
					Lt
					Thru
					Rt

	Lt	Thru	Rt
1st		29	0
2nd		37	0
3rd		12	0
4th		12	0
Total		90	0

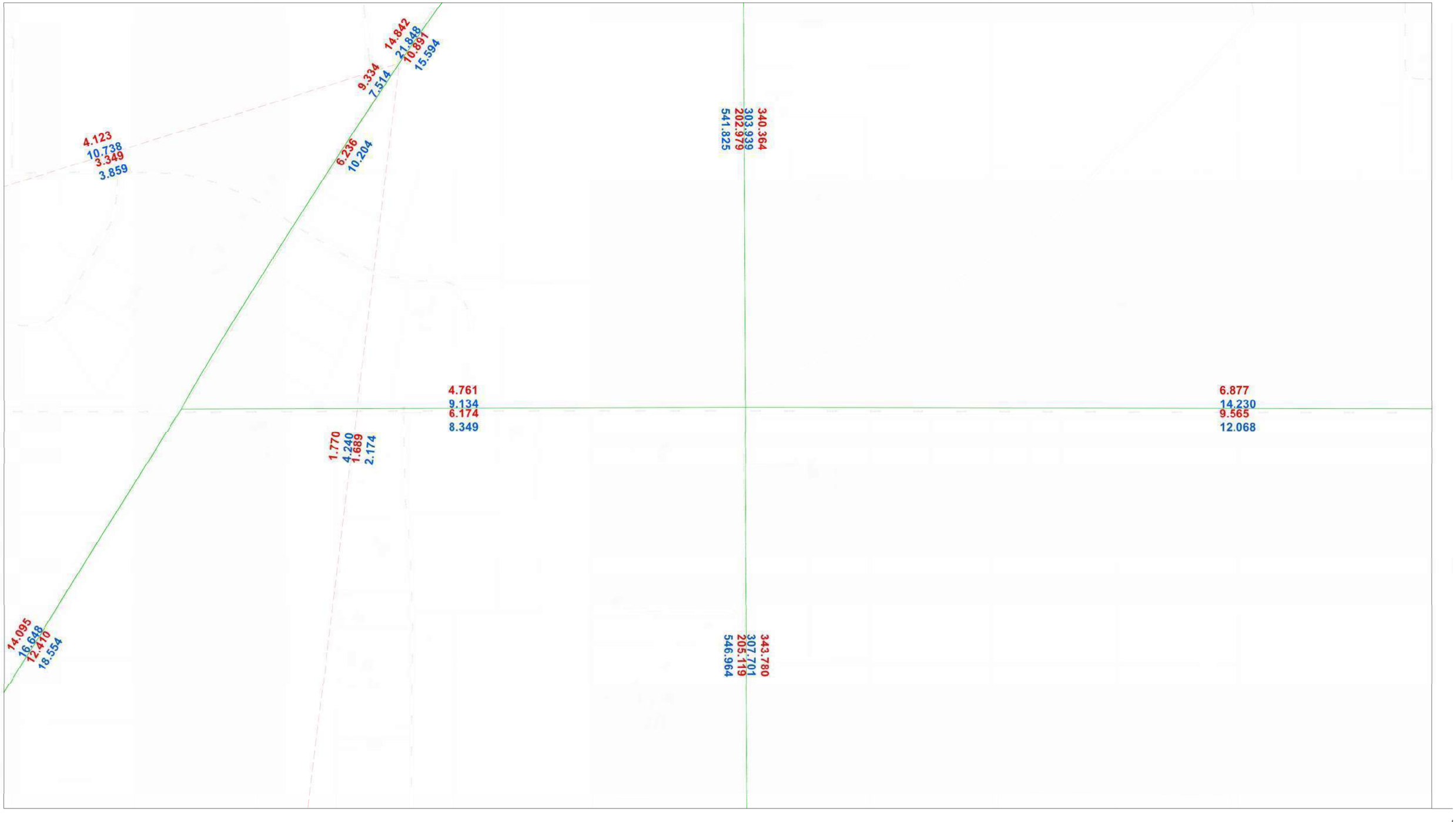
Prepared by NEWPORT TRAFFIC STUDIES

Appendix C: Forecast Model Plots and Volume Development

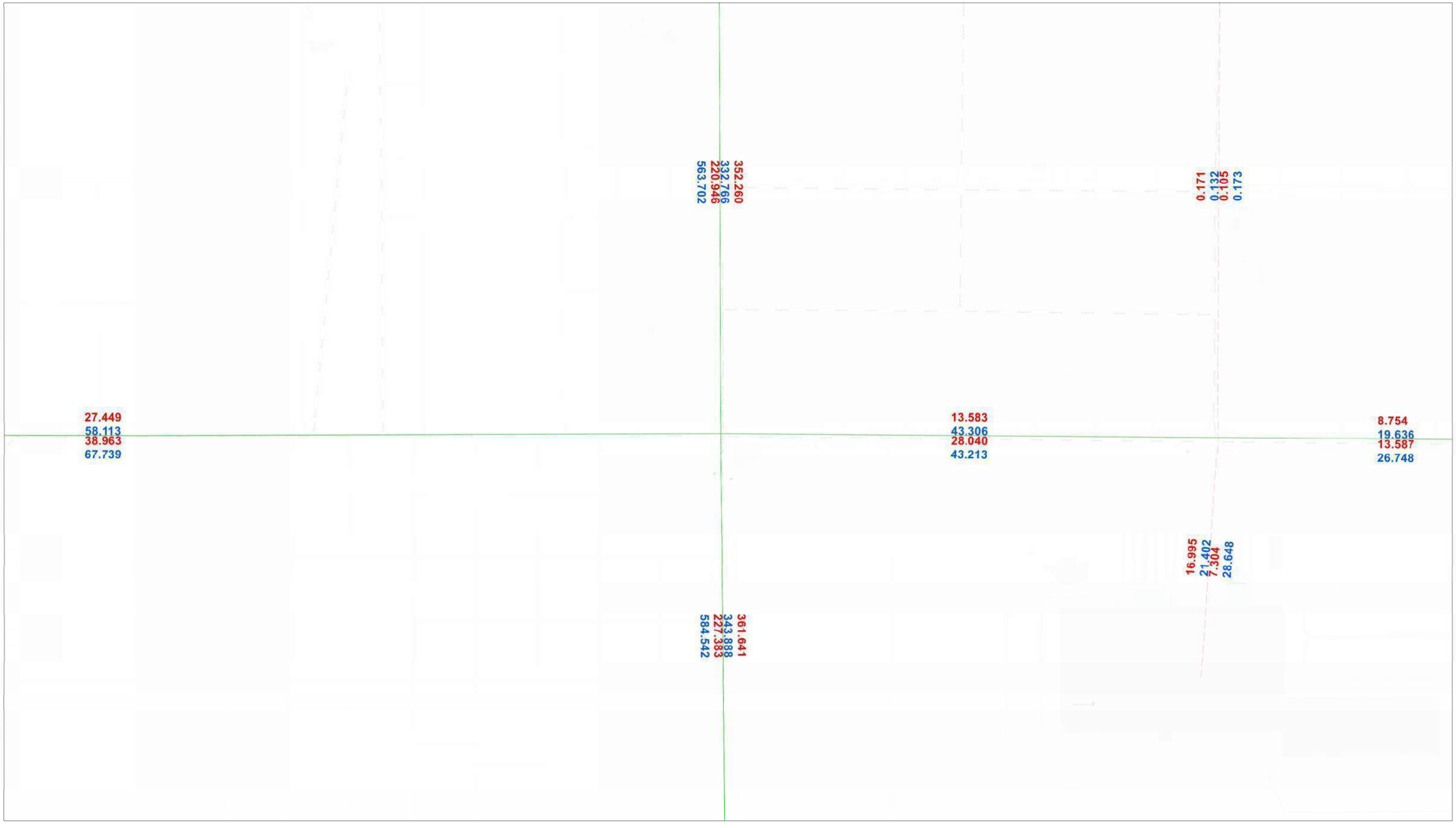
AM Volumes PM Volumes Intersection 1 & 2



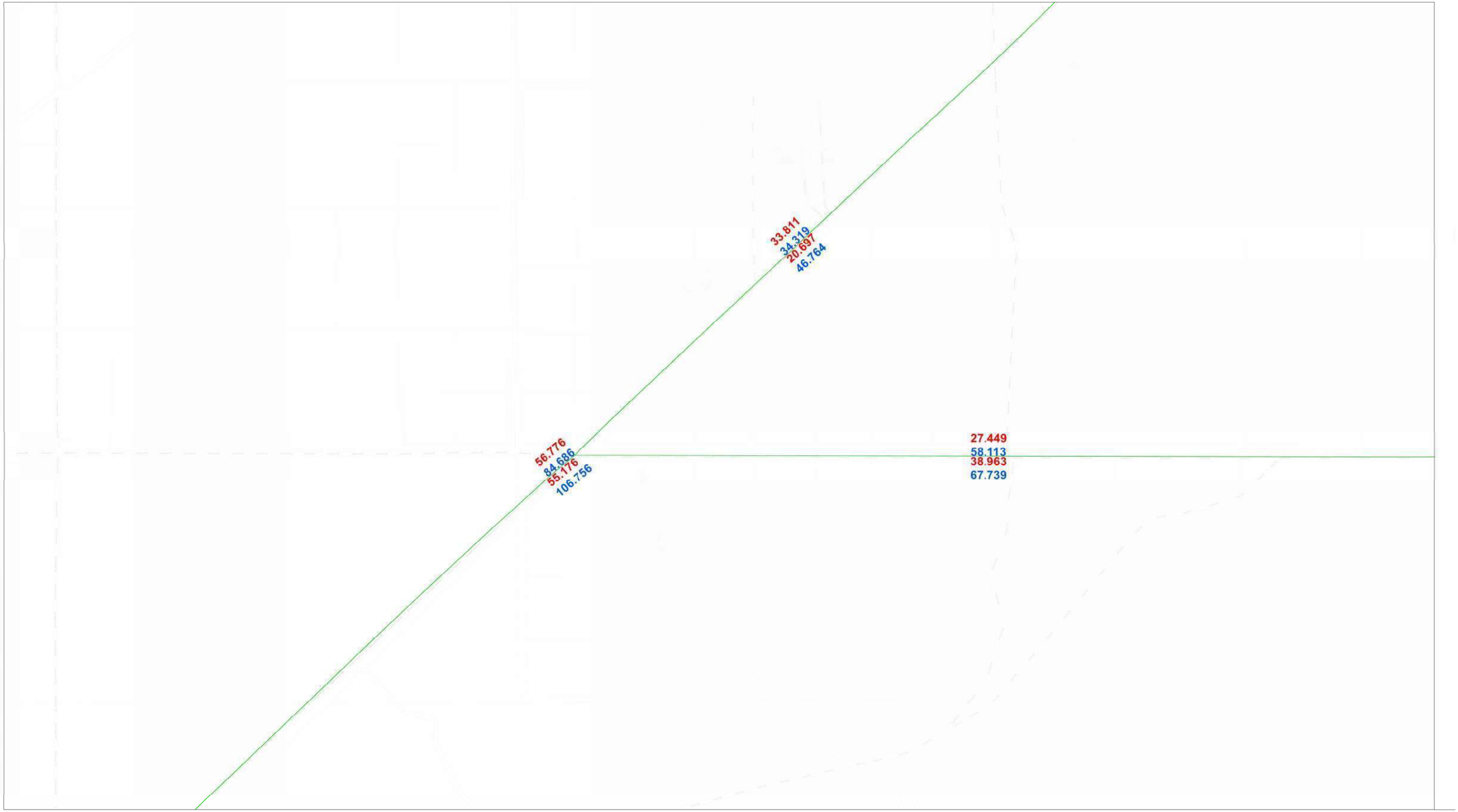
AM Volumes PM Volumes Intersection 3



AM Volumes PM Volumes Intersection 4



AM Volumes PM Volumes Intersection 5



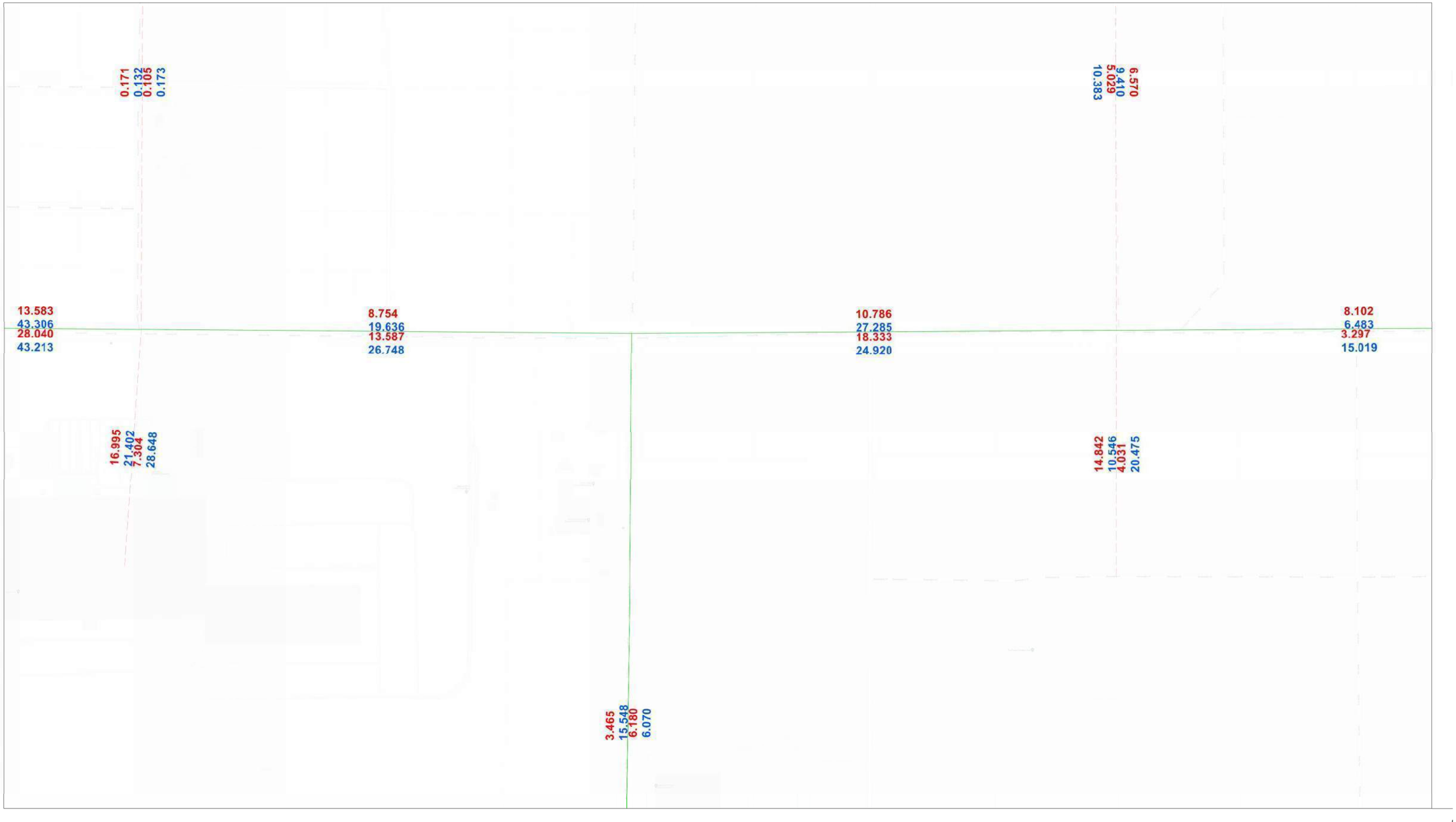
AM Volumes PM Volumes Intersection 6 & 7



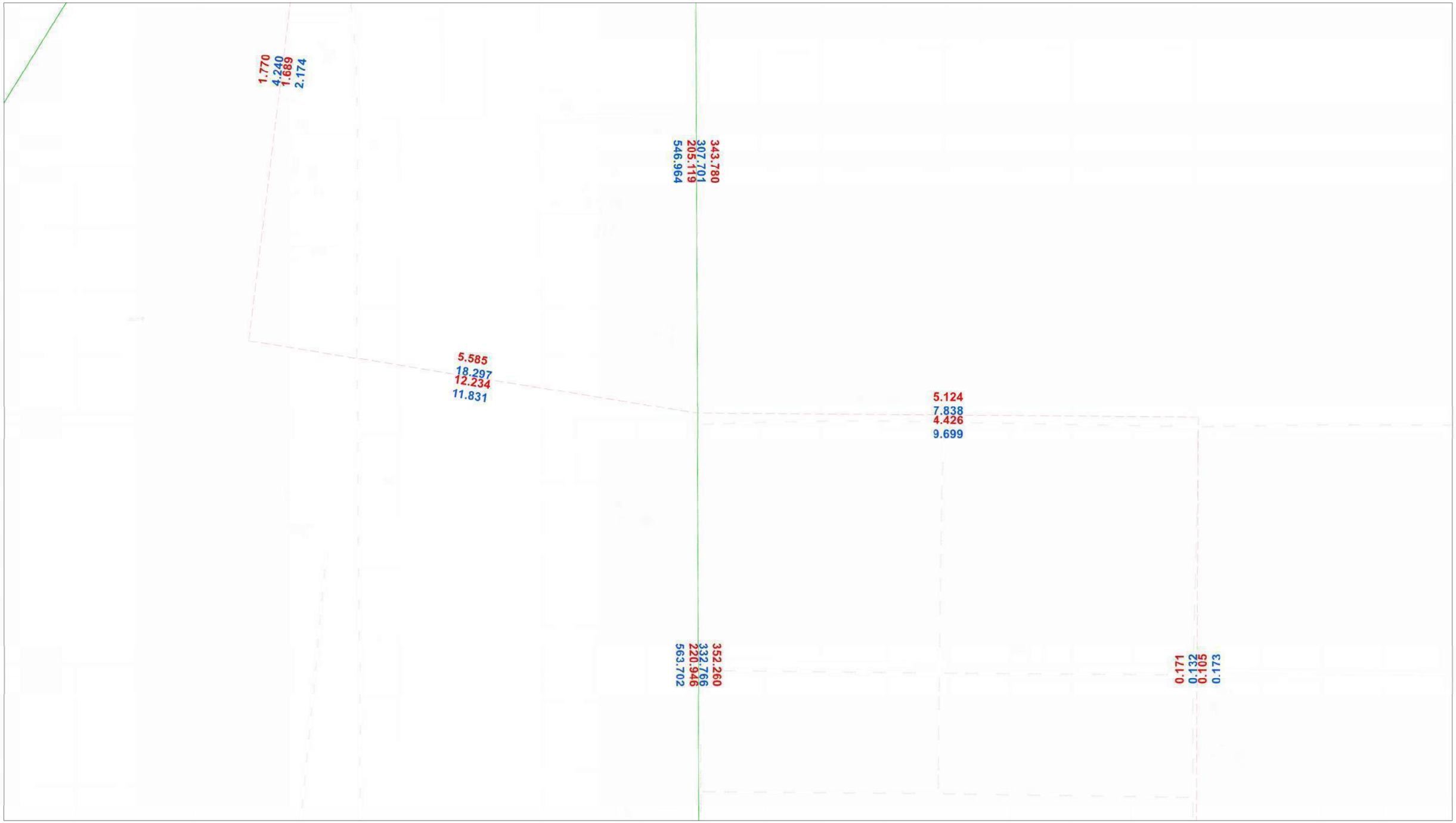
AM Volumes PM Volumes Intersection 8



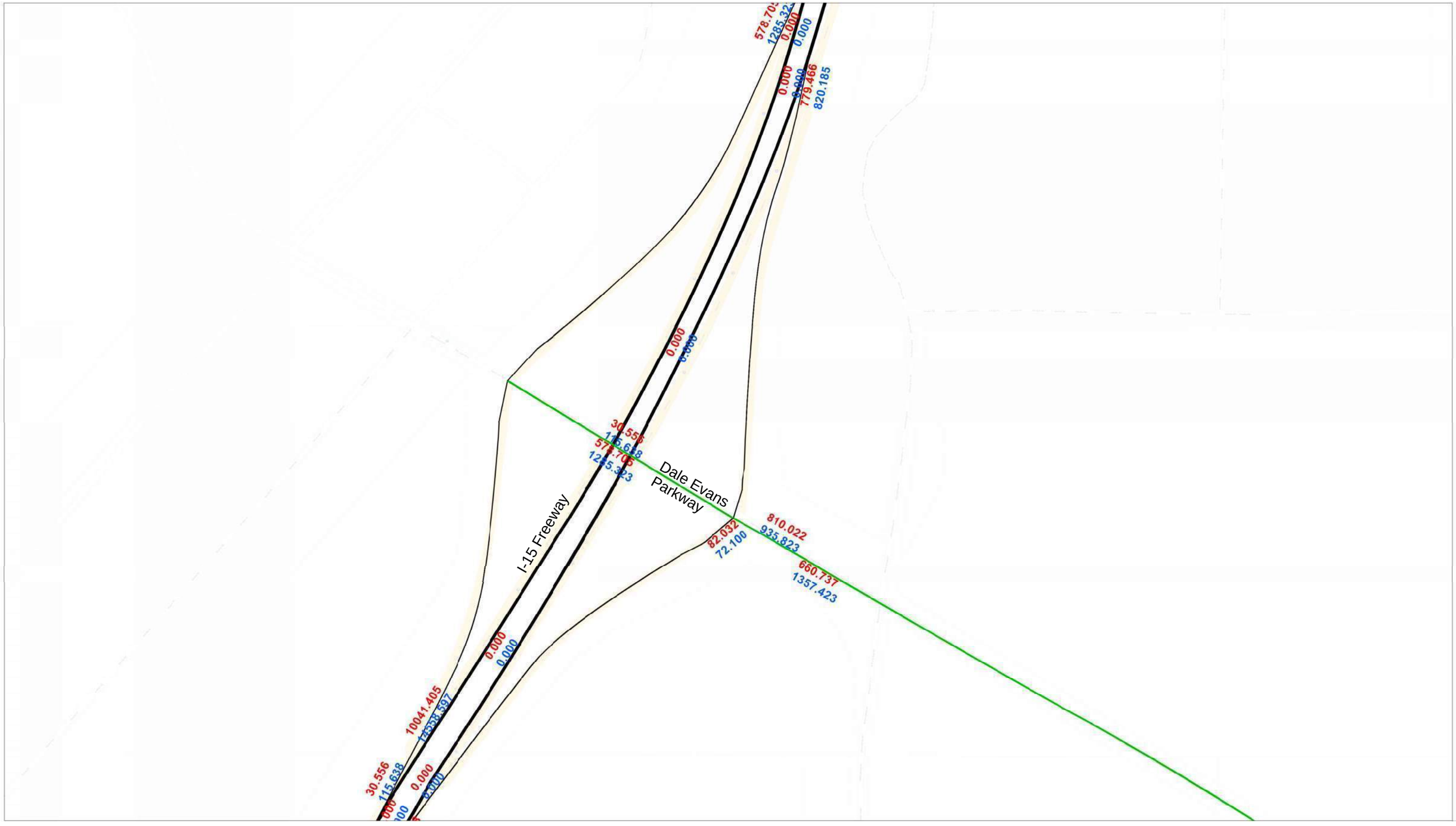
AM Volumes PM Volumes Intersection 9



AM Volumes PM Volumes Intersection 10



AM Volumes PM Volumes Intersection 1&2 - 2040



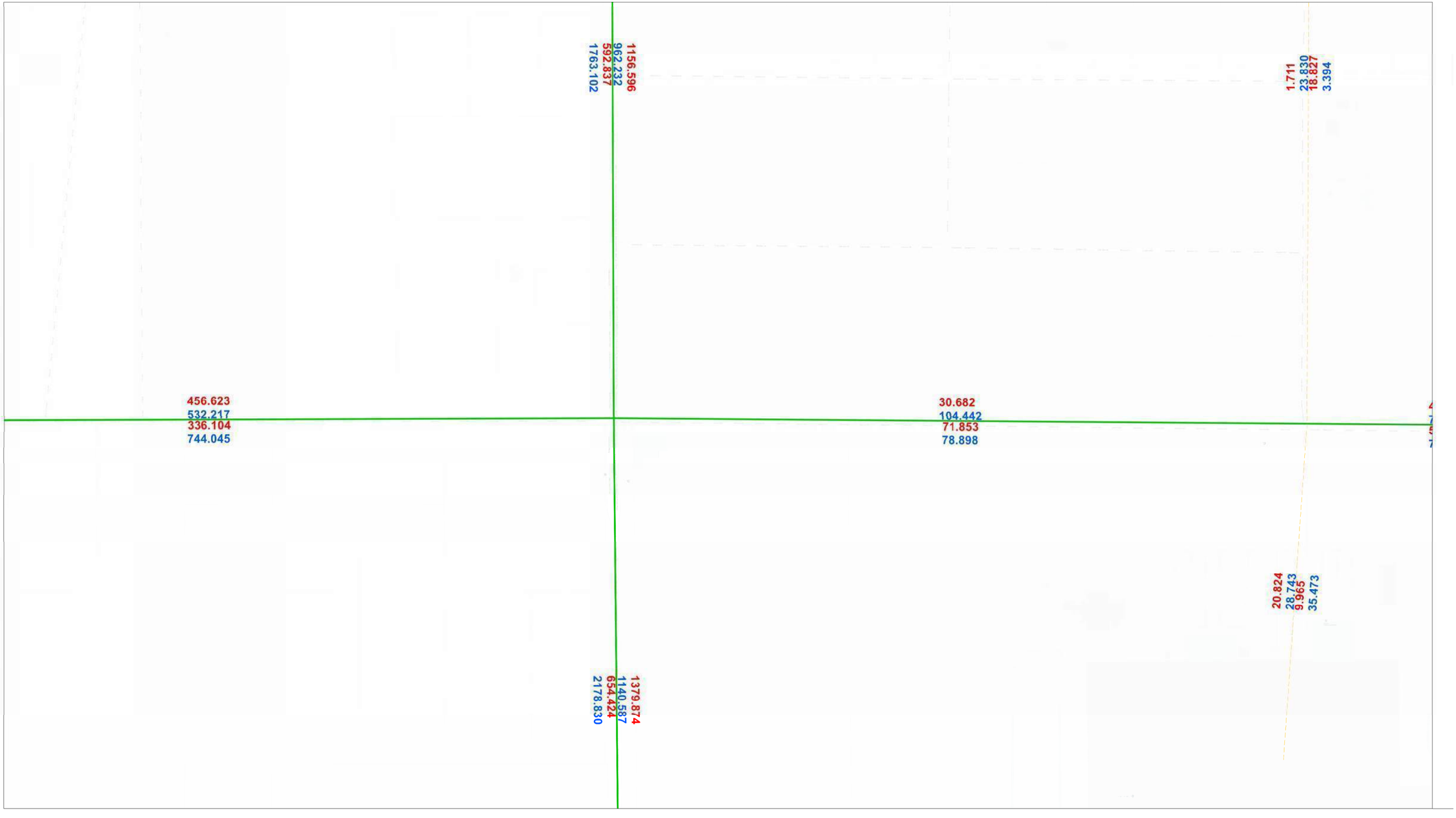
AM Volumes PM Volumes

Intersection 3 - 2040



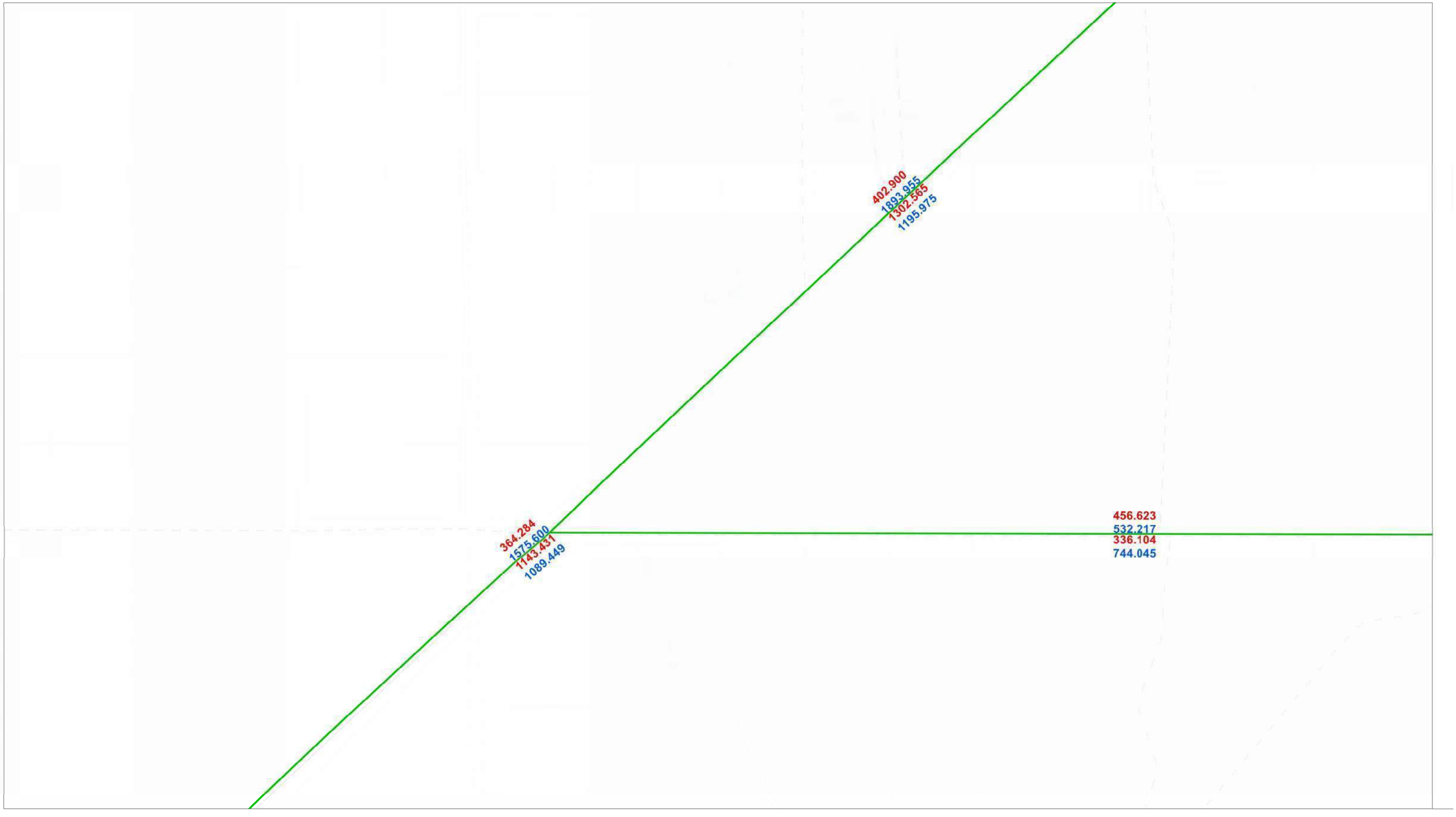
AM Volumes PM Volumes

Intersection 4 - 2040



AM Volumes PM Volumes

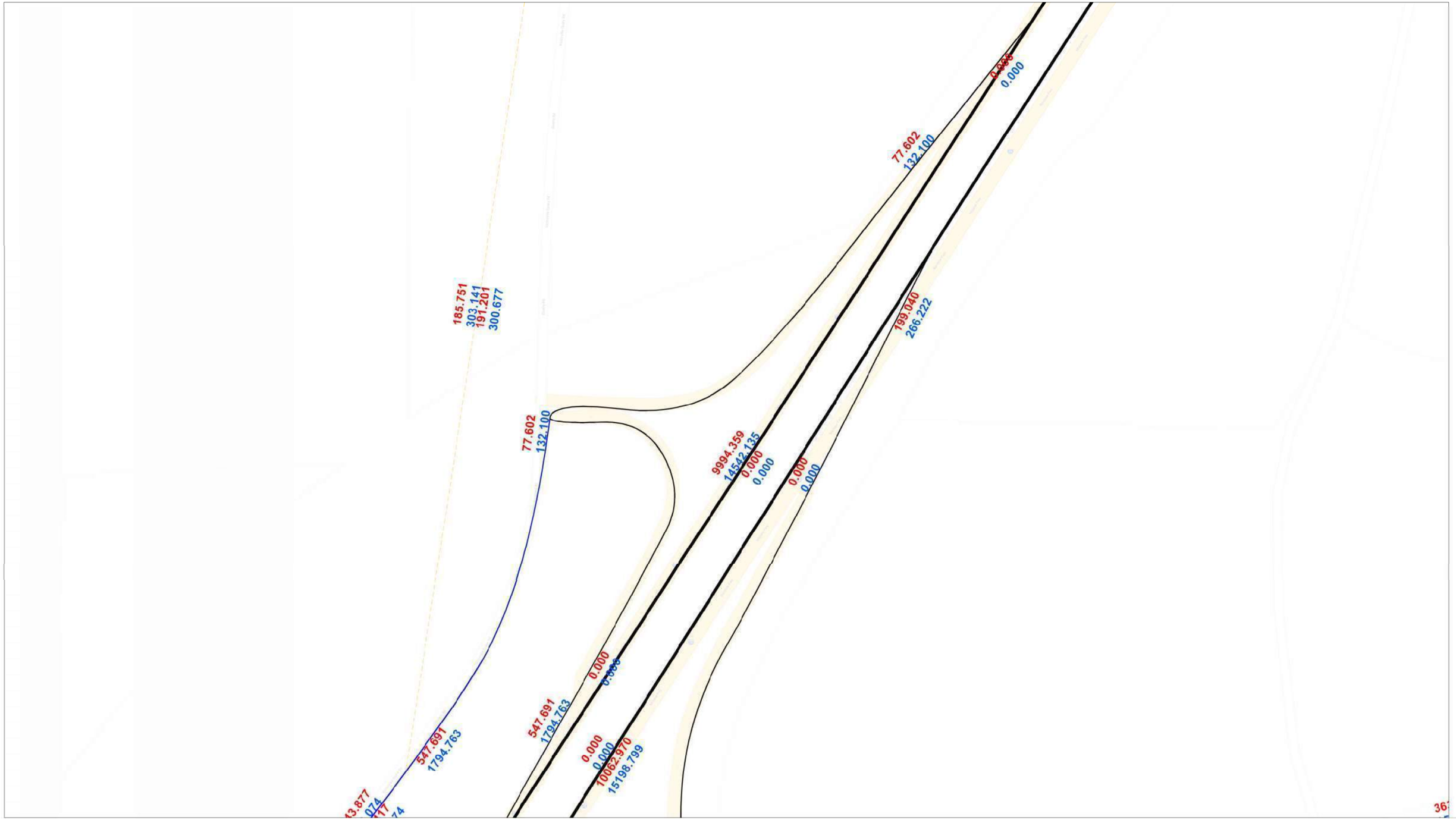
Intersection 5 - 2040



AM Volumes PM Volumes Intersection 6 & 7 - 2040



AM Volumes PM Volumes Intersection 8 - 2040

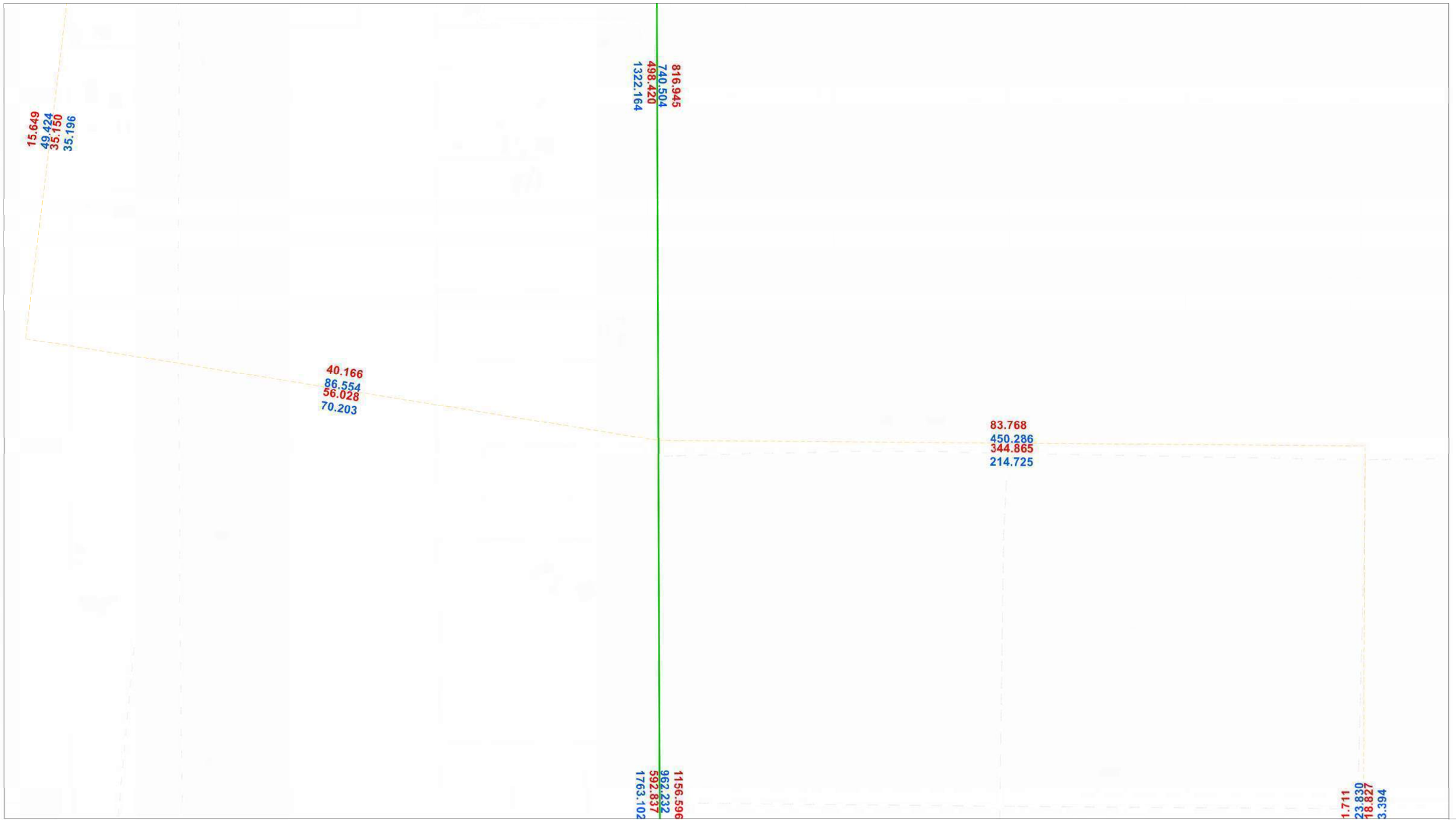


AM Volumes PM Volumes

Intersection 9 - 2040



AM Volumes PM Volumes Intersection 10 - 2040



Appendix D: Intersection Capacity Analysis

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : DALE EVANS PKWY
N/S STREET : I-15 SB RAMPS
CONDITION : AM PEAK HOUR

INTERSECTION : 1
PROJECTED GROWTH PER YEAR : 3.0%

CONDITION DIAGRAMS

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	1		3		5		7	9	11	13	15	17
DALE EVANS PKWY												
EB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
EB THRU	34	3	37	0	37	0	37	37	37	37	37	37
EB RIGHT	16	1	17	0	17	0	17	17	15	15	15	15
WB LEFT	18	2	20	0	20	0	20	20	42	42	42	42
WB THRU	5	1	6	0	6	0	6	6	10	10	10	10
WB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
I-15 SB RAMPS												
NB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
NB THRU	0	0	0	0	0	0	0	0	0	0	0	0
NB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
SB LEFT	193	12	205	41	246	39	244	285	293	334	332	373
SB THRU	4	1	5	0	5	0	5	5	6	6	6	6
SB RIGHT	24	2	26	0	26	0	26	26	24	24	24	24
TOTALS	**294**	**22**	**316**	**41**	**357**	**39**	**355**	**396**	**427**	**468**	**466**	**507**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : DALE EVANS PKWY
N/S STREET : I-15 SB RAMPS
CONDITION : AM PEAK HOUR
PHF : 0.87

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	1	60	1	0	1	0	0	0	1	0	0
5	0	48	0	0	0	0	0	0	0	0	2
5	1	31	1	0	0	0	0	0	0	0	0
5	2	40	0	0	0	0	0	0	1	0	0

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

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	2	1	0	0	0	0	0	0	0	0	0
0	2	3	0	0	0	0	0	1	0	0	1
0	1	3	0	1	0	0	0	0	0	0	0
0	0	6	0	0	0	0	0	0	0	0	0

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

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
DALE EVANS PKWY					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	4	23	**27**	**33**	**34**
EB RIGHT	1	14	**15**	**16**	**16**
WB LEFT	2	13	**15**	**18**	**18**
WB THRU	1	5	**6**	**5**	**5**
WB RIGHT	0	0	**0**	**0**	**0**
I-15 SB RAMPS					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	0	0	**0**	**0**	**0**
NB RIGHT	0	0	**0**	**0**	**0**
SB LEFT	3	179	**182**	**187**	**193**
SB THRU	0	4	**4**	**4**	**4**
SB RIGHT	4	15	**19**	**24**	**24**

Intersection	
Int Delay, s/veh	8.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	34	16	18	5	0	0	0	0	193	4	24
Future Vol, veh/h	0	34	16	18	5	0	0	0	0	193	4	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	39	18	21	6	0	0	0	0	222	5	28

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	57	0	0	96	105	6
Stage 1	-	-	-	-	-	-	48	48	-
Stage 2	-	-	-	-	-	-	48	57	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1560	-	0	908	789	1083
Stage 1	0	-	-	-	-	0	980	859	-
Stage 2	0	-	-	-	-	0	980	851	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1560	-	-	895	0	1083
Mov Cap-2 Maneuver	-	-	-	-	-	-	895	0	-
Stage 1	-	-	-	-	-	-	980	0	-
Stage 2	-	-	-	-	-	-	966	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.7	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1560	-	913
HCM Lane V/C Ratio	-	-	0.013	-	0.278
HCM Control Delay (s)	-	-	7.3	0	10.5
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0	-	1.1

Intersection	
Int Delay, s/veh	8.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	37	17	20	6	0	0	0	0	205	5	26
Future Vol, veh/h	0	37	17	20	6	0	0	0	0	205	5	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	43	20	23	7	0	0	0	0	236	6	30

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	63	0	0	106	116	7
Stage 1	-	-	-	-	-	-	53	53	-
Stage 2	-	-	-	-	-	-	53	63	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1553	-	0	897	778	1081
Stage 1	0	-	-	-	-	0	975	855	-
Stage 2	0	-	-	-	-	0	975	846	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1553	-	-	884	0	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	884	0	-
Stage 1	-	-	-	-	-	-	975	0	-
Stage 2	-	-	-	-	-	-	960	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.7	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1553	-	903
HCM Lane V/C Ratio	-	-	0.015	-	0.3
HCM Control Delay (s)	-	-	7.4	0	10.7
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0	-	1.3

Intersection	
Int Delay, s/veh	9.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	37	17	20	6	0	0	0	0	246	5	26
Future Vol, veh/h	0	37	17	20	6	0	0	0	0	246	5	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	43	20	23	7	0	0	0	0	283	6	30

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	63	0	0	106	116	7
Stage 1	-	-	-	-	-	-	53	53	-
Stage 2	-	-	-	-	-	-	53	63	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1553	-	0	897	778	1081
Stage 1	0	-	-	-	-	0	975	855	-
Stage 2	0	-	-	-	-	0	975	846	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1553	-	-	884	0	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	884	0	-
Stage 1	-	-	-	-	-	-	975	0	-
Stage 2	-	-	-	-	-	-	960	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.7	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1553	-	900
HCM Lane V/C Ratio	-	-	0.015	-	0.354
HCM Control Delay (s)	-	-	7.4	0	11.2
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0	-	1.6

Intersection	
Int Delay, s/veh	9.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	37	17	20	6	0	0	0	0	244	5	26
Future Vol, veh/h	0	37	17	20	6	0	0	0	0	244	5	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	43	20	23	7	0	0	0	0	280	6	30

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	63	0	0	106	116	7
Stage 1	-	-	-	-	-	-	53	53	-
Stage 2	-	-	-	-	-	-	53	63	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1553	-	0	897	778	1081
Stage 1	0	-	-	-	-	0	975	855	-
Stage 2	0	-	-	-	-	0	975	846	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1553	-	-	884	0	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	884	0	-
Stage 1	-	-	-	-	-	-	975	0	-
Stage 2	-	-	-	-	-	-	960	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.7	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1553	-	900
HCM Lane V/C Ratio	-	-	0.015	-	0.351
HCM Control Delay (s)	-	-	7.4	0	11.2
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0	-	1.6

Intersection	
Int Delay, s/veh	9.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	37	17	20	6	0	0	0	0	285	5	26
Future Vol, veh/h	0	37	17	20	6	0	0	0	0	285	5	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	43	20	23	7	0	0	0	0	328	6	30

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	63	0	0	106	116	7
Stage 1	-	-	-	-	-	-	53	53	-
Stage 2	-	-	-	-	-	-	53	63	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1553	-	0	897	778	1081
Stage 1	0	-	-	-	-	0	975	855	-
Stage 2	0	-	-	-	-	0	975	846	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1553	-	-	884	0	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	884	0	-
Stage 1	-	-	-	-	-	-	975	0	-
Stage 2	-	-	-	-	-	-	960	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.7	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1553	-	898
HCM Lane V/C Ratio	-	-	0.015	-	0.404
HCM Control Delay (s)	-	-	7.4	0	11.7
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0	-	2

Intersection	
Int Delay, s/veh	10.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	37	15	42	10	0	0	0	0	293	6	24
Future Vol, veh/h	0	37	15	42	10	0	0	0	0	293	6	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	43	17	48	11	0	0	0	0	337	7	28

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	60	0	0	159	167	11
Stage 1	-	-	-	-	-	-	107	107	-
Stage 2	-	-	-	-	-	-	52	60	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1556	-	0	837	729	1076
Stage 1	0	-	-	-	-	0	922	811	-
Stage 2	0	-	-	-	-	0	976	849	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1556	-	-	811	0	1076
Mov Cap-2 Maneuver	-	-	-	-	-	-	811	0	-
Stage 1	-	-	-	-	-	-	922	0	-
Stage 2	-	-	-	-	-	-	946	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	6	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1556	-	826
HCM Lane V/C Ratio	-	-	0.031	-	0.449
HCM Control Delay (s)	-	-	7.4	0	12.9
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0.1	-	2.4

Intersection	
Int Delay, s/veh	11.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	37	15	42	10	0	0	0	0	334	6	24
Future Vol, veh/h	0	37	15	42	10	0	0	0	0	334	6	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	43	17	48	11	0	0	0	0	384	7	28

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	60	0	0	159	167	11
Stage 1	-	-	-	-	-	-	107	107	-
Stage 2	-	-	-	-	-	-	52	60	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1556	-	0	837	729	1076
Stage 1	0	-	-	-	-	0	922	811	-
Stage 2	0	-	-	-	-	0	976	849	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1556	-	-	811	0	1076
Mov Cap-2 Maneuver	-	-	-	-	-	-	811	0	-
Stage 1	-	-	-	-	-	-	922	0	-
Stage 2	-	-	-	-	-	-	946	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	6	13.8
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1556	-	825
HCM Lane V/C Ratio	-	-	0.031	-	0.507
HCM Control Delay (s)	-	-	7.4	0	13.8
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0.1	-	2.9

Intersection	
Int Delay, s/veh	11.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	37	15	42	10	0	0	0	0	332	6	24
Future Vol, veh/h	0	37	15	42	10	0	0	0	0	332	6	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	43	17	48	11	0	0	0	0	382	7	28

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	60	0	0	159	167	11
Stage 1	-	-	-	-	-	-	107	107	-
Stage 2	-	-	-	-	-	-	52	60	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1556	-	0	837	729	1076
Stage 1	0	-	-	-	-	0	922	811	-
Stage 2	0	-	-	-	-	0	976	849	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1556	-	-	811	0	1076
Mov Cap-2 Maneuver	-	-	-	-	-	-	811	0	-
Stage 1	-	-	-	-	-	-	922	0	-
Stage 2	-	-	-	-	-	-	946	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	6	13.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1556	-	825
HCM Lane V/C Ratio	-	-	0.031	-	0.504
HCM Control Delay (s)	-	-	7.4	0	13.7
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0.1	-	2.9

Intersection	
Int Delay, s/veh	12.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	37	15	42	10	0	0	0	0	373	6	24
Future Vol, veh/h	0	37	15	42	10	0	0	0	0	373	6	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	43	17	48	11	0	0	0	0	429	7	28

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	60	0	0	159	167	11
Stage 1	-	-	-	-	-	-	107	107	-
Stage 2	-	-	-	-	-	-	52	60	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1556	-	0	837	729	1076
Stage 1	0	-	-	-	-	0	922	811	-
Stage 2	0	-	-	-	-	0	976	849	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1556	-	-	811	0	1076
Mov Cap-2 Maneuver	-	-	-	-	-	-	811	0	-
Stage 1	-	-	-	-	-	-	922	0	-
Stage 2	-	-	-	-	-	-	946	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	6	14.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1556	-	823
HCM Lane V/C Ratio	-	-	0.031	-	0.563
HCM Control Delay (s)	-	-	7.4	0	14.9
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0.1	-	3.6

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : DALE EVANS PKWY
N/S STREET : I-15 SB RAMPS
CONDITION : PM PEAK HOUR

INTERSECTION : 1
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	2		4		6		8	10	12	14	16	18
DALE EVANS PKWY												
EB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
EB THRU	5	1	6	0	6	0	6	6	7	7	7	7
EB RIGHT	12	1	13	0	13	0	13	13	11	11	11	11
WB LEFT	28	2	30	0	30	0	30	30	42	42	42	42
WB THRU	11	1	12	0	12	0	12	12	10	10	10	10
WB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
I-15 SB RAMPS												
NB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
NB THRU	0	0	0	0	0	0	0	0	0	0	0	0
NB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
SB LEFT	66	4	70	15	85	14	84	99	212	227	226	241
SB THRU	1	1	2	0	2	0	2	2	3	3	3	3
SB RIGHT	9	1	10	0	10	0	10	10	11	11	11	11
TOTALS	**132**	**11**	**143**	**15**	**158**	**14**	**157**	**172**	**296**	**311**	**310**	**325**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : DALE EVANS PKWY
N/S STREET : I-15 SB RAMPS
CONDITION : PM PEAK HOUR
PHF : 0.88

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
2	0	12	0	0	0	0	0	0	0	0	2
3	0	20	0	0	0	0	0	0	0	0	1
2	0	10	0	0	0	0	0	0	0	0	0
2	1	15	0	0	0	0	0	0	0	0	0

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

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

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

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
DALE EVANS PKWY					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	5	**5**	**5**	**5**
EB RIGHT	1	9	**10**	**12**	**12**
WB LEFT	3	19	**22**	**28**	**28**
WB THRU	1	8	**9**	**11**	**11**
WB RIGHT	0	0	**0**	**0**	**0**
I-15 SB RAMPS					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	0	0	**0**	**0**	**0**
NB RIGHT	0	0	**0**	**0**	**0**
SB LEFT	3	57	**60**	**66**	**66**
SB THRU	0	1	**1**	**1**	**1**
SB RIGHT	0	9	**9**	**9**	**9**

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	5	12	28	11	0	0	0	0	66	1	9
Future Vol, veh/h	0	5	12	28	11	0	0	0	0	66	1	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	6	14	32	13	0	0	0	0	75	1	10

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	20	0	0	90	97	13
Stage 1	-	-	-	-	-	-	77	77	-
Stage 2	-	-	-	-	-	-	13	20	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1609	-	0	915	797	1073
Stage 1	0	-	-	-	-	0	951	835	-
Stage 2	0	-	-	-	-	0	1015	883	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1609	-	-	897	0	1073
Mov Cap-2 Maneuver	-	-	-	-	-	-	897	0	-
Stage 1	-	-	-	-	-	-	951	0	-
Stage 2	-	-	-	-	-	-	995	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.2	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1609	-	915
HCM Lane V/C Ratio	-	-	0.02	-	0.094
HCM Control Delay (s)	-	-	7.3	0	9.3
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	-	0.3

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	6	13	30	12	0	0	0	0	70	2	10
Future Vol, veh/h	0	6	13	30	12	0	0	0	0	70	2	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	7	15	34	14	0	0	0	0	80	2	11

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	22	0	0	97	104	14
Stage 1	-	-	-	-	-	-	82	82	-
Stage 2	-	-	-	-	-	-	15	22	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1607	-	0	907	790	1072
Stage 1	0	-	-	-	-	0	946	831	-
Stage 2	0	-	-	-	-	0	1013	881	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1607	-	-	888	0	1072
Mov Cap-2 Maneuver	-	-	-	-	-	-	888	0	-
Stage 1	-	-	-	-	-	-	946	0	-
Stage 2	-	-	-	-	-	-	992	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.2	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1607	-	907
HCM Lane V/C Ratio	-	-	0.021	-	0.103
HCM Control Delay (s)	-	-	7.3	0	9.4
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	-	0.3

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	6	13	30	12	0	0	0	0	85	2	10
Future Vol, veh/h	0	6	13	30	12	0	0	0	0	85	2	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	7	15	34	14	0	0	0	0	97	2	11

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	22	0	0	97	104	14
Stage 1	-	-	-	-	-	-	82	82	-
Stage 2	-	-	-	-	-	-	15	22	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1607	-	0	907	790	1072
Stage 1	0	-	-	-	-	0	946	831	-
Stage 2	0	-	-	-	-	0	1013	881	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1607	-	-	888	0	1072
Mov Cap-2 Maneuver	-	-	-	-	-	-	888	0	-
Stage 1	-	-	-	-	-	-	946	0	-
Stage 2	-	-	-	-	-	-	992	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.2	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1607	-	904
HCM Lane V/C Ratio	-	-	0.021	-	0.122
HCM Control Delay (s)	-	-	7.3	0	9.5
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	-	0.4

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	6	13	30	12	0	0	0	0	84	2	10
Future Vol, veh/h	0	6	13	30	12	0	0	0	0	84	2	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	7	15	34	14	0	0	0	0	95	2	11

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	22	0	0	97	104	14
Stage 1	-	-	-	-	-	-	82	82	-
Stage 2	-	-	-	-	-	-	15	22	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1607	-	0	907	790	1072
Stage 1	0	-	-	-	-	0	946	831	-
Stage 2	0	-	-	-	-	0	1013	881	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1607	-	-	888	0	1072
Mov Cap-2 Maneuver	-	-	-	-	-	-	888	0	-
Stage 1	-	-	-	-	-	-	946	0	-
Stage 2	-	-	-	-	-	-	992	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.2	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1607	-	905
HCM Lane V/C Ratio	-	-	0.021	-	0.121
HCM Control Delay (s)	-	-	7.3	0	9.5
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	-	0.4

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	6	13	30	12	0	0	0	0	99	2	10
Future Vol, veh/h	0	6	13	30	12	0	0	0	0	99	2	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	7	15	34	14	0	0	0	0	113	2	11

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	22	0	0	97	104	14
Stage 1	-	-	-	-	-	-	82	82	-
Stage 2	-	-	-	-	-	-	15	22	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1607	-	0	907	790	1072
Stage 1	0	-	-	-	-	0	946	831	-
Stage 2	0	-	-	-	-	0	1013	881	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1607	-	-	888	0	1072
Mov Cap-2 Maneuver	-	-	-	-	-	-	888	0	-
Stage 1	-	-	-	-	-	-	946	0	-
Stage 2	-	-	-	-	-	-	992	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.2	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1607	-	902
HCM Lane V/C Ratio	-	-	0.021	-	0.14
HCM Control Delay (s)	-	-	7.3	0	9.6
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	-	0.5

Intersection	
Int Delay, s/veh	9.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	7	11	42	10	0	0	0	0	212	3	11
Future Vol, veh/h	0	7	11	42	10	0	0	0	0	212	3	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	8	13	48	11	0	0	0	0	241	3	13

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	21	0	0	122	128	11
Stage 1	-	-	-	-	-	-	107	107	-
Stage 2	-	-	-	-	-	-	15	21	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1608	-	0	878	766	1076
Stage 1	0	-	-	-	-	0	922	811	-
Stage 2	0	-	-	-	-	0	1013	882	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1608	-	-	852	0	1076
Mov Cap-2 Maneuver	-	-	-	-	-	-	852	0	-
Stage 1	-	-	-	-	-	-	922	0	-
Stage 2	-	-	-	-	-	-	983	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.9	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1608	-	861
HCM Lane V/C Ratio	-	-	0.03	-	0.298
HCM Control Delay (s)	-	-	7.3	0	10.9
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0.1	-	1.3

Intersection	
Int Delay, s/veh	9.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	7	11	42	10	0	0	0	0	227	3	11
Future Vol, veh/h	0	7	11	42	10	0	0	0	0	227	3	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	8	13	48	11	0	0	0	0	258	3	13

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	21	0	0	122	128	11
Stage 1	-	-	-	-	-	-	107	107	-
Stage 2	-	-	-	-	-	-	15	21	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1608	-	0	878	766	1076
Stage 1	0	-	-	-	-	0	922	811	-
Stage 2	0	-	-	-	-	0	1013	882	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1608	-	-	852	0	1076
Mov Cap-2 Maneuver	-	-	-	-	-	-	852	0	-
Stage 1	-	-	-	-	-	-	922	0	-
Stage 2	-	-	-	-	-	-	983	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.9	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1608	-	860
HCM Lane V/C Ratio	-	-	0.03	-	0.318
HCM Control Delay (s)	-	-	7.3	0	11.1
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0.1	-	1.4

Intersection	
Int Delay, s/veh	9.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	7	11	42	10	0	0	0	0	226	3	11
Future Vol, veh/h	0	7	11	42	10	0	0	0	0	226	3	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	8	13	48	11	0	0	0	0	257	3	13

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	21	0	0	122	128	11
Stage 1	-	-	-	-	-	-	107	107	-
Stage 2	-	-	-	-	-	-	15	21	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1608	-	0	878	766	1076
Stage 1	0	-	-	-	-	0	922	811	-
Stage 2	0	-	-	-	-	0	1013	882	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1608	-	-	852	0	1076
Mov Cap-2 Maneuver	-	-	-	-	-	-	852	0	-
Stage 1	-	-	-	-	-	-	922	0	-
Stage 2	-	-	-	-	-	-	983	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.9	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1608	-	860
HCM Lane V/C Ratio	-	-	0.03	-	0.317
HCM Control Delay (s)	-	-	7.3	0	11.1
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0.1	-	1.4

Intersection	
Int Delay, s/veh	9.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	7	11	42	10	0	0	0	0	241	3	11
Future Vol, veh/h	0	7	11	42	10	0	0	0	0	241	3	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	8	13	48	11	0	0	0	0	274	3	13

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	21	0	0	122	128	11
Stage 1	-	-	-	-	-	-	107	107	-
Stage 2	-	-	-	-	-	-	15	21	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1608	-	0	878	766	1076
Stage 1	0	-	-	-	-	0	922	811	-
Stage 2	0	-	-	-	-	0	1013	882	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1608	-	-	852	0	1076
Mov Cap-2 Maneuver	-	-	-	-	-	-	852	0	-
Stage 1	-	-	-	-	-	-	922	0	-
Stage 2	-	-	-	-	-	-	983	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.9	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1608	-	860
HCM Lane V/C Ratio	-	-	0.03	-	0.337
HCM Control Delay (s)	-	-	7.3	0	11.3
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0.1	-	1.5

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

Intersection No.: 1
North/South Street: I-15 SB RAMPS
East/West Street: DALE EVANS PKWY

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	0	Left	0	0
NB	Through	0	Departure	44	Through	0	0
	Right	0			Right	0	0
North leg	Left	193	Approach	317	Left	288	293
SB	Through	4	Departure	0	Through	5	6
	Right	24			Right	24	24
West leg	Left	0	Approach	50	Left	0	0
EB	Through	34	Departure	29	Through	35	37
	Right	16			Right	15	15
East leg	Left	18	Approach	29	Left	24	42
WB	Through	5	Departure	323	Through	5	10
	Right	0			Right	0	0

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	0	Left	0	0
NB	Through	0	Departure	53	Through	0	0
	Right	0			Right	0	0
North leg	Left	66	Approach	218	Left	206	212
SB	Through	1	Departure	0	Through	2	3
	Right	9			Right	11	11
West leg	Left	0	Approach	17	Left	0	0
EB	Through	5	Departure	20	Through	7	7
	Right	12			Right	10	11
East leg	Left	28	Approach	51	Left	41	42
WB	Through	11	Departure	213	Through	9	10
	Right	0			Right	0	0

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : DALE EVANS PKWY
N/S STREET : I-15 NB RAMPS
CONDITION : AM PEAK HOUR

INTERSECTION : 2
PROJECTED GROWTH PER YEAR : 3.0%

CONDITION DIAGRAMS

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	1		3		5		7	9	11	13	15	17
DALE EVANS PKWY												
EB LEFT	5	1	6	0	6	0	6	6	9	9	9	9
EB THRU	222	14	236	41	277	39	275	316	321	362	360	401
EB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
WB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
WB THRU	18	2	20	0	20	0	20	20	44	44	44	44
WB RIGHT	58	4	62	12	74	11	73	85	173	185	184	196
I-15 NB RAMPS												
NB LEFT	5	1	6	0	6	0	6	6	8	8	8	8
NB THRU	2	1	3	0	3	0	3	3	4	4	4	4
NB RIGHT	20	2	22	0	22	0	22	22	29	29	29	29
SB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
SB THRU	0	0	0	0	0	0	0	0	0	0	0	0
SB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**330**	**25**	**355**	**53**	**408**	**50**	**405**	**458**	**588**	**641**	**638**	**691**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : DALE EVANS PKWY
N/S STREET : I-15 NB RAMPS
CONDITION : AM PEAK HOUR
PHF : 0.83

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

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

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

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
16	3	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	1	1	0
13	3	0	1	0	0	0	0	0	1	0	0
9	2	0	0	1	0	0	1	0	0	1	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	35	1	0	0	0	0	0	0	0	0	0
0	51	0	0	2	0	0	0	0	0	2	0
0	64	0	0	0	0	0	1	0	0	0	0
0	50	4	0	1	0	0	0	0	0	3	0

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
DALE EVANS PKWY					
EB LEFT	0	5	**5**	**5**	**5**
EB THRU	9	200	**209**	**222**	**222**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	0	0	**0**	**0**	**0**
WB THRU	4	8	**12**	**16**	**18**
WB RIGHT	3	47	**50**	**58**	**58**
I-15 NB RAMPS					
NB LEFT	0	4	**4**	**4**	**5**
NB THRU	0	2	**2**	**2**	**2**
NB RIGHT	2	14	**16**	**20**	**20**
SB LEFT	0	0	**0**	**0**	**0**
SB THRU	0	0	**0**	**0**	**0**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	222	0	0	18	58	5	2	20	0	0	0
Future Vol, veh/h	5	222	0	0	18	58	5	2	20	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	267	0	0	22	70	6	2	24	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	92	0	-	-	-	0	336	371	267
Stage 1	-	-	-	-	-	-	279	279	-
Stage 2	-	-	-	-	-	-	57	92	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1515	-	0	0	-	-	663	562	777
Stage 1	-	-	0	0	-	-	773	683	-
Stage 2	-	-	0	0	-	-	971	823	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1515	-	-	-	-	-	660	0	777
Mov Cap-2 Maneuver	-	-	-	-	-	-	660	0	-
Stage 1	-	-	-	-	-	-	769	0	-
Stage 2	-	-	-	-	-	-	971	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	750	1515	-	-	-
HCM Lane V/C Ratio	0.043	0.004	-	-	-
HCM Control Delay (s)	10	7.4	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	236	0	0	20	62	6	3	22	0	0	0
Future Vol, veh/h	6	236	0	0	20	62	6	3	22	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	284	0	0	24	75	7	4	27	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	99	0	-	-	-	0	360	397	284
Stage 1	-	-	-	-	-	-	298	298	-
Stage 2	-	-	-	-	-	-	62	99	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1507	-	0	0	-	-	643	544	760
Stage 1	-	-	0	0	-	-	758	671	-
Stage 2	-	-	0	0	-	-	966	817	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1507	-	-	-	-	-	639	0	760
Mov Cap-2 Maneuver	-	-	-	-	-	-	639	0	-
Stage 1	-	-	-	-	-	-	753	0	-
Stage 2	-	-	-	-	-	-	966	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	730	1507	-	-	-
HCM Lane V/C Ratio	0.051	0.005	-	-	-
HCM Control Delay (s)	10.2	7.4	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	0	-	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	277	0	0	20	74	6	3	22	0	0	0
Future Vol, veh/h	6	277	0	0	20	74	6	3	22	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	334	0	0	24	89	7	4	27	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	113	0	-	-	-	0	417	461	334
Stage 1	-	-	-	-	-	-	348	348	-
Stage 2	-	-	-	-	-	-	69	113	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1489	-	0	0	-	-	596	500	712
Stage 1	-	-	0	0	-	-	719	638	-
Stage 2	-	-	0	0	-	-	959	806	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1489	-	-	-	-	-	592	0	712
Mov Cap-2 Maneuver	-	-	-	-	-	-	592	0	-
Stage 1	-	-	-	-	-	-	715	0	-
Stage 2	-	-	-	-	-	-	959	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	682	1489	-	-	-
HCM Lane V/C Ratio	0.055	0.005	-	-	-
HCM Control Delay (s)	10.6	7.4	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	0	-	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	275	0	0	20	73	6	3	22	0	0	0
Future Vol, veh/h	6	275	0	0	20	73	6	3	22	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	331	0	0	24	88	7	4	27	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	112	0	-	-	-	0	413	457	331
Stage 1	-	-	-	-	-	-	345	345	-
Stage 2	-	-	-	-	-	-	68	112	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1490	-	0	0	-	-	599	503	715
Stage 1	-	-	0	0	-	-	722	640	-
Stage 2	-	-	0	0	-	-	960	807	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1490	-	-	-	-	-	595	0	715
Mov Cap-2 Maneuver	-	-	-	-	-	-	595	0	-
Stage 1	-	-	-	-	-	-	718	0	-
Stage 2	-	-	-	-	-	-	960	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	685	1490	-	-	-
HCM Lane V/C Ratio	0.055	0.005	-	-	-
HCM Control Delay (s)	10.6	7.4	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	0	-	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	316	0	0	20	85	6	3	22	0	0	0
Future Vol, veh/h	6	316	0	0	20	85	6	3	22	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	381	0	0	24	102	7	4	27	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	126	0	-	-	-	0	470	521	381
Stage 1	-	-	-	-	-	-	395	395	-
Stage 2	-	-	-	-	-	-	75	126	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1473	-	0	0	-	-	556	463	671
Stage 1	-	-	0	0	-	-	685	608	-
Stage 2	-	-	0	0	-	-	953	796	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1473	-	-	-	-	-	553	0	671
Mov Cap-2 Maneuver	-	-	-	-	-	-	553	0	-
Stage 1	-	-	-	-	-	-	681	0	-
Stage 2	-	-	-	-	-	-	953	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.1	0	11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	642	1473	-	-	-
HCM Lane V/C Ratio	0.058	0.005	-	-	-
HCM Control Delay (s)	11	7.5	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	0	-	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	321	0	0	44	173	8	4	29	0	0	0
Future Vol, veh/h	9	321	0	0	44	173	8	4	29	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	387	0	0	53	208	10	5	35	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	261	0	-	-	-	0	566	670	387
Stage 1	-	-	-	-	-	-	409	409	-
Stage 2	-	-	-	-	-	-	157	261	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1315	-	0	0	-	-	489	381	665
Stage 1	-	-	0	0	-	-	675	600	-
Stage 2	-	-	0	0	-	-	876	696	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1315	-	-	-	-	-	484	0	665
Mov Cap-2 Maneuver	-	-	-	-	-	-	484	0	-
Stage 1	-	-	-	-	-	-	668	0	-
Stage 2	-	-	-	-	-	-	876	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	615	1315	-	-	-
HCM Lane V/C Ratio	0.08	0.008	-	-	-
HCM Control Delay (s)	11.4	7.8	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.3	0	-	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	362	0	0	44	185	8	4	29	0	0	0
Future Vol, veh/h	9	362	0	0	44	185	8	4	29	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	436	0	0	53	223	10	5	35	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	276	0	-	-	-	0	623	734	436
Stage 1	-	-	-	-	-	-	458	458	-
Stage 2	-	-	-	-	-	-	165	276	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1299	-	0	0	-	-	453	350	625
Stage 1	-	-	0	0	-	-	641	570	-
Stage 2	-	-	0	0	-	-	869	685	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1299	-	-	-	-	-	448	0	625
Mov Cap-2 Maneuver	-	-	-	-	-	-	448	0	-
Stage 1	-	-	-	-	-	-	634	0	-
Stage 2	-	-	-	-	-	-	869	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	576	1299	-	-	-
HCM Lane V/C Ratio	0.086	0.008	-	-	-
HCM Control Delay (s)	11.8	7.8	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.3	0	-	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	360	0	0	44	184	8	4	29	0	0	0
Future Vol, veh/h	9	360	0	0	44	184	8	4	29	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	434	0	0	53	222	10	5	35	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	275	0	-	-	-	0	620	731	434
Stage 1	-	-	-	-	-	-	456	456	-
Stage 2	-	-	-	-	-	-	164	275	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1300	-	0	0	-	-	455	351	626
Stage 1	-	-	0	0	-	-	643	572	-
Stage 2	-	-	0	0	-	-	870	686	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1300	-	-	-	-	-	450	0	626
Mov Cap-2 Maneuver	-	-	-	-	-	-	450	0	-
Stage 1	-	-	-	-	-	-	636	0	-
Stage 2	-	-	-	-	-	-	870	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	577	1300	-	-	-
HCM Lane V/C Ratio	0.086	0.008	-	-	-
HCM Control Delay (s)	11.8	7.8	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.3	0	-	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	401	0	0	44	196	8	4	29	0	0	0
Future Vol, veh/h	9	401	0	0	44	196	8	4	29	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	483	0	0	53	236	10	5	35	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	289	0	-	-	-	0	676	794	483
Stage 1	-	-	-	-	-	-	505	505	-
Stage 2	-	-	-	-	-	-	171	289	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1284	-	0	0	-	-	422	323	588
Stage 1	-	-	0	0	-	-	610	544	-
Stage 2	-	-	0	0	-	-	864	677	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1284	-	-	-	-	-	417	0	588
Mov Cap-2 Maneuver	-	-	-	-	-	-	417	0	-
Stage 1	-	-	-	-	-	-	603	0	-
Stage 2	-	-	-	-	-	-	864	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0	12.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	540	1284	-	-	-
HCM Lane V/C Ratio	0.091	0.008	-	-	-
HCM Control Delay (s)	12.3	7.8	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.3	0	-	-	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : DALE EVANS PKWY
N/S STREET : I-15 NB RAMPS
CONDITION : PM PEAK HOUR

INTERSECTION : 2
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	2		4		6		8	10	12	14	16	18
DALE EVANS PKWY												
EB LEFT	8	1	9	0	9	0	9	9	17	17	17	17
EB THRU	63	4	67	15	82	14	81	96	202	217	216	231
EB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
WB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
WB THRU	35	3	38	0	38	0	38	38	50	50	50	50
WB RIGHT	14	1	15	38	53	36	51	89	101	139	137	175
I-15 NB RAMPS												
NB LEFT	4	1	5	0	5	0	5	5	2	2	2	2
NB THRU	1	1	2	0	2	0	2	2	2	2	2	2
NB RIGHT	11	1	12	0	12	0	12	12	26	26	26	26
SB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
SB THRU	0	0	0	0	0	0	0	0	0	0	0	0
SB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**136**	**12**	**148**	**53**	**201**	**50**	**198**	**251**	**400**	**453**	**450**	**503**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : DALE EVANS PKWY
N/S STREET : I-15 NB RAMPS
CONDITION : PM PEAK HOUR
PHF : 0.91

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

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

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
3	6	0	0	0	0	0	0	0	0	1	0
3	8	0	0	0	0	0	0	0	0	0	0
5	2	0	0	0	0	0	0	0	0	2	0
3	4	0	0	0	0	0	0	0	0	1	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	15	0	0	0	0	0	0	0	0	2	0
0	8	1	0	0	0	0	0	0	0	1	0
0	12	4	0	0	0	0	0	0	0	0	0
0	13	3	0	0	0	0	0	0	0	1	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
DALE EVANS PKWY					
EB LEFT	0	8	**8**	**8**	**8**
EB THRU	4	48	**52**	**60**	**63**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	0	0	**0**	**0**	**0**
WB THRU	4	20	**24**	**32**	**35**
WB RIGHT	0	14	**14**	**14**	**14**
I-15 NB RAMPS					
NB LEFT	0	4	**4**	**4**	**4**
NB THRU	0	0	**1**	**1**	**1**
NB RIGHT	2	5	**7**	**11**	**11**
SB LEFT	0	0	**0**	**0**	**0**
SB THRU	0	0	**0**	**0**	**0**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	63	0	0	35	14	4	1	11	0	0	0
Future Vol, veh/h	8	63	0	0	35	14	4	1	11	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	9	69	0	0	38	15	4	1	12	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	53	0	-	-	-	0	133	140	69
Stage 1	-	-	-	-	-	-	87	87	-
Stage 2	-	-	-	-	-	-	46	53	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1566	-	0	0	-	-	866	755	1000
Stage 1	-	-	0	0	-	-	941	827	-
Stage 2	-	-	0	0	-	-	982	855	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1566	-	-	-	-	-	861	0	1000
Mov Cap-2 Maneuver	-	-	-	-	-	-	861	0	-
Stage 1	-	-	-	-	-	-	935	0	-
Stage 2	-	-	-	-	-	-	982	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.8	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	959	1566	-	-	-
HCM Lane V/C Ratio	0.018	0.006	-	-	-
HCM Control Delay (s)	8.8	7.3	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	67	0	0	38	15	5	2	12	0	0	0
Future Vol, veh/h	9	67	0	0	38	15	5	2	12	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	10	74	0	0	42	16	5	2	13	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	58	0	-	-	-	0	144	152	74
Stage 1	-	-	-	-	-	-	94	94	-
Stage 2	-	-	-	-	-	-	50	58	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1559	-	0	0	-	-	853	743	993
Stage 1	-	-	0	0	-	-	935	821	-
Stage 2	-	-	0	0	-	-	978	851	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1559	-	-	-	-	-	847	0	993
Mov Cap-2 Maneuver	-	-	-	-	-	-	847	0	-
Stage 1	-	-	-	-	-	-	928	0	-
Stage 2	-	-	-	-	-	-	978	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.9	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	945	1559	-	-	-
HCM Lane V/C Ratio	0.022	0.006	-	-	-
HCM Control Delay (s)	8.9	7.3	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	82	0	0	38	53	5	2	12	0	0	0
Future Vol, veh/h	9	82	0	0	38	53	5	2	12	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	10	90	0	0	42	58	5	2	13	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	100	0	-	-	-	0	181	210	90
Stage 1	-	-	-	-	-	-	110	110	-
Stage 2	-	-	-	-	-	-	71	100	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1505	-	0	0	-	-	813	691	973
Stage 1	-	-	0	0	-	-	920	808	-
Stage 2	-	-	0	0	-	-	957	816	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1505	-	-	-	-	-	807	0	973
Mov Cap-2 Maneuver	-	-	-	-	-	-	807	0	-
Stage 1	-	-	-	-	-	-	914	0	-
Stage 2	-	-	-	-	-	-	957	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.7	0	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	917	1505	-	-	-
HCM Lane V/C Ratio	0.023	0.007	-	-	-
HCM Control Delay (s)	9	7.4	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	81	0	0	38	51	5	2	12	0	0	0
Future Vol, veh/h	9	81	0	0	38	51	5	2	12	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	10	89	0	0	42	56	5	2	13	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	98	0	-	-	-	0	179	207	89
Stage 1	-	-	-	-	-	-	109	109	-
Stage 2	-	-	-	-	-	-	70	98	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1508	-	0	0	-	-	815	693	975
Stage 1	-	-	0	0	-	-	921	809	-
Stage 2	-	-	0	0	-	-	958	818	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1508	-	-	-	-	-	809	0	975
Mov Cap-2 Maneuver	-	-	-	-	-	-	809	0	-
Stage 1	-	-	-	-	-	-	915	0	-
Stage 2	-	-	-	-	-	-	958	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.7	0	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	920	1508	-	-	-
HCM Lane V/C Ratio	0.023	0.007	-	-	-
HCM Control Delay (s)	9	7.4	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	96	0	0	38	89	5	2	12	0	0	0
Future Vol, veh/h	9	96	0	0	38	89	5	2	12	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	10	105	0	0	42	98	5	2	13	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	140	0	-	-	-	0	216	265	105
Stage 1	-	-	-	-	-	-	125	125	-
Stage 2	-	-	-	-	-	-	91	140	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1456	-	0	0	-	-	777	644	955
Stage 1	-	-	0	0	-	-	906	796	-
Stage 2	-	-	0	0	-	-	938	785	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1456	-	-	-	-	-	772	0	955
Mov Cap-2 Maneuver	-	-	-	-	-	-	772	0	-
Stage 1	-	-	-	-	-	-	900	0	-
Stage 2	-	-	-	-	-	-	938	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.6	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	893	1456	-	-	-
HCM Lane V/C Ratio	0.023	0.007	-	-	-
HCM Control Delay (s)	9.1	7.5	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	202	0	0	50	101	2	2	26	0	0	0
Future Vol, veh/h	17	202	0	0	50	101	2	2	26	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	19	222	0	0	55	111	2	2	29	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	166	0	-	-	-	0	371	426	222
Stage 1	-	-	-	-	-	-	260	260	-
Stage 2	-	-	-	-	-	-	111	166	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1424	-	0	0	-	-	634	524	823
Stage 1	-	-	0	0	-	-	788	697	-
Stage 2	-	-	0	0	-	-	919	765	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1424	-	-	-	-	-	624	0	823
Mov Cap-2 Maneuver	-	-	-	-	-	-	624	0	-
Stage 1	-	-	-	-	-	-	776	0	-
Stage 2	-	-	-	-	-	-	919	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.6	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	805	1424	-	-	-
HCM Lane V/C Ratio	0.041	0.013	-	-	-
HCM Control Delay (s)	9.7	7.6	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	217	0	0	50	139	2	2	26	0	0	0
Future Vol, veh/h	17	217	0	0	50	139	2	2	26	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	19	238	0	0	55	153	2	2	29	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	208	0	-	-	-	0	408	484	238
Stage 1	-	-	-	-	-	-	276	276	-
Stage 2	-	-	-	-	-	-	132	208	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1375	-	0	0	-	-	603	486	806
Stage 1	-	-	0	0	-	-	775	685	-
Stage 2	-	-	0	0	-	-	899	734	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1375	-	-	-	-	-	593	0	806
Mov Cap-2 Maneuver	-	-	-	-	-	-	593	0	-
Stage 1	-	-	-	-	-	-	763	0	-
Stage 2	-	-	-	-	-	-	899	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.6	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	786	1375	-	-	-
HCM Lane V/C Ratio	0.042	0.014	-	-	-
HCM Control Delay (s)	9.8	7.7	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	216	0	0	50	137	2	2	26	0	0	0
Future Vol, veh/h	17	216	0	0	50	137	2	2	26	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	19	237	0	0	55	151	2	2	29	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	206	0	-	-	-	0	406	481	237
Stage 1	-	-	-	-	-	-	275	275	-
Stage 2	-	-	-	-	-	-	131	206	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1377	-	0	0	-	-	605	487	807
Stage 1	-	-	0	0	-	-	776	686	-
Stage 2	-	-	0	0	-	-	900	735	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1377	-	-	-	-	-	595	0	807
Mov Cap-2 Maneuver	-	-	-	-	-	-	595	0	-
Stage 1	-	-	-	-	-	-	764	0	-
Stage 2	-	-	-	-	-	-	900	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.6	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	787	1377	-	-	-
HCM Lane V/C Ratio	0.042	0.014	-	-	-
HCM Control Delay (s)	9.8	7.7	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	231	0	0	50	175	2	2	26	0	0	0
Future Vol, veh/h	17	231	0	0	50	175	2	2	26	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	19	254	0	0	55	192	2	2	29	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	247	0	-	-	-	0	443	539	254
Stage 1	-	-	-	-	-	-	292	292	-
Stage 2	-	-	-	-	-	-	151	247	-
Critical Hdwy	4.1	-	-	-	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1331	-	0	0	-	-	576	452	790
Stage 1	-	-	0	0	-	-	762	675	-
Stage 2	-	-	0	0	-	-	882	706	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1331	-	-	-	-	-	566	0	790
Mov Cap-2 Maneuver	-	-	-	-	-	-	566	0	-
Stage 1	-	-	-	-	-	-	749	0	-
Stage 2	-	-	-	-	-	-	882	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.5	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	768	1331	-	-	-
HCM Lane V/C Ratio	0.043	0.014	-	-	-
HCM Control Delay (s)	9.9	7.7	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

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

Intersection No.: 2
North/South Street: I-15 NB RAMPS
East/West Street: DALE EVANS PKWY

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	5	Approach	38	Left	7	8
NB	Through	2	Departure	0	Through	3	4
	Right	20			Right	28	29
North leg	Left	0	Approach	0	Left	0	0
SB	Through	0	Departure	185	Through	0	0
	Right	0			Right	0	0
West leg	Left	5	Approach	323	Left	9	9
EB	Through	222	Departure	51	Through	321	321
	Right	0			Right	0	0
East leg	Left	0	Approach	209	Left	0	0
WB	Through	18	Departure	349	Through	44	44
	Right	58			Right	173	173

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	4	Approach	27	Left	1	2
NB	Through	1	Departure	0	Through	2	2
	Right	11			Right	25	26
North leg	Left	0	Approach	0	Left	0	0
SB	Through	0	Departure	119	Through	0	0
	Right	0			Right	0	0
West leg	Left	8	Approach	213	Left	17	17
EB	Through	63	Departure	51	Through	202	202
	Right	0			Right	0	0
East leg	Left	0	Approach	157	Left	0	0
WB	Through	35	Departure	227	Through	50	50
	Right	14			Right	101	101

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : QUARRY RD
N/S STREET : DALE EVANS PKWY
CONDITION : AM PEAK HOUR

INTERSECTION : 3
PROJECTED GROWTH PER YEAR : 3.0%

CONDITION DIAGRAMS

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	1		3		5		7	9	11	13	15	17
QUARRY RD												
EB LEFT	7	1	8	0	8	0	8	8	10	10	10	10
EB THRU	19	2	21	0	21	0	21	21	16	16	16	16
EB RIGHT	6	1	7	0	7	0	7	7	11	11	11	11
WB LEFT	1	1	2	0	2	0	2	2	2	2	2	2
WB THRU	19	2	21	0	21	0	21	21	16	16	16	16
WB RIGHT	45	3	48	0	48	0	48	48	52	52	52	52
DALE EVANS PKWY												
NB LEFT	12	1	13	0	13	0	13	13	19	19	19	19
NB THRU	102	7	109	12	121	11	120	132	216	228	227	239
NB RIGHT	6	1	7	0	7	0	7	7	8	8	8	8
SB LEFT	37	3	40	0	40	0	40	40	42	42	42	42
SB THRU	60	4	64	41	105	39	103	144	134	175	173	214
SB RIGHT	2	1	3	0	3	0	3	3	3	3	3	3
TOTALS	**316**	**27**	**343**	**53**	**396**	**50**	**393**	**446**	**529**	**582**	**579**	**632**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : QUARRY RD
CONDITION : AM PEAK HOUR
N/S STREET : DALE EVANS PKWY
PHF : 0.95

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	16	7	0	0	0	0	0	0	0	0	0
2	5	14	0	1	0	0	0	0	0	0	0
0	7	10	0	0	0	0	0	0	0	5	0
0	5	6	0	1	0	0	0	0	0	3	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	27	4	0	1	0	0	1	0	0	0	0
1	11	3	1	0	0	0	0	0	0	3	0
1	19	2	0	1	0	0	0	0	0	2	0
2	16	3	0	2	0	0	0	0	0	2	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
12	3	0	0	0	0	0	0	0	0	0	0
10	3	1	0	0	0	0	0	0	0	0	0
13	6	0	0	0	0	0	0	0	0	0	0
10	7	0	0	0	0	0	0	0	0	0	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	3	0	0	0	0	0	0	0	0	0	0
2	5	2	0	0	0	0	0	0	0	0	0
1	5	2	0	0	0	0	0	0	0	0	0
3	6	3	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
QUARRY RD					
EB LEFT	0	7	**7**	**7**	**7**
EB THRU	0	19	**19**	**19**	**19**
EB RIGHT	0	6	**6**	**6**	**6**
WB LEFT	0	1	**1**	**1**	**1**
WB THRU	0	19	**19**	**19**	**19**
WB RIGHT	0	45	**45**	**45**	**45**
DALE EVANS PKWY					
NB LEFT	0	12	**12**	**12**	**12**
NB THRU	12	73	**85**	**102**	**102**
NB RIGHT	1	4	**5**	**6**	**6**
SB LEFT	0	37	**37**	**37**	**37**
SB THRU	10	33	**43**	**60**	**60**
SB RIGHT	0	2	**2**	**2**	**2**

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	19	6	1	19	45	12	102	6	37	60	2
Future Vol, veh/h	7	19	6	1	19	45	12	102	6	37	60	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	20	6	1	20	47	13	107	6	39	63	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	312	281	64	291	279	110	65	0	0	113	0	0
Stage 1	142	142	-	136	136	-	-	-	-	-	-	-
Stage 2	170	139	-	155	143	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	644	631	1006	665	632	949	1550	-	-	1489	-	-
Stage 1	866	783	-	872	788	-	-	-	-	-	-	-
Stage 2	837	785	-	852	782	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	580	608	1006	626	609	949	1550	-	-	1489	-	-
Mov Cap-2 Maneuver	580	608	-	626	609	-	-	-	-	-	-	-
Stage 1	858	762	-	864	781	-	-	-	-	-	-	-
Stage 2	768	778	-	802	761	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.9	9.9	0.7	2.8
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1550	-	-	649	810	1489	-	-
HCM Lane V/C Ratio	0.008	-	-	0.052	0.084	0.026	-	-
HCM Control Delay (s)	7.3	0	-	10.9	9.9	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	21	7	2	21	48	13	109	7	40	64	3
Future Vol, veh/h	8	21	7	2	21	48	13	109	7	40	64	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	8	22	7	2	22	51	14	115	7	42	67	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	336	303	69	314	301	119	70	0	0	122	0	0
Stage 1	153	153	-	147	147	-	-	-	-	-	-	-
Stage 2	183	150	-	167	154	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	622	613	1000	643	615	938	1544	-	-	1478	-	-
Stage 1	854	775	-	860	779	-	-	-	-	-	-	-
Stage 2	823	777	-	840	774	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	554	588	1000	601	590	938	1544	-	-	1478	-	-
Mov Cap-2 Maneuver	554	588	-	601	590	-	-	-	-	-	-	-
Stage 1	845	752	-	851	771	-	-	-	-	-	-	-
Stage 2	749	769	-	785	751	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.1	10	0.7	2.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1544	-	-	630	788	1478	-	-
HCM Lane V/C Ratio	0.009	-	-	0.06	0.095	0.028	-	-
HCM Control Delay (s)	7.4	0	-	11.1	10	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	21	7	2	21	48	13	121	7	40	105	3
Future Vol, veh/h	8	21	7	2	21	48	13	121	7	40	105	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	8	22	7	2	22	51	14	127	7	42	111	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	392	359	113	370	357	131	114	0	0	134	0	0
Stage 1	197	197	-	159	159	-	-	-	-	-	-	-
Stage 2	195	162	-	211	198	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	571	571	945	590	572	924	1488	-	-	1463	-	-
Stage 1	809	742	-	848	770	-	-	-	-	-	-	-
Stage 2	811	768	-	796	741	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	507	548	945	550	549	924	1488	-	-	1463	-	-
Mov Cap-2 Maneuver	507	548	-	550	549	-	-	-	-	-	-	-
Stage 1	801	719	-	840	762	-	-	-	-	-	-	-
Stage 2	737	760	-	742	718	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.6	10.3	0.7	2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1488	-	-	585	757	1463	-	-
HCM Lane V/C Ratio	0.009	-	-	0.065	0.099	0.029	-	-
HCM Control Delay (s)	7.4	0	-	11.6	10.3	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	21	7	2	21	48	13	120	7	40	103	3
Future Vol, veh/h	8	21	7	2	21	48	13	120	7	40	103	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	8	22	7	2	22	51	14	126	7	42	108	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	388	355	110	366	353	130	111	0	0	133	0	0
Stage 1	194	194	-	158	158	-	-	-	-	-	-	-
Stage 2	194	161	-	208	195	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	574	574	949	594	575	925	1492	-	-	1464	-	-
Stage 1	812	744	-	849	771	-	-	-	-	-	-	-
Stage 2	812	769	-	799	743	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	510	550	949	554	551	925	1492	-	-	1464	-	-
Mov Cap-2 Maneuver	510	550	-	554	551	-	-	-	-	-	-	-
Stage 1	804	721	-	841	763	-	-	-	-	-	-	-
Stage 2	738	761	-	745	720	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.5	10.3	0.7	2.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1492	-	-	588	758	1464	-	-
HCM Lane V/C Ratio	0.009	-	-	0.064	0.099	0.029	-	-
HCM Control Delay (s)	7.4	0	-	11.5	10.3	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	21	7	2	21	48	13	132	7	40	144	3
Future Vol, veh/h	8	21	7	2	21	48	13	132	7	40	144	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	8	22	7	2	22	51	14	139	7	42	152	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	445	412	154	423	410	143	155	0	0	146	0	0
Stage 1	238	238	-	171	171	-	-	-	-	-	-	-
Stage 2	207	174	-	252	239	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	527	533	897	545	534	910	1438	-	-	1448	-	-
Stage 1	770	712	-	836	761	-	-	-	-	-	-	-
Stage 2	800	759	-	757	711	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	466	510	897	506	511	910	1438	-	-	1448	-	-
Mov Cap-2 Maneuver	466	510	-	506	511	-	-	-	-	-	-	-
Stage 1	762	689	-	827	753	-	-	-	-	-	-	-
Stage 2	725	751	-	703	688	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.1	10.5	0.6	1.6
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1438	-	-	544	726	1448	-	-
HCM Lane V/C Ratio	0.01	-	-	0.07	0.103	0.029	-	-
HCM Control Delay (s)	7.5	0	-	12.1	10.5	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	16	11	2	16	52	19	216	8	42	134	3
Future Vol, veh/h	10	16	11	2	16	52	19	216	8	42	134	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	17	12	2	17	55	20	227	8	44	141	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	538	506	143	516	503	231	144	0	0	235	0	0
Stage 1	231	231	-	271	271	-	-	-	-	-	-	-
Stage 2	307	275	-	245	232	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	457	472	910	473	474	813	1451	-	-	1344	-	-
Stage 1	776	717	-	739	689	-	-	-	-	-	-	-
Stage 2	707	686	-	763	716	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	398	448	910	436	450	813	1451	-	-	1344	-	-
Mov Cap-2 Maneuver	398	448	-	436	450	-	-	-	-	-	-	-
Stage 1	764	691	-	727	678	-	-	-	-	-	-	-
Stage 2	633	675	-	708	690	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.7	11	0.6	1.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1451	-	-	507	672	1344	-	-
HCM Lane V/C Ratio	0.014	-	-	0.077	0.11	0.033	-	-
HCM Control Delay (s)	7.5	0	-	12.7	11	7.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	16	11	2	16	52	19	228	8	42	175	3
Future Vol, veh/h	10	16	11	2	16	52	19	228	8	42	175	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	17	12	2	17	55	20	240	8	44	184	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	594	562	186	572	559	244	187	0	0	248	0	0
Stage 1	274	274	-	284	284	-	-	-	-	-	-	-
Stage 2	320	288	-	288	275	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	420	439	861	434	440	800	1399	-	-	1330	-	-
Stage 1	736	687	-	727	680	-	-	-	-	-	-	-
Stage 2	696	677	-	724	686	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	364	416	861	398	417	800	1399	-	-	1330	-	-
Mov Cap-2 Maneuver	364	416	-	398	417	-	-	-	-	-	-	-
Stage 1	723	662	-	715	668	-	-	-	-	-	-	-
Stage 2	621	665	-	670	661	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.4	11.3	0.6	1.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1399	-	-	470	646	1330	-	-
HCM Lane V/C Ratio	0.014	-	-	0.083	0.114	0.033	-	-
HCM Control Delay (s)	7.6	0	-	13.4	11.3	7.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	16	11	2	16	52	19	227	8	42	173	3
Future Vol, veh/h	10	16	11	2	16	52	19	227	8	42	173	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	17	12	2	17	55	20	239	8	44	182	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	591	559	184	569	556	243	185	0	0	247	0	0
Stage 1	272	272	-	283	283	-	-	-	-	-	-	-
Stage 2	319	287	-	286	273	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	422	440	864	436	442	801	1402	-	-	1331	-	-
Stage 1	738	688	-	728	681	-	-	-	-	-	-	-
Stage 2	697	678	-	726	688	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	365	417	864	400	419	801	1402	-	-	1331	-	-
Mov Cap-2 Maneuver	365	417	-	400	419	-	-	-	-	-	-	-
Stage 1	725	663	-	716	669	-	-	-	-	-	-	-
Stage 2	622	666	-	672	663	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.3	11.3	0.6	1.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1402	-	-	471	648	1331	-	-
HCM Lane V/C Ratio	0.014	-	-	0.083	0.114	0.033	-	-
HCM Control Delay (s)	7.6	0	-	13.3	11.3	7.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	16	11	2	16	52	19	239	8	42	214	3
Future Vol, veh/h	10	16	11	2	16	52	19	239	8	42	214	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	17	12	2	17	55	20	252	8	44	225	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	647	615	227	625	612	256	228	0	0	260	0	0
Stage 1	315	315	-	296	296	-	-	-	-	-	-	-
Stage 2	332	300	-	329	316	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	387	409	817	400	411	788	1352	-	-	1316	-	-
Stage 1	700	659	-	717	672	-	-	-	-	-	-	-
Stage 2	686	669	-	688	659	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	334	387	817	366	389	788	1352	-	-	1316	-	-
Mov Cap-2 Maneuver	334	387	-	366	389	-	-	-	-	-	-	-
Stage 1	688	634	-	705	661	-	-	-	-	-	-	-
Stage 2	612	658	-	635	634	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14	11.6	0.6	1.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1352	-	-	437	622	1316	-	-
HCM Lane V/C Ratio	0.015	-	-	0.089	0.118	0.034	-	-
HCM Control Delay (s)	7.7	0	-	14	11.6	7.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.4	0.1	-	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : QUARRY RD
N/S STREET : DALE EVANS PKWY
CONDITION : PM PEAK HOUR

INTERSECTION : 3
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	2		4		6		8	10	12	14	16	18
QUARRY RD												
EB LEFT	3	1	4	0	4	0	4	4	5	5	5	5
EB THRU	35	3	38	0	38	0	38	38	36	36	36	36
EB RIGHT	1	1	2	0	2	0	2	2	2	2	2	2
WB LEFT	3	1	4	0	4	0	4	4	4	4	4	4
WB THRU	41	3	44	0	44	0	44	44	41	41	41	41
WB RIGHT	18	2	20	0	20	0	20	20	19	19	19	19
DALE EVANS PKWY												
NB LEFT	4	1	5	0	5	0	5	5	7	7	7	7
NB THRU	110	7	117	38	155	36	153	191	186	224	222	260
NB RIGHT	8	1	9	0	9	0	9	9	10	10	10	10
SB LEFT	32	2	34	0	34	0	34	34	32	32	32	32
SB THRU	227	14	241	15	256	14	255	270	372	387	386	401
SB RIGHT	2	1	3	0	3	0	3	3	3	3	3	3
TOTALS	**484**	**37**	**521**	**53**	**574**	**50**	**571**	**624**	**717**	**770**	**767**	**820**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : QUARRY RD
CONDITION : PM PEAK HOUR
N/S STREET : DALE EVANS PKWY
PHF : 0.89

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
1	61	5	0	1	0	0	1	0	0	1	0
0	48	9	0	0	0	0	1	0	0	1	0
1	56	11	0	1	0	0	0	0	0	0	0
0	46	7	0	2	0	0	0	0	0	0	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
2	28	0	0	0	0	0	0	0	0	1	0
1	10	2	0	0	0	0	0	0	0	2	0
3	25	1	0	0	0	0	0	0	0	0	0
2	32	1	0	0	0	0	0	0	0	2	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
4	13	1	0	0	0	0	0	0	0	0	0
2	9	1	0	0	0	0	0	0	0	0	0
6	4	1	0	0	0	0	0	0	0	0	0
6	15	0	0	0	0	0	0	0	0	0	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	10	2	0	0	0	0	0	0	0	0	0
1	7	0	0	0	0	0	0	0	0	0	0
0	6	0	0	0	0	0	0	0	0	0	0
0	12	1	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
QUARRY RD					
EB LEFT	0	3	**3**	**3**	**3**
EB THRU	0	35	**35**	**35**	**35**
EB RIGHT	0	1	**1**	**1**	**1**
WB LEFT	0	3	**3**	**3**	**3**
WB THRU	0	41	**41**	**41**	**41**
WB RIGHT	0	18	**18**	**18**	**18**
DALE EVANS PKWY					
NB LEFT	0	4	**4**	**4**	**4**
NB THRU	5	95	**100**	**110**	**110**
NB RIGHT	0	8	**8**	**8**	**8**
SB LEFT	0	32	**32**	**32**	**32**
SB THRU	8	211	**219**	**227**	**227**
SB RIGHT	0	2	**2**	**2**	**2**

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	35	1	3	41	18	4	110	8	32	227	2
Future Vol, veh/h	3	35	1	3	41	18	4	110	8	32	227	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	39	1	3	46	20	4	124	9	36	255	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	498	469	256	485	466	129	257	0	0	133	0	0
Stage 1	328	328	-	137	137	-	-	-	-	-	-	-
Stage 2	170	141	-	348	329	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	486	495	788	496	497	926	1320	-	-	1464	-	-
Stage 1	689	651	-	871	787	-	-	-	-	-	-	-
Stage 2	837	784	-	672	650	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	430	479	788	453	481	926	1320	-	-	1464	-	-
Mov Cap-2 Maneuver	430	479	-	453	481	-	-	-	-	-	-	-
Stage 1	687	632	-	868	785	-	-	-	-	-	-	-
Stage 2	768	782	-	611	631	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.3	12.4	0.3	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1320	-	-	480	557	1464	-	-
HCM Lane V/C Ratio	0.003	-	-	0.091	0.125	0.025	-	-
HCM Control Delay (s)	7.7	0	-	13.3	12.4	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	38	2	4	44	20	5	117	9	34	241	3
Future Vol, veh/h	4	38	2	4	44	20	5	117	9	34	241	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	43	2	4	49	22	6	131	10	38	271	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	533	502	273	519	498	136	274	0	0	141	0	0
Stage 1	349	349	-	148	148	-	-	-	-	-	-	-
Stage 2	184	153	-	371	350	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	461	474	771	471	477	918	1301	-	-	1455	-	-
Stage 1	671	637	-	859	779	-	-	-	-	-	-	-
Stage 2	822	775	-	653	636	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	402	457	771	424	460	918	1301	-	-	1455	-	-
Mov Cap-2 Maneuver	402	457	-	424	460	-	-	-	-	-	-	-
Stage 1	668	617	-	855	775	-	-	-	-	-	-	-
Stage 2	747	771	-	587	616	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.8	12.8	0.3	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1301	-	-	460	536	1455	-	-
HCM Lane V/C Ratio	0.004	-	-	0.107	0.143	0.026	-	-
HCM Control Delay (s)	7.8	0	-	13.8	12.8	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.5	0.1	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	38	2	4	44	20	5	155	9	34	256	3
Future Vol, veh/h	4	38	2	4	44	20	5	155	9	34	256	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	43	2	4	49	22	6	174	10	38	288	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	593	562	290	579	558	179	291	0	0	184	0	0
Stage 1	366	366	-	191	191	-	-	-	-	-	-	-
Stage 2	227	196	-	388	367	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	420	439	754	429	441	869	1282	-	-	1403	-	-
Stage 1	657	626	-	815	746	-	-	-	-	-	-	-
Stage 2	780	742	-	640	626	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	362	423	754	384	425	869	1282	-	-	1403	-	-
Mov Cap-2 Maneuver	362	423	-	384	425	-	-	-	-	-	-	-
Stage 1	654	606	-	811	742	-	-	-	-	-	-	-
Stage 2	706	738	-	574	606	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.6	13.6	0.2	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1282	-	-	425	496	1403	-	-
HCM Lane V/C Ratio	0.004	-	-	0.116	0.154	0.027	-	-
HCM Control Delay (s)	7.8	0	-	14.6	13.6	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.5	0.1	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	38	2	4	44	20	5	153	9	34	255	3
Future Vol, veh/h	4	38	2	4	44	20	5	153	9	34	255	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	43	2	4	49	22	6	172	10	38	287	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	590	559	289	576	555	177	290	0	0	182	0	0
Stage 1	365	365	-	189	189	-	-	-	-	-	-	-
Stage 2	225	194	-	387	366	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	422	440	755	431	443	871	1283	-	-	1405	-	-
Stage 1	658	627	-	817	748	-	-	-	-	-	-	-
Stage 2	782	744	-	641	626	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	364	424	755	386	427	871	1283	-	-	1405	-	-
Mov Cap-2 Maneuver	364	424	-	386	427	-	-	-	-	-	-	-
Stage 1	655	607	-	813	744	-	-	-	-	-	-	-
Stage 2	708	740	-	575	606	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.6	13.5	0.2	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1283	-	-	426	499	1405	-	-
HCM Lane V/C Ratio	0.004	-	-	0.116	0.153	0.027	-	-
HCM Control Delay (s)	7.8	0	-	14.6	13.5	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.5	0.1	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	38	2	4	44	20	5	191	9	34	270	3
Future Vol, veh/h	4	38	2	4	44	20	5	191	9	34	270	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	43	2	4	49	22	6	215	10	38	303	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	649	618	305	635	614	220	306	0	0	225	0	0
Stage 1	381	381	-	232	232	-	-	-	-	-	-	-
Stage 2	268	237	-	403	382	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	386	408	740	394	410	825	1266	-	-	1356	-	-
Stage 1	645	617	-	775	716	-	-	-	-	-	-	-
Stage 2	742	713	-	628	616	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	330	392	740	349	394	825	1266	-	-	1356	-	-
Mov Cap-2 Maneuver	330	392	-	349	394	-	-	-	-	-	-	-
Stage 1	642	596	-	771	712	-	-	-	-	-	-	-
Stage 2	668	709	-	561	595	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.4	14.4	0.2	0.9
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1266	-	-	394	461	1356	-	-
HCM Lane V/C Ratio	0.004	-	-	0.125	0.166	0.028	-	-
HCM Control Delay (s)	7.9	0	-	15.4	14.4	7.7	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.6	0.1	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	36	2	4	41	19	7	186	10	32	372	3
Future Vol, veh/h	5	36	2	4	41	19	7	186	10	32	372	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	40	2	4	46	21	8	209	11	36	418	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	756	728	420	744	724	215	421	0	0	220	0	0
Stage 1	492	492	-	231	231	-	-	-	-	-	-	-
Stage 2	264	236	-	513	493	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	327	353	638	333	354	830	1149	-	-	1361	-	-
Stage 1	562	551	-	776	717	-	-	-	-	-	-	-
Stage 2	746	713	-	548	550	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	276	338	638	292	339	830	1149	-	-	1361	-	-
Mov Cap-2 Maneuver	276	338	-	292	339	-	-	-	-	-	-	-
Stage 1	558	532	-	770	711	-	-	-	-	-	-	-
Stage 2	674	707	-	487	531	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.5	15.8	0.3	0.6
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1149	-	-	337	406	1361	-	-
HCM Lane V/C Ratio	0.007	-	-	0.143	0.177	0.026	-	-
HCM Control Delay (s)	8.2	0	-	17.5	15.8	7.7	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.6	0.1	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	36	2	4	41	19	7	224	10	32	387	3
Future Vol, veh/h	5	36	2	4	41	19	7	224	10	32	387	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	40	2	4	46	21	8	252	11	36	435	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	816	788	437	804	784	258	438	0	0	263	0	0
Stage 1	509	509	-	274	274	-	-	-	-	-	-	-
Stage 2	307	279	-	530	510	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	298	326	624	304	327	786	1133	-	-	1313	-	-
Stage 1	550	541	-	736	687	-	-	-	-	-	-	-
Stage 2	707	683	-	536	541	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	249	312	624	264	313	786	1133	-	-	1313	-	-
Mov Cap-2 Maneuver	249	312	-	264	313	-	-	-	-	-	-	-
Stage 1	546	522	-	730	682	-	-	-	-	-	-	-
Stage 2	636	678	-	475	522	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.7	16.8	0.2	0.6
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1133	-	-	310	376	1313	-	-
HCM Lane V/C Ratio	0.007	-	-	0.156	0.191	0.027	-	-
HCM Control Delay (s)	8.2	0	-	18.7	16.8	7.8	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.7	0.1	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	36	2	4	41	19	7	222	10	32	386	3
Future Vol, veh/h	5	36	2	4	41	19	7	222	10	32	386	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	40	2	4	46	21	8	249	11	36	434	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	812	784	436	800	780	255	437	0	0	260	0	0
Stage 1	508	508	-	271	271	-	-	-	-	-	-	-
Stage 2	304	276	-	529	509	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	300	327	625	306	329	789	1134	-	-	1316	-	-
Stage 1	551	542	-	739	689	-	-	-	-	-	-	-
Stage 2	710	685	-	537	541	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	251	313	625	266	315	789	1134	-	-	1316	-	-
Mov Cap-2 Maneuver	251	313	-	266	315	-	-	-	-	-	-	-
Stage 1	547	522	-	733	683	-	-	-	-	-	-	-
Stage 2	639	680	-	476	522	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.7	16.7	0.2	0.6
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1134	-	-	311	378	1316	-	-
HCM Lane V/C Ratio	0.007	-	-	0.155	0.19	0.027	-	-
HCM Control Delay (s)	8.2	0	-	18.7	16.7	7.8	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.7	0.1	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	36	2	4	41	19	7	260	10	32	401	3
Future Vol, veh/h	5	36	2	4	41	19	7	260	10	32	401	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	40	2	4	46	21	8	292	11	36	451	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	872	844	453	860	840	298	454	0	0	303	0	0
Stage 1	525	525	-	314	314	-	-	-	-	-	-	-
Stage 2	347	319	-	546	526	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	273	302	611	278	304	746	1117	-	-	1269	-	-
Stage 1	540	533	-	701	660	-	-	-	-	-	-	-
Stage 2	673	657	-	526	532	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	225	288	611	239	290	746	1117	-	-	1269	-	-
Mov Cap-2 Maneuver	225	288	-	239	290	-	-	-	-	-	-	-
Stage 1	535	513	-	695	654	-	-	-	-	-	-	-
Stage 2	602	651	-	464	512	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.1	18	0.2	0.6
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1117	-	-	286	349	1269	-	-
HCM Lane V/C Ratio	0.007	-	-	0.169	0.206	0.028	-	-
HCM Control Delay (s)	8.2	0	-	20.1	18	7.9	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.8	0.1	-	-

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

Intersection No.: 3
North/South Street: DALE EVANS PKWY
East/West Street: QUARRY RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	12	Approach	237	Left	18	19
NB	Through	102	Departure	145	Through	215	216
	Right	6			Right	8	8
North leg	Left	37	Approach	174	Left	41	42
SB	Through	60	Departure	276	Through	134	134
	Right	2			Right	3	3
West leg	Left	7	Approach	35	Left	10	10
EB	Through	19	Departure	36	Through	16	16
	Right	6			Right	10	11
East leg	Left	1	Approach	67	Left	1	2
WB	Through	19	Departure	65	Through	15	16
	Right	45			Right	51	52

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	4	Approach	204	Left	6	7
NB	Through	110	Departure	377	Through	186	186
	Right	8			Right	10	10
North leg	Left	32	Approach	403	Left	31	32
SB	Through	227	Departure	209	Through	372	372
	Right	2			Right	3	3
West leg	Left	3	Approach	42	Left	4	5
EB	Through	35	Departure	50	Through	36	36
	Right	1			Right	2	2
East leg	Left	3	Approach	64	Left	4	4
WB	Through	41	Departure	77	Through	41	41
	Right	18			Right	19	19

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : JOHNSON RD
N/S STREET : DALE EVANS PKWY
CONDITION : AM PEAK HOUR

INTERSECTION : 4
PROJECTED GROWTH PER YEAR : 3.0%

CONDITION DIAGRAMS

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	1		3		5		7	9	11	13	15	17
JOHNSON RD												
EB LEFT	5	1	6	126	132	125	131	257	29	155	154	280
EB THRU	57	4	61	126	187	125	186	312	68	194	193	319
EB RIGHT	21	2	23	0	23	0	23	23	59	59	59	59
WB LEFT	11	1	12	7	19	24	36	43	4	11	28	35
WB THRU	115	7	122	39	161	38	160	199	158	197	196	235
WB RIGHT	52	4	56	0	56	0	56	56	30	30	30	30
DALE EVANS PKWY												
NB LEFT	8	1	9	0	9	0	9	9	79	79	79	79
NB THRU	67	5	72	41	113	0	72	113	277	318	277	318
NB RIGHT	21	2	23	41	64	81	104	145	18	59	99	140
SB LEFT	27	2	29	0	29	0	29	29	32	32	32	32
SB THRU	46	3	49	17	66	0	49	66	130	147	130	147
SB RIGHT	0	0	0	38	38	38	38	76	0	38	38	76
TOTALS	**430**	**32**	**462**	**435**	**897**	**431**	**893**	**1328**	**884**	**1319**	**1315**	**1750**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : JOHNSON RD
CONDITION : AM PEAK HOUR
N/S STREET : DALE EVANS PKWY
PHF : 0.95

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	13	3	0	0	1	0	0	0	0	0	0
0	4	8	0	1	0	0	0	0	0	0	0
0	5	3	0	0	0	0	0	0	0	3	2
0	6	2	0	1	0	0	0	0	0	2	1

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
3	25	0	1	0	0	0	0	0	0	0	0
5	13	2	0	0	0	0	0	0	0	0	0
5	15	3	0	0	0	0	0	0	0	0	0
6	14	3	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
5	24	3	0	1	0	1	1	0	0	0	0
4	30	2	0	0	0	0	1	0	2	1	0
6	18	3	1	2	0	0	1	0	3	1	0
10	28	3	1	0	0	0	0	0	0	1	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	14	2	0	1	0	0	0	0	0	0	0
2	9	0	0	1	0	0	0	0	1	1	0
6	14	2	0	0	0	1	0	0	0	0	0
2	7	1	0	1	0	0	1	0	2	1	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
JOHNSON RD					
EB LEFT	0	5	**5**	**5**	**5**
EB THRU	6	44	**50**	**57**	**57**
EB RIGHT	4	10	**14**	**21**	**21**
WB LEFT	0	11	**11**	**11**	**11**
WB THRU	9	100	**109**	**115**	**115**
WB RIGHT	8	25	**33**	**52**	**52**
DALE EVANS PKWY					
NB LEFT	0	8	**8**	**8**	**8**
NB THRU	0	67	**67**	**67**	**67**
NB RIGHT	1	19	**20**	**21**	**21**
SB LEFT	4	16	**20**	**27**	**27**
SB THRU	7	28	**35**	**46**	**46**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	57	21	11	115	52	8	67	21	27	46	0
Future Vol, veh/h	5	57	21	11	115	52	8	67	21	27	46	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	60	22	12	121	55	8	71	22	28	48	0
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	8.8	8.7	8.5	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	6%	9%	0%	100%	0%
Vol Thru, %	0%	100%	0%	69%	91%	0%	0%	100%
Vol Right, %	0%	0%	100%	25%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	67	21	83	126	52	27	46
LT Vol	8	0	0	5	11	0	27	0
Through Vol	0	67	0	57	115	0	0	46
RT Vol	0	0	21	21	0	52	0	0
Lane Flow Rate	8	71	22	87	133	55	28	48
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.014	0.106	0.029	0.127	0.193	0.068	0.047	0.074
Departure Headway (Hd)	5.94	5.436	4.731	5.233	5.236	4.491	5.988	5.484
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	601	657	753	682	684	795	596	651
Service Time	3.69	3.186	2.481	2.983	2.978	2.233	3.742	3.237
HCM Lane V/C Ratio	0.013	0.108	0.029	0.128	0.194	0.069	0.047	0.074
HCM Control Delay	8.8	8.8	7.6	8.8	9.2	7.6	9	8.7
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0	0.4	0.1	0.4	0.7	0.2	0.1	0.2

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	61	23	12	122	56	9	72	23	29	49	0
Future Vol, veh/h	6	61	23	12	122	56	9	72	23	29	49	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	64	24	13	128	59	9	76	24	31	52	0
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	8.9	8.9	8.7	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	7%	9%	0%	100%	0%
Vol Thru, %	0%	100%	0%	68%	91%	0%	0%	100%
Vol Right, %	0%	0%	100%	26%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	72	23	90	134	56	29	49
LT Vol	9	0	0	6	12	0	29	0
Through Vol	0	72	0	61	122	0	0	49
RT Vol	0	0	23	23	0	56	0	0
Lane Flow Rate	9	76	24	95	141	59	31	52
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.016	0.116	0.032	0.14	0.208	0.075	0.051	0.08
Departure Headway (Hd)	6.013	5.509	4.804	5.307	5.299	4.552	6.069	5.565
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	593	647	740	673	676	783	587	640
Service Time	3.775	3.271	2.565	3.065	3.048	2.301	3.835	3.33
HCM Lane V/C Ratio	0.015	0.117	0.032	0.141	0.209	0.075	0.053	0.081
HCM Control Delay	8.9	9	7.7	8.9	9.4	7.7	9.2	8.8
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0	0.4	0.1	0.5	0.8	0.2	0.2	0.3

Intersection	
Intersection Delay, s/veh	15.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	132	187	23	19	161	56	9	113	64	29	66	38
Future Vol, veh/h	132	187	23	19	161	56	9	113	64	29	66	38
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	139	197	24	20	169	59	9	119	67	31	69	40
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	20.7	12.5	11.2	11.6
HCM LOS	C	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	39%	11%	0%	100%	0%
Vol Thru, %	0%	100%	0%	55%	89%	0%	0%	63%
Vol Right, %	0%	0%	100%	7%	0%	100%	0%	37%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	113	64	342	180	56	29	104
LT Vol	9	0	0	132	19	0	29	0
Through Vol	0	113	0	187	161	0	0	66
RT Vol	0	0	64	23	0	56	0	38
Lane Flow Rate	9	119	67	360	189	59	31	109
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.02	0.236	0.12	0.649	0.361	0.1	0.066	0.214
Departure Headway (Hd)	7.643	7.132	6.416	6.597	6.853	6.089	7.812	7.035
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	470	506	561	551	529	592	460	511
Service Time	5.363	4.852	4.136	4.297	4.553	3.789	5.536	4.758
HCM Lane V/C Ratio	0.019	0.235	0.119	0.653	0.357	0.1	0.067	0.213
HCM Control Delay	10.5	12	10	20.7	13.4	9.5	11.1	11.7
HCM Lane LOS	B	B	A	C	B	A	B	B
HCM 95th-tile Q	0.1	0.9	0.4	4.6	1.6	0.3	0.2	0.8

Intersection	
Intersection Delay, s/veh	14.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	131	186	23	36	160	56	9	72	104	29	49	38
Future Vol, veh/h	131	186	23	36	160	56	9	72	104	29	49	38
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	138	196	24	38	168	59	9	76	109	31	52	40
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	20.2	12.6	10.8	11.2
HCM LOS	C	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	39%	18%	0%	100%	0%
Vol Thru, %	0%	100%	0%	55%	82%	0%	0%	56%
Vol Right, %	0%	0%	100%	7%	0%	100%	0%	44%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	72	104	340	196	56	29	87
LT Vol	9	0	0	131	36	0	29	0
Through Vol	0	72	0	186	160	0	0	49
RT Vol	0	0	104	23	0	56	0	38
Lane Flow Rate	9	76	109	358	206	59	31	92
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.02	0.15	0.194	0.641	0.383	0.096	0.066	0.178
Departure Headway (Hd)	7.621	7.11	6.394	6.443	6.783	5.881	7.825	6.996
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	473	508	565	558	534	603	460	516
Service Time	5.321	4.81	4.094	4.231	4.483	3.68	5.532	4.704
HCM Lane V/C Ratio	0.019	0.15	0.193	0.642	0.386	0.098	0.067	0.178
HCM Control Delay	10.5	11.1	10.6	20.2	13.6	9.3	11.1	11.2
HCM Lane LOS	B	B	B	C	B	A	B	B
HCM 95th-tile Q	0.1	0.5	0.7	4.5	1.8	0.3	0.2	0.6

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	131	186	23	36	160	56	9	72	104	29	49	38
Future Vol, veh/h	131	186	23	36	160	56	9	72	104	29	49	38
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	138	196	24	38	168	59	9	76	109	31	52	40
Number of Lanes	1	1	0	1	1	0	1	2	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay	12.3	12.6	10.8	10.3
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	19%	0%	89%	0%	74%	0%	100%	0%
Vol Right, %	0%	0%	81%	0%	11%	0%	26%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	48	128	131	209	36	216	29	49	38
LT Vol	9	0	0	131	0	36	0	29	0	0
Through Vol	0	48	24	0	186	0	160	0	49	0
RT Vol	0	0	104	0	23	0	56	0	0	38
Lane Flow Rate	9	51	135	138	220	38	227	31	52	40
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.019	0.096	0.235	0.257	0.375	0.073	0.394	0.064	0.101	0.07
Departure Headway (Hd)	7.358	6.849	6.269	6.719	6.14	6.918	6.233	7.535	7.024	6.31
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	485	521	570	534	583	516	575	473	508	564
Service Time	5.132	4.622	4.042	4.479	3.9	4.681	3.996	5.314	4.804	4.089
HCM Lane V/C Ratio	0.019	0.098	0.237	0.258	0.377	0.074	0.395	0.066	0.102	0.071
HCM Control Delay	10.3	10.4	11	11.8	12.6	10.2	13	10.8	10.6	9.6
HCM Lane LOS	B	B	B	B	B	B	B	B	B	A
HCM 95th-tile Q	0.1	0.3	0.9	1	1.7	0.2	1.9	0.2	0.3	0.2

Intersection	
Intersection Delay, s/veh	89.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	257	312	23	43	199	56	9	113	145	29	66	76
Future Vol, veh/h	257	312	23	43	199	56	9	113	145	29	66	76
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	271	328	24	45	209	59	9	119	153	31	69	80
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	179.6	20	14.8	15.7
HCM LOS	F	C	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	43%	18%	0%	100%	0%
Vol Thru, %	0%	100%	0%	53%	82%	0%	0%	46%
Vol Right, %	0%	0%	100%	4%	0%	100%	0%	54%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	113	145	592	242	56	29	142
LT Vol	9	0	0	257	43	0	29	0
Through Vol	0	113	0	312	199	0	0	66
RT Vol	0	0	145	23	0	56	0	76
Lane Flow Rate	9	119	153	623	255	59	31	149
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.023	0.27	0.317	1.317	0.562	0.117	0.076	0.335
Departure Headway (Hd)	9.565	9.044	8.314	7.61	8.685	7.87	9.944	9.021
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	376	400	435	480	418	459	362	401
Service Time	7.265	6.744	6.014	5.31	6.385	5.57	7.644	6.721
HCM Lane V/C Ratio	0.024	0.297	0.352	1.298	0.61	0.129	0.086	0.372
HCM Control Delay	12.5	15.1	14.8	179.6	22	11.6	13.5	16.2
HCM Lane LOS	B	C	B	F	C	B	B	C
HCM 95th-tile Q	0.1	1.1	1.3	27.3	3.4	0.4	0.2	1.4

Intersection	
Intersection Delay, s/veh	13.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	68	59	4	158	30	79	277	18	32	130	0
Future Vol, veh/h	29	68	59	4	158	30	79	277	18	32	130	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	31	72	62	4	166	32	83	292	19	34	137	0
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	12.5	12.3	14.3	11.8
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	19%	2%	0%	100%	0%
Vol Thru, %	0%	100%	0%	44%	98%	0%	0%	100%
Vol Right, %	0%	0%	100%	38%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	79	277	18	156	162	30	32	130
LT Vol	79	0	0	29	4	0	32	0
Through Vol	0	277	0	68	158	0	0	130
RT Vol	0	0	18	59	0	30	0	0
Lane Flow Rate	83	292	19	164	171	32	34	137
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.158	0.513	0.03	0.307	0.323	0.054	0.069	0.26
Departure Headway (Hd)	6.836	6.329	5.618	6.724	6.821	6.101	7.357	6.847
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	522	566	633	530	524	582	484	521
Service Time	4.611	4.103	3.392	4.513	4.609	3.888	5.151	4.64
HCM Lane V/C Ratio	0.159	0.516	0.03	0.309	0.326	0.055	0.07	0.263
HCM Control Delay	10.9	15.7	8.6	12.5	12.9	9.2	10.7	12.1
HCM Lane LOS	B	C	A	B	B	A	B	B
HCM 95th-tile Q	0.6	2.9	0.1	1.3	1.4	0.2	0.2	1

Intersection	
Intersection Delay, s/veh	42.5
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	155	194	59	11	197	30	79	318	59	32	147	38
Future Vol, veh/h	155	194	59	11	197	30	79	318	59	32	147	38
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	163	204	62	12	207	32	83	335	62	34	155	40
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	80.4	21.7	30.2	19.8
HCM LOS	F	C	D	C

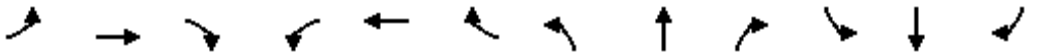
Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	38%	5%	0%	100%	0%
Vol Thru, %	0%	100%	0%	48%	95%	0%	0%	79%
Vol Right, %	0%	0%	100%	14%	0%	100%	0%	21%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	79	318	59	408	208	30	32	185
LT Vol	79	0	0	155	11	0	32	0
Through Vol	0	318	0	194	197	0	0	147
RT Vol	0	0	59	59	0	30	0	38
Lane Flow Rate	83	335	62	429	219	32	34	195
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.209	0.793	0.135	1.026	0.556	0.074	0.091	0.49
Departure Headway (Hd)	9.237	8.717	7.99	8.602	9.351	8.596	10.101	9.422
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	391	418	452	425	388	419	357	386
Service Time	6.937	6.417	5.69	6.288	7.051	6.296	7.801	7.122
HCM Lane V/C Ratio	0.212	0.801	0.137	1.009	0.564	0.076	0.095	0.505
HCM Control Delay	14.4	37.5	11.9	80.4	23.1	12	13.8	20.8
HCM Lane LOS	B	E	B	F	C	B	B	C
HCM 95th-tile Q	0.8	7	0.5	13.4	3.3	0.2	0.3	2.6

Intersection	
Intersection Delay, s/veh	38.2
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	154	193	59	28	196	30	79	277	99	32	130	38
Future Vol, veh/h	154	193	59	28	196	30	79	277	99	32	130	38
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	162	203	62	29	206	32	83	292	104	34	137	40
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	75.1	22.9	22.6	18.5
HCM LOS	F	C	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	38%	12%	0%	100%	0%
Vol Thru, %	0%	100%	0%	48%	88%	0%	0%	77%
Vol Right, %	0%	0%	100%	15%	0%	100%	0%	23%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	79	277	99	406	224	30	32	168
LT Vol	79	0	0	154	28	0	32	0
Through Vol	0	277	0	193	196	0	0	130
RT Vol	0	0	99	59	0	30	0	38
Lane Flow Rate	83	292	104	427	236	32	34	177
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.208	0.688	0.226	1.008	0.592	0.072	0.091	0.447
Departure Headway (Hd)	9.184	8.665	7.938	8.488	9.186	8.396	10.064	9.37
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	393	420	455	432	396	429	358	387
Service Time	6.884	6.365	5.638	6.195	6.886	6.096	7.764	7.07
HCM Lane V/C Ratio	0.211	0.695	0.229	0.988	0.596	0.075	0.095	0.457
HCM Control Delay	14.3	28.4	12.9	75.1	24.4	11.7	13.8	19.4
HCM Lane LOS	B	D	B	F	C	B	B	C
HCM 95th-tile Q	0.8	5	0.9	12.9	3.7	0.2	0.3	2.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	193	59	28	196	30	79	277	99	32	130	38
Future Volume (veh/h)	154	193	59	28	196	30	79	277	99	32	130	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	162	203	62	29	206	32	83	292	104	34	137	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	204	406	124	45	317	49	99	575	201	51	362	499
Arrive On Green	0.13	0.31	0.31	0.03	0.21	0.21	0.06	0.23	0.23	0.03	0.20	0.20
Sat Flow, veh/h	1619	1323	404	1619	1521	236	1619	2487	867	1619	1800	1525
Grp Volume(v), veh/h	162	0	265	29	0	238	83	199	197	34	137	40
Grp Sat Flow(s),veh/h/ln	1619	0	1727	1619	0	1757	1619	1710	1644	1619	1800	1525
Q Serve(g_s), s	3.9	0.0	5.0	0.7	0.0	4.9	2.0	4.0	4.2	0.8	2.6	0.7
Cycle Q Clear(g_c), s	3.9	0.0	5.0	0.7	0.0	4.9	2.0	4.0	4.2	0.8	2.6	0.7
Prop In Lane	1.00		0.23	1.00		0.13	1.00		0.53	1.00		1.00
Lane Grp Cap(c), veh/h	204	0	530	45	0	367	99	395	380	51	362	499
V/C Ratio(X)	0.79	0.00	0.50	0.65	0.00	0.65	0.84	0.50	0.52	0.67	0.38	0.08
Avail Cap(c_a), veh/h	408	0	1826	245	0	1681	326	1291	1241	245	1269	1267
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.9	0.0	11.3	19.1	0.0	14.4	18.4	13.3	13.3	19.0	13.7	9.2
Incr Delay (d2), s/veh	6.9	0.0	0.7	14.8	0.0	1.9	16.2	1.0	1.1	14.0	0.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.5	0.4	0.0	1.7	1.1	1.3	1.3	0.5	0.9	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.7	0.0	12.0	33.9	0.0	16.3	34.7	14.3	14.4	33.0	14.4	9.3
LnGrp LOS	C	A	B	C	A	B	C	B	B	C	B	A
Approach Vol, veh/h		427			267			479			211	
Approach Delay, s/veh		16.5			18.2			17.9			16.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.3	13.2	5.1	16.2	6.4	12.0	9.0	12.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	30.0	6.0	42.0	8.0	28.0	10.0	38.0
Max Q Clear Time (g_c+I1), s	2.8	6.2	2.7	7.0	4.0	4.6	5.9	6.9
Green Ext Time (p_c), s	0.0	2.3	0.0	1.6	0.1	0.8	0.1	1.4

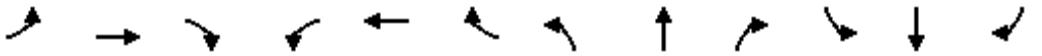
Intersection Summary	
HCM 6th Ctrl Delay	17.3
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	174.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	280	319	59	35	235	30	79	318	140	32	147	76
Future Vol, veh/h	280	319	59	35	235	30	79	318	140	32	147	76
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	295	336	62	37	247	32	83	335	147	34	155	80
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	403.2	40.4	37.5	30.2
HCM LOS	F	E	E	D

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	43%	13%	0%	100%	0%
Vol Thru, %	0%	100%	0%	48%	87%	0%	0%	66%
Vol Right, %	0%	0%	100%	9%	0%	100%	0%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	79	318	140	658	270	30	32	223
LT Vol	79	0	0	280	35	0	32	0
Through Vol	0	318	0	319	235	0	0	147
RT Vol	0	0	140	59	0	30	0	76
Lane Flow Rate	83	335	147	693	284	32	34	235
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.22	0.838	0.34	1.824	0.761	0.078	0.096	0.624
Departure Headway (Hd)	11.458	10.927	10.183	9.48	11.569	10.754	12.604	11.8
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	315	335	355	388	315	335	286	308
Service Time	9.158	8.627	7.883	7.266	9.269	8.454	10.304	9.5
HCM Lane V/C Ratio	0.263	1	0.414	1.786	0.902	0.096	0.119	0.763
HCM Control Delay	17.4	51	18	403.2	43.3	14.4	16.6	32.2
HCM Lane LOS	C	F	C	F	E	B	C	D
HCM 95th-tile Q	0.8	7.4	1.5	44.5	5.9	0.3	0.3	3.9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	319	59	35	235	30	79	318	140	32	147	76
Future Volume (veh/h)	280	319	59	35	235	30	79	318	140	32	147	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	295	336	62	37	247	32	83	335	147	34	155	80
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	366	580	107	55	330	43	102	523	225	49	345	293
Arrive On Green	0.21	0.39	0.39	0.03	0.21	0.21	0.06	0.22	0.22	0.03	0.19	0.19
Sat Flow, veh/h	1714	1478	273	1714	1561	202	1619	2327	1002	1619	1800	1525
Grp Volume(v), veh/h	295	0	398	37	0	279	83	244	238	34	155	80
Grp Sat Flow(s),veh/h/ln	1714	0	1751	1714	0	1764	1619	1710	1620	1619	1800	1525
Q Serve(g_s), s	8.2	0.0	8.9	1.1	0.0	7.4	2.5	6.5	6.7	1.0	3.8	2.2
Cycle Q Clear(g_c), s	8.2	0.0	8.9	1.1	0.0	7.4	2.5	6.5	6.7	1.0	3.8	2.2
Prop In Lane	1.00		0.16	1.00		0.11	1.00		0.62	1.00		1.00
Lane Grp Cap(c), veh/h	366	0	688	55	0	373	102	384	364	49	345	293
V/C Ratio(X)	0.81	0.00	0.58	0.67	0.00	0.75	0.81	0.64	0.65	0.70	0.45	0.27
Avail Cap(c_a), veh/h	755	0	1297	206	0	742	324	856	811	195	757	642
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.7	0.0	11.9	23.9	0.0	18.4	23.1	17.5	17.6	24.0	17.8	17.2
Incr Delay (d2), s/veh	4.2	0.0	0.8	13.2	0.0	3.0	14.3	1.8	2.0	16.4	0.9	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	2.9	0.6	0.0	2.9	1.3	2.4	2.3	0.6	1.5	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	0.0	12.7	37.1	0.0	21.5	37.4	19.3	19.6	40.4	18.8	17.7
LnGrp LOS	C	A	B	D	A	C	D	B	B	D	B	B
Approach Vol, veh/h		693			316			565			269	
Approach Delay, s/veh		17.0			23.3			22.1			21.2	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.5	15.2	5.6	23.6	7.1	13.6	14.7	14.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	25.0	6.0	37.0	10.0	21.0	22.0	21.0
Max Q Clear Time (g_c+I1), s	3.0	8.7	3.1	10.9	4.5	5.8	10.2	9.4
Green Ext Time (p_c), s	0.0	2.6	0.0	2.5	0.1	0.9	0.7	1.2

Intersection Summary	
HCM 6th Ctrl Delay	20.3
HCM 6th LOS	C

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : JOHNSON RD
N/S STREET : DALE EVANS PKWY
CONDITION : PM PEAK HOUR

INTERSECTION : 4
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	2		4		6		8	10	12	14	16	18
JOHNSON RD												
EB LEFT	3	1	4	46	50	46	50	96	14	60	60	106
EB THRU	106	7	113	46	159	46	159	205.00	142	188.00	188	234.00
EB RIGHT	24	2	26	0	26	0	26	26.00	104	104	104	104
WB LEFT	27	2	29	23	52	62	91	114	17	40	79	102
WB THRU	191	12	203	118	321	117	320	438	227	345	344	462
WB RIGHT	19	2	21	0	21	0	21	21	12	12	12	12
DALE EVANS PKWY												
NB LEFT	16	1	17	0	17	0	17	17	71	71	71	71
NB THRU	88	6	94	15	109	0	94	109	204	219	204	219
NB RIGHT	48	3	51	15	66	29	80	95	34	49	63	78
SB LEFT	51	4	55	0	55	0	55	55	38	38	38	38
SB THRU	171	11	182	53	235	13	195	248	402	455	415	468
SB RIGHT	0	0	0	118	118	117	117	235	0	118	117	235
TOTALS	**744**	**51**	**795**	**434**	**1229**	**430**	**1225**	**1659**	**1265**	**1699**	**1695**	**2129**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : JOHNSON RD
CONDITION : PM PEAK HOUR
N/S STREET : DALE EVANS PKWY
PHF : 0.86

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	29	12	0	0	0	0	0	0	0	0	0
0	50	13	0	0	1	0	0	1	0	0	0
0	40	8	0	0	0	0	0	1	0	0	2
0	50	6	0	1	0	0	0	0	0	0	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
15	17	2	0	0	0	0	0	0	0	1	0
11	24	5	0	0	0	0	0	0	0	1	0
14	9	3	0	0	0	0	0	0	0	2	0
8	26	6	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
7	45	10	0	0	0	0	0	0	0	0	0
5	48	8	0	0	0	0	0	0	0	2	0
4	44	5	0	0	0	0	0	0	0	0	0
3	45	4	0	0	0	0	0	0	0	1	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
3	26	2	0	0	0	0	0	0	0	0	0
6	30	1	0	1	0	0	0	0	1	0	0
5	28	0	0	0	0	0	0	0	0	1	0
7	14	0	0	0	0	0	0	0	0	1	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
JOHNSON RD					
EB LEFT	0	3	**3**	**3**	**3**
EB THRU	3	98	**101**	**106**	**106**
EB RIGHT	1	21	**22**	**24**	**24**
WB LEFT	0	27	**27**	**27**	**27**
WB THRU	3	182	**185**	**191**	**191**
WB RIGHT	0	19	**19**	**19**	**19**
DALE EVANS PKWY					
NB LEFT	0	16	**16**	**16**	**16**
NB THRU	4	76	**80**	**88**	**88**
NB RIGHT	0	48	**48**	**48**	**48**
SB LEFT	5	39	**44**	**51**	**51**
SB THRU	1	169	**170**	**171**	**171**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	106	24	27	191	19	16	88	48	51	171	0
Future Vol, veh/h	3	106	24	27	191	19	16	88	48	51	171	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	123	28	31	222	22	19	102	56	59	199	0
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	11.9	14	10.5	12.4
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	2%	12%	0%	100%	0%
Vol Thru, %	0%	100%	0%	80%	88%	0%	0%	100%
Vol Right, %	0%	0%	100%	18%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	16	88	48	133	218	19	51	171
LT Vol	16	0	0	3	27	0	51	0
Through Vol	0	88	0	106	191	0	0	171
RT Vol	0	0	48	24	0	19	0	0
Lane Flow Rate	19	102	56	155	253	22	59	199
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.037	0.191	0.093	0.282	0.454	0.035	0.116	0.36
Departure Headway (Hd)	7.235	6.726	6.013	6.576	6.449	5.68	7.02	6.51
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	493	531	592	543	555	627	509	551
Service Time	5.012	4.503	3.79	4.352	4.216	3.447	4.79	4.28
HCM Lane V/C Ratio	0.039	0.192	0.095	0.285	0.456	0.035	0.116	0.361
HCM Control Delay	10.3	11.1	9.4	11.9	14.5	8.7	10.7	12.9
HCM Lane LOS	B	B	A	B	B	A	B	B
HCM 95th-tile Q	0.1	0.7	0.3	1.2	2.3	0.1	0.4	1.6

Intersection	
Intersection Delay, s/veh	13.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	113	26	29	203	21	17	94	51	55	182	0
Future Vol, veh/h	4	113	26	29	203	21	17	94	51	55	182	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	131	30	34	236	24	20	109	59	64	212	0
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	12.6	15.2	10.9	13.2
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	3%	12%	0%	100%	0%
Vol Thru, %	0%	100%	0%	79%	88%	0%	0%	100%
Vol Right, %	0%	0%	100%	18%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	94	51	143	232	21	55	182
LT Vol	17	0	0	4	29	0	55	0
Through Vol	0	94	0	113	203	0	0	182
RT Vol	0	0	51	26	0	21	0	0
Lane Flow Rate	20	109	59	166	270	24	64	212
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.041	0.21	0.102	0.312	0.496	0.04	0.128	0.393
Departure Headway (Hd)	7.433	6.923	6.209	6.765	6.614	5.844	7.199	6.688
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	478	515	572	527	542	608	495	533
Service Time	5.231	4.721	4.006	4.563	4.4	3.63	4.99	4.479
HCM Lane V/C Ratio	0.042	0.212	0.103	0.315	0.498	0.039	0.129	0.398
HCM Control Delay	10.6	11.6	9.7	12.6	15.8	8.9	11.1	13.8
HCM Lane LOS	B	B	A	B	C	A	B	B
HCM 95th-tile Q	0.1	0.8	0.3	1.3	2.7	0.1	0.4	1.9

Intersection	
Intersection Delay, s/veh	53.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	159	26	52	321	21	17	109	66	55	235	118
Future Vol, veh/h	50	159	26	52	321	21	17	109	66	55	235	118
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	58	185	30	60	373	24	20	127	77	64	273	137
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	30.7	83.8	15.9	54.9
HCM LOS	D	F	C	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	21%	14%	0%	100%	0%
Vol Thru, %	0%	100%	0%	68%	86%	0%	0%	67%
Vol Right, %	0%	0%	100%	11%	0%	100%	0%	33%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	109	66	235	373	21	55	353
LT Vol	17	0	0	50	52	0	55	0
Through Vol	0	109	0	159	321	0	0	235
RT Vol	0	0	66	26	0	21	0	118
Lane Flow Rate	20	127	77	273	434	24	64	410
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.055	0.333	0.186	0.691	1.049	0.054	0.16	0.946
Departure Headway (Hd)	10.384	9.859	9.124	9.417	8.704	7.911	9.468	8.698
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	347	368	396	385	416	450	381	419
Service Time	8.084	7.559	6.824	7.117	6.499	5.705	7.168	6.398
HCM Lane V/C Ratio	0.058	0.345	0.194	0.709	1.043	0.053	0.168	0.979
HCM Control Delay	13.7	17.4	13.9	30.7	87.9	11.2	14	61.3
HCM Lane LOS	B	C	B	D	F	B	B	F
HCM 95th-tile Q	0.2	1.4	0.7	5	14	0.2	0.6	10.8

Intersection	
Intersection Delay, s/veh	58
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	159	26	91	320	21	17	94	80	55	195	117
Future Vol, veh/h	50	159	26	91	320	21	17	94	80	55	195	117
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	58	185	30	106	372	24	20	109	93	64	227	136
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	29.4	109.4	15.2	38.2
HCM LOS	D	F	C	E

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	21%	22%	0%	100%	0%
Vol Thru, %	0%	100%	0%	68%	78%	0%	0%	62%
Vol Right, %	0%	0%	100%	11%	0%	100%	0%	38%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	94	80	235	411	21	55	312
LT Vol	17	0	0	50	91	0	55	0
Through Vol	0	94	0	159	320	0	0	195
RT Vol	0	0	80	26	0	21	0	117
Lane Flow Rate	20	109	93	273	478	24	64	363
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.053	0.28	0.222	0.677	1.135	0.052	0.161	0.833
Departure Headway (Hd)	10.329	9.804	9.069	9.311	8.548	7.714	9.57	8.769
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	349	368	398	391	425	466	377	417
Service Time	8.029	7.504	6.769	7.011	6.271	5.437	7.27	6.469
HCM Lane V/C Ratio	0.057	0.296	0.234	0.698	1.125	0.052	0.17	0.871
HCM Control Delay	13.6	16.3	14.3	29.4	114.4	10.9	14.1	42.4
HCM Lane LOS	B	C	B	D	F	B	B	E
HCM 95th-tile Q	0.2	1.1	0.8	4.8	17.4	0.2	0.6	7.8

Intersection	
Intersection Delay, s/veh	24.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	159	26	91	320	21	17	94	80	55	195	117
Future Vol, veh/h	50	159	26	91	320	21	17	94	80	55	195	117
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	58	185	30	106	372	24	20	109	93	64	227	136
Number of Lanes	1	1	0	1	1	0	1	2	0	1	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	2	2
HCM Control Delay	18.5	38.7	14.5	17.3
HCM LOS	C	E	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	28%	0%	86%	0%	94%	0%	100%	0%
Vol Right, %	0%	0%	72%	0%	14%	0%	6%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	63	111	50	185	91	341	55	195	117
LT Vol	17	0	0	50	0	91	0	55	0	0
Through Vol	0	63	31	0	159	0	320	0	195	0
RT Vol	0	0	80	0	26	0	21	0	0	117
Lane Flow Rate	20	73	129	58	215	106	397	64	227	136
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.053	0.184	0.308	0.147	0.508	0.249	0.876	0.16	0.533	0.293
Departure Headway (Hd)	9.61	9.089	8.566	9.117	8.509	8.461	7.954	8.984	8.467	7.742
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	372	394	419	393	424	425	460	399	426	464
Service Time	7.374	6.853	6.329	6.877	6.268	6.204	5.654	6.739	6.221	5.496
HCM Lane V/C Ratio	0.054	0.185	0.308	0.148	0.507	0.249	0.863	0.16	0.533	0.293
HCM Control Delay	12.9	13.9	15.1	13.5	19.8	14	45.3	13.5	20.5	13.7
HCM Lane LOS	B	B	C	B	C	B	E	B	C	B
HCM 95th-tile Q	0.2	0.7	1.3	0.5	2.8	1	9.2	0.6	3	1.2

Intersection	
Intersection Delay, s/veh	204.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	96	205	26	114	438	21	17	109	95	55	248	235
Future Vol, veh/h	96	205	26	114	438	21	17	109	95	55	248	235
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	112	238	30	133	509	24	20	127	110	64	288	273
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	88	340.1	20.9	205.4
HCM LOS	F	F	C	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	29%	21%	0%	100%	0%
Vol Thru, %	0%	100%	0%	63%	79%	0%	0%	51%
Vol Right, %	0%	0%	100%	8%	0%	100%	0%	49%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	109	95	327	552	21	55	483
LT Vol	17	0	0	96	114	0	55	0
Through Vol	0	109	0	205	438	0	0	248
RT Vol	0	0	95	26	0	21	0	235
Lane Flow Rate	20	127	110	380	642	24	64	562
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.059	0.358	0.29	1.001	1.701	0.059	0.175	1.405
Departure Headway (Hd)	13.386	12.846	12.091	11.893	10.544	9.7	11.507	10.603
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	269	283	299	308	353	371	314	348
Service Time	11.086	10.546	9.791	9.593	8.244	7.4	9.207	8.303
HCM Lane V/C Ratio	0.074	0.449	0.368	1.234	1.819	0.065	0.204	1.615
HCM Control Delay	16.9	22.5	19.7	88	352.5	13	16.6	226.9
HCM Lane LOS	C	C	C	F	F	B	C	F
HCM 95th-tile Q	0.2	1.6	1.2	10.7	36	0.2	0.6	24.5

Intersection	
Intersection Delay, s/veh	58.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	142	104	17	227	12	71	204	34	38	402	0
Future Vol, veh/h	14	142	104	17	227	12	71	204	34	38	402	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	16	165	121	20	264	14	83	237	40	44	467	0
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	35.4	33.6	21.9	112.6
HCM LOS	E	D	C	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	5%	7%	0%	100%	0%
Vol Thru, %	0%	100%	0%	55%	93%	0%	0%	100%
Vol Right, %	0%	0%	100%	40%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	71	204	34	260	244	12	38	402
LT Vol	71	0	0	14	17	0	38	0
Through Vol	0	204	0	142	227	0	0	402
RT Vol	0	0	34	104	0	12	0	0
Lane Flow Rate	83	237	40	302	284	14	44	467
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.22	0.6	0.092	0.748	0.729	0.033	0.115	1.152
Departure Headway (Hd)	10.136	9.612	8.879	9.429	9.786	9.019	9.396	8.873
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	357	377	406	387	372	399	381	411
Service Time	7.836	7.312	6.579	7.129	7.486	6.719	7.165	6.641
HCM Lane V/C Ratio	0.232	0.629	0.099	0.78	0.763	0.035	0.115	1.136
HCM Control Delay	15.7	25.7	12.5	35.4	34.7	12	13.4	122
HCM Lane LOS	C	D	B	E	D	B	B	F
HCM 95th-tile Q	0.8	3.7	0.3	6	5.6	0.1	0.4	17.6

Intersection	
Intersection Delay, s/veh	208.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	188	104	40	345	12	71	219	49	38	455	118
Future Vol, veh/h	60	188	104	40	345	12	71	219	49	38	455	118
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	70	219	121	47	401	14	83	255	57	44	529	137
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	127.1	168	34.4	379.2
HCM LOS	F	F	D	F

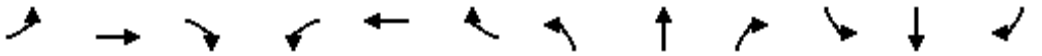
Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	17%	10%	0%	100%	0%
Vol Thru, %	0%	100%	0%	53%	90%	0%	0%	79%
Vol Right, %	0%	0%	100%	30%	0%	100%	0%	21%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	71	219	49	352	385	12	38	573
LT Vol	71	0	0	60	40	0	38	0
Through Vol	0	219	0	188	345	0	0	455
RT Vol	0	0	49	104	0	12	0	118
Lane Flow Rate	83	255	57	409	448	14	44	666
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.244	0.718	0.15	1.125	1.253	0.036	0.128	1.815
Departure Headway (Hd)	13.482	12.942	12.185	12.359	12.308	11.503	11.643	10.949
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	268	283	296	299	300	313	310	340
Service Time	11.182	10.642	9.885	10.059	10.008	9.203	9.343	8.649
HCM Lane V/C Ratio	0.31	0.901	0.193	1.368	1.493	0.045	0.142	1.959
HCM Control Delay	20.5	42.8	17	127.1	172.8	14.6	16	403.3
HCM Lane LOS	C	E	C	F	F	B	C	F
HCM 95th-tile Q	0.9	5	0.5	13.6	17.2	0.1	0.4	39.2

Intersection	
Intersection Delay, s/veh	192.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	188	104	79	344	12	71	204	63	38	415	117
Future Vol, veh/h	60	188	104	79	344	12	71	204	63	38	415	117
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	70	219	121	92	400	14	83	237	73	44	483	136
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	122.5	210.8	30.6	317.2
HCM LOS	F	F	D	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	17%	19%	0%	100%	0%
Vol Thru, %	0%	100%	0%	53%	81%	0%	0%	78%
Vol Right, %	0%	0%	100%	30%	0%	100%	0%	22%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	71	204	63	352	423	12	38	532
LT Vol	71	0	0	60	79	0	38	0
Through Vol	0	204	0	188	344	0	0	415
RT Vol	0	0	63	104	0	12	0	117
Lane Flow Rate	83	237	73	409	492	14	44	619
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.244	0.669	0.192	1.112	1.367	0.036	0.127	1.665
Departure Headway (Hd)	13.403	12.863	12.107	12.27	11.975	11.128	11.813	11.108
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	270	282	298	299	310	324	305	334
Service Time	11.103	10.563	9.807	9.97	9.675	8.828	9.513	8.808
HCM Lane V/C Ratio	0.307	0.84	0.245	1.368	1.587	0.043	0.144	1.853
HCM Control Delay	20.4	38.1	17.7	122.5	216.4	14.2	16.2	338.7
HCM Lane LOS	C	E	C	F	F	B	C	F
HCM 95th-tile Q	0.9	4.4	0.7	13.3	21.1	0.1	0.4	33.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	188	104	79	344	12	71	204	63	38	415	117
Future Volume (veh/h)	60	188	104	79	344	12	71	204	63	38	415	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	70	219	121	92	400	14	83	237	73	44	483	136
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	85	297	164	114	501	18	102	933	280	56	596	586
Arrive On Green	0.05	0.27	0.27	0.07	0.29	0.29	0.06	0.36	0.36	0.03	0.33	0.33
Sat Flow, veh/h	1619	1090	602	1619	1729	61	1619	2591	779	1619	1800	1525
Grp Volume(v), veh/h	70	0	340	92	0	414	83	154	156	44	483	136
Grp Sat Flow(s),veh/h/ln	1619	0	1692	1619	0	1789	1619	1710	1660	1619	1800	1525
Q Serve(g_s), s	2.6	0.0	11.1	3.4	0.0	13.0	3.1	3.9	4.0	1.6	14.9	3.7
Cycle Q Clear(g_c), s	2.6	0.0	11.1	3.4	0.0	13.0	3.1	3.9	4.0	1.6	14.9	3.7
Prop In Lane	1.00		0.36	1.00		0.03	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	85	0	461	114	0	519	102	615	597	56	596	586
V/C Ratio(X)	0.82	0.00	0.74	0.81	0.00	0.80	0.81	0.25	0.26	0.79	0.81	0.23
Avail Cap(c_a), veh/h	160	0	1084	160	0	1147	160	899	873	186	976	908
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.5	0.0	20.2	27.9	0.0	20.0	28.1	13.7	13.8	29.2	18.6	12.7
Incr Delay (d2), s/veh	17.2	0.0	2.3	18.5	0.0	2.9	15.8	0.2	0.2	21.2	2.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	4.3	1.8	0.0	5.3	1.6	1.4	1.4	0.9	6.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.8	0.0	22.5	46.4	0.0	22.8	44.0	13.9	14.0	50.3	21.3	12.9
LnGrp LOS	D	A	C	D	A	C	D	B	B	D	C	B
Approach Vol, veh/h		410			506			393			663	
Approach Delay, s/veh		26.5			27.1			20.3			21.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.1	25.9	8.3	20.6	7.8	24.2	7.2	21.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	7.0	32.0	6.0	39.0	6.0	33.0	6.0	39.0
Max Q Clear Time (g_c+I1), s	3.6	6.0	5.4	13.1	5.1	16.9	4.6	15.0
Green Ext Time (p_c), s	0.0	1.9	0.0	2.2	0.0	3.2	0.0	2.6

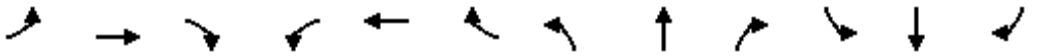
Intersection Summary		
HCM 6th Ctrl Delay		23.7
HCM 6th LOS		C

Intersection	
Intersection Delay, s/veh	370.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	106	234	104	102	462	12	71	219	78	38	468	235
Future Vol, veh/h	106	234	104	102	462	12	71	219	78	38	468	235
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	123	272	121	119	537	14	83	255	91	44	544	273
Number of Lanes	0	1	0	0	1	1	1	1	1	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	3	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	2	2	1
HCM Control Delay	257.7	423.8	40.5	561.3
HCM LOS	F	F	E	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	24%	18%	0%	100%	0%
Vol Thru, %	0%	100%	0%	53%	82%	0%	0%	67%
Vol Right, %	0%	0%	100%	23%	0%	100%	0%	33%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	71	219	78	444	564	12	38	703
LT Vol	71	0	0	106	102	0	38	0
Through Vol	0	219	0	234	462	0	0	468
RT Vol	0	0	78	104	0	12	0	235
Lane Flow Rate	83	255	91	516	656	14	44	817
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.244	0.716	0.237	1.443	1.86	0.037	0.129	2.228
Departure Headway (Hd)	16.899	16.348	15.575	15.011	14.186	13.323	13.689	12.881
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	215	224	232	248	262	270	264	294
Service Time	14.599	14.048	13.275	12.711	11.886	11.023	11.389	10.581
HCM Lane V/C Ratio	0.386	1.138	0.392	2.081	2.504	0.052	0.167	2.779
HCM Control Delay	25	51.8	23	257.7	432.5	16.5	18.4	590.6
HCM Lane LOS	C	F	C	F	F	C	C	F
HCM 95th-tile Q	0.9	4.7	0.9	19.8	32.7	0.1	0.4	47.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	234	104	102	462	12	71	219	78	38	468	235
Future Volume (veh/h)	106	234	104	102	462	12	71	219	78	38	468	235
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	123	272	121	119	537	14	83	255	91	44	544	273
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	141	383	171	148	574	15	103	914	318	53	606	513
Arrive On Green	0.08	0.32	0.32	0.09	0.33	0.33	0.06	0.37	0.37	0.03	0.34	0.34
Sat Flow, veh/h	1714	1180	525	1714	1746	46	1619	2488	866	1619	1800	1525
Grp Volume(v), veh/h	123	0	393	119	0	551	83	173	173	44	544	273
Grp Sat Flow(s),veh/h/ln	1714	0	1705	1714	0	1792	1619	1710	1644	1619	1800	1525
Q Serve(g_s), s	6.0	0.0	17.2	5.8	0.0	25.3	4.3	6.1	6.3	2.3	24.4	12.3
Cycle Q Clear(g_c), s	6.0	0.0	17.2	5.8	0.0	25.3	4.3	6.1	6.3	2.3	24.4	12.3
Prop In Lane	1.00		0.31	1.00		0.03	1.00		0.53	1.00		1.00
Lane Grp Cap(c), veh/h	141	0	554	148	0	589	103	628	604	53	606	513
V/C Ratio(X)	0.87	0.00	0.71	0.80	0.00	0.94	0.81	0.28	0.29	0.83	0.90	0.53
Avail Cap(c_a), veh/h	141	0	554	182	0	612	114	628	604	134	679	575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	0.0	25.1	38.1	0.0	27.6	39.2	18.9	19.0	40.8	26.8	22.7
Incr Delay (d2), s/veh	40.2	0.0	4.2	18.7	0.0	21.5	30.5	0.2	0.3	26.5	13.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	7.2	3.1	0.0	13.6	2.5	2.3	2.3	1.3	12.1	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.7	0.0	29.3	56.7	0.0	49.1	69.7	19.1	19.2	67.3	40.6	23.6
LnGrp LOS	E	A	C	E	A	D	E	B	B	E	D	C
Approach Vol, veh/h		516			670			429			861	
Approach Delay, s/veh		41.1			50.4			28.9			36.6	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.8	35.2	11.3	31.6	9.4	32.6	11.0	31.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	7.0	31.0	9.0	27.0	6.0	32.0	7.0	29.0
Max Q Clear Time (g_c+I1), s	4.3	8.3	7.8	19.2	6.3	26.4	8.0	27.3
Green Ext Time (p_c), s	0.0	1.9	0.0	1.4	0.0	2.2	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	39.9
HCM 6th LOS	D

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

Intersection No.: 4
North/South Street: DALE EVANS PKWY
East/West Street: JOHNSON RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Rounded Volume**
South leg	Left	8	Approach	363	Left	79	79
NB	Through	67	Departure	191	Through	276	277
	Right	21			Right	18	18
North leg	Left	27	Approach	171	Left	32	32
SB	Through	46	Departure	335	Through	129	130
	Right	0			Right	0	0
West leg	Left	5	Approach	161	Left	29	29
EB	Through	57	Departure	236	Through	67	68
	Right	21			Right	59	59
East leg	Left	11	Approach	183	Left	3	4
WB	Through	115	Departure	117	Through	157	158
	Right	52			Right	30	30

P.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Rounded Volume**
South leg	Left	16	Approach	302	Left	70	71
NB	Through	88	Departure	521	Through	203	204
	Right	48			Right	34	34
North leg	Left	51	Approach	447	Left	37	38
SB	Through	171	Departure	228	Through	401	402
	Right	0			Right	0	0
West leg	Left	3	Approach	261	Left	13	14
EB	Through	106	Departure	297	Through	141	142
	Right	24			Right	103	104
East leg	Left	27	Approach	249	Left	17	17
WB	Through	191	Departure	212	Through	227	227
	Right	19			Right	12	12

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : JOHNSON RD
N/S STREET : STODDARD WELLS RD
CONDITION : AM PEAK HOUR

INTERSECTION : 5
PROJECTED GROWTH PER YEAR : 3.0%

CONDITION DIAGRAMS

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	1		3		5		7	9	11	13	15	17

JOHNSON RD

EB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0	0	0	0	0
EB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
WB LEFT	140	9	149	77	226	75	224	301	135	212	210	287
WB THRU	0	0	0	0	0	0	0	0	0	0	0	0
WB RIGHT	5	1	6	0	6	0	6	6	120	120	120	120

STODDARD WELLS RD

NB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
NB THRU	14	1	15	0	15	0	15	15	236	236	236	236
NB RIGHT	79	5	84	252	336	250	334	586	151	403	401	653
SB LEFT	1	1	2	0	2	0	2	2	8	8	8	8
SB THRU	50	3	53	0	53	0	53	53	137	137	137	137
SB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**289**	**20**	**309**	**329**	**638**	**325**	**634**	**963**	**787**	**1116**	**1112**	**1441**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : JOHNSON RD
CONDITION : AM PEAK HOUR
N/S STREET : STODDARD WELLS RD
PHF : 0.79

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	12	0	0	0	0	0	0	0	0	0	0
0	15	1	0	0	0	0	0	0	0	0	0
0	11	0	0	0	0	0	0	0	0	0	0
0	10	0	0	0	0	0	1	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
38	8	0	0	0	0	1	0	0	1	0	0
15	0	0	0	0	0	0	0	0	0	0	0
6	1	0	1	0	0	0	0	0	0	0	0
13	3	0	0	0	0	0	1	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
2	0	20	0	0	2	0	0	1	0	0	2
0	0	38	0	0	0	0	0	0	0	0	0
1	0	39	0	0	1	0	0	0	0	0	0
2	0	30	0	0	0	0	0	0	0	0	0

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

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
JOHNSON RD					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	6	127	**133**	**140**	**140**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	0	5	**5**	**5**	**5**
STODDARD WELLS RD					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	1	12	**13**	**14**	**14**
NB RIGHT	3	72	**75**	**79**	**79**
SB LEFT	0	1	**1**	**1**	**1**
SB THRU	1	48	**49**	**50**	**50**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	5.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	140	5	14	79	1	50
Future Vol, veh/h	140	5	14	79	1	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	177	6	18	100	1	63

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	133	68	0	0	118	0
Stage 1	68	-	-	-	-	-
Stage 2	65	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	866	1001	-	-	1483	-
Stage 1	960	-	-	-	-	-
Stage 2	963	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	865	1001	-	-	1483	-
Mov Cap-2 Maneuver	865	-	-	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	962	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	869	1483	-
HCM Lane V/C Ratio	-	-	0.211	0.001	-
HCM Control Delay (s)	-	-	10.2	7.4	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.8	0	-

Intersection	
Int Delay, s/veh	5.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	149	6	15	84	2	53
Future Vol, veh/h	149	6	15	84	2	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	189	8	19	106	3	67

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	145	72	0	0	125	0
Stage 1	72	-	-	-	-	-
Stage 2	73	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	852	996	-	-	1474	-
Stage 1	956	-	-	-	-	-
Stage 2	955	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	850	996	-	-	1474	-
Mov Cap-2 Maneuver	850	-	-	-	-	-
Stage 1	956	-	-	-	-	-
Stage 2	953	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	855	1474	-
HCM Lane V/C Ratio	-	-	0.229	0.002	-
HCM Control Delay (s)	-	-	10.5	7.4	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0	-

Intersection	
Int Delay, s/veh	5.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	226	6	15	336	2	53
Future Vol, veh/h	226	6	15	336	2	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	286	8	19	425	3	67

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	305	232	0	0	444	0
Stage 1	232	-	-	-	-	-
Stage 2	73	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	691	812	-	-	1127	-
Stage 1	811	-	-	-	-	-
Stage 2	955	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	689	812	-	-	1127	-
Mov Cap-2 Maneuver	689	-	-	-	-	-
Stage 1	811	-	-	-	-	-
Stage 2	952	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	692	1127	-
HCM Lane V/C Ratio	-	-	0.424	0.002	-
HCM Control Delay (s)	-	-	14	8.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	2.1	0	-

Intersection	
Int Delay, s/veh	5.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	224	6	15	334	2	53
Future Vol, veh/h	224	6	15	334	2	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	284	8	19	423	3	67

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	304	231	0	0	442	0
Stage 1	231	-	-	-	-	-
Stage 2	73	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	692	813	-	-	1129	-
Stage 1	812	-	-	-	-	-
Stage 2	955	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	690	813	-	-	1129	-
Mov Cap-2 Maneuver	690	-	-	-	-	-
Stage 1	812	-	-	-	-	-
Stage 2	952	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.9	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	693	1129	-
HCM Lane V/C Ratio	-	-	0.42	0.002	-
HCM Control Delay (s)	-	-	13.9	8.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	2.1	0	-

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	224	6	15	334	2	53
Future Vol, veh/h	224	6	15	334	2	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	250	-	250	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	284	8	19	423	3	67

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	92	19	0	0	442	0
Stage 1	19	-	-	-	-	-
Stage 2	73	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	913	1065	-	-	1129	-
Stage 1	1009	-	-	-	-	-
Stage 2	955	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	910	1065	-	-	1129	-
Mov Cap-2 Maneuver	910	-	-	-	-	-
Stage 1	1009	-	-	-	-	-
Stage 2	952	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	910	1065	1129	-
HCM Lane V/C Ratio	-	-	0.312	0.007	0.002	-
HCM Control Delay (s)	-	-	10.7	8.4	8.2	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	1.3	0	0	-

Intersection	
Int Delay, s/veh	7.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	301	6	15	586	2	53
Future Vol, veh/h	301	6	15	586	2	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	381	8	19	742	3	67

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	463	390	0	0	761	0
Stage 1	390	-	-	-	-	-
Stage 2	73	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	561	663	-	-	860	-
Stage 1	689	-	-	-	-	-
Stage 2	955	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	559	663	-	-	860	-
Mov Cap-2 Maneuver	559	-	-	-	-	-
Stage 1	689	-	-	-	-	-
Stage 2	951	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.6	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	561	860	-
HCM Lane V/C Ratio	-	-	0.693	0.003	-
HCM Control Delay (s)	-	-	24.6	9.2	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	5.4	0	-

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	301	6	15	0	2	53
Future Vol, veh/h	301	6	15	0	2	53
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	381	8	19	0	3	67
Number of Lanes	2	0	1	1	0	2

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	10.3	8.5	8.6
HCM LOS	B	A	A

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	94%	10%	0%
Vol Thru, %	100%	100%	0%	0%	90%	100%
Vol Right, %	0%	0%	0%	6%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	0	201	106	20	35
LT Vol	0	0	201	100	2	0
Through Vol	15	0	0	0	18	35
RT Vol	0	0	0	6	0	0
Lane Flow Rate	19	0	254	135	25	45
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.03	0	0.371	0.194	0.039	0.069
Departure Headway (Hd)	5.596	5.596	5.263	5.195	5.577	5.526
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	641	0	688	695	644	650
Service Time	3.322	3.322	2.963	2.895	3.298	3.247
HCM Lane V/C Ratio	0.03	0	0.369	0.194	0.039	0.069
HCM Control Delay	8.5	8.3	11	9.1	8.5	8.7
HCM Lane LOS	A	N	B	A	A	A
HCM 95th-tile Q	0.1	0	1.7	0.7	0.1	0.2

Intersection	
Int Delay, s/veh	6.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	135	120	236	151	8	137
Future Vol, veh/h	135	120	236	151	8	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	171	152	299	191	10	173

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	588	395	0	0	490	0
Stage 1	395	-	-	-	-	-
Stage 2	193	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	475	659	-	-	1084	-
Stage 1	685	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	470	659	-	-	1084	-
Mov Cap-2 Maneuver	470	-	-	-	-	-
Stage 1	685	-	-	-	-	-
Stage 2	837	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.9	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	543	1084	-
HCM Lane V/C Ratio	-	-	0.594	0.009	-
HCM Control Delay (s)	-	-	20.9	8.4	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	3.9	0	-

Intersection	
Int Delay, s/veh	22

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	212	120	236	403	8	137
Future Vol, veh/h	212	120	236	403	8	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	268	152	299	510	10	173

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	747	554	0	0	809	0
Stage 1	554	-	-	-	-	-
Stage 2	193	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	383	536	-	-	825	-
Stage 1	580	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	378	536	-	-	825	-
Mov Cap-2 Maneuver	378	-	-	-	-	-
Stage 1	580	-	-	-	-	-
Stage 2	834	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	73.8	0	0.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	423	825	-
HCM Lane V/C Ratio	-	-	0.994	0.012	-
HCM Control Delay (s)	-	-	73.8	9.4	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	12.4	0	-

Intersection	
Int Delay, s/veh	21.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	210	120	236	401	8	137
Future Vol, veh/h	210	120	236	401	8	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	266	152	299	508	10	173

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	746	553	0	0	807	0
Stage 1	553	-	-	-	-	-
Stage 2	193	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	384	537	-	-	827	-
Stage 1	580	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	379	537	-	-	827	-
Mov Cap-2 Maneuver	379	-	-	-	-	-
Stage 1	580	-	-	-	-	-
Stage 2	834	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	71.6	0	0.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	424	827	-
HCM Lane V/C Ratio	-	-	0.985	0.012	-
HCM Control Delay (s)	-	-	71.6	9.4	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	12.1	0	-

Intersection	
Intersection Delay, s/veh	17.9
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	210	120	236	401	8	137
Future Vol, veh/h	210	120	236	401	8	137
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	266	152	299	508	10	173
Number of Lanes	2	1	1	1	0	2

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	3
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	3	0
HCM Control Delay	11.3	22.7	12.2
HCM LOS	B	C	B

Lane	NBLn1	NBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	100%	0%	15%	0%
Vol Thru, %	100%	0%	0%	0%	0%	85%	100%
Vol Right, %	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	236	401	105	105	120	54	91
LT Vol	0	0	105	105	0	8	0
Through Vol	236	0	0	0	0	46	91
RT Vol	0	401	0	0	120	0	0
Lane Flow Rate	299	508	133	133	152	68	116
Geometry Grp	8	8	7	7	7	8	8
Degree of Util (X)	0.526	0.794	0.274	0.274	0.189	0.142	0.24
Departure Headway (Hd)	6.336	5.628	7.414	7.414	4.474	7.546	7.47
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	568	640	484	484	796	473	477
Service Time	4.095	3.387	5.178	5.178	2.237	5.335	5.259
HCM Lane V/C Ratio	0.526	0.794	0.275	0.275	0.191	0.144	0.243
HCM Control Delay	16	26.7	13	13	8.3	11.6	12.6
HCM Lane LOS	C	D	B	B	A	B	B
HCM 95th-tile Q	3.1	7.8	1.1	1.1	0.7	0.5	0.9

Intersection	
Int Delay, s/veh	81.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	287	120	236	653	8	137
Future Vol, veh/h	287	120	236	653	8	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	363	152	299	827	10	173

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	906	713	0	0	1126	0
Stage 1	713	-	-	-	-	-
Stage 2	193	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 309	435	-	-	628	-
Stage 1	489	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 303	435	-	-	628	-
Mov Cap-2 Maneuver	~ 303	-	-	-	-	-
Stage 1	489	-	-	-	-	-
Stage 2	830	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	289.5	0	0.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	333	628	-
HCM Lane V/C Ratio	-	-	1.547	0.016	-
HCM Control Delay (s)	-	-	289.5	10.8	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	29.4	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	287	120	236	0	8	137
Future Vol, veh/h	287	120	236	0	8	137
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	363	152	299	0	10	173
Number of Lanes	2	1	1	1	1	2

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	3	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	3
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	3	3	0
HCM Control Delay	10.6	15.9	9.6
HCM LOS	B	C	A

Lane	NBLn1	NBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	0%	100%	100%	0%	100%	0%	0%
Vol Thru, %	100%	100%	0%	0%	0%	0%	100%	100%
Vol Right, %	0%	0%	0%	0%	100%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	236	0	144	144	120	8	69	69
LT Vol	0	0	144	144	0	8	0	0
Through Vol	236	0	0	0	0	0	69	69
RT Vol	0	0	0	0	120	0	0	0
Lane Flow Rate	299	0	182	182	152	10	87	87
Geometry Grp	8	8	7	7	7	8	8	8
Degree of Util (X)	0.526	0	0.323	0.323	0.147	0.02	0.161	0.12
Departure Headway (Hd)	6.336	6.336	6.409	6.409	3.492	7.205	6.698	4.973
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	571	0	561	561	1022	497	535	719
Service Time	4.074	4.074	4.146	4.146	1.228	4.953	4.446	2.72
HCM Lane V/C Ratio	0.524	0	0.324	0.324	0.149	0.02	0.163	0.121
HCM Control Delay	15.9	9.1	12.2	12.2	6.8	10.1	10.7	8.4
HCM Lane LOS	C	N	B	B	A	B	B	A
HCM 95th-tile Q	3.1	0	1.4	1.4	0.5	0.1	0.6	0.4



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	287	120	236	653	8	137
Future Volume (veh/h)	287	120	236	653	8	137
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1700	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	363	152	299	827	10	173
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	436	411	1077	913	382	1077
Arrive On Green	0.27	0.27	0.60	0.60	0.60	0.60
Sat Flow, veh/h	1619	1525	1800	1525	508	1800
Grp Volume(v), veh/h	363	152	299	827	10	173
Grp Sat Flow(s),veh/h/ln	1619	1525	1800	1525	508	1800
Q Serve(g_s), s	12.8	4.9	4.8	28.8	0.6	2.6
Cycle Q Clear(g_c), s	12.8	4.9	4.8	28.8	5.4	2.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	436	411	1077	913	382	1077
V/C Ratio(X)	0.83	0.37	0.28	0.91	0.03	0.16
Avail Cap(c_a), veh/h	857	807	1488	1261	499	1488
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	17.9	5.8	10.6	7.2	5.4
Incr Delay (d2), s/veh	4.2	0.6	0.1	7.4	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	1.6	1.3	8.5	0.1	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.0	18.5	6.0	18.1	7.2	5.5
LnGrp LOS	C	B	A	B	A	A
Approach Vol, veh/h	515		1126			183
Approach Delay, s/veh	23.1		14.9			5.6
Approach LOS	C		B			A

Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		40.2			40.2	20.3
Change Period (Y+Rc), s		4.0			4.0	4.0
Max Green Setting (Gmax), s		50.0			50.0	32.0
Max Q Clear Time (g_c+I1), s		30.8			7.4	14.8
Green Ext Time (p_c), s		5.4			1.1	1.5

Intersection Summary	
HCM 6th Ctrl Delay	16.3
HCM 6th LOS	B

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : JOHNSON RD
N/S STREET : STODDARD WELLS RD
CONDITION : PM PEAK HOUR

INTERSECTION : 5
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	2		4		6		8	10	12	14	16	18
JOHNSON RD												
EB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0.00	0	0.00	0	0.00
EB RIGHT	0	0	0	0	0	0	0	0.00	0	0	0	0
WB LEFT	254	16	270	236	506	233	503	739	263	499	496	732
WB THRU	0	0	0	0	0	0	0	0	0	0	0	0
WB RIGHT	24	2	26	0	26	0	26	26	105	105	105	105
STODDARD WELLS RD												
NB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
NB THRU	20	2	22	0	22	0	22	22	156	156	156	156
NB RIGHT	54	4	58	92	150	91	149	241	105	197	196	288
SB LEFT	31	2	33	0	33	0	33	33	109	109	109	109
SB THRU	115	7	122	0	122	0	122	122	386	386	386	386
SB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**498**	**33**	**531**	**328**	**859**	**324**	**855**	**1183**	**1124**	**1452**	**1448**	**1776**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : JOHNSON RD
CONDITION : PM PEAK HOUR
N/S STREET : STODDARD WELLS RD
PHF : 0.81

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	32	6	0	0	0	0	0	0	0	0	0
0	25	6	0	0	0	0	0	0	0	0	0
0	28	8	0	0	0	0	0	0	0	0	0
0	30	11	0	0	0	0	0	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
16	5	0	0	0	0	0	0	0	0	0	0
15	7	0	0	0	0	0	0	0	0	0	0
8	4	0	0	0	0	0	0	0	2	0	0
9	4	0	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
6	0	78	0	0	1	0	0	0	0	0	5
5	0	34	0	0	0	0	0	0	0	0	0
9	0	64	0	0	0	0	0	0	0	0	0
4	0	61	0	0	0	0	0	0	0	0	0

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

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
JOHNSON RD					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	6	237	**243**	**254**	**254**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	0	24	**24**	**24**	**24**
STODDARD WELLS RD					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	0	20	**20**	**20**	**20**
NB RIGHT	2	48	**50**	**54**	**54**
SB LEFT	0	31	**31**	**31**	**31**
SB THRU	0	115	**115**	**115**	**115**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	8.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	254	24	20	54	31	115
Future Vol, veh/h	254	24	20	54	31	115
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	314	30	25	67	38	142

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	277	59	0	0	92	0
Stage 1	59	-	-	-	-	-
Stage 2	218	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	717	1012	-	-	1515	-
Stage 1	969	-	-	-	-	-
Stage 2	823	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	698	1012	-	-	1515	-
Mov Cap-2 Maneuver	698	-	-	-	-	-
Stage 1	969	-	-	-	-	-
Stage 2	801	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.5	0	1.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	717	1515	-
HCM Lane V/C Ratio	-	-	0.479	0.025	-
HCM Control Delay (s)	-	-	14.5	7.4	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	2.6	0.1	-

Intersection	
Int Delay, s/veh	9.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	270	26	22	58	33	122
Future Vol, veh/h	270	26	22	58	33	122
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	333	32	27	72	41	151

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	296	63	0	0	99	0
Stage 1	63	-	-	-	-	-
Stage 2	233	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	699	1007	-	-	1507	-
Stage 1	965	-	-	-	-	-
Stage 2	810	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	678	1007	-	-	1507	-
Mov Cap-2 Maneuver	678	-	-	-	-	-
Stage 1	965	-	-	-	-	-
Stage 2	786	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.7	0	1.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	698	1507	-
HCM Lane V/C Ratio	-	-	0.524	0.027	-
HCM Control Delay (s)	-	-	15.7	7.5	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	3.1	0.1	-

Intersection	
Int Delay, s/veh	42.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	506	26	22	150	33	122
Future Vol, veh/h	506	26	22	150	33	122
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	625	32	27	185	41	151

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	353	120	0	0	212	0
Stage 1	120	-	-	-	-	-
Stage 2	233	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	649	937	-	-	1370	-
Stage 1	910	-	-	-	-	-
Stage 2	810	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	628	937	-	-	1370	-
Mov Cap-2 Maneuver	628	-	-	-	-	-
Stage 1	910	-	-	-	-	-
Stage 2	783	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	68.8	0	1.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	638	1370	-
HCM Lane V/C Ratio	-	-	1.029	0.03	-
HCM Control Delay (s)	-	-	68.8	7.7	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	16.9	0.1	-

Intersection	
Int Delay, s/veh	41.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	503	26	22	149	33	122
Future Vol, veh/h	503	26	22	149	33	122
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	621	32	27	184	41	151

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	352	119	0	0	211	0
Stage 1	119	-	-	-	-	-
Stage 2	233	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	650	938	-	-	1372	-
Stage 1	911	-	-	-	-	-
Stage 2	810	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	629	938	-	-	1372	-
Mov Cap-2 Maneuver	629	-	-	-	-	-
Stage 1	911	-	-	-	-	-
Stage 2	783	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	66.7	0	1.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	639	1372	-
HCM Lane V/C Ratio	-	-	1.022	0.03	-
HCM Control Delay (s)	-	-	66.7	7.7	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	16.6	0.1	-

Intersection	
Int Delay, s/veh	21.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	503	26	22	149	33	122
Future Vol, veh/h	503	26	22	149	33	122
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	250	-	250	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	621	32	27	184	41	151

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	260	27	0	0	211	0
Stage 1	27	-	-	-	-	-
Stage 2	233	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	733	1054	-	-	1372	-
Stage 1	1001	-	-	-	-	-
Stage 2	810	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	709	1054	-	-	1372	-
Mov Cap-2 Maneuver	709	-	-	-	-	-
Stage 1	1001	-	-	-	-	-
Stage 2	783	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	33.6	0	1.6
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	709	1054	1372	-
HCM Lane V/C Ratio	-	-	0.876	0.03	0.03	-
HCM Control Delay (s)	-	-	34.9	8.5	7.7	0
HCM Lane LOS	-	-	D	A	A	A
HCM 95th %tile Q(veh)	-	-	10.7	0.1	0.1	-

Intersection	
Int Delay, s/veh	194.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	739	26	22	241	33	122
Future Vol, veh/h	739	26	22	241	33	122
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	912	32	27	298	41	151

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	409	176	0	0	325	0
Stage 1	176	-	-	-	-	-
Stage 2	233	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 602	872	-	-	1246	-
Stage 1	~ 859	-	-	-	-	-
Stage 2	~ 810	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 580	872	-	-	1246	-
Mov Cap-2 Maneuver	~ 580	-	-	-	-	-
Stage 1	~ 859	-	-	-	-	-
Stage 2	~ 781	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 300.5	0	1.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	587	1246	-
HCM Lane V/C Ratio	-	-	1.609	0.033	-
HCM Control Delay (s)	-	-	$ 300.5	8	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	51.6	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	32.4
Intersection LOS	D

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	739	26	22	0	33	122
Future Vol, veh/h	739	26	22	0	33	122
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	912	32	27	0	41	151
Number of Lanes	2	0	1	1	0	2

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	37.3	10.3	11.2
HCM LOS	E	B	B

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	90%	45%	0%
Vol Thru, %	100%	100%	0%	0%	55%	100%
Vol Right, %	0%	0%	0%	10%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	22	0	493	272	74	81
LT Vol	0	0	493	246	33	0
Through Vol	22	0	0	0	41	81
RT Vol	0	0	0	26	0	0
Lane Flow Rate	27	0	608	336	91	100
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.054	0	0.959	0.52	0.179	0.192
Departure Headway (Hd)	7.181	7.181	5.678	5.563	7.095	6.867
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	501	0	633	642	508	526
Service Time	4.886	4.886	3.473	3.358	4.795	4.568
HCM Lane V/C Ratio	0.054	0	0.961	0.523	0.179	0.19
HCM Control Delay	10.3	9.9	50	14.3	11.3	11.2
HCM Lane LOS	B	N	E	B	B	B
HCM 95th-tile Q	0.2	0	13.5	3	0.6	0.7

Intersection	
Int Delay, s/veh	101.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	263	105	156	105	109	386
Future Vol, veh/h	263	105	156	105	109	386
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	325	130	193	130	135	477

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1005	258	0	0	323	0
Stage 1	258	-	-	-	-	-
Stage 2	747	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 270	786	-	-	1248	-
Stage 1	790	-	-	-	-	-
Stage 2	472	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 230	786	-	-	1248	-
Mov Cap-2 Maneuver	~ 230	-	-	-	-	-
Stage 1	790	-	-	-	-	-
Stage 2	403	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 307.9	0	1.8
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	288	1248	-
HCM Lane V/C Ratio	-	-	1.578	0.108	-
HCM Control Delay (s)	-	-	$ 307.9	8.2	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	27.1	0.4	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	412.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	499	105	156	197	109	386
Future Vol, veh/h	499	105	156	197	109	386
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	616	130	193	243	135	477

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1062	315	0	0	436	0
Stage 1	315	-	-	-	-	-
Stage 2	747	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 250	730	-	-	1134	-
Stage 1	744	-	-	-	-	-
Stage 2	~ 472	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 210	730	-	-	1134	-
Mov Cap-2 Maneuver	~ 210	-	-	-	-	-
Stage 1	744	-	-	-	-	-
Stage 2	~ 396	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 989.8	0	1.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	240	1134	-
HCM Lane V/C Ratio	-	-	3.107	0.119	-
HCM Control Delay (s)	-	-	$ 989.8	8.6	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	67.4	0.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	408.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	496	105	156	196	109	386
Future Vol, veh/h	496	105	156	196	109	386
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	612	130	193	242	135	477

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1061	314	0	0	435	0
Stage 1	314	-	-	-	-	-
Stage 2	747	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 250	731	-	-	1135	-
Stage 1	745	-	-	-	-	-
Stage 2	~ 472	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 210	731	-	-	1135	-
Mov Cap-2 Maneuver	~ 210	-	-	-	-	-
Stage 1	745	-	-	-	-	-
Stage 2	~ 396	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 982.9	0	1.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	240	1135	-
HCM Lane V/C Ratio	-	-	3.092	0.119	-
HCM Control Delay (s)	-	-	$ 982.9	8.6	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	66.9	0.4	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	21.9
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	496	105	156	196	109	386
Future Vol, veh/h	496	105	156	196	109	386
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	612	130	193	242	135	477
Number of Lanes	2	1	1	1	0	2

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	25.5	15.8	22.5
HCM LOS	D	C	C

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	100%	46%	0%
Vol Thru, %	100%	0%	0%	0%	54%	100%
Vol Right, %	0%	100%	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	156	196	248	248	238	257
LT Vol	0	0	248	248	109	0
Through Vol	156	0	0	0	129	257
RT Vol	0	196	0	0	0	0
Lane Flow Rate	193	242	306	306	293	318
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.412	0.47	0.674	0.674	0.621	0.651
Departure Headway (Hd)	7.708	6.986	7.92	7.92	7.618	7.382
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	468	515	459	459	475	489
Service Time	5.449	4.727	5.62	5.62	5.356	5.12
HCM Lane V/C Ratio	0.412	0.47	0.667	0.667	0.617	0.65
HCM Control Delay	15.8	15.8	25.5	25.5	22.1	22.9
HCM Lane LOS	C	C	D	D	C	C
HCM 95th-tile Q	2	2.5	4.9	4.9	4.1	4.6

Intersection	
Int Delay, s/veh	857.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	732	105	156	288	109	386
Future Vol, veh/h	732	105	156	288	109	386
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	904	130	193	356	135	477

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1118	371	0	0	549	0
Stage 1	371	-	-	-	-	-
Stage 2	747	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 231	679	-	-	1031	-
Stage 1	~ 702	-	-	-	-	-
Stage 2	~ 472	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 190	679	-	-	1031	-
Mov Cap-2 Maneuver	~ 190	-	-	-	-	-
Stage 1	~ 702	-	-	-	-	-
Stage 2	~ 388	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, $	1818.4	0	2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	209	1031	-
HCM Lane V/C Ratio	-	-	4.944	0.131	-
HCM Control Delay (s)	-	-	$ 1818.4	9	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	106.7	0.4	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Intersection Delay, s/veh	35
Intersection LOS	D

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	732	105	156	0	109	386
Future Vol, veh/h	732	105	156	0	109	386
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	904	130	193	0	135	477
Number of Lanes	2	1	1	1	1	2

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	3	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	3
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	3	3	0
HCM Control Delay	48.8	20.3	16.3
HCM LOS	E	C	C

Lane	NBLn1	NBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	0%	100%	100%	0%	100%	0%	0%
Vol Thru, %	100%	100%	0%	0%	0%	0%	100%	100%
Vol Right, %	0%	0%	0%	0%	100%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	156	0	366	366	105	109	193	193
LT Vol	0	0	366	366	0	109	0	0
Through Vol	156	0	0	0	0	0	193	193
RT Vol	0	0	0	0	105	0	0	0
Lane Flow Rate	193	0	452	452	130	135	238	238
Geometry Grp	8	8	7	7	7	8	8	8
Degree of Util (X)	0.488	0	0.94	0.94	0.164	0.32	0.533	0.418
Departure Headway (Hd)	9.114	9.114	7.488	7.488	4.546	8.556	8.046	6.312
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	395	0	488	488	793	421	448	569
Service Time	6.883	6.883	5.188	5.188	2.246	6.3	5.789	4.055
HCM Lane V/C Ratio	0.489	0	0.926	0.926	0.164	0.321	0.531	0.418
HCM Control Delay	20.3	11.9	54.6	54.6	8.1	15.3	19.6	13.5
HCM Lane LOS	C	N	F	F	A	C	C	B
HCM 95th-tile Q	2.6	0	11.3	11.3	0.6	1.4	3.1	2.1



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	732	105	156	288	109	386
Future Volume (veh/h)	732	105	156	288	109	386
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	904	130	193	356	135	477
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	973	866	569	1348	309	569
Arrive On Green	0.57	0.57	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1714	1525	1800	1525	872	1800
Grp Volume(v), veh/h	904	130	193	356	135	477
Grp Sat Flow(s),veh/h/ln	1714	1525	1800	1525	872	1800
Q Serve(g_s), s	33.2	2.8	5.7	2.4	9.7	17.0
Cycle Q Clear(g_c), s	33.2	2.8	5.7	2.4	15.3	17.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	973	866	569	1348	309	569
V/C Ratio(X)	0.93	0.15	0.34	0.26	0.44	0.84
Avail Cap(c_a), veh/h	1293	1151	784	1530	412	784
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.6	7.0	18.0	0.6	23.9	21.9
Incr Delay (d2), s/veh	9.8	0.1	0.3	0.1	1.0	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.6	0.8	2.2	4.7	1.9	7.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.4	7.1	18.4	0.7	24.9	27.8
LnGrp LOS	C	A	B	A	C	C
Approach Vol, veh/h	1034		549			612
Approach Delay, s/veh	21.4		6.9			27.1
Approach LOS	C		A			C

Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		25.8			25.8	43.1
Change Period (Y+Rc), s		4.0			4.0	4.0
Max Green Setting (Gmax), s		30.0			30.0	52.0
Max Q Clear Time (g_c+I1), s		7.7			19.0	35.2
Green Ext Time (p_c), s		2.3			2.8	3.9

Intersection Summary	
HCM 6th Ctrl Delay	19.4
HCM 6th LOS	B

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

Intersection No.: 5
North/South Street: STODDARD WELLS RD
East/West Street: JOHNSON RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	379	Left	0	0
NB	Through	14	Departure	271	Through	236	236
	Right	79			Right	150	151
North leg	Left	1	Approach	149	Left	8	8
SB	Through	50	Departure	355	Through	136	137
	Right	0			Right	0	0
West leg	Left	0	Approach	0	Left	0	0
EB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
East leg	Left	140	Approach	258	Left	135	135
WB	Through	0	Departure	158	Through	0	0
	Right	5			Right	119	120

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	259	Left	0	0
NB	Through	20	Departure	648	Through	155	156
	Right	54			Right	104	105
North leg	Left	31	Approach	495	Left	109	109
SB	Through	115	Departure	260	Through	385	386
	Right	0			Right	0	0
West leg	Left	0	Approach	0	Left	0	0
EB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
East leg	Left	254	Approach	368	Left	263	263
WB	Through	0	Departure	213	Through	0	0
	Right	24			Right	105	105

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : I-15 NB RAMPS
CONDITION : AM PEAK HOUR

INTERSECTION : 6
PROJECTED GROWTH PER YEAR : 3.0%

CONDITION DIAGRAMS

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	1		3		5		7	9	11	13	15	17
STODDARD WELLS RD												
EB LEFT	299	18	317	0	317	0	317	317	167	167	167	167
EB THRU	85	6	91	61	152	0	91	152	280	341	280	341
EB RIGHT	9	1	10	0	10	0	10	10	2	2	2	2
WB LEFT	1	1	2	0	2	75	77	77	2	2	77	77
WB THRU	131	8	139	77	216	0	139	216	82	159	82	159
WB RIGHT	66	4	70	0	70	0	70	70	243	243	243	243
I-15 NB RAMPS												
NB LEFT	1	1	2	0	2	0	2	2	1	1	1	1
NB THRU	2	1	3	0	3	0	3	3	2	2	2	2
NB RIGHT	1	1	2	0	2	0	2	2	3	3	3	3
SB LEFT	1	1	2	191	193	250	252	443	174	365	424	615
SB THRU	1	1	2	0	2	0	2	2	11	11	11	11
SB RIGHT	46	3	49	0	49	0	49	49	231	231	231	231
TOTALS	**643**	**46**	**689**	**329**	**1018**	**325**	**1014**	**1343**	**1198**	**1527**	**1523**	**1852**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : I-15 NB RAMPS
CONDITION : AM PEAK HOUR
PHF : 0.92

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	1	0	0	0	0	1	0	0	0
15	0	0	1	0	0	0	0	0	0	0	0
18	0	0	0	0	0	1	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0

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

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
5	34	1	0	0	0	1	0	0	1	0	0
10	22	0	2	0	0	1	0	0	1	1	0
15	38	0	0	0	0	0	0	0	0	0	0
20	30	0	1	0	0	0	0	0	0	0	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
2	11	88	0	0	1	0	0	0	0	0	4
5	57	15	0	0	4	0	0	1	0	1	5
2	4	69	0	0	1	0	0	4	0	0	3
0	6	58	0	1	1	0	0	1	0	0	1

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
STODDARD WELLS RD					
EB LEFT	26	230	**256**	**292**	**299**
EB THRU	2	78	**80**	**83**	**85**
EB RIGHT	0	9	**9**	**9**	**9**
WB LEFT	0	1	**1**	**1**	**1**
WB THRU	1	124	**125**	**127**	**131**
WB RIGHT	7	50	**57**	**66**	**66**
I-15 NB RAMPS					
NB LEFT	0	0	**1**	**1**	**1**
NB THRU	0	2	**2**	**2**	**2**
NB RIGHT	0	0	**1**	**1**	**1**
SB LEFT	1	0	**1**	**1**	**1**
SB THRU	0	0	**1**	**1**	**1**
SB RIGHT	3	39	**42**	**44**	**46**

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	299	85	9	1	131	66	1	2	1	1	1	46
Future Vol, veh/h	299	85	9	1	131	66	1	2	1	1	1	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	325	92	10	1	142	72	1	2	1	1	1	50

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	214	0	0	102	0	0	953	963	97	929	932	178
Stage 1	-	-	-	-	-	-	747	747	-	180	180	-
Stage 2	-	-	-	-	-	-	206	216	-	749	752	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1368	-	-	1503	-	-	241	258	965	250	269	870
Stage 1	-	-	-	-	-	-	408	423	-	826	754	-
Stage 2	-	-	-	-	-	-	801	728	-	407	421	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1368	-	-	1503	-	-	182	193	965	199	201	870
Mov Cap-2 Maneuver	-	-	-	-	-	-	182	193	-	199	201	-
Stage 1	-	-	-	-	-	-	305	316	-	618	753	-
Stage 2	-	-	-	-	-	-	753	727	-	302	315	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	6.4	0	20.5	10.1
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	237	1368	-	-	1503	-	-	763
HCM Lane V/C Ratio	0.018	0.238	-	-	0.001	-	-	0.068
HCM Control Delay (s)	20.5	8.4	0	-	7.4	0	-	10.1
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.9	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	317	91	10	2	139	70	2	3	2	2	2	49
Future Vol, veh/h	317	91	10	2	139	70	2	3	2	2	2	49
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	345	99	11	2	151	76	2	3	2	2	2	53

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	227	0	0	110	0	0	1016	1026	105	990	993	189
Stage 1	-	-	-	-	-	-	795	795	-	193	193	-
Stage 2	-	-	-	-	-	-	221	231	-	797	800	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1353	-	-	1493	-	-	218	237	955	227	247	858
Stage 1	-	-	-	-	-	-	384	402	-	813	745	-
Stage 2	-	-	-	-	-	-	786	717	-	383	400	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1353	-	-	1493	-	-	160	172	955	176	180	858
Mov Cap-2 Maneuver	-	-	-	-	-	-	160	172	-	176	180	-
Stage 1	-	-	-	-	-	-	280	293	-	592	744	-
Stage 2	-	-	-	-	-	-	734	716	-	275	291	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	6.5	0.1	22	10.9
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	219	1353	-	-	1493	-	-	666
HCM Lane V/C Ratio	0.035	0.255	-	-	0.001	-	-	0.086
HCM Control Delay (s)	22	8.6	0	-	7.4	0	-	10.9
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	1	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	89.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	317	152	10	2	216	70	2	3	2	193	2	49
Future Vol, veh/h	317	152	10	2	216	70	2	3	2	193	2	49
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	345	165	11	2	235	76	2	3	2	210	2	53

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	311	0	0	176	0	0	1166	1176	171	1140	1143	273
Stage 1	-	-	-	-	-	-	861	861	-	277	277	-
Stage 2	-	-	-	-	-	-	305	315	-	863	866	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1261	-	-	1412	-	-	172	193	878	~ 180	202	771
Stage 1	-	-	-	-	-	-	353	375	-	734	685	-
Stage 2	-	-	-	-	-	-	709	659	-	352	373	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1261	-	-	1412	-	-	121	134	878	~ 135	140	771
Mov Cap-2 Maneuver	-	-	-	-	-	-	121	134	-	~ 135	140	-
Stage 1	-	-	-	-	-	-	246	261	-	511	684	-
Stage 2	-	-	-	-	-	-	657	658	-	241	260	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.9	0.1	27.2	$ 362.7
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	170	1261	-	-	1412	-	-	162
HCM Lane V/C Ratio	0.045	0.273	-	-	0.002	-	-	1.637
HCM Control Delay (s)	27.2	8.9	0	-	7.6	0	-	$ 362.7
HCM Lane LOS	D	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.1	1.1	-	-	0	-	-	18.3

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	183.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	317	91	10	77	139	70	2	3	2	252	2	49
Future Vol, veh/h	317	91	10	77	139	70	2	3	2	252	2	49
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	345	99	11	84	151	76	2	3	2	274	2	53

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	227	0	0	110	0	0	1180	1190	105	1154	1157	189
Stage 1	-	-	-	-	-	-	795	795	-	357	357	-
Stage 2	-	-	-	-	-	-	385	395	-	797	800	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1353	-	-	1493	-	-	169	189	955	~ 176	198	858
Stage 1	-	-	-	-	-	-	384	402	-	665	632	-
Stage 2	-	-	-	-	-	-	642	608	-	383	400	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1353	-	-	1493	-	-	118	129	955	~ 130	135	858
Mov Cap-2 Maneuver	-	-	-	-	-	-	118	129	-	~ 130	135	-
Stage 1	-	-	-	-	-	-	280	293	-	484	591	-
Stage 2	-	-	-	-	-	-	561	568	-	275	291	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	6.5	2	27.9	$ 601.2
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	165	1353	-	-	1493	-	-	151
HCM Lane V/C Ratio	0.046	0.255	-	-	0.056	-	-	2.181
HCM Control Delay (s)	27.9	8.6	0	-	7.6	0	-	$ 601.2
HCM Lane LOS	D	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.1	1	-	-	0.2	-	-	26.9

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	14.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	317	91	10	77	139	70	2	3	2	252	2	49
Future Vol, veh/h	317	91	10	77	139	70	2	3	2	252	2	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	345	99	11	84	151	76	2	3	2	274	2	53
Number of Lanes	1	1	0	1	1	-1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	15.8	10.7	9.7	14.7
HCM LOS	C	B	A	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	29%	100%	0%	100%	99%	0%
Vol Thru, %	43%	0%	90%	0%	1%	0%
Vol Right, %	29%	0%	10%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	317	101	77	254	49
LT Vol	2	317	0	77	252	0
Through Vol	3	0	91	0	2	0
RT Vol	2	0	10	0	0	49
Lane Flow Rate	8	345	110	84	276	53
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.014	0.596	0.173	0.151	0.505	0.08
Departure Headway (Hd)	6.58	6.232	5.658	6.485	6.583	5.374
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	543	579	635	553	549	667
Service Time	4.626	3.958	3.384	4.52	4.312	3.102
HCM Lane V/C Ratio	0.015	0.596	0.173	0.152	0.503	0.079
HCM Control Delay	9.7	17.8	9.6	10.7	15.9	8.6
HCM Lane LOS	A	C	A	B	C	A
HCM 95th-tile Q	0	3.9	0.6	0.5	2.8	0.3

Intersection	
Int Delay, s/veh	697.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	317	152	10	77	216	70	2	3	2	443	2	49
Future Vol, veh/h	317	152	10	77	216	70	2	3	2	443	2	49
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	345	165	11	84	235	76	2	3	2	482	2	53

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	311	0	0	176	0	0	1330	1340	171	1304	1307	273
Stage 1	-	-	-	-	-	-	861	861	-	441	441	-
Stage 2	-	-	-	-	-	-	469	479	-	863	866	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1261	-	-	1412	-	-	133	154	878	~ 139	161	771
Stage 1	-	-	-	-	-	-	353	375	-	599	580	-
Stage 2	-	-	-	-	-	-	579	558	-	~ 352	373	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1261	-	-	1412	-	-	88	99	878	~ 98	104	771
Mov Cap-2 Maneuver	-	-	-	-	-	-	88	99	-	~ 98	104	-
Stage 1	-	-	-	-	-	-	246	261	-	~ 417	538	-
Stage 2	-	-	-	-	-	-	498	517	-	~ 241	260	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.9	1.6	35.1	$ 1888
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	127	1261	-	-	1412	-	-	107
HCM Lane V/C Ratio	0.06	0.273	-	-	0.059	-	-	5.018
HCM Control Delay (s)	35.1	8.9	0	-	7.7	0	-	$ 1888
HCM Lane LOS	E	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.2	1.1	-	-	0.2	-	-	57.3

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	51.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	167	280	2	2	82	243	1	2	3	174	11	231
Future Vol, veh/h	167	280	2	2	82	243	1	2	3	174	11	231
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	182	304	2	2	89	264	1	2	3	189	12	251

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	353	0	0	306	0	0	1026	1026	305	897	895	221
Stage 1	-	-	-	-	-	-	669	669	-	225	225	-
Stage 2	-	-	-	-	-	-	357	357	-	672	670	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1217	-	-	1266	-	-	215	237	740	263	282	824
Stage 1	-	-	-	-	-	-	450	459	-	782	721	-
Stage 2	-	-	-	-	-	-	665	632	-	449	459	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1217	-	-	1266	-	-	124	194	740	224	231	824
Mov Cap-2 Maneuver	-	-	-	-	-	-	124	194	-	224	231	-
Stage 1	-	-	-	-	-	-	369	376	-	641	720	-
Stage 2	-	-	-	-	-	-	454	631	-	364	376	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.2	0	18.8	144.1
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	268	1217	-	-	1266	-	-	377
HCM Lane V/C Ratio	0.024	0.149	-	-	0.002	-	-	1.199
HCM Control Delay (s)	18.8	8.5	0	-	7.8	0	-	144.1
HCM Lane LOS	C	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.1	0.5	-	-	0	-	-	18.5

Intersection	
Int Delay, s/veh	320.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	167	341	2	2	159	243	1	2	3	365	11	231
Future Vol, veh/h	167	341	2	2	159	243	1	2	3	365	11	231
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	182	371	2	2	173	264	1	2	3	397	12	251

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	437	0	0	373	0	0	1177	1177	372	1048	1046	305
Stage 1	-	-	-	-	-	-	736	736	-	309	309	-
Stage 2	-	-	-	-	-	-	441	441	-	739	737	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1134	-	-	1197	-	-	169	193	678	~ 208	230	740
Stage 1	-	-	-	-	-	-	414	428	-	705	663	-
Stage 2	-	-	-	-	-	-	599	580	-	412	428	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1134	-	-	1197	-	-	90	154	678	~ 173	183	740
Mov Cap-2 Maneuver	-	-	-	-	-	-	90	154	-	~ 173	183	-
Stage 1	-	-	-	-	-	-	330	342	-	563	662	-
Stage 2	-	-	-	-	-	-	388	579	-	~ 325	342	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.9	0	22.7	$ 804.2
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	210	1134	-	-	1197	-	-	245
HCM Lane V/C Ratio	0.031	0.16	-	-	0.002	-	-	2.693
HCM Control Delay (s)	22.7	8.8	0	-	8	0	-	$ 804.2
HCM Lane LOS	C	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.1	0.6	-	-	0	-	-	56.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	459.8

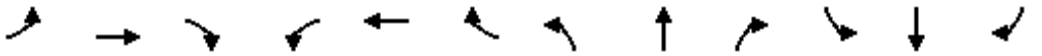
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	167	280	2	77	82	243	1	2	3	424	11	231
Future Vol, veh/h	167	280	2	77	82	243	1	2	3	424	11	231
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	182	304	2	84	89	264	1	2	3	461	12	251

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	353	0	0	306	0	0	1190	1190	305	1061	1059	221
Stage 1	-	-	-	-	-	-	669	669	-	389	389	-
Stage 2	-	-	-	-	-	-	521	521	-	672	670	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1217	-	-	1266	-	-	166	189	740	~ 203	226	824
Stage 1	-	-	-	-	-	-	450	459	-	639	612	-
Stage 2	-	-	-	-	-	-	542	535	-	~ 449	459	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1217	-	-	1266	-	-	88	142	740	~ 161	169	824
Mov Cap-2 Maneuver	-	-	-	-	-	-	88	142	-	~ 161	169	-
Stage 1	-	-	-	-	-	-	369	376	-	524	559	-
Stage 2	-	-	-	-	-	-	337	489	-	~ 364	376	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.2	1.5	23.3	$ 1048.1
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	203	1217	-	-	1266	-	-	224
HCM Lane V/C Ratio	0.032	0.149	-	-	0.066	-	-	3.232
HCM Control Delay (s)	23.3	8.5	0	-	8	0	-	$ 1048.1
HCM Lane LOS	C	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.1	0.5	-	-	0.2	-	-	66.6

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	167	280	2	77	82	243	1	2	3	424	11	231
Future Volume (veh/h)	167	280	2	77	82	243	1	2	3	424	11	231
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	182	304	2	84	89	264	1	2	3	461	12	251
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	230	527	3	104	399	338	144	249	301	705	27	560
Arrive On Green	0.13	0.30	0.30	0.06	0.22	0.22	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1714	1786	12	1714	1800	1525	137	651	789	1434	70	1466
Grp Volume(v), veh/h	182	0	306	84	89	264	6	0	0	461	0	263
Grp Sat Flow(s),veh/h/ln	1714	0	1798	1714	1800	1525	1577	0	0	1434	0	1536
Q Serve(g_s), s	4.7	0.0	6.6	2.2	1.9	7.5	0.0	0.0	0.0	13.3	0.0	5.8
Cycle Q Clear(g_c), s	4.7	0.0	6.6	2.2	1.9	7.5	0.1	0.0	0.0	13.4	0.0	5.8
Prop In Lane	1.00		0.01	1.00		1.00	0.17		0.50	1.00		0.95
Lane Grp Cap(c), veh/h	230	0	531	104	399	338	694	0	0	705	0	587
V/C Ratio(X)	0.79	0.00	0.58	0.81	0.22	0.78	0.01	0.00	0.00	0.65	0.00	0.45
Avail Cap(c_a), veh/h	337	0	746	225	629	533	877	0	0	878	0	772
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.2	0.0	13.7	21.2	14.6	16.8	8.8	0.0	0.0	12.9	0.0	10.5
Incr Delay (d2), s/veh	7.7	0.0	1.0	13.5	0.3	3.9	0.0	0.0	0.0	1.2	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	2.0	1.1	0.6	2.2	0.0	0.0	0.0	3.8	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.9	0.0	14.7	34.7	14.9	20.7	8.8	0.0	0.0	14.1	0.0	11.1
LnGrp LOS	C	A	B	C	B	C	A	A	A	B	A	B
Approach Vol, veh/h		488			437			6			724	
Approach Delay, s/veh		19.2			22.2			8.8			13.0	
Approach LOS		B			C			A			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		21.5	6.8	17.5		21.5	10.1	14.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		23.0	6.0	19.0		23.0	9.0	16.0				
Max Q Clear Time (g_c+I1), s		2.1	4.2	8.6		15.4	6.7	9.5				
Green Ext Time (p_c), s		0.0	0.0	1.0		2.1	0.1	0.7				

Intersection Summary												
HCM 6th Ctrl Delay			17.2									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	1038.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	167	341	2	77	159	243	1	2	3	615	11	231
Future Vol, veh/h	167	341	2	77	159	243	1	2	3	615	11	231
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	182	371	2	84	173	264	1	2	3	668	12	251

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	437	0	0	373	0	0	1341	1341	372	1212	1210	305
Stage 1	-	-	-	-	-	-	736	736	-	473	473	-
Stage 2	-	-	-	-	-	-	605	605	-	739	737	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1134	-	-	1197	-	-	131	154	678	~ 160	184	740
Stage 1	-	-	-	-	-	-	414	428	-	~ 576	562	-
Stage 2	-	-	-	-	-	-	488	491	-	~ 412	428	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1134	-	-	1197	-	-	64	111	678	~ 123	133	740
Mov Cap-2 Maneuver	-	-	-	-	-	-	64	111	-	~ 123	133	-
Stage 1	-	-	-	-	-	-	330	342	-	~ 460	508	-
Stage 2	-	-	-	-	-	-	285	444	-	~ 325	342	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.9	1.3	28.8	$ 2241
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	158	1134	-	-	1197	-	-	159
HCM Lane V/C Ratio	0.041	0.16	-	-	0.07	-	-	5.859
HCM Control Delay (s)	28.8	8.8	0	-	8.2	0	-	$ 2241
HCM Lane LOS	D	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.1	0.6	-	-	0.2	-	-	100.1

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	167	341	2	77	159	243	1	2	3	615	11	231
Future Volume (veh/h)	167	341	2	77	159	243	1	2	3	615	11	231
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	182	371	2	84	173	264	1	2	3	668	12	251
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	214	468	3	104	331	296	154	305	408	802	37	773
Arrive On Green	0.13	0.26	0.26	0.06	0.19	0.19	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	1619	1789	10	1619	1710	1525	195	578	773	1354	70	1466
Grp Volume(v), veh/h	182	0	373	84	173	264	6	0	0	668	0	263
Grp Sat Flow(s),veh/h/ln	1619	0	1798	1619	1710	1525	1546	0	0	1354	0	1536
Q Serve(g_s), s	9.0	0.0	15.8	4.2	7.4	13.8	0.0	0.0	0.0	37.5	0.0	8.0
Cycle Q Clear(g_c), s	9.0	0.0	15.8	4.2	7.4	13.8	0.1	0.0	0.0	37.6	0.0	8.0
Prop In Lane	1.00		0.01	1.00		1.00	0.17		0.50	1.00		0.95
Lane Grp Cap(c), veh/h	214	0	470	104	331	296	867	0	0	802	0	810
V/C Ratio(X)	0.85	0.00	0.79	0.81	0.52	0.89	0.01	0.00	0.00	0.83	0.00	0.32
Avail Cap(c_a), veh/h	218	0	470	119	335	298	1013	0	0	933	0	958
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.7	0.0	28.1	37.7	29.6	32.1	9.2	0.0	0.0	18.0	0.0	11.0
Incr Delay (d2), s/veh	25.7	0.0	9.0	29.0	1.4	26.7	0.0	0.0	0.0	5.8	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	7.2	2.4	2.9	6.8	0.0	0.0	0.0	11.9	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.3	0.0	37.1	66.7	31.0	58.9	9.2	0.0	0.0	23.8	0.0	11.3
LnGrp LOS	E	A	D	E	C	E	A	A	A	C	A	B
Approach Vol, veh/h		555			521			6			931	
Approach Delay, s/veh		44.7			50.9			9.2			20.2	
Approach LOS		D			D			A			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	47.1	9.3	25.4	47.1	14.8	19.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	51.0	6.0	21.0	51.0	11.0	16.0
Max Q Clear Time (g_c+I1), s	2.1	6.2	17.8	39.6	11.0	15.8
Green Ext Time (p_c), s	0.0	0.0	0.6	3.5	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	34.9
HCM 6th LOS	C

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : I-15 NB RAMPS
CONDITION : PM PEAK HOUR

INTERSECTION : 6
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	2		4		6		8	10	12	14	16	18
STODDARD WELLS RD												
EB LEFT	234	15	249	0	249	0	249	249	182	182	182	182
EB THRU	53	4	57	22	79	0	57	79.00	164	186.00	164	186.00
EB RIGHT	1	1	2	0	2	0	2	2.00	1	1	1	1
WB LEFT	4	1	5	0	5	233	238	238	10	10	243	243
WB THRU	292	18	310	236	546	0	310	546	537	773	537	773
WB RIGHT	60	4	64	0	64	0	64	64	153	153	153	153
I-15 NB RAMPS												
NB LEFT	1	1	2	0	2	0	2	2	1	1	1	1
NB THRU	3	1	4	0	4	0	4	4	2	2	2	2
NB RIGHT	1	1	2	0	2	0	2	2	3	3	3	3
SB LEFT	17	2	19	70	89	91	110	180	166	236	257	327
SB THRU	1	1	2	0	2	0	2	2	3	3	3	3
SB RIGHT	137	9	146	0	146	0	146	146	242	242	242	242
TOTALS	**804**	**58**	**862**	**328**	**1190**	**324**	**1186**	**1514**	**1464**	**1792**	**1788**	**2116**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : I-15 NB RAMPS
CONDITION : PM PEAK HOUR
PHF : 0.89

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
19	0	4	0	0	0	1	0	0	0	0	0
19	0	4	0	0	0	0	0	0	0	0	0
64	0	5	0	0	0	0	0	0	0	0	0
32	0	4	0	0	0	0	0	0	0	0	0

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

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
17	74	0	0	0	0	0	0	0	0	0	0
14	81	0	0	0	0	0	0	0	0	0	0
12	57	1	0	0	0	0	0	0	0	0	0
17	78	3	0	0	0	0	0	0	0	0	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	8	50	0	0	0	0	0	1	0	2	2
0	9	48	0	0	0	0	0	0	0	0	0
0	10	52	0	0	0	0	0	0	0	0	0
1	17	64	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
STODDARD WELLS RD					
EB LEFT	3	214	**217**	**222**	**234**
EB THRU	2	44	**46**	**50**	**53**
EB RIGHT	0	1	**1**	**1**	**1**
WB LEFT	0	4	**4**	**4**	**4**
WB THRU	0	290	**290**	**290**	**292**
WB RIGHT	0	60	**60**	**60**	**60**
I-15 NB RAMPS					
NB LEFT	0	0	**1**	**1**	**1**
NB THRU	0	3	**3**	**3**	**3**
NB RIGHT	0	0	**1**	**1**	**1**
SB LEFT	0	17	**17**	**17**	**17**
SB THRU	0	0	**1**	**1**	**1**
SB RIGHT	1	134	**135**	**136**	**137**

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	234	53	1	4	292	60	1	3	1	17	1	137
Future Vol, veh/h	234	53	1	4	292	60	1	3	1	17	1	137
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	263	60	1	4	328	67	1	3	1	19	1	154

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	395	0	0	61	0	0	1034	990	61	959	957	362
Stage 1	-	-	-	-	-	-	587	587	-	370	370	-
Stage 2	-	-	-	-	-	-	447	403	-	589	587	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1175	-	-	1555	-	-	212	248	1010	239	260	687
Stage 1	-	-	-	-	-	-	499	500	-	654	624	-
Stage 2	-	-	-	-	-	-	595	603	-	498	500	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1175	-	-	1555	-	-	134	190	1010	193	199	687
Mov Cap-2 Maneuver	-	-	-	-	-	-	134	190	-	193	199	-
Stage 1	-	-	-	-	-	-	383	384	-	502	622	-
Stage 2	-	-	-	-	-	-	459	601	-	379	384	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	7.3	0.1	23	15.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	206	1175	-	-	1555	-	-	530
HCM Lane V/C Ratio	0.027	0.224	-	-	0.003	-	-	0.329
HCM Control Delay (s)	23	8.9	0	-	7.3	0	-	15.1
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0.9	-	-	0	-	-	1.4

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	249	57	2	5	310	64	2	4	2	19	2	146
Future Vol, veh/h	249	57	2	5	310	64	2	4	2	19	2	146
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	280	64	2	6	348	72	2	4	2	21	2	164

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	420	0	0	66	0	0	1104	1057	65	1024	1022	384
Stage 1	-	-	-	-	-	-	625	625	-	396	396	-
Stage 2	-	-	-	-	-	-	479	432	-	628	626	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1150	-	-	1549	-	-	190	227	1005	216	238	668
Stage 1	-	-	-	-	-	-	476	480	-	633	607	-
Stage 2	-	-	-	-	-	-	571	586	-	474	480	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1150	-	-	1549	-	-	114	169	1005	170	177	668
Mov Cap-2 Maneuver	-	-	-	-	-	-	114	169	-	170	177	-
Stage 1	-	-	-	-	-	-	356	359	-	473	604	-
Stage 2	-	-	-	-	-	-	427	583	-	349	359	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	7.4	0.1	25.5	16.9
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	185	1150	-	-	1549	-	-	489
HCM Lane V/C Ratio	0.049	0.243	-	-	0.004	-	-	0.384
HCM Control Delay (s)	25.5	9.1	0	-	7.3	0	-	16.9
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	1	-	-	0	-	-	1.8

Intersection	
Int Delay, s/veh	52.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	249	79	2	5	546	64	2	4	2	89	2	146
Future Vol, veh/h	249	79	2	5	546	64	2	4	2	89	2	146
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	280	89	2	6	613	72	2	4	2	100	2	164

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	685	0	0	91	0	0	1394	1347	90	1314	1312	649
Stage 1	-	-	-	-	-	-	650	650	-	661	661	-
Stage 2	-	-	-	-	-	-	744	697	-	653	651	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	918	-	-	1517	-	-	120	152	973	136	160	473
Stage 1	-	-	-	-	-	-	461	468	-	455	463	-
Stage 2	-	-	-	-	-	-	410	446	-	460	468	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	918	-	-	1517	-	-	58	103	973	~ 98	108	473
Mov Cap-2 Maneuver	-	-	-	-	-	-	58	103	-	~ 98	108	-
Stage 1	-	-	-	-	-	-	313	318	-	309	460	-
Stage 2	-	-	-	-	-	-	265	443	-	307	318	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8	0.1	42.1	249.7
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	106	918	-	-	1517	-	-	192
HCM Lane V/C Ratio	0.085	0.305	-	-	0.004	-	-	1.387
HCM Control Delay (s)	42.1	10.6	0	-	7.4	0	-	249.7
HCM Lane LOS	E	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.3	1.3	-	-	0	-	-	15.7

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	152.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	249	57	2	238	310	64	2	4	2	110	2	146
Future Vol, veh/h	249	57	2	238	310	64	2	4	2	110	2	146
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	280	64	2	267	348	72	2	4	2	124	2	164

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	420	0	0	66	0	0	1626	1579	65	1546	1544	384
Stage 1	-	-	-	-	-	-	625	625	-	918	918	-
Stage 2	-	-	-	-	-	-	1001	954	-	628	626	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1150	-	-	1549	-	-	83	110	1005	~ 94	116	668
Stage 1	-	-	-	-	-	-	476	480	-	328	353	-
Stage 2	-	-	-	-	-	-	295	340	-	474	480	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1150	-	-	1549	-	-	41	63	1005	~ 60	67	668
Mov Cap-2 Maneuver	-	-	-	-	-	-	41	63	-	~ 60	67	-
Stage 1	-	-	-	-	-	-	356	359	-	245	273	-
Stage 2	-	-	-	-	-	-	171	263	-	349	359	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	7.4	3	63.9	$ 683.1
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	70	1150	-	-	1549	-	-	124
HCM Lane V/C Ratio	0.128	0.243	-	-	0.173	-	-	2.338
HCM Control Delay (s)	63.9	9.1	0	-	7.8	0	-	$ 683.1
HCM Lane LOS	F	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.4	1	-	-	0.6	-	-	25.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	16.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	249	57	2	238	310	64	2	4	2	110	2	146
Future Vol, veh/h	249	57	2	238	310	64	2	4	2	110	2	146
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	280	64	2	267	348	72	2	4	2	124	2	164
Number of Lanes	1	1	0	1	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay	16.2	18.8	10.9	12.4
HCM LOS	C	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	25%	100%	0%	100%	0%	100%	0%
Vol Thru, %	50%	0%	97%	0%	83%	0%	1%
Vol Right, %	25%	0%	3%	0%	17%	0%	99%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	249	59	238	374	110	148
LT Vol	2	249	0	238	0	110	0
Through Vol	4	0	57	0	310	0	2
RT Vol	2	0	2	0	64	0	146
Lane Flow Rate	9	280	66	267	420	124	166
Geometry Grp	6	7	7	7	7	7	7
Degree of Util (X)	0.019	0.541	0.118	0.487	0.691	0.261	0.296
Departure Headway (Hd)	7.706	6.967	6.434	6.55	5.921	7.616	6.403
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	462	518	555	548	609	471	559
Service Time	5.798	4.731	4.197	4.302	3.673	5.378	4.164
HCM Lane V/C Ratio	0.019	0.541	0.119	0.487	0.69	0.263	0.297
HCM Control Delay	10.9	17.7	10.1	15.4	20.9	13.1	11.9
HCM Lane LOS	B	C	B	C	C	B	B
HCM 95th-tile Q	0.1	3.2	0.4	2.6	5.4	1	1.2

Intersection	
Int Delay, s/veh	590.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	249	79	2	238	546	64	2	4	2	180	2	146
Future Vol, veh/h	249	79	2	238	546	64	2	4	2	180	2	146
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	280	89	2	267	613	72	2	4	2	202	2	164

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	685	0	0	91	0	0	1916	1869	90	1836	1834	649
Stage 1	-	-	-	-	-	-	650	650	-	1183	1183	-
Stage 2	-	-	-	-	-	-	1266	1219	-	653	651	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	918	-	-	1517	-	-	52	73	973	~ 59	77	473
Stage 1	-	-	-	-	-	-	461	468	-	233	265	-
Stage 2	-	-	-	-	-	-	209	255	-	460	468	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	918	-	-	1517	-	-	19	35	973	~ 32	37	473
Mov Cap-2 Maneuver	-	-	-	-	-	-	19	35	-	~ 32	37	-
Stage 1	-	-	-	-	-	-	313	318	-	~ 158	189	-
Stage 2	-	-	-	-	-	-	96	182	-	307	318	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8	2.2	135.5	$ 2710.5
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	36	918	-	-	1517	-	-	55
HCM Lane V/C Ratio	0.25	0.305	-	-	0.176	-	-	6.701
HCM Control Delay (s)	135.5	10.6	0	-	7.9	0	-	$ 2710.5
HCM Lane LOS	F	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.8	1.3	-	-	0.6	-	-	42.4

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	192.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	182	164	1	10	537	153	1	2	3	166	3	242
Future Vol, veh/h	182	164	1	10	537	153	1	2	3	166	3	242
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	204	184	1	11	603	172	1	2	3	187	3	272

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	775	0	0	185	0	0	1442	1390	185	1306	1304	689
Stage 1	-	-	-	-	-	-	593	593	-	711	711	-
Stage 2	-	-	-	-	-	-	849	797	-	595	593	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	850	-	-	1402	-	-	111	144	862	~ 138	162	449
Stage 1	-	-	-	-	-	-	496	497	-	427	439	-
Stage 2	-	-	-	-	-	-	358	401	-	494	497	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	850	-	-	1402	-	-	34	104	862	~ 106	117	449
Mov Cap-2 Maneuver	-	-	-	-	-	-	34	104	-	~ 106	117	-
Stage 1	-	-	-	-	-	-	363	364	-	313	433	-
Stage 2	-	-	-	-	-	-	138	395	-	358	364	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.5	0.1	38.2	$ 680.9
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	115	850	-	-	1402	-	-	193
HCM Lane V/C Ratio	0.059	0.241	-	-	0.008	-	-	2.393
HCM Control Delay (s)	38.2	10.6	0	-	7.6	0	-	$ 680.9
HCM Lane LOS	E	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.2	0.9	-	-	0	-	-	38.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	536.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	182	186	1	10	773	153	1	2	3	236	3	242
Future Vol, veh/h	182	186	1	10	773	153	1	2	3	236	3	242
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	204	209	1	11	869	172	1	2	3	265	3	272

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1041	0	0	210	0	0	1733	1681	210	1597	1595	955
Stage 1	-	-	-	-	-	-	618	618	-	977	977	-
Stage 2	-	-	-	-	-	-	1115	1063	-	620	618	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	676	-	-	1373	-	-	70	96	835	~ 87	108	316
Stage 1	-	-	-	-	-	-	480	484	-	304	332	-
Stage 2	-	-	-	-	-	-	255	302	-	479	484	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	676	-	-	1373	-	-	7	62	835	~ 61	70	316
Mov Cap-2 Maneuver	-	-	-	-	-	-	7	62	-	~ 61	70	-
Stage 1	-	-	-	-	-	-	316	318	-	~ 200	325	-
Stage 2	-	-	-	-	-	-	35	296	-	312	318	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	6.2	0.1	135.4	$ 1993.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	34	676	-	-	1373	-	-	103
HCM Lane V/C Ratio	0.198	0.303	-	-	0.008	-	-	5.247
HCM Control Delay (s)	135.4	12.6	0	-	7.6	0	-	$ 1993.4
HCM Lane LOS	F	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.6	1.3	-	-	0	-	-	58.2

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	1100.7

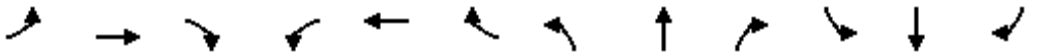
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	182	164	1	243	537	153	1	2	3	257	3	242
Future Vol, veh/h	182	164	1	243	537	153	1	2	3	257	3	242
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	204	184	1	273	603	172	1	2	3	289	3	272

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	775	0	0	185	0	0	1966	1914	185	1830	1828	689
Stage 1	-	-	-	-	-	-	593	593	-	1235	1235	-
Stage 2	-	-	-	-	-	-	1373	1321	-	595	593	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	850	-	-	1402	-	-	48	69	862	~ 60	78	449
Stage 1	-	-	-	-	-	-	496	497	-	~ 218	251	-
Stage 2	-	-	-	-	-	-	182	228	-	494	497	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	850	-	-	1402	-	-	10	33	862	~ 33	37	449
Mov Cap-2 Maneuver	-	-	-	-	-	-	10	33	-	~ 33	37	-
Stage 1	-	-	-	-	-	-	363	364	-	~ 160	162	-
Stage 2	-	-	-	-	-	-	45	147	-	358	364	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.5	2.1	122.8	$ 3911.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	37	850	-	-	1402	-	-	60
HCM Lane V/C Ratio	0.182	0.241	-	-	0.195	-	-	9.401
HCM Control Delay (s)	122.8	10.6	0	-	8.2	0	-	$ 3911.3
HCM Lane LOS	F	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.6	0.9	-	-	0.7	-	-	66.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	164	1	243	537	153	1	2	3	257	3	242
Future Volume (veh/h)	182	164	1	243	537	153	1	2	3	257	3	242
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	204	184	1	273	603	172	1	2	3	289	3	272
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	234	565	3	326	666	564	105	178	212	440	5	437
Arrive On Green	0.14	0.32	0.32	0.19	0.37	0.37	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1714	1789	10	1714	1800	1525	116	615	731	1434	17	1511
Grp Volume(v), veh/h	204	0	185	273	603	172	6	0	0	289	0	275
Grp Sat Flow(s),veh/h/ln	1714	0	1798	1714	1800	1525	1462	0	0	1434	0	1528
Q Serve(g_s), s	6.9	0.0	4.6	9.0	18.6	4.7	0.0	0.0	0.0	6.4	0.0	9.2
Cycle Q Clear(g_c), s	6.9	0.0	4.6	9.0	18.6	4.7	9.2	0.0	0.0	15.5	0.0	9.2
Prop In Lane	1.00		0.01	1.00		1.00	0.17		0.50	1.00		0.99
Lane Grp Cap(c), veh/h	234	0	568	326	666	564	495	0	0	440	0	442
V/C Ratio(X)	0.87	0.00	0.33	0.84	0.91	0.30	0.01	0.00	0.00	0.66	0.00	0.62
Avail Cap(c_a), veh/h	234	0	568	438	705	597	495	0	0	440	0	442
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.9	0.0	15.3	22.9	17.5	13.1	14.9	0.0	0.0	21.4	0.0	18.1
Incr Delay (d2), s/veh	28.5	0.0	0.3	10.1	14.8	0.3	0.0	0.0	0.0	3.5	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.0	1.8	4.3	9.4	1.5	0.1	0.0	0.0	4.0	0.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.3	0.0	15.7	33.0	32.4	13.4	14.9	0.0	0.0	25.0	0.0	20.8
LnGrp LOS	D	A	B	C	C	B	B	A	A	C	A	C
Approach Vol, veh/h		389			1048			6			564	
Approach Delay, s/veh		35.4			29.4			14.9			22.9	
Approach LOS		D			C			B			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		21.0	15.2	22.5		21.0	12.0	25.7				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		17.0	15.0	16.0		17.0	8.0	23.0				
Max Q Clear Time (g_c+I1), s		11.2	11.0	6.6		17.5	8.9	20.6				
Green Ext Time (p_c), s		0.0	0.3	0.6		0.0	0.0	1.1				

Intersection Summary												
HCM 6th Ctrl Delay			28.7									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	3089.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	182	186	1	243	773	153	1	2	3	327	3	242
Future Vol, veh/h	182	186	1	243	773	153	1	2	3	327	3	242
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	204	209	1	273	869	172	1	2	3	367	3	272

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1041	0	0	210	0	0	2257	2205	210	2121	2119	955
Stage 1	-	-	-	-	-	-	618	618	-	1501	1501	-
Stage 2	-	-	-	-	-	-	1639	1587	-	620	618	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	676	-	-	1373	-	-	30	45	835	~ 37	51	316
Stage 1	-	-	-	-	-	-	480	484	-	~ 154	187	-
Stage 2	-	-	-	-	-	-	128	170	-	479	484	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	676	-	-	1373	-	-	2	15	835	~ 15	17	316
Mov Cap-2 Maneuver	-	-	-	-	-	-	2	15	-	~ 15	17	-
Stage 1	-	-	-	-	-	-	316	318	-	~ 101	95	-
Stage 2	-	-	-	-	-	-	9	86	-	~ 312	318	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	6.2	1.7	$ 720	$ 11415.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	9	676	-	-	1373	-	-	25
HCM Lane V/C Ratio	0.749	0.303	-	-	0.199	-	-	25.708
HCM Control Delay (s)	$ 720	12.6	0	-	8.3	0	$	11415.4
HCM Lane LOS	F	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	1.5	1.3	-	-	0.7	-	-	80.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	186	1	243	773	153	1	2	3	327	3	242
Future Volume (veh/h)	182	186	1	243	773	153	1	2	3	327	3	242
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	204	209	1	273	869	172	1	2	3	367	3	272
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	238	530	3	313	973	193	108	208	266	484	6	556
Arrive On Green	0.15	0.30	0.30	0.19	0.34	0.34	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1619	1790	9	1619	2846	563	157	565	722	1354	17	1511
Grp Volume(v), veh/h	204	0	210	273	522	519	6	0	0	367	0	275
Grp Sat Flow(s),veh/h/ln	1619	0	1798	1619	1710	1699	1445	0	0	1354	0	1528
Q Serve(g_s), s	10.3	0.0	7.8	13.7	24.2	24.3	0.0	0.0	0.0	16.5	0.0	11.6
Cycle Q Clear(g_c), s	10.3	0.0	7.8	13.7	24.2	24.3	11.6	0.0	0.0	28.2	0.0	11.6
Prop In Lane	1.00		0.00	1.00		0.33	0.17		0.50	1.00		0.99
Lane Grp Cap(c), veh/h	238	0	532	313	585	581	581	0	0	484	0	562
V/C Ratio(X)	0.86	0.00	0.39	0.87	0.89	0.89	0.01	0.00	0.00	0.76	0.00	0.49
Avail Cap(c_a), veh/h	290	0	532	483	632	628	602	0	0	503	0	583
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.9	0.0	23.5	32.8	26.1	26.1	16.9	0.0	0.0	27.9	0.0	20.4
Incr Delay (d2), s/veh	18.7	0.0	0.5	10.6	14.3	14.4	0.0	0.0	0.0	6.4	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.0	3.0	5.8	10.8	10.8	0.1	0.0	0.0	7.8	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.6	0.0	24.0	43.4	40.5	40.6	16.9	0.0	0.0	34.3	0.0	21.1
LnGrp LOS	D	A	C	D	D	D	B	A	A	C	A	C
Approach Vol, veh/h		414			1314			6			642	
Approach Delay, s/veh		38.6			41.1			16.9			28.6	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	34.8	20.2	28.8	34.8	16.3	32.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	32.0	25.0	21.0	32.0	15.0	31.0
Max Q Clear Time (g_c+I1), s	13.6	15.7	9.8	30.2	12.3	26.3
Green Ext Time (p_c), s	0.0	0.5	0.7	0.6	0.1	2.4

Intersection Summary	
HCM 6th Ctrl Delay	37.2
HCM 6th LOS	D

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

Intersection No.: 6
North/South Street: I-15 NB RAMPS
East/West Street: STODDARD WELLS RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	1	Approach	4	Left	0	1
NB	Through	2	Departure	14	Through	1	2
	Right	1			Right	3	3
North leg	Left	1	Approach	408	Left	174	174
SB	Through	1	Departure	410	Through	11	11
	Right	46			Right	231	231
West leg	Left	299	Approach	438	Left	166	167
EB	Through	85	Departure	313	Through	279	280
	Right	9			Right	2	2
East leg	Left	1	Approach	319	Left	1	2
WB	Through	131	Departure	456	Through	82	82
	Right	66			Right	243	243

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	1	Approach	5	Left	0	1
NB	Through	3	Departure	13	Through	2	2
	Right	1			Right	3	3
North leg	Left	17	Approach	401	Left	165	166
SB	Through	1	Departure	336	Through	2	3
	Right	137			Right	242	242
West leg	Left	234	Approach	338	Left	181	182
EB	Through	53	Departure	779	Through	163	164
	Right	1			Right	1	1
East leg	Left	4	Approach	686	Left	10	10
WB	Through	292	Departure	331	Through	537	537
	Right	60			Right	153	153

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : QUARRY RD
CONDITION : AM PEAK HOUR

INTERSECTION : 7
PROJECTED GROWTH PER YEAR : 3.0%

CONDITION DIAGRAMS

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	1		3		5		7	9	11	13	15	17
STODDARD WELLS RD												
EB LEFT	131	8	139	0	139	0	139	139	140	140	140	140
EB THRU	264	16	280	61	341	0	280	341	294	355	294	355
EB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
WB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
WB THRU	25	2	27	0	27	0	27	27	36	36	36	36
WB RIGHT	153	10	163	77	240	75	238	315	278	355	353	430
QUARRY RD												
NB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
NB THRU	0	0	0	0	0	0	0	0	0	0	0	0
NB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
SB LEFT	129	8	137	0	137	0	137	137	155	155	155	155
SB THRU	0	0	0	0	0	0	0	0	0	0	0	0
SB RIGHT	50	3	53	0	53	0	53	53	46	46	46	46
TOTALS	**752**	**47**	**799**	**138**	**937**	**75**	**874**	**1012**	**949**	**1087**	**1024**	**1162**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : QUARRY RD
CONDITION : AM PEAK HOUR
PHF : 0.92

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
6	0	9	0	0	0	0	0	0	0	0	2
4	0	41	0	0	1	0	0	0	1	0	2
12	0	28	0	0	0	0	0	1	2	0	0
13	0	22	2	0	1	0	0	0	0	0	1

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

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
28	5	0	1	1	0	0	0	0	0	0	0
33	4	0	0	1	0	0	0	0	1	0	0
46	10	0	0	0	0	0	1	0	0	0	0
32	4	0	0	0	0	0	0	0	0	0	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	91	27	0	2	0	0	0	0	0	2	0
0	36	33	0	3	0	0	1	0	0	4	0
0	47	31	0	1	0	0	3	0	0	3	0
0	42	40	0	1	0	0	1	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
STODDARD WELLS RD					
EB LEFT	0	131	**131**	**131**	**131**
EB THRU	21	216	**237**	**264**	**264**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	0	0	**0**	**0**	**0**
WB THRU	3	23	**26**	**25**	**25**
WB RIGHT	2	139	**141**	**153**	**153**
QUARRY RD					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	0	0	**0**	**0**	**0**
NB RIGHT	0	0	**0**	**0**	**0**
SB LEFT	8	100	**108**	**120**	**129**
SB THRU	0	0	**0**	**0**	**0**
SB RIGHT	5	35	**40**	**47**	**50**

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	131	264	25	153	129	50
Future Vol, veh/h	131	264	25	153	129	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	142	287	27	166	140	54

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	27	0	-	0	598	27
Stage 1	-	-	-	-	27	-
Stage 2	-	-	-	-	571	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1600	-	-	0	468	1054
Stage 1	-	-	-	0	1001	-
Stage 2	-	-	-	0	569	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1600	-	-	-	418	1054
Mov Cap-2 Maneuver	-	-	-	-	418	-
Stage 1	-	-	-	-	895	-
Stage 2	-	-	-	-	569	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	16.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1600	-	-	503
HCM Lane V/C Ratio	0.089	-	-	0.387
HCM Control Delay (s)	7.5	0	-	16.6
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.3	-	-	1.8

Intersection	
Int Delay, s/veh	7.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	139	280	27	163	137	53
Future Vol, veh/h	139	280	27	163	137	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	151	304	29	177	149	58

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	29	0	-	0	635	29
Stage 1	-	-	-	-	29	-
Stage 2	-	-	-	-	606	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1597	-	-	0	446	1052
Stage 1	-	-	-	0	999	-
Stage 2	-	-	-	0	548	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1597	-	-	-	395	1052
Mov Cap-2 Maneuver	-	-	-	-	395	-
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	548	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	18.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1597	-	-	478
HCM Lane V/C Ratio	0.095	-	-	0.432
HCM Control Delay (s)	7.5	0	-	18.1
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.3	-	-	2.1

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	139	341	27	240	137	53
Future Vol, veh/h	139	341	27	240	137	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	151	371	29	261	149	58

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	29	0	-	0	702	29
Stage 1	-	-	-	-	29	-
Stage 2	-	-	-	-	673	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1597	-	-	0	407	1052
Stage 1	-	-	-	0	999	-
Stage 2	-	-	-	0	511	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1597	-	-	-	359	1052
Mov Cap-2 Maneuver	-	-	-	-	359	-
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	511	-

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	20.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1597	-	-	440
HCM Lane V/C Ratio	0.095	-	-	0.469
HCM Control Delay (s)	7.5	0	-	20.2
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.3	-	-	2.4

Intersection	
Int Delay, s/veh	7.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	139	280	27	238	137	53
Future Vol, veh/h	139	280	27	238	137	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	151	304	29	259	149	58

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	29	0	-	0	635	29
Stage 1	-	-	-	-	29	-
Stage 2	-	-	-	-	606	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1597	-	-	0	446	1052
Stage 1	-	-	-	0	999	-
Stage 2	-	-	-	0	548	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1597	-	-	-	395	1052
Mov Cap-2 Maneuver	-	-	-	-	395	-
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	548	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	18.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1597	-	-	478
HCM Lane V/C Ratio	0.095	-	-	0.432
HCM Control Delay (s)	7.5	0	-	18.1
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.3	-	-	2.1

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	139	341	27	315	137	53
Future Vol, veh/h	139	341	27	315	137	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	151	371	29	342	149	58

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	29	0	-	0	702	29
Stage 1	-	-	-	-	29	-
Stage 2	-	-	-	-	673	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1597	-	-	0	407	1052
Stage 1	-	-	-	0	999	-
Stage 2	-	-	-	0	511	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1597	-	-	-	359	1052
Mov Cap-2 Maneuver	-	-	-	-	359	-
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	511	-

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	20.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1597	-	-	440
HCM Lane V/C Ratio	0.095	-	-	0.469
HCM Control Delay (s)	7.5	0	-	20.2
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.3	-	-	2.4

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	140	294	36	278	155	46
Future Vol, veh/h	140	294	36	278	155	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	152	320	39	302	168	50

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	39	0	-	0	663	39
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	624	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1584	-	-	0	429	1038
Stage 1	-	-	-	0	989	-
Stage 2	-	-	-	0	538	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1584	-	-	-	379	1038
Mov Cap-2 Maneuver	-	-	-	-	379	-
Stage 1	-	-	-	-	873	-
Stage 2	-	-	-	-	538	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	20.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1584	-	-	443
HCM Lane V/C Ratio	0.096	-	-	0.493
HCM Control Delay (s)	7.5	0	-	20.8
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.3	-	-	2.7

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	140	355	36	355	155	46
Future Vol, veh/h	140	355	36	355	155	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	152	386	39	386	168	50

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	39	0	-	0	729	39
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	690	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1584	-	-	0	393	1038
Stage 1	-	-	-	0	989	-
Stage 2	-	-	-	0	502	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1584	-	-	-	345	1038
Mov Cap-2 Maneuver	-	-	-	-	345	-
Stage 1	-	-	-	-	868	-
Stage 2	-	-	-	-	502	-

Approach	EB	WB	SB
HCM Control Delay, s	2.1	0	23.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1584	-	-	407
HCM Lane V/C Ratio	0.096	-	-	0.537
HCM Control Delay (s)	7.5	0	-	23.6
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.3	-	-	3.1

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	140	294	36	353	155	46
Future Vol, veh/h	140	294	36	353	155	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	152	320	39	384	168	50

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	39	0	-	0	663	39
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	624	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1584	-	-	0	429	1038
Stage 1	-	-	-	0	989	-
Stage 2	-	-	-	0	538	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1584	-	-	-	379	1038
Mov Cap-2 Maneuver	-	-	-	-	379	-
Stage 1	-	-	-	-	873	-
Stage 2	-	-	-	-	538	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	20.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1584	-	-	443
HCM Lane V/C Ratio	0.096	-	-	0.493
HCM Control Delay (s)	7.5	0	-	20.8
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.3	-	-	2.7

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	140	355	36	430	155	46
Future Vol, veh/h	140	355	36	430	155	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	152	386	39	467	168	50

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	39	0	-	0	729	39
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	690	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1584	-	-	0	393	1038
Stage 1	-	-	-	0	989	-
Stage 2	-	-	-	0	502	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1584	-	-	-	345	1038
Mov Cap-2 Maneuver	-	-	-	-	345	-
Stage 1	-	-	-	-	868	-
Stage 2	-	-	-	-	502	-

Approach	EB	WB	SB
HCM Control Delay, s	2.1	0	23.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1584	-	-	407
HCM Lane V/C Ratio	0.096	-	-	0.537
HCM Control Delay (s)	7.5	0	-	23.6
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.3	-	-	3.1

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : QUARRY RD
CONDITION : PM PEAK HOUR

INTERSECTION : 7
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	2		4		6		8	10	12	14	16	18
STODDARD WELLS RD												
EB LEFT	67	5	72	0	72	0	72	72	78	78	78	78
EB THRU	227	14	241	22	263	0	241	263.00	257	279.00	257	279.00
EB RIGHT	0	0	0	0	0	0	0	0.00	0	0	0	0
WB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
WB THRU	179	11	190	0	190	0	190	190	204	204	204	204
WB RIGHT	251	16	267	236	503	233	500	736	576	812	809	1045
QUARRY RD												
NB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
NB THRU	0	0	0	0	0	0	0	0	0	0	0	0
NB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
SB LEFT	61	4	65	0	65	0	65	65	90	90	90	90
SB THRU	0	0	0	0	0	0	0	0	0	0	0	0
SB RIGHT	94	6	100	0	100	0	100	100	80	80	80	80
TOTALS	**879**	**56**	**935**	**258**	**1193**	**233**	**1168**	**1426**	**1285**	**1543**	**1518**	**1776**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : QUARRY RD
CONDITION : PM PEAK HOUR
PHF : 0.92

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
13	0	7	1	0	0	2	0	0	0	0	1
14	0	13	1	0	0	0	0	0	4	0	0
10	0	7	0	0	0	0	0	0	0	0	0
11	0	16	2	0	0	0	0	0	0	0	0

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

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
65	28	0	0	0	0	1	0	0	0	0	0
70	30	0	0	0	0	0	0	0	0	0	0
53	69	0	0	0	0	0	0	0	0	0	0
57	52	0	0	0	0	0	0	0	0	0	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	51	13	0	0	0	0	1	0	0	3	0
0	44	21	0	0	0	0	0	0	0	0	0
0	55	14	0	0	0	0	0	0	0	0	0
0	66	18	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
STODDARD WELLS RD					
EB LEFT	0	66	**66**	**66**	**67**
EB THRU	4	216	**220**	**227**	**227**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	0	0	**0**	**0**	**0**
WB THRU	0	179	**179**	**179**	**179**
WB RIGHT	1	245	**246**	**247**	**251**
QUARRY RD					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	0	0	**0**	**0**	**0**
NB RIGHT	0	0	**0**	**0**	**0**
SB LEFT	1	43	**44**	**46**	**61**
SB THRU	0	0	**0**	**0**	**0**
SB RIGHT	10	48	**58**	**70**	**94**

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	67	227	179	251	61	94
Future Vol, veh/h	67	227	179	251	61	94
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	73	247	195	273	66	102

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	195	0	-	0	588	195
Stage 1	-	-	-	-	195	-
Stage 2	-	-	-	-	393	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1390	-	-	0	475	851
Stage 1	-	-	-	0	843	-
Stage 2	-	-	-	0	686	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1390	-	-	-	446	851
Mov Cap-2 Maneuver	-	-	-	-	446	-
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	686	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	12.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1390	-	-	627
HCM Lane V/C Ratio	0.052	-	-	0.269
HCM Control Delay (s)	7.7	0	-	12.8
HCM Lane LOS	A	A	-	B
HCM 95th %tile Q(veh)	0.2	-	-	1.1

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	72	241	190	267	65	100
Future Vol, veh/h	72	241	190	267	65	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	78	262	207	290	71	109

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	207	0	-	0	625	207
Stage 1	-	-	-	-	207	-
Stage 2	-	-	-	-	418	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1376	-	-	0	452	839
Stage 1	-	-	-	0	832	-
Stage 2	-	-	-	0	669	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1376	-	-	-	422	839
Mov Cap-2 Maneuver	-	-	-	-	422	-
Stage 1	-	-	-	-	777	-
Stage 2	-	-	-	-	669	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	13.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1376	-	-	604
HCM Lane V/C Ratio	0.057	-	-	0.297
HCM Control Delay (s)	7.8	0	-	13.5
HCM Lane LOS	A	A	-	B
HCM 95th %tile Q(veh)	0.2	-	-	1.2

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	72	263	190	503	65	100
Future Vol, veh/h	72	263	190	503	65	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	78	286	207	547	71	109

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	207	0	-	0	649	207
Stage 1	-	-	-	-	207	-
Stage 2	-	-	-	-	442	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1376	-	-	0	438	839
Stage 1	-	-	-	0	832	-
Stage 2	-	-	-	0	652	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1376	-	-	-	409	839
Mov Cap-2 Maneuver	-	-	-	-	409	-
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	652	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	13.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1376	-	-	593
HCM Lane V/C Ratio	0.057	-	-	0.302
HCM Control Delay (s)	7.8	0	-	13.7
HCM Lane LOS	A	A	-	B
HCM 95th %tile Q(veh)	0.2	-	-	1.3

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	72	241	190	500	65	100
Future Vol, veh/h	72	241	190	500	65	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	78	262	207	543	71	109

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	207	0	-	0	625	207
Stage 1	-	-	-	-	207	-
Stage 2	-	-	-	-	418	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1376	-	-	0	452	839
Stage 1	-	-	-	0	832	-
Stage 2	-	-	-	0	669	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1376	-	-	-	422	839
Mov Cap-2 Maneuver	-	-	-	-	422	-
Stage 1	-	-	-	-	777	-
Stage 2	-	-	-	-	669	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	13.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1376	-	-	604
HCM Lane V/C Ratio	0.057	-	-	0.297
HCM Control Delay (s)	7.8	0	-	13.5
HCM Lane LOS	A	A	-	B
HCM 95th %tile Q(veh)	0.2	-	-	1.2

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	72	263	190	736	65	100
Future Vol, veh/h	72	263	190	736	65	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	78	286	207	800	71	109

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	207	0	-	0	649	207
Stage 1	-	-	-	-	207	-
Stage 2	-	-	-	-	442	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1376	-	-	0	438	839
Stage 1	-	-	-	0	832	-
Stage 2	-	-	-	0	652	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1376	-	-	-	409	839
Mov Cap-2 Maneuver	-	-	-	-	409	-
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	652	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	13.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1376	-	-	593
HCM Lane V/C Ratio	0.057	-	-	0.302
HCM Control Delay (s)	7.8	0	-	13.7
HCM Lane LOS	A	A	-	B
HCM 95th %tile Q(veh)	0.2	-	-	1.3

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	78	257	204	576	90	80
Future Vol, veh/h	78	257	204	576	90	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	85	279	222	626	98	87

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	222	0	-	0	671	222
Stage 1	-	-	-	-	222	-
Stage 2	-	-	-	-	449	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1359	-	-	0	425	823
Stage 1	-	-	-	0	820	-
Stage 2	-	-	-	0	647	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1359	-	-	-	394	823
Mov Cap-2 Maneuver	-	-	-	-	394	-
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	647	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1359	-	-	522
HCM Lane V/C Ratio	0.062	-	-	0.354
HCM Control Delay (s)	7.8	0	-	15.6
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.2	-	-	1.6

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	78	279	204	812	90	80
Future Vol, veh/h	78	279	204	812	90	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	85	303	222	883	98	87

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	222	0	-	0	695	222
Stage 1	-	-	-	-	222	-
Stage 2	-	-	-	-	473	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1359	-	-	0	411	823
Stage 1	-	-	-	0	820	-
Stage 2	-	-	-	0	631	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1359	-	-	-	380	823
Mov Cap-2 Maneuver	-	-	-	-	380	-
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	631	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	16
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1359	-	-	509
HCM Lane V/C Ratio	0.062	-	-	0.363
HCM Control Delay (s)	7.8	0	-	16
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.2	-	-	1.6

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	78	257	204	809	90	80
Future Vol, veh/h	78	257	204	809	90	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	85	279	222	879	98	87

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	222	0	-	0	671	222
Stage 1	-	-	-	-	222	-
Stage 2	-	-	-	-	449	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1359	-	-	0	425	823
Stage 1	-	-	-	0	820	-
Stage 2	-	-	-	0	647	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1359	-	-	-	394	823
Mov Cap-2 Maneuver	-	-	-	-	394	-
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	647	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	15.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1359	-	-	522
HCM Lane V/C Ratio	0.062	-	-	0.354
HCM Control Delay (s)	7.8	0	-	15.6
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.2	-	-	1.6

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	78	279	204	1045	90	80
Future Vol, veh/h	78	279	204	1045	90	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	85	303	222	1136	98	87

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	222	0	-	0	695	222
Stage 1	-	-	-	-	222	-
Stage 2	-	-	-	-	473	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1359	-	-	0	411	823
Stage 1	-	-	-	0	820	-
Stage 2	-	-	-	0	631	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1359	-	-	-	380	823
Mov Cap-2 Maneuver	-	-	-	-	380	-
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	631	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	16
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1359	-	-	509
HCM Lane V/C Ratio	0.062	-	-	0.363
HCM Control Delay (s)	7.8	0	-	16
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.2	-	-	1.6

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

Intersection No.: 7
North/South Street: QUARRY RD
East/West Street: STODDARD WELLS RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	0	Left	0	0
NB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
North leg	Left	129	Approach	193	Left	148	155
SB	Through	0	Departure	417	Through	0	0
	Right	50			Right	45	46
West leg	Left	131	Approach	421	Left	140	140
EB	Through	264	Departure	81	Through	281	294
	Right	0			Right	0	0
East leg	Left	0	Approach	313	Left	0	0
WB	Through	25	Departure	429	Through	36	36
	Right	153			Right	277	278

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	0	Left	0	0
NB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
North leg	Left	61	Approach	152	Left	83	90
SB	Through	0	Departure	652	Through	0	0
	Right	94			Right	70	80
West leg	Left	67	Approach	316	Left	78	78
EB	Through	227	Departure	273	Through	240	257
	Right	0			Right	0	0
East leg	Left	0	Approach	775	Left	0	0
WB	Through	179	Departure	323	Through	203	204
	Right	251			Right	574	576

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : I-15 SB RAMPS
N/S STREET : QUARRY RD
CONDITION : AM PEAK HOUR

INTERSECTION : 8
PROJECTED GROWTH PER YEAR : 3.0%

CONDITION DIAGRAMS

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	1		3		5		7	9	11	13	15	17

I-15 SB RAMPS

EB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0	0	0	0	0
EB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
WB LEFT	178	11	189	0	189	0	189	189	188	188	188	188
WB THRU	0	0	0	0	0	0	0	0	0	0	0	0
WB RIGHT	1	1	2	0	2	0	2	2	1	1	1	1

QUARRY RD

NB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
NB THRU	1	1	2	0	2	0	2	2	2	2	2	2
NB RIGHT	283	17	300	77	377	75	375	452	405	482	480	557
SB LEFT	1	1	2	0	2	0	2	2	2	2	2	2
SB THRU	1	1	2	0	2	0	2	2	1	1	1	1
SB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**465**	**32**	**497**	**77**	**574**	**75**	**572**	**649**	**599**	**676**	**674**	**751**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : I-15 SB RAMPS
N/S STREET : QUARRY RD
CONDITION : AM PEAK HOUR
PHF : 0.90

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

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
66	0	0	0	0	0	0	0	0	1	0	0
75	0	0	0	0	0	0	0	0	0	0	0
73	0	0	0	0	0	0	0	0	0	0	0
48	1	0	0	0	0	2	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	45	0	0	1	0	0	0	0	0	3
0	0	40	0	0	0	0	0	1	0	0	2
1	0	35	0	0	3	0	0	0	0	0	1
0	0	19	0	0	1	0	0	1	0	0	3

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

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
I-15 SB RAMPS					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	16	139	**155**	**178**	**178**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	0	1	**1**	**1**	**1**
QUARRY RD					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	0	1	**1**	**1**	**1**
NB RIGHT	3	262	**265**	**269**	**283**
SB LEFT	0	1	**1**	**1**	**1**
SB THRU	0	0	**1**	**1**	**1**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	178	1	1	283	1	1
Future Vol, veh/h	178	1	1	283	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	198	1	1	314	1	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	161	158	0	0	315	0
Stage 1	158	-	-	-	-	-
Stage 2	3	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	835	893	-	-	1257	-
Stage 1	875	-	-	-	-	-
Stage 2	1025	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	834	893	-	-	1257	-
Mov Cap-2 Maneuver	834	-	-	-	-	-
Stage 1	875	-	-	-	-	-
Stage 2	1024	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	3.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	834	1257	-
HCM Lane V/C Ratio	-	-	0.238	0.001	-
HCM Control Delay (s)	-	-	10.7	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0	-

Intersection	
Int Delay, s/veh	4.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	189	2	2	300	2	2
Future Vol, veh/h	189	2	2	300	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	210	2	2	333	2	2

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	175	169	0	0	335	0
Stage 1	169	-	-	-	-	-
Stage 2	6	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	819	880	-	-	1236	-
Stage 1	866	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	817	880	-	-	1236	-
Mov Cap-2 Maneuver	817	-	-	-	-	-
Stage 1	866	-	-	-	-	-
Stage 2	1020	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	818	1236	-
HCM Lane V/C Ratio	-	-	0.259	0.002	-
HCM Control Delay (s)	-	-	10.9	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1	0	-

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	189	2	2	377	2	2
Future Vol, veh/h	189	2	2	377	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	210	2	2	419	2	2

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	218	212	0	0	421	0
Stage 1	212	-	-	-	-	-
Stage 2	6	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	775	833	-	-	1149	-
Stage 1	828	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	773	833	-	-	1149	-
Mov Cap-2 Maneuver	773	-	-	-	-	-
Stage 1	828	-	-	-	-	-
Stage 2	1020	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	4.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	774	1149	-
HCM Lane V/C Ratio	-	-	0.274	0.002	-
HCM Control Delay (s)	-	-	11.4	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.1	0	-

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	189	2	2	375	2	2
Future Vol, veh/h	189	2	2	375	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	210	2	2	417	2	2

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	217	211	0	0	419	0
Stage 1	211	-	-	-	-	-
Stage 2	6	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	776	834	-	-	1151	-
Stage 1	829	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	774	834	-	-	1151	-
Mov Cap-2 Maneuver	774	-	-	-	-	-
Stage 1	829	-	-	-	-	-
Stage 2	1020	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	4.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	775	1151	-
HCM Lane V/C Ratio	-	-	0.274	0.002	-
HCM Control Delay (s)	-	-	11.4	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.1	0	-

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	189	2	2	452	2	2
Future Vol, veh/h	189	2	2	452	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	210	2	2	502	2	2

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	259	253	0	0	504	0
Stage 1	253	-	-	-	-	-
Stage 2	6	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	734	791	-	-	1071	-
Stage 1	794	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	733	791	-	-	1071	-
Mov Cap-2 Maneuver	733	-	-	-	-	-
Stage 1	794	-	-	-	-	-
Stage 2	1020	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	4.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	734	1071	-
HCM Lane V/C Ratio	-	-	0.289	0.002	-
HCM Control Delay (s)	-	-	11.9	8.4	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.2	0	-

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	188	1	2	405	2	1
Future Vol, veh/h	188	1	2	405	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	209	1	2	450	2	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	232	227	0	0	452	0
Stage 1	227	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	761	817	-	-	1119	-
Stage 1	815	-	-	-	-	-
Stage 2	1023	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	759	817	-	-	1119	-
Mov Cap-2 Maneuver	759	-	-	-	-	-
Stage 1	815	-	-	-	-	-
Stage 2	1021	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.5	0	5.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	759	1119	-
HCM Lane V/C Ratio	-	-	0.277	0.002	-
HCM Control Delay (s)	-	-	11.5	8.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.1	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	188	1	2	482	2	1
Future Vol, veh/h	188	1	2	482	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	209	1	2	536	2	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	275	270	0	0	538	0
Stage 1	270	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	719	774	-	-	1040	-
Stage 1	780	-	-	-	-	-
Stage 2	1023	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	718	774	-	-	1040	-
Mov Cap-2 Maneuver	718	-	-	-	-	-
Stage 1	780	-	-	-	-	-
Stage 2	1021	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.1	0	5.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	718	1040	-
HCM Lane V/C Ratio	-	-	0.292	0.002	-
HCM Control Delay (s)	-	-	12.1	8.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.2	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	188	1	2	480	2	1
Future Vol, veh/h	188	1	2	480	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	209	1	2	533	2	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	274	269	0	0	535	0
Stage 1	269	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	720	775	-	-	1043	-
Stage 1	781	-	-	-	-	-
Stage 2	1023	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	719	775	-	-	1043	-
Mov Cap-2 Maneuver	719	-	-	-	-	-
Stage 1	781	-	-	-	-	-
Stage 2	1021	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.1	0	5.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	719	1043	-
HCM Lane V/C Ratio	-	-	0.292	0.002	-
HCM Control Delay (s)	-	-	12.1	8.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.2	0	-

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	188	1	2	557	2	1
Future Vol, veh/h	188	1	2	557	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	209	1	2	619	2	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	317	312	0	0	621	0
Stage 1	312	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	680	733	-	-	969	-
Stage 1	747	-	-	-	-	-
Stage 2	1023	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	679	733	-	-	969	-
Mov Cap-2 Maneuver	679	-	-	-	-	-
Stage 1	747	-	-	-	-	-
Stage 2	1021	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.7	0	5.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	679	969	-
HCM Lane V/C Ratio	-	-	0.309	0.002	-
HCM Control Delay (s)	-	-	12.7	8.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.3	0	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : I-15 SB RAMPS
N/S STREET : QUARRY RD
CONDITION : PM PEAK HOUR

INTERSECTION : 8
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	2		4		6		8	10	12	14	16	18
I-15 SB RAMPS												
EB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0.00	0	0.00	0	0.00
EB RIGHT	0	0	0	0	0	0	0	0.00	0	0	0	0
WB LEFT	154	10	164	0	164	0	164	164	170	170	170	170
WB THRU	0	0	0	0	0	0	0	0	0	0	0	0
WB RIGHT	2	1	3	0	3	0	3	3	2	2	2	2
QUARRY RD												
NB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
NB THRU	1	1	2	0	2	0	2	2	2	2	2	2
NB RIGHT	317	20	337	236	573	233	570	806	628	864	861	1097
SB LEFT	1	1	2	0	2	0	2	2	2	2	2	2
SB THRU	1	1	2	0	2	0	2	2	1	1	1	1
SB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**476**	**34**	**510**	**236**	**746**	**233**	**743**	**979**	**805**	**1041**	**1038**	**1274**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : I-15 SB RAMPS
N/S STREET : QUARRY RD
CONDITION : PM PEAK HOUR
PHF : 0.76

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

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
109	0	0	2	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0
77	1	0	0	0	0	1	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	24	0	0	2	0	0	3	0	0	4
0	0	27	0	0	0	0	0	1	0	0	4
2	0	20	0	0	1	0	0	2	0	0	1
0	0	26	0	0	1	0	0	0	0	0	4

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

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
I-15 SB RAMPS					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	23	97	**120**	**154**	**154**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	0	2	**2**	**2**	**2**
QUARRY RD					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	0	1	**1**	**1**	**1**
NB RIGHT	3	312	**315**	**317**	**317**
SB LEFT	0	0	**1**	**1**	**1**
SB THRU	0	1	**1**	**1**	**1**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	154	2	1	317	1	1
Future Vol, veh/h	154	2	1	317	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	203	3	1	417	1	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	213	210	0	0	418	0
Stage 1	210	-	-	-	-	-
Stage 2	3	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	780	835	-	-	1152	-
Stage 1	830	-	-	-	-	-
Stage 2	1025	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	779	835	-	-	1152	-
Mov Cap-2 Maneuver	779	-	-	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	1024	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.3	0	4.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	780	1152	-
HCM Lane V/C Ratio	-	-	0.263	0.001	-
HCM Control Delay (s)	-	-	11.3	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.1	0	-

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	164	3	2	337	2	2
Future Vol, veh/h	164	3	2	337	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	216	4	3	443	3	3

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	234	225	0	0	446	0
Stage 1	225	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	759	819	-	-	1125	-
Stage 1	817	-	-	-	-	-
Stage 2	1019	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	757	819	-	-	1125	-
Mov Cap-2 Maneuver	757	-	-	-	-	-
Stage 1	817	-	-	-	-	-
Stage 2	1016	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	4.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	758	1125	-
HCM Lane V/C Ratio	-	-	0.29	0.002	-
HCM Control Delay (s)	-	-	11.7	8.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.2	0	-

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	164	3	2	573	2	2
Future Vol, veh/h	164	3	2	573	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	216	4	3	754	3	3

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	389	380	0	0	757	0
Stage 1	380	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	619	671	-	-	863	-
Stage 1	696	-	-	-	-	-
Stage 2	1019	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	617	671	-	-	863	-
Mov Cap-2 Maneuver	617	-	-	-	-	-
Stage 1	696	-	-	-	-	-
Stage 2	1016	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14	0	4.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	618	863	-
HCM Lane V/C Ratio	-	-	0.356	0.003	-
HCM Control Delay (s)	-	-	14	9.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.6	0	-

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	164	3	2	570	2	2
Future Vol, veh/h	164	3	2	570	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	216	4	3	750	3	3

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	387	378	0	0	753	0
Stage 1	378	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	620	673	-	-	866	-
Stage 1	697	-	-	-	-	-
Stage 2	1019	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	618	673	-	-	866	-
Mov Cap-2 Maneuver	618	-	-	-	-	-
Stage 1	697	-	-	-	-	-
Stage 2	1016	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14	0	4.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	619	866	-
HCM Lane V/C Ratio	-	-	0.355	0.003	-
HCM Control Delay (s)	-	-	14	9.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.6	0	-

Intersection	
Int Delay, s/veh	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	164	3	2	806	2	2
Future Vol, veh/h	164	3	2	806	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	216	4	3	1061	3	3

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	543	534	0	0	1064	0
Stage 1	534	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	504	550	-	-	662	-
Stage 1	592	-	-	-	-	-
Stage 2	1019	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	501	550	-	-	662	-
Mov Cap-2 Maneuver	501	-	-	-	-	-
Stage 1	592	-	-	-	-	-
Stage 2	1014	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.6	0	5.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	502	662	-
HCM Lane V/C Ratio	-	-	0.438	0.004	-
HCM Control Delay (s)	-	-	17.6	10.5	0
HCM Lane LOS	-	-	C	B	A
HCM 95th %tile Q(veh)	-	-	2.2	0	-

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	170	2	2	628	2	1
Future Vol, veh/h	170	2	2	628	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	224	3	3	826	3	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	423	416	0	0	829	0
Stage 1	416	-	-	-	-	-
Stage 2	7	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	591	641	-	-	811	-
Stage 1	670	-	-	-	-	-
Stage 2	1021	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	589	641	-	-	811	-
Mov Cap-2 Maneuver	589	-	-	-	-	-
Stage 1	670	-	-	-	-	-
Stage 2	1017	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.8	0	6.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	590	811	-
HCM Lane V/C Ratio	-	-	0.384	0.003	-
HCM Control Delay (s)	-	-	14.8	9.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.8	0	-

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	170	2	2	864	2	1
Future Vol, veh/h	170	2	2	864	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	224	3	3	1137	3	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	579	572	0	0	1140	0
Stage 1	572	-	-	-	-	-
Stage 2	7	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	481	523	-	-	620	-
Stage 1	569	-	-	-	-	-
Stage 2	1021	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	479	523	-	-	620	-
Mov Cap-2 Maneuver	479	-	-	-	-	-
Stage 1	569	-	-	-	-	-
Stage 2	1016	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.1	0	7.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	479	620	-
HCM Lane V/C Ratio	-	-	0.472	0.004	-
HCM Control Delay (s)	-	-	19.1	10.8	0
HCM Lane LOS	-	-	C	B	A
HCM 95th %tile Q(veh)	-	-	2.5	0	-

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	170	2	2	861	2	1
Future Vol, veh/h	170	2	2	861	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	224	3	3	1133	3	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	577	570	0	0	1136	0
Stage 1	570	-	-	-	-	-
Stage 2	7	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	482	525	-	-	622	-
Stage 1	570	-	-	-	-	-
Stage 2	1021	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	480	525	-	-	622	-
Mov Cap-2 Maneuver	480	-	-	-	-	-
Stage 1	570	-	-	-	-	-
Stage 2	1016	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19	0	7.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	480	622	-
HCM Lane V/C Ratio	-	-	0.471	0.004	-
HCM Control Delay (s)	-	-	19	10.8	0
HCM Lane LOS	-	-	C	B	A
HCM 95th %tile Q(veh)	-	-	2.5	0	-

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	170	2	2	1097	2	1
Future Vol, veh/h	170	2	2	1097	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	224	3	3	1443	3	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	732	725	0	0	1446	0
Stage 1	725	-	-	-	-	-
Stage 2	7	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	391	428	-	-	475	-
Stage 1	483	-	-	-	-	-
Stage 2	1021	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	389	428	-	-	475	-
Mov Cap-2 Maneuver	389	-	-	-	-	-
Stage 1	483	-	-	-	-	-
Stage 2	1015	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.4	0	8.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	389	475	-
HCM Lane V/C Ratio	-	-	0.582	0.006	-
HCM Control Delay (s)	-	-	26.4	12.6	0
HCM Lane LOS	-	-	D	B	A
HCM 95th %tile Q(veh)	-	-	3.6	0	-

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

Intersection No.: 8
North/South Street: QUARRY RD
East/West Street: I-15 SB RAMPS

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	406	Left	0	0
NB	Through	1	Departure	188	Through	1	2
	Right	283			Right	405	405
North leg	Left	1	Approach	2	Left	1	2
SB	Through	1	Departure	2	Through	1	1
	Right	0			Right	0	0
West leg	Left	0	Approach	0	Left	0	0
EB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
East leg	Left	178	Approach	188	Left	187	188
WB	Through	0	Departure	406	Through	0	0
	Right	1			Right	1	1

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	629	Left	0	0
NB	Through	1	Departure	170	Through	1	2
	Right	317			Right	628	628
North leg	Left	1	Approach	2	Left	1	2
SB	Through	1	Departure	3	Through	1	1
	Right	0			Right	0	0
West leg	Left	0	Approach	0	Left	0	0
EB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
East leg	Left	154	Approach	171	Left	169	170
WB	Through	0	Departure	629	Through	0	0
	Right	2			Right	2	2

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : NAVAJO RD
N/S STREET : JOHNSON RD
CONDITION : AM PEAK HOUR

INTERSECTION : 9
PROJECTED GROWTH PER YEAR : 3.0%

CONDITION DIAGRAMS

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	1		3		5		7	9	11	13	15	17
NAVAJO RD												
EB LEFT	0	0	0	167	167	206	206	373	0	167	206	373
EB THRU	6	1	7	0	7	0	7	7	18	18	18	18
EB RIGHT	55	4	59	0	59	0	59	59	57	57	57	57
WB LEFT	2	1	3	0	3	0	3	3	3	3	3	3
WB THRU	36	3	39	0	39	0	39	39	45	45	45	45
WB RIGHT	0	0	0	32	32	30	30	62	0	32	30	62
JOHNSON RD												
NB LEFT	94	6	100	0	100	0	100	100	95	95	95	95
NB THRU	0	0	0	0	0	0	0	0	0	0	0	0
NB RIGHT	2	1	3	0	3	0	3	3	7	7	7	7
SB LEFT	0	0	0	10	10	9	9	19	0	10	9	19
SB THRU	0	0	0	0	0	0	0	0	0	0	0	0
SB RIGHT	0	0	0	46	46	62	62	108	0	46	62	108
TOTALS	**195**	**16**	**211**	**255**	**466**	**307**	**518**	**773**	**225**	**480**	**532**	**787**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : NAVAJO RD
CONDITION : AM PEAK HOUR
N/S STREET : JOHNSON RD
PHF : 0.73

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

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	17	0	0	2	0	0	1	0	0	2
0	0	22	0	0	0	0	0	0	0	0	0
2	0	23	0	0	1	0	0	0	0	0	1
0	0	16	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	1	2	0	0	0	0	0	0	0	0	0
0	7	0	0	0	0	0	0	0	0	1	0
0	14	0	0	0	0	0	0	0	0	0	0
0	9	0	0	0	0	0	1	0	0	0	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
10	3	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	1	0	0
20	1	0	0	0	0	0	0	0	0	0	0
12	2	0	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
NAVAJO RD					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	6	**6**	**6**	**6**
EB RIGHT	1	52	**53**	**55**	**55**
WB LEFT	0	2	**2**	**2**	**2**
WB THRU	2	31	**33**	**36**	**36**
WB RIGHT	0	0	**0**	**0**	**0**
JOHNSON RD					
NB LEFT	7	78	**85**	**94**	**94**
NB THRU	0	0	**0**	**0**	**0**
NB RIGHT	0	2	**2**	**2**	**2**
SB LEFT	0	0	**0**	**0**	**0**
SB THRU	0	0	**0**	**0**	**0**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	57	55	2	36	94	2
Future Vol, veh/h	57	55	2	36	94	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	78	75	3	49	129	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	153	0	171	116
Stage 1	-	-	-	-	116	-
Stage 2	-	-	-	-	55	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1440	-	824	942
Stage 1	-	-	-	-	914	-
Stage 2	-	-	-	-	973	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1440	-	822	942
Mov Cap-2 Maneuver	-	-	-	-	822	-
Stage 1	-	-	-	-	914	-
Stage 2	-	-	-	-	971	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	824	-	-	1440	-
HCM Lane V/C Ratio	0.16	-	-	0.002	-
HCM Control Delay (s)	10.2	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	61	59	3	39	100	3
Future Vol, veh/h	61	59	3	39	100	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	84	81	4	53	137	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	165	0	186	125
Stage 1	-	-	-	-	125	-
Stage 2	-	-	-	-	61	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1426	-	808	931
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	967	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1426	-	806	931
Mov Cap-2 Maneuver	-	-	-	-	806	-
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	964	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	809	-	-	1426	-
HCM Lane V/C Ratio	0.174	-	-	0.003	-
HCM Control Delay (s)	10.4	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	61	59	3	39	100	3
Future Vol, veh/h	61	59	3	39	100	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	84	81	4	53	137	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	165	0	186	125
Stage 1	-	-	-	-	125	-
Stage 2	-	-	-	-	61	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1426	-	808	931
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	967	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1426	-	806	931
Mov Cap-2 Maneuver	-	-	-	-	806	-
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	964	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	809	-	-	1426	-
HCM Lane V/C Ratio	0.174	-	-	0.003	-
HCM Control Delay (s)	10.4	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	61	59	3	39	100	3
Future Vol, veh/h	61	59	3	39	100	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	84	81	4	53	137	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	165	0	186	125
Stage 1	-	-	-	-	125	-
Stage 2	-	-	-	-	61	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1426	-	808	931
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	967	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1426	-	806	931
Mov Cap-2 Maneuver	-	-	-	-	806	-
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	964	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	809	-	-	1426	-
HCM Lane V/C Ratio	0.174	-	-	0.003	-
HCM Control Delay (s)	10.4	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	61	59	3	39	100	3
Future Vol, veh/h	61	59	3	39	100	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	84	81	4	53	137	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	165	0	186	125
Stage 1	-	-	-	-	125	-
Stage 2	-	-	-	-	61	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1426	-	808	931
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	967	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1426	-	806	931
Mov Cap-2 Maneuver	-	-	-	-	806	-
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	964	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	809	-	-	1426	-
HCM Lane V/C Ratio	0.174	-	-	0.003	-
HCM Control Delay (s)	10.4	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	67	59	3	45	95	7
Future Vol, veh/h	67	59	3	45	95	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	92	81	4	62	130	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	173	0	203	133
Stage 1	-	-	-	-	133	-
Stage 2	-	-	-	-	70	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1416	-	790	922
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	958	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1416	-	788	922
Mov Cap-2 Maneuver	-	-	-	-	788	-
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	955	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	796	-	-	1416	-
HCM Lane V/C Ratio	0.176	-	-	0.003	-
HCM Control Delay (s)	10.5	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	67	59	3	45	95	7
Future Vol, veh/h	67	59	3	45	95	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	92	81	4	62	130	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	173	0	203	133
Stage 1	-	-	-	-	133	-
Stage 2	-	-	-	-	70	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1416	-	790	922
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	958	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1416	-	788	922
Mov Cap-2 Maneuver	-	-	-	-	788	-
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	955	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	796	-	-	1416	-
HCM Lane V/C Ratio	0.176	-	-	0.003	-
HCM Control Delay (s)	10.5	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	67	59	3	45	95	7
Future Vol, veh/h	67	59	3	45	95	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	92	81	4	62	130	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	173	0	203	133
Stage 1	-	-	-	-	133	-
Stage 2	-	-	-	-	70	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1416	-	790	922
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	958	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1416	-	788	922
Mov Cap-2 Maneuver	-	-	-	-	788	-
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	955	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	796	-	-	1416	-
HCM Lane V/C Ratio	0.176	-	-	0.003	-
HCM Control Delay (s)	10.5	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	67	59	3	45	95	7
Future Vol, veh/h	67	59	3	45	95	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	92	81	4	62	130	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	173	0	203	133
Stage 1	-	-	-	-	133	-
Stage 2	-	-	-	-	70	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1416	-	790	922
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	958	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1416	-	788	922
Mov Cap-2 Maneuver	-	-	-	-	788	-
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	955	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	796	-	-	1416	-
HCM Lane V/C Ratio	0.176	-	-	0.003	-
HCM Control Delay (s)	10.5	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : NAVAJO RD
N/S STREET : JOHNSON RD
CONDITION : PM PEAK HOUR

INTERSECTION : 9
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	2		4		6		8	10	12	14	16	18
NAVAJO RD												
EB LEFT	0	0	0	61	61	75	75	136	0	61	75	136
EB THRU	57	4	61	0	61	0	61	61.00	67	67.00	67	67.00
EB RIGHT	55	4	59	0	59	0	59	59.00	59	59	59	59
WB LEFT	2	1	3	0	3	0	3	3	5	5	5	5
WB THRU	30	2	32	0	32	0	32	32	43	43	43	43
WB RIGHT	0	0	0	12	12	11	11	23	0	12	11	23
JOHNSON RD												
NB LEFT	97	6	103	0	103	0	103	103	97	97	97	97
NB THRU	0	0	0	0	0	0	0	0	0	0	0	0
NB RIGHT	3	1	4	0	4	0	4	4	6	6	6	6
SB LEFT	0	0	0	30	30	29	29	59	0	30	29	59
SB THRU	0	0	0	0	0	0	0	0	0	0	0	0
SB RIGHT	0	0	0	141	141	179	179	320	0	141	179	320
TOTALS	**244**	**18**	**262**	**244**	**506**	**294**	**556**	**800**	**277**	**521**	**571**	**815**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : NAVAJO RD
CONDITION : PM PEAK HOUR
N/S STREET : JOHNSON RD
PHF : 0.91

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

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
1	0	27	0	0	0	0	0	0	0	0	0
1	0	33	0	0	0	0	0	0	0	0	0
1	0	21	0	0	0	0	0	0	0	0	0
0	0	13	0	0	0	0	0	0	0	0	1

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	6	1	0	0	0	0	0	0	0	0	0
0	5	1	0	0	0	0	0	0	0	0	0
0	9	0	0	0	0	0	0	0	0	0	0
0	10	0	0	0	0	0	0	0	0	0	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
21	10	0	0	0	0	0	0	0	0	0	0
8	10	0	0	0	0	1	0	0	1	0	0
11	16	0	0	0	0	0	0	0	0	0	0
10	21	0	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
NAVAJO RD					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	57	**57**	**57**	**57**
EB RIGHT	2	50	**52**	**55**	**55**
WB LEFT	0	2	**2**	**2**	**2**
WB THRU	0	30	**30**	**30**	**30**
WB RIGHT	0	0	**0**	**0**	**0**
JOHNSON RD					
NB LEFT	1	94	**95**	**97**	**97**
NB THRU	0	0	**0**	**0**	**0**
NB RIGHT	0	3	**3**	**3**	**3**
SB LEFT	0	0	**0**	**0**	**0**
SB THRU	0	0	**0**	**0**	**0**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	57	55	2	30	97	3
Future Vol, veh/h	57	55	2	30	97	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	63	60	2	33	107	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	123	0	130	93
Stage 1	-	-	-	-	93	-
Stage 2	-	-	-	-	37	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1477	-	869	970
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	991	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1477	-	868	970
Mov Cap-2 Maneuver	-	-	-	-	868	-
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	990	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	871	-	-	1477	-
HCM Lane V/C Ratio	0.126	-	-	0.001	-
HCM Control Delay (s)	9.7	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	61	59	3	32	103	4
Future Vol, veh/h	61	59	3	32	103	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	67	65	3	35	113	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	132	0	141	100
Stage 1	-	-	-	-	100	-
Stage 2	-	-	-	-	41	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1466	-	857	961
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	987	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1466	-	855	961
Mov Cap-2 Maneuver	-	-	-	-	855	-
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	985	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	859	-	-	1466	-
HCM Lane V/C Ratio	0.137	-	-	0.002	-
HCM Control Delay (s)	9.9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	61	59	3	32	103	4
Future Vol, veh/h	61	59	3	32	103	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	67	65	3	35	113	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	132	0	141	100
Stage 1	-	-	-	-	100	-
Stage 2	-	-	-	-	41	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1466	-	857	961
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	987	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1466	-	855	961
Mov Cap-2 Maneuver	-	-	-	-	855	-
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	985	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	859	-	-	1466	-
HCM Lane V/C Ratio	0.137	-	-	0.002	-
HCM Control Delay (s)	9.9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	61	59	3	32	103	4
Future Vol, veh/h	61	59	3	32	103	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	67	65	3	35	113	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	132	0	141	100
Stage 1	-	-	-	-	100	-
Stage 2	-	-	-	-	41	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1466	-	857	961
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	987	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1466	-	855	961
Mov Cap-2 Maneuver	-	-	-	-	855	-
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	985	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	859	-	-	1466	-
HCM Lane V/C Ratio	0.137	-	-	0.002	-
HCM Control Delay (s)	9.9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	61	59	3	32	103	4
Future Vol, veh/h	61	59	3	32	103	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	67	65	3	35	113	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	132	0	141	100
Stage 1	-	-	-	-	100	-
Stage 2	-	-	-	-	41	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1466	-	857	961
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	987	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1466	-	855	961
Mov Cap-2 Maneuver	-	-	-	-	855	-
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	985	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	859	-	-	1466	-
HCM Lane V/C Ratio	0.137	-	-	0.002	-
HCM Control Delay (s)	9.9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	67	59	5	43	97	6
Future Vol, veh/h	67	59	5	43	97	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	74	65	5	47	107	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	139	0	164	107
Stage 1	-	-	-	-	107	-
Stage 2	-	-	-	-	57	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1457	-	831	953
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	971	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1457	-	828	953
Mov Cap-2 Maneuver	-	-	-	-	828	-
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	967	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	834	-	-	1457	-
HCM Lane V/C Ratio	0.136	-	-	0.004	-
HCM Control Delay (s)	10	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	67	59	5	43	97	6
Future Vol, veh/h	67	59	5	43	97	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	74	65	5	47	107	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	139	0	164	107
Stage 1	-	-	-	-	107	-
Stage 2	-	-	-	-	57	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1457	-	831	953
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	971	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1457	-	828	953
Mov Cap-2 Maneuver	-	-	-	-	828	-
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	967	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	834	-	-	1457	-
HCM Lane V/C Ratio	0.136	-	-	0.004	-
HCM Control Delay (s)	10	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	67	59	5	43	97	6
Future Vol, veh/h	67	59	5	43	97	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	74	65	5	47	107	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	139	0	164	107
Stage 1	-	-	-	-	107	-
Stage 2	-	-	-	-	57	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1457	-	831	953
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	971	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1457	-	828	953
Mov Cap-2 Maneuver	-	-	-	-	828	-
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	967	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	834	-	-	1457	-
HCM Lane V/C Ratio	0.136	-	-	0.004	-
HCM Control Delay (s)	10	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	67	59	5	43	97	6
Future Vol, veh/h	67	59	5	43	97	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	74	65	5	47	107	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	139	0	164	107
Stage 1	-	-	-	-	107	-
Stage 2	-	-	-	-	57	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1457	-	831	953
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	971	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1457	-	828	953
Mov Cap-2 Maneuver	-	-	-	-	828	-
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	967	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	834	-	-	1457	-
HCM Lane V/C Ratio	0.136	-	-	0.004	-
HCM Control Delay (s)	10	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

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

Intersection No.: 9
North/South Street: JOHNSON RD
East/West Street: NAVAJO RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	94	Approach	102	Left	94	95
NB	Through	0	Departure	59	Through	0	0
	Right	2			Right	6	7
North leg	Left	0	Approach	0	Left	0	0
SB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
West leg	Left	0	Approach	73	Left	0	0
EB	Through	6	Departure	139	Through	18	18
	Right	55			Right	56	57
East leg	Left	2	Approach	48	Left	3	3
WB	Through	36	Departure	24	Through	45	45
	Right	0			Right	0	0

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	97	Approach	103	Left	96	97
NB	Through	0	Departure	63	Through	0	0
	Right	3			Right	5	6
North leg	Left	0	Approach	0	Left	0	0
SB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
West leg	Left	0	Approach	122	Left	0	0
EB	Through	57	Departure	139	Through	67	67
	Right	55			Right	59	59
East leg	Left	2	Approach	48	Left	4	5
WB	Through	30	Departure	72	Through	43	43
	Right	0			Right	0	0

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : CORDOVA RD
N/S STREET : DALE EVANS PKWY
CONDITION : AM PEAK HOUR

INTERSECTION : 10
PROJECTED GROWTH PER YEAR : 3.0%

CONDITION DIAGRAMS

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	1		3		5		7	9	11	13	15	17

CORDOVA RD

EB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0	0	0	0	0
EB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
WB LEFT	1	1	2	55	57	38	40	95	22	77	60	115
WB THRU	0	0	0	0	0	0	0	0	0	0	0	0
WB RIGHT	1	1	2	12	14	11	13	25	4	16	15	27

DALE EVANS PKWY

NB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
NB THRU	128	8	136	0	136	0	136	136	250	250	250	250
NB RIGHT	1	1	2	167	169	125	127	294	78	245	203	370
SB LEFT	1	1	2	41	43	39	41	82	15	56	54	95
SB THRU	74	5	79	0	79	0	79	79	152	152	152	152
SB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**206**	**17**	**223**	**275**	**498**	**213**	**436**	**711**	**521**	**796**	**734**	**1009**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : CORDOVA RD
CONDITION : AM PEAK HOUR
N/S STREET : DALE EVANS PKWY
PHF : 0.83

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	14	0	0	1	0	0	0	0	0	3	0
0	15	0	0	1	0	0	0	0	0	0	0
0	8	0	0	1	0	0	0	0	0	0	0
0	8	0	0	0	0	0	0	0	0	5	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	30	0	0	0	0	0	0	0	0	2	0
0	31	0	0	1	0	0	1	0	0	0	0
0	15	0	0	1	0	0	0	0	0	3	0
0	21	0	0	1	0	0	0	0	0	3	0

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

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

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
CORDOVA RD					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	0	0	**1**	**1**	**1**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	0	0	**1**	**1**	**1**
DALE EVANS PKWY					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	12	97	**109**	**128**	**128**
NB RIGHT	0	0	**1**	**1**	**1**
SB LEFT	0	0	**1**	**1**	**1**
SB THRU	11	45	**56**	**74**	**74**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	1	128	1	1	74
Future Vol, veh/h	1	1	128	1	1	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	1	154	1	1	89

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	246	155	0	0	155	0
Stage 1	155	-	-	-	-	-
Stage 2	91	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	747	896	-	-	1438	-
Stage 1	878	-	-	-	-	-
Stage 2	938	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	746	896	-	-	1438	-
Mov Cap-2 Maneuver	746	-	-	-	-	-
Stage 1	878	-	-	-	-	-
Stage 2	937	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	814	1438	-
HCM Lane V/C Ratio	-	-	0.003	0.001	-
HCM Control Delay (s)	-	-	9.4	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	2	136	2	2	79
Future Vol, veh/h	2	2	136	2	2	79
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	2	164	2	2	95

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	264	165	0	0	166	0
Stage 1	165	-	-	-	-	-
Stage 2	99	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	729	885	-	-	1424	-
Stage 1	869	-	-	-	-	-
Stage 2	930	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	728	885	-	-	1424	-
Mov Cap-2 Maneuver	728	-	-	-	-	-
Stage 1	869	-	-	-	-	-
Stage 2	929	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	799	1424	-
HCM Lane V/C Ratio	-	-	0.006	0.002	-
HCM Control Delay (s)	-	-	9.5	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	14	136	169	43	79
Future Vol, veh/h	57	14	136	169	43	79
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	69	17	164	204	52	95

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	465	266	0	0	368	0
Stage 1	266	-	-	-	-	-
Stage 2	199	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	559	778	-	-	1202	-
Stage 1	783	-	-	-	-	-
Stage 2	839	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	533	778	-	-	1202	-
Mov Cap-2 Maneuver	533	-	-	-	-	-
Stage 1	783	-	-	-	-	-
Stage 2	800	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.5	0	2.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	568	1202	-
HCM Lane V/C Ratio	-	-	0.151	0.043	-
HCM Control Delay (s)	-	-	12.5	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	40	13	136	127	41	79
Future Vol, veh/h	40	13	136	127	41	79
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	48	16	164	153	49	95

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	434	241	0	0	317	0
Stage 1	241	-	-	-	-	-
Stage 2	193	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	583	803	-	-	1255	-
Stage 1	804	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	559	803	-	-	1255	-
Mov Cap-2 Maneuver	559	-	-	-	-	-
Stage 1	804	-	-	-	-	-
Stage 2	810	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	2.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	604	1255	-
HCM Lane V/C Ratio	-	-	0.106	0.039	-
HCM Control Delay (s)	-	-	11.7	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	40	13	136	127	41	79
Future Vol, veh/h	40	13	136	127	41	79
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	350	-	250	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	48	16	164	153	49	95

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	357	164	0	0	317	0
Stage 1	164	-	-	-	-	-
Stage 2	193	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	645	886	-	-	1255	-
Stage 1	870	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	620	886	-	-	1255	-
Mov Cap-2 Maneuver	665	-	-	-	-	-
Stage 1	870	-	-	-	-	-
Stage 2	812	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	2.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	665	886	1255	-
HCM Lane V/C Ratio	-	-	0.072	0.018	0.039	-
HCM Control Delay (s)	-	-	10.8	9.1	8	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	0.1	-

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	95	25	136	294	82	79
Future Vol, veh/h	95	25	136	294	82	79
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	114	30	164	354	99	95

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	634	341	0	0	518	0
Stage 1	341	-	-	-	-	-
Stage 2	293	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	446	706	-	-	1058	-
Stage 1	725	-	-	-	-	-
Stage 2	762	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	402	706	-	-	1058	-
Mov Cap-2 Maneuver	402	-	-	-	-	-
Stage 1	725	-	-	-	-	-
Stage 2	687	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.1	0	4.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	442	1058	-
HCM Lane V/C Ratio	-	-	0.327	0.093	-
HCM Control Delay (s)	-	-	17.1	8.8	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.4	0.3	-

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	95	25	136	294	82	79
Future Vol, veh/h	95	25	136	294	82	79
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	250	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	114	30	164	354	99	95

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	457	164	0	0	518	0
Stage 1	164	-	-	-	-	-
Stage 2	293	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	565	886	-	-	1058	-
Stage 1	870	-	-	-	-	-
Stage 2	762	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	512	886	-	-	1058	-
Mov Cap-2 Maneuver	576	-	-	-	-	-
Stage 1	870	-	-	-	-	-
Stage 2	690	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.1	0	4.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	576	886	1058	-
HCM Lane V/C Ratio	-	-	0.199	0.034	0.093	-
HCM Control Delay (s)	-	-	12.8	9.2	8.8	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.1	0.3	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	4	250	78	15	152
Future Vol, veh/h	22	4	250	78	15	152
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	27	5	301	94	18	183

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	567	348	0	0	395	0
Stage 1	348	-	-	-	-	-
Stage 2	219	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	488	700	-	-	1175	-
Stage 1	719	-	-	-	-	-
Stage 2	822	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	480	700	-	-	1175	-
Mov Cap-2 Maneuver	480	-	-	-	-	-
Stage 1	719	-	-	-	-	-
Stage 2	808	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.6	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	504	1175	-
HCM Lane V/C Ratio	-	-	0.062	0.015	-
HCM Control Delay (s)	-	-	12.6	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	77	16	250	245	56	152
Future Vol, veh/h	77	16	250	245	56	152
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	93	19	301	295	67	183

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	766	449	0	0	596	0
Stage 1	449	-	-	-	-	-
Stage 2	317	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	374	614	-	-	990	-
Stage 1	647	-	-	-	-	-
Stage 2	743	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	346	614	-	-	990	-
Mov Cap-2 Maneuver	346	-	-	-	-	-
Stage 1	647	-	-	-	-	-
Stage 2	687	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.7	0	2.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	374	990	-
HCM Lane V/C Ratio	-	-	0.3	0.068	-
HCM Control Delay (s)	-	-	18.7	8.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.2	0.2	-

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	60	15	250	203	54	152
Future Vol, veh/h	60	15	250	203	54	152
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	72	18	301	245	65	183

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	737	424	0	0	546	0
Stage 1	424	-	-	-	-	-
Stage 2	313	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	389	634	-	-	1033	-
Stage 1	664	-	-	-	-	-
Stage 2	746	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	362	634	-	-	1033	-
Mov Cap-2 Maneuver	362	-	-	-	-	-
Stage 1	664	-	-	-	-	-
Stage 2	694	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.8	0	2.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	396	1033	-
HCM Lane V/C Ratio	-	-	0.228	0.063	-
HCM Control Delay (s)	-	-	16.8	8.7	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0.2	-

Intersection	
Int Delay, s/veh	5.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	115	27	250	370	95	152
Future Vol, veh/h	115	27	250	370	95	152
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	139	33	301	446	114	183

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	935	524	0	0	747	0
Stage 1	524	-	-	-	-	-
Stage 2	411	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	297	557	-	-	870	-
Stage 1	598	-	-	-	-	-
Stage 2	674	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	254	557	-	-	870	-
Mov Cap-2 Maneuver	254	-	-	-	-	-
Stage 1	598	-	-	-	-	-
Stage 2	576	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	35.4	0	3.8
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	283	870	-
HCM Lane V/C Ratio	-	-	0.605	0.132	-
HCM Control Delay (s)	-	-	35.4	9.8	0
HCM Lane LOS	-	-	E	A	A
HCM 95th %tile Q(veh)	-	-	3.6	0.5	-

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	115	27	250	370	95	152
Future Vol, veh/h	115	27	250	370	95	152
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	350	-	250	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	139	33	301	446	114	183

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	712	301	0	0	747	0
Stage 1	301	-	-	-	-	-
Stage 2	411	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	402	743	-	-	870	-
Stage 1	755	-	-	-	-	-
Stage 2	674	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	349	743	-	-	870	-
Mov Cap-2 Maneuver	455	-	-	-	-	-
Stage 1	755	-	-	-	-	-
Stage 2	586	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.1	0	3.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	455	743	870	-
HCM Lane V/C Ratio	-	-	0.305	0.044	0.132	-
HCM Control Delay (s)	-	-	16.3	10.1	9.8	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	1.3	0.1	0.5	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	7-Sep-23	VVLI0000-0001	1 OF 2

E/W STREET : CORDOVA RD
N/S STREET : DALE EVANS PKWY
CONDITION : PM PEAK HOUR

INTERSECTION : 10
PROJECTED GROWTH PER YEAR : 3.0%

TURN MOVEMENTS

Condition	Existing Condition	Ambient Growth	Background Condition	Adjacent Project Growth	Background w/Adjacent Project Condition	Project Trips	Project Condition	Project w/Adjacent Project Condition	Future Condition	Future w/Adjacent Project Condition	Future + Project Condition	Future + Project + Adjacent Project Condition
Scenario #	2		4		6		8	10	12	14	16	18
CORDOVA RD												
EB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0.00	0	0.00	0	0.00
EB RIGHT	0	0	0	0	0	0	0	0.00	0	0	0	0
WB LEFT	1	1	2	171	173	130	132	303	43	214	173	344
WB THRU	0	0	0	0	0	0	0	0	0	0	0	0
WB RIGHT	1	1	2	38	40	36	38	76	30	68	66	104
DALE EVANS PKWY												
NB LEFT	0	0	0	0	0	0	0	0	0	0	0	0
NB THRU	124	8	132	0	132	0	132	132	178	178	178	178
NB RIGHT	1	1	2	61	63	46	48	109	26	87	72	133
SB LEFT	1	1	2	15	17	14	16	31	16	31	30	45
SB THRU	230	14	244	0	244	0	244	244	305	305	305	305
SB RIGHT	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**358**	**26**	**384**	**285**	**669**	**226**	**610**	**895**	**598**	**883**	**824**	**1109**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	7-Sep-23	VVLI0000-0001	2	OF 2

E/W STREET : CORDOVA RD
CONDITION : PM PEAK HOUR
N/S STREET : DALE EVANS PKWY
PHF : 0.87

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	63	0	0	1	0	0	1	0	0	0	0
0	48	1	0	0	0	0	1	0	0	2	0
0	57	0	0	1	0	0	0	0	0	0	0
0	46	0	0	2	0	0	0	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	30	0	0	0	0	0	0	0	0	1	0
0	13	0	0	0	0	0	0	0	0	2	0
0	29	0	0	0	0	0	0	0	0	0	0
0	34	0	0	0	0	0	0	0	0	3	0

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

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

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
CORDOVA RD					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	0	0	**1**	**1**	**1**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	0	0	**1**	**1**	**1**
DALE EVANS PKWY					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	6	106	**112**	**124**	**124**
NB RIGHT	0	0	**1**	**1**	**1**
SB LEFT	0	1	**1**	**1**	**1**
SB THRU	8	214	**222**	**230**	**230**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	1	124	1	1	230
Future Vol, veh/h	1	1	124	1	1	230
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	1	143	1	1	264

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	410	144	0	0	144	0
Stage 1	144	-	-	-	-	-
Stage 2	266	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	602	909	-	-	1451	-
Stage 1	888	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	601	909	-	-	1451	-
Mov Cap-2 Maneuver	601	-	-	-	-	-
Stage 1	888	-	-	-	-	-
Stage 2	782	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	724	1451	-
HCM Lane V/C Ratio	-	-	0.003	0.001	-
HCM Control Delay (s)	-	-	10	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	2	132	2	2	244
Future Vol, veh/h	2	2	132	2	2	244
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	2	152	2	2	280

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	437	153	0	0	154	0
Stage 1	153	-	-	-	-	-
Stage 2	284	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	581	898	-	-	1439	-
Stage 1	880	-	-	-	-	-
Stage 2	769	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	580	898	-	-	1439	-
Mov Cap-2 Maneuver	580	-	-	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	767	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	705	1439	-
HCM Lane V/C Ratio	-	-	0.007	0.002	-
HCM Control Delay (s)	-	-	10.1	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	5.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	173	40	132	63	17	244
Future Vol, veh/h	173	40	132	63	17	244
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	199	46	152	72	20	280

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	508	188	0	0	224	0
Stage 1	188	-	-	-	-	-
Stage 2	320	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	528	859	-	-	1357	-
Stage 1	849	-	-	-	-	-
Stage 2	741	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	519	859	-	-	1357	-
Mov Cap-2 Maneuver	519	-	-	-	-	-
Stage 1	849	-	-	-	-	-
Stage 2	728	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.3	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	561	1357	-
HCM Lane V/C Ratio	-	-	0.436	0.014	-
HCM Control Delay (s)	-	-	16.3	7.7	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	2.2	0	-

Intersection	
Int Delay, s/veh	4.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	132	38	132	48	16	244
Future Vol, veh/h	132	38	132	48	16	244
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	152	44	152	55	18	280

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	496	180	0	0	207	0
Stage 1	180	-	-	-	-	-
Stage 2	316	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	537	868	-	-	1376	-
Stage 1	856	-	-	-	-	-
Stage 2	744	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	529	868	-	-	1376	-
Mov Cap-2 Maneuver	529	-	-	-	-	-
Stage 1	856	-	-	-	-	-
Stage 2	733	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.3	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	580	1376	-
HCM Lane V/C Ratio	-	-	0.337	0.013	-
HCM Control Delay (s)	-	-	14.3	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.5	0	-

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	132	38	132	48	16	244
Future Vol, veh/h	132	38	132	48	16	244
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	350	-	250	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	152	44	152	55	18	280

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	468	152	0	0	207	0
Stage 1	152	-	-	-	-	-
Stage 2	316	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	557	900	-	-	1376	-
Stage 1	881	-	-	-	-	-
Stage 2	744	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	550	900	-	-	1376	-
Mov Cap-2 Maneuver	610	-	-	-	-	-
Stage 1	881	-	-	-	-	-
Stage 2	734	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	610	900	1376	-
HCM Lane V/C Ratio	-	-	0.249	0.049	0.013	-
HCM Control Delay (s)	-	-	12.8	9.2	7.7	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	1	0.2	0	-

Intersection	
Int Delay, s/veh	16.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	303	76	132	109	31	244
Future Vol, veh/h	303	76	132	109	31	244
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	348	87	152	125	36	280

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	567	215	0	0	277	0
Stage 1	215	-	-	-	-	-
Stage 2	352	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	488	830	-	-	1298	-
Stage 1	826	-	-	-	-	-
Stage 2	716	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	472	830	-	-	1298	-
Mov Cap-2 Maneuver	472	-	-	-	-	-
Stage 1	826	-	-	-	-	-
Stage 2	692	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	39	0	0.9
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	517	1298	-
HCM Lane V/C Ratio	-	-	0.843	0.027	-
HCM Control Delay (s)	-	-	39	7.9	0
HCM Lane LOS	-	-	E	A	A
HCM 95th %tile Q(veh)	-	-	8.7	0.1	-

Intersection	
Int Delay, s/veh	7.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	303	76	132	109	31	244
Future Vol, veh/h	303	76	132	109	31	244
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	250	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	348	87	152	125	36	280

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	504	152	0	0	277	0
Stage 1	152	-	-	-	-	-
Stage 2	352	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	531	900	-	-	1298	-
Stage 1	881	-	-	-	-	-
Stage 2	716	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	516	900	-	-	1298	-
Mov Cap-2 Maneuver	581	-	-	-	-	-
Stage 1	881	-	-	-	-	-
Stage 2	696	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.9	0	0.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	581	900	1298	-
HCM Lane V/C Ratio	-	-	0.599	0.097	0.027	-
HCM Control Delay (s)	-	-	20	9.4	7.9	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th %tile Q(veh)	-	-	4	0.3	0.1	-

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	43	30	178	26	16	305
Future Vol, veh/h	43	30	178	26	16	305
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	49	34	205	30	18	351

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	607	220	0	0	235	0
Stage 1	220	-	-	-	-	-
Stage 2	387	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	463	825	-	-	1344	-
Stage 1	821	-	-	-	-	-
Stage 2	691	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	455	825	-	-	1344	-
Mov Cap-2 Maneuver	455	-	-	-	-	-
Stage 1	821	-	-	-	-	-
Stage 2	679	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.6	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	558	1344	-
HCM Lane V/C Ratio	-	-	0.15	0.014	-
HCM Control Delay (s)	-	-	12.6	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0	-

Intersection	
Int Delay, s/veh	9.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	214	68	178	87	31	305
Future Vol, veh/h	214	68	178	87	31	305
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	246	78	205	100	36	351

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	678	255	0	0	305	0
Stage 1	255	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	421	789	-	-	1267	-
Stage 1	792	-	-	-	-	-
Stage 2	665	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	406	789	-	-	1267	-
Mov Cap-2 Maneuver	406	-	-	-	-	-
Stage 1	792	-	-	-	-	-
Stage 2	642	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	29.4	0	0.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	460	1267	-
HCM Lane V/C Ratio	-	-	0.705	0.028	-
HCM Control Delay (s)	-	-	29.4	7.9	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	5.4	0.1	-

Intersection	
Int Delay, s/veh	6.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	173	66	178	72	30	305
Future Vol, veh/h	173	66	178	72	30	305
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	199	76	205	83	34	351

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	666	247	0	0	288	0
Stage 1	247	-	-	-	-	-
Stage 2	419	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	428	797	-	-	1286	-
Stage 1	799	-	-	-	-	-
Stage 2	668	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	414	797	-	-	1286	-
Mov Cap-2 Maneuver	414	-	-	-	-	-
Stage 1	799	-	-	-	-	-
Stage 2	646	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.3	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	477	1286	-
HCM Lane V/C Ratio	-	-	0.576	0.027	-
HCM Control Delay (s)	-	-	22.3	7.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	3.6	0.1	-

Intersection	
Int Delay, s/veh	61.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	344	104	178	133	45	305
Future Vol, veh/h	344	104	178	133	45	305
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	395	120	205	153	52	351

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	737	282	0	0	358	0
Stage 1	282	-	-	-	-	-
Stage 2	455	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 389	762	-	-	1212	-
Stage 1	770	-	-	-	-	-
Stage 2	643	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 368	762	-	-	1212	-
Mov Cap-2 Maneuver	~ 368	-	-	-	-	-
Stage 1	770	-	-	-	-	-
Stage 2	609	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	152.4	0	1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	418	1212	-
HCM Lane V/C Ratio	-	-	1.232	0.043	-
HCM Control Delay (s)	-	-	152.4	8.1	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	21.2	0.1	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	11.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	344	104	178	133	45	305
Future Vol, veh/h	344	104	178	133	45	305
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	350	-	250	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	395	120	205	153	52	351

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	660	205	0	0	358	0
Stage 1	205	-	-	-	-	-
Stage 2	455	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	431	841	-	-	1212	-
Stage 1	834	-	-	-	-	-
Stage 2	643	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	412	841	-	-	1212	-
Mov Cap-2 Maneuver	501	-	-	-	-	-
Stage 1	834	-	-	-	-	-
Stage 2	615	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	28.5	0	1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	501	841	1212	-
HCM Lane V/C Ratio	-	-	0.789	0.142	0.043	-
HCM Control Delay (s)	-	-	34.1	10	8.1	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	7.3	0.5	0.1	-

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

Intersection No.: 10
North/South Street: DALE EVANS PKWY
East/West Street: CORDOVA RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	340	Left	0	0
NB	Through	128	Departure	173	Through	249	250
	Right	1			Right	78	78
North leg	Left	1	Approach	153	Left	14	15
SB	Through	74	Departure	253	Through	152	152
	Right	0			Right	0	0
West leg	Left	0	Approach	0	Left	0	0
EB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
East leg	Left	1	Approach	23	Left	21	22
WB	Through	0	Departure	92	Through	0	0
	Right	1			Right	4	4

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	243	Left	0	0
NB	Through	124	Departure	347	Through	177	178
	Right	1			Right	25	26
North leg	Left	1	Approach	377	Left	16	16
SB	Through	230	Departure	207	Through	304	305
	Right	0			Right	0	0
West leg	Left	0	Approach	0	Left	0	0
EB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
East leg	Left	1	Approach	86	Left	43	43
WB	Through	0	Departure	41	Through	0	0
	Right	1			Right	30	30

Appendix E: Vehicle Miles Traveled (VMT) Analysis

NOTE: THE VMT ANALYSIS IS BASED ON A FLOOR AREA 0F 1,540,120 SQUARE FEET WHICH WAS SUBSEQUENTLY REVISED TO A FLOOR AREA OF 1,462,342 SQUARE FEET. AS A RESULT, THE VMT ANALYSIS REMAINS VALID BUT CONSERVATIVE. SINCE THERE WAS NO SIGNIFICANT IMPACT UNDER THE LARGER FLOOR AREA VMT ANALYSIS, THE CURRENT PROPOSED QUARRY COMPLEX (1,462,342 SQUARE FEET) ALSO RESULTS IN LESS THAN SIGIFICANT TRANSPORTATION IMPACTS.

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MEMORANDUM

Date:	December 07, 2022	**GTS:** 221106.1
To:	James M. Daisa, DEA	
From:	Rawad Hani, GTS	
Subject:	**Vehicle Miles Traveled (VMT) Analysis** **Quarry Complex Warehouse, Town of Apple Valley, CA**	

This memorandum describes the development of vehicle miles traveled (VMT) analysis for the proposed Quarry Complex Warehouse in the Town of Apple Valley (City), CA. The project is located at the northeast corner of Cordova Road and Pawnee Road (within the North Apple Valley Industrial Specific Plan area) in the Town of Apple Valley. The project proposes development of approximately 78-acres into 1,540,120 square foot (SF) speculative warehouse. This VMT analysis evaluated the project using the 2016 and 2040 model years obtained from the San Bernardino County Transportation Authority (SBCTA).

Background

On December 28, 2018, the California Office of Administrative Law cleared the revised California Environmental Quality Act (CEQA) guidelines for use. Among the changes to the guidelines was removal of vehicle delay and level of service from consideration under CEQA. With the adopted guidelines, transportation impacts are to be evaluated based on a project's effect on vehicle miles traveled (VMT).

Methodology

The project VMT analysis was conducted using the Town of Apple Valley Resolution Number 2021-08, *"A Resolution of the City Council of the Town of Apple Valley, California, Adopting Thresholds of Significance for Vehicle Miles Traveled (VMT) Under the California Environmental Quality Act (CEQA)"* adopted during the Town Council Meeting, May 11, 2021. A full VMT analysis was conducted using San Bernardino County Transportation Analysis Model (SBTAM). The guidelines recommend use of VMT per service population to evaluate land use projects. The project would have a significant impact if the project VMT per service population is greater than Town of Apple Valley's General Plan Buildout VMT per service population.

SBTAM model is a socioeconomic data-based model and so the project land uses were converted into model employment categories using conversion factors from SCAG's "*Employment Density Study Summary Report – dated October 31, 2001*". The land use conversion yielded a total of 730 employees as shown in Table 1 which was used as input for the model runs.

Table 1: Quarry Complex Warehouse – Employment Estimates

Land Use Type	Square Footage (SF)	SF/Employee *	Total Employees
Warehouse	1,540,120	2,111	**730**
Total	**1,540,120**		**730**

Source: SCAG Employment Density Study Summary Report, October 31, 2001

VMT Analysis

Both baseline (2016) and horizon year (2040) model runs were used to estimate project's VMT impacts. SBTAM socioeconomic databases for the scenarios were updated with the project land use to calculate project VMT. Typically, project VMT is calculated by isolating the project in a new TAZ or multiple TAZs depending on the diversity of project land uses and project size. Since, SBTAM does not allow addition of new TAZs, one TAZ was borrowed for this project. The project TAZ was utilized to calculate project specific VMT per service population.

No project specific network modifications were conducted for the model scenarios. Full model runs with feedback loops were conducted for all of the project scenarios. It should be noted that the project land use was included in the model as additional land use in the cumulative (2040) scenario and no shifting of land use from other TAZs was used. In that regard, the cumulative VMT analysis can be considered as a conservative estimate.

The project's Origin/Destination (OD) VMT per service population can be used to evaluate project impact according to the guidelines. Origin-destination matrix outputs were used as trips and the trip lengths were derived from the skimming step to estimate OD VMT. OD matrix outputs include vehicle trips and hence no conversion for auto occupancy was applied. The trip length or distance was obtained using the model outputs from the "Skimming" step. The model skim outputs include peak and off-peak skim matrices by mode, similar to trip outputs from the model. OD VMT was estimated for both peak and off-peak and added together to estimate the total daily VMT for the project.

Based on the guidelines, the project would constitute a significant impact if the project OD VMT per service population for base and cumulative scenarios is greater than Town of Apple Valley General Plan Buildout OD VMT per service population. The Town of Apple Valley General Plan Buildout OD VMT per service population was obtained from SBCTA VMT Screening Tool.

Table 2 below shows the project VMT metrics for both baseline (2016) and cumulative (2040) conditions along with the regional VMT thresholds.

Table 2: Project VMT Analysis

2016	Quarry Complex Warehouse (project)	Town of Apple Valley General Plan Buildout (Threshold) *
Population	0	
Employment	730	
Service Population	730	
OD VMT	23,496	
OD VMT per service population	32.2	33.2
2040	**Quarry Complex Warehouse (project)**	**Town of Apple Valley General Plan Buildout (Threshold) ***
Population	0	
Employment	730	
Service Population	730	
OD VMT	22,310	
OD VMT per service population	30.6	33.2

** Threshold value obtained from SBCTA VMT Screening Tool: https://www.gosbcta.com/vmtscreening*

Table 3 illustrates the project's effect on VMT. The project's effect on VMT is a comparison of roadway VMT within Town of Apple Valley for both "With project" and "Without project" conditions.

Table 3: Roadway VMT within Town of Apple Valley

2016	With Project	Without Project
Roadway VMT	854,590	847,823
Service population	91,843	91,113
VMT per service population	9.3	9.3
2040	**With Project**	**Without Project**
Roadway VMT	1,367,015	1,362,981
Service population	127,536	126,806
VMT per service population	10.7	10.7

Conclusion

Based on the VMT analysis as shown in above Tables 2 and 3, the project doesn't constitute a significant impact for both "project generated VMT" and "project's effect on VMT".