Appendix J
Transportation Impact Analysis

FOCUSED TRAFFIC IMPACT ANALYSIS

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INLAND EMPIRE NORTH LOGISTICS CENTER

APN: 0472-231-08

TOWN OF APPLE VALLEY, CALIFORNIA

Prepared by:

DAVID EVANS AND ASSOCIATES INC.

FINAL REPORT
April 2, 2024

DAVID EVANS
AND ASSOCIATES INC.

April 2, 2024 Job No. FGFW0000-0001

Herb Krumsick
FGFW IV, LLC, LLC

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

RE: FINAL FOCUSED TRAFFIC IMPACT ANALYSIS FOR THE PROPOSED INLAND EMPIRE NORTH LOGISTICS CENTER LOCATED AT THE NEC OF FALCHION ROAD AND OUTER HIGHWAY 15 IN THE TOWN OF APPLE VALLEY, CA (APN: 0472-231-08)

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 approximately 2,604,446 square feet of warehouse buildings located on approximately 172-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.

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1 EXECUTIVE SUMMARY

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

1.1 Project Description

The proposed project consists of two speculative warehouse buildings. Building 1 is the westernmost building on the site and is proposed to be a 1,507,326 square foot warehouse building located on approximately 96-acres. Building 2 is proposed to be a 1,097,120 square foot warehouse located on approximately 76-acres. The floor area of each building includes 10,000 square feet of office space on the first floor and the mezzanine level (2nd floor). The project is located at the northeast corner of Falchion Road and Outer Highway 15.

The site is bounded to the north by unimproved Norco Street and undeveloped land; to the south by Falchion Road and undeveloped land; to the west by Outer Highway 15 and I-15 freeway; and to the east by unimproved Apple Valley Road and undeveloped land. The site is located about 3.5-miles west of the North Apple Valley Industrial Specific Plan's (NAVISP) western boundary and, therefore, it is not within the Plan area or subject to its policies and development standards.

Building 1 includes 103 loading docks on each side of the building and 692 trailer parking spaces / container storage within a secured yard. Building 1 provides 826 automobile parking spaces distributed between the north and south ends of the building. Building 2 includes 118 loading docks on both sides of the building, and 663 trailer parking spaces within a secured yard 590 automobile parking spaces.

1.2 Proposed Project Access

The proposed project's access is described below. Access to the site is proposed driveways on Norco Street, Falchion Road, and Apple Valley Road, as shown in **Figure ES-1**. The proposed circulation and access plan to the two buildings on the site are described below:

1.2.1 Norco Street Driveways

The proposed circulation and access plan includes four gated driveways on Norco Street (labeled as driveways A though D). Prior to the gates, access to parking lots is permitted for employees and visitors, but access to the loading docks and container storage areas to each side of both buildings is gated. The driveways on Norco Street are spaced about 520 feet (A to B), 280 feet (B to C), and 530 feet (C to D).

1.2.2 Falchion Road Driveways

Access to the site from Falchion Road is via four driveways (labeled as driveways E though H) providing unrestricted access to the parking lots on the south side of each building, and gated access to the loading docks and container storage areas. The Falchion Road intersections are spaced about 620 feet (E to F), 830 feet (F to G), and 200 feet (G to H).

1.2.3 Apple Valley Road Driveway

One driveway (labeled as driveway I) is provided on Apple Valley Road about 900 feet north of the Apple Valley Road / Falchion Road intersection for access to Building 2.

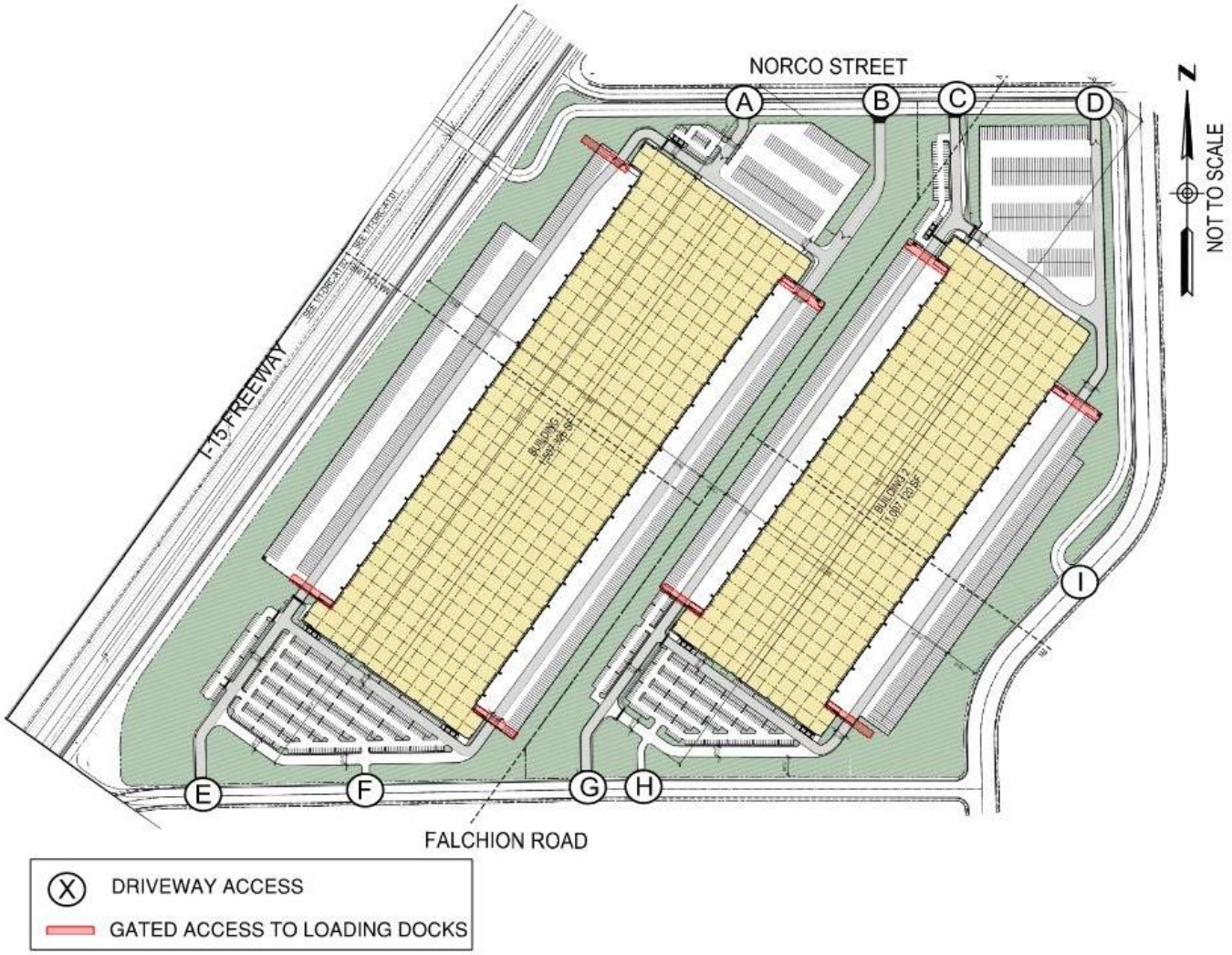


Figure ES-1: Project Driveway Locations

1.3 General Plan Amendment

The project proposes changes to the Town's circulation system that will require an amendment to the Town's Streets and Roads Plan in the circulation element of the general plan. The modifications to the circulation system include the street realignments and street reclassifications illustrated in **Figure ES-2**.

The primary amendment is the abandonment of the current right of way alignment of Apple Valley Road and realignment of the right of way from Saugus Road to Falchion Road following the eastern boundary of the project's property.

A reclassification amendment proposes to change Norco Street from a major road to a collector street west of the realigned Apple Valley Road.

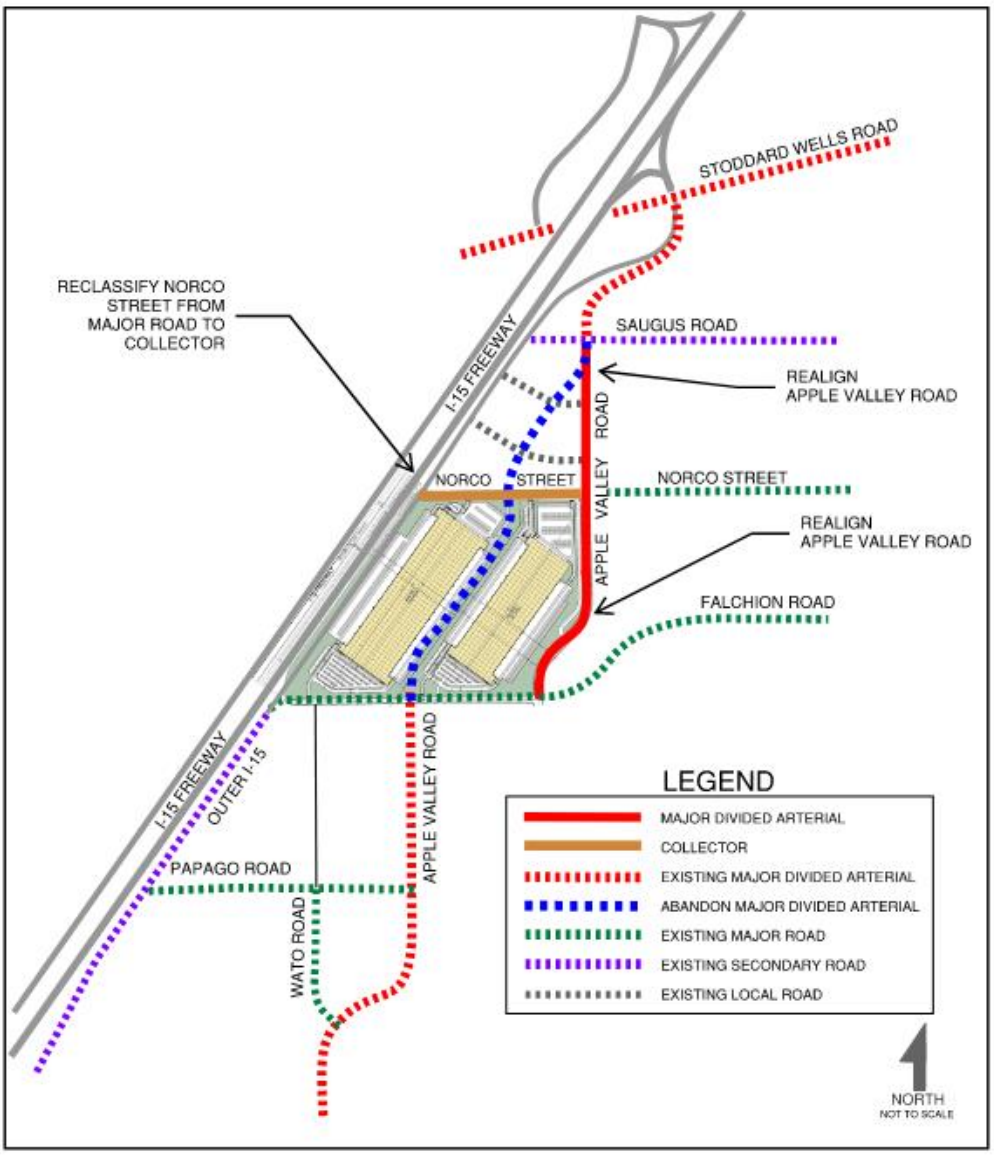


Figure ES-2: Proposed Amendments to the Town's General Plan Streets and Roads Plan

1.4 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.

1.5 Level of Service Comparison With and Without the Proposed Project

1.5.1 Determination of Level of Service Deficiencies

Table 1-1 compares the weekday AM and PM peak hour Background Conditions and Project Conditions 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.

In this scenario, the addition of project traffic causes intersection LOS deficiencies (from LOS D or better to LOS E or F) at the following five study intersections: Stoddard Wells Rd / Outer Highway 15, Stoddard Wells Rd / W Frontage Rd, Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps, Stoddard Wells Rd / Quarry Rd, and Quarry Rd / I-15 SB Ramps.

Table 1-1: Comparison of Background Conditions and Project Conditions LOS

Intersection	Control Type	Background Conditions				Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Stoddard Wells Rd / Outer Highway 15	SSSC	26.5	D	26.5	D	253.5	F	68.5	F
2. Outer Highway 15 / I-15 NB Ramps	SSSC	10.4	B	10.8	B	23.8	C	20.0	C
3. W Frontage Rd / I-15 SB On Ramp	SSSC	5.0	A	5.0	A	5.0	A	5.0	A
4. Stoddard Wells Rd / W Frontage Rd	SSSC	21.5	C	19.1	C	267.6	F	103.7	F
5. Stoddard Wells Rd / I-15 SB Off Ramp	SSSC	10.7	B	11.3	B	13.5	B	12.2	B
6. Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps	SSSC	1663.7	F	2354.9	F	5745.2	F	[1]	
7. Stoddard Wells Rd / Quarry Rd	SSSC	35.1	E	21.4	C	100.9	F	27.0	D
8. Quarry Rd / I-15 SB Ramps	SSSC	14.5	B	21.0	C	20.5	C	35.1	E
9. Falchion Rd / Apple Valley Rd	AWSC	6.9	A	7.1	A	7.2	A	7.1	A
10. Falchion Rd / Outer Hwy 15	SSSC	8.8	A	9.0	A	18.5	C	34.2	D
11. Outer Highway 15/ Norco St	SSSC	8.6	A	8.9	A	12.3	B	13.8	B
12. Outer Highway 15/ Quarry Rd	SSSC	8.9	A	9.0	A	10.4	B	10.5	B
13. Norco Street / Project Driveway #1	SSSC	Not Applicable				10.2	B	11.2	B
14. Falchion Road / Project Driveway #2	SSSC	Not Applicable				12.2	B	14.4	B

Abbreviations:
SSSC – Side Street Stop Controlled Intersection, AWSC – All Way Stop Controlled Intersection, Not Applicable – Not Applicable Future Intersection Delay – seconds per vehicle, LOS – Level of Service
[1] Computation not defined due to volume exceeding capacity.

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). It should be noted that the peak hour factor utilized in the Future Year 2040 Conditions and Future Year 2040 Plus Project Conditions capacity analysis is set to 0.95 for all intersections.

In this scenario, the combination of ambient traffic and the addition of project traffic through the year 2040 causes intersection LOS deficiencies (from LOS D or better to LOS E or F) at the following six study intersections: Stoddard Wells Rd / Outer Highway 15, Outer Highway 15 / I-15 NB Ramps, Stoddard Wells Rd / W Frontage Rd, Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps, Stoddard Wells Rd / Quarry Rd, and Quarry Rd / I-15 SB Ramps.

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 Background Conditions with the additions of Outer Highway 15 / I-15 NB Ramps.

Table 1-2: Comparison of Future 2040 and Future 2040 Plus Project LOS

Intersection	Control Type	Future Conditions				Future + Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Stoddard Wells Rd / Outer Highway 15	SSSC	64.8	F	82.5	F	761.5	F	465.8	F
2. Outer Highway 15 / I-15 NB Ramps	SSSC	13.9	B	15.6	C	54.3	F	42.9	E
3. W Frontage Rd / I-15 SB On Ramp	SSSC	5.0	A	5.0	A	5.0	A	5.0	A
4. Stoddard Wells Rd / W Frontage Rd	SSSC	230.6	F	188.3	F	984.2	F	683.8	F
5. Stoddard Wells Rd / I-15 SB Off Ramp	SSSC	14.2	B	17.3	C	22.1	C	21.0	C
6. Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps	SSSC	1941.5	F	4896.0	F	4753.3	F	[1]	
7. Stoddard Wells Rd / Quarry Rd	SSSC	41.1	E	28.1	D	116.0	F	38.2	E
8. Quarry Rd / I-15 SB Ramps	SSSC	16.2	C	23.1	C	24.0	C	35.4	E
9. Falchion Rd / Apple Valley Rd	AWSC	7.5	A	7.6	A	7.7	A	7.7	A
10. Falchion Rd / Outer Hwy 15	SSSC	9.1	A	9.9	A	15.1	C	25.5	D
11. Outer Highway 15/ Norco St	SSSC	8.6	A	9.0	A	11.1	B	12.1	B
12. Outer Highway 15/ Quarry Rd	SSSC	8.9	A	9.2	A	10.1	B	10.4	B
13. Norco Street / Project Driveway #1	SSSC	N/A				9.7	A	10.3	B
14. Falchion Road / Project Driveway #2	SSSC	N/A				11.0	B	10.1	B

Abbreviations:
SSSC – Side Street Stop Controlled Intersection, AWSC – All Way Stop Controlled Intersection, Not Applicable – Not Applicable Future Intersection Delay – seconds per vehicle, LOS – Level of Service
[1] Computation not defined due to volume exceeding capacity.

1.6 Recommended Measures to Improve Level of Service at Deficient Intersections

Table 1-3 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 described in the table are based on Project Conditions (Year 2024) Scenario. The long-range cumulative measures are based on the Future Year 2040 Plus Project Conditions.

Figure ES- 3 illustrates the near-term project-specific intersection improvements required to improve deficient intersection levels of service in the Project Conditions (Year 2024) scenario. **Figure ES-** 4 illustrates the long-range cumulative intersection improvements required to improve deficiencies in the Future 2040 Plus Project Conditions Scenario.

Table 1-3: Recommended Project-Specific and Cumulative Improvements to Mitigate LOS Deficiencies

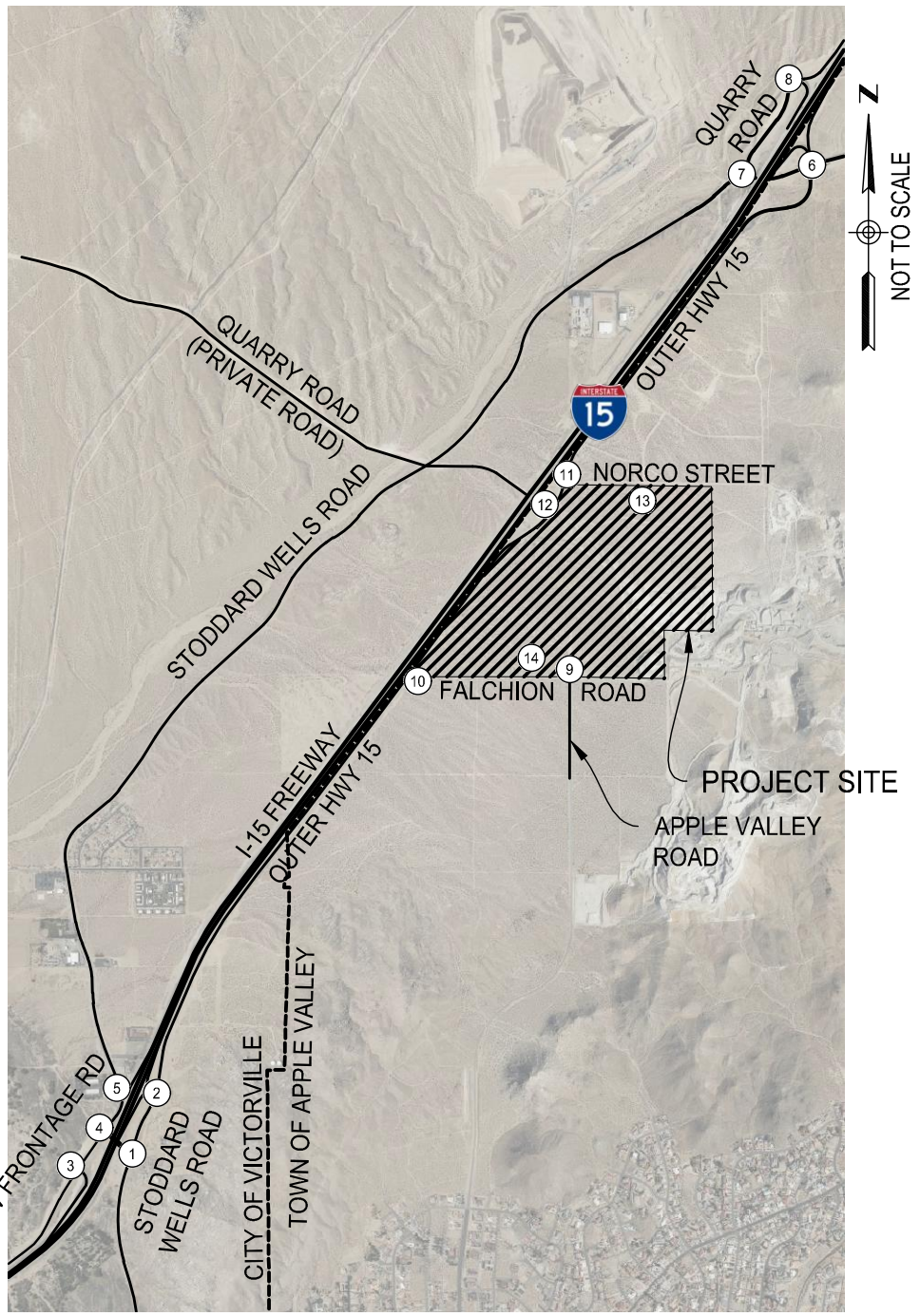
Intersection	Project-Specific Improvements (See **Figure ES- 3**)	Cumulative Long-Term Improvements (See **Figure ES- 4)**
1. Stoddard Wells Rd / Outer Highway 15	**Convert intersection to all-way stop control** □ Maintain the current lane configuration at each approach □ install stop sign control at the north and south legs.	**Install a traffic signal** □ Maintain the same lane configuration at each approach
2. Outer Highway 15 / I-15 NB Ramps	**Not Applicable**	**Install a traffic signal** □ Maintain the current lane configuration at each approach
4. Stoddard Wells Rd / W Frontage Rd	**Convert intersection to all-way stop control** □ Maintain the current lane configuration at each approach □ install stop sign control at the north and south legs.	**Install a traffic signal** □ Maintain the current lane configuration at each approach
6. Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps	**Install a traffic signal** [1] Widen the eastbound, westbound, northbound, and southbound approaches to accommodate turn lanes. Reconfigure intersection: □ Eastbound approach: widen and configure Stoddard Wells Road to add left turn lane from Stoddard Wells Road to I-15 NB on-ramp and maintain the existing lane as a shared through-right lane. Provide eastbound left turn protected phasing. □ Westbound approach: widen and configure Stoddard Wells Road to add left turn lane from Stoddard Wells Road to Outer Highway 15 (250 feet long + a 120-foot transition), and a second through lane, maintain the existing lane as a through-right turn lane. Provide westbound left turn protected phasing. □ Northbound approach: widen and configure Outer Highway 15 to add left turn lane from Outer Highway 15 to Stoddard Wells Road (250 feet long + a 120-foot transition) and retain existing lane as a shared through-right lane. Provide northbound left turn protected-permissive phasing. □ Southbound approach: widen and configure the I-15 southbound off-ramp to add a left turn lane (250-feet long + 120-foot transition) and maintain the existing lane as a shared through-right lane. Provide southbound left turn protected-permissive phasing.	**retain the <u>project specific proposed improvements</u>**

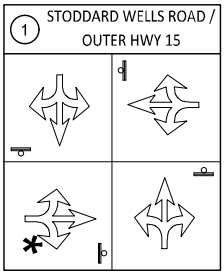
[1]The improvements identified for the intersection of Stoddard Wells Rd / Outer Hwy 15 S / I-15 NB Ramps are the improvements outlined in the approved Apple Valley 143 Transportation Impact Analysis, dated November 2022, by Dudek. Excerpt of the report is provided in **Appendix D.**

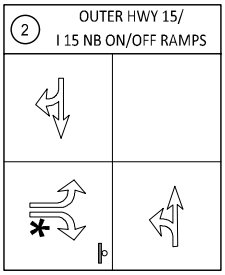
Table 1-3: Recommended Project-Specific and Cumulative Improvements to Mitigate LOS Deficiencies – Continued-

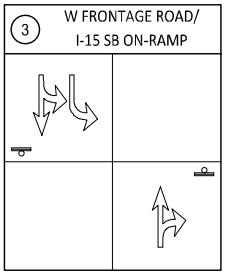
Intersection	Project-Specific Improvements (See **Figure ES- 3**)	Cumulative Long-Term Improvements (See **Figure ES- 4)**
7. Stoddard Wells Rd / Quarry Rd	**Install a traffic signal [2]** Widen the eastbound, westbound, and southbound approaches to accommodate turn lanes. Reconfigure intersection: □ Eastbound approach: widen and configure Stoddard Wells Road to add left turn lane from Stoddard Wells Road to Quarry Rd (250 feet long + a 120-foot transition) and maintain the existing lane as a through lane. Provide eastbound left turn protected phasing. □ Westbound approach: widen and configure Stoddard Wells Road to add a right turn lane from Stoddard Wells Road to Quarry Rd with a receiving lane and maintain the existing lane as a through lane. □ Southbound approach: widen and configure Quarry Rd to add a right turn lane (250-feet long + 120-foot transition) and maintain the existing lane as a left lane. Provide southbound left turn protected phasing.	**retain the <u>project specific proposed improvements</u>**
8. Quarry Rd / I-15 SB Ramps	**Maintain the side street stop control** Widen the northbound approaches to accommodate turn lanes. Northbound approach: widen and configure Quarry Rd to add a right turn lane from Quarry Rd to 1-15 SB On-ramp.	**retain the <u>project specific proposed improvements</u>**
10. Falchion Rd / Outer Hwy 15	**Convert intersection to all-way stop control** □ Maintain the current lane configuration at each approach □ install stop sign control at the north and south legs.	**retain the <u>project specific proposed improvements</u>**

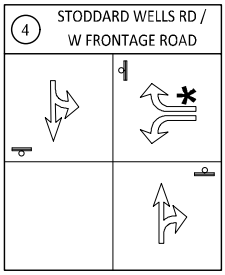
[2] The widening of the segment of Stoddard Wells Rd between Quarry Road to I-15 NB Ramps/Outer I-15 are the improvements outlined in the approved Apple Valley 143 Transportation Impact Analysis, dated November 2022, by Dudek. Excerpt of the report is provided in **Appendix D.**

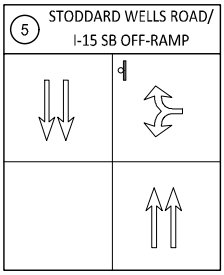


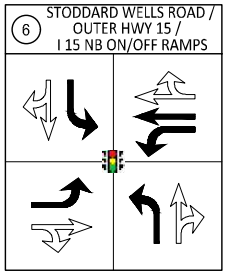


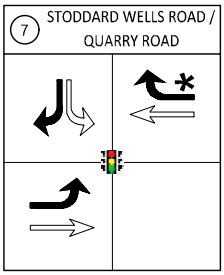


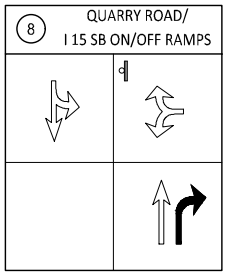


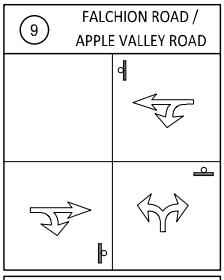


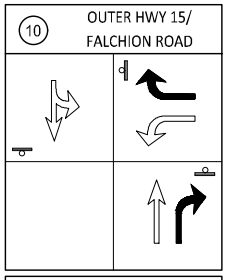


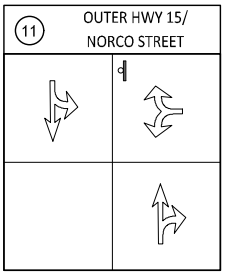


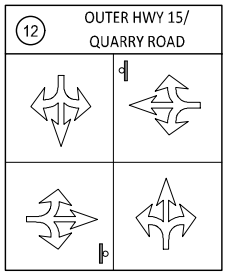


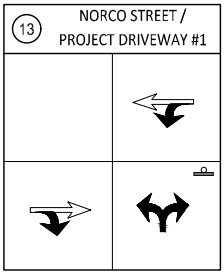


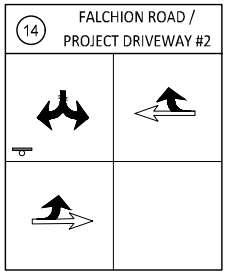


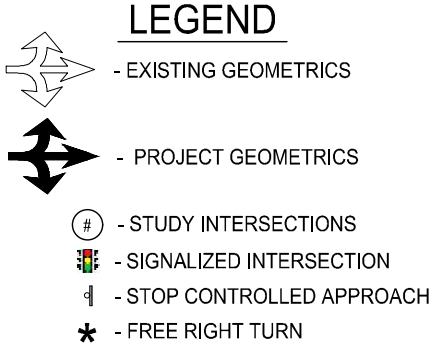












DAVID EVANS AND ASSOCIATES INC.

FIGURE ES-3: PROJECT INTERSECTION GEOMETRICS
INLAND EMPIRE NORTH LOGISTICS CENTER
APPLE VALLEY, CALIFORNIA

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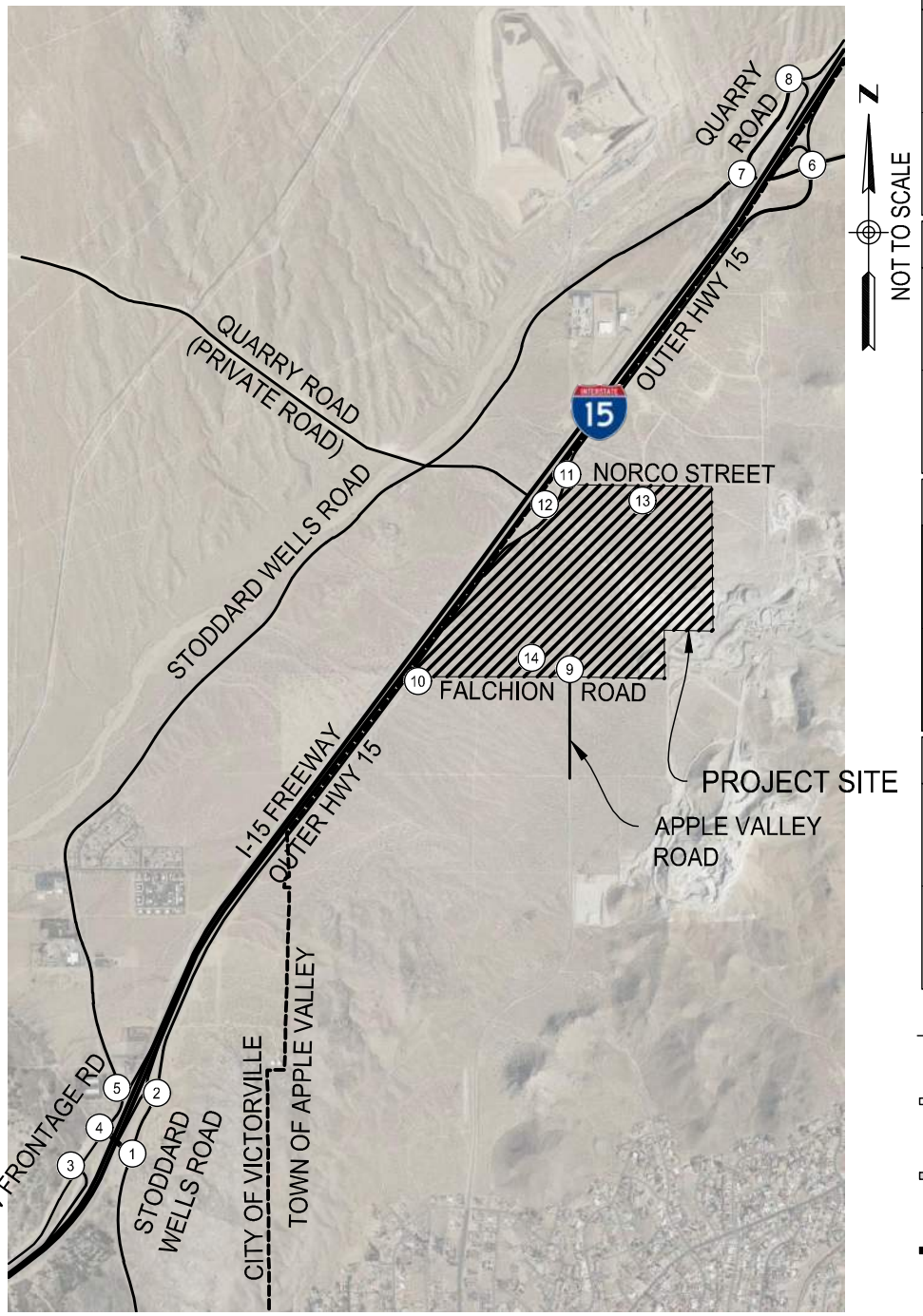

LEGEND

- EXISTING GEOMETRICS
- PROJECT GEOMETRICS
- FUTURE GEOMETRICS

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

DAVID EVANS AND ASSOCIATES INC.

FIGURE ES-4: FUTURE YEAR WITH PROJECT INTERSECTION GEOMETRICS
INLAND EMPIRE NORTH LOGISTICS CENTER
APPLE VALLEY, CALIFORNIA

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

Table 1-4 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 1-4: Project's Percent Contribution (Fair Share) to Deficient Intersections by Year and Peak Hour

Intersection	Near-Term % (Year 2024)		Long-Term % (Year 2040)	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1. Stoddard Wells Rd / Outer Highway 15	90.5%	92.3%	34.8%	36.4%
2. Outer Highway 15 / I-15 NB Ramps	Not Applicable		64.8%	66.8%
4. Stoddard Wells Rd / W Frontage Rd	89.8%	88.3%	32.8%	31.1%
6. Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps	31.2%	20.9%	21.3%	13.3%
7. Stoddard Wells Rd / Quarry Rd	30.7%	25.9%	23.3%	16.4%
8. Quarry Rd / I-15 SB Ramps	32.2%	27.1%	24.8%	17.3%
Notes: Project traffic used in calculating the fair-share percentage is based on Passenger Car Equivalents (PCEs).				

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

The fair share percentages calculated in **Chapter 1.7** are used to determine the Fair Share Fee for each intersection and by forecast year.

The Fair Share Fee provided in **Table 1-5** represent the estimated cost associated with the near-term project-specific improvements described in **Table 1-3** and are based on background + project scenario traffic.

Table 1-5: Project's Percent Contribution (Fair Share) to Deficient Intersections for Near-Term (Year 2024)

Intersection	Cost ($)	Fair Share %	Fair Share Fee
1. Stoddard Wells Rd / Outer Highway 15	$50,000	92.3%	$46,167
4. Stoddard Wells Rd / W Frontage Rd	$50,000	89.8%	$44,877
6. Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps	$1,400,000	31.2%	$436,348
7. Stoddard Wells Rd / Quarry Rd	$800,000	30.7%	$245,560
8. Quarry Rd / I-15 SB Ramps	$200,000	32.2%	$64,372
Notes: Project traffic used in calculating the fair-share percentage is based on Passenger Car Equivalents (PCEs).			

The Fair Share Fee provided in **Table 1-6** represent the estimated cost associated with the long-range cumulative measures described in **Table 1-3** and are based on the future 2040 + project conditions traffic.

Table 1-6: Project's Percent Contribution (Fair Share) to Deficient Intersections for Long-Term (Year 2040)

Intersection	Cost ($)	Fair Share %	Fair Share Fee
1. Stoddard Wells Rd / Outer Highway 15	$500,000	36.4%	$181,756
2. Outer Highway 15 / I-15 NB Ramps	$500,000	66.8%	$334,025
4. Stoddard Wells Rd / W Frontage Rd	$500,000	32.8%	$163,922
6. Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps	$1,400,000	21.3%	$297,605
7. Stoddard Wells Rd / Quarry Rd	$800,000	23.3%	$186,237
8. Quarry Rd / I-15 SB Ramps	$200,000	24.8%	$49,533
10. Falchion Rd / Outer Hwy 15	$500,000	36.4%	$181,756
Notes: Project traffic used in calculating the fair-share percentage is based on Passenger Car Equivalents (PCEs).			

1.9 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 1-3**. The near-term Project Conditions Scenarios in the following tables present the mitigated levels of service for project-specific improvements—improvements for which the project is solely responsible.

The improved level of service under the long-term Future Year 2040 Plus Project Conditions 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.

1.9.1 Stoddard Wells Road / I-15 Northbound Ramps

The five existing side-street stop-controlled intersections of Stoddard Wells Rd / Outer Highway 15, Outer Highway 15 / I-15 NB Ramps, Stoddard Wells Rd / W Frontage Rd, Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps, and Stoddard Wells Rd / Quarry Rd experience failure in Project Conditions. **Table 1-7** shows the intersection level of service with the near-term project-specific intersection improvements required to improve deficient intersection levels of service in the Project Conditions scenario illustrated in **Figure ES- 3**. The proposed mitigation improves the LOS deficiency, to a LOS D or better.

Table 1-7: Improved Level of Service Under Project Conditions

Intersection	Control Type	Background Conditions				Project Conditions				Change in Delay (Seconds)	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
1. Stoddard Wells Rd / Outer Highway 15	SSSC	26.5	D	26.5	D	253.5	F	68.5	F	227.0	42.0
with Improvements: convert to AWSC	AWSC	Not Applicable				17.2	C	27.6	D	-9.3	1.1
4. Stoddard Wells Rd / W Frontage Rd	SSSC	21.5	C	19.1	C	267.6	F	103.7	F	246.1	84.6
with Improvements: convert to AWSC	AWSC	Not Applicable				19.9	C	19.8	C	-1.6	0.7
6. Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps [2]	SSSC	1663.7	F	2354.9	F	5745.2	F	[1]		4081.5	
with Improvements: install traffic signal and provide turn lanes	TS	Not Applicable				32.3	C	37.8	D	-1631.4	-2317.1
7. Stoddard Wells Rd / Quarry Rd [3]	SSSC	35.1	E	21.4	C	100.9	F	27.0	D	65.8	5.6
with Improvements: install traffic signal and provide turn lanes	TS	Not Applicable				23.1	C	22.4	C	-12.0	1.0
8. Quarry Rd / I-15 SB Ramps	SSSC	14.5	B	21	C	20.5	C	35.1	E	6.0	14.1
with Improvements: provide NBR		Not Applicable				11.6	B	10.3	B	-2.9	-10.7
10. Falchion Rd / Outer Hwy 15	SSSC	8.8	A	9.0	A	18.5	C	34.2	D	9.7	25.2
with Improvements: convert to AWSC and provide turn lanes	AWSC	Not Applicable				11.7	B	18.2	C	2.9	9.2

Abbreviations:
SSSC – Side Street Stop Controlled Intersection, AWSC – All Way Stop Controlled Intersection, Not Applicable – Not Applicable Future Intersection Delay – seconds per vehicle, LOS – Level of Service
[1] Computation not defined due to volume exceeding capacity.
[2] The improvements identified for the intersection of Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps are the improvements outlined in the approved Apple Valley 143 Transportation Impact Analysis, dated November 2022, by Dudek. Excerpt of the report is provided in **Appendix D.**
[3] The widening of the segment of Stoddard Wells Rd between Quarry Road to I-15 NB Ramps/Outer I-15 are the improvements outlined in the approved Apple Valley 143 Transportation Impact Analysis, dated November 2022, by Dudek. Excerpt of the report is provided in Appendix D.

The five existing side-street stop-controlled intersections of Stoddard Wells Rd / Outer Highway 15, Outer Highway 15 / I-15 NB Ramps, Stoddard Wells Rd / W Frontage Rd, Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps, and Stoddard Wells Rd / Quarry Rd experience failure in Future Year 2040 Plus Project Conditions.

Table 1-8 shows the intersection level of service under Future Year 2040 Plus Project Conditions with the recommended long-term improvement to install a traffic signal. The recommended traffic signal improves the future 2040 LOS deficiency, to a LOS D or better.

Table 1-8: Improved Level of Service Under Future 2040 + Project Conditions

Intersection	Control Type	Future Conditions				Future + Project				Change in Delay (Seconds)	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
1. Stoddard Wells Rd / Outer Highway 15	SSSC	64.8	F	82.5	F	761.5	F	465.8	F	696.7	383.3
with Cumulative improvements: convert to traffic signal	TS	Not Applicable				13.2	B	7.6	A	-51.6	-74.9
2. Outer Highway 15 / I-15 NB Ramps	SSSC	13.9	B	15.6	C	54.3	F	42.9	E	40.4	27.3
with Cumulative improvements: convert to traffic signal	TS	Not Applicable				13.4	B	10.2	B	-0.5	-5.4
4. Stoddard Wells Rd / W Frontage Rd	SSSC	230.6	F	188.3	F	984.2	F	683.8	F	753.6	495.5
with Cumulative improvements: convert to traffic signal	TS	Not Applicable				26.0	C	26.1	C	-204.6	-162.2
6. Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps [2]	SSSC	1941.5	F	4896.0	F	4753.3	F	**[1]**		2811.8	
with Cumulative improvements: convert to traffic signal, modify turn lanes	TS	Not Applicable				38.9	D	37.4	D	-1902.6	-4858.6
7. Stoddard Wells Rd / Quarry Rd [3]	SSSC	41.1	E	28.1	D	116.0	F	38.2	E	74.9	10.1
with Cumulative improvements: convert to traffic signal	TS	Not Applicable				22.8	C	25.5	C	-18.3	-2.6
8. Quarry Rd / I-15 SB Ramps	SSSC	16.2	C	23.1	C	24.0	C	35.4	E	7.8	12.3
with Improvements: provide NBR		Not Applicable				11.6	B	10.6	B	-4.6	-12.5
10. Falchion Rd / Outer Hwy 15	SSSC	9.1	A	9.9	A	15.1	C	25.5	D	6	15.6
with Project Improvements: convert to AWSC, provide turn lanes	AWSC	Not Applicable				10.4	B	14.9	B	1.3	5.0

Abbreviations:
SSSC – Side Street Stop Controlled Intersection, AWSC – All Way Stop Controlled Intersection, Not Applicable – Not Applicable Future Intersection Delay – seconds per vehicle, LOS – Level of Service.
[1] Computation not defined due to volume exceeding capacity
[2] The improvements identified for the intersection of Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps are the improvements outlined in the approved Apple Valley 143 Transportation Impact Analysis, dated November 2022, by Dudek. Excerpt of the report is provided in **Appendix D.**
[3] The widening of the segment of Stoddard Wells Rd between Quarry Road to I-15 NB Ramps/Outer I-15 are the improvements outlined in the approved Apple Valley 143 Transportation Impact Analysis, dated November 2022, by Dudek. Excerpt of the report is provided in Appendix D.

1.10 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 1-9 summarizes the findings of the signal warrant analyses conducted for each deficient intersection under each project-related scenario.

Under Project Conditions Scenario and Future plus Project Conditions Scenario the intersections of Stoddard Wells Rd / Outer Highway 15, Outer Highway 15 / I-15 NB Ramps, Stoddard Wells Rd / W Frontage Rd, Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps, Stoddard Wells Rd / Quarry Rd, and Falchion Rd / Outer Highway 15 Satisfy Warrant 3 (Peak Hour).

Table 1-9: Summary of Traffic Signal Warrant Analyses of Deficient Intersections

Deficient Intersection	Scenarios Satisfying Warrant 3 (Peak Hour) at Deficient Intersections [a]	
	Project Conditions	Future + Project Conditions
1. Stoddard Wells Rd / Outer Highway 15	YES	YES
2. Outer Highway 15 / I-15 NB Ramps	YES	YES
4. Stoddard Wells Rd / W Frontage Rd	YES	YES
6. Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps	YES	YES
7. Stoddard Wells Rd / Quarry Rd	YES	YES
10. Falchion Rd / Outer Hwy 15	YES	YES

Notes:
[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. Warrant 3 worksheets for the deficient intersections presented in the table can be found in the **Appendix F**.

1.11 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 Falchion Road:**
   a. Construct Falchion Rd[3] from Outer Highway 15 to Apple Valley Rd.
   b. Construct and improve the project's frontage with Falchion Rd from Outer Highway 15 to Apple Valley Rd.
      - The project will be required to dedicate land and construct the 52-foot half-width of a major road section including the project's driveways. Until the southern half of Falchion Road is constructed by others the two travel lanes constructed with the half-width section can provide for two-way traffic.
2. **Construct access and site frontage improvements on Norco Street:**
   a. Construct Norco St[4] from Outer Highway 15 to Apple Valley Rd.
   b. Construct and improve the project's frontage with Norco St between Outer Highway 15 to Apple Valley Rd.
      - The project will be required to construct the 52-foot half-width of a secondary road section including the proposed driveways accessing the project from Norco St.
3. **Construct access and site frontage improvements on Outer Hwy 15:**
   a. Construct and improve the project's frontage with Outer Highway 15 between Falchion Rd and Norco St
      - The project will be required to dedicate land and construct the 44-foot half-width of a secondary road section including the project's driveways.

[3] Falchion Rd is designated as a Major Road in the General Plan with a 104-foot right of way to accommodate a four-lane traveled way with a 12-foot median, shoulder, bike lanes, or street parking, and a 12-foot parkway / sidewalk on both side of the street

[4] Norco St is designated as a Major Road in the General Plan with a 104-foot right of way to accommodate a four-lane traveled way with a 12-foot median, shoulder, bike lanes, or street parking, and a 12-foot parkway / sidewalk on both side of the street

4. Construct site frontage improvements on Apple Valley Road:

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

- The project will be required to dedicate land and construct the 64 foot half-width of Apple Valley Rd's major divided arterial designation.
- The project should construct the section of Apple Valley Rd fronting project owned property between Falchion Rd and Norco St as a minimum two-way two-lane (one in each direction) roadway to close this gap.

1.12 Vehicle Miles of Travel (VMT) Analysis

The VMT analysis screening assessment included in the approved December 9, 2022, scoping agreement concluded that the Inland Empire North Logistics Center 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 H.**

A. Project-Generated VMT Analysis

The SBTAM model was used to 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.

Table 1-10 on the following page present the outcome of the project-generated VMT analyses for the baseline and horizon year scenarios. As shown in **Table 1-10**, in both the baseline and horizon year scenarios, the VMT/service population metric for the Inland Empire North Logistics Center project is less than the Town of Apple Valley's general plan buildout significance threshold.

The outcome of the second analysis, the project's effect on town-wide VMT, is presented in **Table 1-11.** 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 1-11 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 1-10: Project-Generated VMT Analysis

Metric	2016 Baseline Conditions		2040 Conditions	
	Inland Empire North Logistics Center (project)	Town of Apple Valley General Plan Buildout (Threshold) [a]	Inland Empire North Logistics Center (project)	Town of Apple Valley General Plan Buildout (Threshold) [a]
Population	0		0	
Employment [b]	1,234		1,234	
Service Population	1,234		1,234	
OD VMT [c]	27,883		26,419	
OD VMT per service population	22.6	33.2	21.4	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)

Table 1-11: 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]	855,591	847,823	1,367,429	1,362,981
Service population [b]	92,347	91,113	128,040	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 Inland Empire North Logistics Center 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 Inland Empire North Logistics Center project in the Town of Apple Valley, California. The proposed project consists of two speculative warehouse buildings. Building 1 is proposed to be a 1,507,326 square foot warehouse building located on approximately 96-acres. Building 2 is proposed to be a 1,097,120 square foot warehouse located on approximately 76-acres. **Figure 1** illustrates the vicinity map, and **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). The analysis scenarios are as follows:

- Existing Conditions
- Background Conditions (Year 2024)
- Project Conditions (Year 2024)
- Future Year 2040 Conditions
- Future Year 2040 + Project Conditions

2.2 Scenario Definitions

Existing Conditions. This scenario represents existing transportation conditions at the time this report was prepared. Data includes traffic counts collected in June 2022, November 2022, and March 2023. This scenario is used as the baseline condition to identify existing deficiencies and establish context.

Background Conditions (Year 2024). This scenario represents conditions at the time the project is anticipated to be fully constructed and occupied (known as buildout year 2024) but without traffic generated by the project. This scenario is comprised of an ambient growth, a general rate of growth in traffic from overall regional growth (assumed to be 2% annually for this study) and other area development projects as provided by the Town of Apple Valley Planning Department.

Project Conditions (Year 2024). This scenario adds the project's estimated traffic generation at buildout (2024) to the Background Conditions scenario described above. Impacts identified in this near-term scenario are considered "cumulative" impacts—impacts that the project contributes to, but does not solely cause, and may be responsible for a fair-share of the cost to implement any improvement measures.

Future Conditions (Year 2040). This 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.

Future Plus Project Conditions (Year 2040). This scenario adds the project's estimated traffic generation to the future condition's scenario described above. Impacts identified in this scenario are considered "cumulative" impacts—impacts that the project contributes to, but does not solely cause, and may be responsible for a fair-share of the cost to implement any improvement measures.

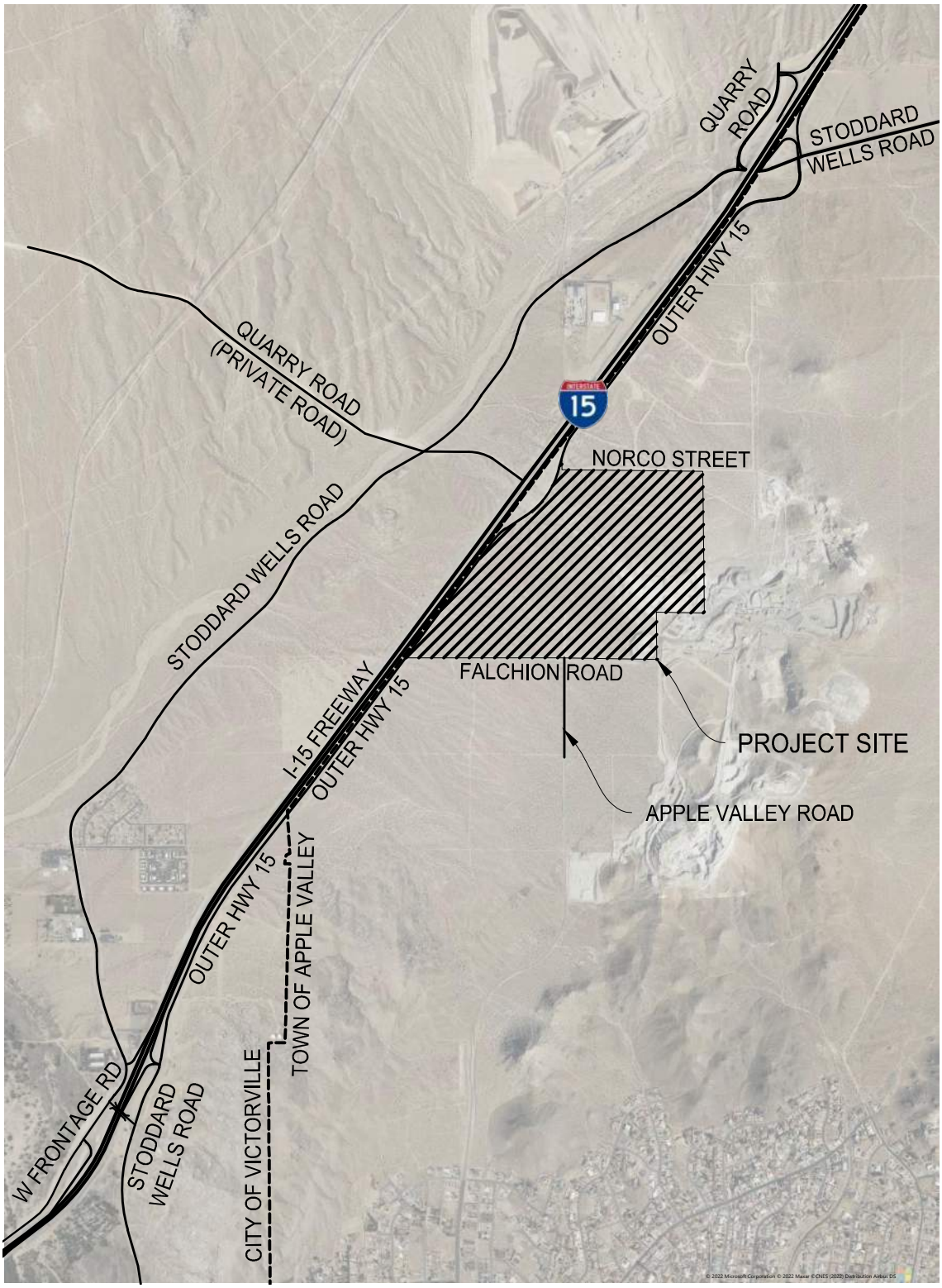

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FIGURE 1: VICINITY MAP
INLAND EMPIRE NORTH LOGISTICS CENTER
APPLE VALLEY, CALIFORNIA

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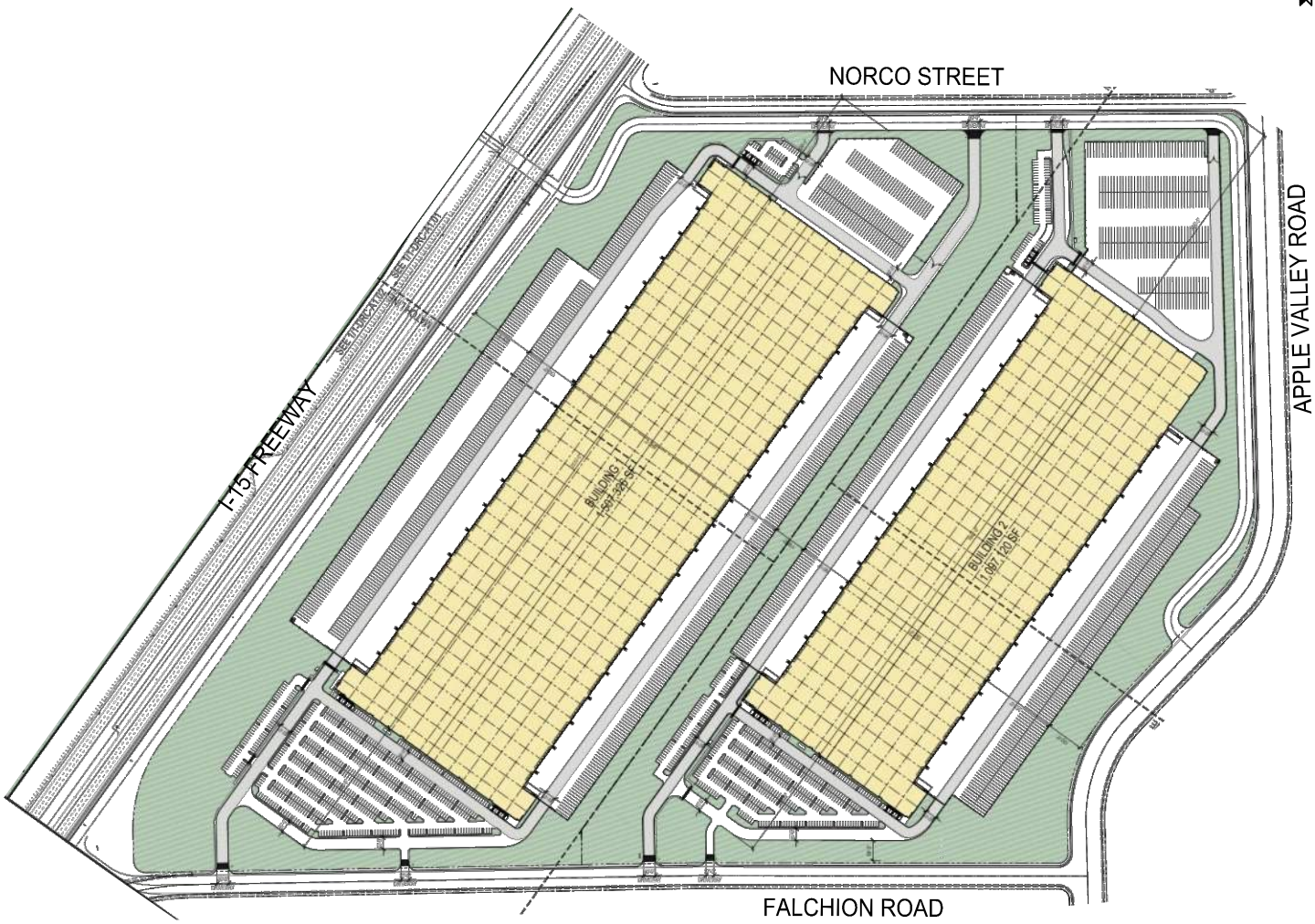

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FIGURE 2: PROJECT SITE PLAN
INLAND EMPIRE NORTH LOGISTICS CENTER
APPLE VALLEY, CALIFORNIA

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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

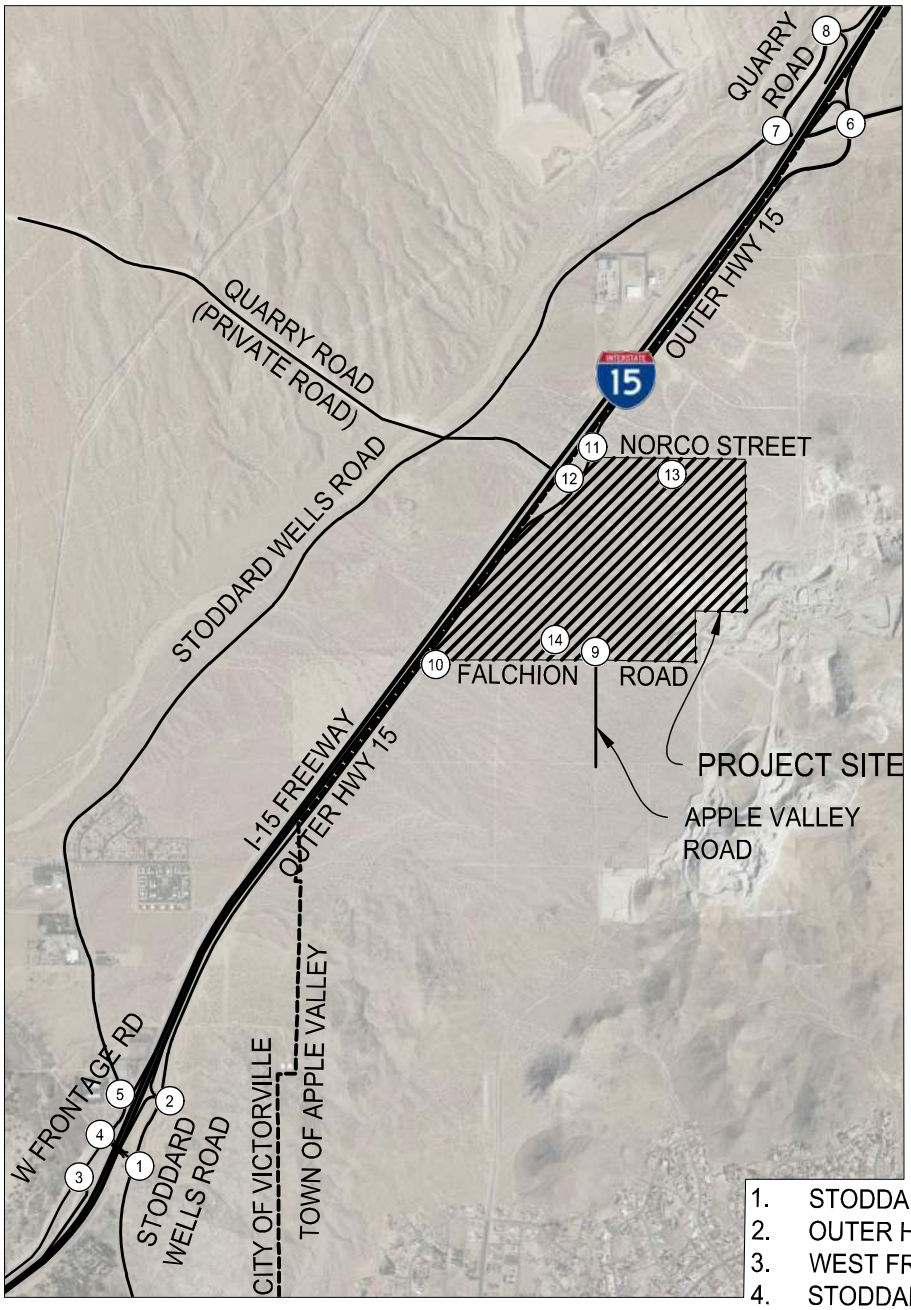
This focused traffic study evaluates key intersections on routes expected to be used by project traffic to access the site. **Figure 3** and the list below identifies the intersections analyzed in this study.

1. Stoddard Wells Rd / Outer Highway 15
2. Outer Highway 15 / I-15 NB On/Off-Ramps
3. West Frontage Rd / I-15 SB On-Ramp
4. Stoddard Wells Rd / West Frontage Rd
5. Stoddard Wells Rd / I-15 SB Off-Ramp
6. Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps
7. Stoddard Wells Rd / Quarry Rd
8. Quarry Rd / I-15 SB On/Off-Ramps
9. Falchion Rd / Apple Valley Rd
10. Falchion Rd / Outer Hwy 15
11. Outer Highway 15/ Norco St
12. Outer Highway 15/ Quarry Rd
13. Norco St / Project Driveway #1
14. Falchion Road / Project Driveway #2

All the study intersections are currently side-street stop controlled, or all-way stop-controlled. Driveway #1 on Norco Street and Driveway #2 on Falchion Road are representative of a series of driveways on both streets serving automobiles accessing parking lots or trucks accessing the gated loading areas. The representative driveways are used in this scoping memorandum to distribute automobile and truck traffic to off-site intersections. The traffic analysis will include a micro-distribution of automobiles and trucks to their respective driveways.

3.3 Existing Traffic Volumes

Turn movement counts were conducted in collected in June 2022, November 2022, and March 2023 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.



1. STODDARD WELLS RD / OUTER HIGHWAY 15
2. OUTER HIGHWAY 15 / I-15 NB ON/OFF-RAMPS
3. WEST FRONTAGE RD / I-15 SB ON-RAMP
4. STODDARD WELLS RD / WEST FRONTAGE RD
5. STODDARD WELLS RD / I-15 SB OFF-RAMP
6. STODDARD WELLS RD / OUTER HIGHWAY 15 / I-15 NB RAMPS
7. STODDARD WELLS RD / QUARRY RD
8. QUARRY RD / I-15 SB ON/OFF-RAMPS
9. FALCHION RD / APPLE VALLEY RD
10. FALCHION RD / OUTER HWY 15
11. OUTER HWY 15 / NORCO ST
12. OUTER HWY 15 / QUARRY RD
13. NORCO ST / PROJECT DRIVEWAY #1
14. FALCHION ROAD / PROJECT DRIVEWAY #2

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FIGURE 3: STUDY INTERSECTIONS
INLAND EMPIRE NORTH LOGISTICS CENTER
APPLE VALLEY, CALIFORNIA

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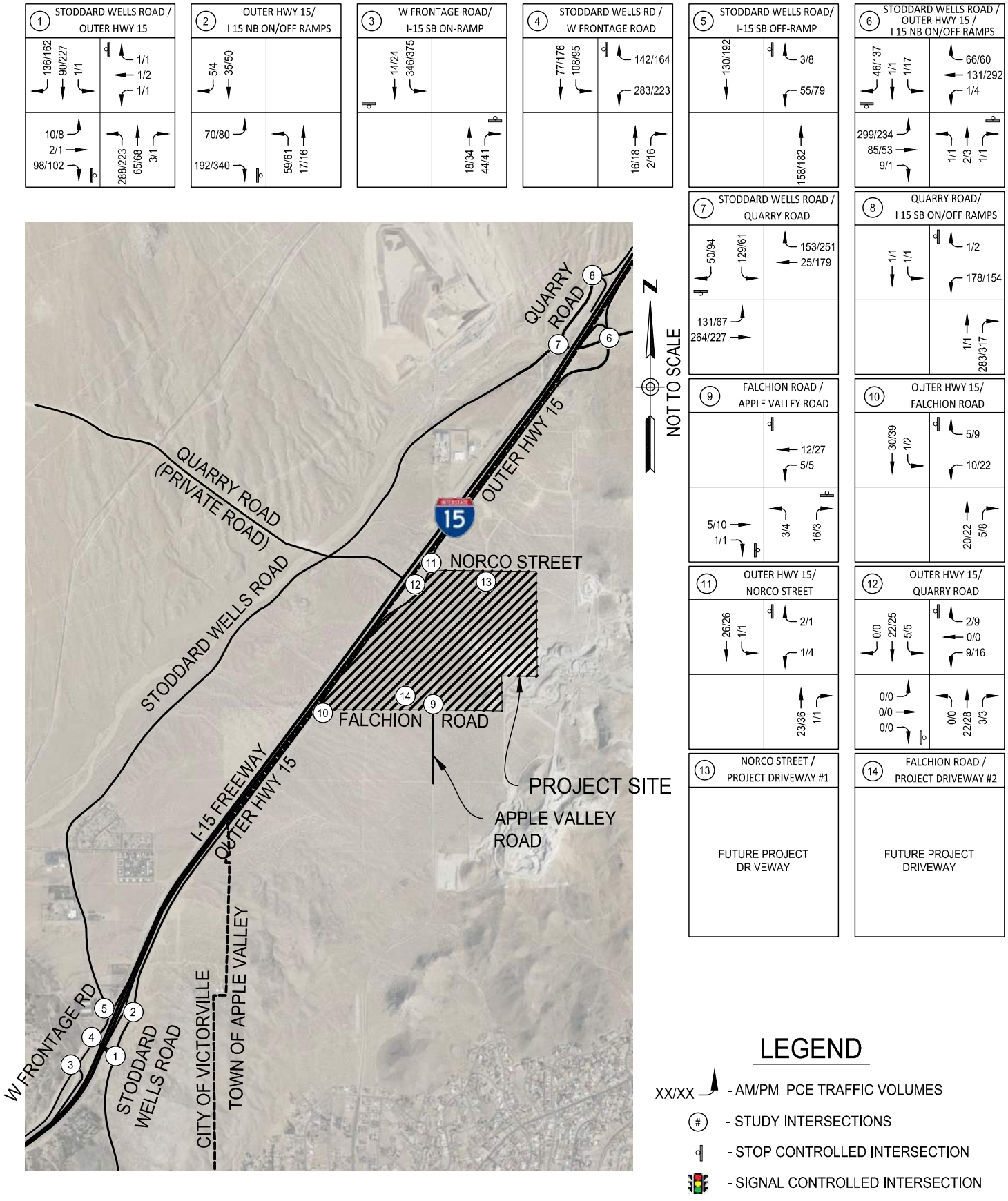

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FIGURE 4: EXISTING PCE TRAFFIC VOLUMES
INLAND EMPIRE NORTH LOGISTICS CENTER
APPLE VALLEY, CALIFORNIA

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3.4 Intersection Capacity Analysis Methodology

In this study, intersection level of service (LOS) was determined using Synchro software[5] which implements the methodologies in Chapter 19 and Chapter 20 of the Highway Capacity Manual, 6th Edition (HCM 6)[6] 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.

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 E** provide the results of the analysis. **Figure 5** illustrates the existing intersection geometrics utilized in the capacity analysis.

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

[5] Trafficware Ltd, version 10.

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

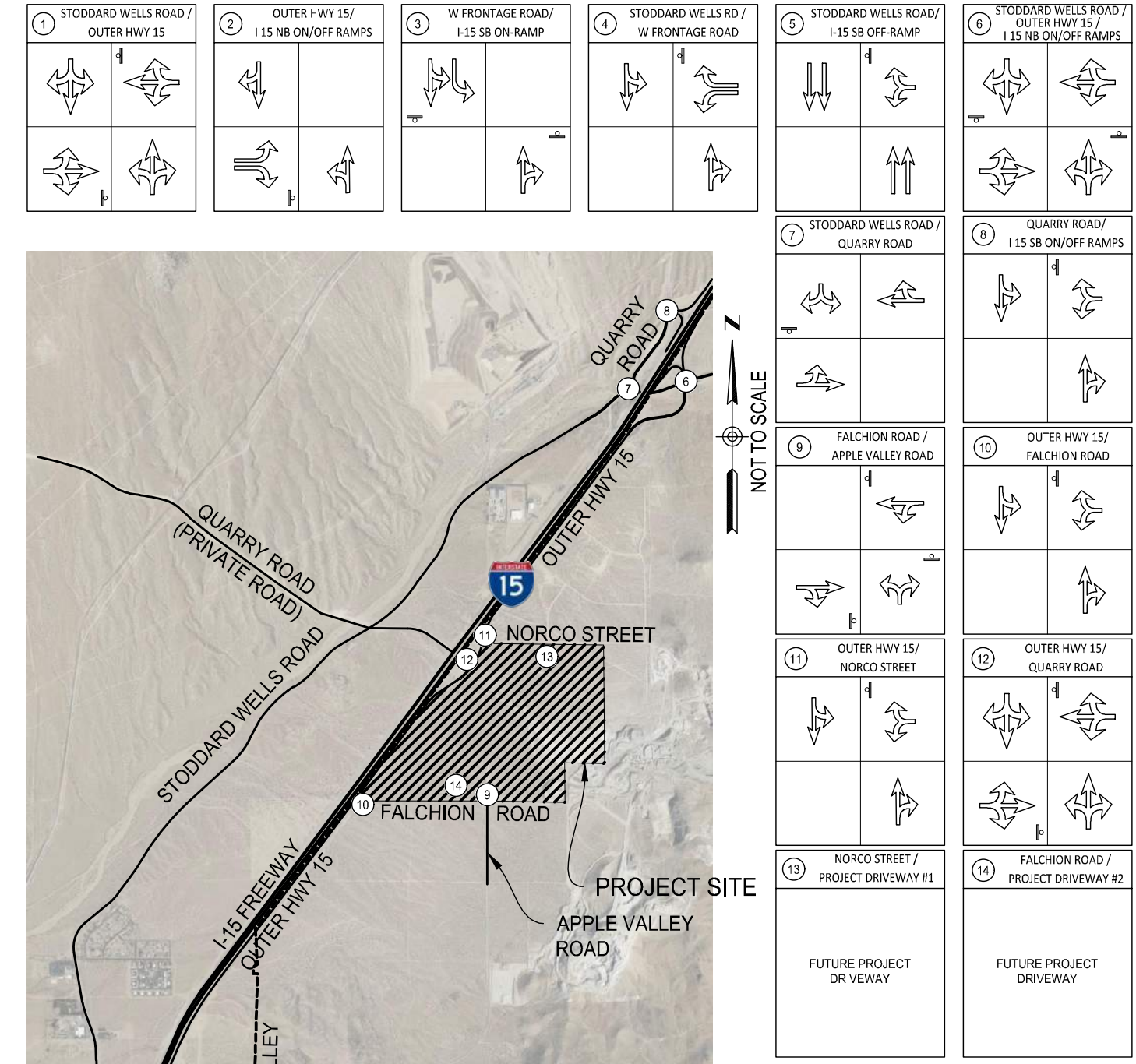

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FIGURE 5: EXISTING INTERSECTION GEOMETRICS
INLAND EMPIRE NORTH LOGISTICS CENTER
APPLE VALLEY, CALIFORNIA

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Table 3-2: Intersection Level of Service for Existing (2023) Conditions

Intersection	Control Type	AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. Stoddard Wells Rd / Outer Highway 15	SSSC	24.9	C	24.8	C
2. Outer Highway 15 / I-15 NB Ramps	SSSC	10.3	B	10.7	B
3. W Frontage Rd / I-15 SB On Ramp	SSSC	5.0	A	5.0	A
4. Stoddard Wells Rd / W Frontage Rd	SSSC	19.8	C	17.9	C
5. Stoddard Wells Rd / I-15 SB Off Ramp	SSSC	10.6	B	11.1	B
6. Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps	SSSC	20.5	C	23.0	C
7. Stoddard Wells Rd / Quarry Rd	SSSC	16.6	C	12.8	B
8. Quarry Rd / I-15 SB Ramps	SSSC	10.7	B	11.3	B
9. Falchion Rd / Apple Valley Rd	AWSC	6.8	A	7.1	A
10. Falchion Rd / Outer Hwy 15	SSSC	8.8	A	9.0	A
11. Outer Highway 15/ Norco St	SSSC	8.6	A	8.9	A
12. Outer Highway 15/ Quarry Rd	SSSC	8.9	A	9.0	A
13. Norco Street / Project Driveway #1	SSSC	Not Applicable			
14. Falchion Road / Project Driveway #2	SSSC	Not Applicable			

Abbreviations:
SSSC – Side Street Stop Controlled Intersection, AWSC – All Way Stop Controlled Intersection, Not Applicable – Not Applicable Future Intersection Delay – seconds per vehicle, LOS – Level of Service

4 BACKGROUND CONDITIONS

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. A general rate of growth in traffic from overall regional growth is assumed to be 2% annually for this study.

The other area development projects included in the study were provided by the Town of Apple Valley Planning Department. The Other Area Approved Developments Excerpts are provided in **Appendix D**.

4.1 Background Conditions Traffic Analysis

The Background Conditions intersection level of service analysis uses existing intersection geometrics and the traffic volumes shown in is provided in **Figure 6. Table 4-1** and **Appendix E** provides the results of the analysis.

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

Intersection	Control Type	AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. Stoddard Wells Rd / Outer Highway 15	SSSC	26.5	D	26.5	D
2. Outer Highway 15 / I-15 NB Ramps	SSSC	10.4	B	10.8	B
3. W Frontage Rd / I-15 SB On Ramp	SSSC	5.0	A	5.0	A
4. Stoddard Wells Rd / W Frontage Rd	SSSC	21.5	C	19.1	C
5. Stoddard Wells Rd / I-15 SB Off Ramp	SSSC	10.7	B	11.3	B
6. Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps	SSSC	1663.7	F	2354.9	F
7. Stoddard Wells Rd / Quarry Rd	SSSC	35.1	E	21.4	C
8. Quarry Rd / I-15 SB Ramps [1]	SSSC	14.5	B	21.0	C
9. Falchion Rd / Apple Valley Rd	AWSC	6.9	A	7.1	A
10. Falchion Rd / Outer Hwy 15	SSSC	8.8	A	9.0	A
11. Outer Highway 15/ Norco St	SSSC	8.6	A	8.9	A
12. Outer Highway 15/ Quarry Rd	SSSC	8.9	A	9.0	A
13. Norco Street / Project Driveway #1	SSSC	Not Applicable			
14. Falchion Road / Project Driveway #2	SSSC	Not Applicable			

Abbreviations:
SSSC – Side Street Stop Controlled Intersection, AWSC – All Way Stop Controlled Intersection, Not Applicable – Not Applicable Future Intersection Delay – seconds per vehicle, LOS – Level of Service

As presented in **Table 4-1***,* under Background Conditions, most of the study intersections are anticipated to operate at a LOS D or better in both peak hours. The intersections of Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps and Stoddard Wells Rd / Quarry Rd are anticipated to operate at an LOS F with the addition of ambient growth and project trips from the other area development projects.

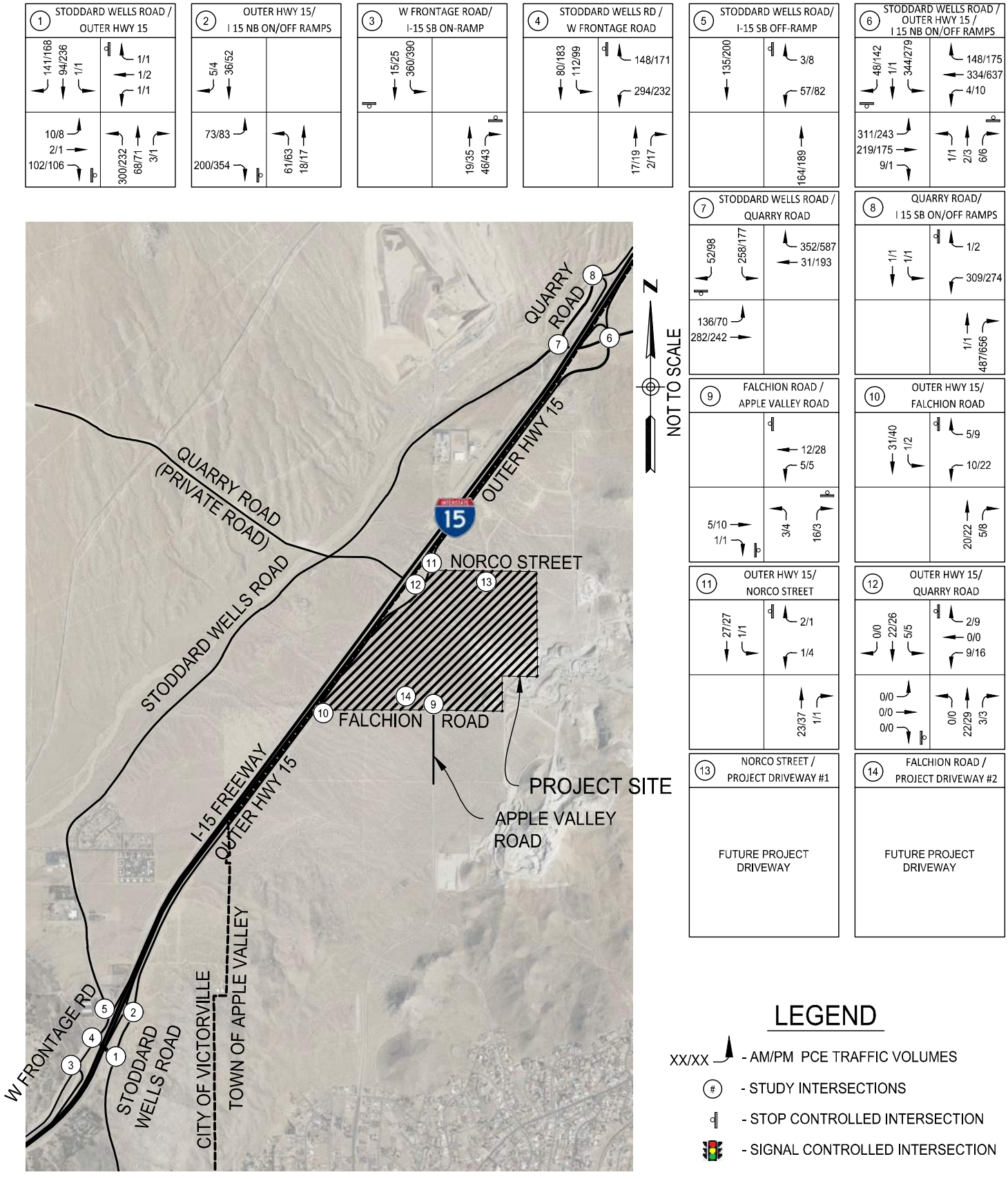

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FIGURE 6: BACKGROUND PCE TRAFFIC VOLUMES
INLAND EMPIRE NORTH LOGISTICS CENTER
APPLE VALLEY, CALIFORNIA

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5 PROJECT CONDITIONS

This scenario adds the project's estimated traffic generation at buildout (year 2024) to the Background Conditions scenario described in **Chapter 4**. Level of service impacts identified in this scenario are considered "cumulative" impacts—impacts that the project contributes to, but does not solely cause, and may be responsible for a fair-share of the cost to implement any mitigation measures.

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 Inland Empire North Logistics Center would generate about 6,146 vehicle trips per day and 625 vehicle trips in both the AM and PM peak hour. Queuing behind the gates will be estimated using industry standard methods based on typical

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 Inland Empire North Logistics Center generates about 8,637 daily PCEs, and 878 PCEs in both the AM and PM peak hour.

Table 5-2: Inland Empire North Logistics Center 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) Total floor area of Buildings 1 and 2	2,604.45	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						
		6,146	481	144	625	175	450	625
	Mode Share	Project Trip Generation by Vehicle Type						
Passenger Cars (Percent of Total)	74.21%	4,561	357	107	464	130	334	464
2-Axle Trucks (Percent of Total)	4.55%	280	22	7	28	8	20	28
3-Axle Trucks (Percent of Total)	4.18%	257	20	6	26	7	19	26
4-Axle Trucks (Percent of Total)	17.04%	1047	82	24	107	30	77	107
	PCE Factor	Project Trip Generation in Passenger Car Equivalents (PCE)						
Passenger Cars)	1.0	4,561	357	107	464	130	334	464
2-Axle Trucks	1.5	419	33	10	43	12	31	43
3-Axle Trucks	2.0	514	40	12	52	15	38	52
4 + Axle Trucks	3.0	3142	246	73	320	89	230	320
Total Passenger Car Equivalents (PCE)		**8,637**	**676**	**202**	**878**	**246**	**632**	**878**

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 Inland Empire North Logistics Center 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

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.

Figure 7 shows the distribution of project-generated automobile to roadways as a percentage by direction and route. **Figure 8** shows the distribution of project-generated truck trips to roadways as a percentage by direction and route. Truck traffic volumes have been converted into passenger car equivalents (PCEs) as required in the San Bernardino County guidelines for intersection capacity analysis. **Figure 9** shows the total project PCE trips.

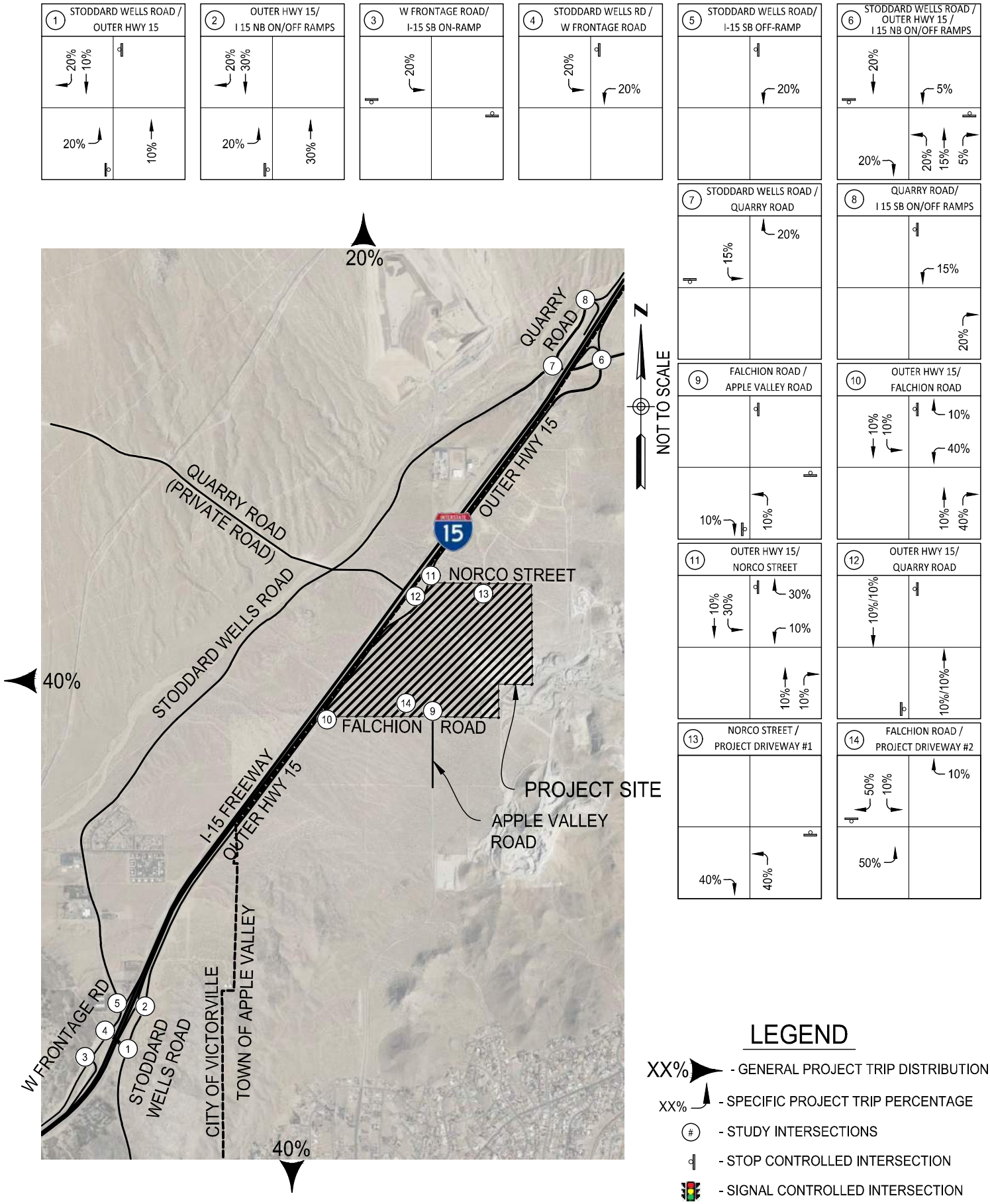

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FIGURE 7: PROJECT AUTOMOBILE TRIP DISTRIBUTION
INLAND EMPIRE NORTH LOGISTICS CENTER
APPLE VALLEY, CALIFORNIA

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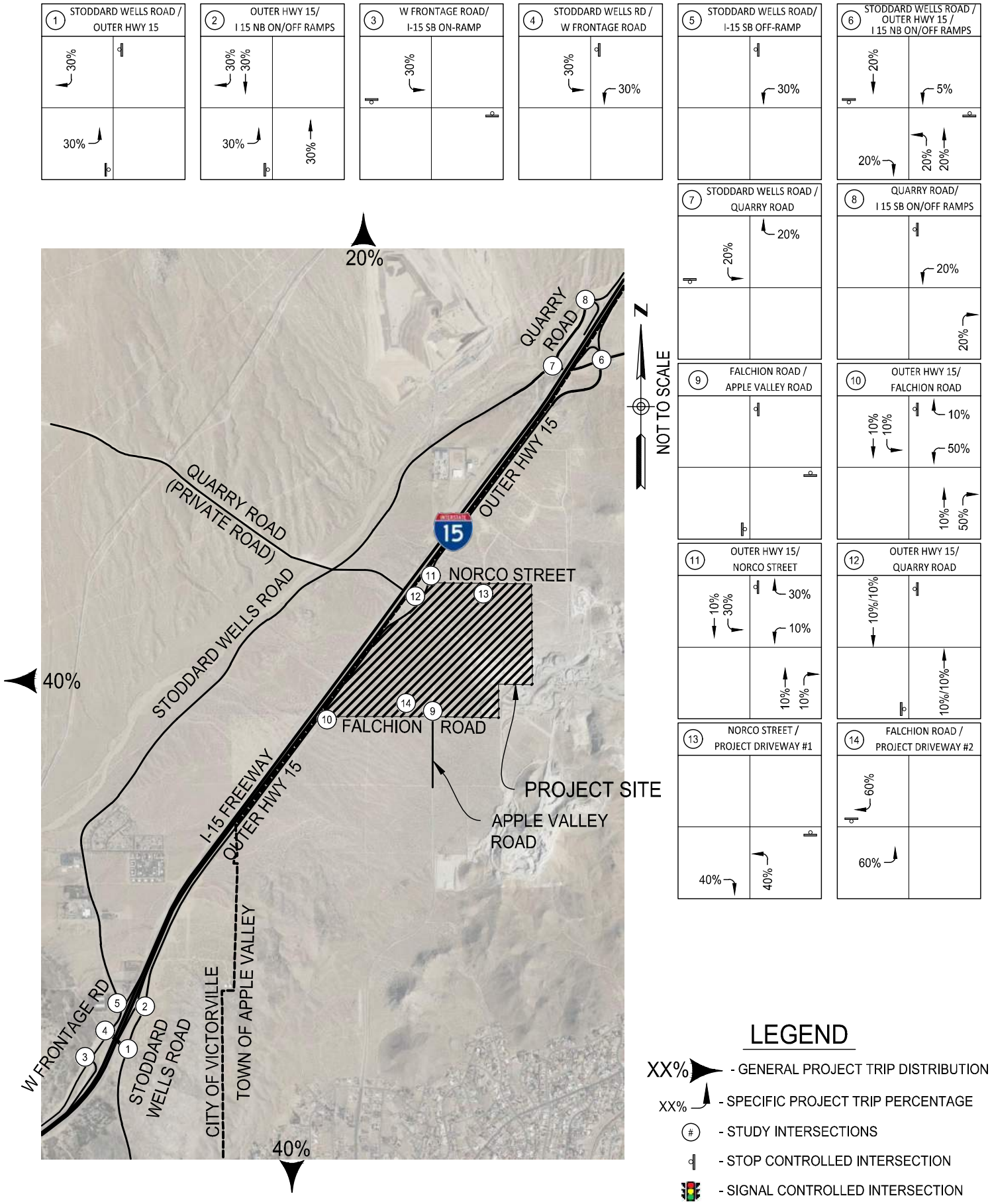

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FIGURE 8: PROJECT TRUCK TRIP DISTRIBUTION
INLAND EMPIRE NORTH LOGISTICS CENTER
APPLE VALLEY, CALIFORNIA

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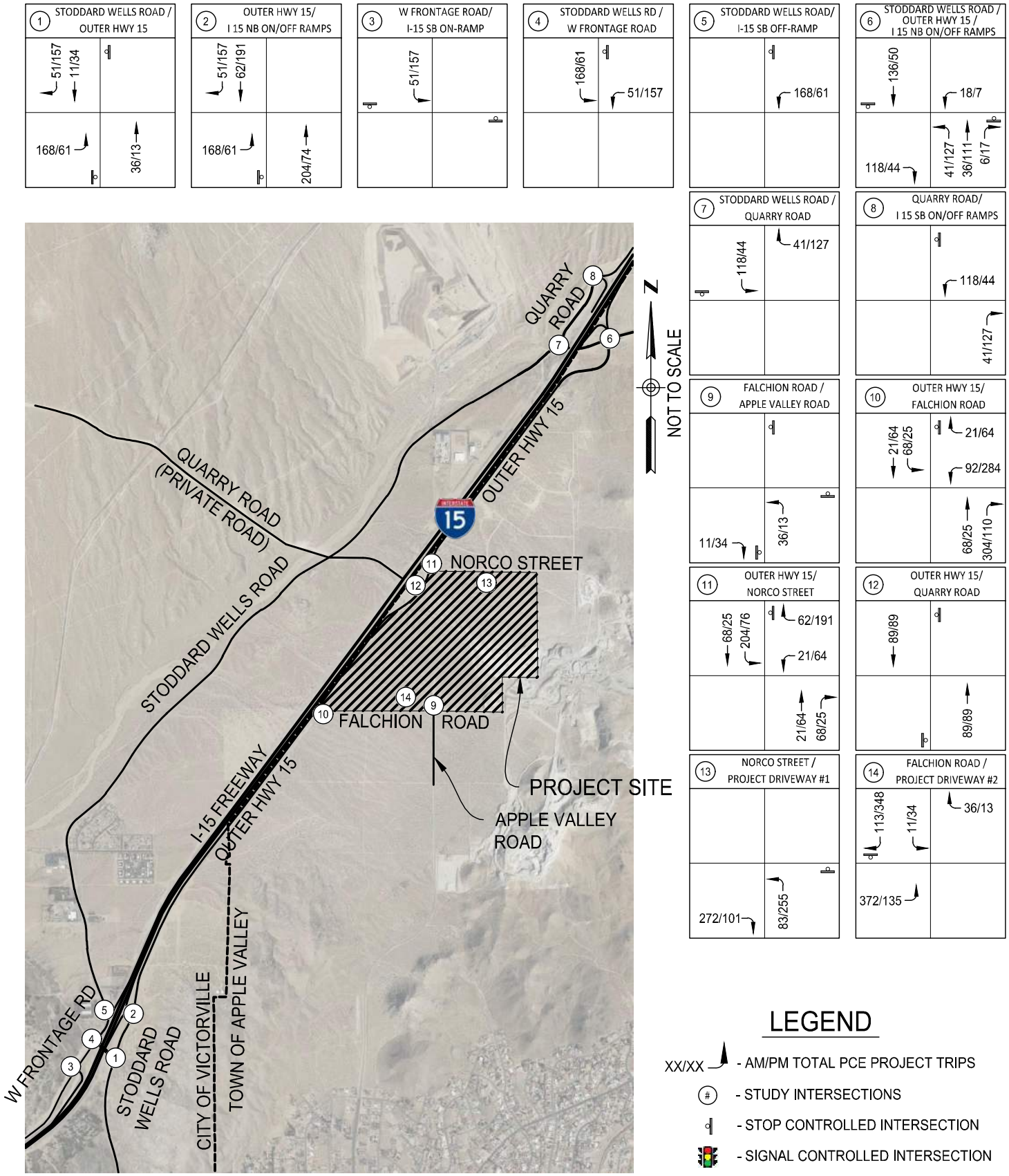

TOTAL PROJECT PCE TRIPS

AM PEAK HOUR TRIPS - 676 IN / 202 OUT
PM PEAK HOUR TRIPS - 246 IN / 632 OUT

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FIGURE 9: TOTAL PROJECT PCE TRIPS
INLAND EMPIRE NORTH LOGISTICS CENTER
APPLE VALLEY, CALIFORNIA

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5.3 Project Conditions Traffic Analysis

Table 5-3 compares intersection level of service of Background and Project Conditions. The Project Conditions traffic volumes shown in **Figure 10**. The capacity analysis worksheets are in **Appendix E.**

Table 5-3: Comparison of Background and Project Conditions LOS

Intersection	Control Type	Background Conditions				Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Stoddard Wells Rd / Outer Highway 15	SSSC	26.5	D	26.5	D	253.5	F	68.5	F
2. Outer Highway 15 / I-15 NB Ramps	SSSC	10.4	B	10.8	B	23.8	C	20.0	C
3. W Frontage Rd / I-15 SB On Ramp	SSSC	5.0	A	5.0	A	5.0	A	5.0	A
4. Stoddard Wells Rd / W Frontage Rd	SSSC	21.5	C	19.1	C	267.6	F	103.7	F
5. Stoddard Wells Rd / I-15 SB Off Ramp	SSSC	10.7	B	11.3	B	13.5	B	12.2	B
6. Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps	SSSC	1663.7	F	2354.9	F	5745.2	F	**[1]**	
7. Stoddard Wells Rd / Quarry Rd	SSSC	35.1	E	21.4	C	100.9	F	27.0	D
8. Quarry Rd / I-15 SB Ramps	SSSC	14.5	B	21.0	C	20.5	C	35.1	E
9. Falchion Rd / Apple Valley Rd	AWSC	6.9	A	7.1	A	7.2	A	7.1	A
10. Falchion Rd / Outer Hwy 15	SSSC	8.8	A	9.0	A	18.5	C	34.2	D
11. Outer Highway 15/ Norco St	SSSC	8.6	A	8.9	A	12.3	B	13.8	B
12. Outer Highway 15/ Quarry Rd	SSSC	8.9	A	9.0	A	10.4	B	10.5	B
13. Norco Street / Project Driveway #1	SSSC	N/A				10.2	B	11.2	B
14. Falchion Road / Project Driveway #2	SSSC	N/A				12.2	B	14.4	B

Abbreviations:
SSSC – Side Street Stop Controlled Intersection, AWSC – All Way Stop Controlled Intersection, Not Applicable – Not Applicable Future Intersection Delay – seconds per vehicle, LOS – Level of Service
[1] Computation not defined due to volume exceeding capacity.

As presented in **Table 5-3**, under Project Conditions, the combination of ambient traffic, project trips from other area approved development, and the addition of project traffic through the year 2024 causes intersection LOS deficiencies (from LOS D or better to LOS E or F) at five study intersections. The five study intersections are as follows: Stoddard Wells Rd / Outer Highway 15, Stoddard Wells Rd / W Frontage Rd, Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps, Stoddard Wells Rd / Quarry Rd, and 8. Quarry Rd / I-15 SB Ramps.

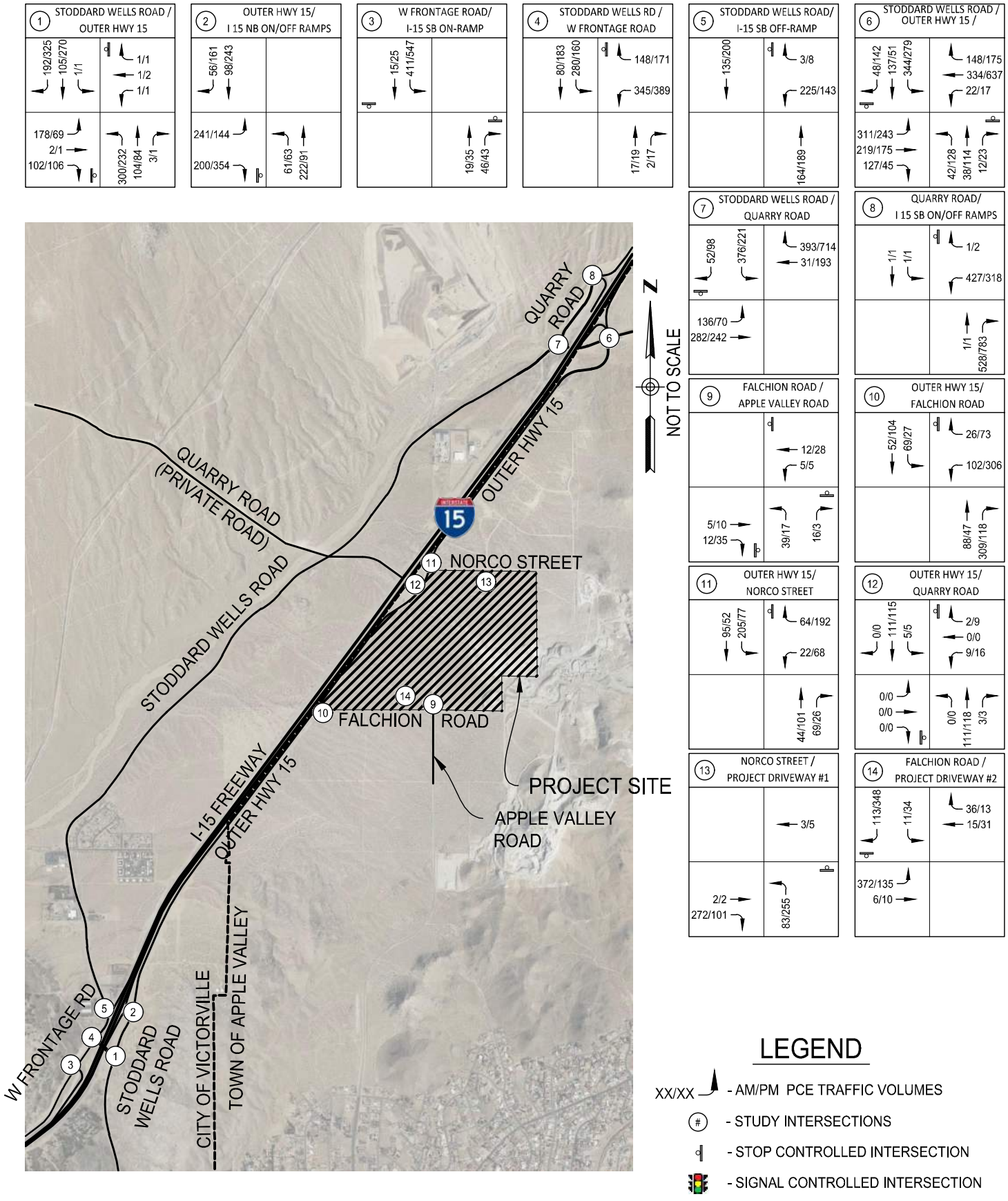

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FIGURE 10: PROJECT PCE TRAFFIC VOLUMES
INLAND EMPIRE NORTH LOGISTICS CENTER
APPLE VALLEY, CALIFORNIA

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5.3.1 Level of Service With Recommended Improvements

The five existing side-street stop-controlled intersections of Stoddard Wells Rd / Outer Highway 15, Stoddard Wells Rd / W Frontage Rd, Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps, Stoddard Wells Rd / Quarry Rd, and 8. Quarry Rd / I-15 SB Ramps experience failure in Background Plus Project Conditions.

Improvements to the intersection of Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps and the widening of the segment of Stoddard Wells Rd between Quarry Road to I-15 NB Ramps/Outer I-15 were identified in the approved Apple Valley 143 Transportation Impact Analysis, dated November 2022, by Dudek. Excerpt of the report is provided in **Appendix D.**

Table 5-4 provides the capacity analysis utilizing the near-term project-specific intersection improvements are outlined in **Chapter 1.6** and illustrated in **Figure 11.** The proposed mitigation improves the LOS deficiency, to a LOS D or better.

Table 5-4: Improved Level of Service Under Project Conditions

Intersection	Control Type	Background Conditions				Project Conditions				Change in Delay (Seconds)	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
1. Stoddard Wells Rd / Outer Highway 15	SSSC	26.5	D	26.5	D	253.5	F	68.5	F	227.0	42.0
with Improvements: convert to AWSC	AWSC	Not Applicable				17.2	C	27.6	D	-9.3	1.1
4. Stoddard Wells Rd / W Frontage Rd	SSSC	21.5	C	19.1	C	267.6	F	103.7	F	246.1	84.6
with Improvements: convert to AWSC	AWSC	Not Applicable				19.9	C	19.8	C	-1.6	0.7
6. Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps [2]	SSSC	1663.7	F	2354.9	F	5745.2	F	[1]		4081.5	
with Improvements: install traffic signal and provide turn lanes	TS	Not Applicable				32.3	C	37.8	D	-1631.4	-2317.1
7. Stoddard Wells Rd / Quarry Rd [3]	SSSC	35.1	E	21.4	C	100.9	F	27.0	D	65.8	5.6
with Improvements: install traffic signal and provide turn lanes	TS	Not Applicable				23.1	C	22.4	C	-12.0	1.0
8. Quarry Rd / I-15 SB Ramps	SSSC	14.5	B	21	C	20.5	C	35.1	E	6.0	14.1
with Improvements: provide NBR		Not Applicable				11.6	B	10.3	B	-2.9	-10.7
10. Falchion Rd / Outer Hwy 15	SSSC	8.8	A	9.0	A	18.5	C	34.2	D	9.7	25.2
with Improvements: convert to AWSC and provide turn lanes	AWSC	Not Applicable				11.7	B	18.2	C	2.9	9.2

Abbreviations:
SSSC – Side Street Stop Controlled Intersection, AWSC – All Way Stop Controlled Intersection, Not Applicable – Not Applicable Future Intersection Delay – seconds per vehicle, LOS – Level of Service
[1] Computation not defined due to volume exceeding capacity.
[2] The improvements identified for the intersection of Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps are the improvements outlined in the approved Apple Valley 143 Transportation Impact Analysis, dated November 2022, by Dudek. Excerpt of the report is provided in **Appendix D.**
[3] The widening of the segment of Stoddard Wells Rd between Quarry Road to I-15 NB Ramps/Outer I-15 are the improvements outlined in the approved Apple Valley 143 Transportation Impact Analysis, dated November 2022, by Dudek. Excerpt of the report is provided in Appendix D.

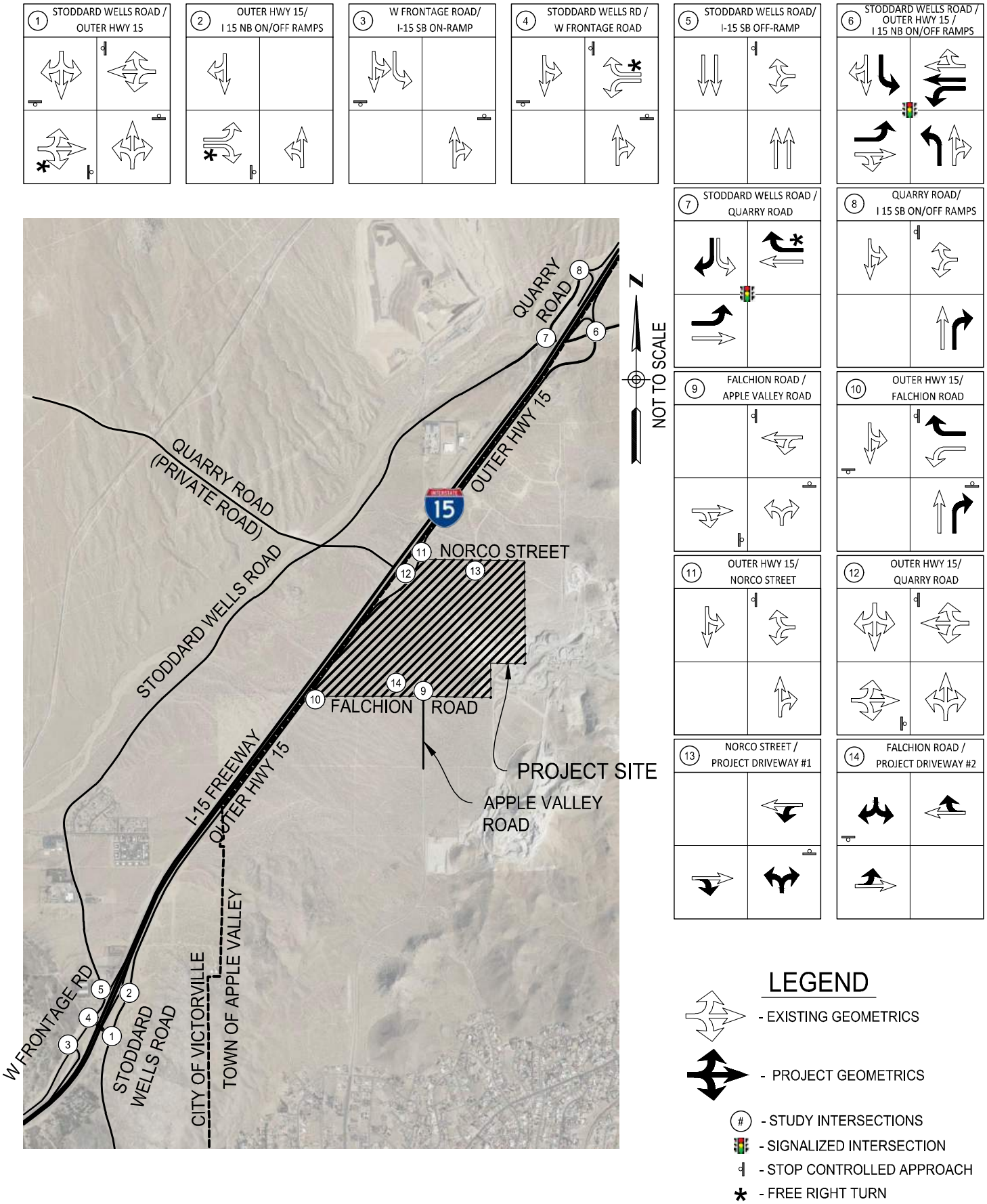

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FIGURE 11: PROJECT INTERSECTION GEOMETRICS
INLAND EMPIRE NORTH LOGISTICS CENTER
APPLE VALLEY, CALIFORNIA

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6 FUTURE YEAR 2040 CONDITIONS

The Future Year 2040 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**. As requested by the Town of Apple Valley Staff the Other Area Approved Developments Trips (described in Chapter 4) were added to the balanced post processed forecast volumes to produce the Future Year 2040 Conditions traffic volumes provided in **Figure 12.** The Other Area Approved Developments Excerpts are provided in **Appendix D**.

6.1 Future Conditions Traffic Analysis

The Future Year 2040 Conditions intersection capacity analysis uses existing intersection geometrics and the traffic volumes provided in **Figure 12**. **Table 6-1** and **Appendix E** provide the results of the analysis.

Table 6-1: Intersection Level of Service for Future Year 2040 Conditions

Intersection	Control Type	AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. Stoddard Wells Road / Outer Highway 15	SSSC	64.8	F	82.5	F
2. Outer Highway 15 / I-15 NB On/Off Ramps	SSSC	13.9	B	15.6	C
3. W Frontage Road / I-15 SB On Ramp	SSSC	5.0	A	5.0	A
4. Stoddard Wells Road / W Frontage Road	SSSC	230.6	F	188.3	F
5. Stoddard Wells Road / I-15 SB Off Ramp	SSSC	14.2	B	17.3	C
6. Stoddard Wells Road / Outer Highway 15 / I-15 NB On/Off Ramps	SSSC	1941.5	F	4896.0	F
7. Stoddard Wells Road / Quarry Road	SSSC	41.1	E	28.1	D
8. Quarry Road / I-15 SB On/Off Ramps	SSSC	16.2	C	23.1	C
9. Falchion Road / Apple Valley Road	AWSC	7.5	A	7.6	A
10. Falchion Road / Outer Hwy 15	SSSC	9.1	A	9.9	A
11. Outer Highway 15/ Norco Street	SSSC	8.6	A	9.0	A
12. Outer Highway 15/ Quarry Road	SSSC	8.9	A	9.2	A
D1. Norco Street / Project Driveway #1	SSSC	Not Applicable			
D2. Falchion Road / Project Driveway #2	SSSC	Not Applicable			

Abbreviations:
SSSC – Side Street Stop Controlled Intersection, AWSC – All Way Stop Controlled Intersection, Not Applicable – Not Applicable Future Intersection Delay – seconds per vehicle, LOS – Level of Service

As presented in **Table 6-1***,* under Future Year 2040 Conditions, four existing intersections are projected to operate at deficient levels of service even without the proposed project.

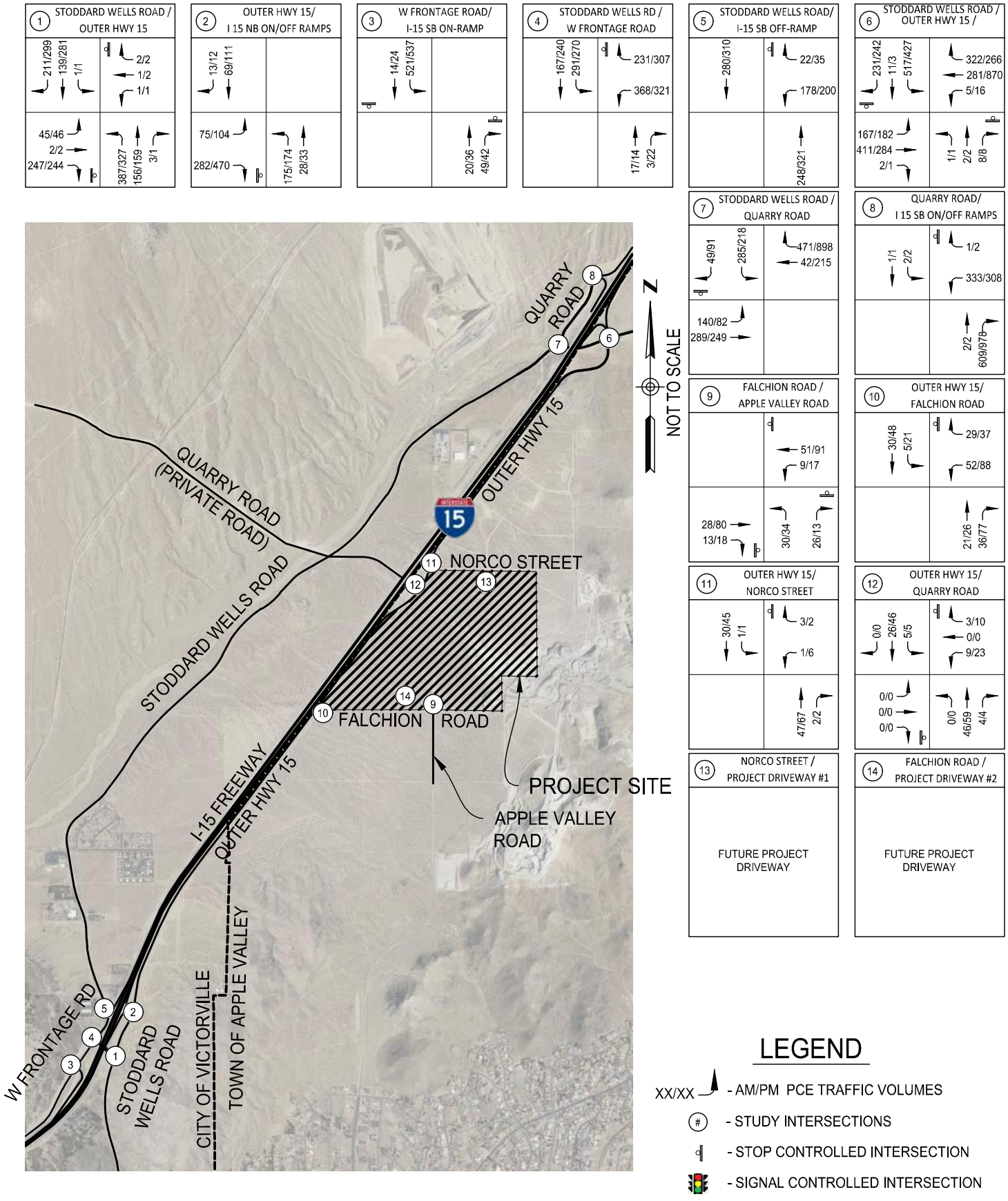

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FIGURE 12: FUTURE YEAR PCE TRAFFIC VOLUMES
INLAND EMPIRE NORTH LOGISTICS CENTER
APPLE VALLEY, CALIFORNIA

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7 FUTURE 2040 PLUS PROJECT CONDITIONS

The Future Plus Project Conditions scenario adds the project's estimated traffic generation to the Future Year 2040 Condition's scenario described in Chapter 6. As described in the previous section, the forecasted Future Year 2040 Conditions intersection turn movement volumes were derived from a combination of post processing forecasted approach volumes from the SBTAM model and the project trips generated by Other Area Approved Developments for each study intersection. The SBTAM traffic model plots are provided in **Appendix C**. The **Appendix E.** Level of service impacts identified in this scenario are considered "cumulative" impacts—impacts that the project contributes to, but does not solely cause, and may be responsible for a fair-share of the cost to implement any mitigation measures.

7.1 Future Plus Project Traffic Analysis

The intersection level of service analysis for Future Plus Project Conditions uses existing intersection geometrics and the traffic volumes shown in is provided in **Figure 13**. **Table 7-1** and **Appendix E** provide the results of the analysis.

Table 7-1: Comparison of Future 2040 and Future 2040 Plus Project LOS

Intersection	Control Type	Background Conditions				Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Stoddard Wells Rd / Outer Highway 15	SSSC	64.8	F	82.5	F	761.5	F	465.8	F
2. Outer Highway 15 / I-15 NB Ramps	SSSC	13.9	B	15.6	C	54.3	F	42.9	E
3. W Frontage Rd / I-15 SB On Ramp	SSSC	5.0	A	5.0	A	5.0	A	5.0	A
4. Stoddard Wells Rd / W Frontage Rd	SSSC	230.6	F	188.3	F	984.2	F	683.8	F
5. Stoddard Wells Rd / I-15 SB Off Ramp	SSSC	14.2	B	17.3	C	22.1	C	21.0	C
6. Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps	SSSC	1941.5	F	4896.0	F	4753.3	F	[1]	
7. Stoddard Wells Rd / Quarry Rd	SSSC	41.1	E	28.1	D	116.0	F	38.2	E
8. Quarry Rd / I-15 SB Ramps	SSSC	16.2	C	23.1	C	24.0	C	35.4	E
9. Falchion Rd / Apple Valley Rd	AWSC	7.5	A	7.6	A	7.7	A	7.7	A
10. Falchion Rd / Outer Hwy 15	SSSC	9.1	A	9.9	A	15.1	C	25.5	D
11. Outer Highway 15/ Norco St	SSSC	8.6	A	9.0	A	11.1	B	12.1	B
12. Outer Highway 15/ Quarry Rd	SSSC	8.9	A	9.2	A	10.1	B	10.4	B
13. Norco Street / Project Driveway #1	SSSC	Not Applicable				9.7	A	10.3	B
14. Falchion Road / Project Driveway #2	SSSC	Not Applicable				11.0	B	10.1	B

Abbreviations:
SSSC – Side Street Stop Controlled Intersection, AWSC – All Way Stop Controlled Intersection, Not Applicable – Not Applicable Future Intersection Delay – seconds per vehicle, LOS – Level of Service
[1] Computation not defined due to volume exceeding capacity.

As presented in **Table 7-1**, the combination of ambient traffic and the addition of project traffic through the year 2040 causes intersection LOS deficiencies (from LOS D or better to LOS E or F) at the following six study intersections: Stoddard Wells Rd / Outer Highway 15, Outer Highway 15 / I-15 NB Ramps, Stoddard Wells Rd / W Frontage Rd, Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps, Stoddard Wells Rd / Quarry Rd, and Quarry Rd / I-15 SB Ramps.

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 Background Conditions with the additions of Outer Highway 15 / I-15 NB Ramps.

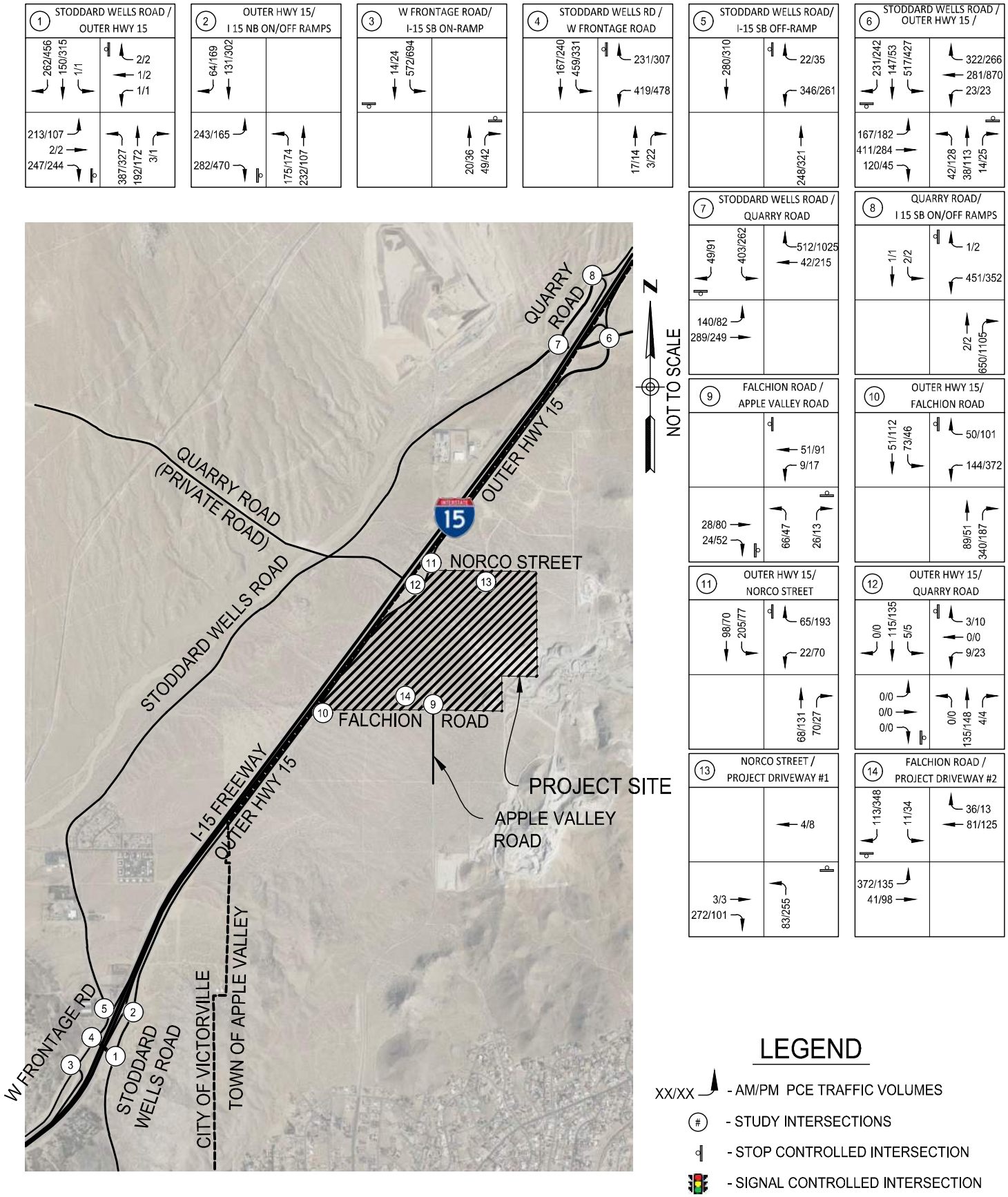

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FIGURE 13: FUTURE YEAR WITH PROJECT PCE TRAFFIC VOLUMES
INLAND EMPIRE NORTH LOGISTICS CENTER
APPLE VALLEY, CALIFORNIA

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7.1.1 Level of Service With Recommended Improvements

The five existing side-street stop-controlled intersections of Stoddard Wells Rd / Outer Highway 15, Outer Highway 15 / I-15 NB Ramps, Stoddard Wells Rd / W Frontage Rd, Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps, and Stoddard Wells Rd / Quarry Rd experience failure in Background Plus Project Conditions.

Improvements to the intersection of Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps and the widening of the segment of Stoddard Wells Rd between Quarry Road to I-15 NB Ramps/Outer I-15 were identified in the approved Apple Valley 143 Transportation Impact Analysis, dated November 2022, by Dudek. Excerpt of the report is provided in **Appendix D.**

Table 7-2 provides the capacity analysis utilizing the near-term project-specific intersection improvements are outlined in **Chapter 1.6** and illustrated in **Figure 14.** The proposed mitigation improves the LOS deficiency, to a LOS D or better.

Table 7-2: Improved Level of Service Under Future 2040 + Project Conditions

Intersection	Control Type	Future Conditions				Future + Project				Change in Delay (Seconds)	
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	AM	PM
1. Stoddard Wells Rd / Outer Highway 15	SSSC	64.8	F	82.5	F	761.5	F	465.8	F	696.7	383.3
with Cumulative improvements: convert to traffic signal	TS	Not Applicable				13.2	B	7.6	A	-51.6	-74.9
2. Outer Highway 15 / I-15 NB Ramps	SSSC	13.9	B	15.6	C	54.3	F	42.9	E	40.4	27.3
with Cumulative improvements: convert to traffic signal	TS	Not Applicable				13.4	B	10.2	B	-0.5	-5.4
4. Stoddard Wells Rd / W Frontage Rd	SSSC	230.6	F	188.3	F	984.2	F	683.8	F	753.6	495.5
with Cumulative improvements: convert to traffic signal	TS	Not Applicable				26.0	C	26.1	C	-204.6	-162.2
6. Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps [2]	SSSC	1941.5	F	4896.0	F	4753.3	F	**[1]**		2811.8	
with Cumulative improvements: convert to traffic signal, modify turn lanes	TS	Not Applicable				38.9	D	37.4	D	-1902.6	-4858.6
7. Stoddard Wells Rd / Quarry Rd [3]	SSSC	41.1	E	28.1	D	116.0	F	38.2	E	74.9	10.1
with Cumulative improvements: convert to traffic signal	TS	Not Applicable				22.8	C	25.5	C	-18.3	-2.6
8. Quarry Rd / I-15 SB Ramps	SSSC	16.2	C	23.1	C	24.0	C	35.4	E	7.8	12.3
with Improvements: provide NBR		Not Applicable				11.6	B	10.6	B	-4.6	-12.5
10. Falchion Rd / Outer Hwy 15	SSSC	9.1	A	9.9	A	15.1	C	25.5	D	6	15.6
with Project Improvements: convert to AWSC, provide turn lanes	AWSC	Not Applicable				10.4	B	14.9	B	1.3	5.0

Abbreviations:
SSSC – Side Street Stop Controlled Intersection, AWSC – All Way Stop Controlled Intersection, Not Applicable – Not Applicable Future Intersection Delay – seconds per vehicle, LOS – Level of Service
[1] Computation not defined due to volume exceeding capacity.
[2] The improvements identified for the intersection of Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps are the improvements outlined in the approved Apple Valley 143 Transportation Impact Analysis, dated November 2022, by Dudek. Excerpt of the report is provided in **Appendix D.**
[3] The widening of the segment of Stoddard Wells Rd between Quarry Road to I-15 NB Ramps/Outer I-15 are the improvements outlined in the approved Apple Valley 143 Transportation Impact Analysis, dated November 2022, by Dudek. Excerpt of the report is provided in Appendix D.

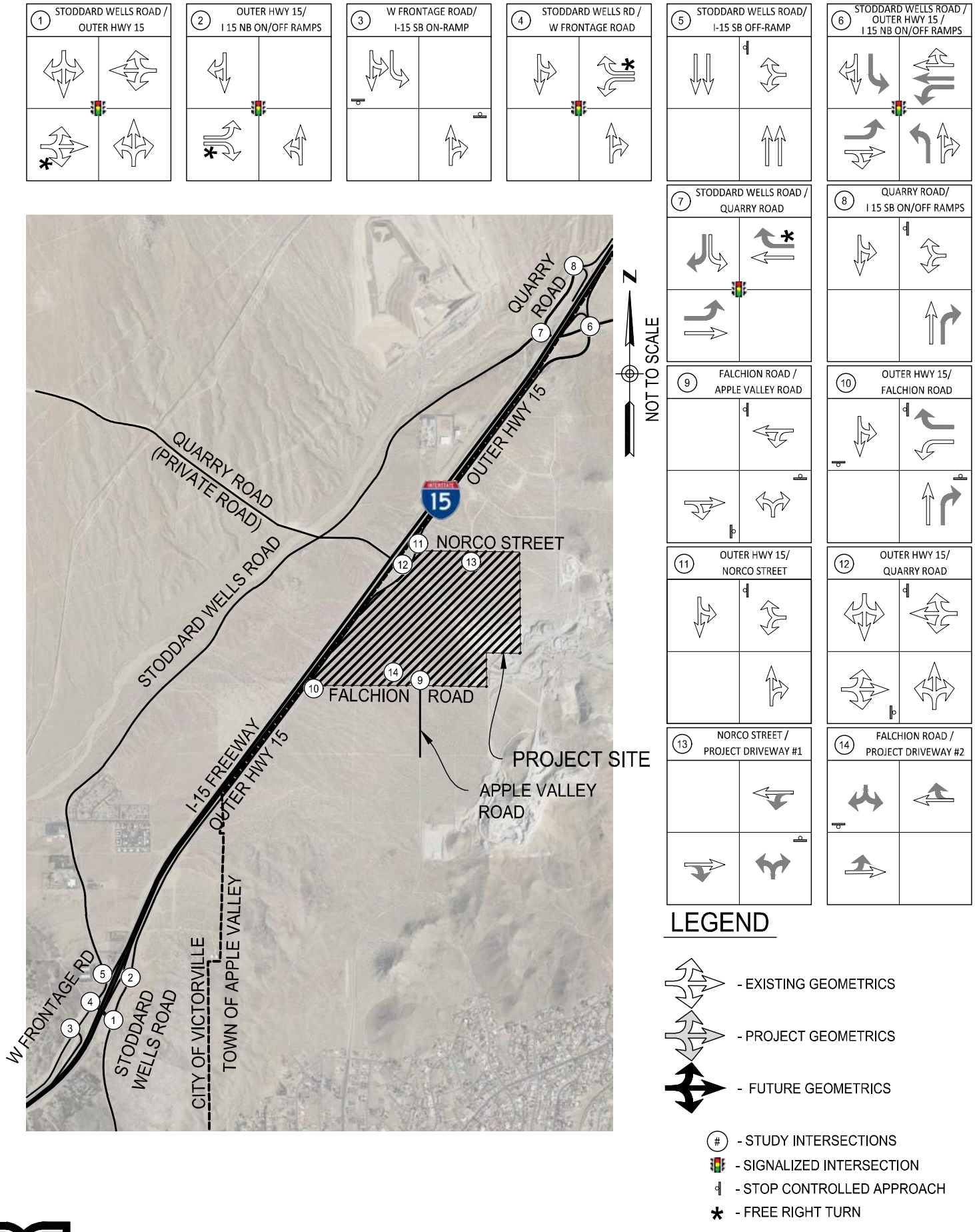

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FIGURE 14: FUTURE YEAR WITH PROJECT INTERSECTION GEOMETRICS
INLAND EMPIRE NORTH LOGISTICS CENTER
APPLE VALLEY, CALIFORNIA

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8 RECOMMENDED MITIGATION MEASURES AND PROJECT-SPECIFIC FRONTAGE IMPROVEMENTS

8.1 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 1.6** of Section 1 (Executive Summary).

8.1.1 Project-Specific Improvements

1. Stoddard Wells Rd / Outer Highway 15: Convert intersection to all-way stop control and maintain the current lane configuration at each approach.
2. Stoddard Wells Rd / W Frontage Rd: Convert intersection to all-way stop control and maintain the current lane configuration at each approach.
3. Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps: install a traffic signal and widen the eastbound, westbound, northbound, and southbound approaches to accommodate turn lanes.
4. Stoddard Wells Rd / Quarry Rd: install a traffic signal and widen the eastbound, westbound, northbound, and southbound approaches to accommodate turn lanes.
5. Quarry Rd / I-15 SB Ramps: Widen the northbound approach to accommodate turn lanes.
6. Falchion Rd / Outer Hwy 15: Convert intersection to all-way stop control and maintain the current lane configuration at each approach.

8.1.2 Cumulative Long-Term Improvements

1. Stoddard Wells Rd / Outer Highway 15: install a traffic signal and maintain the current lane configuration at each approach.
2. Outer Highway 15 / I-15 NB Ramps: install a traffic signal and maintain the current lane configuration at each approach.
3. Stoddard Wells Rd / W Frontage Rd: widen the eastbound and southbound approaches to accommodate additional turn lanes and retain the project specific proposed improvements.
4. Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps: Retain the project specific proposed improvements.
5. Stoddard Wells Rd / Quarry Rd: Retain the project specific proposed improvements.
6. Quarry Rd / I-15 SB Ramps: Retain the project specific proposed improvements.
7. Falchion Rd / Outer Hwy 15: Retain the project specific proposed improvements.

8.2 Project-Specific Frontage and Access Improvements

The required project-specific frontage and access improvements are described in detail **Section 1.11** of the Executive Summary.

1. **Construct access and site frontage improvements on Falchion Road:**
   a. Construct Falchion Rd[7] from Outer Highway 15 to Apple Valley Rd.
   b. Construct and improve the project's frontage with Falchion Rd from Outer Highway 15 to Apple Valley Rd.
      - The project will be required to dedicate land and construct the 52-foot half-width of a major road

section including the project's driveways. Until the southern half of Falchion Road is constructed by others the two travel lanes constructed with the half-width section can provide for two-way traffic.

2. **Construct access and site frontage improvements on Norco Street:**
   a. Construct Norco Street to collector standards from Outer Highway 15 to the realigned Apple Valley Road.
      - The project will be required to construct half-width of a collector street section including the proposed driveways accessing the project from Norco Street.
3. **Construct access and site frontage improvements on Outer Hwy 15:**
   a. Construct and improve the project's frontage with Outer Highway 15 between Falchion Road and Norco Street.
      - The project will be required to dedicate land and construct a 44-foot half-width of a secondary road section including the project's driveways.
4. **Construct site frontage improvements on Apple Valley Road:**
   a. Construct and improve the project's frontage with Apple Valley Road.
      - The project will be required to dedicate land and construct the 64-foot half-width of Apple Valley Road's major divided arterial designation.
      - The project should construct the section of Apple Valley Rd fronting project owned property between Falchion Rd and Norco St as a minimum two-way two-lane (one in each direction) roadway to close this gap.

8.3 Fair Share Calculations

The fair share percentages calculated in Section 1.7 are used to determine the Fair Share Fee for each intersection and by forecast year. **Table 8-1** on the following page provides the Fair Share Fee for the Near-Term (Year 2024) Scenario. **Table 8-2** provides the Fair Share Fee for the Long-Term (Year 2040) Scenario.

Table 8-1: Project's Percent Contribution (Fair Share) to Deficient Intersections for Near-Term (Year 2024)

Intersection	Cost ($)	Fair Share %	Fair Share Fee
1. Stoddard Wells Rd / Outer Highway 15	$50,000	92.3%	$46,167
4. Stoddard Wells Rd / W Frontage Rd	$50,000	89.8%	$44,877
6. Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps	$1,400,000	31.2%	$436,348
7. Stoddard Wells Rd / Quarry Rd	$800,000	30.7%	$245,560
8. Quarry Rd / I-15 SB Ramps	$200,000	32.2%	$64,372
Notes: Project traffic used in calculating the fair-share percentage is based on Passenger Car Equivalents (PCEs).			

Table 8-2: Project's Percent Contribution (Fair Share) to Deficient Intersections for Long-Term (Year 2040)

Intersection	Cost ($)	Fair Share %	Fair Share Fee
1. Stoddard Wells Rd / Outer Highway 15	$500,000	36.4%	$181,756
2. Outer Highway 15 / I-15 NB Ramps	$500,000	66.8%	$334,025
4. Stoddard Wells Rd / W Frontage Rd	$500,000	32.8%	$163,922
6. Stoddard Wells Rd / Outer Highway 15 / I-15 NB Ramps	$1,400,000	21.3%	$297,605
7. Stoddard Wells Rd / Quarry Rd	$800,000	23.3%	$186,237
8. Quarry Rd / I-15 SB Ramps	$200,000	24.8%	$49,533
10. Falchion Rd / Outer Hwy 15	$500,000	36.4%	$181,756
Notes: Project traffic used in calculating the fair-share percentage is based on Passenger Car Equivalents (PCEs).			

9 PROPOSED GENERAL PLAN AMENDMENTS

The project proposes changes to the Town's circulation system that will require an amendment to the Town's Streets and Roads Plan in the circulation element of the general plan. The modifications to the circulation system are the street realignment and street reclassification illustrated in **Figure 15**, on the following page.

The primary amendment is the abandonment of the current right of way alignment of Apple Valley Road and realignment of the right of way from Saugus Road to Falchion Road following the eastern boundary of the project's property.

A reclassification amendment proposes to change Norco Street from a major road to a collector street west of the realigned Apple Valley Road.

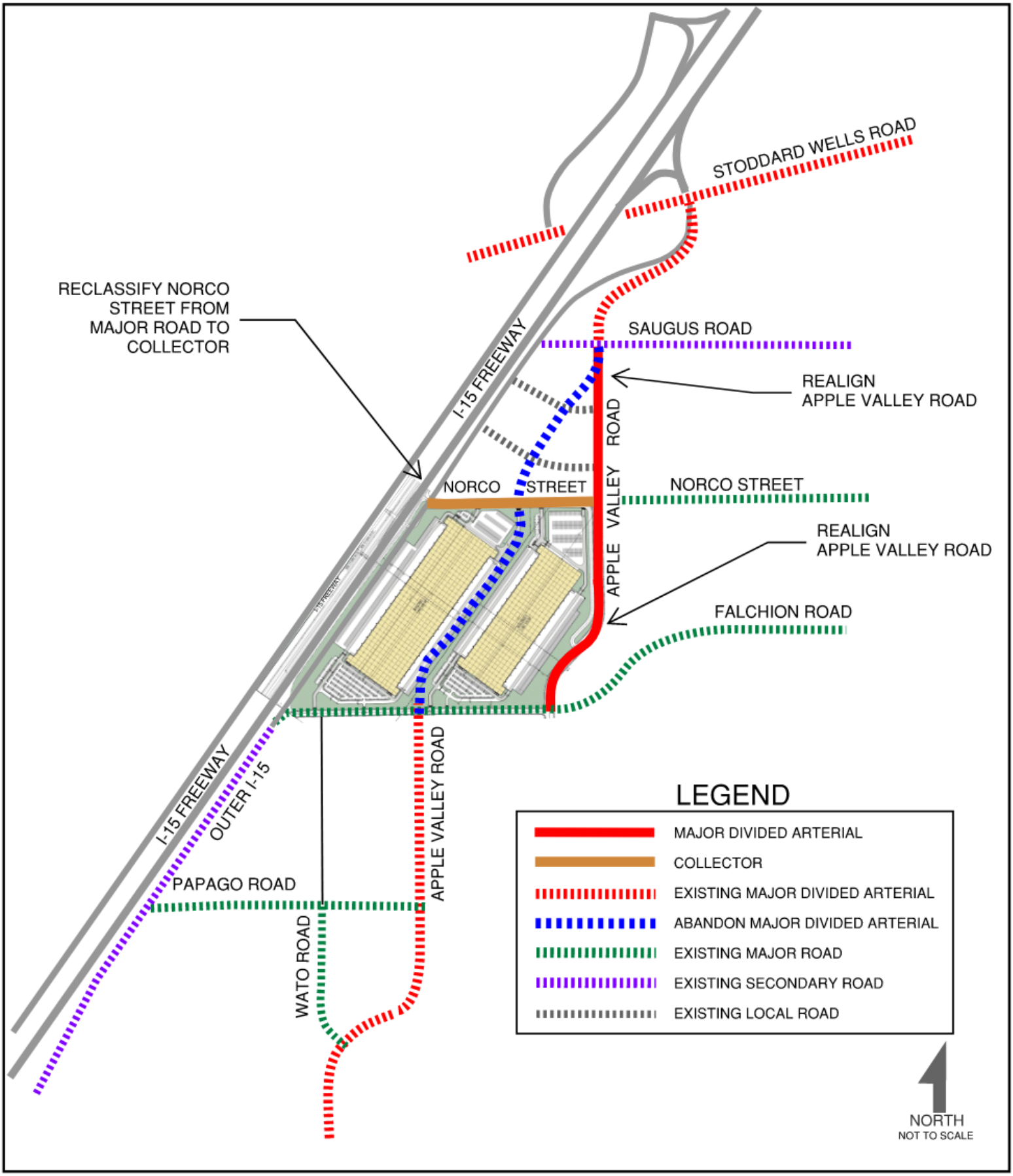

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FIGURE 15: PROPOSED AMENDMENTS TO THE TOWN'S GENERL PLAN STREETS AND ROAD PLAN
INLAND EMPIRE NORTH LOGISTICS CENTER
APPLE VALLEY, CALIFORNIA

10 APPENDICES

Appendix A: Approved Scope Agreement
Appendix B: Traffic Counts
Appendix C: Forecast Model Plots and Volume Development
Appendix D: Other Area Approved Developments Excerpts
Appendix E: Intersection Capacity Analysis Worksheets
Appendix F: Traffic Signal Warrant Analysis
Appendix G: General Plan Amendment
Appendix H: VMT Analysis

Appendix A: Approved Scope Agreement

DAVID EVANS
AND ASSOCIATES INC.

December 9, 2022 Job No. FGFW0000-0001

MEMORANDUM

To: Herb Krumsick
FGFW IV, LLC, 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 INLAND EMPIRE NORTH LOGISTICS CENTER LOCATED AT THE NEC OF FALCHION ROAD AND OUTER HIGHWAY 15 SOUTH IN THE TOWN OF APPLE VALLEY, CA (APN: 0472-231-08)

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 two speculative warehouse buildings. Building 1 is the westernmost building on the site and is proposed to be a 1,507,326 square foot warehouse building located on approximately 96-acres. Building 2 is proposed to be a 1,097,120 square foot warehouse located on approximately 76-acres. The floor area of each building includes 10,000 square feet of office space on the first floor and the mezzanine level (2nd floor).

The project site is located at the northeast corner of Falchion Road and Outer Highway 15 South, as illustrated in **Exhibit A**. The site is bounded to the north by unimproved Norco Street and undeveloped land; to the south by Falchion Road and undeveloped land; to the west by Outer Highway 15 South and I-15 freeway; and to the east by unimproved Apple Valley Road and undeveloped land. The site is located about 3.5-miles west of the North Apple Valley Industrial Specific Plan's (NAVISP) western boundary and, therefore, it is not within the Plan area or subject to its policies and development standards.

Building 1 includes 103 loading docks on each side of the building and 692 trailer parking spaces / container storage within a secured yard. Building 1 provides 826 automobile parking spaces distributed between the north and south ends of the building. Building 2 include 118 loading docks on both sides of the building, and 663 trailer parking spaces within a secured yard 590 automobile parking spaces. **Exhibit B** shows the proposed site plan.

Site Access

Access to the two buildings on the site will be from driveways on Norco Street, Falchion Road, and Outer Highway 15 South. The proposed circulation and access plan includes four gated driveways on Norco Street (see **Exhibit B** driveways A though D). Prior to the gates, access to parking lots is permitted for employees and visitors, but access to the loading docks and container storage areas to each side of both buildings is gated. The driveways on Norco Street are spaced about 520 feet (A to B), 280 feet (B to C), and 530 feet (C to D).

Access to the site from Falchion Road is via four driveways (see **Exhibit B** driveways E though H) providing unrestricted access to the parking lots on the south side of each building, and gated access to the loading docks and container storage areas. The Falchion Road intersections are spaced about 620 feet (E to F), 830 feet (F to G), and 385 feet (G to H).

One driveway (see **Exhibit B** driveway I) is provided on Outer Highway 15 South about 600 feet north of the Outer Highway 15 South / Falchion Road intersection for access to Building 1.

Project driveways will be reviewed for required traffic control and the gated primary truck entrances will be analyzed for traffic control, lane geometries, and queuing behind the access gates based on industry standard gate processing times, as described in Section G below.

Circulation Amendments

The project proposes changes to the Town's circulation system that will require an amendment to the Town's Streets and Roads Plan in the circulation element of the general plan. The modifications to the circulation system are the street realignments and street reclassifications illustrated in **Figure 1**.

The primary change is the abandonment of the current right of way alignment of Apple Valley Road and realignment of the right of way from Stoddard Wells Road to a point south of Wato Road where it connects back to the current alignment.

The reclassification amendments propose to change Norco Street from a major road to a collector street and change Papago and Wato Roads from major roads to secondary streets.

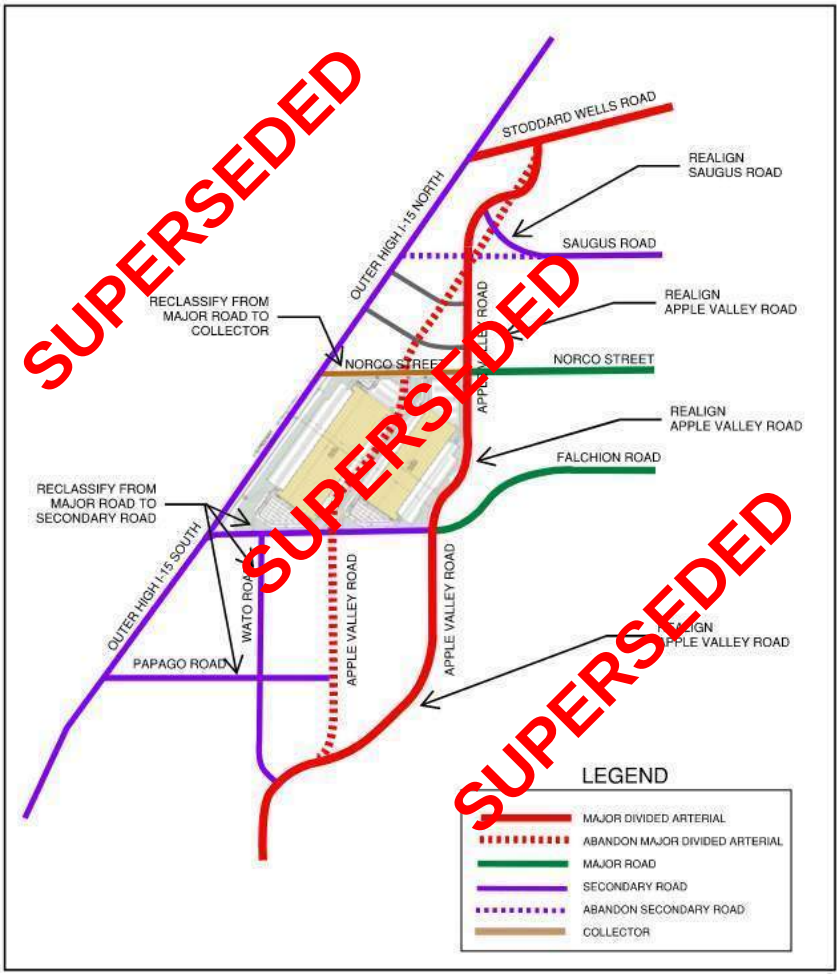


Figure 1: Proposed amendments to the Town's general plan Streets and Roads Plan.

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 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 Inland Empire North Logistics Center would generate about 6,146 vehicle trips per day and 625 vehicle trips in both the AM and PM peak hour. Queuing behind the gates will be estimated using industry standard methods based on typical

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 Inland Empire North Logistics Center generates about 8,637 daily PCEs, and 878 PCEs in both the AM and PM peak hour.

Table 2: Inland Empire North Logistics Center 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) Total floor area of Buildings 1 and 2	2,604.45	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						
		6,146	481	144	625	175	450	625
	Mode Share	Project Trip Generation by Vehicle Type						
Passenger Cars (Percent of Total)	74.21%	4,561	357	107	464	130	334	464
2-Axle Trucks (Percent of Total)	4.55%	280	22	7	28	8	20	28
3-Axle Trucks (Percent of Total)	4.18%	257	20	6	26	7	19	26
4-Axle Trucks (Percent of Total)	17.04%	1047	82	24	107	30	77	107
	PCE Factor	Project Trip Generation in Passenger Car Equivalents (PCE)						
Passenger Cars)	1.0	4,561	357	107	464	130	334	464
2-Axle Trucks	1.5	419	33	10	43	12	31	43
3-Axle Trucks	2.0	514	40	12	52	15	38	52
4 + Axle Trucks	3.0	3142	246	73	320	89	230	320
Total Passenger Car Equivalents (PCE)		**8,637**	**676**	**202**	**878**	**246**	**632**	**878**

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 Inland Empire North Logistics Center 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. Stoddard Wells Rd / Outer Highway 15 S
2. Outer Highway 15 S / I-15 NB On/Off-Ramps
3. West Frontage Rd / I-15 SB On-Ramp
4. Stoddard Wells Rd / West Frontage Rd
5. Stoddard Wells Rd / I-15 SB Off-Ramp
6. Stoddard Wells Rd / Outer Highway 15 S / I-15 NB Ramps
7. Stoddard Wells Rd / Quarry Rd
8. Quarry Rd / I-15 SB On/Off-Ramps
9. Falchion Rd / Apple Valley Rd
10. Falchion Rd / Outer Hwy 15 N
11. Outer Hwy 15 N / Norco St
12. Outer Hwy 15 N / Quarry Rd

D1. Norco St / Project Driveway #1
D2. Falchion Road / Project Driveway #2

All the study intersections are currently side-street stop controlled, or all-way stop-controlled. Driveway #1 on Norco Street and Driveway #2 on Falchion Road are representative of a series of driveways on both streets serving automobiles accessing parking lots or trucks accessing the gated loading areas. The representative driveways are used in this scoping memorandum to distribute automobile and truck traffic to off-site intersections. The traffic analysis will include a micro-distribution of automobiles and trucks to their respective driveways.

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 D1 shows the distribution of project-generated automobile to roadways as a percentage by direction and route. **Exhibit D2** shows the distribution of project-generated 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 E** shows the total project PCE trips.

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.
- 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 A for a description of the project driveways.

[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.

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

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 Inland Empire North Logistics Center is not a locally serving type of land use).
2. The project is located within a Transit Priority Area (the proposed Inland Empire North Logistics Center is not located in a TPA).
3. The project generates less than 110 daily vehicle trips (the proposed Inland Empire North Logistics Center generates more than 110 daily trips).
4. The project is in a low VMT generating traffic analysis zone (the proposed Inland Empire North Logistics Center is not located in a low VMT generating zone in baseline year 2022, see **Figure 2**).

The proposed project does not meet any of 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 – Vicinity Map
2. Exhibit B – Project Site Plan
3. Exhibit C – Study Intersections
4. Exhibit D1 – Project Automobile Trip Distribution
5. Exhibit D2 – Project Truck Trip Distribution
6. Exhibit E – Total Project PCE Trips
7. Exhibit F – Recommended Circulation Plan Revisions

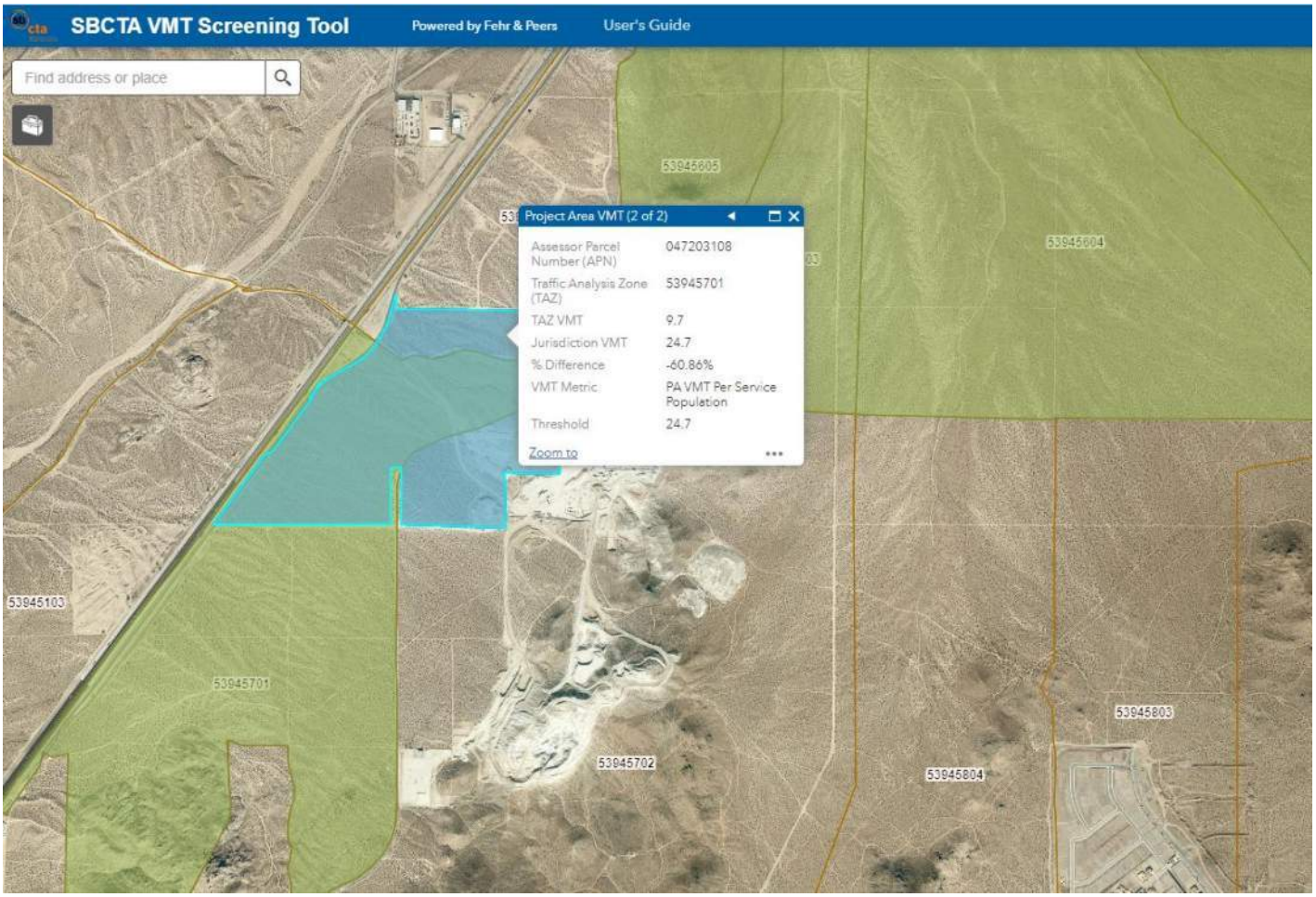
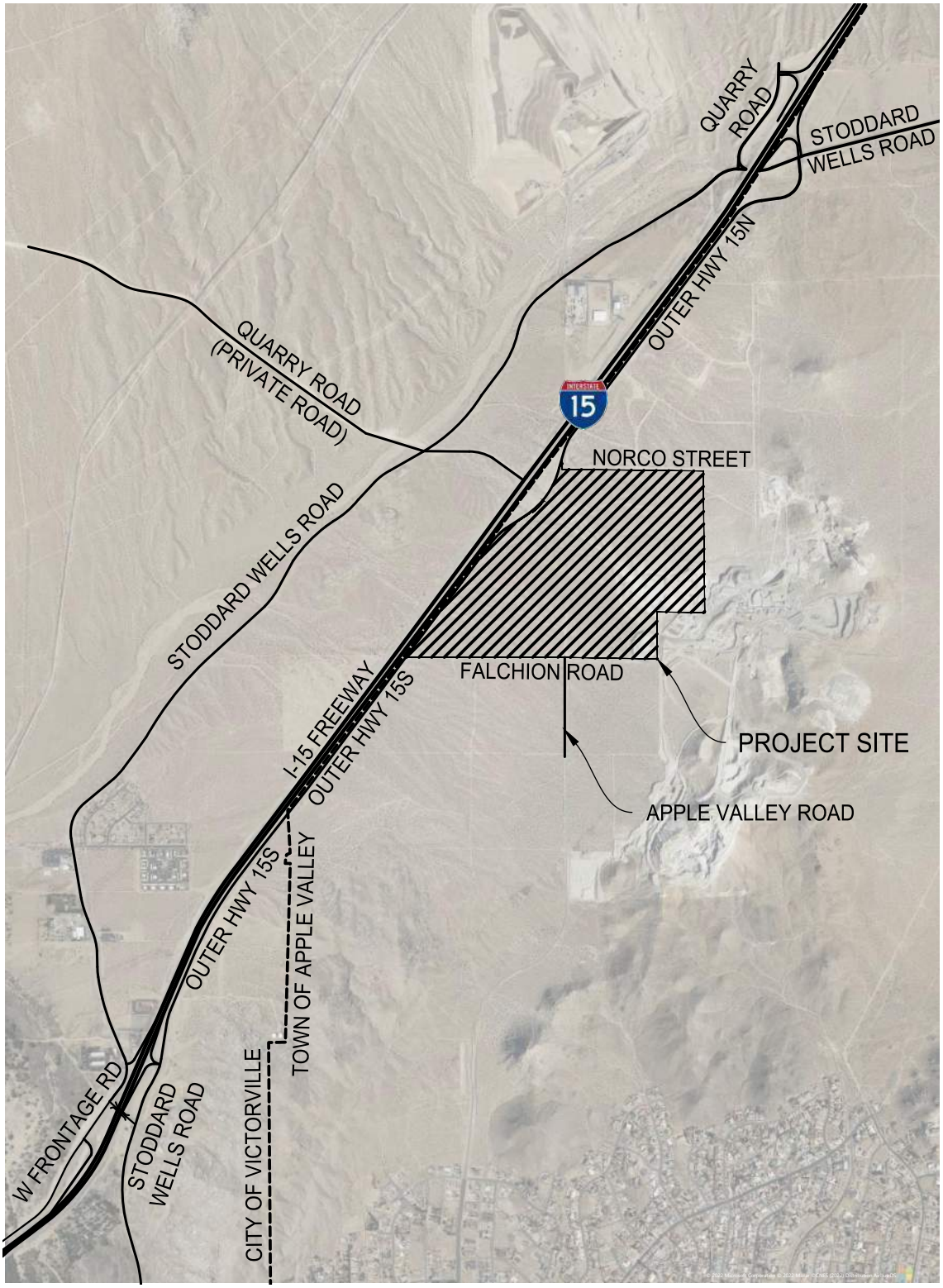


Figure 2: This figure represents baseline (2022) conditions and shows that part of the project (blue outlined area) falls within a low-VMT generating traffic analysis zone (shown in green). However, since the project parcel is not entirely within a low-VMT generating zone, it is not screened from requiring a VMT analysis based on this criterion.



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DAVID EVANS AND ASSOCIATES INC.

EXHIBIT A: VICINITY MAP
INLAND EMPIRE NORTH LOGISTICS CENTER
APPLE VALLEY, CALIFORNIA

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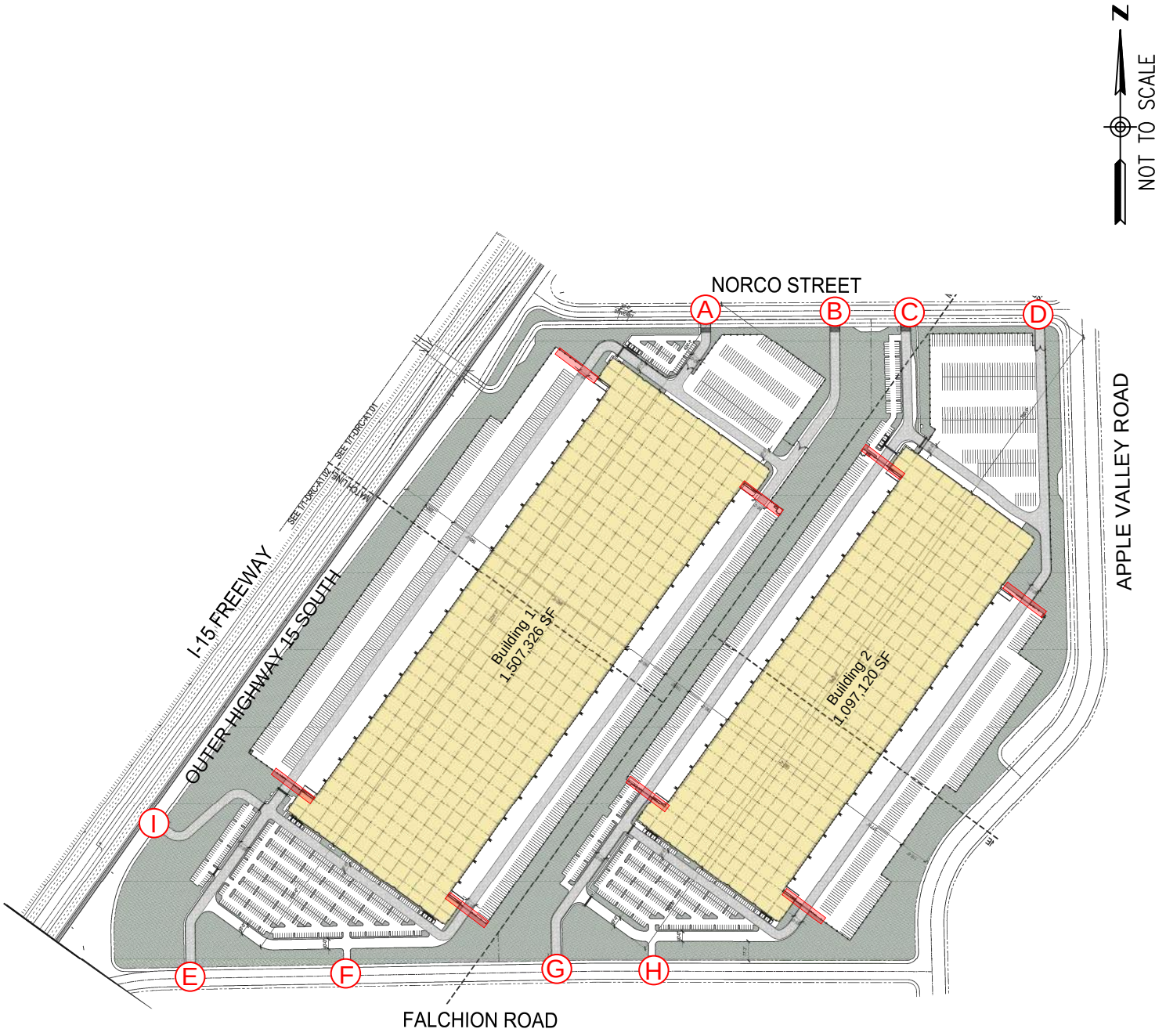

DAVID EVANS AND ASSOCIATES INC.

EXHIBIT B: SITE PLAN
INLAND EMPIRE NORTH LOGISTICS CENTER
APPLE VALLEY, CALIFORNIA

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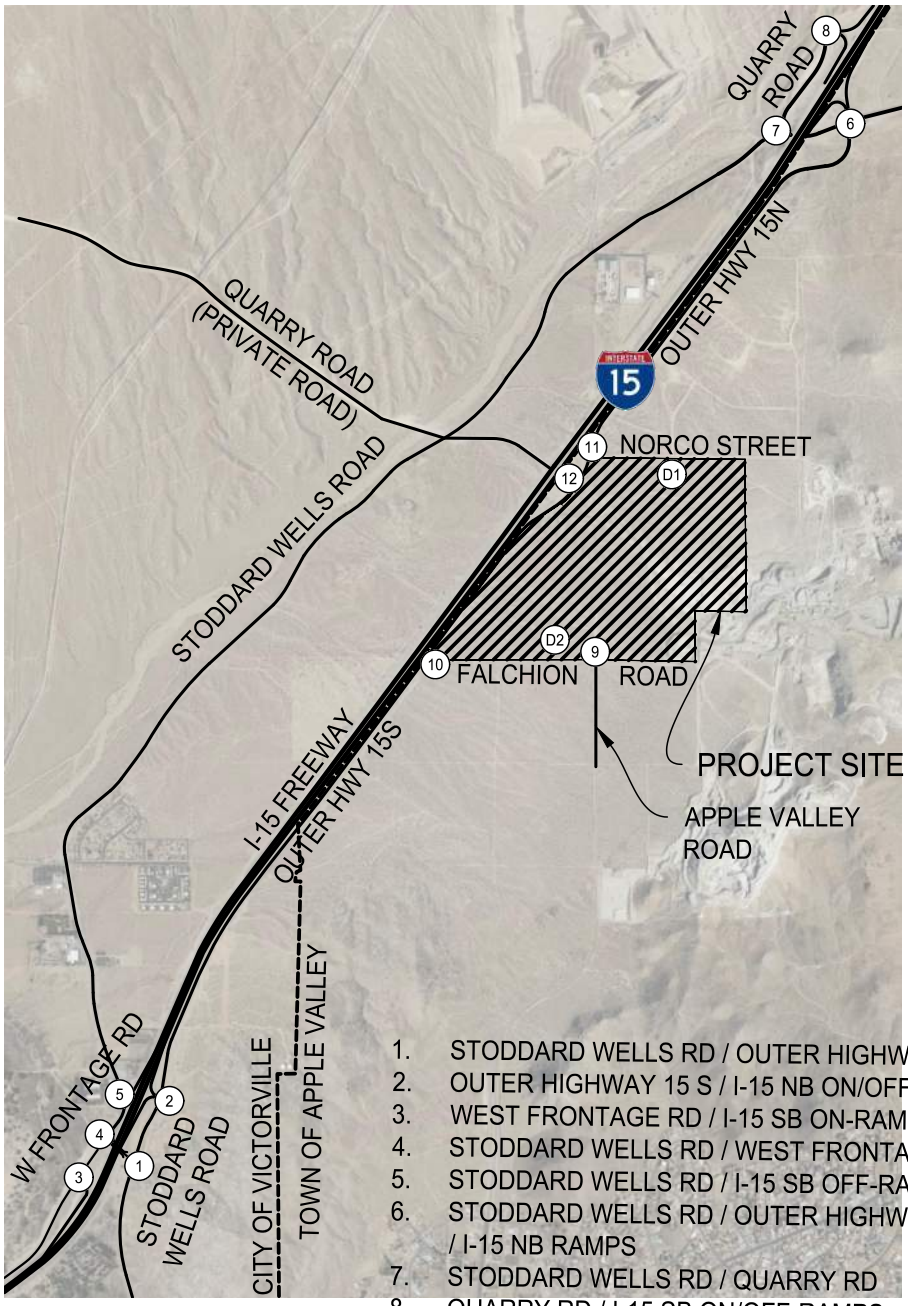

1. STODDARD WELLS RD / OUTER HIGHWAY 15 S
2. OUTER HIGHWAY 15 S / I-15 NB ON/OFF-RAMPS
3. WEST FRONTAGE RD / I-15 SB ON-RAMP
4. STODDARD WELLS RD / WEST FRONTAGE RD
5. STODDARD WELLS RD / I-15 SB OFF-RAMP
6. STODDARD WELLS RD / OUTER HIGHWAY 15 S / I-15 NB RAMPS
7. STODDARD WELLS RD / QUARRY RD
8. QUARRY RD / I-15 SB ON/OFF-RAMPS
9. FALCHION RD / APPLE VALLEY RD
10. FALCHION RD / OUTER HWY 15 N
11. OUTER HWY 15 N / NORCO ST
12. OUTER HWY 15 N / QUARRY RD

D1. NORCO ST / PROJECT DRIVEWAY #1
D2. FALCHION ROAD / PROJECT DRIVEWAY #22

DAVID EVANS AND ASSOCIATES INC.

EXHIBIT C: STUDY INTERSECTIONS
INLAND EMPIRE NORTH LOGISTICS CENTER
APPLE VALLEY, CALIFORNIA

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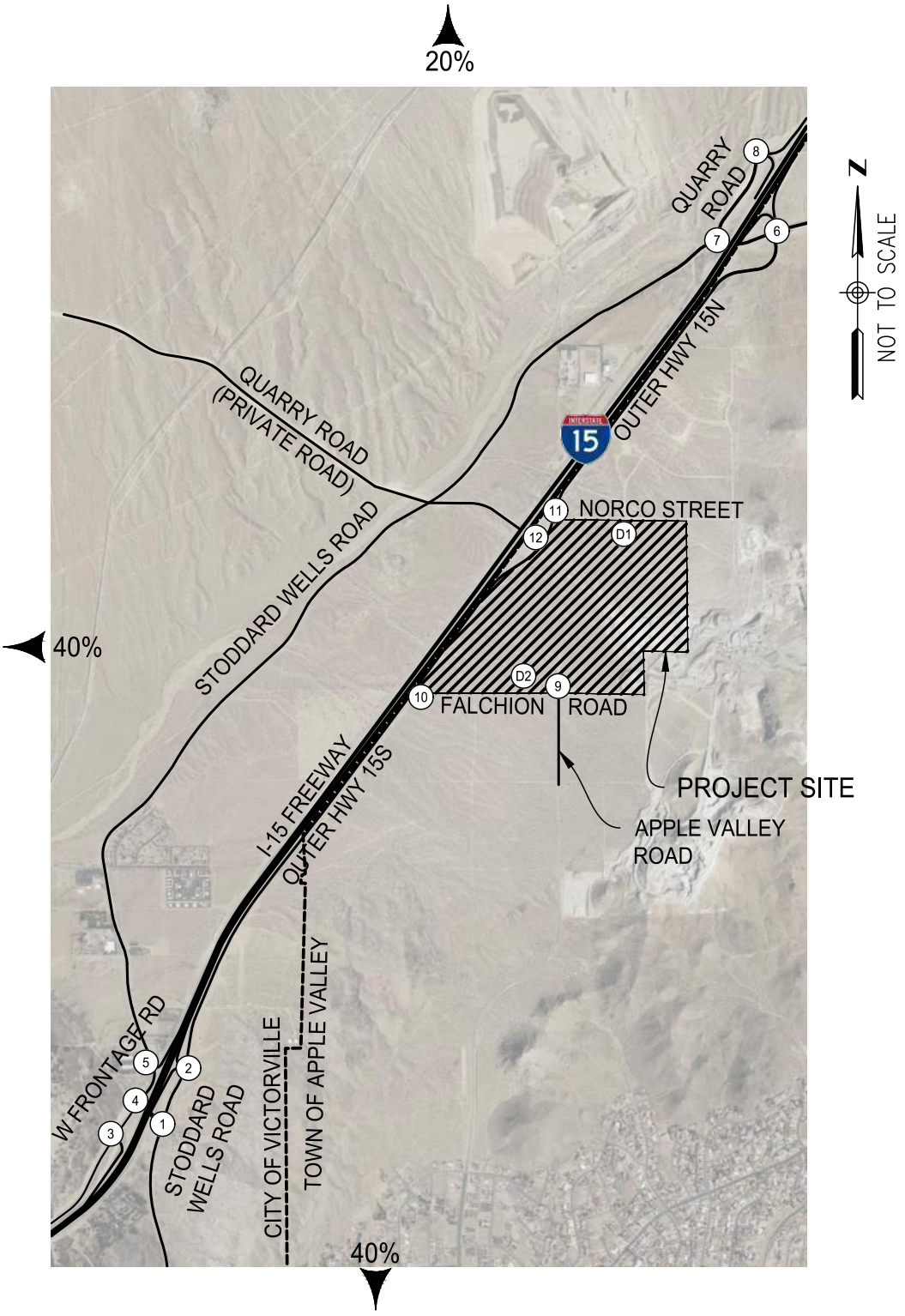

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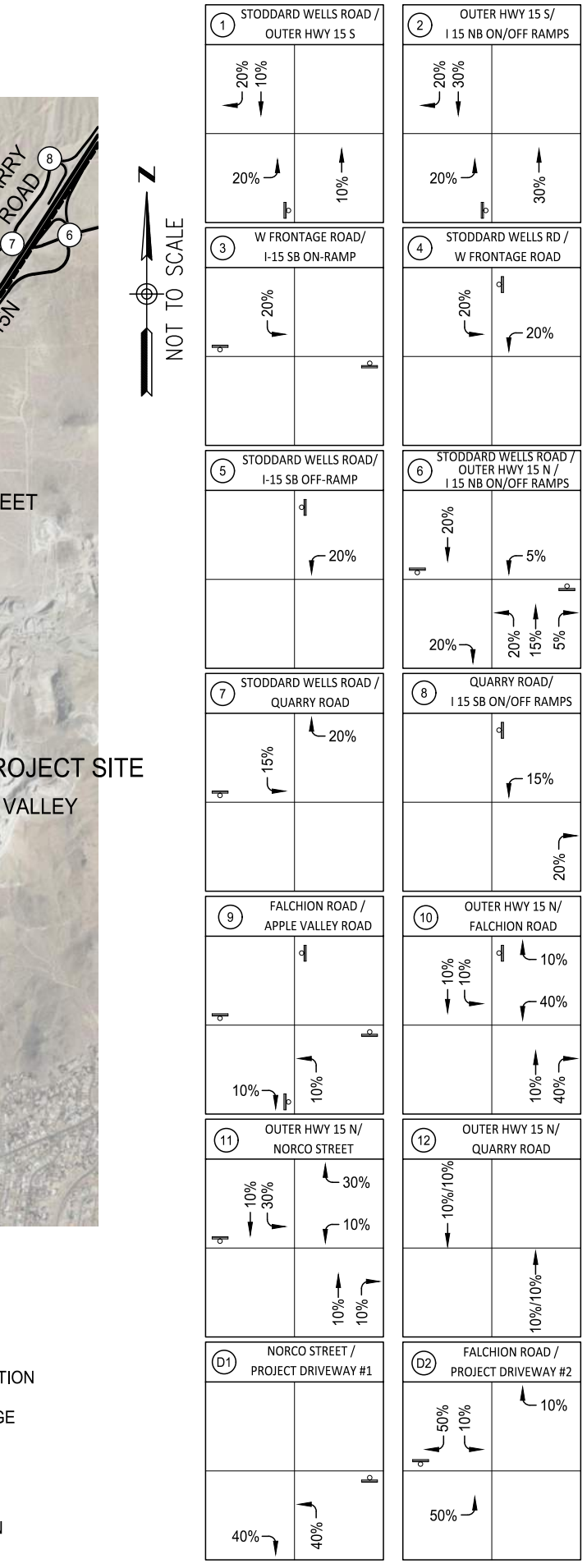

LEGEND

XX% - GENERAL PROJECT TRIP DISTRIBUTION

XX% - SPECIFIC PROJECT TRIP PERCENTAGE

(#) - STUDY INTERSECTIONS

- STOP CONTROLLED INTERSECTION

- SIGNAL CONTROLLED INTERSECTION

DAVID EVANS AND ASSOCIATES INC.

EXHIBIT D1: PROJECT AUTOMOBILE TRIP DISTRIBUTION
INLAND EMPIRE NORTH LOGISTICS CENTER
APPLE VALLEY, CALIFORNIA

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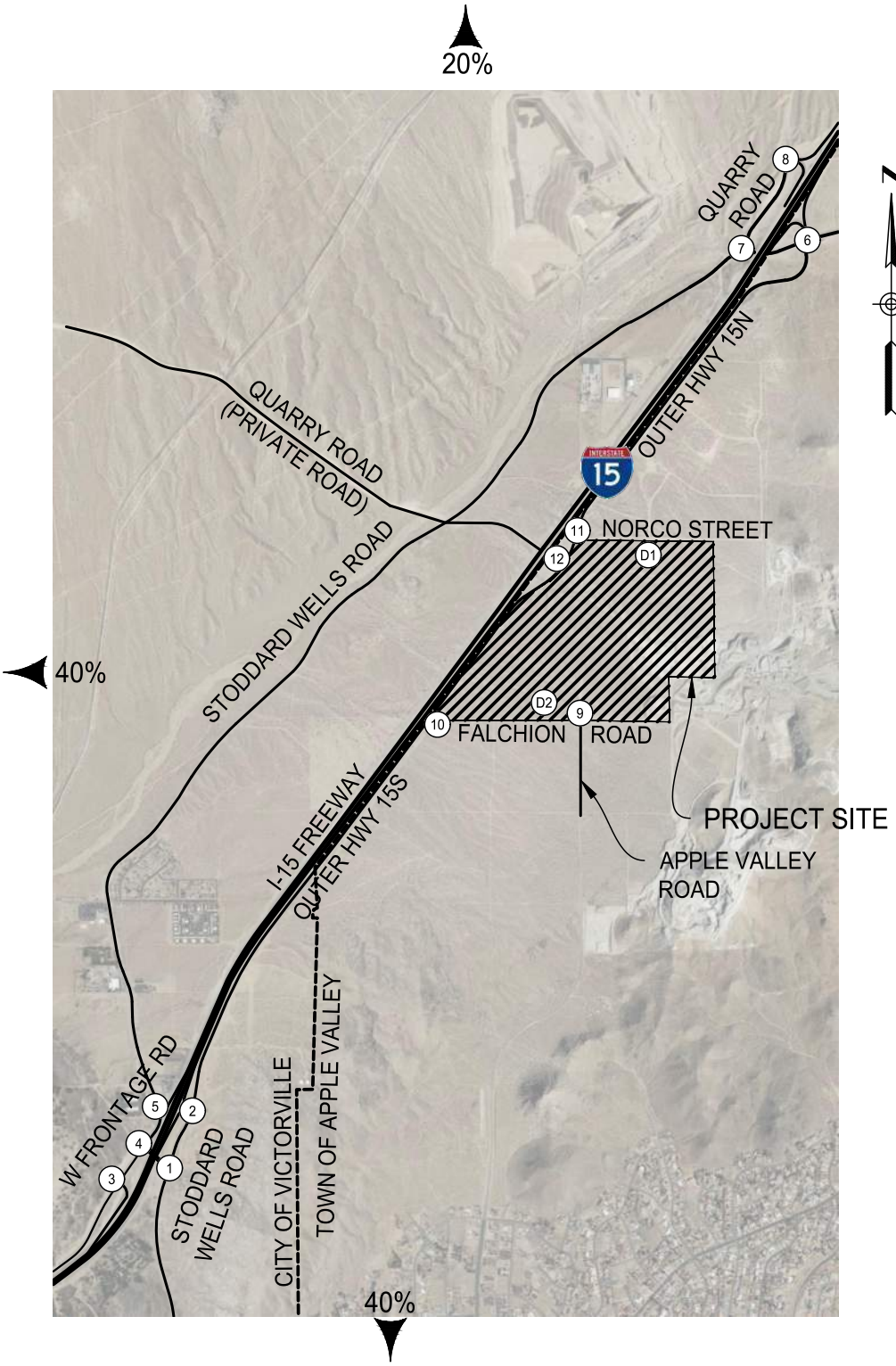

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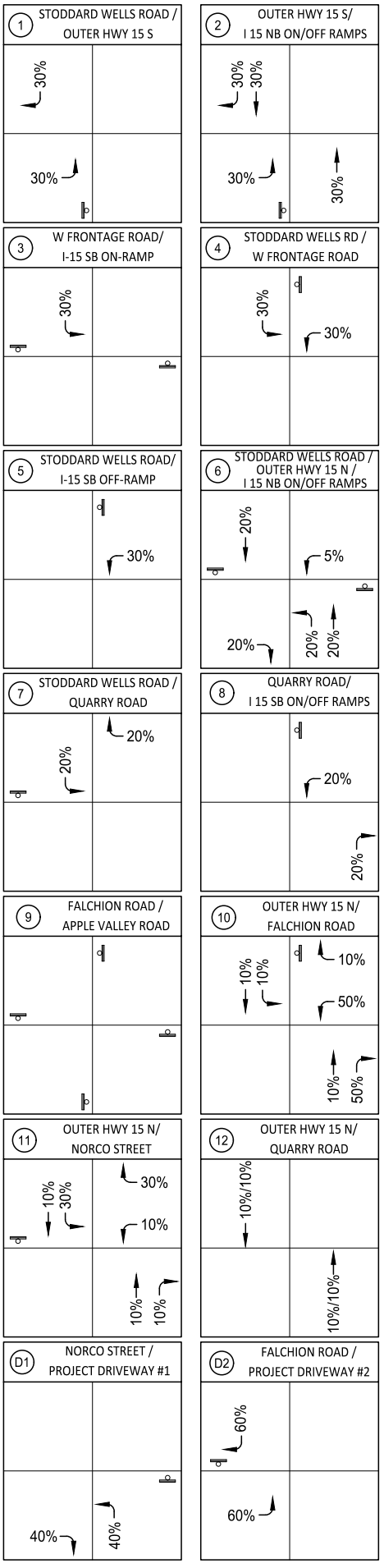

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XX% - GENERAL PROJECT TRIP DISTRIBUTION

XX% - SPECIFIC PROJECT TRIP PERCENTAGE

(#) - STUDY INTERSECTIONS

- STOP CONTROLLED INTERSECTION

- SIGNAL CONTROLLED INTERSECTION

DAVID EVANS AND ASSOCIATES INC.

EXHIBIT D2: PROJECT TRUCK TRIP DISTRIBUTION
INLAND EMPIRE NORTH LOGISTICS CENTER
APPLE VALLEY, CALIFORNIA

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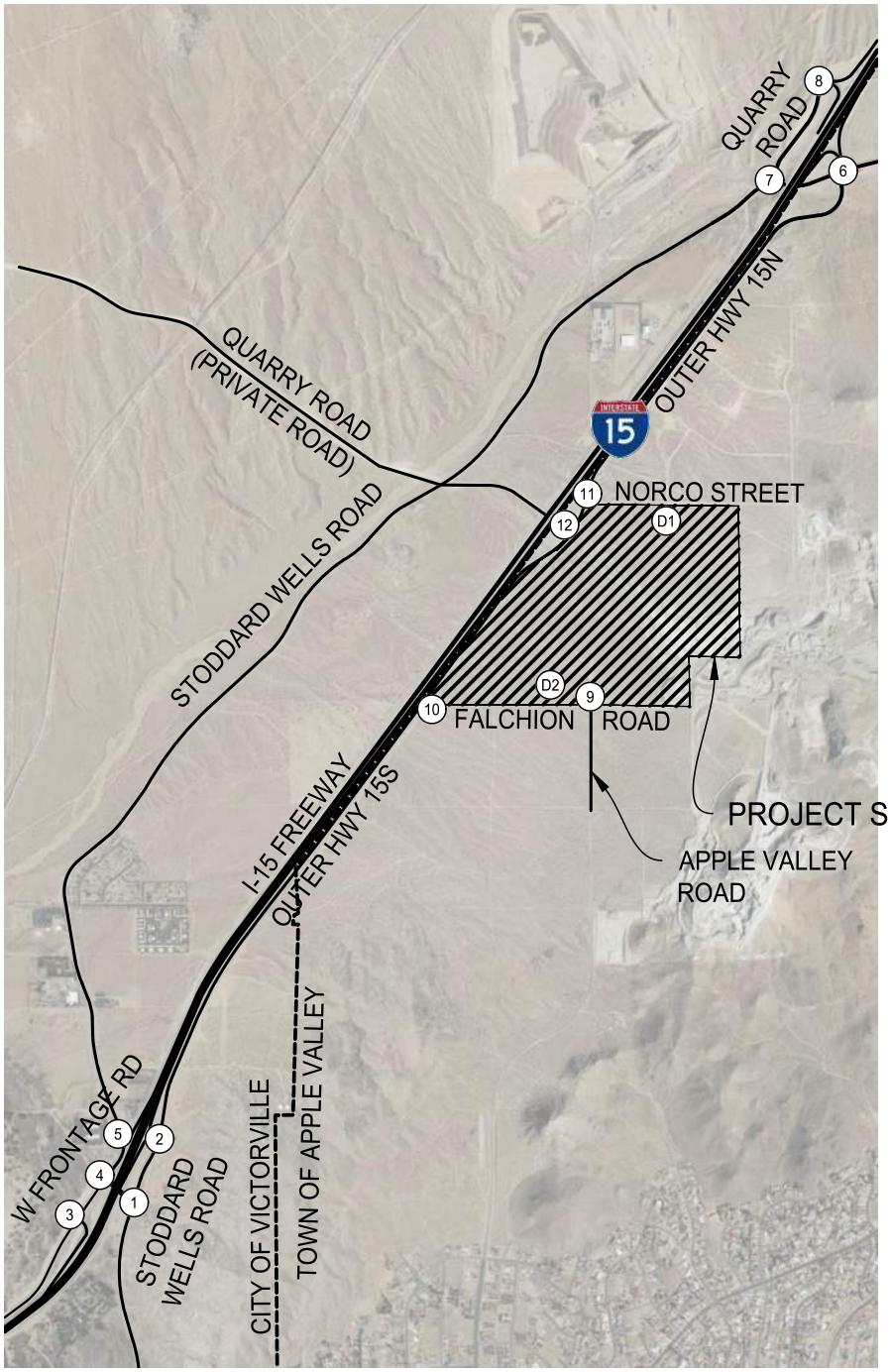

NOT TO SCALE

1 STODDARD WELLS ROAD / OUTER HWY 15 S
51/157 11/34 168/61 36/13

2 OUTER HWY 15 S/ I 15 NB ON/OFF RAMPS
51/157 62/191 168/61 204/74

3 W FRONTAGE ROAD/ I-15 SB ON-RAMP
51/157

4 STODDARD WELLS RD / W FRONTAGE ROAD
168/61 51/157

5 STODDARD WELLS ROAD/ I-15 SB OFF-RAMP
168/61

6 STODDARD WELLS ROAD / OUTER HWY 15 N / I 15 NB ON/OFF RAMPS
136/50 18/7 118/44 41/127 36/111 6/17

7 STODDARD WELLS ROAD / QUARRY ROAD
118/44 41/127

8 QUARRY ROAD/ I 15 SB ON/OFF RAMPS
118/44 41/127

9 FALCHION ROAD / APPLE VALLEY ROAD
11/34 36/13

10 OUTER HWY 15 N/ FALCHION ROAD
21/64 68/25 21/64 92/284 68/25 304/110

11 OUTER HWY 15 N/ NORCO STREET
68/25 204/76 62/191 21/64 21/64 68/25

12 OUTER HWY 15 N/ QUARRY ROAD
89/89 89/89

D1 NORCO STREET / PROJECT DRIVEWAY #1
272/101 83/255

D2 FALCHION ROAD / PROJECT DRIVEWAY #2
113/348 11/34 36/13 372/135

TOTAL PROJECT PCE TRIPS

AM PEAK HOUR TRIPS - 676 IN / 202 OUT
PM PEAK HOUR TRIPS - 246 IN / 632 OUT

LEGEND

XX/XX - AM/PM TOTAL PCE PROJECT TRIPS
(#) - STUDY INTERSECTIONS
- STOP CONTROLLED INTERSECTION
- SIGNAL CONTROLLED INTERSECTION

DAVID EVANS AND ASSOCIATES INC.

EXHIBIT E: TOTAL PROJECT PCE TRIP
INLAND EMPIRE NORTH LOGISTICS CENTER
APPLE VALLEY, CALIFORNIA

Drawing Name: P:\FGFW\0000000\10400CAD\EXHIBIT\SITraffic\Scope_Apple Valley\Exhibit E.dwg
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Appendix B: Traffic Counts

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: OUTER HWY 15S
EAST-WEST STREET: STODDARD WELLS
JURISDICTION: VV

DATE: 06-28-22

PEAK HOUR: 07:00AM

NORTH LEG

TOTAL: 160

Rt	Thru	Lt	
88	71	1	Total
19	11	0	1st
19	14	1	2nd
25	19	0	3rd
25	27	0	4th

EAST LEG TOTAL: 0

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

WEST LEG TOTAL: 59

Lt	1st	2nd	3rd	4th	Total
4	1	1	0	2	Lt
	0	0	0	0	Thru
55	16	9	12	18	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.77
SOUTH LEG = 0.95
EAST LEG =
WEST LEG = 0.74

ALL LEGS = 0.86

SOUTH LEG

TOTAL: 296

	Lt	Thru	Rt
1st	58	18	1
2nd	47	15	1
3rd	63	14	1
4th	69	9	0
Total	237	56	3

HOUR TOTAL: 515

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : OUTER HWY 15S VV

EAST-WEST STREET : STODDARD WELLS 06-28-22

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												
10	2	0	3	5	0	4	0	0	2	4	0	30
17	13	1	0	0	0	0	1	0	2	0	0	34
22	15	0	0	0	0	1	1	0	2	3	0	44
18	27	0	0	0	0	4	0	0	3	0	0	52
12	9	0	0	0	0	2	0	0	2	0	0	25
15	5	2	0	0	0	2	1	0	1	1	0	27
13	21	0	1	0	0	1	0	0	1	1	0	38
9	13	0	1	0	0	2	0	0	3	0	0	28
116	105	3	5	5	0	16	3	0	16	9	0	278
SOUTH LEG												
1	14	56	0	2	0	0	1	1	0	1	1	77
1	14	45	0	0	0	0	0	2	0	1	0	63
1	13	60	0	0	1	0	1	2	0	0	0	78
0	8	67	0	0	0	0	0	2	0	1	0	78
0	17	40	0	0	0	0	0	1	0	1	1	60
0	9	37	0	0	1	0	0	0	0	3	0	50
1	3	43	0	0	0	0	0	0	0	1	2	50
2	9	39	0	1	0	0	1	2	0	4	1	59
6	87	387	0	3	2	0	3	10	0	12	5	515
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	1	0	0	0	0	0	0	0	0	0	0	1
0	2	1	0	0	0	0	0	0	0	0	0	3
0	1	1	0	0	0	0	0	0	0	0	0	2
0	4	2	0	0	0	0	0	0	0	0	0	6
WEST LEG												
13	0	0	3	0	1	0	0	0	0	0	0	17
9	0	0	0	0	0	0	0	1	0	0	0	10
11	0	0	0	0	0	1	0	0	0	0	0	12
17	0	2	1	0	0	0	0	0	0	0	0	20
14	0	0	1	0	0	0	0	0	0	0	0	15
4	0	0	0	0	0	0	0	0	0	0	0	4
19	0	1	1	0	0	2	0	0	1	0	0	24
14	0	3	1	0	0	1	0	1	1	0	0	21
101	0	6	7	0	1	4	0	2	2	0	0	123

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: OUTER HWY 15S

EAST-WEST STREET: STODDARD WELLS

TIME: 07:00AM-08:00AM DATE: 06-28-22

NORTH LEG

Rt	Thru	Lt	
88	71	1	Total
19	11	0	1st
19	14	1	2nd
25	19	0	3rd
25	27	0	4th

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

Total	1st	2nd	3rd	4th	
4	1	1	0	2	Lt
0	0	0	0	0	Thru
55	16	9	12	18	Rt

	Lt	Thru	Rt
1st	58	18	1
2nd	47	15	1
3rd	63	14	1
4th	69	9	0
Total	237	56	3

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: OUTER HWY 15S

EAST-WEST STREET: STODDARD WELLS

TIME: 08:00AM-09:00AM DATE: 06-28-22

NORTH LEG

Rt	Thru	Lt	
65	51	2	Total
16	9	0	1st
18	7	2	2nd
16	22	0	3rd
15	13	0	4th

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

Total	1st	2nd	3rd	4th	
5	0	0	1	4	Lt
0	0	0	0	0	Thru
59	15	4	23	17	Rt

	Lt	Thru	Rt
1st	42	18	0
2nd	38	12	0
3rd	45	4	1
4th	42	15	2
Total	167	49	3

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: OUTER HWY 15S
EAST-WEST STREET: STODDARD WELLS
JURISDICTION: VV

DATE: 06-28-22

PEAK HOUR: 04:00PM

NORTH LEG

TOTAL: 347

Rt	Thru	Lt	
123	223	1	Total
35	68	0	1st
27	54	0	2nd
31	56	1	3rd
30	45	0	4th

EAST LEG TOTAL: 4

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

WEST LEG TOTAL: 100

Total	1st	2nd	3rd	4th	
8	2	4	1	1	Lt
	0	0	0	0	Thru
92	24	24	21	23	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.84
SOUTH LEG = 0.85
EAST LEG = 0.25
WEST LEG = 0.89

ALL LEGS = 0.86

SOUTH LEG

TOTAL: 254

	Lt	Thru	Rt
1st	54	21	0
2nd	42	16	0
3rd	42	8	0
4th	55	16	0
Total	193	61	

HOUR TOTAL: 705

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : OUTER HWY 15S VV

EAST-WEST STREET : STODDARD WELLS 06-28-22

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							
26	65	0	1	2	0	8	0	0	0	1	0	103
22	53	0	1	1	0	4	0	0	0	0	0	81
24	56	1	3	0	0	3	0	0	1	0	0	88
20	45	0	1	0	0	7	0	0	2	0	0	75
21	60	2	1	0	0	3	0	0	1	0	0	88
19	56	0	3	0	0	4	0	0	0	0	0	82
21	49	0	1	0	0	1	0	0	0	0	0	72
18	46	3	0	0	0	1	0	0	0	0	0	68
171	430	6	11	3	0	31	0	0	4	1	0	657
					SOUTH LEG							
0	20	49	0	0	2	0	0	3	0	1	0	75
0	16	38	0	0	1	0	0	3	0	0	0	58
0	6	38	0	0	1	0	0	3	0	2	0	50
0	15	49	0	1	0	0	0	5	0	0	1	71
0	7	44	0	0	0	0	0	0	0	0	0	51
1	15	35	0	0	0	0	0	0	0	0	0	51
3	10	28	0	0	0	0	0	0	0	0	0	41
1	2	26	0	0	0	0	0	0	0	0	1	30
5	91	307	0	1	4	0	0	14	0	3	2	427
					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
1	2	1	0	0	0	0	0	0	0	0	0	4
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	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
1	3	1	0	0	0	0	0	0	0	0	0	5
					WEST LEG							
22	0	2	0	0	0	1	0	0	1	0	0	26
23	0	4	1	0	0	0	0	0	0	0	0	28
18	0	1	1	0	0	0	0	0	2	0	0	22
20	0	1	1	0	0	2	0	0	0	0	0	24
33	0	0	1	0	0	0	0	1	1	0	0	36
27	0	4	0	0	0	0	0	0	1	0	0	32
29	0	1	1	0	0	0	0	0	1	0	0	32
18	0	2	1	0	0	0	0	0	1	0	0	22
190	0	15	6	0	0	3	0	1	7	0	0	222

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: OUTER HWY 15S

EAST-WEST STREET: STODDARD WELLS

TIME: 04:00PM-05:00PM DATE: 06-28-22

NORTH LEG

Rt	Thru	Lt	
123	223	1	Total
35	68	0	1st
27	54	0	2nd
31	56	1	3rd
30	45	0	4th

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

Total	1st	2nd	3rd	4th	
8	2	4	1	1	Lt
0	0	0	0	0	Thru
92	24	24	21	23	Rt

	Lt	Thru	Rt
1st	54	21	0
2nd	42	16	0
3rd	42	8	0
4th	55	16	0
Total	193	61	0

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: OUTER HWY 15S

EAST-WEST STREET: STODDARD WELLS

TIME: 05:00PM-06:00PM DATE: 06-28-22

NORTH LEG

Rt	Thru	Lt	
94	211	5	Total
26	60	2	1st
26	56	0	2nd
23	49	0	3rd
19	46	3	4th

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

Total	1st	2nd	3rd	4th	
8	1	4	1	2	Lt
0	0	0	0	0	Thru
114	35	28	31	20	Rt

	Lt	Thru	Rt
1st	44	7	0
2nd	35	15	1
3rd	28	10	3
4th	27	2	1
Total	134	34	5

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: OUTER HWY 15S
EAST-WEST STREET: I-15 NB RAMPS
JURISDICTION: VV

DATE: 06-28-22

PEAK HOUR: 07:15AM

NORTH LEG

TOTAL: 29

Rt	Thru	Lt	
3	26		Total
1	6		1st
2	6		2nd
0	10		3rd
0	4		4th

EAST LEG TOTAL: 0

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

WEST LEG TOTAL: 195

Total	1st	2nd	3rd	4th	
66	15	17	20	14	Lt
					Thru
129	28	38	42	21	Rt

SOUTH LEG

TOTAL: 59

	Lt	Thru	Rt
1st	13	3	
2nd	13	1	
3rd	9	2	
4th	15	3	
Total	50	9	

PEAK HOUR FACTORS

NORTH LEG = 0.73
SOUTH LEG = 0.82
EAST LEG =
WEST LEG = 0.79

ALL LEGS = 0.85

HOUR TOTAL: 283

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : OUTER HWY 15S VV

EAST-WEST STREET : I-15 NB RAMPS 06-28-22

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	2	0	0	0	0	0	2	0	0	2	0	6
0	6	0	0	0	0	0	0	0	1	0	0	7
2	6	0	0	0	0	0	0	0	0	0	0	8
0	9	0	0	0	0	0	0	0	0	1	0	10
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
0	8	0	0	0	0	0	0	0	0	0	0	8
0	6	0	0	0	0	0	0	0	0	1	0	7
2	44	0	0	0	0	0	2	0	1	4	0	53
						SOUTH LEG						
0	1	13	0	0	3	0	0	1	0	1	0	19
0	2	12	0	0	0	0	0	1	0	1	0	16
0	1	12	0	0	0	0	0	1	0	0	0	14
0	1	9	0	0	0	0	0	0	0	1	0	11
0	2	15	0	0	0	0	0	0	0	1	0	18
0	3	8	0	0	0	0	0	0	0	1	1	13
0	0	5	0	0	0	0	0	0	0	0	0	5
0	3	11	0	0	1	0	0	0	0	2	2	19
0	13	85	0	0	4	0	0	3	0	7	3	115
						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						
10	0	1	8	0	0	2	0	0	4	0	0	25
25	0	15	0	0	0	1	0	0	2	0	0	43
31	0	16	0	0	0	2	0	0	5	0	1	55
36	0	19	0	0	0	4	0	0	2	0	1	62
17	0	14	0	0	0	2	0	0	2	0	0	35
19	0	9	0	0	0	3	0	0	2	0	0	33
26	0	12	1	0	0	1	0	0	2	0	0	42
16	0	6	1	0	0	2	0	0	2	0	0	27
180	0	92	10	0	0	17	0	0	21	0	2	322

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: OUTER HWY 15S

EAST-WEST STREET: I-15 NB RAMPS

TIME: 07:00AM-08:00AM DATE: 06-28-22

NORTH LEG

Rt	Thru	Lt	
3	28		Total
0	6		1st
1	6		2nd
2	6		3rd
0	10		4th

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

Total	1st	2nd	3rd	4th	
53	1	15	17	20	Lt
					Thru
132	24	28	38	42	Rt

	Lt	Thru	Rt
1st	17	2	
2nd	13	3	
3rd	13	1	
4th	9	2	
Total	52	8	

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: OUTER HWY 15S

EAST-WEST STREET: I-15 NB RAMPS

TIME: 08:00AM-09:00AM DATE: 06-28-22

NORTH LEG

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

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

Total	1st	2nd	3rd	4th	
41	14	9	12	6	Lt
					Thru
96	21	24	30	21	Rt

	Lt	Thru	Rt
1st	15	3	
2nd	9	4	
3rd	5	0	
4th	14	5	
Total	43	12	

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: OUTER HWY 15S
EAST-WEST STREET: I-15 NB RAMPS
JURISDICTION: VV

DATE: 06-28-22

PEAK HOUR: 04:00PM

NORTH LEG

TOTAL: 48

Rt	Thru	Lt	
4	44		Total
2	18		1st
1	10		2nd
1	11		3rd
0	5		4th

EAST LEG TOTAL: 0

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

WEST LEG TOTAL: 382

Total	1st	2nd	3rd	4th	
79	20	17	18	24	Lt
					Thru
303	85	71	77	70	Rt

SOUTH LEG

TOTAL: 69

	Lt	Thru	Rt
1st	15	8	
2nd	15	5	
3rd	8	1	
4th	15	2	
Total	53	16	

PEAK HOUR FACTORS

NORTH LEG = 0.60
SOUTH LEG = 0.75
EAST LEG =
WEST LEG = 0.91

ALL LEGS = 0.84

HOUR TOTAL: 499

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : OUTER HWY 15S VV

EAST-WEST STREET : I-15 NB RAMPS 06-28-22

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												
2	15	0	0	2	0	0	0	0	0	1	0	20
1	10	0	0	0	0	0	0	0	0	0	0	11
1	11	0	0	0	0	0	0	0	0	0	0	12
0	5	0	0	0	0	0	0	0	0	0	0	5
0	13	0	0	0	0	0	0	0	0	1	0	14
0	6	0	0	0	0	0	0	0	0	0	0	6
0	2	0	0	0	0	0	0	0	0	0	0	2
0	1	0	0	0	0	0	0	0	0	0	0	1
4	63	0	0	2	0	0	0	0	0	2	0	71
SOUTH LEG												
0	8	14	0	0	0	0	0	0	0	0	1	23
0	5	15	0	0	0	0	0	0	0	0	0	20
0	1	6	0	0	0	0	0	0	0	0	2	9
0	2	14	0	0	1	0	0	0	0	0	0	17
0	1	7	0	0	0	0	0	0	0	0	0	8
0	3	16	0	0	0	0	0	0	0	0	0	19
0	2	9	0	0	0	0	0	0	0	0	0	11
0	0	4	0	0	0	0	0	0	0	0	0	4
0	22	85	0	0	1	0	0	0	0	0	3	111
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												
75	0	20	1	0	0	8	0	0	1	0	0	105
66	0	17	2	0	0	3	0	0	0	0	0	88
71	0	18	2	0	0	3	0	0	1	0	0	95
61	0	23	1	0	0	7	0	1	1	0	0	94
69	0	19	1	0	0	3	0	0	1	0	0	93
69	0	16	3	0	0	4	0	0	0	0	1	93
68	0	15	1	0	0	1	0	0	0	0	0	85
66	0	18	0	0	0	1	0	0	0	0	0	85
545	0	146	11	0	0	30	0	1	4	0	1	738

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: OUTER HWY 15S

EAST-WEST STREET: I-15 NB RAMPS

TIME: 04:00PM-05:00PM DATE: 06-28-22

NORTH LEG

Rt	Thru	Lt	
4	44		Total
2	18		1st
1	10		2nd
1	11		3rd
0	5		4th

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

Total	1st	2nd	3rd	4th	
79	20	17	18	24	Lt
					Thru
303	85	71	77	70	Rt

	Lt	Thru	Rt
1st	15	8	
2nd	15	5	
3rd	8	1	
4th	15	2	
Total	53	16	

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: OUTER HWY 15S

EAST-WEST STREET: I-15 NB RAMPS

TIME: 05:00PM-06:00PM DATE: 06-28-22

NORTH LEG

Rt	Thru	Lt	
0	23		Total
0	14		1st
0	6		2nd
0	2		3rd
0	1		4th

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

Total	1st	2nd	3rd	4th	
69	19	17	15	18	Lt
					Thru
287	74	76	70	67	Rt

	Lt	Thru	Rt
1st	7	1	
2nd	16	3	
3rd	9	2	
4th	4	0	
Total	36	6	

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: W FRONTAGE RD
EAST-WEST STREET: I-15 SB ON RAMP
JURISDICTION: VV

DATE: 06-29-22

PEAK HOUR: 07:00AM

NORTH LEG

TOTAL: 315

	Rt	Thru	Lt	
		8	307	Total
		2	57	1st
		1	71	2nd
		3	82	3rd
		2	97	4th

EAST LEG TOTAL: 0

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

WEST LEG TOTAL: 0

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

PEAK HOUR FACTORS

NORTH LEG = 0.80
SOUTH LEG = 0.81
EAST LEG =
WEST LEG =

ALL LEGS = 0.80

SOUTH LEG

TOTAL: 29

	Lt	Thru	Rt
1st		3	4
2nd		3	3
3rd		3	4
4th		2	7
Total		11	18

HOUR TOTAL: 344

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : W FRONTAGE RD VV

EAST-WEST STREET : I-15 SB ON RAMP 06-29-22

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	1	51	0	0	1	0	0	2	0	1	3	59
0	1	64	0	0	4	0	0	2	0	0	1	72
0	3	79	0	0	2	0	0	0	0	0	1	85
0	0	94	0	1	0	0	0	1	0	1	2	99
0	2	48	0	0	1	0	0	2	0	0	1	54
0	5	55	0	0	1	0	0	4	0	0	3	68
0	2	43	0	1	2	0	0	4	0	0	4	56
0	4	56	0	0	1	0	0	0	0	1	2	64
0	18	490	0	2	12	0	0	15	0	3	17	557
SOUTH LEG												
1	3	0	0	0	0	0	0	0	3	0	0	7
2	3	0	0	0	0	0	0	0	1	0	0	6
1	3	0	1	0	0	0	0	0	2	0	0	7
0	0	0	0	1	0	1	1	0	6	0	0	9
4	0	0	0	0	0	0	0	0	2	0	0	6
5	1	0	0	2	0	0	0	0	4	0	0	12
0	1	0	0	0	0	1	0	0	3	0	0	5
3	3	0	0	0	0	0	0	0	5	0	0	11
16	14	0	1	3	0	2	1	0	26	0	0	63
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: W FRONTAGE RD

EAST-WEST STREET: I-15 SB ON RAMP

TIME: 07:00AM-08:00AM DATE: 06-29-22

NORTH LEG

	8	307	Total
	2	57	1st
	1	71	2nd
	3	82	3rd
	2	97	4th

Rt Thru Lt

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

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

	Lt	Thru	Rt
1st		3	4
2nd		3	3
3rd		3	4
4th		2	7
Total		11	18

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: W FRONTAGE RD

EAST-WEST STREET: I-15 SB ON RAMP

TIME: 08:00AM-09:00AM DATE: 06-29-22

NORTH LEG

	15	227	Total
	2	52	1st
	5	63	2nd
	3	53	3rd
	5	59	4th
Rt	Thru	Lt	

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

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

	Lt	Thru	Rt
1st		0	6
2nd		3	9
3rd		1	4
4th		3	8
Total		7	27

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: W FRONTAGE RD
EAST-WEST STREET: I-15 SB ON RAMP
JURISDICTION: VV

DATE: 06-29-22

PEAK HOUR: 04:30PM

NORTH LEG

TOTAL: 358

	22	336	Total
	8	73	1st
	4	82	2nd
	4	109	3rd
	6	72	4th
Rt	Thru	Lt	

EAST LEG TOTAL: 0

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

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

WEST LEG TOTAL: 0

PEAK HOUR FACTORS

NORTH LEG = 0.79
SOUTH LEG = 0.73
EAST LEG =
WEST LEG =

ALL LEGS = 0.82

	Lt	Thru	Rt	
1st		4	8	
2nd		9	7	
3rd		2	9	
4th		2	6	
Total		17	30	TOTAL: 47

SOUTH LEG

HOUR TOTAL: 405

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : W FRONTAGE RD VV

EAST-WEST STREET : I-15 SB ON RAMP 06-29-22

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	3	80	0	0	3	0	0	1	0	1	3	91
0	6	45	0	0	3	0	2	1	0	0	3	60
0	7	66	0	0	2	0	1	1	0	0	4	81
0	4	77	0	0	1	0	0	1	0	0	3	86
0	3	100	0	0	2	0	1	2	0	0	5	113
0	6	68	0	0	1	0	0	2	0	0	1	78
0	3	78	0	0	1	0	0	0	0	0	1	83
0	2	61	0	0	0	0	1	0	0	1	0	65
0	34	575	0	0	13	0	5	8	0	2	20	657
SOUTH LEG												
5	4	0	0	2	0	0	0	0	0	1	0	12
7	3	0	0	0	0	0	2	0	2	1	0	15
6	3	0	0	0	0	0	0	0	2	1	0	12
6	8	0	0	0	0	0	0	0	1	1	0	16
7	1	0	0	1	0	1	0	0	1	0	0	11
5	1	0	0	0	0	0	1	0	1	0	0	8
3	2	0	0	0	0	0	0	0	1	0	0	6
3	2	0	0	0	0	1	0	0	1	0	0	7
42	24	0	0	3	0	2	3	0	9	4	0	87
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: W FRONTAGE RD

EAST-WEST STREET: I-15 SB ON RAMP

TIME: 04:00PM-05:00PM DATE: 06-29-22

NORTH LEG

	24	294	Total
	4	87	1st
	8	52	2nd
	8	73	3rd
	4	82	4th
Rt	Thru	Lt	

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

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

	Lt	Thru	Rt
1st		7	5
2nd		6	9
3rd		4	8
4th		9	7
Total		26	29

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: W FRONTAGE RD

EAST-WEST STREET: I-15 SB ON RAMP

TIME: 05:00PM-06:00PM DATE: 06-29-22

NORTH LEG

	17	322	Total
	4	109	1st
	6	72	2nd
	3	80	3rd
	4	61	4th
Rt	Thru	Lt	

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

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

	Lt	Thru	Rt
1st		2	9
2nd		2	6
3rd		2	4
4th		2	5
Total		8	24

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: W FRONTAGE RD
EAST-WEST STREET: STODDARD WELLS
JURISDICTION: VV

DATE: 06-29-22

PEAK HOUR: 07:00AM

NORTH LEG

TOTAL: 114

	47	67	Total
	8	15	1st
	10	21	2nd
	10	13	3rd
	19	18	4th
Rt	Thru	Lt	

EAST LEG TOTAL: 349

Rt	17	18	22	24	81
Thru					
Lt	51	62	75	80	268
	1st	2nd	3rd	4th	Total

WEST LEG TOTAL: 0

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

PEAK HOUR FACTORS

NORTH LEG = 0.77
SOUTH LEG = 0.92
EAST LEG = 0.84
WEST LEG =

ALL LEGS = 0.83

SOUTH LEG

TOTAL: 11

	Lt	Thru	Rt
1st		3	0
2nd		1	2
3rd		3	0
4th		2	0
Total		9	2

HOUR TOTAL: 474

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : W FRONTAGE RD VV

EAST-WEST STREET : STODDARD WELLS 06-29-22

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	6	10	0	1	2	0	0	2	0	1	1	23
0	6	15	0	2	3	0	1	1	0	1	2	31
0	8	10	0	2	1	0	0	1	0	0	1	23
0	16	16	0	0	0	0	1	2	0	2	0	37
0	9	8	0	1	0	0	1	3	0	0	1	23
0	9	12	0	1	0	0	3	0	0	2	1	28
0	7	34	0	1	2	0	2	1	0	2	3	52
0	7	14	0	1	2	0	0	1	0	1	7	33
0	68	119	0	9	10	0	8	11	0	9	16	250
SOUTH LEG												
0	3	0	0	0	0	0	0	0	0	0	0	3
2	1	0	0	0	0	0	0	0	0	0	0	3
0	3	0	0	0	0	0	0	0	0	0	0	3
0	0	0	0	1	0	0	1	0	0	0	0	2
0	0	0	0	0	0	0	0	0	0	0	0	0
0	1	0	0	2	0	0	0	0	0	0	0	3
0	1	0	0	0	0	0	0	0	0	0	0	1
2	1	0	0	0	0	0	0	0	0	0	0	3
4	10	0	0	3	0	0	1	0	0	0	0	18
EAST LEG												
9	0	46	4	0	0	2	0	2	2	0	3	68
12	0	59	3	0	2	1	0	1	2	0	0	80
14	0	74	1	0	0	5	0	0	2	0	1	97
23	0	78	0	0	1	0	0	0	1	0	1	104
21	0	41	0	0	0	1	0	1	1	0	1	66
24	0	50	0	0	0	3	0	1	5	0	1	84
17	0	37	1	0	2	2	0	2	2	0	2	65
24	0	55	0	0	0	5	0	0	6	0	2	92
144	0	440	9	0	5	19	0	7	21	0	11	656
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: W FRONTAGE RD

EAST-WEST STREET: STODDARD WELLS

TIME: 07:00AM-08:00AM DATE: 06-29-22

NORTH LEG

	47	67	Total
	8	15	1st
	10	21	2nd
	10	13	3rd
	19	18	4th
Rt	Thru	Lt	

Rt	17	18	22	24	81
Thru					
Lt	51	62	75	80	268
	1st	2nd	3rd	4th	Total

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

	Lt	Thru	Rt
1st		3	0
2nd		1	2
3rd		3	0
4th		2	0
Total		9	2

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: W FRONTAGE RD

EAST-WEST STREET: STODDARD WELLS

TIME: 08:00AM-09:00AM DATE: 06-29-22

NORTH LEG

	47	89	Total
	11	12	1st
	15	13	2nd
	12	40	3rd
	9	24	4th
Rt	Thru	Lt	

Rt	23	32	22	35	112
Thru					
Lt	43	52	43	57	195
	1st	2nd	3rd	4th	Total

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

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: W FRONTAGE RD
EAST-WEST STREET: STODDARD WELLS
JURISDICTION: VV

DATE: 06-29-22

PEAK HOUR: 04:15PM

NORTH LEG

TOTAL: 210

	131	79	Total
	25	15	1st
	25	24	2nd
	38	12	3rd
	43	28	4th
Rt	Thru	Lt	

EAST LEG TOTAL: 339

Rt	51	34	27	19	131
Thru					
Lt	35	56	47	70	208
	1st	2nd	3rd	4th	Total

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

WEST LEG TOTAL: 0

PEAK HOUR FACTORS

NORTH LEG = 0.74
SOUTH LEG = 0.58
EAST LEG = 0.94
WEST LEG =

ALL LEGS = 0.88

	Lt	Thru	Rt
1st		4	2
2nd		2	2
3rd		2	7
4th		1	1
Total		9	12

TOTAL: 21

SOUTH LEG

HOUR TOTAL: 570

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : W FRONTAGE RD VV

EAST-WEST STREET : STODDARD WELLS 06-29-22

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	30	20	0	1	0	0	0	1	0	3	3	58
0	19	14	0	3	0	0	2	0	0	1	1	40
0	20	22	0	1	1	0	1	0	0	3	1	49
0	35	10	0	0	1	0	1	0	0	2	1	50
0	37	27	0	1	1	0	0	0	0	5	0	71
0	46	15	0	0	1	0	2	0	0	0	2	66
0	34	4	0	0	1	0	0	0	0	0	1	40
0	21	7	0	0	0	0	1	1	0	1	0	31
0	242	119	0	6	5	0	7	2	0	15	9	405
						SOUTH LEG						
3	1	0	0	2	0	0	0	0	0	1	0	7
2	1	0	0	0	0	0	2	0	0	1	0	6
2	1	0	0	0	0	0	0	0	0	1	0	4
7	1	0	0	0	0	0	0	0	0	1	0	9
1	0	0	0	1	0	0	0	0	0	0	0	2
0	1	0	0	0	0	0	1	0	0	0	0	2
1	1	0	0	0	0	0	0	0	0	0	0	2
0	2	0	0	0	0	0	0	0	0	0	0	2
16	8	0	0	3	0	0	3	0	0	4	0	34
						EAST LEG						
18	0	52	0	0	2	8	0	1	0	0	2	83
32	0	32	1	0	0	14	0	1	4	0	2	86
23	0	53	1	0	1	10	0	1	0	0	1	90
22	0	45	1	0	1	4	0	0	0	0	1	74
19	0	66	0	0	1	0	0	3	0	0	0	89
27	0	28	1	0	1	0	0	0	1	0	1	59
15	0	47	0	0	1	0	0	0	0	0	1	64
9	0	42	1	0	0	1	0	0	0	0	0	53
165	0	365	5	0	7	37	0	6	5	0	8	598
						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: W FRONTAGE RD

EAST-WEST STREET: STODDARD WELLS

TIME: 04:00PM-05:00PM DATE: 06-29-22

NORTH LEG

	122	75	Total
	34	24	1st
	25	15	2nd
	25	24	3rd
	38	12	4th

Rt Thru Lt

Rt	26	51	34	27	138
Thru					
Lt	57	35	56	47	195
	1st	2nd	3rd	4th	Total

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

	Lt	Thru	Rt
1st		4	3
2nd		4	2
3rd		2	2
4th		2	7
Total		12	14

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: W FRONTAGE RD

EAST-WEST STREET: STODDARD WELLS

TIME: 05:00PM-06:00PM DATE: 06-29-22

NORTH LEG

	148	60	Total
	43	28	1st
	48	18	2nd
	34	6	3rd
	23	8	4th
	Rt	Thru	Lt

Rt	19	29	15	11	74
Thru					
Lt	70	30	49	42	191
	1st	2nd	3rd	4th	Total

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

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: I-15 SB OFF RAMP
EAST-WEST STREET: STODDARD WELLS
JURISDICTION: VV

DATE: 06-29-22

PEAK HOUR: 08:00AM

NORTH LEG

TOTAL: 52

Rt	Thru	Lt	
3		49	Total
1		6	1st
0		10	2nd
0		21	3rd
2		12	4th

EAST LEG TOTAL: 117

	1st	2nd	3rd	4th	Total
Rt					
Thru	23	35	23	36	117
Lt					

WEST LEG TOTAL: 86

Total	1st	2nd	3rd	4th	
					Lt
86	14	21	33	18	Thru
					Rt

SOUTH LEG

TOTAL: 0

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

PEAK HOUR FACTORS

NORTH LEG = 0.62
SOUTH LEG =
EAST LEG = 0.81
WEST LEG = 0.65

ALL LEGS = 0.83

HOUR TOTAL: 255

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : I-15 SB OFF RAMP VV

EAST-WEST STREET : STODDARD WELLS 06-29-22

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							
3	0	5	0	0	0	0	0	0	0	0	1	9
2	0	5	0	0	0	0	0	1	0	0	2	10
0	0	7	0	0	1	0	0	0	0	0	1	9
0	0	13	0	0	0	0	0	0	1	0	1	15
1	0	6	0	0	0	0	0	0	0	0	0	7
0	0	9	0	0	1	0	0	0	0	0	0	10
0	0	20	0	0	1	0	0	0	0	0	0	21
2	0	9	0	0	1	0	0	0	0	0	2	14
8	0	74	0	0	4	0	0	1	1	0	7	95
					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							
0	12	0	0	4	0	0	2	0	0	2	0	20
0	13	0	0	3	0	0	1	0	0	2	0	19
0	17	0	0	1	0	0	5	0	0	2	0	25
0	23	0	0	1	0	0	1	0	0	1	0	26
0	21	0	0	0	0	0	1	0	0	1	0	23
0	25	0	0	2	0	0	3	0	0	5	0	35
0	18	0	0	1	0	0	2	0	0	2	0	23
0	25	0	0	0	0	0	5	0	0	6	0	36
0	154	0	0	12	0	0	20	0	0	21	0	207
					WEST LEG							
0	11	0	0	3	0	0	2	0	0	1	0	17
0	16	0	0	5	0	0	1	0	0	1	0	23
0	11	0	0	2	0	0	1	0	0	0	0	14
0	19	0	0	0	0	0	3	0	0	1	0	23
0	8	0	0	1	0	0	4	0	0	1	0	14
0	15	0	0	0	0	0	3	0	0	3	0	21
0	23	0	0	2	0	0	3	0	0	5	0	33
0	9	0	0	2	0	0	1	0	0	6	0	18
0	112	0	0	15	0	0	18	0	0	18	0	163

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: I-15 SB OFF RAMP

EAST-WEST STREET: STODDARD WELLS

TIME: 07:00AM-08:00AM DATE: 06-29-22

NORTH LEG

6		37	Total
3		6	1st
2		8	2nd
0		9	3rd
1		14	4th
Rt	Thru	Lt	

Rt					
Thru	20	19	25	26	90
Lt					
	1st	2nd	3rd	4th	Total

Total	1st	2nd	3rd	4th	
					Lt
77	17	23	14	23	Thru
					Rt

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: I-15 SB OFF RAMP

EAST-WEST STREET: STODDARD WELLS

TIME: 08:00AM-09:00AM DATE: 06-29-22

NORTH LEG

Rt	Thru	Lt	
3		49	Total
1		6	1st
0		10	2nd
0		21	3rd
2		12	4th

	1st	2nd	3rd	4th	Total
Rt					
Thru	23	35	23	36	117
Lt					

Total	1st	2nd	3rd	4th	
					Lt
86	14	21	33	18	Thru
					Rt

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: I-15 SB OFF RAMP
EAST-WEST STREET: STODDARD WELLS
JURISDICTION: VV

DATE: 06-29-22

PEAK HOUR: 04:30PM

NORTH LEG

TOTAL: 79

Rt	Thru	Lt	
8		71	Total
3		20	1st
0		17	2nd
3		14	3rd
2		20	4th

EAST LEG TOTAL: 116

	1st	2nd	3rd	4th	Total
Rt					
Thru	36	29	20	31	116
Lt					

WEST LEG TOTAL: 165

Total	1st	2nd	3rd	4th	
					Lt
165	29	33	57	46	Thru
					Rt

SOUTH LEG

TOTAL: 0

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

PEAK HOUR FACTORS

NORTH LEG = 0.86
SOUTH LEG =
EAST LEG = 0.81
WEST LEG = 0.72

ALL LEGS = 0.91

HOUR TOTAL: 360

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : I-15 SB OFF RAMP VV

EAST-WEST STREET : STODDARD WELLS 06-29-22

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
					NORTH LEG							
2	0	18	0	0	0	0	0	0	0	0	0	20
0	0	16	1	0	0	0	0	0	0	0	0	17
1	0	19	2	0	0	0	0	0	0	0	1	23
0	0	16	0	0	0	0	0	0	0	0	1	17
3	0	12	0	0	0	0	0	0	0	0	2	17
1	0	20	0	0	0	0	0	0	1	0	0	22
4	0	14	0	0	0	0	0	0	0	0	1	19
2	0	10	0	0	0	0	0	0	0	0	0	12
13	0	125	3	0	0	0	0	0	1	0	5	147
					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							
0	19	0	0	2	0	0	8	0	0	1	0	30
0	33	0	0	1	0	0	16	0	0	5	0	55
0	24	0	0	1	0	0	10	0	0	1	0	36
0	23	0	0	1	0	0	4	0	0	1	0	29
0	19	0	0	1	0	0	0	0	0	0	0	20
0	28	0	0	1	0	0	1	0	0	1	0	31
0	16	0	0	0	0	0	0	0	0	0	0	16
0	11	0	0	1	0	0	1	0	0	0	0	13
0	173	0	0	8	0	0	40	0	0	9	0	230
					WEST LEG							
0	31	0	0	1	0	0	1	0	0	6	0	39
0	17	0	0	3	0	0	2	0	0	2	0	24
0	23	0	0	2	0	0	1	0	0	3	0	29
0	29	0	0	1	0	0	1	0	0	2	0	33
0	52	0	0	2	0	0	0	0	0	3	0	57
0	41	0	0	1	0	0	2	0	0	2	0	46
0	25	0	0	1	0	0	0	0	0	0	0	26
0	18	0	0	0	0	0	2	0	0	1	0	21
0	236	0	0	11	0	0	9	0	0	19	0	275

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: I-15 SB OFF RAMP

EAST-WEST STREET: STODDARD WELLS

TIME: 04:00PM-05:00PM DATE: 06-29-22

NORTH LEG

Rt	Thru	Lt	
6		71	Total
2		18	1st
1		16	2nd
3		20	3rd
0		17	4th

	1st	2nd	3rd	4th	Total
Rt					
Thru	30	55	36	29	150
Lt					

Total	1st	2nd	3rd	4th	
					Lt
125	39	24	29	33	Thru
					Rt

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: I-15 SB OFF RAMP

EAST-WEST STREET: STODDARD WELLS

TIME: 05:00PM-06:00PM DATE: 06-29-22

NORTH LEG

Rt	Thru	Lt	
11		59	Total
3		14	1st
2		20	2nd
4		15	3rd
2		10	4th

	1st	2nd	3rd	4th	Total
Rt					
Thru	20	31	16	13	80
Lt					

Total	1st	2nd	3rd	4th	
					Lt
150	57	46	26	21	Thru
					Rt

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

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

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	

PEAK HOUR FACTORS

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

ALL LEGS = 0.92

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

SOUTH LEG

TOTAL: 0

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

PEAK HOUR FACTORS

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

ALL LEGS = 0.92

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

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

EAST LEG TOTAL: 156

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

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

WEST LEG TOTAL: 0

PEAK HOUR FACTORS

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

ALL LEGS = 0.90

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

SOUTH LEG

TOTAL: 266

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	
		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: APPLE VALLEY RD
EAST-WEST STREET: FALCHION RD
JURISDICTION: APPLE VALLEY

DATE: 02-22-23

PEAK HOUR: 07:30AM

NORTH LEG

TOTAL: 0

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

EAST LEG TOTAL: 11

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

WEST LEG TOTAL: 2

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

PEAK HOUR FACTORS

NORTH LEG =
SOUTH LEG = 0.75
EAST LEG = 0.69
WEST LEG = 0.50

ALL LEGS = 0.79

SOUTH LEG

TOTAL: 9

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

HOUR TOTAL: 22

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : APPLE VALLEY RD

EAST-WEST STREET : FALCHION RD

APPLE VALLEY

02-22-23

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	0	0	0	0	0	0	0	0	0	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	1
1	0	0	0	0	0	0	0	0	2	0	0	3
2	0	0	0	0	0	0	0	0	0	0	0	2
1	0	1	0	0	0	0	0	0	1	0	0	3
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	1	0	0	2
4	0	2	0	0	0	0	0	0	5	0	0	11
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	2	0	0	0	0	0	0	0	0	0	2
0	1	1	0	0	0	0	1	0	0	1	0	4
0	2	1	0	0	0	0	0	0	0	0	0	3
0	0	1	0	0	0	0	0	0	0	1	0	2
0	0	0	0	0	0	0	0	0	0	0	0	0
0	2	1	0	0	0	0	0	0	0	2	0	5
0	5	6	0	0	0	0	1	0	0	4	0	16
WEST LEG												
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	1	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	0	0	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	1	0	2
0	3	0	0	0	0	0	0	0	0	2	0	5

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: APPLE VALLEY RD

EAST-WEST STREET: FALCHION RD

TIME: 07:00AM-08:00AM DATE: 02-22-23

NORTH LEG

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

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

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

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: APPLE VALLEY RD

EAST-WEST STREET: FALCHION RD

TIME: 08:00AM-09:00AM DATE: 02-22-23

NORTH LEG

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

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

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

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: APPLE VALLEY RD
EAST-WEST STREET: FALCHION RD
JURISDICTION: APPLE VALLEY

DATE: 02-22-23

PEAK HOUR: 04:00PM

NORTH LEG

TOTAL: 0

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

EAST LEG TOTAL: 20

	1st	2nd	3rd	4th	Total
Rt					
Thru	4	4	6	1	15
Lt	2	1	2	0	5

WEST LEG TOTAL: 6

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

SOUTH LEG

TOTAL: 7

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

PEAK HOUR FACTORS

NORTH LEG =
SOUTH LEG = 0.58
EAST LEG = 0.63
WEST LEG = 0.38

ALL LEGS = 0.59

HOUR TOTAL: 33

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : APPLE VALLEY RD — APPLE VALLEY

EAST-WEST STREET : FALCHION RD — 02-22-23

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												
1	0	2	0	0	0	0	0	0	0	0	0	3
0	0	2	0	0	0	0	0	0	0	0	0	2
2	0	0	0	0	0	0	0	0	0	0	0	2
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0	0	0	1
1	0	0	0	0	0	0	0	0	0	0	0	1
1	0	0	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	5	0	0	0	0	0	0	0	0	0	10
EAST LEG												
0	2	2	0	0	0	0	0	0	0	2	0	6
0	2	1	0	0	0	0	0	0	0	2	0	5
0	4	2	0	0	0	0	0	0	0	2	0	8
0	1	0	0	0	0	0	0	0	0	0	0	1
0	3	1	0	0	0	0	0	0	0	1	0	5
0	2	0	0	0	0	0	0	0	0	2	0	4
0	1	1	0	0	0	0	0	0	0	0	0	2
0	1	0	0	0	0	0	0	0	0	0	0	1
0	16	7	0	0	0	0	0	0	0	9	0	32
WEST LEG												
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	2	0	0	0	0	0	0	0	0	2	0	4
0	1	0	0	0	0	0	0	0	0	0	0	1
0	2	0	0	0	0	0	0	0	0	0	0	2
0	1	0	0	0	0	0	0	0	0	1	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	7	0	0	0	0	0	0	0	0	3	0	10

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: APPLE VALLEY RD

EAST-WEST STREET: FALCHION RD

TIME: 04:00PM-05:00PM DATE: 02-22-23

NORTH LEG

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

	1st	2nd	3rd	4th	Total
Rt					
Thru	4	4	6	1	15
Lt	2	1	2	0	5

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

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: APPLE VALLEY RD

EAST-WEST STREET: FALCHION RD

TIME: 05:00PM-06:00PM DATE: 02-22-23

NORTH LEG

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

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

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

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: OUTER HWY 15
EAST-WEST STREET: FALCHION RD
JURISDICTION: APPLE VALLEY

DATE: 02-22-23

PEAK HOUR: 08:00AM

NORTH LEG

TOTAL: 31

	30	1	Total
	5	0	1st
	5	0	2nd
	11	0	3rd
	9	1	4th
Rt	Thru	Lt	

EAST LEG TOTAL: 9

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

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

WEST LEG TOTAL: 0

PEAK HOUR FACTORS

NORTH LEG = 0.70
SOUTH LEG = 0.79
EAST LEG = 0.45
WEST LEG =

ALL LEGS = 0.70

	Lt	Thru	Rt
1st		3	1
2nd		5	0
3rd		6	0
4th		6	1
Total		20	2

SOUTH LEG

TOTAL: 22

HOUR TOTAL: 62

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : OUTER HWY 15 — APPLE VALLEY

EAST-WEST STREET : FALCHION RD — 02-22-23

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	4	0	0	0	0	0	0	0	0	0	0	4
0	6	0	0	0	0	0	0	0	0	0	0	6
0	9	0	0	0	0	0	0	0	0	0	1	10
0	7	0	0	0	0	0	0	0	0	0	0	7
0	5	0	0	0	0	0	0	0	0	0	0	5
0	5	0	0	0	0	0	0	0	0	0	0	5
0	11	0	0	0	0	0	0	0	0	0	0	11
0	9	1	0	0	0	0	0	0	0	0	0	10
0	56	1	0	0	0	0	0	0	0	0	1	58
					SOUTH LEG							
0	0	0	0	0	0	0	0	0	0	0	0	0
1	2	0	0	0	0	0	0	0	0	0	0	3
0	1	0	0	0	0	0	0	0	0	0	0	1
0	2	0	0	0	0	0	0	0	0	0	0	2
1	3	0	0	0	0	0	0	0	0	0	0	4
0	5	0	0	0	0	0	0	0	0	0	0	5
0	6	0	0	0	0	0	0	0	0	0	0	6
0	6	0	0	0	0	0	0	0	1	0	0	7
2	25	0	0	0	0	0	0	0	1	0	0	28
					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	1	0	0	0	0	0	1	1	0	0	3
0	0	2	0	0	0	0	0	0	0	0	0	2
1	0	0	0	0	0	0	0	0	0	0	1	2
0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	2	0	0	0	0	0	0	1	0	1	5
2	0	5	0	0	0	0	0	1	2	0	2	12
					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: OUTER HWY 15

EAST-WEST STREET: FALCHION RD

TIME: 07:00AM-08:00AM DATE: 02-22-23

NORTH LEG

	26	1	Total
	4	0	1st
	6	0	2nd
	9	1	3rd
	7	0	4th
Rt	Thru	Lt	

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

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

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: OUTER HWY 15

EAST-WEST STREET: FALCHION RD

TIME: 08:00AM-09:00AM DATE: 02-22-23

NORTH LEG

	30	1	Total
	5	0	1st
	5	0	2nd
	11	0	3rd
	9	1	4th
Rt	Thru	Lt	

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

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

	Lt	Thru	Rt
1st		3	1
2nd		5	0
3rd		6	0
4th		6	1
Total		20	2

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: OUTER HWY 15
EAST-WEST STREET: FALCHION RD
JURISDICTION: APPLE VALLEY

DATE: 02-22-23

PEAK HOUR: 04:00PM

NORTH LEG

TOTAL: 41

	Rt	Thru	Lt	
		39	2	Total
		15	0	1st
		8	0	2nd
		10	1	3rd
		6	1	4th

EAST LEG TOTAL: 19

	1st	2nd	3rd	4th	Total
Rt	0	2	2	1	5
Thru					
Lt	6	4	4	0	14

WEST LEG TOTAL: 0

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

PEAK HOUR FACTORS

NORTH LEG = 0.68
SOUTH LEG = 0.65
EAST LEG = 0.79
WEST LEG =

ALL LEGS = 0.69

SOUTH LEG

TOTAL: 26

	Lt	Thru	Rt
1st		10	0
2nd		6	1
3rd		4	3
4th		2	0
Total		22	4

HOUR TOTAL: 86

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : OUTER HWY 15 — APPLE VALLEY

EAST-WEST STREET : FALCHION RD — 02-22-23

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	15	0	0	0	0	0	0	0	0	0	0	15
0	8	0	0	0	0	0	0	0	0	0	0	8
0	10	1	0	0	0	0	0	0	0	0	0	11
0	6	1	0	0	0	0	0	0	0	0	0	7
0	10	2	0	0	0	0	0	0	0	0	0	12
0	5	0	0	0	0	0	0	0	0	0	0	5
0	2	0	0	0	0	0	0	0	0	0	0	2
0	2	0	0	0	0	0	0	0	0	0	0	2
0	58	4	0	0	0	0	0	0	0	0	0	62
SOUTH LEG												
0	10	0	0	0	0	0	0	0	0	0	0	10
1	6	0	0	0	0	0	0	0	0	0	0	7
1	4	0	0	0	0	0	0	0	2	0	0	7
0	2	0	0	0	0	0	0	0	0	0	0	2
0	2	0	0	0	0	0	0	0	0	0	0	2
1	2	0	0	0	0	0	0	0	1	0	0	4
0	1	0	0	0	0	0	0	0	0	0	0	1
0	2	0	0	0	0	0	0	0	0	0	0	2
3	29	0	0	0	0	0	0	0	3	0	0	35
EAST LEG												
0	0	4	0	0	0	0	0	0	0	0	2	6
1	0	3	0	0	0	0	0	0	1	0	1	6
1	0	3	0	0	0	0	0	0	1	0	1	6
1	0	0	0	0	0	0	0	0	0	0	0	1
0	0	4	0	0	0	0	0	0	0	0	1	5
0	0	2	0	0	0	0	0	0	1	0	1	4
1	0	0	0	0	0	0	0	0	0	0	0	1
0	0	1	0	0	0	0	0	0	0	0	0	1
4	0	17	0	0	0	0	0	0	3	0	6	30
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: OUTER HWY 15

EAST-WEST STREET: FALCHION RD

TIME: 04:00PM-05:00PM DATE: 02-22-23

NORTH LEG

	39	2	Total
	15	0	1st
	8	0	2nd
	10	1	3rd
	6	1	4th
Rt	Thru	Lt	

Rt	0	2	2	1	5
Thru					
Lt	6	4	4	0	14
	1st	2nd	3rd	4th	Total

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

	Lt	Thru	Rt
1st		10	0
2nd		6	1
3rd		4	3
4th		2	0
Total		22	4

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: OUTER HWY 15

EAST-WEST STREET: FALCHION RD

TIME: 05:00PM-06:00PM DATE: 02-22-23

NORTH LEG

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

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

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

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: OUTER HWY 15
EAST-WEST STREET: NORCO ST
JURISDICTION: APPLE VALLEY

DATE: 02-22-23

PEAK HOUR: 08:00AM

NORTH LEG

TOTAL: 26

	Rt	Thru	Lt	
Total		25	1	Total
1st		4	0	1st
2nd		6	0	2nd
3rd		8	0	3rd
4th		7	1	4th

EAST LEG TOTAL: 3

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

WEST LEG TOTAL: 0

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

PEAK HOUR FACTORS

NORTH LEG = 0.81
SOUTH LEG = 0.79
EAST LEG = 0.38
WEST LEG =

ALL LEGS = 0.75

SOUTH LEG

TOTAL: 22

	Lt	Thru	Rt
1st		3	0
2nd		5	0
3rd		7	0
4th		6	1
Total		21	1

HOUR TOTAL: 51

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : OUTER HWY 15 APPLE VALLEY

EAST-WEST STREET : NORCO ST 02-22-23

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	2	0	0	0	0	0	0	0	0	0	0	2
0	5	0	0	0	0	0	0	0	0	0	0	5
0	7	0	0	0	0	0	0	0	0	0	0	7
0	6	0	0	0	0	0	0	0	0	0	0	6
0	4	0	0	0	0	0	0	0	0	0	0	4
0	6	0	0	0	0	0	0	0	0	0	0	6
0	8	0	0	0	0	0	0	0	0	0	0	8
0	7	1	0	0	0	0	0	0	0	0	0	8
0	45	1	0	0	0	0	0	0	0	0	0	46
						SOUTH LEG						
0	0	0	0	0	0	0	0	0	0	0	0	0
0	2	0	0	0	0	0	0	0	0	0	0	2
0	2	0	0	0	0	0	0	0	0	0	0	2
0	3	0	0	0	0	0	0	0	0	1	0	4
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	7	0	0	0	0	0	0	0	0	0	0	7
1	5	0	0	0	0	0	0	0	0	1	0	7
1	27	0	0	0	0	0	0	0	0	2	0	30
						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
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
1	0	0	0	0	0	0	0	0	0	0	0	1
1	0	1	0	0	0	0	0	0	0	0	0	2
0	0	0	0	0	0	0	0	0	0	0	0	0
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: OUTER HWY 15

EAST-WEST STREET: NORCO ST

TIME: 07:00AM-08:00AM DATE: 02-22-23

NORTH LEG

	20	0	Total
	2	0	1st
	5	0	2nd
	7	0	3rd
	6	0	4th
Rt	Thru	Lt	

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

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

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: OUTER HWY 15

EAST-WEST STREET: NORCO ST

TIME: 08:00AM-09:00AM DATE: 02-22-23

NORTH LEG

	25	1	Total
	4	0	1st
	6	0	2nd
	8	0	3rd
	7	1	4th
Rt	Thru	Lt	

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

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

	Lt	Thru	Rt
1st		3	0
2nd		5	0
3rd		7	0
4th		6	1
Total		21	1

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: OUTER HWY 15
EAST-WEST STREET: NORCO ST
JURISDICTION: APPLE VALLEY

DATE: 02-22-23

PEAK HOUR: 04:00PM

NORTH LEG

TOTAL: 26

	26		Total
	11	0	1st
	4	0	2nd
	7	0	3rd
	4	0	4th
Rt	Thru	Lt	

EAST LEG TOTAL: 5

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

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

WEST LEG TOTAL: 0

PEAK HOUR FACTORS

NORTH LEG = 0.59
SOUTH LEG = 0.83
EAST LEG = 0.63
WEST LEG =

ALL LEGS = 0.73

	Lt	Thru	Rt	
1st		10	0	
2nd		8	1	
3rd		9	0	
4th		5	0	
Total		32	1	TOTAL: 33

SOUTH LEG

HOUR TOTAL: 64

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : OUTER HWY 15 APPLE VALLEY

EAST-WEST STREET : NORCO ST 02-22-23

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	11	0	0	0	0				0	0	0	11
0	4	0	0	0	0				0	0	0	4
0	7	0	0	0	0				0	0	0	7
0	4	0	0	0	0				0	0	0	4
0	8	0	0	0	0				0	0	0	8
0	3	0	0	0	0				0	0	0	3
0	2	0	0	0	0				0	0	0	2
0	2	0	0	0	0				0	0	0	2
0	41	0	0	0	0	0	0	0	0	0	0	41
SOUTH LEG												
0	10	0	0	0	0				0	0	0	10
1	7	0	0	0	0				0	1	0	9
0	8	0	0	0	0				0	1	0	9
0	5	0	0	0	0				0	0	0	5
0	3	0	0	0	0				0	0	0	3
0	4	0	0	0	0				0	1	0	5
0	1	0	0	0	0				0	0	0	1
0	3	0	0	0	0				0	0	0	3
1	41	0	0	0	0	0	0	0	0	3	0	45
EAST LEG												
0	0	1	0	0	0				0	0	0	1
1	0	0	0	0	0				0	0	0	1
0	0	2	0	0	0				0	0	0	2
0	0	1	0	0	0				0	0	0	1
2	0	1	0	0	0				0	0	0	3
0	0	1	0	0	0				0	0	0	1
1	0	0	0	0	0				0	0	0	1
0	0	0	0	0	0				0	0	0	0
4	0	6	0	0	0	0	0	0	0	0	0	10
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

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: OUTER HWY 15

EAST-WEST STREET: NORCO ST

TIME: 04:00PM-05:00PM DATE: 02-22-23

NORTH LEG

	26	0	Total
	11	0	1st
	4	0	2nd
	7	0	3rd
	4	0	4th
Rt	Thru	Lt	

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

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

	Lt	Thru	Rt
1st		10	0
2nd		8	1
3rd		9	0
4th		5	0
Total		32	1

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: OUTER HWY 15

EAST-WEST STREET: NORCO ST

TIME: 05:00PM-06:00PM DATE: 02-22-23

NORTH LEG

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

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

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

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

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: OUTER HWY 15
EAST-WEST STREET: QUARRY RD
JURISDICTION: APPLE VALLEY

DATE: 02-22-23

PEAK HOUR: 08:00AM

NORTH LEG

TOTAL: 27

	Rt	Thru	Lt	
		22	5	Total
1st	0	3	1	
2nd	0	5	1	
3rd	0	8	1	
4th	0	6	2	

EAST LEG TOTAL: 11

	1st	2nd	3rd	4th	Total
Rt	0	1	1	0	2
Thru	0	0	0	0	
Lt	2	0	3	4	9

WEST LEG TOTAL: 0

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

PEAK HOUR FACTORS

NORTH LEG = 0.75
SOUTH LEG = 0.72
EAST LEG = 0.69
WEST LEG =

ALL LEGS = 0.76

SOUTH LEG

TOTAL: 23

	Lt	Thru	Rt
1st	0	3	0
2nd	0	4	2
3rd	0	6	0
4th	0	7	1
Total		20	3

HOUR TOTAL: 61

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : OUTER HWY 15 APPLE VALLEY

EAST-WEST STREET : QUARRY RD 02-22-23

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	2	0	0	0	0	0	0	0	0	0	0	2
0	4	1	0	0	0	0	0	0	0	0	0	5
0	5	2	0	0	0	0	0	0	0	0	0	7
0	4	2	0	0	0	0	0	0	0	0	0	6
0	3	1	0	0	0	0	0	0	0	0	0	4
0	5	1	0	0	0	0	0	0	0	0	0	6
0	8	1	0	0	0	0	0	0	0	0	0	9
0	6	2	0	0	0	0	0	0	0	0	0	8
0	37	10	0	0	0	0	0	0	0	0	0	47
SOUTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	2	0	0	0	0	0	0	0	0	0	0	2
0	1	0	0	0	0	0	0	0	0	0	0	1
0	1	0	0	0	0	0	0	0	0	1	0	2
0	3	0	0	0	0	0	0	0	0	0	0	3
2	4	0	0	0	0	0	0	0	0	0	0	6
0	6	0	0	0	0	0	0	0	0	0	0	6
1	6	0	0	0	0	0	0	0	0	1	0	8
3	23	0	0	0	0	0	0	0	0	2	0	28
EAST LEG												
0	0	2	0	0	0	0	0	0	0	0	0	2
0	0	2	0	0	0	0	0	0	0	0	0	2
1	0	4	0	0	0	0	0	0	0	0	1	6
2	0	3	0	0	0	0	0	0	0	0	0	5
0	0	2	0	0	0	0	0	0	0	0	0	2
1	0	0	0	0	0	0	0	0	0	0	0	1
1	0	3	0	0	0	0	0	0	0	0	0	4
0	0	4	0	0	0	0	0	0	0	0	0	4
5	0	20	0	0	0	0	0	0	0	0	1	26
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: OUTER HWY 15

EAST-WEST STREET: QUARRY RD

TIME: 07:00AM-08:00AM DATE: 02-22-23

NORTH LEG

Rt	Thru	Lt	
0	15	5	Total
0	2	0	1st
0	4	1	2nd
0	5	2	3rd
0	4	2	4th

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

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	0	0
2nd	0	2	0
3rd	0	1	0
4th	0	2	0
Total	0	5	0

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: OUTER HWY 15

EAST-WEST STREET: QUARRY RD

TIME: 08:00AM-09:00AM DATE: 02-22-23

NORTH LEG

Rt	Thru	Lt	
0	22	5	Total
0	3	1	1st
0	5	1	2nd
0	8	1	3rd
0	6	2	4th

	1st	2nd	3rd	4th	Total
Rt	0	1	1	0	2
Thru	0	0	0	0	0
Lt	2	0	3	4	9

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	3	0
2nd	0	4	2
3rd	0	6	0
4th	0	7	1
Total	0	20	3

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: OUTER HWY 15
EAST-WEST STREET: QUARRY RD
JURISDICTION: APPLE VALLEY

DATE: 02-22-23

PEAK HOUR: 04:00PM

NORTH LEG

TOTAL: 30

	25	5	Total
0	10	2	1st
0	4	0	2nd
0	6	3	3rd
0	5	0	4th
Rt	Thru	Lt	

EAST LEG TOTAL: 25

Rt	2	2	3	2	9
Thru	0	0	0	0	
Lt	5	4	5	2	16
	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 = 0.63
SOUTH LEG = 0.68
EAST LEG = 0.78
WEST LEG =

ALL LEGS = 0.71

SOUTH LEG

TOTAL: 27

	Lt	Thru	Rt
1st	0	8	2
2nd	0	7	1
3rd	0	6	0
4th	0	3	0
Total		24	3

HOUR TOTAL: 82

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : OUTER HWY 15 — APPLE VALLEY

EAST-WEST STREET : QUARRY RD — 02-22-23

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	10	2	0	0	0	0	0	0	0	0	0	12
0	4	0	0	0	0	0	0	0	0	0	0	4
0	6	3	0	0	0	0	0	0	0	0	0	9
0	5	0	0	0	0	0	0	0	0	0	0	5
0	9	0	0	0	0	0	0	0	0	0	0	9
0	3	1	0	0	0	0	0	0	0	0	0	4
0	2	0	0	0	0	0	0	0	0	0	0	2
0	2	0	0	0	0	0	0	0	0	0	0	2
0	41	6	0	0	0	0	0	0	0	0	0	47
SOUTH LEG												
2	8	0	0	0	0	0	0	0	0	0	0	10
1	6	0	0	0	0	0	0	0	0	1	0	8
0	5	0	0	0	0	0	0	0	0	1	0	6
0	3	0	0	0	0	0	0	0	0	0	0	3
0	2	0	0	0	0	0	0	0	0	0	0	2
0	2	0	0	0	0	0	0	0	0	1	0	3
1	1	0	0	0	0	0	0	0	0	0	0	2
0	2	0	0	0	0	0	0	0	0	0	0	2
4	29	0	0	0	0	0	0	0	0	3	0	36
EAST LEG												
2	0	5	0	0	0	0	0	0	0	0	0	7
2	0	4	0	0	0	0	0	0	0	0	0	6
3	0	5	0	0	0	0	0	0	0	0	0	8
2	0	2	0	0	0	0	0	0	0	0	0	4
1	0	3	0	0	0	0	0	0	0	0	0	4
2	0	2	0	0	0	0	0	0	0	0	0	4
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
13	0	21	0	0	0	0	0	0	0	0	0	34
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: OUTER HWY 15

EAST-WEST STREET: QUARRY RD

TIME: 04:00PM-05:00PM DATE: 02-22-23

NORTH LEG

Rt	Thru	Lt	
0	25	5	Total
0	10	2	1st
0	4	0	2nd
0	6	3	3rd
0	5	0	4th

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

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	8	2
2nd	0	7	1
3rd	0	6	0
4th	0	3	0
Total	0	24	3

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: OUTER HWY 15

EAST-WEST STREET: QUARRY RD

TIME: 05:00PM-06:00PM DATE: 02-22-23

NORTH LEG

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

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

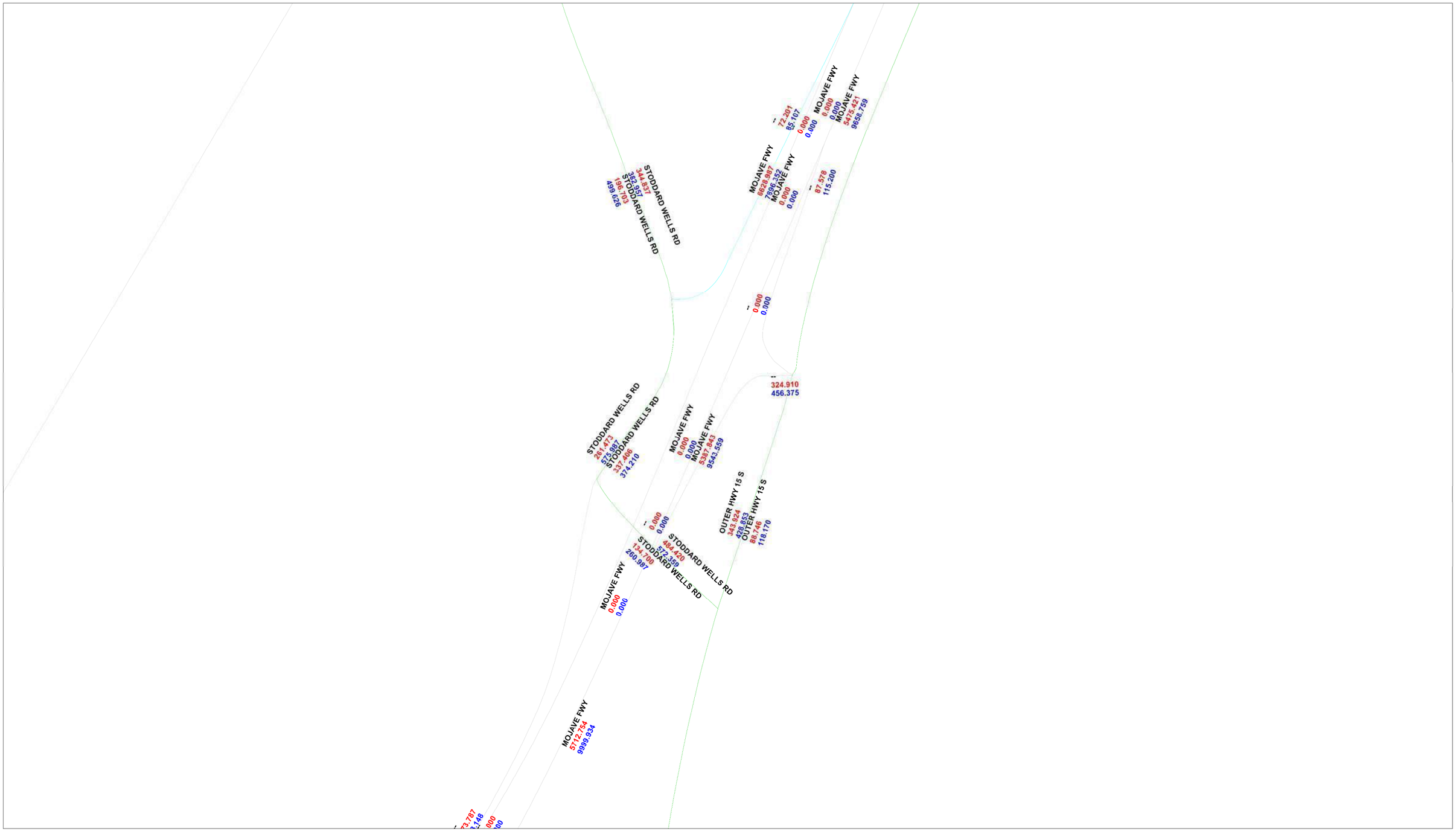
Total	1st	2nd	3rd	4th	
0	0	0	0	0	Lt
0	0	0	0	0	Thru
0	0	0	0	0	Rt

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

Prepared by NEWPORT TRAFFIC STUDIES

Appendix C: Forecast Model Plots and Volume Development

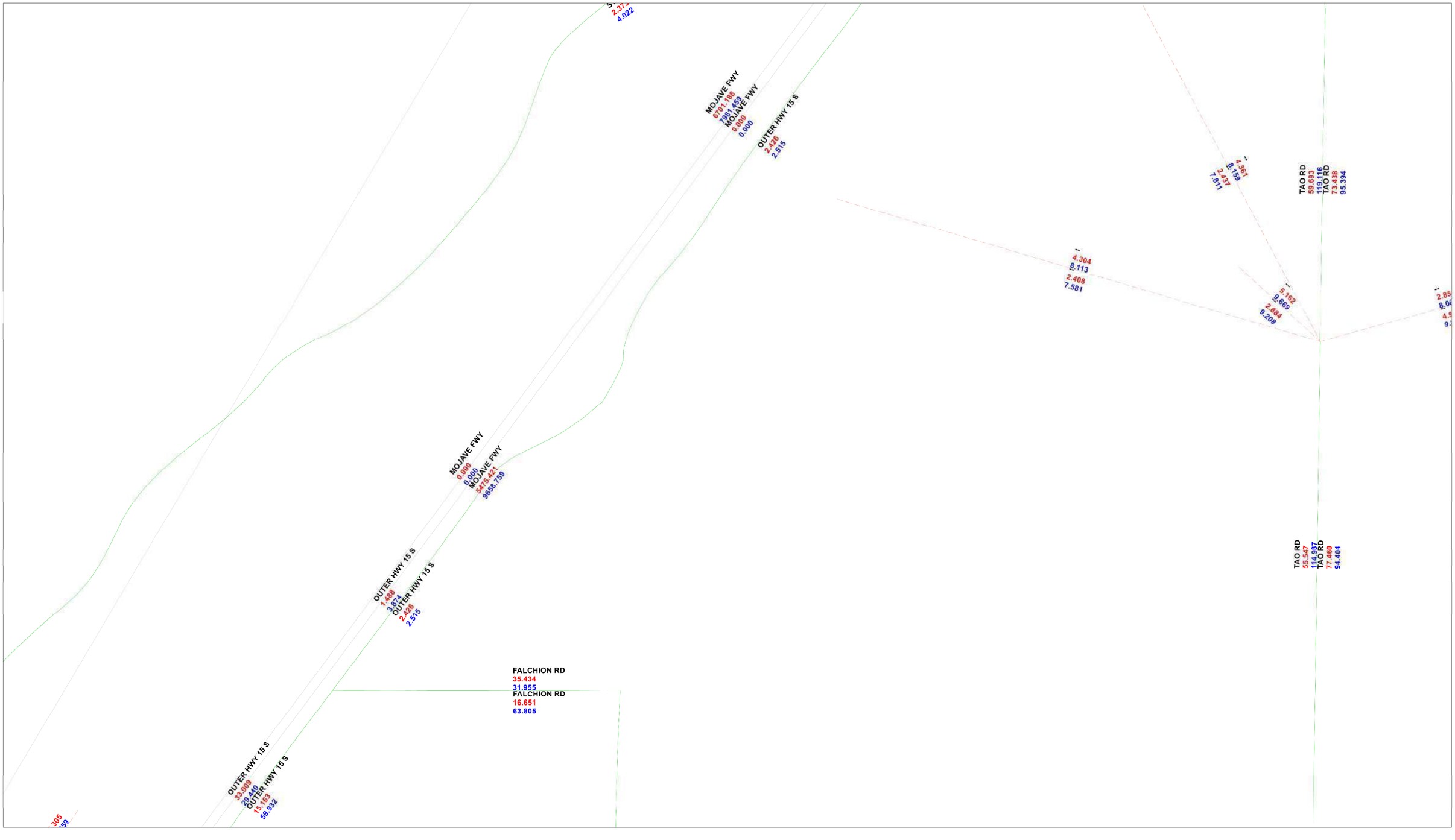
2016 - Volumes I-15/SW Int



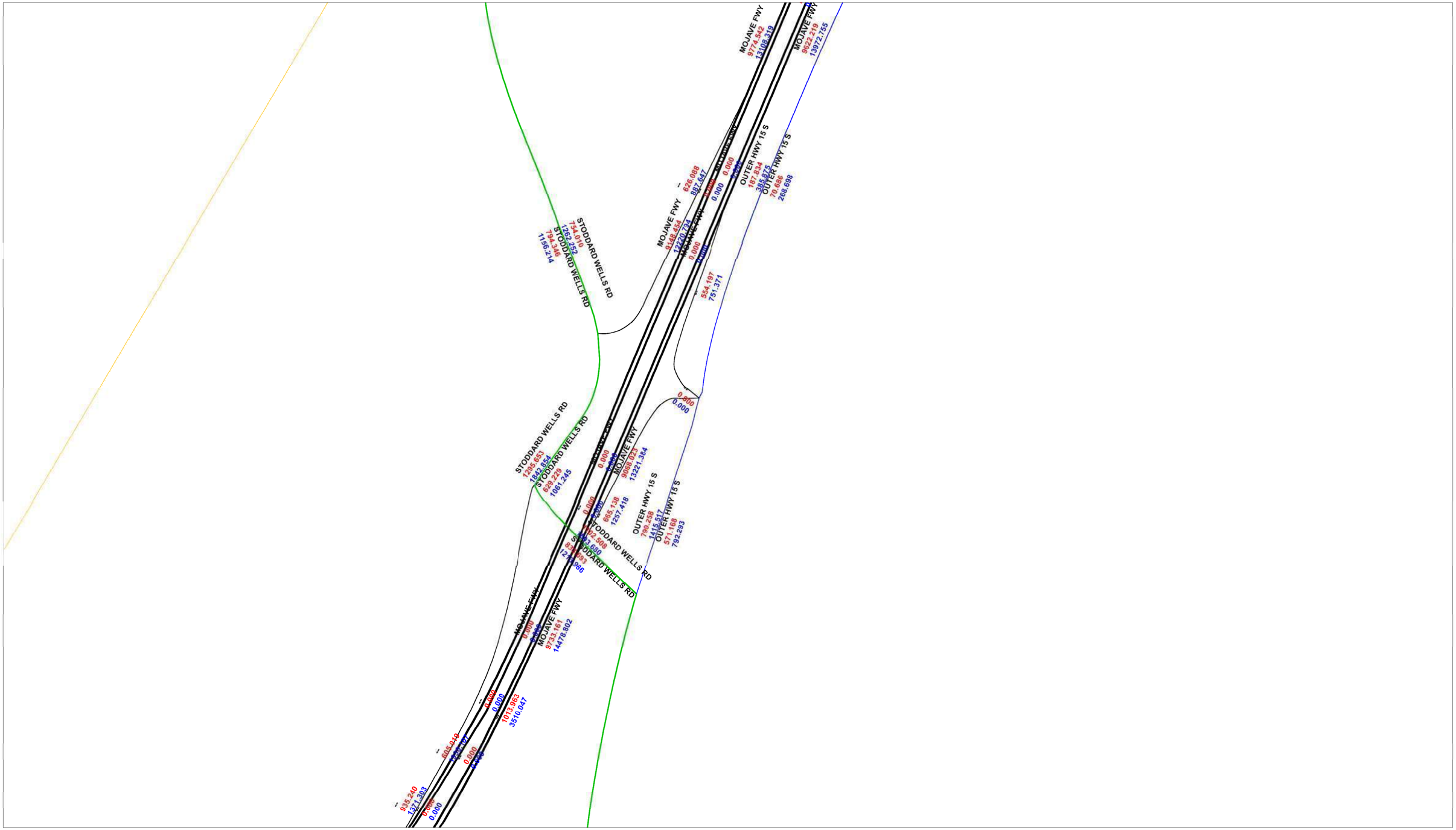
AM Volumes PM Volumes Intersection 6 & 7

AM Volumes PM Volumes Intersection 8

2016 - Volumes Falchion

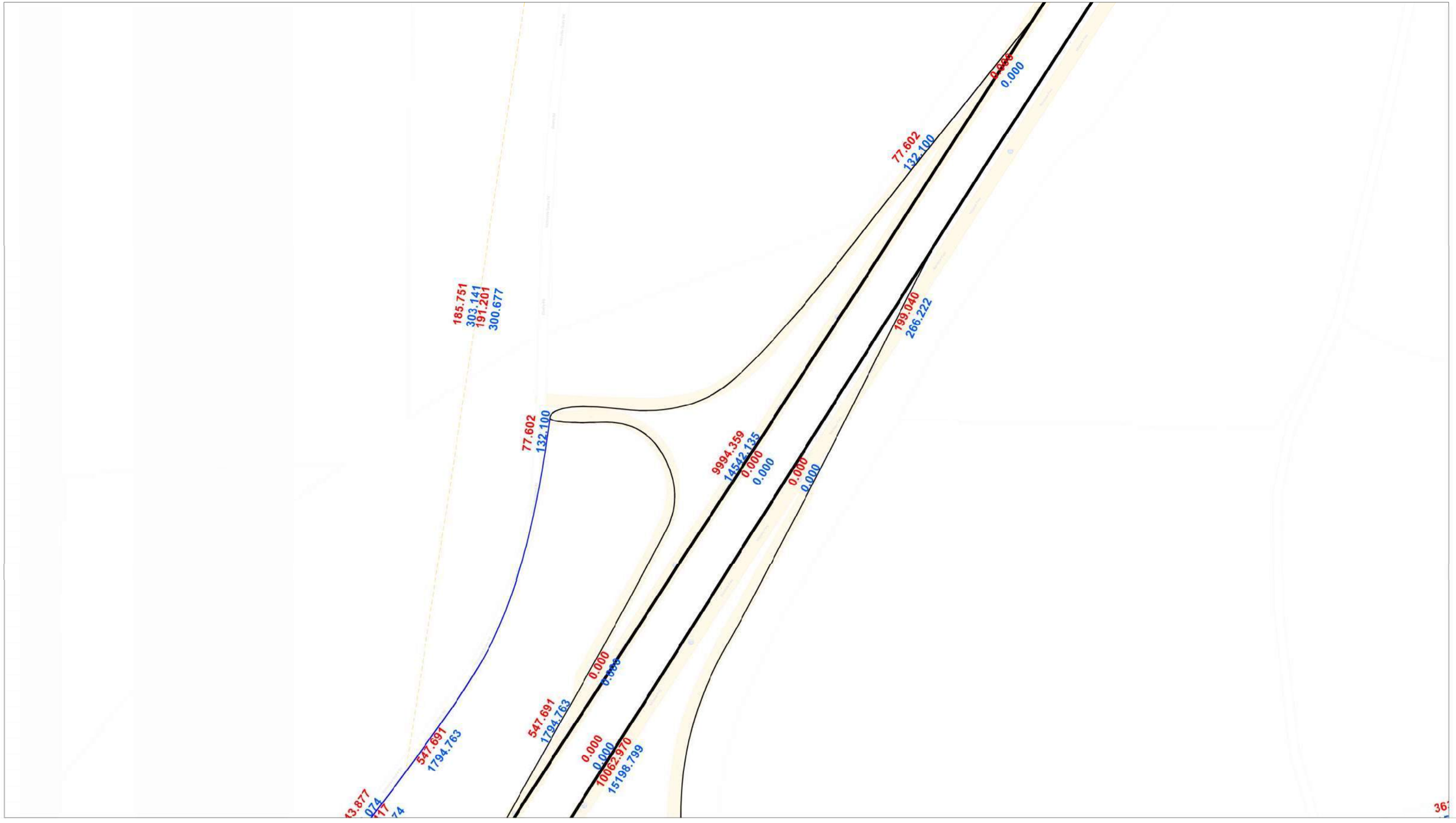


2040 - Volumes I-15/SW Int

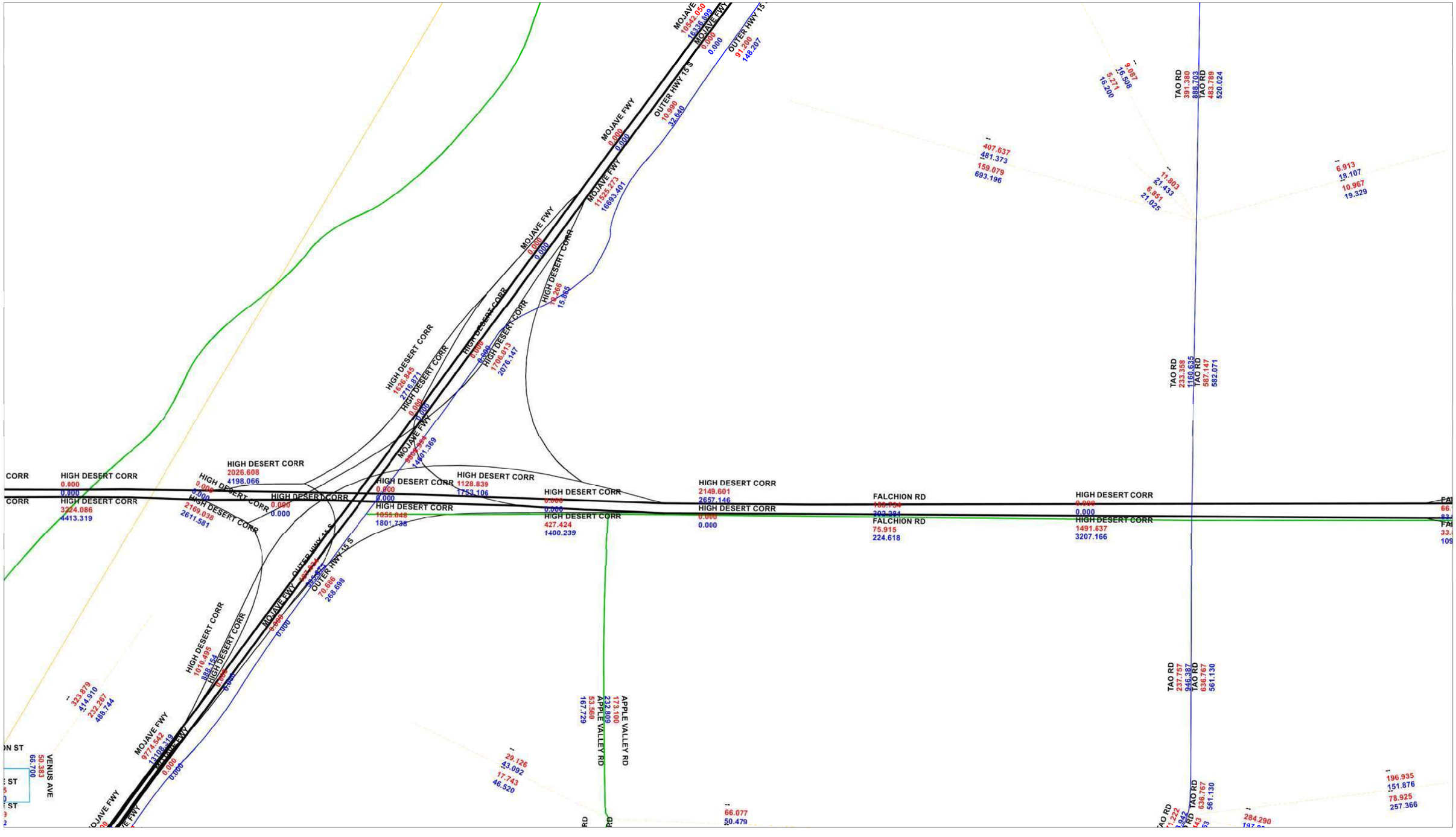


AM Volumes PM Volumes Intersection 6 & 7 - 2040

AM Volumes PM Volumes Intersection 8 - 2040



2040 - Volumes Falchion



Appendix D: Other Area Approved Developments Excerpts

Initial Study

Apple Valley 143 Project

JULY 2022

Prepared for:

TOWN OF APPLE VALLEY
14955 Dale Evans Parkway
Apple Valley, California 92307
Contact: Daniel Alcayaga, Planning Manager

Prepared by:

DUDEK

38 N. Marengo Avenue
Pasadena, California 91101
Contact: Patrick Cruz, Project Manager

2 Project Description

2.1 Project Location

The approximately 143-acre Project site is located in the northern part of the Town, which is within the Victor Valley Region of San Bernardino County (Figure 1, Project Location). The Project site is located on the northeast quadrant of I-15 and Stoddard Wells Road. The Project site is located south of Johnson Road, approximately 0.25 miles west of Grasshopper Road, north of Stoddard Wells Road, and north of I-15. The Project site consists of Assessor's Parcel Numbers (APNs) 047-221-105, 047-221-106, 047-221-115, 047-222-206, and 047-222-211. Specifically, the Project site is located in Sections 13 and 24, Township 6N, Ranges 3W and 4W, as depicted on the U.S. Geological Survey Apple Valley North and Victorville, California 7.5-minute topographic quadrangle maps. Regional access to the Project site is provided via I-15, immediately adjacent to the northeast of the Project site.

2.2 Environmental Setting

Town of Apple Valley

The Town is approximately 72 square miles in the Victor Valley region of San Bernardino County. The Town is bordered by the City of Victorville to the west, the City of Hesperia to the southwest, and unincorporated County to the north and east.

Existing Project Site

The approximately 143-acre, irregularly-shaped project site consists of vacant, undeveloped land. The Project site is bordered to the west by I-15, which runs northeast-southwest, and to the southwest by another parcel, which gives the site its roughly trapezoidal shape. According to the Town's General Plan, the land use and zoning designations for the project site are Regional Commercial (C-R) (Town of Apple Valley 2015; Town of Apple Valley 2021) (see Figure 2, Land Use Designations, and Figure 3, Zoning Designations). Additionally, the Project site is located within the Warehouse Distribution Regional Commercial (C-R) Overlay.

Surrounding Land Uses

Land uses surrounding the Project site primarily consist of vacant land. Specific land uses located in the immediate vicinity of the Project site include the following:

- **North**: Johnson Road and vacant land
- **East**: vacant land and Grasshopper Road
- **South**: Stoddard Wells Road and a planned travel center
- **West**: I-15

2.3 Project Characteristics

The Project would include construction of three industrial/warehouse buildings and associated improvements on 143 acres of vacant land (see Figure 4, Site Plan). Building 1, the southernmost building, would be approximately

615,000 square feet, Building 2, the center building, would be approximately 1,220,000 square feet, and Building 3, the northernmost building, would be approximately 793,000 square feet. The Project would involve associated improvements, including loading docks, truck and vehicle parking, and landscaped areas.

On-Site and Off-Site Improvements

The Project would include improvements along Stoddard Wells Road and Johnson Road, including frontage landscaping and pedestrian improvements. A variety of trees, shrubs, plants, and land covers would be planted within the Project frontage's landscape setback area, as well as within the landscape areas found around the proposed industrial/warehouse buildings and throughout the Project site. The Project would also involve the off-site construction of Outer I-15 Road on the eastern boundary of the Project Site. This would be a public road once constructed.

Site Access and Circulation

Access to the Project site would be provided via Outer I-15 Road on the eastern boundary of the project site, as well as a driveway off of Stoddard Wells Road. Paved passenger vehicle parking areas would be provided within areas east of Buildings 1, 2 and 3, while tractor-trailer stalls and loading docks would be surrounding Building 1 to the north and south, and surrounding Buildings 2 and 3 to the north, south, and west. In total, the Project would provide approximately 515 loading dock positions, approximately 884 tractor-trailer stalls, roughly 975 passenger vehicle spaces, and approximately 920,000 square feet of landscape area coverage.

Utility Improvements

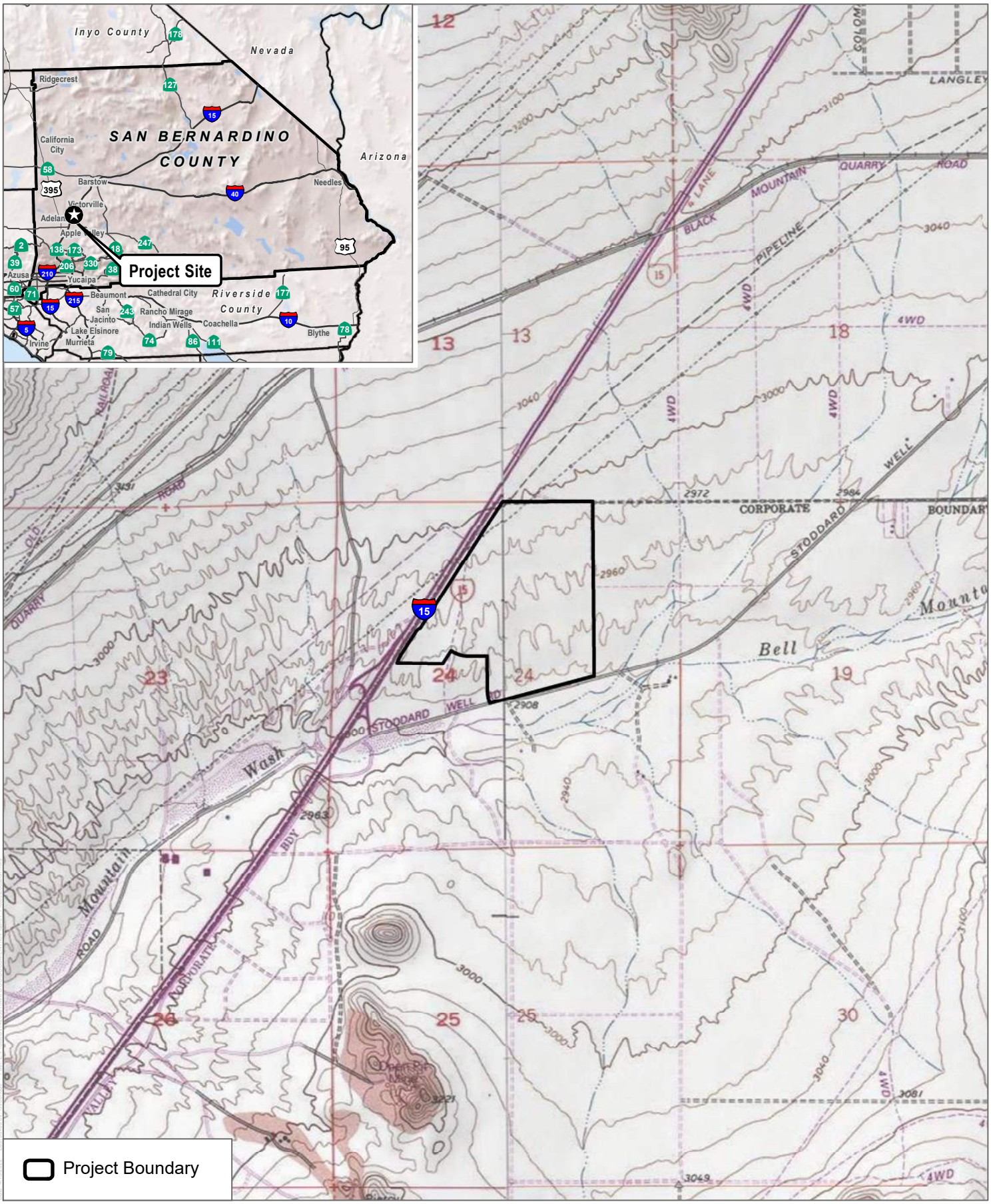
Given the vacant, undeveloped nature of the Project site, both wet and dry utilities, including domestic water, sanitary sewer, storm drainage, and electricity, would need to be extended onto the Project site.

Operations

Tenants for the Project have not been identified and the three industrial warehouse buildings are considered speculative. Business operations would be expected to be conducted within the enclosed buildings, with the exception of ingressing and egressing of trucks and passenger vehicles accessing the site, passenger and truck parking, the loading and unloading of trailers within designated truck courts/loading area, and the internal and external movement of materials around the Project site via forklifts, pallet jacks, yard hostlers, and similar equipment. It is anticipated that the facilities would be operated 24 hours a day, 7 days a week.

2.4 Project Approvals

At this time, it is anticipated that that the Project would require approval of a conditional use permit and development agreement. This list is preliminary and may not be comprehensive. Subsequent non-discretionary approvals (which would require separate processing through the Town) would include, but may not be limited to, a grading permit, building permits, and occupancy permits.



SOURCE: USGS 7.5-minute Series Victorville and Apple Valley North Quadrangles

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

Apple Valley Stoddard Wells Warehouse Project Initial Study

SOURCE: RGA 2022

DUDEK

FIGURE 4

Site Plan

Apple Valley Stoddard Wells Warehouse Project Initial Study

Estimated Trip Generation of Apple Valley 143 Project

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)	2,628.00	Vehicle Trip Generation Rates						
		2.36	0.18	0.06	0.24	0.07	0.17	0.24
		Total Vehicle Trip Generation						
		6,202	486	145	631	177	454	631
	Mode Share	Project Trip Generation by Vehicle Type						
Passenger Cars (Percent of Total)	74.21%	4,603	360	108	468	131	337	468
2-Axle Trucks (Percent of Total)	4.55%	282	22	7	29	8	21	29
3-Axle Trucks (Percent of Total)	4.18%	259	20	6	26	7	19	26
4-Axle Trucks (Percent of Total)	17.04%	1057	83	25	107	30	77	107
	PCE Factor	Project Trip Generation in Passenger Car Equivalents (PCE)						
Passenger Cars)	1.0	4,603	360	108	468	131	337	468
2-Axle Trucks	1.5	423	33	10	43	12	31	43
3-Axle Trucks	2.0	518	41	12	53	15	38	53
4 + Axle Trucks	3.0	3171	248	74	322	90	232	322
Total Passenger Car Equivalents (PCE)		**8,715**	**682**	**204**	**886**	**248**	**638**	**886**

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.

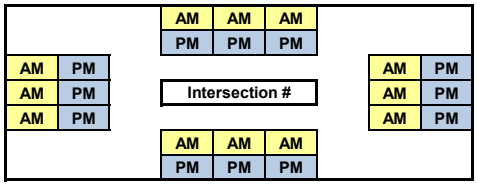
Source of trip generation rates: Institute of Transportation Engineers (ITE) Trip Generation (11th Edition). Average rates for land use category 150 (Warehouse).

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

Building 1: 615,000 square feet
Building 2: 1,220,000 square feet
Building 3: 793,000 square feet
Total: 2,628,000 square feet

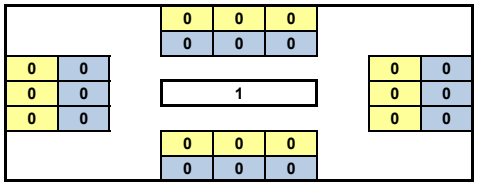
APPLE VALLEY 143 PROJECT TRIPS

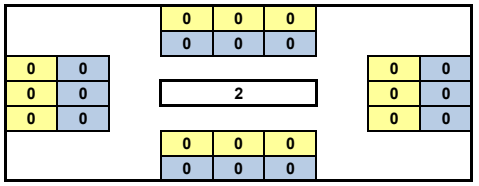


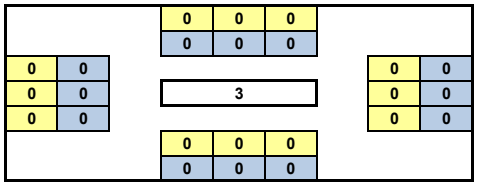
AM PEAK:	682 IN / 204 OUT
PM PEAK:	248 IN / 638 OUT

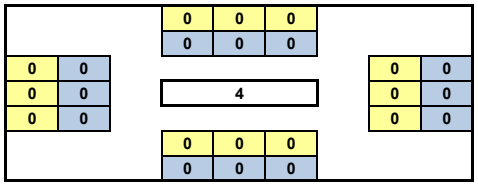
MRound: 1

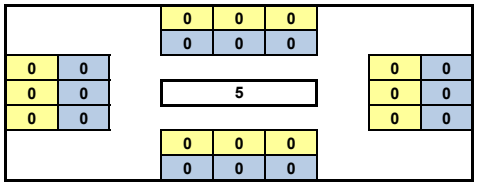
INSTRUCTIONS:
FILL OUT AM/PM PEAK ONLY. DATA CALCULATED BASED ON THE VALUES IN THE "PRIMARY MOVEMENT IN-OUT" AND "PRIMARY DISTRIBUTION" TABS. TO BE USED IN EXHIBT D1.

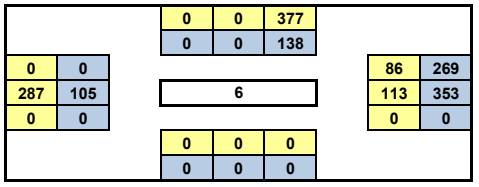


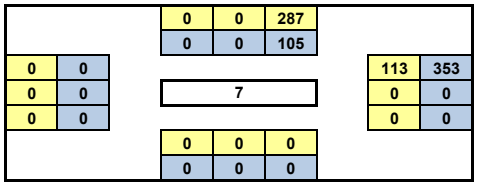


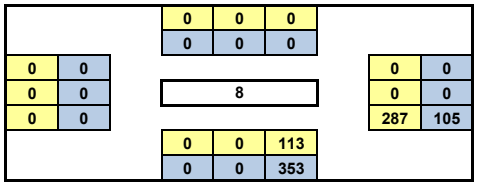


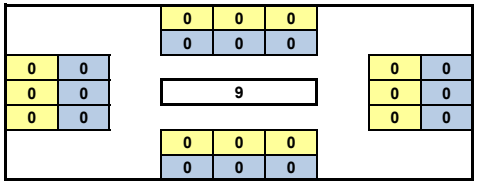


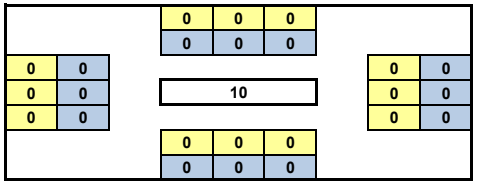


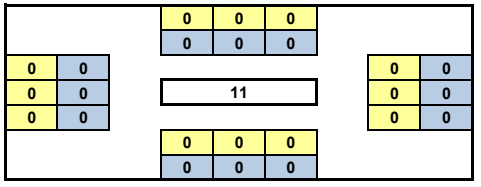


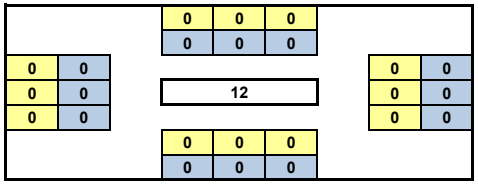


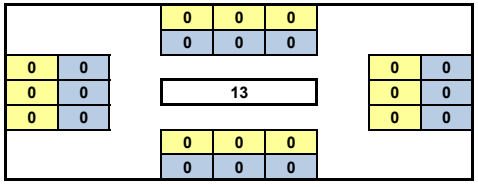


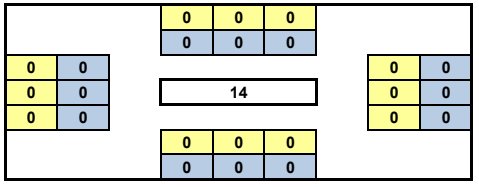












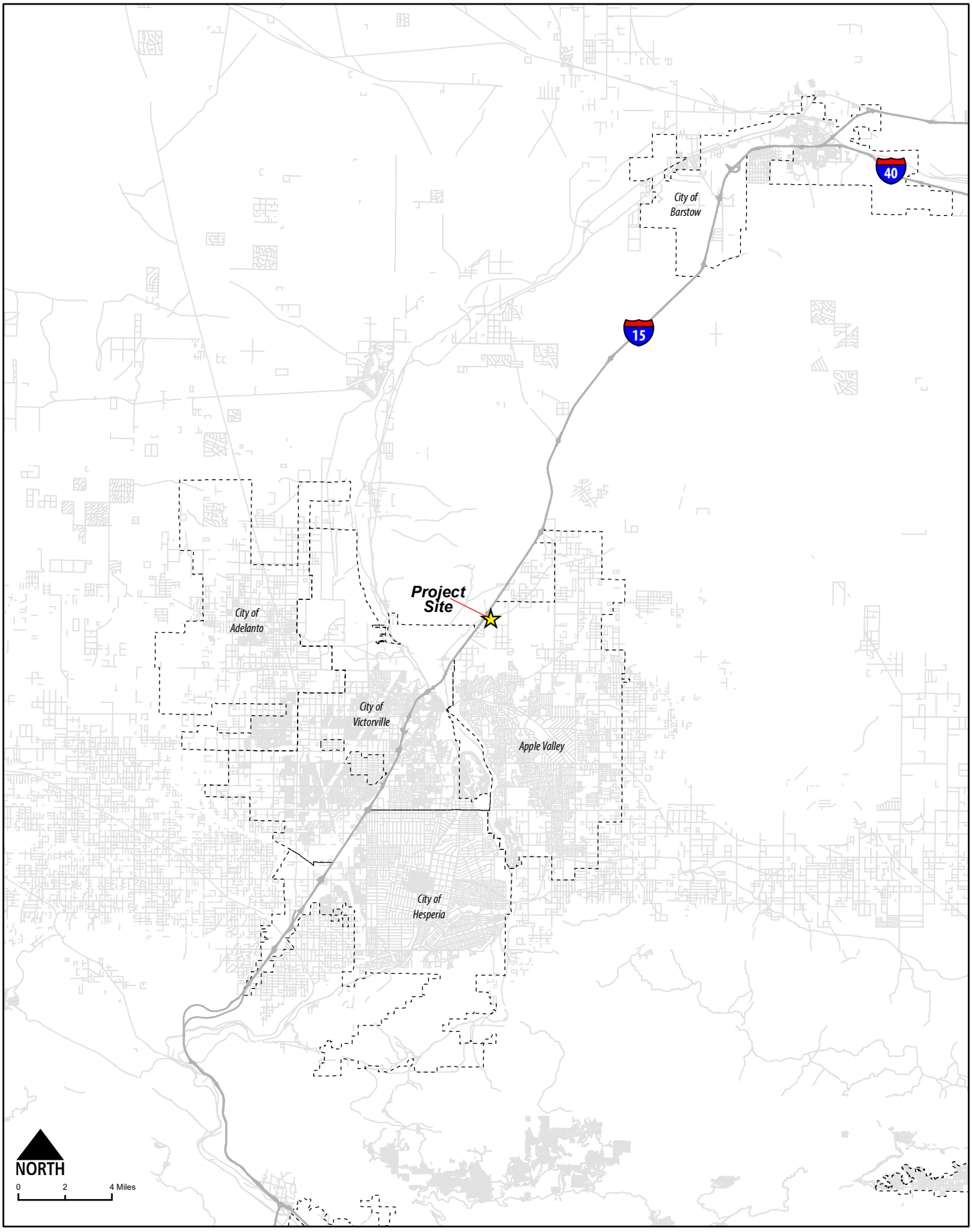
LOVE'S TRAVEL CENTER

DRAFT
Transportation Impact Study

July 2022

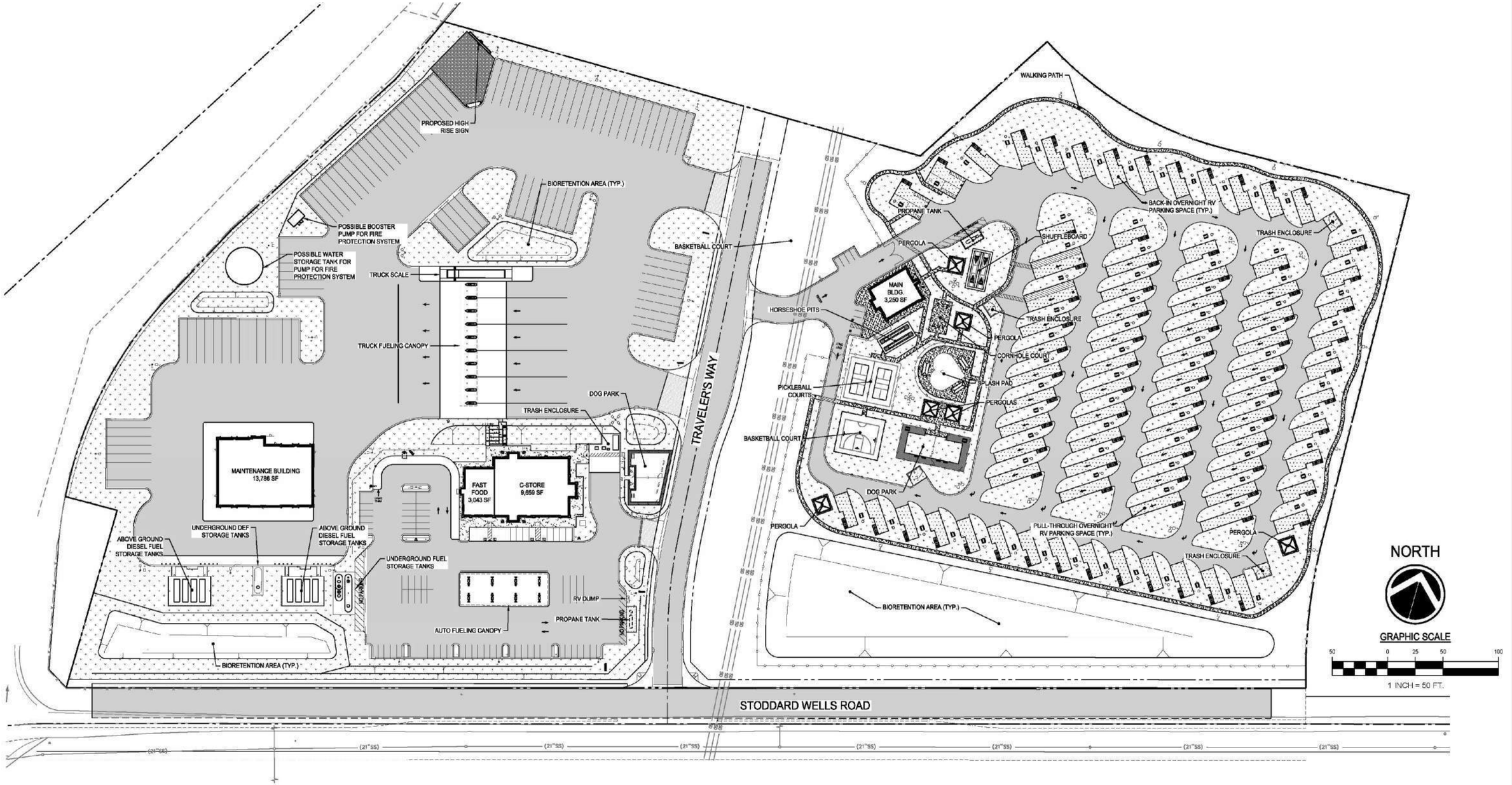
Prepared For
Love's Travel Stops & Country Stores
10601 N. Pennsylvania Avenue
The Village, OK 73120

Prepared By
CR Associates
3900 Fifth Avenue, Suite 310
San Diego, CA 92103



Love's Travel Center
Transportation Impact Study

Figure 1.1
Project Regional Location



Love's Travel Center
Transportation Impact Study

Figure 1.2
Project Site Plan

Table 3.1 Proposed Project Trip Generation

Land Use	Units	Vehicle Type	Daily Trip Rate	Daily Total	AM Peak Hour Trip Rate	AM Peak Hour Total	AM Peak Hour In	AM Peak Hour Out	PM Peak Hour Trip Rate	PM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out
		Total Travel Center Trips[1] (A)										
		Auto	106.52	2,663	5.24	131	66	66	6.92	173	87	86
		Truck	106.52	2,663	5.48	137	68	68	5.20	130	65	65
		Both		5,326		268	134	134		303	152	151
		Diverted Trip Reduction (B)										
Travel Center	25 fuel positions	Auto	*90%*	*-2,397*	*90%*	*-118*	*-59*	*-59*	*90%*	*-156*	*-78*	*-77*
		Truck	*95%*	*-2,530*	*95%*	*-130*	*-65*	*-65*	*95%*	*-124*	*-62*	*-62*
		Both		*-4,927*		*-248*	*-124*	*-124*		*-280*	*-140*	*-139*
		Net New Travel Center Trips (C) = (A+B)										
		Auto		266		13	7	7		17	9	9
		Truck		133		7	3	3		6	3	3
		Both		399		20	10	10		23	12	12
		Total RV Stop Trips (D)										
RV Stop[2]	80 Overnight Parking Spots	-	2.7	216[3]	0.21	17	6	11	0.27	22	14	8
Proposed Project Total Trips (A+D)												
				5,542		**285**	**140**	**145**		**325**	**166**	**159**
Proposed Project Net New Trips (C+D)												
				615		**37**	**16**	**21**		**45**	**26**	**20**

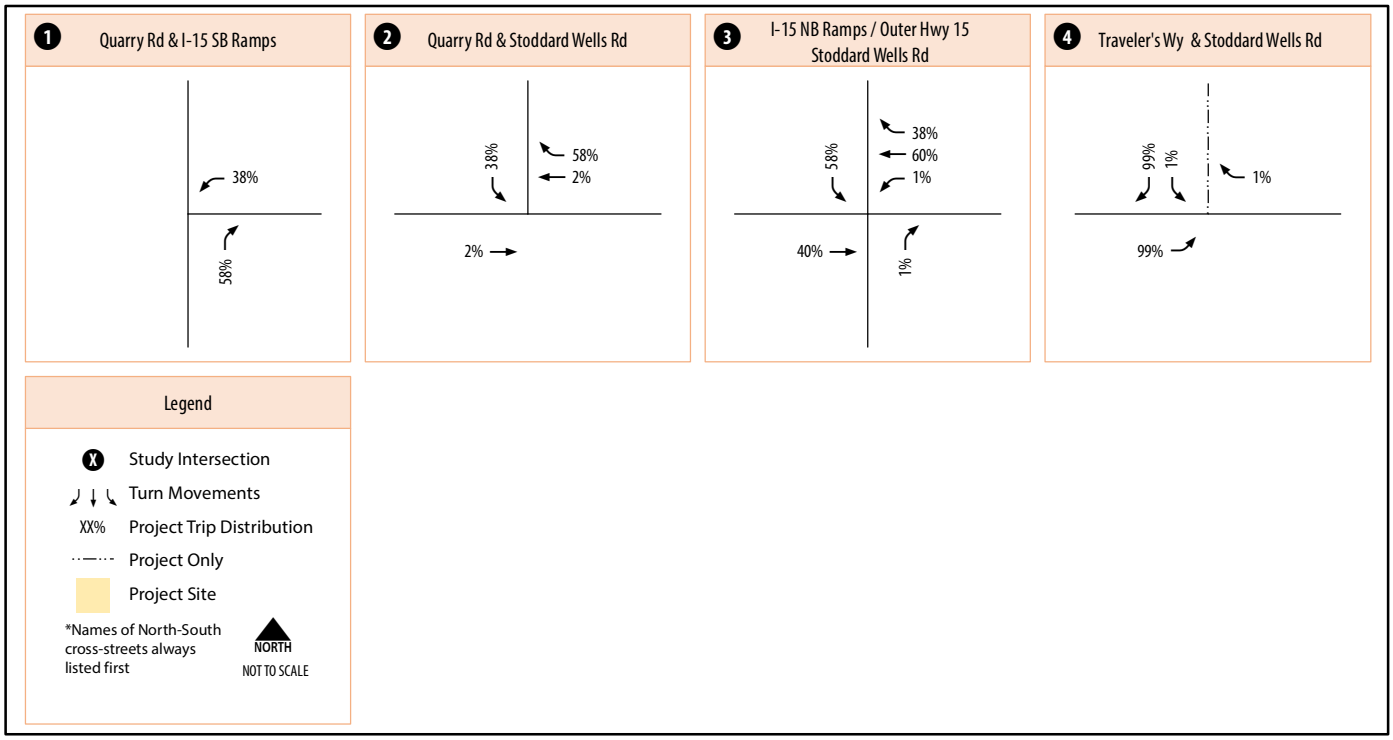
Notes:
[1]Trip generation rate from *Love's Trip Generation and Travel Characteristic Study (Omni-Means, June 2018).*
[2]Trip generation rate from ITE Trip Generation 11th Edition for LU Code 416 Campground/Recreational Vehicle Park.
[3]Daily trip rate not available for RV stop, therefore PM peak hour trips assumed to be 10 percent of daily traffic.

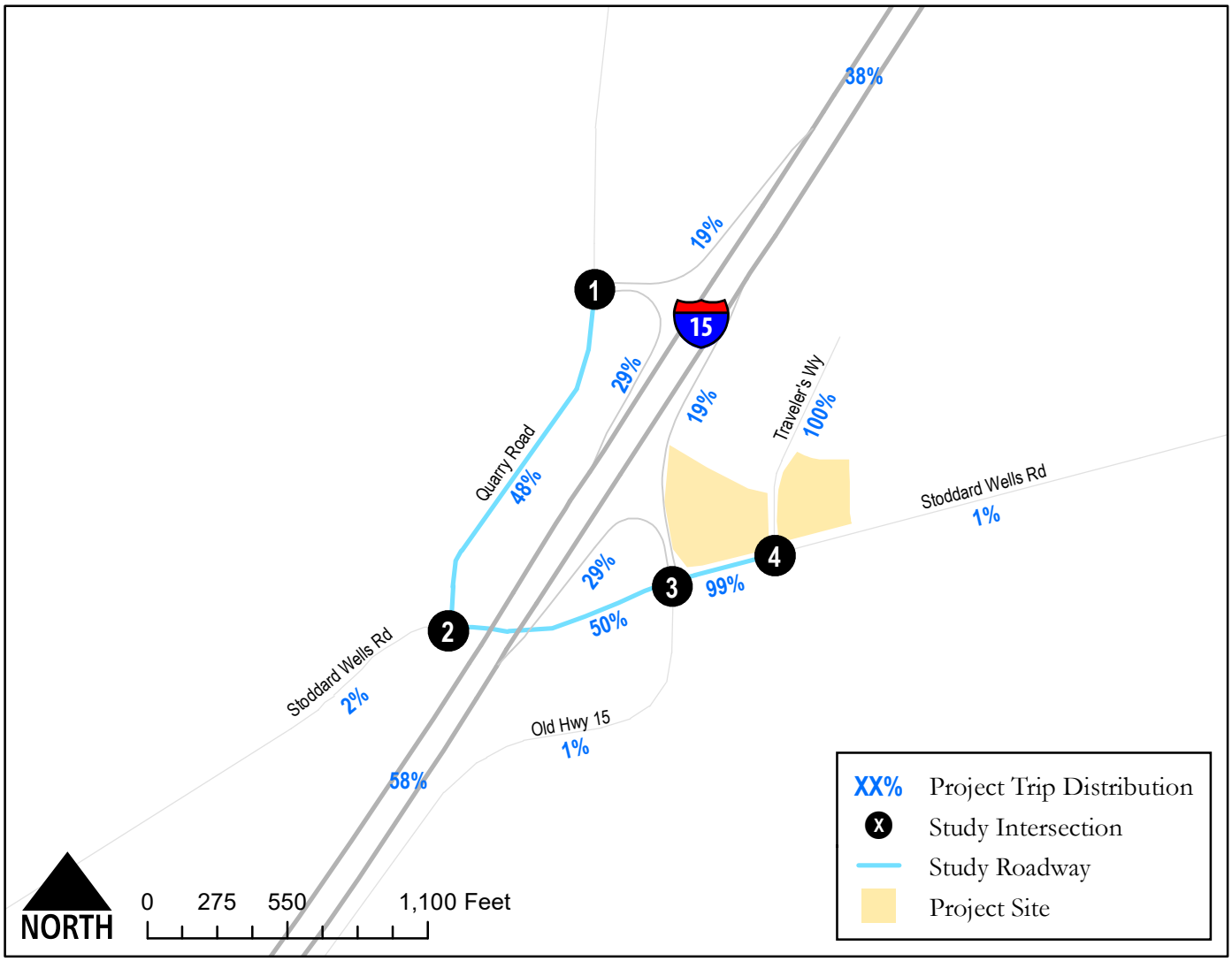
As shown, the Proposed Project land uses are anticipated to generate 5,542 daily trips, with 285 trips during the AM peak hour and 325 trips during the PM peak hour. These project trips were analyzed along adjacent roadway segments and intersections to determine if improvements are needed for study facilities to operate at acceptable levels of service.

Since most trips are assumed to be existing diverted trips, only 615 daily trips, 37 AM peak hour trips, and 45 PM peak hour trips are expected to be net new generated trips in the study area by the Proposed Project. This is important to Vehicle Miles Traveled (VMT) and further explained in Chapter 7.3 as most of the trips to the Travel Center are diverted, resulting in a low VMT for the Travel Center component.

3.2 Project Trip Distribution and Assignment

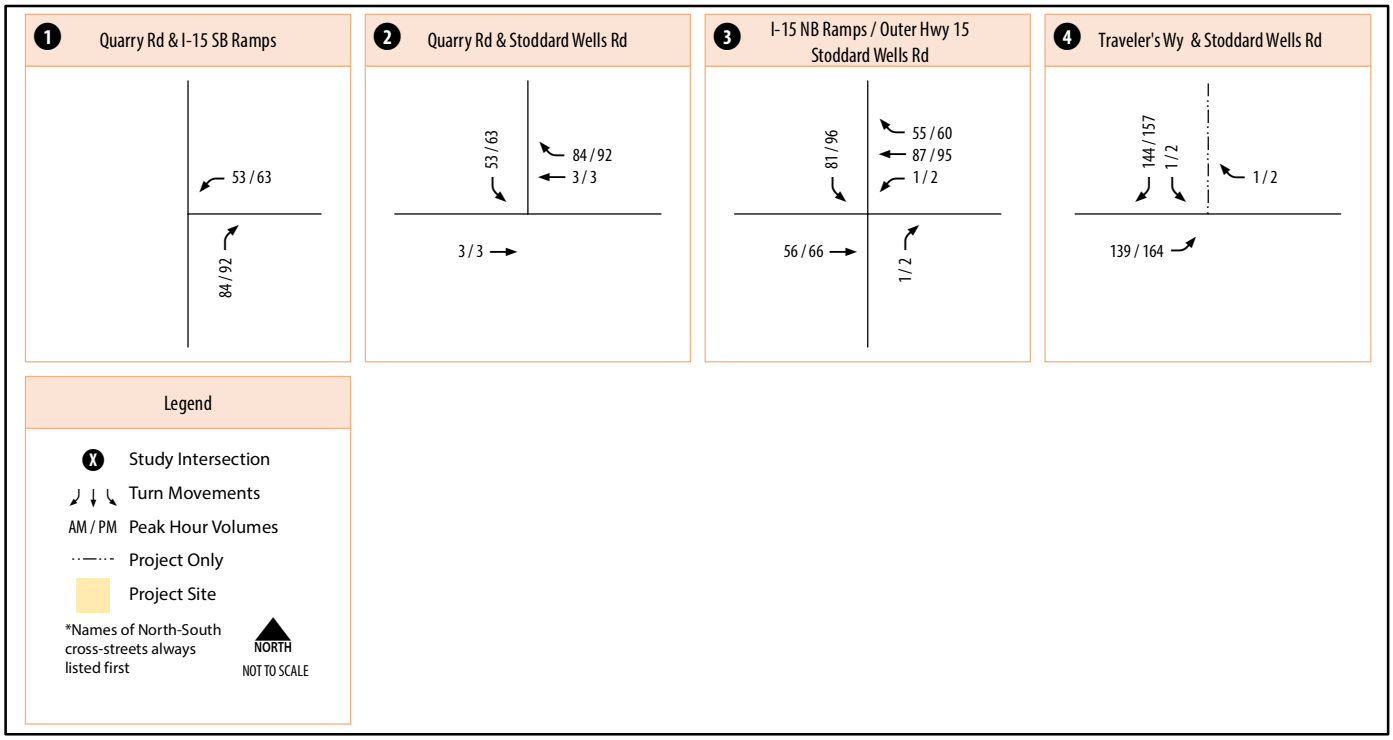
The project trip distribution was developed using engineering judgment based upon project land use characteristics, location, proximity to freeway access points, and corresponding land uses in the vicinity of the project site. **Figure 3.1** displays the regional trip distribution for the Proposed Project. Based upon the project trip distribution patterns, daily and AM/PM peak hour project trips were assigned to the adjacent roadway network. **Figure 3.2** displays the Proposed Project roadway and intersection trip assignment, respectively.

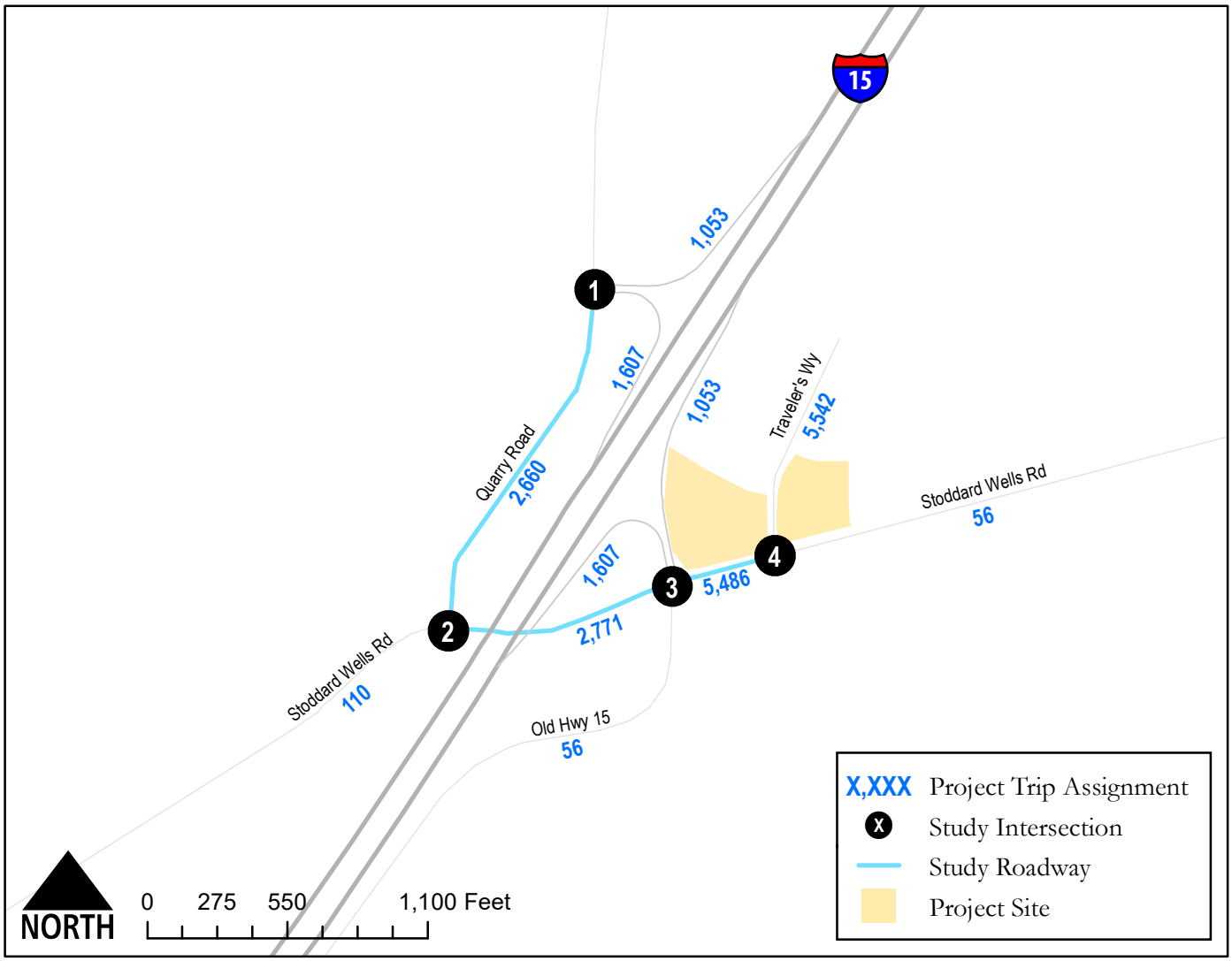




Love's Travel Center
Transportation Impact Study

Figure 3.1
Project Trip Distribution





Love's Travel Center
Transportation Impact Study

C+R

Figure 3.2
Project Trip Assignment

Appendix E: Intersection Capacity Analysis Worksheets

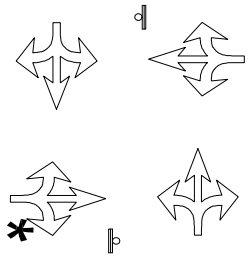
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

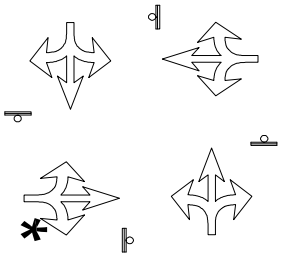
E/W STREET : STODDARD WELLS RD
N/S STREET : OUTER HWY 15S
CONDITION : AM PEAK HOUR

INTERSECTION : 1
PROJECTED GROWTH PER YEAR : 2.0%

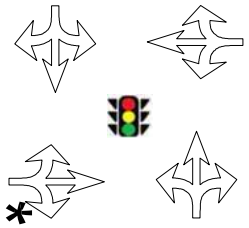
CONDITION DIAGRAMS



EXISTING GEOMETRICS



PROJECT GEOMETRICS



FUTURE GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	1			3		5	7	9
STODDARD WELLS RD								
EB LEFT	10	0	0	10	168	178	45	213
EB THRU	2	0	0	2	0	2	2	2
EB RIGHT	98	4	0	102	0	102	247	247
WB LEFT	1	0	0	1	0	1	1	1
WB THRU	1	0	0	1	0	1	1	1
WB RIGHT	1	0	0	1	0	1	2	2
OUTER HWY 15S								
NB LEFT	288	12	0	300	0	300	387	387
NB THRU	65	3	0	68	36	104	156	192
NB RIGHT	3	0	0	3	0	3	3	3
SB LEFT	1	0	0	1	0	1	1	1
SB THRU	90	4	0	94	11	105	139	150
SB RIGHT	136	5	0	141	51	192	211	262
TOTALS	**696**	**28**	**0**	**724**	**266**	**990**	**1195**	**1461**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	4-Apr-23	FGFW0000-0001	2	OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : OUTER HWY 15S
CONDITION : AM PEAK HOUR
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
10	2	0	3	5	0	4	0	0	2	4	0
17	13	1	0	0	0	0	1	0	2	0	0
22	15	0	0	0	0	1	1	0	2	3	0
18	27	0	0	0	0	4	0	0	3	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
1	14	56	0	2	0	0	1	1	0	1	1
1	14	45	0	0	0	0	0	2	0	1	0
1	13	60	0	0	1	0	1	2	0	0	0
0	8	67	0	0	0	0	0	2	0	1	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
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
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											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
13	0	0	3	0	1	0	0	0	0	0	0
9	0	0	0	0	0	0	0	1	0	0	0
11	0	0	0	0	0	1	0	0	0	0	0
17	0	2	1	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	2	2	**4**	**6**	**10**
EB THRU	0	0	**0**	**1**	**2**
EB RIGHT	5	50	**55**	**58**	**98**
WB LEFT	0	0	**0**	**1**	**1**
WB THRU	0	0	**0**	**1**	**1**
WB RIGHT	0	0	**0**	**1**	**1**
OUTER HWY 15S					
NB LEFT	9	228	**237**	**247**	**288**
NB THRU	7	49	**56**	**65**	**65**
NB RIGHT	0	3	**3**	**3**	**3**
SB LEFT	0	1	**1**	**1**	**1**
SB THRU	14	57	**71**	**90**	**90**
SB RIGHT	21	67	**88**	**117**	**136**

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	10	2	98	1	1	1	288	65	3	1	90	136
Future Vol, veh/h	10	2	98	1	1	1	288	65	3	1	90	136
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	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	60	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	12	2	114	1	1	1	335	76	3	1	105	158

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	935	935	-	935	1013	78	263	0	0	79	0	0
Stage 1	186	186	-	748	748	-	-	-	-	-	-	-
Stage 2	749	749	-	187	265	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	-	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	-	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	248	267	0	248	241	988	1313	-	-	1532	-	-
Stage 1	820	750	0	408	423	-	-	-	-	-	-	-
Stage 2	407	422	0	819	693	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	195	195	-	195	176	988	1313	-	-	1532	-	-
Mov Cap-2 Maneuver	195	195	-	195	176	-	-	-	-	-	-	-
Stage 1	601	749	-	299	310	-	-	-	-	-	-	-
Stage 2	297	309	-	816	692	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.9	19.4	7	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1313	-	-	195	-	254	1532	-	-
HCM Lane V/C Ratio	0.255	-	-	0.072	-	0.014	0.001	-	-
HCM Control Delay (s)	8.7	0	-	24.9	0	19.4	7.4	0	-
HCM Lane LOS	A	A	-	C	A	C	A	A	-
HCM 95th %tile Q(veh)	1	-	-	0.2	-	0	0	-	-

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	10	2	102	1	1	1	300	68	3	1	94	141
Future Vol, veh/h	10	2	102	1	1	1	300	68	3	1	94	141
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	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	60	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	12	2	119	1	1	1	349	79	3	1	109	164

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	973	973	-	973	1054	81	273	0	0	82	0	0
Stage 1	193	193	-	779	779	-	-	-	-	-	-	-
Stage 2	780	780	-	194	275	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	-	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	-	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	233	254	0	233	228	985	1302	-	-	1528	-	-
Stage 1	813	745	0	392	409	-	-	-	-	-	-	-
Stage 2	391	409	0	812	686	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	181	182	-	181	164	985	1302	-	-	1528	-	-
Mov Cap-2 Maneuver	181	182	-	181	164	-	-	-	-	-	-	-
Stage 1	585	744	-	282	294	-	-	-	-	-	-	-
Stage 2	280	294	-	809	685	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	26.5	20.4	7.1	0
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1302	-	-	181	-	237	1528	-	-
HCM Lane V/C Ratio	0.268	-	-	0.077	-	0.015	0.001	-	-
HCM Control Delay (s)	8.8	0	-	26.5	0	20.4	7.4	0	-
HCM Lane LOS	A	A	-	D	A	C	A	A	-
HCM 95th %tile Q(veh)	1.1	-	-	0.2	-	0	0	-	-

Intersection	
Int Delay, s/veh	54.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↕			↕			↕	
Traffic Vol, veh/h	178	2	102	1	1	1	300	104	3	1	105	192
Future Vol, veh/h	178	2	102	1	1	1	300	104	3	1	105	192
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	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	60	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	207	2	119	1	1	1	349	121	3	1	122	223

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1058	1058	-	1058	1168	123	345	0	0	124	0	0
Stage 1	236	236	-	821	821	-	-	-	-	-	-	-
Stage 2	822	822	-	237	347	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	-	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	-	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 204	227	0	204	195	933	1225	-	-	1475	-	-
Stage 1	772	713	0	371	391	-	-	-	-	-	-	-
Stage 2	371	391	0	771	638	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 154	157	-	154	135	933	1225	-	-	1475	-	-
Mov Cap-2 Maneuver	~ 154	157	-	154	135	-	-	-	-	-	-	-
Stage 1	536	712	-	257	271	-	-	-	-	-	-	-
Stage 2	256	271	-	768	637	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	253.5	23.3	6.7	0
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1225	-	-	154	-	200	1475	-	-
HCM Lane V/C Ratio	0.285	-	-	1.359	-	0.017	0.001	-	-
HCM Control Delay (s)	9.1	0	-	253.5	0	23.3	7.4	0	-
HCM Lane LOS	A	A	-	F	A	C	A	A	-
HCM 95th %tile Q(veh)	1.2	-	-	13	-	0.1	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	17.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	178	2	102	1	1	1	300	104	3	1	105	192
Future Vol, veh/h	178	2	102	1	1	1	300	104	3	1	105	192
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	207	2	119	1	1	1	349	121	3	1	122	223
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	13.2	10	22.5	13.7
HCM LOS	B	A	C	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	74%	99%	0%	33%	0%
Vol Thru, %	26%	1%	0%	33%	35%
Vol Right, %	1%	0%	100%	33%	64%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	407	180	102	3	298
LT Vol	300	178	0	1	1
Through Vol	104	2	0	1	105
RT Vol	3	0	102	1	192
Lane Flow Rate	473	209	119	3	347
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.734	0.415	0.195	0.007	0.508
Departure Headway (Hd)	5.58	7.145	5.926	6.975	5.28
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	648	502	604	516	679
Service Time	3.63	4.904	3.685	4.975	3.337
HCM Lane V/C Ratio	0.73	0.416	0.197	0.006	0.511
HCM Control Delay	22.5	14.9	10.1	10	13.7
HCM Lane LOS	C	B	B	A	B
HCM 95th-tile Q	6.4	2	0.7	0	2.9

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	45	2	247	1	1	2	387	156	3	1	139	211
Future Vol, veh/h	45	2	247	1	1	2	387	156	3	1	139	211
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	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	60	-	-	-	-	-	-	-	-	-
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	47	2	260	1	1	2	407	164	3	1	146	222

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1240	1240	-	1240	1350	166	368	0	0	167	0	0
Stage 1	259	259	-	980	980	-	-	-	-	-	-	-
Stage 2	981	981	-	260	370	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	-	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	-	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	153	177	0	153	152	884	1202	-	-	1423	-	-
Stage 1	750	697	0	303	331	-	-	-	-	-	-	-
Stage 2	303	330	0	749	624	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	107	111	-	107	95	884	1202	-	-	1423	-	-
Mov Cap-2 Maneuver	107	111	-	107	95	-	-	-	-	-	-	-
Stage 1	470	696	-	190	208	-	-	-	-	-	-	-
Stage 2	189	207	-	746	623	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	64.8	25.4	6.7	0
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1202	-	-	107	-	181	1423	-	-
HCM Lane V/C Ratio	0.339	-	-	0.462	-	0.023	0.001	-	-
HCM Control Delay (s)	9.5	0	-	64.8	0	25.4	7.5	0	-
HCM Lane LOS	A	A	-	F	A	D	A	A	-
HCM 95th %tile Q(veh)	1.5	-	-	2	-	0.1	0	-	-

Intersection	
Int Delay, s/veh	138.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↕			↕			↕	
Traffic Vol, veh/h	213	2	247	1	1	2	387	192	3	1	150	262
Future Vol, veh/h	213	2	247	1	1	2	387	192	3	1	150	262
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	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	60	-	-	-	-	-	-	-	-	-
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	224	2	260	1	1	2	407	202	3	1	158	276

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1317	1317	-	1317	1454	204	434	0	0	205	0	0
Stage 1	298	298	-	1018	1018	-	-	-	-	-	-	-
Stage 2	1019	1019	-	299	436	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	-	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	-	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 136	159	0	136	131	842	1136	-	-	1378	-	-
Stage 1	715	671	0	289	317	-	-	-	-	-	-	-
Stage 2	288	317	0	714	583	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 92	94	-	92	78	842	1136	-	-	1378	-	-
Mov Cap-2 Maneuver	~ 92	94	-	92	78	-	-	-	-	-	-	-
Stage 1	425	670	-	172	189	-	-	-	-	-	-	-
Stage 2	~ 170	189	-	711	582	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 761.5	29.2	6.6	0
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1136	-	-	92	-	153	1378	-	-
HCM Lane V/C Ratio	0.359	-	-	2.46	-	0.028	0.001	-	-
HCM Control Delay (s)	9.9	0	-	$ 761.5	0	29.2	7.6	0	-
HCM Lane LOS	A	A	-	F	A	D	A	A	-
HCM 95th %tile Q(veh)	1.6	-	-	20.9	-	0.1	0	-	-

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)	213	2	247	1	1	2	387	192	3	1	150	262
Future Volume (veh/h)	213	2	247	1	1	2	387	192	3	1	150	262
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	1728	1800	1800	1800	1800
Adj Flow Rate, veh/h	224	2	0	1	1	2	407	202	3	1	158	276
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	332	2		101	100	150	604	267	4	40	434	753
Arrive On Green	0.18	0.18	0.00	0.18	0.18	0.18	0.73	0.73	0.73	1.00	1.00	1.00
Sat Flow, veh/h	1429	13	1525	286	567	853	732	363	5	0	590	1025
Grp Volume(v), veh/h	226	0	0	4	0	0	612	0	0	435	0	0
Grp Sat Flow(s),veh/h/ln	1442	0	1525	1706	0	0	1100	0	0	1615	0	0
Q Serve(g_s), s	13.6	0.0	0.0	0.0	0.0	0.0	29.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.8	0.0	0.0	0.2	0.0	0.0	29.9	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.99		1.00	0.25		0.50	0.67		0.00	0.00		0.63
Lane Grp Cap(c), veh/h	334	0		351	0	0	875	0	0	1227	0	0
V/C Ratio(X)	0.68	0.00		0.01	0.00	0.00	0.70	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	352	0		370	0	0	875	0	0	1227	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	0.94	0.00	0.00
Uniform Delay (d), s/veh	36.2	0.0	0.0	30.6	0.0	0.0	7.1	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	4.8	0.0	0.0	0.0	0.0	0.0	4.6	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	0.0	0.0	0.1	0.0	0.0	5.1	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.0	0.0	0.0	30.6	0.0	0.0	11.8	0.0	0.0	0.8	0.0	0.0
LnGrp LOS	D	A		C	A	A	B	A	A	A	A	A
Approach Vol, veh/h		226	A		4			612			435	
Approach Delay, s/veh		41.0			30.6			11.8			0.8	
Approach LOS		D			C			B			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		70.1		19.9		70.1		19.9				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		65.0		17.0		65.0		17.0				
Max Q Clear Time (g_c+I1), s		31.9		15.8		2.0		2.2				
Green Ext Time (p_c), s		5.4		0.1		2.8		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			13.2									
HCM 6th LOS			B									

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : OUTER HWY 15S
CONDITION : PM PEAK HOUR

INTERSECTION : 1
PROJECTED GROWTH PER YEAR : 2.0%

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	2			4		6	8	10
STODDARD WELLS RD								
EB LEFT	8	0	0	8	61	69	46	107
EB THRU	1	0	0	1	0	1	2	2
EB RIGHT	102	4	0	106	0	106	244	244
WB LEFT	1	0	0	1	0	1	1	1
WB THRU	2	0	0	2	0	2	2	2
WB RIGHT	1	0	0	1	0	1	2	2
OUTER HWY 15S								
NB LEFT	223	9	0	232	0	232	327	327
NB THRU	68	3	0	71	13	84	159	172
NB RIGHT	1	0	0	1	0	1	1	1
SB LEFT	1	0	0	1	0	1	1	1
SB THRU	227	9	0	236	34	270	281	315
SB RIGHT	162	6	0	168	157	325	299	456
TOTALS	**797**	**31**	**0**	**828**	**265**	**1093**	**1365**	**1630**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	4-Apr-23	FGFW0000-0001	2	OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : OUTER HWY 15S
CONDITION : PM PEAK HOUR
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
26	65	0	1	2	0	8	0	0	0	1	0
22	53	0	1	1	0	4	0	0	0	0	0
24	56	1	3	0	0	3	0	0	1	0	0
20	45	0	1	0	0	7	0	0	2	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
0	20	49	0	0	2	0	0	3	0	1	0
0	16	38	0	0	1	0	0	3	0	0	0
0	6	38	0	0	1	0	0	3	0	2	0
0	15	49	0	1	0	0	0	5	0	0	1

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	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
1	2	1	0	0	0	0	0	0	0	0	0
0	0	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
22	0	2	0	0	0	1	0	0	1	0	0
23	0	4	1	0	0	0	0	0	0	0	0
18	0	1	1	0	0	0	0	0	2	0	0
20	0	1	1	0	0	2	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	8	**8**	**8**	**8**
EB THRU	0	0	**0**	**1**	**1**
EB RIGHT	9	83	**92**	**102**	**102**
WB LEFT	0	1	**1**	**1**	**1**
WB THRU	0	2	**2**	**2**	**2**
WB RIGHT	0	1	**1**	**1**	**1**
OUTER HWY 15S					
NB LEFT	19	174	**193**	**211**	**223**
NB THRU	4	57	**61**	**68**	**68**
NB RIGHT	0	0	**0**	**1**	**1**
SB LEFT	0	1	**1**	**1**	**1**
SB THRU	4	219	**223**	**227**	**227**
SB RIGHT	31	92	**123**	**154**	**162**

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	8	1	102	1	2	1	223	68	1	1	227	162
Future Vol, veh/h	8	1	102	1	2	1	223	68	1	1	227	162
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	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	60	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	9	1	119	1	2	1	259	79	1	1	264	188

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	959	958	-	959	1052	80	452	0	0	80	0	0
Stage 1	360	360	-	598	598	-	-	-	-	-	-	-
Stage 2	599	598	-	361	454	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	-	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	-	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	239	259	0	239	228	986	1119	-	-	1531	-	-
Stage 1	662	630	0	492	494	-	-	-	-	-	-	-
Stage 2	492	494	0	662	573	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	192	196	-	193	173	986	1119	-	-	1531	-	-
Mov Cap-2 Maneuver	192	196	-	193	173	-	-	-	-	-	-	-
Stage 1	502	629	-	373	374	-	-	-	-	-	-	-
Stage 2	370	374	-	660	572	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.8	21.3	7	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1119	-	-	192	-	225	1531	-	-
HCM Lane V/C Ratio	0.232	-	-	0.055	-	0.021	0.001	-	-
HCM Control Delay (s)	9.2	0	-	24.8	0	21.3	7.4	0	-
HCM Lane LOS	A	A	-	C	A	C	A	A	-
HCM 95th %tile Q(veh)	0.9	-	-	0.2	-	0.1	0	-	-

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	8	1	106	1	2	1	232	71	1	1	236	168
Future Vol, veh/h	8	1	106	1	2	1	232	71	1	1	236	168
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	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	60	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	9	1	123	1	2	1	270	83	1	1	274	195

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	999	998	-	998	1095	84	469	0	0	84	0	0
Stage 1	374	374	-	624	624	-	-	-	-	-	-	-
Stage 2	625	624	-	374	471	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	-	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	-	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	224	246	0	224	215	981	1103	-	-	1526	-	-
Stage 1	651	621	0	477	481	-	-	-	-	-	-	-
Stage 2	476	481	0	651	563	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	177	183	-	179	160	981	1103	-	-	1526	-	-
Mov Cap-2 Maneuver	177	183	-	179	160	-	-	-	-	-	-	-
Stage 1	484	620	-	354	357	-	-	-	-	-	-	-
Stage 2	351	357	-	649	562	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	26.5	22.6	7.1	0
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1103	-	-	178	-	209	1526	-	-
HCM Lane V/C Ratio	0.245	-	-	0.059	-	0.022	0.001	-	-
HCM Control Delay (s)	9.3	0	-	26.5	0	22.6	7.4	0	-
HCM Lane LOS	A	A	-	D	A	C	A	A	-
HCM 95th %tile Q(veh)	1	-	-	0.2	-	0.1	0	-	-

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	69	1	106	1	2	1	232	84	1	1	270	325
Future Vol, veh/h	69	1	106	1	2	1	232	84	1	1	270	325
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	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	60	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	80	1	123	1	2	1	270	98	1	1	314	378

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1145	1144	-	1145	1333	99	692	0	0	99	0	0
Stage 1	505	505	-	639	639	-	-	-	-	-	-	-
Stage 2	640	639	-	506	694	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	-	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	-	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	178	202	0	178	155	962	912	-	-	1507	-	-
Stage 1	553	544	0	468	474	-	-	-	-	-	-	-
Stage 2	467	474	0	552	447	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	132	139	-	134	106	962	912	-	-	1507	-	-
Mov Cap-2 Maneuver	132	139	-	134	106	-	-	-	-	-	-	-
Stage 1	380	543	-	322	326	-	-	-	-	-	-	-
Stage 2	318	326	-	550	447	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	68.5	30.5	7.8	0
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	912	-	-	132	-	146	1507	-	-
HCM Lane V/C Ratio	0.296	-	-	0.617	-	0.032	0.001	-	-
HCM Control Delay (s)	10.6	0	-	68.5	0	30.5	7.4	0	-
HCM Lane LOS	B	A	-	F	A	D	A	A	-
HCM 95th %tile Q(veh)	1.2	-	-	3.2	-	0.1	0	-	-

Intersection	
Intersection Delay, s/veh	27.6
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	69	1	106	1	2	1	232	84	1	1	270	325
Future Vol, veh/h	69	1	106	1	2	1	232	84	1	1	270	325
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	80	1	123	1	2	1	270	98	1	1	314	378
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	11.2	10.3	16	38.7
HCM LOS	B	B	C	E

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	73%	99%	0%	25%	0%
Vol Thru, %	26%	1%	0%	50%	45%
Vol Right, %	0%	0%	100%	25%	55%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	317	70	106	4	596
LT Vol	232	69	0	1	1
Through Vol	84	1	0	2	270
RT Vol	1	0	106	1	325
Lane Flow Rate	369	81	123	5	693
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.575	0.171	0.217	0.009	0.924
Departure Headway (Hd)	5.619	7.55	6.328	7.098	4.8
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	641	475	566	501	755
Service Time	3.666	5.307	4.084	5.19	2.839
HCM Lane V/C Ratio	0.576	0.171	0.217	0.01	0.918
HCM Control Delay	16	11.9	10.8	10.3	38.7
HCM Lane LOS	C	B	B	B	E
HCM 95th-tile Q	3.7	0.6	0.8	0	12.9

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↕			↕			↕	
Traffic Vol, veh/h	46	2	244	1	2	2	327	159	1	1	281	299
Future Vol, veh/h	46	2	244	1	2	2	327	159	1	1	281	299
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	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	60	-	-	-	-	-	-	-	-	-
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	48	2	257	1	2	2	344	167	1	1	296	315

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1314	1312	-	1313	1469	168	611	0	0	168	0	0
Stage 1	456	456	-	856	856	-	-	-	-	-	-	-
Stage 2	858	856	-	457	613	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	-	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	-	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	136	160	0	137	129	881	978	-	-	1422	-	-
Stage 1	588	572	0	355	377	-	-	-	-	-	-	-
Stage 2	354	377	0	587	486	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	93	98	-	94	79	881	978	-	-	1422	-	-
Mov Cap-2 Maneuver	93	98	-	94	79	-	-	-	-	-	-	-
Stage 1	360	571	-	217	231	-	-	-	-	-	-	-
Stage 2	214	231	-	584	486	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	82.5	33.6	7.2	0
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	978	-	-	93	-	131	1422	-	-
HCM Lane V/C Ratio	0.352	-	-	0.543	-	0.04	0.001	-	-
HCM Control Delay (s)	10.7	0	-	82.5	0	33.6	7.5	0	-
HCM Lane LOS	B	A	-	F	A	D	A	A	-
HCM 95th %tile Q(veh)	1.6	-	-	2.4	-	0.1	0	-	-

Intersection	
Int Delay, s/veh	39.8

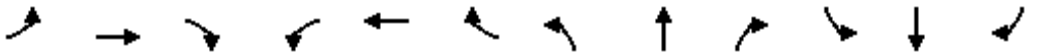
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↕			↕			↕	
Traffic Vol, veh/h	107	2	244	1	2	2	327	172	1	1	315	456
Future Vol, veh/h	107	2	244	1	2	2	327	172	1	1	315	456
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	60	-	-	-	-	-	-	-	-	-
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	113	2	257	1	2	2	344	181	1	1	332	480

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1446	1444	-	1445	1684	182	812	0	0	182	0	0
Stage 1	574	574	-	870	870	-	-	-	-	-	-	-
Stage 2	872	870	-	575	814	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	-	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	-	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 111	133	0	111	95	866	823	-	-	1405	-	-
Stage 1	507	506	0	349	372	-	-	-	-	-	-	-
Stage 2	348	372	0	507	394	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 68	71	-	69	51	866	823	-	-	1405	-	-
Mov Cap-2 Maneuver	~ 68	71	-	69	51	-	-	-	-	-	-	-
Stage 1	271	505	-	187	199	-	-	-	-	-	-	-
Stage 2	184	199	-	504	394	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 465.8	48	8.2	0
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	823	-	-	68	-	89	1405	-	-
HCM Lane V/C Ratio	0.418	-	-	1.687	-	0.059	0.001	-	-
HCM Control Delay (s)	12.5	0	-	$ 465.8	0	48	7.6	0	-
HCM Lane LOS	B	A	-	F	A	E	A	A	-
HCM 95th %tile Q(veh)	2.1	-	-	10.1	-	0.2	0	-	-

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)	107	2	244	1	2	2	327	172	1	1	315	456
Future Volume (veh/h)	107	2	244	1	2	2	327	172	1	1	315	456
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	1728	1800	1800	1800	1800
Adj Flow Rate, veh/h	113	2	0	1	2	2	344	181	1	1	332	480
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	218	2		62	85	66	506	244	1	40	542	781
Arrive On Green	0.10	0.10	0.00	0.10	0.10	0.10	0.81	0.81	0.81	1.00	1.00	1.00
Sat Flow, veh/h	1422	25	1525	146	866	675	541	299	2	0	666	961
Grp Volume(v), veh/h	115	0	0	5	0	0	526	0	0	813	0	0
Grp Sat Flow(s),veh/h/ln	1447	0	1525	1687	0	0	842	0	0	1627	0	0
Q Serve(g_s), s	6.8	0.0	0.0	0.0	0.0	0.0	26.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.0	0.0	0.0	0.2	0.0	0.0	26.8	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.98		1.00	0.20		0.40	0.65		0.00	0.00		0.59
Lane Grp Cap(c), veh/h	221	0		213	0	0	751	0	0	1363	0	0
V/C Ratio(X)	0.52	0.00		0.02	0.00	0.00	0.70	0.00	0.00	0.60	0.00	0.00
Avail Cap(c_a), veh/h	336	0		341	0	0	751	0	0	1363	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	0.82	0.00	0.00
Uniform Delay (d), s/veh	39.8	0.0	0.0	36.7	0.0	0.0	3.9	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.0	0.0	0.0	0.0	0.0	5.4	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	0.0	0.1	0.0	0.0	2.2	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.7	0.0	0.0	36.8	0.0	0.0	9.3	0.0	0.0	1.6	0.0	0.0
LnGrp LOS	D	A		D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		115	A		5			526			813	
Approach Delay, s/veh		41.7			36.8			9.3			1.6	
Approach LOS		D			D			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		77.2		12.8		77.2		12.8				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		66.0		16.0		66.0		16.0				
Max Q Clear Time (g_c+I1), s		28.8		9.0		2.0		2.2				
Green Ext Time (p_c), s		6.5		0.3		6.9		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	7.6	
HCM 6th LOS	A	

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

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

Intersection No.: 1
North/South Street: OUTER HWY 15S
East/West Street: STODDARD WELLS 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	288	Approach	538	Left	380	387
NB	Through	65	Departure	385	Through	156	156
	Right	3			Right	3	3
North leg	Left	1	Approach	347	Left	1	1
SB	Through	90	Departure	202	Through	139	139
	Right	136			Right	207	211
West leg	Left	10	Approach	292	Left	45	45
EB	Through	2	Departure	587	Through	2	2
	Right	98			Right	246	247
East leg	Left	1	Approach	3	Left	1	1
WB	Through	1	Departure	5	Through	1	1
	Right	1			Right	2	2

P.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Rounded Volume**
South leg	Left	223	Approach	479	Left	322	327
NB	Through	68	Departure	524	Through	158	159
	Right	1			Right	1	1
North leg	Left	1	Approach	575	Left	1	1
SB	Through	227	Departure	204	Through	281	281
	Right	162			Right	295	299
West leg	Left	8	Approach	290	Left	46	46
EB	Through	1	Departure	618	Through	2	2
	Right	102			Right	244	244
East leg	Left	1	Approach	4	Left	1	1
WB	Through	2	Departure	3	Through	2	2

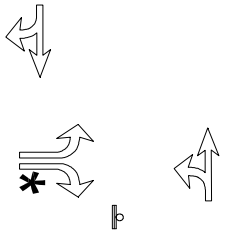
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

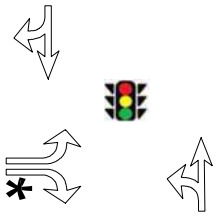
E/W STREET : I-15 NB OFF / ON-RAMP
N/S STREET : OUTER HWY 15S
CONDITION : AM PEAK HOUR

INTERSECTION : 2
PROJECTED GROWTH PER YEAR : 2.0%

CONDITION DIAGRAMS



EXISTING GEOMETRICS



FUTURE GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	1			3		5	7	9
I-15 NB OFF / ON-RAMP								
EB LEFT	70	3	0	73	168	241	75	243
EB THRU	0	0	0	0	0	0	0	0
EB RIGHT	192	8	0	200	0	200	282	282
WB LEFT	0	0	0	0	0	0	0	0
WB THRU	0	0	0	0	0	0	0	0
WB RIGHT	0	0	0	0	0	0	0	0
OUTER HWY 15S								
NB LEFT	59	2	0	61	0	61	175	175
NB THRU	17	1	0	18	204	222	28	232
NB RIGHT	0	0	0	0	0	0	0	0
SB LEFT	0	0	0	0	0	0	0	0
SB THRU	35	1	0	36	62	98	69	131
SB RIGHT	5	0	0	5	51	56	13	64
TOTALS	**378**	**15**	**0**	**393**	**485**	**878**	**642**	**1127**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	4-Apr-23	FGFW0000-0001	2	OF 2

E/W STREET : I-15 NB OFF / ON-RAMP
N/S STREET : OUTER HWY 15S
CONDITION : AM PEAK HOUR
PHF : 0.85

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	6	0	0	0	0	0	0	0	1	0	0
2	6	0	0	0	0	0	0	0	0	0	0
0	9	0	0	0	0	0	0	0	0	1	0
0	4	0	0	0	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
0	2	12	0	0	0	0	0	1	0	1	0
0	1	12	0	0	0	0	0	1	0	0	0
0	1	9	0	0	0	0	0	0	0	1	0
0	2	15	0	0	0	0	0	0	0	1	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
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
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											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
25	0	15	0	0	0	1	0	0	2	0	0
31	0	16	0	0	0	2	0	0	5	0	1
36	0	19	0	0	0	4	0	0	2	0	1
17	0	14	0	0	0	2	0	0	2	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 NB OFF / ON-RAMP					
EB LEFT	2	64	**66**	**70**	**70**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	20	109	**129**	**156**	**192**
WB LEFT	0	0	**0**	**0**	**0**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	0	0	**0**	**0**	**0**
OUTER HWY 15S					
NB LEFT	2	48	**50**	**52**	**59**
NB THRU	3	6	**9**	**15**	**17**
NB RIGHT	0	0	**0**	**0**	**0**
SB LEFT	0	0	**0**	**0**	**0**
SB THRU	1	25	**26**	**28**	**35**
SB RIGHT	1	2	**3**	**5**	**5**

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	70	192	59	17	35	5
Future Vol, veh/h	70	192	59	17	35	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	82	226	69	20	41	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	202	-	47	0	-	0
Stage 1	44	-	-	-	-	-
Stage 2	158	-	-	-	-	-
Critical Hdwy	6.4	-	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	2.2	-	-	-
Pot Cap-1 Maneuver	791	0	1573	-	-	-
Stage 1	984	0	-	-	-	-
Stage 2	875	0	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	756	-	1573	-	-	-
Mov Cap-2 Maneuver	756	-	-	-	-	-
Stage 1	941	-	-	-	-	-
Stage 2	875	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	5.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1573	-	756	-	-	-
HCM Lane V/C Ratio	0.044	-	0.109	-	-	-
HCM Control Delay (s)	7.4	0	10.3	0	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-	-

Intersection	
Int Delay, s/veh	6.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	73	200	61	18	36	5
Future Vol, veh/h	73	200	61	18	36	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	86	235	72	21	42	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	210	-	48	0	-	0
Stage 1	45	-	-	-	-	-
Stage 2	165	-	-	-	-	-
Critical Hdwy	6.4	-	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	2.2	-	-	-
Pot Cap-1 Maneuver	783	0	1572	-	-	-
Stage 1	983	0	-	-	-	-
Stage 2	869	0	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	747	-	1572	-	-	-
Mov Cap-2 Maneuver	747	-	-	-	-	-
Stage 1	938	-	-	-	-	-
Stage 2	869	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	5.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1572	-	747	-	-	-
HCM Lane V/C Ratio	0.046	-	0.115	-	-	-
HCM Control Delay (s)	7.4	0	10.4	0	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-	-

Intersection	
Int Delay, s/veh	9.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	241	200	61	222	98	56
Future Vol, veh/h	241	200	61	222	98	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	284	235	72	261	115	66

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	553	-	181	0	-	0
Stage 1	148	-	-	-	-	-
Stage 2	405	-	-	-	-	-
Critical Hdwy	6.4	-	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	2.2	-	-	-
Pot Cap-1 Maneuver	498	0	1407	-	-	-
Stage 1	884	0	-	-	-	-
Stage 2	678	0	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	468	-	1407	-	-	-
Mov Cap-2 Maneuver	468	-	-	-	-	-
Stage 1	831	-	-	-	-	-
Stage 2	678	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.8	1.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1407	-	468	-	-	-
HCM Lane V/C Ratio	0.051	-	0.606	-	-	-
HCM Control Delay (s)	7.7	0	23.8	0	-	-
HCM Lane LOS	A	A	C	A	-	-
HCM 95th %tile Q(veh)	0.2	-	3.9	-	-	-

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	75	282	175	28	69	13
Future Vol, veh/h	75	282	175	28	69	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	79	297	184	29	73	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	477	-	87	0	-	0
Stage 1	80	-	-	-	-	-
Stage 2	397	-	-	-	-	-
Critical Hdwy	6.4	-	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	2.2	-	-	-
Pot Cap-1 Maneuver	551	0	1522	-	-	-
Stage 1	948	0	-	-	-	-
Stage 2	683	0	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	483	-	1522	-	-	-
Mov Cap-2 Maneuver	483	-	-	-	-	-
Stage 1	831	-	-	-	-	-
Stage 2	683	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.9	6.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1522	-	483	-	-	-
HCM Lane V/C Ratio	0.121	-	0.163	-	-	-
HCM Control Delay (s)	7.7	0	13.9	0	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0.4	-	0.6	-	-	-

Intersection	
Int Delay, s/veh	17.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	243	282	175	232	131	64
Future Vol, veh/h	243	282	175	232	131	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	256	297	184	244	138	67

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	784	-	205	0	-	0
Stage 1	172	-	-	-	-	-
Stage 2	612	-	-	-	-	-
Critical Hdwy	6.4	-	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	2.2	-	-	-
Pot Cap-1 Maneuver	365	0	1378	-	-	-
Stage 1	863	0	-	-	-	-
Stage 2	545	0	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	309	-	1378	-	-	-
Mov Cap-2 Maneuver	309	-	-	-	-	-
Stage 1	730	-	-	-	-	-
Stage 2	545	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	54.3	3.4	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1378	-	309	-	-	-
HCM Lane V/C Ratio	0.134	-	0.828	-	-	-
HCM Control Delay (s)	8	0	54.3	0	-	-
HCM Lane LOS	A	A	F	A	-	-
HCM 95th %tile Q(veh)	0.5	-	7	-	-	-

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	243	282	175	232	131	64
Future Volume (veh/h)	243	282	175	232	131	64
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	1872	1872	1800	1800	1800	1800
Adj Flow Rate, veh/h	256	0	184	244	138	67
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	299		507	650	851	413
Arrive On Green	0.17	0.00	1.00	1.00	0.74	0.74
Sat Flow, veh/h	1783	1586	606	874	1144	556
Grp Volume(v), veh/h	256	0	428	0	0	205
Grp Sat Flow(s),veh/h/ln	1783	1586	1480	0	0	1700
Q Serve(g_s), s	12.6	0.0	0.3	0.0	0.0	3.2
Cycle Q Clear(g_c), s	12.6	0.0	3.5	0.0	0.0	3.2
Prop In Lane	1.00	1.00	0.43			0.33
Lane Grp Cap(c), veh/h	299		1157	0	0	1263
V/C Ratio(X)	0.86		0.37	0.00	0.00	0.16
Avail Cap(c_a), veh/h	515		1157	0	0	1263
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.28	0.00	0.00	1.00
Uniform Delay (d), s/veh	36.4	0.0	0.0	0.0	0.0	3.4
Incr Delay (d2), s/veh	6.9	0.0	0.3	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	0.1	0.0	0.0	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	43.3	0.0	0.3	0.0	0.0	3.7
LnGrp LOS	D		A	A	A	A
Approach Vol, veh/h	256	A		428	205	
Approach Delay, s/veh	43.3			0.3	3.7	
Approach LOS	D			A	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	70.9		19.1		70.9
Change Period (Y+Rc), s	4.0		4.0		4.0
Max Green Setting (Gmax), s	56.0		26.0		56.0
Max Q Clear Time (g_c+I1), s	5.5		14.6		5.2
Green Ext Time (p_c), s	2.7		0.6		1.1

Intersection Summary	
HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

E/W STREET : I-15 NB OFF / ON-RAMP
N/S STREET : OUTER HWY 15S
CONDITION : PM PEAK HOUR

INTERSECTION : 2
PROJECTED GROWTH PER YEAR : 2.0%

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	2			4		6	8	10
I-15 NB OFF / ON-RAMP								
EB LEFT	80	3	0	83	61	144	104	165
EB THRU	0	0	0	0	0	0	0	0
EB RIGHT	340	14	0	354	0	354	470	470
WB LEFT	0	0	0	0	0	0	0	0
WB THRU	0	0	0	0	0	0	0	0
WB RIGHT	0	0	0	0	0	0	0	0
OUTER HWY 15S								
NB LEFT	61	2	0	63	0	63	174	174
NB THRU	16	1	0	17	74	91	33	107
NB RIGHT	0	0	0	0	0	0	0	0
SB LEFT	0	0	0	0	0	0	0	0
SB THRU	50	2	0	52	191	243	111	302
SB RIGHT	4	0	0	4	157	161	12	169
TOTALS	**551**	**22**	**0**	**573**	**483**	**1056**	**904**	**1387**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	4-Apr-23	FGFW0000-0001	2	OF 2

E/W STREET : I-15 NB OFF / ON-RAMP
N/S STREET : OUTER HWY 15S
CONDITION : PM PEAK HOUR
PHF : 0.84

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
2	15	0	0	2	0	0	0	0	0	1	0
1	10	0	0	0	0	0	0	0	0	0	0
1	11	0	0	0	0	0	0	0	0	0	0
0	5	0	0	0	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
0	8	14	0	0	0	0	0	0	0	0	1
0	5	15	0	0	0	0	0	0	0	0	0
0	1	6	0	0	0	0	0	0	0	0	2
0	2	14	0	0	1	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
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
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											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
75	0	20	1	0	0	8	0	0	1	0	0
66	0	17	2	0	0	3	0	0	0	0	0
71	0	18	2	0	0	3	0	0	1	0	0
61	0	23	1	0	0	7	0	1	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
I-15 NB OFF / ON-RAMP					
EB LEFT	1	78	**79**	**80**	**80**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	30	273	**303**	**323**	**340**
WB LEFT	0	0	**0**	**0**	**0**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	0	0	**0**	**0**	**0**
OUTER HWY 15S					
NB LEFT	4	49	**53**	**60**	**61**
NB THRU	0	16	**16**	**16**	**16**
NB RIGHT	0	0	**0**	**0**	**0**
SB LEFT	0	0	**0**	**0**	**0**
SB THRU	3	41	**44**	**47**	**50**
SB RIGHT	0	4	**4**	**4**	**4**

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	80	340	61	16	50	4
Future Vol, veh/h	80	340	61	16	50	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	95	405	73	19	60	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	228	-	65	0	-	0
Stage 1	63	-	-	-	-	-
Stage 2	165	-	-	-	-	-
Critical Hdwy	6.4	-	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	2.2	-	-	-
Pot Cap-1 Maneuver	765	0	1550	-	-	-
Stage 1	965	0	-	-	-	-
Stage 2	869	0	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	728	-	1550	-	-	-
Mov Cap-2 Maneuver	728	-	-	-	-	-
Stage 1	919	-	-	-	-	-
Stage 2	869	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	5.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1550	-	728	-	-	-
HCM Lane V/C Ratio	0.047	-	0.131	-	-	-
HCM Control Delay (s)	7.4	0	10.7	0	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-	-

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	83	354	63	17	52	4
Future Vol, veh/h	83	354	63	17	52	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	99	421	75	20	62	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	235	-	67	0	-	0
Stage 1	65	-	-	-	-	-
Stage 2	170	-	-	-	-	-
Critical Hdwy	6.4	-	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	2.2	-	-	-
Pot Cap-1 Maneuver	758	0	1547	-	-	-
Stage 1	963	0	-	-	-	-
Stage 2	865	0	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	721	-	1547	-	-	-
Mov Cap-2 Maneuver	721	-	-	-	-	-
Stage 1	916	-	-	-	-	-
Stage 2	865	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.8	5.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1547	-	721	-	-	-
HCM Lane V/C Ratio	0.048	-	0.137	-	-	-
HCM Control Delay (s)	7.4	0	10.8	0	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.5	-	-	-

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	144	354	63	91	243	161
Future Vol, veh/h	144	354	63	91	243	161
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	171	421	75	108	289	192

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	643	-	481	0	-	0
Stage 1	385	-	-	-	-	-
Stage 2	258	-	-	-	-	-
Critical Hdwy	6.4	-	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	2.2	-	-	-
Pot Cap-1 Maneuver	441	0	1092	-	-	-
Stage 1	692	0	-	-	-	-
Stage 2	790	0	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	409	-	1092	-	-	-
Mov Cap-2 Maneuver	409	-	-	-	-	-
Stage 1	641	-	-	-	-	-
Stage 2	790	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20	3.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1092	-	409	-	-	-
HCM Lane V/C Ratio	0.069	-	0.419	-	-	-
HCM Control Delay (s)	8.5	0	20	0	-	-
HCM Lane LOS	A	A	C	A	-	-
HCM 95th %tile Q(veh)	0.2	-	2	-	-	-

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	104	470	174	33	111	12
Future Vol, veh/h	104	470	174	33	111	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	109	495	183	35	117	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	525	-	130	0	-	0
Stage 1	124	-	-	-	-	-
Stage 2	401	-	-	-	-	-
Critical Hdwy	6.4	-	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	2.2	-	-	-
Pot Cap-1 Maneuver	516	0	1468	-	-	-
Stage 1	907	0	-	-	-	-
Stage 2	681	0	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	450	-	1468	-	-	-
Mov Cap-2 Maneuver	450	-	-	-	-	-
Stage 1	792	-	-	-	-	-
Stage 2	681	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.6	6.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1468	-	450	-	-	-
HCM Lane V/C Ratio	0.125	-	0.243	-	-	-
HCM Control Delay (s)	7.8	0	15.6	0	-	-
HCM Lane LOS	A	A	C	A	-	-
HCM 95th %tile Q(veh)	0.4	-	0.9	-	-	-

Intersection	
Int Delay, s/veh	9.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	165	470	174	107	302	169
Future Vol, veh/h	165	470	174	107	302	169
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	174	495	183	113	318	178

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	886	-	496	0	-	0
Stage 1	407	-	-	-	-	-
Stage 2	479	-	-	-	-	-
Critical Hdwy	6.4	-	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	2.2	-	-	-
Pot Cap-1 Maneuver	318	0	1078	-	-	-
Stage 1	676	0	-	-	-	-
Stage 2	627	0	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	260	-	1078	-	-	-
Mov Cap-2 Maneuver	260	-	-	-	-	-
Stage 1	554	-	-	-	-	-
Stage 2	627	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	42.9	5.6	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1078	-	260	-	-	-
HCM Lane V/C Ratio	0.17	-	0.668	-	-	-
HCM Control Delay (s)	9	0	42.9	0	-	-
HCM Lane LOS	A	A	E	A	-	-
HCM 95th %tile Q(veh)	0.6	-	4.3	-	-	-

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	165	470	174	107	302	169
Future Volume (veh/h)	165	470	174	107	302	169
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	1872	1872	1800	1800	1800	1800
Adj Flow Rate, veh/h	174	0	183	113	318	178
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	215		555	327	857	480
Arrive On Green	0.12	0.00	1.00	1.00	0.79	0.79
Sat Flow, veh/h	1783	1586	620	414	1084	607
Grp Volume(v), veh/h	174	0	296	0	0	496
Grp Sat Flow(s),veh/h/ln	1783	1586	1034	0	0	1691
Q Serve(g_s), s	8.6	0.0	3.3	0.0	0.0	7.8
Cycle Q Clear(g_c), s	8.6	0.0	11.1	0.0	0.0	7.8
Prop In Lane	1.00	1.00	0.62			0.36
Lane Grp Cap(c), veh/h	215		882	0	0	1337
V/C Ratio(X)	0.81		0.34	0.00	0.00	0.37
Avail Cap(c_a), veh/h	555		882	0	0	1337
HCM Platoon Ratio	1.00	1.00	1.67	1.67	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.09	0.00	0.00	1.00
Uniform Delay (d), s/veh	38.6	0.0	0.5	0.0	0.0	2.8
Incr Delay (d2), s/veh	7.1	0.0	0.1	0.0	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.0	0.0	0.0	0.0	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.7	0.0	0.5	0.0	0.0	3.6
LnGrp LOS	D		A	A	A	A
Approach Vol, veh/h	174	A		296	496	
Approach Delay, s/veh	45.7			0.5	3.6	
Approach LOS	D			A	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	75.2		14.8		75.2
Change Period (Y+Rc), s	4.0		4.0		4.0
Max Green Setting (Gmax), s	54.0		28.0		54.0
Max Q Clear Time (g_c+I1), s	13.1		10.6		9.8
Green Ext Time (p_c), s	2.3		0.4		3.1

Intersection Summary	
HCM 6th Ctrl Delay	10.2
HCM 6th LOS	B

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

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

Intersection No.: 2
North/South Street: OUTER HWY 15S
East/West Street: I-15 NB OFF / ON-RAMP

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	59	Approach	202	Left	175	175
NB	Through	17	Departure	339	Through	28	28
	Right	0			Right	0	0
North leg	Left	0	Approach	81	Left	0	0
SB	Through	35	Departure	102	Through	67	69
	Right	5			Right	13	13
West leg	Left	70	Approach	352	Left	75	75
EB	Through	0	Departure	187	Through	0	0
	Right	192			Right	273	282
East leg	Left	0	Approach	0	Left	0	0
WB	Through	0	Departure	0	Through	0	0
	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	61	Approach	204	Left	174	174
NB	Through	16	Departure	575	Through	33	33
	Right	0			Right	0	0
North leg	Left	0	Approach	121	Left	0	0
SB	Through	50	Departure	136	Through	110	111
	Right	4			Right	12	12
West leg	Left	80	Approach	570	Left	104	104
EB	Through	0	Departure	185	Through	0	0
	Right	340			Right	466	470
East leg	Left	0	Approach	0	Left	0	0
WB	Through	0	Departure	0	Through	0	0

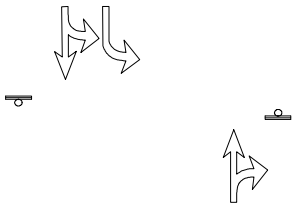
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

E/W STREET : I-15 SB ON-RAMP
N/S STREET : W FRONTAGE RD
CONDITION : AM PEAK HOUR

INTERSECTION : 3
PROJECTED GROWTH PER YEAR : 2.0%

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	1			3		5	7	9
I-15 SB ON-RAMP								
EB LEFT	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0
EB RIGHT	0	0	0	0	0	0	0	0
WB LEFT	0	0	0	0	0	0	0	0
WB THRU	0	0	0	0	0	0	0	0
WB RIGHT	0	0	0	0	0	0	0	0
W FRONTAGE RD								
NB LEFT	0	0	0	0	0	0	0	0
NB THRU	18	1	0	19	0	19	20	20
NB RIGHT	44	2	0	46	0	46	49	49
SB LEFT	346	14	0	360	51	411	521	572
SB THRU	14	1	0	15	0	15	14	14
SB RIGHT	0	0	0	0	0	0	0	0
TOTALS	**422**	**18**	**0**	**440**	**51**	**491**	**604**	**655**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	4-Apr-23	FGFW0000-0001	2	OF 2

E/W STREET : I-15 SB ON-RAMP
CONDITION : AM PEAK HOUR

N/S STREET : W FRONTAGE RD
PHF : 0.80

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	1	51	0	0	1	0	0	2	0	1	3
0	1	64	0	0	4	0	0	2	0	0	1
0	3	79	0	0	2	0	0	0	0	0	1
0	0	94	0	1	0	0	0	1	0	1	2

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
1	3	0	0	0	0	0	0	0	3	0	0
2	3	0	0	0	0	0	0	0	1	0	0
1	3	0	1	0	0	0	0	0	2	0	0
0	0	0	0	1	0	1	1	0	6	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
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
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											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	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 ON-RAMP					
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	**0**	**0**	**0**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	0	0	**0**	**0**	**0**
W FRONTAGE RD					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	2	9	**11**	**13**	**18**
NB RIGHT	14	4	**18**	**44**	**44**
SB LEFT	19	288	**307**	**330**	**346**
SB THRU	3	5	**8**	**13**	**14**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Intersection Delay, s/veh	5
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	18	44	346	14
Future Vol, veh/h	0	0	18	44	346	14
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	23	55	433	18
Number of Lanes	0	0	1	0	1	1

Approach	NB	SB
Opposing Approach	SB	NB
Opposing Lanes	2	1
Conflicting Approach Left		
Conflicting Lanes Left	0	0
Conflicting Approach Right		
Conflicting Lanes Right	0	0
HCM Control Delay	5	5
HCM LOS	A	A

Lane	NBLn1	SBLn1	SBLn2
Vol Left, %	0%	100%	92%
Vol Thru, %	29%	0%	8%
Vol Right, %	71%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	62	180	180
LT Vol	0	180	166
Through Vol	18	0	14
RT Vol	44	0	0
Lane Flow Rate	78	225	225
Geometry Grp	0	0	0
Degree of Util (X)	0	0	0
Departure Headway (Hd)	0	0	0
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	0
Service Time	0	0	0
HCM Lane V/C Ratio	0	0	0
HCM Control Delay	5	5	5
HCM Lane LOS	N	N	N
HCM 95th-tile Q	0	0	0

Intersection	
Intersection Delay, s/veh	5
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	19	46	360	15
Future Vol, veh/h	0	0	19	46	360	15
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	24	58	450	19
Number of Lanes	0	0	1	0	1	1

Approach	NB	SB
Opposing Approach	SB	NB
Opposing Lanes	2	1
Conflicting Approach Left		
Conflicting Lanes Left	0	0
Conflicting Approach Right		
Conflicting Lanes Right	0	0
HCM Control Delay	5	5
HCM LOS	A	A

Lane	NBLn1	SBLn1	SBLn2
Vol Left, %	0%	100%	92%
Vol Thru, %	29%	0%	8%
Vol Right, %	71%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	65	187	188
LT Vol	0	187	173
Through Vol	19	0	15
RT Vol	46	0	0
Lane Flow Rate	81	234	235
Geometry Grp	0	0	0
Degree of Util (X)	0	0	0
Departure Headway (Hd)	0	0	0
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	0
Service Time	0	0	0
HCM Lane V/C Ratio	0	0	0
HCM Control Delay	5	5	5
HCM Lane LOS	N	N	N
HCM 95th-tile Q	0	0	0

Intersection	
Intersection Delay, s/veh	5
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	19	46	411	15
Future Vol, veh/h	0	0	19	46	411	15
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	24	58	514	19
Number of Lanes	0	0	1	0	1	1

Approach	NB	SB
Opposing Approach	SB	NB
Opposing Lanes	2	1
Conflicting Approach Left		
Conflicting Lanes Left	0	0
Conflicting Approach Right		
Conflicting Lanes Right	0	0
HCM Control Delay	5	5
HCM LOS	A	A

Lane	NBLn1	SBLn1	SBLn2
Vol Left, %	0%	100%	93%
Vol Thru, %	29%	0%	7%
Vol Right, %	71%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	65	214	212
LT Vol	0	214	197
Through Vol	19	0	15
RT Vol	46	0	0
Lane Flow Rate	81	267	265
Geometry Grp	0	0	0
Degree of Util (X)	0	0	0
Departure Headway (Hd)	0	0	0
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	0
Service Time	0	0	0
HCM Lane V/C Ratio	0	0	0
HCM Control Delay	5	5	5
HCM Lane LOS	N	N	N
HCM 95th-tile Q	0	0	0

Intersection	
Intersection Delay, s/veh	5
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	20	49	521	14
Future Vol, veh/h	0	0	20	49	521	14
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	21	52	548	15
Number of Lanes	0	0	1	0	1	1

Approach	NB	SB
Opposing Approach	SB	NB
Opposing Lanes	2	1
Conflicting Approach Left		
Conflicting Lanes Left	0	0
Conflicting Approach Right		
Conflicting Lanes Right	0	0
HCM Control Delay	5	5
HCM LOS	A	A

Lane	NBLn1	SBLn1	SBLn2
Vol Left, %	0%	100%	95%
Vol Thru, %	29%	0%	5%
Vol Right, %	71%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	69	266	269
LT Vol	0	266	255
Through Vol	20	0	14
RT Vol	49	0	0
Lane Flow Rate	73	280	283
Geometry Grp	0	0	0
Degree of Util (X)	0	0	0
Departure Headway (Hd)	0	0	0
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	0
Service Time	0	0	0
HCM Lane V/C Ratio	0	0	0
HCM Control Delay	5	5	5
HCM Lane LOS	N	N	N
HCM 95th-tile Q	0	0	0

Intersection	
Intersection Delay, s/veh	5
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	20	49	572	14
Future Vol, veh/h	0	0	20	49	572	14
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	21	52	602	15
Number of Lanes	0	0	1	0	1	1

Approach	NB	SB
Opposing Approach	SB	NB
Opposing Lanes	2	1
Conflicting Approach Left		
Conflicting Lanes Left	0	0
Conflicting Approach Right		
Conflicting Lanes Right	0	0
HCM Control Delay	5	5
HCM LOS	A	A

Lane	NBLn1	SBLn1	SBLn2
Vol Left, %	0%	100%	95%
Vol Thru, %	29%	0%	5%
Vol Right, %	71%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	69	292	294
LT Vol	0	292	280
Through Vol	20	0	14
RT Vol	49	0	0
Lane Flow Rate	73	307	310
Geometry Grp	0	0	0
Degree of Util (X)	0	0	0
Departure Headway (Hd)	0	0	0
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	0
Service Time	0	0	0
HCM Lane V/C Ratio	0	0	0
HCM Control Delay	5	5	5
HCM Lane LOS	N	N	N
HCM 95th-tile Q	0	0	0

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

E/W STREET : I-15 SB ON-RAMP
N/S STREET : W FRONTAGE RD
CONDITION : PM PEAK HOUR

INTERSECTION : 3
PROJECTED GROWTH PER YEAR : 2.0%

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	2			4		6	8	10
I-15 SB ON-RAMP								
EB LEFT	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0
EB RIGHT	0	0	0	0	0	0	0	0
WB LEFT	0	0	0	0	0	0	0	0
WB THRU	0	0	0	0	0	0	0	0
WB RIGHT	0	0	0	0	0	0	0	0
W FRONTAGE RD								
NB LEFT	0	0	0	0	0	0	0	0
NB THRU	34	1	0	35	0	35	36	36
NB RIGHT	41	2	0	43	0	43	42	42
SB LEFT	375	15	0	390	157	547	537	694
SB THRU	24	1	0	25	0	25	24	24
SB RIGHT	0	0	0	0	0	0	0	0
TOTALS	**474**	**19**	**0**	**493**	**157**	**650**	**639**	**796**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	4-Apr-23	FGFW0000-0001	2	OF 2

E/W STREET : I-15 SB ON-RAMP
CONDITION : PM PEAK HOUR

N/S STREET : W FRONTAGE RD
PHF : 0.82

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	7	66	0	0	2	0	1	1	0	0	4
0	4	77	0	0	1	0	0	1	0	0	3
0	3	100	0	0	2	0	1	2	0	0	5
0	6	68	0	0	1	0	0	2	0	0	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
6	3	0	0	0	0	0	0	0	2	1	0
6	8	0	0	0	0	0	0	0	1	1	0
7	1	0	0	1	0	1	0	0	1	0	0
5	1	0	0	0	0	0	1	0	1	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
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
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											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	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 ON-RAMP					
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	**0**	**0**	**0**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	0	0	**0**	**0**	**0**
W FRONTAGE RD					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	4	13	**17**	**23**	**34**
NB RIGHT	6	24	**30**	**41**	**41**
SB LEFT	25	311	**336**	**371**	**375**
SB THRU	2	20	**22**	**24**	**24**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Intersection Delay, s/veh	5
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	34	41	375	24
Future Vol, veh/h	0	0	34	41	375	24
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	41	50	457	29
Number of Lanes	0	0	1	0	1	1

Approach	NB	SB
Opposing Approach	SB	NB
Opposing Lanes	2	1
Conflicting Approach Left		
Conflicting Lanes Left	0	0
Conflicting Approach Right		
Conflicting Lanes Right	0	0
HCM Control Delay	5	5
HCM LOS	A	A

Lane	NBLn1	SBLn1	SBLn2
Vol Left, %	0%	100%	88%
Vol Thru, %	45%	0%	12%
Vol Right, %	55%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	75	199	200
LT Vol	0	199	176
Through Vol	34	0	24
RT Vol	41	0	0
Lane Flow Rate	91	242	244
Geometry Grp	0	0	0
Degree of Util (X)	0	0	0
Departure Headway (Hd)	0	0	0
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	0
Service Time	0	0	0
HCM Lane V/C Ratio	0	0	0
HCM Control Delay	5	5	5
HCM Lane LOS	N	N	N
HCM 95th-tile Q	0	0	0

Intersection	
Intersection Delay, s/veh	5
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	35	43	390	25
Future Vol, veh/h	0	0	35	43	390	25
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	43	52	476	30
Number of Lanes	0	0	1	0	1	1

Approach	NB	SB
Opposing Approach	SB	NB
Opposing Lanes	2	1
Conflicting Approach Left		
Conflicting Lanes Left	0	0
Conflicting Approach Right		
Conflicting Lanes Right	0	0
HCM Control Delay	5	5
HCM LOS	A	A

Lane	NBLn1	SBLn1	SBLn2
Vol Left, %	0%	100%	88%
Vol Thru, %	45%	0%	12%
Vol Right, %	55%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	78	207	208
LT Vol	0	207	183
Through Vol	35	0	25
RT Vol	43	0	0
Lane Flow Rate	95	252	254
Geometry Grp	0	0	0
Degree of Util (X)	0	0	0
Departure Headway (Hd)	0	0	0
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	0
Service Time	0	0	0
HCM Lane V/C Ratio	0	0	0
HCM Control Delay	5	5	5
HCM Lane LOS	N	N	N
HCM 95th-tile Q	0	0	0

Intersection	
Intersection Delay, s/veh	5
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	35	43	547	25
Future Vol, veh/h	0	0	35	43	547	25
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	43	52	667	30
Number of Lanes	0	0	1	0	1	1

Approach	NB	SB
Opposing Approach	SB	NB
Opposing Lanes	2	1
Conflicting Approach Left		
Conflicting Lanes Left	0	0
Conflicting Approach Right		
Conflicting Lanes Right	0	0
HCM Control Delay	5	5
HCM LOS	A	A

Lane	NBLn1	SBLn1	SBLn2
Vol Left, %	0%	100%	91%
Vol Thru, %	45%	0%	9%
Vol Right, %	55%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	78	284	288
LT Vol	0	284	263
Through Vol	35	0	25
RT Vol	43	0	0
Lane Flow Rate	95	347	351
Geometry Grp	0	0	0
Degree of Util (X)	0	0	0
Departure Headway (Hd)	0	0	0
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	0
Service Time	0	0	0
HCM Lane V/C Ratio	0	0	0
HCM Control Delay	5	5	5
HCM Lane LOS	N	N	N
HCM 95th-tile Q	0	0	0

Intersection	
Intersection Delay, s/veh	5
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	36	42	537	24
Future Vol, veh/h	0	0	36	42	537	24
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	38	44	565	25
Number of Lanes	0	0	1	0	1	1

Approach	NB	SB
Opposing Approach	SB	NB
Opposing Lanes	2	1
Conflicting Approach Left		
Conflicting Lanes Left	0	0
Conflicting Approach Right		
Conflicting Lanes Right	0	0
HCM Control Delay	5	5
HCM LOS	A	A

Lane	NBLn1	SBLn1	SBLn2
Vol Left, %	0%	100%	91%
Vol Thru, %	46%	0%	9%
Vol Right, %	54%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	78	279	282
LT Vol	0	279	258
Through Vol	36	0	24
RT Vol	42	0	0
Lane Flow Rate	82	294	297
Geometry Grp	0	0	0
Degree of Util (X)	0	0	0
Departure Headway (Hd)	0	0	0
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	0
Service Time	0	0	0
HCM Lane V/C Ratio	0	0	0
HCM Control Delay	5	5	5
HCM Lane LOS	N	N	N
HCM 95th-tile Q	0	0	0

Intersection	
Intersection Delay, s/veh	5
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	36	42	694	24
Future Vol, veh/h	0	0	36	42	694	24
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	38	44	731	25
Number of Lanes	0	0	1	0	1	1

Approach	NB	SB
Opposing Approach	SB	NB
Opposing Lanes	2	1
Conflicting Approach Left		
Conflicting Lanes Left	0	0
Conflicting Approach Right		
Conflicting Lanes Right	0	0
HCM Control Delay	5	5
HCM LOS	A	A

Lane	NBLn1	SBLn1	SBLn2
Vol Left, %	0%	100%	93%
Vol Thru, %	46%	0%	7%
Vol Right, %	54%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	78	361	357
LT Vol	0	361	333
Through Vol	36	0	24
RT Vol	42	0	0
Lane Flow Rate	82	380	376
Geometry Grp	0	0	0
Degree of Util (X)	0	0	0
Departure Headway (Hd)	0	0	0
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	0
Service Time	0	0	0
HCM Lane V/C Ratio	0	0	0
HCM Control Delay	5	5	5
HCM Lane LOS	N	N	N
HCM 95th-tile Q	0	0	0

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

Intersection No.: 3
North/South Street: W FRONTAGE RD
East/West Street: I-15 SB ON-RAMP

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	0	Approach	62	Left	0	0
NB	Through	18	Departure	14	Through	13	20
	Right	44			Right	49	49
North leg	Left	346	Approach	534	Left	516	521
SB	Through	14	Departure	13	Through	14	14
	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	0	Approach	0	Left	0	0
WB	Through	0	Departure	564	Through	0	0
	Right	0			Right	0	0

P.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Rounded Volume**
South leg	Left	0	Approach	75	Left	0	0
NB	Through	34	Departure	24	Through	34	36
	Right	41			Right	42	42
North leg	Left	375	Approach	560	Left	536	537
SB	Through	24	Departure	34	Through	24	24
	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	0	Approach	0	Left	0	0
WB	Through	0	Departure	577	Through	0	0

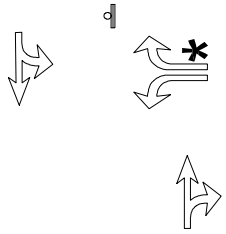
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

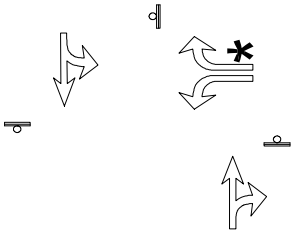
E/W STREET : STODDARD WELLS RD
N/S STREET : W FRONTAGE RD
CONDITION : AM PEAK HOUR

INTERSECTION : 4
PROJECTED GROWTH PER YEAR : 2.0%

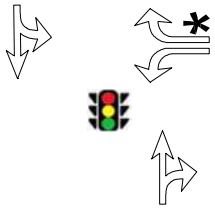
CONDITION DIAGRAMS



EXISTING GEOMETRICS



PROJECT GEOMETRICS



FUTURE GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	1			3		5	7	9
STODDARD WELLS RD								
EB LEFT	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0
EB RIGHT	0	0	0	0	0	0	0	0
WB LEFT	283	11	0	294	51	345	368	419
WB THRU	0	0	0	0	0	0	0	0
WB RIGHT	142	6	0	148	0	148	231	231
W FRONTAGE RD								
NB LEFT	0	0	0	0	0	0	0	0
NB THRU	16	1	0	17	0	17	17	17
NB RIGHT	2	0	0	2	0	2	3	3
SB LEFT	108	4	0	112	168	280	291	459
SB THRU	77	3	0	80	0	80	167	167
SB RIGHT	0	0	0	0	0	0	0	0
TOTALS	**628**	**25**	**0**	**653**	**219**	**872**	**1077**	**1296**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	4-Apr-23	FGFW0000-0001	2	OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : W FRONTAGE RD
CONDITION : AM PEAK HOUR
PHF : 0.83

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	6	10	0	1	2	0	0	2	0	1	1
0	6	15	0	2	3	0	1	1	0	1	2
0	8	10	0	2	1	0	0	1	0	0	1
0	16	16	0	0	0	0	1	2	0	2	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	3	0	0	0	0	0	0	0	0	0	0
2	1	0	0	0	0	0	0	0	0	0	0
0	3	0	0	0	0	0	0	0	0	0	0
0	0	0	0	1	0	0	1	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
9	0	46	4	0	0	2	0	2	2	0	3
12	0	59	3	0	2	1	0	1	2	0	0
14	0	74	1	0	0	5	0	0	2	0	1
23	0	78	0	0	1	0	0	0	1	0	1

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	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
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
STODDARD WELLS RD					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	11	257	**268**	**283**	**283**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	23	58	**81**	**95**	**142**
W FRONTAGE RD					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	2	7	**9**	**11**	**16**
NB RIGHT	0	2	**2**	**2**	**2**
SB LEFT	16	51	**67**	**84**	**108**
SB THRU	11	36	**47**	**60**	**77**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	13.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	283	142	16	2	108	77
Future Vol, veh/h	283	142	16	2	108	77
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	60	-	-	-	-
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	341	171	19	2	130	93

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	373	-	0	0	21	0
Stage 1	20	-	-	-	-	-
Stage 2	353	-	-	-	-	-
Critical Hdwy	6.4	-	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	-	-	2.2	-
Pot Cap-1 Maneuver	632	0	-	-	1608	-
Stage 1	1008	0	-	-	-	-
Stage 2	716	0	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	578	-	-	-	1608	-
Mov Cap-2 Maneuver	578	-	-	-	-	-
Stage 1	1008	-	-	-	-	-
Stage 2	655	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.8	0	4.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	578	-	1608	-
HCM Lane V/C Ratio	-	-	0.59	-	0.081	-
HCM Control Delay (s)	-	-	19.8	0	7.4	0
HCM Lane LOS	-	-	C	A	A	A
HCM 95th %tile Q(veh)	-	-	3.8	-	0.3	-

Intersection	
Int Delay, s/veh	14.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	294	148	17	2	112	80
Future Vol, veh/h	294	148	17	2	112	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	60	-	-	-	-
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	354	178	20	2	135	96

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	387	-	0	0	22	0
Stage 1	21	-	-	-	-	-
Stage 2	366	-	-	-	-	-
Critical Hdwy	6.4	-	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	-	-	2.2	-
Pot Cap-1 Maneuver	620	0	-	-	1607	-
Stage 1	1007	0	-	-	-	-
Stage 2	706	0	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	565	-	-	-	1607	-
Mov Cap-2 Maneuver	565	-	-	-	-	-
Stage 1	1007	-	-	-	-	-
Stage 2	643	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.5	0	4.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	565	-	1607	-
HCM Lane V/C Ratio	-	-	0.627	-	0.084	-
HCM Control Delay (s)	-	-	21.5	0	7.4	0
HCM Lane LOS	-	-	C	A	A	A
HCM 95th %tile Q(veh)	-	-	4.3	-	0.3	-

Intersection	
Int Delay, s/veh	130.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	345	148	17	2	280	80
Future Vol, veh/h	345	148	17	2	280	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	60	-	-	-	-
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	416	178	20	2	337	96

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	791	-	0	0	22	0
Stage 1	21	-	-	-	-	-
Stage 2	770	-	-	-	-	-
Critical Hdwy	6.4	-	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	-	-	2.2	-
Pot Cap-1 Maneuver	~ 361	0	-	-	1607	-
Stage 1	1007	0	-	-	-	-
Stage 2	460	0	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 281	-	-	-	1607	-
Mov Cap-2 Maneuver	~ 281	-	-	-	-	-
Stage 1	1007	-	-	-	-	-
Stage 2	~ 358	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	267.6	0	6.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	281	-	1607	-
HCM Lane V/C Ratio	-	-	1.479	-	0.21	-
HCM Control Delay (s)	-	-	267.6	0	7.8	0
HCM Lane LOS	-	-	F	A	A	A
HCM 95th %tile Q(veh)	-	-	23.5	-	0.8	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	19.9
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	345	148	17	2	280	80
Future Vol, veh/h	345	148	17	2	280	80
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	416	178	20	2	337	96
Number of Lanes	1	1	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	20.3	9.5	20
HCM LOS	C	A	C

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	100%	0%	78%
Vol Thru, %	89%	0%	0%	22%
Vol Right, %	11%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	345	148	360
LT Vol	0	345	0	280
Through Vol	17	0	0	80
RT Vol	2	0	148	0
Lane Flow Rate	23	416	178	434
Geometry Grp	2	7	7	2
Degree of Util (X)	0.039	0.736	0.256	0.683
Departure Headway (Hd)	6.169	6.374	5.16	5.669
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	579	569	695	642
Service Time	4.218	4.104	2.891	3.669
HCM Lane V/C Ratio	0.04	0.731	0.256	0.676
HCM Control Delay	9.5	24.9	9.7	20
HCM Lane LOS	A	C	A	C
HCM 95th-tile Q	0.1	6.3	1	5.3

Intersection	
Int Delay, s/veh	103

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	368	231	17	3	291	167
Future Vol, veh/h	368	231	17	3	291	167
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	60	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	387	243	18	3	306	176

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	808	-	0	0	21	0
Stage 1	20	-	-	-	-	-
Stage 2	788	-	-	-	-	-
Critical Hdwy	6.4	-	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	-	-	2.2	-
Pot Cap-1 Maneuver	~ 353	0	-	-	1608	-
Stage 1	1008	0	-	-	-	-
Stage 2	452	0	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 279	-	-	-	1608	-
Mov Cap-2 Maneuver	~ 279	-	-	-	-	-
Stage 1	1008	-	-	-	-	-
Stage 2	~ 357	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	230.6	0	4.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	279	-	1608	-
HCM Lane V/C Ratio	-	-	1.388	-	0.19	-
HCM Control Delay (s)	-	-	230.6	0	7.8	0
HCM Lane LOS	-	-	F	A	A	A
HCM 95th %tile Q(veh)	-	-	20.6	-	0.7	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	390.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	419	231	17	3	459	167
Future Vol, veh/h	419	231	17	3	459	167
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	60	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	441	243	18	3	483	176

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1162	-	0	0	21	0
Stage 1	20	-	-	-	-	-
Stage 2	1142	-	-	-	-	-
Critical Hdwy	6.4	-	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	-	-	2.2	-
Pot Cap-1 Maneuver	~ 218	0	-	-	1608	-
Stage 1	1008	0	-	-	-	-
Stage 2	~ 307	0	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 145	-	-	-	1608	-
Mov Cap-2 Maneuver	~ 145	-	-	-	-	-
Stage 1	1008	-	-	-	-	-
Stage 2	~ 205	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 984.2	0	6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	145	-	1608	-
HCM Lane V/C Ratio	-	-	3.042	-	0.3	-
HCM Control Delay (s)	-	-	$ 984.2	0	8.2	0
HCM Lane LOS	-	-	F	A	A	A
HCM 95th %tile Q(veh)	-	-	41	-	1.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	419	231	17	3	459	167
Future Volume (veh/h)	419	231	17	3	459	167
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	1872	1800	1800	1800	1872
Adj Flow Rate, veh/h	441	0	18	3	483	176
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	769		695	116	590	190
Arrive On Green	0.45	0.00	0.46	0.46	0.46	0.46
Sat Flow, veh/h	1714	1586	1504	251	1127	410
Grp Volume(v), veh/h	441	0	0	21	659	0
Grp Sat Flow(s),veh/h/ln	1714	1586	0	1755	1537	0
Q Serve(g_s), s	17.2	0.0	0.0	0.6	35.9	0.0
Cycle Q Clear(g_c), s	17.2	0.0	0.0	0.6	36.5	0.0
Prop In Lane	1.00	1.00		0.14	0.73	
Lane Grp Cap(c), veh/h	769		0	811	780	0
V/C Ratio(X)	0.57		0.00	0.03	0.84	0.00
Avail Cap(c_a), veh/h	769		0	975	925	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.4	0.0	0.0	13.2	23.1	0.0
Incr Delay (d2), s/veh	3.1	0.0	0.0	0.0	6.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	0.0	0.0	0.2	12.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.5	0.0	0.0	13.2	29.4	0.0
LnGrp LOS	C		A	B	C	A
Approach Vol, veh/h	441	A	21			659
Approach Delay, s/veh	21.5		13.2			29.4
Approach LOS	C		B			C

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	44.4	45.6	45.6
Change Period (Y+Rc), s	4.0	4.0	4.0
Max Green Setting (Gmax), s	32.0	50.0	50.0
Max Q Clear Time (g_c+I1), s	19.2	2.6	38.5
Green Ext Time (p_c), s	1.1	0.1	3.2

Intersection Summary	
HCM 6th Ctrl Delay	26.0
HCM 6th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : W FRONTAGE RD
CONDITION : PM PEAK HOUR

INTERSECTION : 4
PROJECTED GROWTH PER YEAR : 2.0%

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	2			4		6	8	10
STODDARD WELLS RD								
EB LEFT	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0
EB RIGHT	0	0	0	0	0	0	0	0
WB LEFT	223	9	0	232	157	389	321	478
WB THRU	0	0	0	0	0	0	0	0
WB RIGHT	164	7	0	171	0	171	307	307
W FRONTAGE RD								
NB LEFT	0	0	0	0	0	0	0	0
NB THRU	18	1	0	19	0	19	14	14
NB RIGHT	16	1	0	17	0	17	22	22
SB LEFT	95	4	0	99	61	160	270	331
SB THRU	176	7	0	183	0	183	240	240
SB RIGHT	0	0	0	0	0	0	0	0
TOTALS	**692**	**29**	**0**	**721**	**218**	**939**	**1174**	**1392**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	4-Apr-23	FGFW0000-0001	2	OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : W FRONTAGE RD
CONDITION : PM PEAK HOUR
PHF : 0.88

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	19	14	0	3	0	0	2	0	0	1	1
0	20	22	0	1	1	0	1	0	0	3	1
0	35	10	0	0	1	0	1	0	0	2	1
0	37	27	0	1	1	0	0	0	0	5	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	1	0	0	0	0	0	2	0	0	1	0
2	1	0	0	0	0	0	0	0	0	1	0
7	1	0	0	0	0	0	0	0	0	1	0
1	0	0	0	1	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
32	0	32	1	0	0	14	0	1	4	0	2
23	0	53	1	0	1	10	0	1	0	0	1
22	0	45	1	0	1	4	0	0	0	0	1
19	0	66	0	0	1	0	0	3	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	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
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
STODDARD WELLS RD					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	12	196	**208**	**223**	**223**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	35	96	**131**	**164**	**164**
W FRONTAGE RD					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	6	3	**9**	**18**	**18**
NB RIGHT	0	12	**12**	**12**	**16**
SB LEFT	6	73	**79**	**87**	**95**
SB THRU	20	111	**131**	**160**	**176**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	8.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	223	164	18	16	95	176
Future Vol, veh/h	223	164	18	16	95	176
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	60	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	253	186	20	18	108	200

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	445	-	0	0	38	0
Stage 1	29	-	-	-	-	-
Stage 2	416	-	-	-	-	-
Critical Hdwy	6.4	-	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	-	-	2.2	-
Pot Cap-1 Maneuver	574	0	-	-	1585	-
Stage 1	999	0	-	-	-	-
Stage 2	670	0	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	530	-	-	-	1585	-
Mov Cap-2 Maneuver	530	-	-	-	-	-
Stage 1	999	-	-	-	-	-
Stage 2	618	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.9	0	2.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	530	-	1585	-
HCM Lane V/C Ratio	-	-	0.478	-	0.068	-
HCM Control Delay (s)	-	-	17.9	0	7.4	0
HCM Lane LOS	-	-	C	A	A	A
HCM 95th %tile Q(veh)	-	-	2.6	-	0.2	-

Intersection	
Int Delay, s/veh	9.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	232	171	19	17	99	183
Future Vol, veh/h	232	171	19	17	99	183
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	60	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	264	194	22	19	113	208

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	466	-	0	0	41	0
Stage 1	32	-	-	-	-	-
Stage 2	434	-	-	-	-	-
Critical Hdwy	6.4	-	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	-	-	2.2	-
Pot Cap-1 Maneuver	559	0	-	-	1581	-
Stage 1	996	0	-	-	-	-
Stage 2	658	0	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	514	-	-	-	1581	-
Mov Cap-2 Maneuver	514	-	-	-	-	-
Stage 1	996	-	-	-	-	-
Stage 2	605	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.1	0	2.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	514	-	1581	-
HCM Lane V/C Ratio	-	-	0.513	-	0.071	-
HCM Control Delay (s)	-	-	19.1	0	7.5	0
HCM Lane LOS	-	-	C	A	A	A
HCM 95th %tile Q(veh)	-	-	2.9	-	0.2	-

Intersection	
Int Delay, s/veh	54.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	389	171	19	17	160	183
Future Vol, veh/h	389	171	19	17	160	183
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	60	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	442	194	22	19	182	208

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	604	-	0	0	41	0
Stage 1	32	-	-	-	-	-
Stage 2	572	-	-	-	-	-
Critical Hdwy	6.4	-	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	-	-	2.2	-
Pot Cap-1 Maneuver	465	0	-	-	1581	-
Stage 1	996	0	-	-	-	-
Stage 2	569	0	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 405	-	-	-	1581	-
Mov Cap-2 Maneuver	~ 405	-	-	-	-	-
Stage 1	996	-	-	-	-	-
Stage 2	495	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	103.7	0	3.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	405	-	1581	-
HCM Lane V/C Ratio	-	-	1.091	-	0.115	-
HCM Control Delay (s)	-	-	103.7	0	7.6	0
HCM Lane LOS	-	-	F	A	A	A
HCM 95th %tile Q(veh)	-	-	15.4	-	0.4	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Intersection Delay, s/veh	19.8
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	389	171	19	17	160	183
Future Vol, veh/h	389	171	19	17	160	183
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	442	194	22	19	182	208
Number of Lanes	1	1	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	21.9	9.4	17.4
HCM LOS	C	A	C

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	100%	0%	47%
Vol Thru, %	53%	0%	0%	53%
Vol Right, %	47%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	36	389	171	343
LT Vol	0	389	0	160
Through Vol	19	0	0	183
RT Vol	17	0	171	0
Lane Flow Rate	41	442	194	390
Geometry Grp	2	7	7	2
Degree of Util (X)	0.067	0.773	0.274	0.617
Departure Headway (Hd)	5.938	6.293	5.08	5.702
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	602	575	707	635
Service Time	3.984	4.019	2.807	3.702
HCM Lane V/C Ratio	0.068	0.769	0.274	0.614
HCM Control Delay	9.4	27.3	9.7	17.4
HCM Lane LOS	A	D	A	C
HCM 95th-tile Q	0.2	7.1	1.1	4.2

Intersection	
Int Delay, s/veh	72.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	321	307	14	22	270	240
Future Vol, veh/h	321	307	14	22	270	240
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	60	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	338	323	15	23	284	253

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	848	-	0	0	38	0
Stage 1	27	-	-	-	-	-
Stage 2	821	-	-	-	-	-
Critical Hdwy	6.4	-	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	-	-	2.2	-
Pot Cap-1 Maneuver	~ 334	0	-	-	1585	-
Stage 1	1001	0	-	-	-	-
Stage 2	436	0	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 265	-	-	-	1585	-
Mov Cap-2 Maneuver	~ 265	-	-	-	-	-
Stage 1	1001	-	-	-	-	-
Stage 2	345	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	188.3	0	4.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	265	-	1585	-
HCM Lane V/C Ratio	-	-	1.275	-	0.179	-
HCM Control Delay (s)	-	-	188.3	0	7.8	0
HCM Lane LOS	-	-	F	A	A	A
HCM 95th %tile Q(veh)	-	-	16.7	-	0.7	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	303.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	478	307	14	22	331	240
Future Vol, veh/h	478	307	14	22	331	240
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	None	-	None
Storage Length	0	60	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	503	323	15	23	348	253

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	976	-	0	0	38	0
Stage 1	27	-	-	-	-	-
Stage 2	949	-	-	-	-	-
Critical Hdwy	6.4	-	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	-	-	2.2	-
Pot Cap-1 Maneuver	~ 281	0	-	-	1585	-
Stage 1	1001	0	-	-	-	-
Stage 2	~ 379	0	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 209	-	-	-	1585	-
Mov Cap-2 Maneuver	~ 209	-	-	-	-	-
Stage 1	1001	-	-	-	-	-
Stage 2	~ 282	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 683.8	0	4.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	209	-	1585	-
HCM Lane V/C Ratio	-	-	2.407	-	0.22	-
HCM Control Delay (s)	-	-	$ 683.8	0	7.9	0
HCM Lane LOS	-	-	F	A	A	A
HCM 95th %tile Q(veh)	-	-	41.3	-	0.8	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	478	307	14	22	331	240
Future Volume (veh/h)	478	307	14	22	331	240
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	1872	1800	1800	1800	1872
Adj Flow Rate, veh/h	503	0	15	23	348	253
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	840		270	414	440	274
Arrive On Green	0.49	0.00	0.42	0.42	0.42	0.42
Sat Flow, veh/h	1714	1586	641	982	896	651
Grp Volume(v), veh/h	503	0	0	38	601	0
Grp Sat Flow(s),veh/h/ln	1714	1586	0	1623	1547	0
Q Serve(g_s), s	19.1	0.0	0.0	1.2	32.1	0.0
Cycle Q Clear(g_c), s	19.1	0.0	0.0	1.2	33.3	0.0
Prop In Lane	1.00	1.00		0.61	0.58	
Lane Grp Cap(c), veh/h	840		0	683	715	0
V/C Ratio(X)	0.60		0.00	0.06	0.84	0.00
Avail Cap(c_a), veh/h	840		0	812	841	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	16.6	0.0	0.0	15.4	25.3	0.0
Incr Delay (d2), s/veh	3.1	0.0	0.0	0.0	6.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	0.0	0.0	0.4	12.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.7	0.0	0.0	15.5	32.1	0.0
LnGrp LOS	B		A	B	C	A
Approach Vol, veh/h	503	A	38			601
Approach Delay, s/veh	19.7		15.5			32.1
Approach LOS	B		B			C

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	48.1	41.9	41.9
Change Period (Y+Rc), s	4.0	4.0	4.0
Max Green Setting (Gmax), s	37.0	45.0	45.0
Max Q Clear Time (g_c+I1), s	21.1	3.2	35.3
Green Ext Time (p_c), s	1.4	0.2	2.5

Intersection Summary	
HCM 6th Ctrl Delay	26.1
HCM 6th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

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

Intersection No.: 4
North/South Street: W FRONTAGE 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	18	Left	0	0
NB	Through	16	Departure	534	Through	16	17
	Right	2			Right	3	3
North leg	Left	108	Approach	457	Left	291	291
SB	Through	77	Departure	235	Through	167	167
	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	283	Approach	587	Left	368	368
WB	Through	0	Departure	293	Through	0	0
	Right	142			Right	220	231

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	34	Left	0	0
NB	Through	18	Departure	560	Through	14	14
	Right	16			Right	21	22
North leg	Left	95	Approach	509	Left	270	270
SB	Through	176	Departure	311	Through	240	240
	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	223	Approach	618	Left	321	321
WB	Through	0	Departure	290	Through	0	0

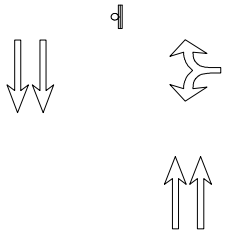
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

E/W STREET : I-15 SB OFF-RAMP
N/S STREET : STODDARD WELLS RD
CONDITION : AM PEAK HOUR

INTERSECTION : 5
PROJECTED GROWTH PER YEAR : 2.0%

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	1			3		5	7	9
I-15 SB OFF-RAMP								
EB LEFT	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0
EB RIGHT	0	0	0	0	0	0	0	0
WB LEFT	55	2	0	57	168	225	178	346
WB THRU	0	0	0	0	0	0	0	0
WB RIGHT	3	0	0	3	0	3	22	22
STODDARD WELLS RD								
NB LEFT	0	0	0	0	0	0	0	0
NB THRU	158	6	0	164	0	164	248	248
NB RIGHT	0	0	0	0	0	0	0	0
SB LEFT	0	0	0	0	0	0	0	0
SB THRU	130	5	0	135	0	135	280	280
SB RIGHT	0	0	0	0	0	0	0	0
TOTALS	**346**	**13**	**0**	**359**	**168**	**527**	**728**	**896**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	4-Apr-23	FGFW0000-0001	2	OF 2

E/W STREET : I-15 SB OFF-RAMP
CONDITION : AM PEAK HOUR
N/S STREET : STODDARD WELLS RD
PHF : 0.83

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	8	0	0	1	0	0	4	0	0	1	0
0	15	0	0	0	0	0	3	0	0	3	0
0	23	0	0	2	0	0	3	0	0	5	0
0	9	0	0	2	0	0	1	0	0	6	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	21	0	0	0	0	0	1	0	0	1	0
0	25	0	0	2	0	0	3	0	0	5	0
0	18	0	0	1	0	0	2	0	0	2	0
0	25	0	0	0	0	0	5	0	0	6	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
1	0	6	0	0	0	0	0	0	0	0	0
0	0	9	0	0	1	0	0	0	0	0	0
0	0	20	0	0	1	0	0	0	0	0	0
2	0	9	0	0	1	0	0	0	0	0	2

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	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
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 OFF-RAMP					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	5	44	**49**	**55**	**55**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	0	3	**3**	**3**	**3**
STODDARD WELLS RD					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	28	89	**117**	**158**	**158**
NB RIGHT	0	0	**0**	**0**	**0**
SB LEFT	0	0	**0**	**0**	**0**
SB THRU	31	55	**86**	**130**	**130**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	55	3	158	0	0	130
Future Vol, veh/h	55	3	158	0	0	130
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	66	4	190	0	0	157

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	269	95	0	-	-	-
Stage 1	190	-	-	-	-	-
Stage 2	79	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	703	949	-	0	0	-
Stage 1	829	-	-	0	0	-
Stage 2	941	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	703	949	-	-	-	-
Mov Cap-2 Maneuver	703	-	-	-	-	-
Stage 1	829	-	-	-	-	-
Stage 2	941	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	713	-
HCM Lane V/C Ratio	-	0.098	-
HCM Control Delay (s)	-	10.6	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0.3	-

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	3	164	0	0	135
Future Vol, veh/h	57	3	164	0	0	135
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	4	198	0	0	163

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	280	99	0	-	-	-
Stage 1	198	-	-	-	-	-
Stage 2	82	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	692	944	-	0	0	-
Stage 1	822	-	-	0	0	-
Stage 2	938	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	692	944	-	-	-	-
Mov Cap-2 Maneuver	692	-	-	-	-	-
Stage 1	822	-	-	-	-	-
Stage 2	938	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	701	-
HCM Lane V/C Ratio	-	0.103	-
HCM Control Delay (s)	-	10.7	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0.3	-

Intersection	
Int Delay, s/veh	5.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	225	3	164	0	0	135
Future Vol, veh/h	225	3	164	0	0	135
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	271	4	198	0	0	163

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	280	99	0	-	-	-
Stage 1	198	-	-	-	-	-
Stage 2	82	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	692	944	-	0	0	-
Stage 1	822	-	-	0	0	-
Stage 2	938	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	692	944	-	-	-	-
Mov Cap-2 Maneuver	692	-	-	-	-	-
Stage 1	822	-	-	-	-	-
Stage 2	938	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	694	-
HCM Lane V/C Ratio	-	0.396	-
HCM Control Delay (s)	-	13.5	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	1.9	-

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	178	22	248	0	0	280
Future Vol, veh/h	178	22	248	0	0	280
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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	187	23	261	0	0	295

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	409	131	0	-	-	-
Stage 1	261	-	-	-	-	-
Stage 2	148	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	576	901	-	0	0	-
Stage 1	765	-	-	0	0	-
Stage 2	870	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	576	901	-	-	-	-
Mov Cap-2 Maneuver	576	-	-	-	-	-
Stage 1	765	-	-	-	-	-
Stage 2	870	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	600	-
HCM Lane V/C Ratio	-	0.351	-
HCM Control Delay (s)	-	14.2	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	1.6	-

Intersection	
Int Delay, s/veh	9.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	346	22	248	0	0	280
Future Vol, veh/h	346	22	248	0	0	280
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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	364	23	261	0	0	295

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	409	131	0	-	-	-
Stage 1	261	-	-	-	-	-
Stage 2	148	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	576	901	-	0	0	-
Stage 1	765	-	-	0	0	-
Stage 2	870	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	576	901	-	-	-	-
Mov Cap-2 Maneuver	576	-	-	-	-	-
Stage 1	765	-	-	-	-	-
Stage 2	870	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	589	-
HCM Lane V/C Ratio	-	0.658	-
HCM Control Delay (s)	-	22.1	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	4.8	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

E/W STREET : I-15 SB OFF-RAMP
N/S STREET : STODDARD WELLS RD
CONDITION : PM PEAK HOUR

INTERSECTION : 5
PROJECTED GROWTH PER YEAR : 2.0%

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	2			4		6	8	10
I-15 SB OFF-RAMP								
EB LEFT	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0
EB RIGHT	0	0	0	0	0	0	0	0
WB LEFT	79	3	0	82	61	143	200	261
WB THRU	0	0	0	0	0	0	0	0
WB RIGHT	8	0	0	8	0	8	35	35
STODDARD WELLS RD								
NB LEFT	0	0	0	0	0	0	0	0
NB THRU	182	7	0	189	0	189	321	321
NB RIGHT	0	0	0	0	0	0	0	0
SB LEFT	0	0	0	0	0	0	0	0
SB THRU	192	8	0	200	0	200	310	310
SB RIGHT	0	0	0	0	0	0	0	0
TOTALS	**461**	**18**	**0**	**479**	**61**	**540**	**866**	**927**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	4-Apr-23	FGFW0000-0001	2	OF 2

E/W STREET : I-15 SB OFF-RAMP
N/S STREET : STODDARD WELLS RD
CONDITION : PM PEAK HOUR
PHF : 0.91

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	23	0	0	2	0	0	1	0	0	3	0
0	29	0	0	1	0	0	1	0	0	2	0
0	52	0	0	2	0	0	0	0	0	3	0
0	41	0	0	1	0	0	2	0	0	2	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	24	0	0	1	0	0	10	0	0	1	0
0	23	0	0	1	0	0	4	0	0	1	0
0	19	0	0	1	0	0	0	0	0	0	0
0	28	0	0	1	0	0	1	0	0	1	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
1	0	19	2	0	0	0	0	0	0	0	1
0	0	16	0	0	0	0	0	0	0	0	1
3	0	12	0	0	0	0	0	0	0	0	2
1	0	20	0	0	0	0	0	0	1	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	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
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 OFF-RAMP					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	4	67	**71**	**79**	**79**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	3	5	**8**	**8**	**8**
STODDARD WELLS RD					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	22	94	**116**	**139**	**182**
NB RIGHT	0	0	**0**	**0**	**0**
SB LEFT	0	0	**0**	**0**	**0**
SB THRU	20	145	**165**	**192**	**192**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	79	8	182	0	0	192
Future Vol, veh/h	79	8	182	0	0	192
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	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	87	9	200	0	0	211

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	306	100	0	-	-	-
Stage 1	200	-	-	-	-	-
Stage 2	106	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	667	943	-	0	0	-
Stage 1	820	-	-	0	0	-
Stage 2	913	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	667	943	-	-	-	-
Mov Cap-2 Maneuver	667	-	-	-	-	-
Stage 1	820	-	-	-	-	-
Stage 2	913	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	685	-
HCM Lane V/C Ratio	-	0.14	-
HCM Control Delay (s)	-	11.1	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0.5	-

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	82	8	189	0	0	200
Future Vol, veh/h	82	8	189	0	0	200
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	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	90	9	208	0	0	220

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	318	104	0	-	-	-
Stage 1	208	-	-	-	-	-
Stage 2	110	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	656	937	-	0	0	-
Stage 1	813	-	-	0	0	-
Stage 2	908	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	656	937	-	-	-	-
Mov Cap-2 Maneuver	656	-	-	-	-	-
Stage 1	813	-	-	-	-	-
Stage 2	908	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	674	-
HCM Lane V/C Ratio	-	0.147	-
HCM Control Delay (s)	-	11.3	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0.5	-

Intersection	
Int Delay, s/veh	3.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	143	8	189	0	0	200
Future Vol, veh/h	143	8	189	0	0	200
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	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	157	9	208	0	0	220

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	318	104	0	-	-	-
Stage 1	208	-	-	-	-	-
Stage 2	110	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	656	937	-	0	0	-
Stage 1	813	-	-	0	0	-
Stage 2	908	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	656	937	-	-	-	-
Mov Cap-2 Maneuver	656	-	-	-	-	-
Stage 1	813	-	-	-	-	-
Stage 2	908	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	667	-
HCM Lane V/C Ratio	-	0.249	-
HCM Control Delay (s)	-	12.2	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	1	-

Intersection	
Int Delay, s/veh	4.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	200	35	321	0	0	310
Future Vol, veh/h	200	35	321	0	0	310
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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	211	37	338	0	0	326

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	501	169	0	-	-	-
Stage 1	338	-	-	-	-	-
Stage 2	163	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	504	852	-	0	0	-
Stage 1	700	-	-	0	0	-
Stage 2	855	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	504	852	-	-	-	-
Mov Cap-2 Maneuver	504	-	-	-	-	-
Stage 1	700	-	-	-	-	-
Stage 2	855	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	537	-
HCM Lane V/C Ratio	-	0.461	-
HCM Control Delay (s)	-	17.3	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	2.4	-

Intersection	
Int Delay, s/veh	6.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	261	35	321	0	0	310
Future Vol, veh/h	261	35	321	0	0	310
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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	275	37	338	0	0	326

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	501	169	0	-	-	-
Stage 1	338	-	-	-	-	-
Stage 2	163	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	-
Pot Cap-1 Maneuver	504	852	-	0	0	-
Stage 1	700	-	-	0	0	-
Stage 2	855	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	504	852	-	-	-	-
Mov Cap-2 Maneuver	504	-	-	-	-	-
Stage 1	700	-	-	-	-	-
Stage 2	855	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	530	-
HCM Lane V/C Ratio	-	0.588	-
HCM Control Delay (s)	-	21	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	3.8	-

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: I-15 SB OFF-RAMP

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	235	Left	0	0
NB	Through	158	Departure	457	Through	248	248
	Right	0			Right	0	0
North leg	Left	0	Approach	288	Left	0	0
SB	Through	130	Departure	269	Through	280	280
	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	55	Approach	204	Left	178	178
WB	Through	0	Departure	0	Through	0	0
	Right	3			Right	22	22

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	311	Left	0	0
NB	Through	182	Departure	509	Through	321	321
	Right	0			Right	0	0
North leg	Left	0	Approach	316	Left	0	0
SB	Through	192	Departure	355	Through	310	310
	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	79	Approach	237	Left	200	200
WB	Through	0	Departure	0	Through	0	0

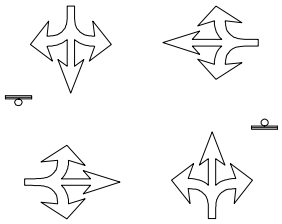
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

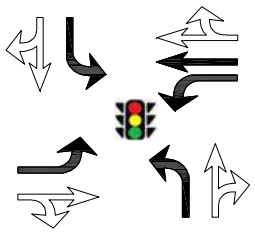
E/W STREET : STODDARD WELLS RD
N/S STREET : OUTER HWY 15S / I-15 NB RAMPS
CONDITION : AM PEAK HOUR

INTERSECTION : 6
PROJECTED GROWTH PER YEAR : 2.0%

CONDITION DIAGRAMS



EXISTING GEOMETRICS



PROJECT GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	1			3		5	7	9
STODDARD WELLS RD								
EB LEFT	299	12	0	311	0	311	167	167
EB THRU	85	3	131	219	0	219	411	411
EB RIGHT	9	0	0	9	118	127	2	120
WB LEFT	1	0	3	4	18	22	5	23
WB THRU	131	5	198	334	0	334	281	281
WB RIGHT	66	3	79	148	0	148	322	322
OUTER HWY 15S / I-15 NB R								
NB LEFT	1	0	0	1	41	42	1	42
NB THRU	2	0	0	2	36	38	2	38
NB RIGHT	1	0	5	6	6	12	8	14
SB LEFT	1	0	343	344	0	344	517	517
SB THRU	1	0	0	1	136	137	11	147
SB RIGHT	46	2	0	48	0	48	231	231
TOTALS	**643**	**25**	**759**	**1427**	**355**	**1782**	**1958**	**2313**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	4-Apr-23	FGFW0000-0001	2	OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : OUTER HWY 15S / 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**
OUTER HWY 15S / I-15 NB					
NB LEFT	0	0	**0**	**1**	**1**
NB THRU	0	2	**2**	**2**	**2**
NB RIGHT	0	0	**0**	**1**	**1**
SB LEFT	1	0	**1**	**2**	**1**
SB THRU	0	0	**0**	**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	460.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	311	219	9	4	334	148	1	2	6	344	1	48
Future Vol, veh/h	311	219	9	4	334	148	1	2	6	344	1	48
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	338	238	10	4	363	161	1	2	7	374	1	52

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	524	0	0	248	0	0	1397	1451	243	1376	1376	444
Stage 1	-	-	-	-	-	-	919	919	-	452	452	-
Stage 2	-	-	-	-	-	-	478	532	-	924	924	-
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	1053	-	-	1330	-	-	120	132	801	~ 124	146	618
Stage 1	-	-	-	-	-	-	328	353	-	591	574	-
Stage 2	-	-	-	-	-	-	572	529	-	~ 326	351	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1053	-	-	1330	-	-	77	82	801	~ 85	91	618
Mov Cap-2 Maneuver	-	-	-	-	-	-	77	82	-	~ 85	91	-
Stage 1	-	-	-	-	-	-	206	221	-	~ 371	572	-
Stage 2	-	-	-	-	-	-	521	527	-	~ 201	220	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.8	0.1	23.8	$ 1663.7
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	201	1053	-	-	1330	-	-	95
HCM Lane V/C Ratio	0.049	0.321	-	-	0.003	-	-	4.497
HCM Control Delay (s)	23.8	10	0	-	7.7	0	-	$ 1663.7
HCM Lane LOS	C	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.2	1.4	-	-	0	-	-	45.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1707.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	311	219	127	22	334	148	42	38	12	344	137	48
Future Vol, veh/h	311	219	127	22	334	148	42	38	12	344	137	48
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	338	238	138	24	363	161	46	41	13	374	149	52

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	524	0	0	376	0	0	1575	1555	307	1502	1544	444
Stage 1	-	-	-	-	-	-	983	983	-	492	492	-
Stage 2	-	-	-	-	-	-	592	572	-	1010	1052	-
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	1053	-	-	1194	-	-	90	114	738	~ 101	~ 116	618
Stage 1	-	-	-	-	-	-	302	329	-	562	551	-
Stage 2	-	-	-	-	-	-	496	508	-	~ 292	306	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1053	-	-	1194	-	-	-	65	738	~ 34	~ 66	618
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	65	-	~ 34	~ 66	-
Stage 1	-	-	-	-	-	-	177	193	-	~ 329	535	-
Stage 2	-	-	-	-	-	-	318	493	-	~ 132	179	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.7	0.4		$ 5745.2
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1053	-	-	1194	-	-	43
HCM Lane V/C Ratio	-	0.321	-	-	0.02	-	-	13.372
HCM Control Delay (s)	-	10	0	-	8.1	0	-	$ 5745.2
HCM Lane LOS	-	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	-	1.4	-	-	0.1	-	-	69.6

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)	311	219	127	22	334	148	42	38	12	344	137	48
Future Volume (veh/h)	311	219	127	22	334	148	42	38	12	344	137	48
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	1872	1800	1800	1800	1800	1800	1872	1800	1800	1872	1800
Adj Flow Rate, veh/h	338	238	138	24	363	161	46	41	13	374	149	52
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	375	509	295	34	600	262	345	242	77	575	416	145
Arrive On Green	0.22	0.46	0.46	0.02	0.26	0.26	0.03	0.18	0.18	0.17	0.31	0.31
Sat Flow, veh/h	1714	1112	644	1714	2317	1011	1714	1362	432	1714	1326	463
Grp Volume(v), veh/h	338	0	376	24	266	258	46	0	54	374	0	201
Grp Sat Flow(s),veh/h/ln	1714	0	1756	1714	1710	1618	1714	0	1794	1714	0	1789
Q Serve(g_s), s	17.3	0.0	13.3	1.3	12.3	12.6	2.0	0.0	2.3	15.0	0.0	7.8
Cycle Q Clear(g_c), s	17.3	0.0	13.3	1.3	12.3	12.6	2.0	0.0	2.3	15.0	0.0	7.8
Prop In Lane	1.00		0.37	1.00		0.62	1.00		0.24	1.00		0.26
Lane Grp Cap(c), veh/h	375	0	804	34	443	419	345	0	319	575	0	562
V/C Ratio(X)	0.90	0.00	0.47	0.70	0.60	0.61	0.13	0.00	0.17	0.65	0.00	0.36
Avail Cap(c_a), veh/h	457	0	804	114	443	419	408	0	319	575	0	562
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)	0.90	0.00	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.2	0.0	16.8	43.8	29.3	29.4	29.0	0.0	31.4	23.4	0.0	23.9
Incr Delay (d2), s/veh	16.8	0.0	1.8	22.5	5.9	6.6	0.2	0.0	1.1	2.6	0.0	1.8
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	8.3	0.0	5.0	0.7	5.3	5.2	0.8	0.0	1.0	6.7	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.0	0.0	18.6	66.3	35.2	36.0	29.2	0.0	32.5	26.0	0.0	25.6
LnGrp LOS	D	A	B	E	D	D	C	A	C	C	A	C
Approach Vol, veh/h		714			548			100			575	
Approach Delay, s/veh		34.0			36.9			31.0			25.9	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	45.2	6.7	32.3	23.7	27.3	19.0	20.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	37.0	6.0	25.0	24.0	19.0	15.0	16.0
Max Q Clear Time (g_c+I1), s	3.3	15.3	4.0	9.8	19.3	14.6	17.0	4.3
Green Ext Time (p_c), s	0.0	1.9	0.0	1.0	0.4	1.1	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	32.3
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	753.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	167	411	2	5	281	322	1	2	8	517	11	231
Future Vol, veh/h	167	411	2	5	281	322	1	2	8	517	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	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	176	433	2	5	296	339	1	2	8	544	12	243

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	635	0	0	435	0	0	1389	1431	434	1267	1263	466
Stage 1	-	-	-	-	-	-	786	786	-	476	476	-
Stage 2	-	-	-	-	-	-	603	645	-	791	787	-
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	958	-	-	1135	-	-	121	136	626	~ 147	171	601
Stage 1	-	-	-	-	-	-	388	406	-	574	560	-
Stage 2	-	-	-	-	-	-	489	471	-	~ 386	406	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	958	-	-	1135	-	-	54	102	626	~ 116	129	601
Mov Cap-2 Maneuver	-	-	-	-	-	-	54	102	-	~ 116	129	-
Stage 1	-	-	-	-	-	-	294	308	-	~ 435	556	-
Stage 2	-	-	-	-	-	-	283	468	-	~ 287	308	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.8	0.1	22.6	$ 1941.5
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	216	958	-	-	1135	-	-	154
HCM Lane V/C Ratio	0.054	0.183	-	-	0.005	-	-	5.188
HCM Control Delay (s)	22.6	9.6	0	-	8.2	0	-	$ 1941.5
HCM Lane LOS	C	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.2	0.7	-	-	0	-	-	84.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1840

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	167	411	120	23	281	322	42	38	14	517	147	231
Future Vol, veh/h	167	411	120	23	281	322	42	38	14	517	147	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	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	176	433	126	24	296	339	44	40	15	544	155	243

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	635	0	0	559	0	0	1561	1531	496	1390	1425	466
Stage 1	-	-	-	-	-	-	848	848	-	514	514	-
Stage 2	-	-	-	-	-	-	713	683	-	876	911	-
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	958	-	-	1022	-	-	92	118	578	~ 121	~ 137	601
Stage 1	-	-	-	-	-	-	359	380	-	547	539	-
Stage 2	-	-	-	-	-	-	426	452	-	~ 346	356	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	958	-	-	1022	-	-	-	83	578	~ 58	~ 96	601
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	83	-	~ 58	~ 96	-
Stage 1	-	-	-	-	-	-	261	277	-	~ 398	518	-
Stage 2	-	-	-	-	-	-	171	434	-	~ 210	259	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.3	0.3		$ 4753.3
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	958	-	-	1022	-	-	83
HCM Lane V/C Ratio	-	0.183	-	-	0.024	-	-	11.351
HCM Control Delay (s)	-	9.6	0	-	8.6	0	-	$ 4753.3
HCM Lane LOS	-	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	-	0.7	-	-	0.1	-	-	110.6

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	411	120	23	281	322	42	38	14	517	147	231
Future Volume (veh/h)	167	411	120	23	281	322	42	38	14	517	147	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	1872	1800	1800	1800	1800	1800	1872	1800	1800	1872	1800
Adj Flow Rate, veh/h	176	433	126	24	296	339	44	40	15	544	155	243
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	209	607	177	34	571	509	134	115	43	558	220	345
Arrive On Green	0.12	0.44	0.44	0.02	0.33	0.33	0.03	0.09	0.09	0.28	0.34	0.34
Sat Flow, veh/h	1714	1394	406	1714	1710	1525	1714	1298	487	1714	657	1030
Grp Volume(v), veh/h	176	0	559	24	296	339	44	0	55	544	0	398
Grp Sat Flow(s),veh/h/ln	1714	0	1799	1714	1710	1525	1714	0	1784	1714	0	1687
Q Serve(g_s), s	9.0	0.0	22.9	1.3	12.5	17.1	2.2	0.0	2.6	23.9	0.0	18.5
Cycle Q Clear(g_c), s	9.0	0.0	22.9	1.3	12.5	17.1	2.2	0.0	2.6	23.9	0.0	18.5
Prop In Lane	1.00		0.23	1.00		1.00	1.00		0.27	1.00		0.61
Lane Grp Cap(c), veh/h	209	0	783	34	571	509	134	0	159	558	0	566
V/C Ratio(X)	0.84	0.00	0.71	0.70	0.52	0.67	0.33	0.00	0.35	0.98	0.00	0.70
Avail Cap(c_a), veh/h	229	0	783	76	571	509	175	0	317	558	0	675
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)	0.90	0.00	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.7	0.0	20.8	43.8	24.1	25.7	40.3	0.0	38.5	30.3	0.0	26.0
Incr Delay (d2), s/veh	20.7	0.0	5.0	22.5	3.3	6.7	1.4	0.0	1.3	31.8	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	9.3	0.7	5.1	6.5	0.9	0.0	1.1	15.3	0.0	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.4	0.0	25.8	66.3	27.5	32.4	41.7	0.0	39.8	62.1	0.0	28.7
LnGrp LOS	E	A	C	E	C	C	D	A	D	E	A	C
Approach Vol, veh/h		735			659			99			942	
Approach Delay, s/veh		33.8			31.4			40.7			48.0	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	43.2	6.8	34.2	14.9	34.1	29.0	12.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.8	29.0	5.0	36.0	12.0	21.0	25.0	16.0
Max Q Clear Time (g_c+I1), s	3.3	24.9	4.2	20.5	11.0	19.1	25.9	4.6
Green Ext Time (p_c), s	0.0	1.2	0.0	2.4	0.0	0.7	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	38.9
HCM 6th LOS	D

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : OUTER HWY 15S / I-15 NB RAMPS
CONDITION : PM PEAK HOUR

INTERSECTION : 6
PROJECTED GROWTH PER YEAR : 2.0%

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	2			4		6	8	10
STODDARD WELLS RD								
EB LEFT	234	9	0	243	0	243	182	182
EB THRU	53	2	120	175	0	175	284	284
EB RIGHT	1	0	0	1	44	45	1	45
WB LEFT	4	0	6	10	7	17	16	23
WB THRU	292	12	333	637	0	637	870	870
WB RIGHT	60	2	113	175	0	175	266	266
OUTER HWY 15S / I-15 NB R								
NB LEFT	1	0	0	1	127	128	1	128
NB THRU	3	0	0	3	111	114	2	113
NB RIGHT	1	0	5	6	17	23	8	25
SB LEFT	17	1	261	279	0	279	427	427
SB THRU	1	0	0	1	50	51	3	53
SB RIGHT	137	5	0	142	0	142	242	242
TOTALS	**804**	**31**	**838**	**1673**	**356**	**2029**	**2302**	**2658**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	HEAY	4-Apr-23	FGFW0000-0001	2 OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : OUTER HWY 15S / 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**
OUTER HWY 15S / I-15 NB					
NB LEFT	0	0	**0**	**1**	**1**
NB THRU	0	3	**3**	**3**	**3**
NB RIGHT	0	0	**0**	**1**	**1**
SB LEFT	0	17	**17**	**17**	**17**
SB THRU	0	0	**0**	**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	596.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	243	175	1	10	637	175	1	3	6	279	1	142
Future Vol, veh/h	243	175	1	10	637	175	1	3	6	279	1	142
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	273	197	1	11	716	197	1	3	7	313	1	160

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	913	0	0	198	0	0	1661	1679	198	1586	1581	815
Stage 1	-	-	-	-	-	-	744	744	-	837	837	-
Stage 2	-	-	-	-	-	-	917	935	-	749	744	-
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	755	-	-	1387	-	-	78	96	848	~ 88	110	381
Stage 1	-	-	-	-	-	-	410	424	-	364	385	-
Stage 2	-	-	-	-	-	-	329	347	-	407	424	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	755	-	-	1387	-	-	30	56	848	~ 56	64	381
Mov Cap-2 Maneuver	-	-	-	-	-	-	30	56	-	~ 56	64	-
Stage 1	-	-	-	-	-	-	244	252	-	~ 216	378	-
Stage 2	-	-	-	-	-	-	187	341	-	~ 237	252	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	7.2	0.1	43	$ 2354.9
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	106	755	-	-	1387	-	-	79
HCM Lane V/C Ratio	0.106	0.362	-	-	0.008	-	-	6.002
HCM Control Delay (s)	43	12.4	0	-	7.6	0	-	$ 2354.9
HCM Lane LOS	E	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.3	1.7	-	-	0	-	-	52.8

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

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	243	175	45	17	637	175	128	114	23	279	51	142
Future Vol, veh/h	243	175	45	17	637	175	128	114	23	279	51	142
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	273	197	51	19	716	197	144	128	26	313	57	160

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	913	0	0	248	0	0	1730	1720	223	1699	1647	815
Stage 1	-	-	-	-	-	-	769	769	-	853	853	-
Stage 2	-	-	-	-	-	-	961	951	-	846	794	-
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	755	-	-	1330	-	-	~ 70	~ 90	822	~ 74	100	381
Stage 1	-	-	-	-	-	-	397	413	-	357	378	-
Stage 2	-	-	-	-	-	-	311	341	-	360	403	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	755	-	-	1330	-	-	-	~ 50	822	-	~ 56	381
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 50	-	-	~ 56	-
Stage 1	-	-	-	-	-	-	229	239	-	~ 206	367	-
Stage 2	-	-	-	-	-	-	148	331	-	~ 94	233	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	6.5	0.2		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	755	-	-	1330	-	-	-
HCM Lane V/C Ratio	-	0.362	-	-	0.014	-	-	-
HCM Control Delay (s)	-	12.4	0	-	7.7	0	-	-
HCM Lane LOS	-	B	A	-	A	A	-	-
HCM 95th %tile Q(veh)	-	1.7	-	-	0	-	-	-

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)	243	175	45	17	637	175	128	114	23	279	51	142
Future Volume (veh/h)	243	175	45	17	637	175	128	114	23	279	51	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1872	1800	1800	1800	1800	1800	1872	1800	1800	1872	1800
Adj Flow Rate, veh/h	273	197	51	19	716	197	144	128	26	313	57	160
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	307	769	199	29	990	272	249	268	55	350	92	257
Arrive On Green	0.18	0.54	0.54	0.02	0.37	0.37	0.06	0.18	0.18	0.09	0.21	0.21
Sat Flow, veh/h	1714	1434	371	1714	2650	729	1714	1510	307	1714	434	1219
Grp Volume(v), veh/h	273	0	248	19	462	451	144	0	154	313	0	217
Grp Sat Flow(s),veh/h/ln	1714	0	1805	1714	1710	1669	1714	0	1817	1714	0	1653
Q Serve(g_s), s	14.0	0.0	6.6	1.0	20.9	20.9	0.0	0.0	6.9	5.8	0.0	10.7
Cycle Q Clear(g_c), s	14.0	0.0	6.6	1.0	20.9	20.9	0.0	0.0	6.9	5.8	0.0	10.7
Prop In Lane	1.00		0.21	1.00		0.44	1.00		0.17	1.00		0.74
Lane Grp Cap(c), veh/h	307	0	968	29	639	624	249	0	323	350	0	349
V/C Ratio(X)	0.89	0.00	0.26	0.66	0.72	0.72	0.58	0.00	0.48	0.89	0.00	0.62
Avail Cap(c_a), veh/h	343	0	968	114	639	624	321	0	323	422	0	349
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)	0.96	0.00	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.1	0.0	11.2	44.0	24.2	24.2	38.7	0.0	33.2	36.5	0.0	32.2
Incr Delay (d2), s/veh	21.4	0.0	0.6	22.8	7.0	7.1	2.1	0.0	5.0	18.5	0.0	8.1
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	7.2	0.0	2.3	0.6	8.6	8.4	3.0	0.0	3.3	8.4	0.0	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.4	0.0	11.8	66.8	31.1	31.3	40.8	0.0	38.2	55.1	0.0	40.3
LnGrp LOS	E	A	B	E	C	C	D	A	D	E	A	D
Approach Vol, veh/h		521			932			298			530	
Approach Delay, s/veh		35.7			32.0			39.4			49.0	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.5	52.3	9.2	23.0	20.1	37.6	12.2	20.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.6	40.0	9.0	19.0	18.0	28.0	12.0	16.0
Max Q Clear Time (g_c+I1), s	3.0	8.6	2.0	12.7	16.0	22.9	7.8	8.9
Green Ext Time (p_c), s	0.0	1.2	0.2	0.6	0.2	2.3	0.4	0.3

Intersection Summary	
HCM 6th Ctrl Delay	37.8
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	1431.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	182	284	1	16	870	266	1	2	8	427	3	242
Future Vol, veh/h	182	284	1	16	870	266	1	2	8	427	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	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	192	299	1	17	916	280	1	2	8	449	3	255

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1196	0	0	300	0	0	1903	1914	300	1779	1774	1056
Stage 1	-	-	-	-	-	-	684	684	-	1090	1090	-
Stage 2	-	-	-	-	-	-	1219	1230	-	689	684	-
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	591	-	-	1273	-	-	53	69	744	~ 65	84	276
Stage 1	-	-	-	-	-	-	442	452	-	~ 263	294	-
Stage 2	-	-	-	-	-	-	223	252	-	~ 439	452	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	591	-	-	1273	-	-	3	40	744	~ 42	49	276
Mov Cap-2 Maneuver	-	-	-	-	-	-	3	40	-	~ 42	49	-
Stage 1	-	-	-	-	-	-	270	276	-	~ 160	281	-
Stage 2	-	-	-	-	-	-	16	241	-	~ 263	276	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.5	0.1	204.9	$ 4896
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	28	591	-	-	1273	-	-	61
HCM Lane V/C Ratio	0.414	0.324	-	-	0.013	-	-	11.596
HCM Control Delay (s)	204.9	14	0	-	7.9	0	-	$ 4896
HCM Lane LOS	F	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	1.3	1.4	-	-	0	-	-	84

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

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	182	284	45	23	870	266	128	113	25	427	53	242
Future Vol, veh/h	182	284	45	23	870	266	128	113	25	427	53	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	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	192	299	47	24	916	280	135	119	26	449	56	255

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1196	0	0	346	0	0	1967	1951	323	1883	1834	1056
Stage 1	-	-	-	-	-	-	707	707	-	1104	1104	-
Stage 2	-	-	-	-	-	-	1260	1244	-	779	730	-
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	591	-	-	1224	-	-	~ 48	~ 65	723	~ 55	77	276
Stage 1	-	-	-	-	-	-	429	441	-	~ 258	289	-
Stage 2	-	-	-	-	-	-	211	248	-	~ 392	431	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	591	-	-	1224	-	-	-	~ 36	723	-	~ 43	276
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 36	-	-	~ 43	-
Stage 1	-	-	-	-	-	-	255	262	-	~ 154	271	-
Stage 2	-	-	-	-	-	-	~ 12	232	-	~ 123	256	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5	0.2		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	591	-	-	1224	-	-	-
HCM Lane V/C Ratio	-	0.324	-	-	0.02	-	-	-
HCM Control Delay (s)	-	14	0	-	8	0	-	-
HCM Lane LOS	-	B	A	-	A	A	-	-
HCM 95th %tile Q(veh)	-	1.4	-	-	0.1	-	-	-

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)	182	284	45	23	870	266	128	113	25	427	53	242
Future Volume (veh/h)	182	284	45	23	870	266	128	113	25	427	53	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	1872	1800	1800	1800	1800	1800	1872	1800	1800	1872	1800
Adj Flow Rate, veh/h	192	299	47	24	916	280	135	119	26	449	56	255
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	190	977	154	34	1362	415	236	265	58	446	84	384
Arrive On Green	0.11	0.62	0.62	0.02	0.53	0.53	0.09	0.18	0.18	0.19	0.29	0.29
Sat Flow, veh/h	1714	1579	248	1714	2581	787	1714	1488	325	1714	294	1338
Grp Volume(v), veh/h	192	0	346	24	606	590	135	0	145	449	0	311
Grp Sat Flow(s),veh/h/ln	1714	0	1827	1714	1710	1658	1714	0	1813	1714	0	1631
Q Serve(g_s), s	10.0	0.0	8.0	1.3	23.3	23.5	6.5	0.0	6.4	17.5	0.0	15.1
Cycle Q Clear(g_c), s	10.0	0.0	8.0	1.3	23.3	23.5	6.5	0.0	6.4	17.5	0.0	15.1
Prop In Lane	1.00		0.14	1.00		0.47	1.00		0.18	1.00		0.82
Lane Grp Cap(c), veh/h	190	0	1131	34	903	875	236	0	322	446	0	468
V/C Ratio(X)	1.01	0.00	0.31	0.70	0.67	0.67	0.57	0.00	0.45	1.01	0.00	0.66
Avail Cap(c_a), veh/h	190	0	1131	95	903	875	261	0	322	446	0	468
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)	0.88	0.00	0.88	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.0	0.0	8.1	43.8	15.5	15.6	34.6	0.0	33.1	34.0	0.0	28.3
Incr Delay (d2), s/veh	63.2	0.0	0.6	22.5	4.0	4.1	2.4	0.0	4.5	44.5	0.0	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	0.0	2.6	0.7	8.3	8.1	2.7	0.0	3.0	14.3	0.0	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	103.2	0.0	8.7	66.3	19.5	19.7	37.0	0.0	37.5	78.5	0.0	35.6
LnGrp LOS	F	A	A	E	B	B	D	A	D	F	A	D
Approach Vol, veh/h		538			1220			280			760	
Approach Delay, s/veh		42.4			20.5			37.3			60.9	
Approach LOS		D			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	60.2	11.7	29.8	14.0	52.0	21.5	20.0
Change Period (Y+Rc), s	4.0	4.0	3.5	4.0	4.0	4.0	4.0	* 4
Max Green Setting (Gmax), s	5.8	36.0	9.5	24.0	10.0	31.0	17.5	* 16
Max Q Clear Time (g_c+I1), s	3.3	10.0	8.5	17.1	12.0	25.5	19.5	8.4
Green Ext Time (p_c), s	0.0	1.8	0.0	1.1	0.0	3.1	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	37.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection No.: 6
North/South Street: OUTER HWY 15S / 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	1	1
NB	Through	2	Departure	14	Through	2	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	167	167
EB	Through	85	Departure	313	Through	280	280
	Right	9			Right	2	2
East leg	Left	1	Approach	320	Left	2	2
WB	Through	131	Departure	456	Through	83	83
	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	1	1
NB	Through	3	Departure	13	Through	2	2
	Right	1			Right	3	3
North leg	Left	17	Approach	401	Left	166	166
SB	Through	1	Departure	336	Through	3	3
	Right	137			Right	242	242
West leg	Left	234	Approach	338	Left	182	182
EB	Through	53	Departure	779	Through	164	164
	Right	1			Right	1	1
East leg	Left	4	Approach	686	Left	10	10
WB	Through	292	Departure	331	Through	537	537

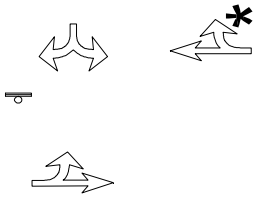
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

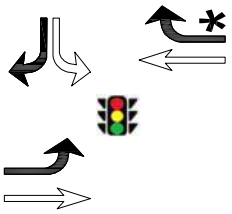
E/W STREET : STODDARD WELLS RD
N/S STREET : QUARRY RD
CONDITION : AM PEAK HOUR

INTERSECTION : 7
PROJECTED GROWTH PER YEAR : 2.0%

CONDITION DIAGRAMS



EXISTING GEOMETRICS



PROJECT GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	1			3		5	7	9
STODDARD WELLS RD								
EB LEFT	131	5	0	136	0	136	140	140
EB THRU	264	11	7	282	0	282	289	289
EB RIGHT	0	0	0	0	0	0	0	0
WB LEFT	0	0	0	0	0	0	0	0
WB THRU	25	1	5	31	0	31	42	42
WB RIGHT	153	6	193	352	41	393	471	512
QUARRY RD								
NB LEFT	0	0	0	0	0	0	0	0
NB THRU	0	0	0	0	0	0	0	0
NB RIGHT	0	0	0	0	0	0	0	0
SB LEFT	129	5	124	258	118	376	285	403
SB THRU	0	0	0	0	0	0	0	0
SB RIGHT	50	2	0	52	0	52	49	49
TOTALS	**752**	**30**	**329**	**1111**	**159**	**1270**	**1276**	**1435**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	4-Apr-23	FGFW0000-0001	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	15.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	136	282	31	352	258	52
Future Vol, veh/h	136	282	31	352	258	52
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	148	307	34	383	280	57

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	34	0	-	0	637	34
Stage 1	-	-	-	-	34	-
Stage 2	-	-	-	-	603	-
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	1591	-	-	0	445	1045
Stage 1	-	-	-	0	994	-
Stage 2	-	-	-	0	550	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1591	-	-	-	395	1045
Mov Cap-2 Maneuver	-	-	-	-	395	-
Stage 1	-	-	-	-	883	-
Stage 2	-	-	-	-	550	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	35.1
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1591	-	-	441
HCM Lane V/C Ratio	0.093	-	-	0.764
HCM Control Delay (s)	7.5	0	-	35.1
HCM Lane LOS	A	A	-	E
HCM 95th %tile Q(veh)	0.3	-	-	6.5

Intersection	
Int Delay, s/veh	50.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	136	282	31	393	376	52
Future Vol, veh/h	136	282	31	393	376	52
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	148	307	34	427	409	57

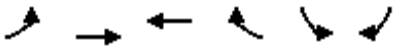
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	34	0	-	0	637	34
Stage 1	-	-	-	-	34	-
Stage 2	-	-	-	-	603	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1591	-	-	0	445	1045
Stage 1	-	-	-	0	994	-
Stage 2	-	-	-	0	550	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1591	-	-	-	~ 395	1045
Mov Cap-2 Maneuver	-	-	-	-	~ 395	-
Stage 1	-	-	-	-	883	-
Stage 2	-	-	-	-	550	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	100.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1591	-	-	427
HCM Lane V/C Ratio	0.093	-	-	1.09
HCM Control Delay (s)	7.5	0	-	100.9
HCM Lane LOS	A	A	-	F
HCM 95th %tile Q(veh)	0.3	-	-	15.8

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	136	282	31	393	376	52
Future Volume (veh/h)	136	282	31	393	376	52
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	1872	1872	1800	1872	1800
Adj Flow Rate, veh/h	148	307	34	0	409	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	182	874	591		792	678
Arrive On Green	0.11	0.47	0.32	0.00	0.44	0.44
Sat Flow, veh/h	1714	1872	1872	1525	1783	1525
Grp Volume(v), veh/h	148	307	34	0	409	57
Grp Sat Flow(s),veh/h/ln	1714	1872	1872	1525	1783	1525
Q Serve(g_s), s	7.6	9.4	1.1	0.0	14.9	1.9
Cycle Q Clear(g_c), s	7.6	9.4	1.1	0.0	14.9	1.9
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	182	874	591		792	678
V/C Ratio(X)	0.81	0.35	0.06		0.52	0.08
Avail Cap(c_a), veh/h	362	874	591		792	678
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.78	0.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	15.3	21.5	0.0	18.0	14.4
Incr Delay (d2), s/veh	8.3	1.1	0.1	0.0	2.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	3.7	0.5	0.0	6.2	2.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	47.7	16.4	21.6	0.0	20.4	14.7
LnGrp LOS	D	B	C		C	B
Approach Vol, veh/h		455	34	A	466	
Approach Delay, s/veh		26.6	21.6		19.7	
Approach LOS		C	C		B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		46.0		44.0	13.6	32.4
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		42.0		40.0	19.0	19.0
Max Q Clear Time (g_c+I1), s		11.4		16.9	9.6	3.1
Green Ext Time (p_c), s		1.5		1.4	0.2	0.1

Intersection Summary		
HCM 6th Ctrl Delay		23.1
HCM 6th LOS		C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	18.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	140	289	42	471	285	49
Future Vol, veh/h	140	289	42	471	285	49
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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	147	304	44	496	300	52

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	44	0	-	0	642	44
Stage 1	-	-	-	-	44	-
Stage 2	-	-	-	-	598	-
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	1577	-	-	0	442	1032
Stage 1	-	-	-	0	984	-
Stage 2	-	-	-	0	553	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1577	-	-	-	392	1032
Mov Cap-2 Maneuver	-	-	-	-	392	-
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	553	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	41.1
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1577	-	-	431
HCM Lane V/C Ratio	0.093	-	-	0.816
HCM Control Delay (s)	7.5	0	-	41.1
HCM Lane LOS	A	A	-	E
HCM 95th %tile Q(veh)	0.3	-	-	7.5

Intersection	
Int Delay, s/veh	58

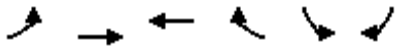
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	140	289	42	512	403	49
Future Vol, veh/h	140	289	42	512	403	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	147	304	44	539	424	52

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	44	0	-	0	642	44
Stage 1	-	-	-	-	44	-
Stage 2	-	-	-	-	598	-
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	1577	-	-	0	442	1032
Stage 1	-	-	-	0	984	-
Stage 2	-	-	-	0	553	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1577	-	-	-	~ 392	1032
Mov Cap-2 Maneuver	-	-	-	-	~ 392	-
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	553	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	116
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1577	-	-	420
HCM Lane V/C Ratio	0.093	-	-	1.133
HCM Control Delay (s)	7.5	0	-	116
HCM Lane LOS	A	A	-	F
HCM 95th %tile Q(veh)	0.3	-	-	17.3

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	140	289	42	512	403	49
Future Volume (veh/h)	140	289	42	512	403	49
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	1872	1872	1800	1872	1800
Adj Flow Rate, veh/h	147	304	44	0	424	52
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	181	811	530		852	729
Arrive On Green	0.11	0.43	0.28	0.00	0.48	0.48
Sat Flow, veh/h	1714	1872	1872	1525	1783	1525
Grp Volume(v), veh/h	147	304	44	0	424	52
Grp Sat Flow(s),veh/h/ln	1714	1872	1872	1525	1783	1525
Q Serve(g_s), s	7.5	9.9	1.6	0.0	14.7	1.7
Cycle Q Clear(g_c), s	7.5	9.9	1.6	0.0	14.7	1.7
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	181	811	530		852	729
V/C Ratio(X)	0.81	0.37	0.08		0.50	0.07
Avail Cap(c_a), veh/h	362	811	530		852	729
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.83	0.00	1.00	1.00
Uniform Delay (d), s/veh	39.4	17.3	23.7	0.0	16.1	12.7
Incr Delay (d2), s/veh	8.4	1.3	0.3	0.0	2.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	4.0	0.7	0.0	6.0	2.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	47.7	18.6	23.9	0.0	18.2	12.9
LnGrp LOS	D	B	C		B	B
Approach Vol, veh/h		451	44	A	476	
Approach Delay, s/veh		28.1	23.9		17.6	
Approach LOS		C	C		B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		43.0		47.0	13.5	29.5
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		39.0		43.0	19.0	16.0
Max Q Clear Time (g_c+I1), s		11.9		16.7	9.5	3.6
Green Ext Time (p_c), s		1.5		1.5	0.2	0.1

Intersection Summary		
HCM 6th Ctrl Delay		22.8
HCM 6th LOS		C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

E/W STREET : STODDARD WELLS RD
N/S STREET : QUARRY RD
CONDITION : PM PEAK HOUR

INTERSECTION : 7
PROJECTED GROWTH PER YEAR : 2.0%

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	2			4		6	8	10
STODDARD WELLS RD								
EB LEFT	67	3	0	70	0	70	82	82
EB THRU	227	9	6	242	0	242	249	249
EB RIGHT	0	0	0	0	0	0	0	0
WB LEFT	0	0	0	0	0	0	0	0
WB THRU	179	7	7	193	0	193	215	215
WB RIGHT	251	10	326	587	127	714	898	1025
QUARRY RD								
NB LEFT	0	0	0	0	0	0	0	0
NB THRU	0	0	0	0	0	0	0	0
NB RIGHT	0	0	0	0	0	0	0	0
SB LEFT	61	2	114	177	44	221	218	262
SB THRU	0	0	0	0	0	0	0	0
SB RIGHT	94	4	0	98	0	98	91	91
TOTALS	**879**	**35**	**453**	**1367**	**171**	**1538**	**1753**	**1924**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	4-Apr-23	FGFW0000-0001	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	8.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	70	242	193	587	177	98
Future Vol, veh/h	70	242	193	587	177	98
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	76	263	210	638	192	107

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	210	0	-	0	625	210
Stage 1	-	-	-	-	210	-
Stage 2	-	-	-	-	415	-
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	1373	-	-	0	452	835
Stage 1	-	-	-	0	830	-
Stage 2	-	-	-	0	671	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1373	-	-	-	423	835
Mov Cap-2 Maneuver	-	-	-	-	423	-
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	671	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	21.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1373	-	-	513
HCM Lane V/C Ratio	0.055	-	-	0.583
HCM Control Delay (s)	7.8	0	-	21.4
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.2	-	-	3.7

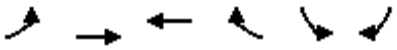
Intersection	
Int Delay, s/veh	11.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	70	242	193	714	221	98
Future Vol, veh/h	70	242	193	714	221	98
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	76	263	210	776	240	107

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	210	0	-	0	625	210
Stage 1	-	-	-	-	210	-
Stage 2	-	-	-	-	415	-
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	1373	-	-	0	452	835
Stage 1	-	-	-	0	830	-
Stage 2	-	-	-	0	671	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1373	-	-	-	423	835
Mov Cap-2 Maneuver	-	-	-	-	423	-
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	671	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	27
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1373	-	-	499
HCM Lane V/C Ratio	0.055	-	-	0.695
HCM Control Delay (s)	7.8	0	-	27
HCM Lane LOS	A	A	-	D
HCM 95th %tile Q(veh)	0.2	-	-	5.3



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	70	242	193	714	221	98
Future Volume (veh/h)	70	242	193	714	221	98
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	1872	1872	1800	1872	1800
Adj Flow Rate, veh/h	76	263	210	0	240	107
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	98	1019	829		654	559
Arrive On Green	0.06	0.54	0.15	0.00	0.37	0.37
Sat Flow, veh/h	1714	1872	1872	1525	1783	1525
Grp Volume(v), veh/h	76	263	210	0	240	107
Grp Sat Flow(s),veh/h/ln	1714	1872	1872	1525	1783	1525
Q Serve(g_s), s	3.9	6.7	9.0	0.0	8.9	4.3
Cycle Q Clear(g_c), s	3.9	6.7	9.0	0.0	8.9	4.3
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	98	1019	829		654	559
V/C Ratio(X)	0.78	0.26	0.25		0.37	0.19
Avail Cap(c_a), veh/h	305	1019	829		654	559
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.56	0.00	1.00	1.00
Uniform Delay (d), s/veh	41.9	10.9	25.2	0.0	20.9	19.4
Incr Delay (d2), s/veh	12.5	0.6	0.4	0.0	1.6	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	2.4	4.0	0.0	3.8	4.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	54.3	11.5	25.6	0.0	22.4	20.2
LnGrp LOS	D	B	C		C	C
Approach Vol, veh/h		339	210	A	347	
Approach Delay, s/veh		21.1	25.6		21.7	
Approach LOS		C	C		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		53.0		37.0	9.1	43.9
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		49.0		33.0	16.0	29.0
Max Q Clear Time (g_c+I1), s		8.7		10.9	5.9	11.0
Green Ext Time (p_c), s		1.3		1.0	0.1	0.8

Intersection Summary		
HCM 6th Ctrl Delay		22.4
HCM 6th LOS		C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	10.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	82	249	215	898	218	91
Future Vol, veh/h	82	249	215	898	218	91
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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	86	262	226	945	229	96

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	226	0	-	0	660	226
Stage 1	-	-	-	-	226	-
Stage 2	-	-	-	-	434	-
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	1354	-	-	0	431	818
Stage 1	-	-	-	0	816	-
Stage 2	-	-	-	0	658	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1354	-	-	-	399	818
Mov Cap-2 Maneuver	-	-	-	-	399	-
Stage 1	-	-	-	-	756	-
Stage 2	-	-	-	-	658	-

Approach	EB	WB	SB
HCM Control Delay, s	1.9	0	28.1
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1354	-	-	470
HCM Lane V/C Ratio	0.064	-	-	0.692
HCM Control Delay (s)	7.8	0	-	28.1
HCM Lane LOS	A	A	-	D
HCM 95th %tile Q(veh)	0.2	-	-	5.2

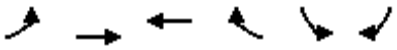
Intersection	
Int Delay, s/veh	15.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	82	249	215	1025	262	91
Future Vol, veh/h	82	249	215	1025	262	91
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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	86	262	226	1079	276	96

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	226	0	-	0	660	226
Stage 1	-	-	-	-	226	-
Stage 2	-	-	-	-	434	-
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	1354	-	-	0	431	818
Stage 1	-	-	-	0	816	-
Stage 2	-	-	-	0	658	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1354	-	-	-	399	818
Mov Cap-2 Maneuver	-	-	-	-	399	-
Stage 1	-	-	-	-	756	-
Stage 2	-	-	-	-	658	-

Approach	EB	WB	SB
HCM Control Delay, s	1.9	0	38.2
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1354	-	-	460
HCM Lane V/C Ratio	0.064	-	-	0.808
HCM Control Delay (s)	7.8	0	-	38.2
HCM Lane LOS	A	A	-	E
HCM 95th %tile Q(veh)	0.2	-	-	7.5



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	82	249	215	1025	262	91
Future Volume (veh/h)	82	249	215	1025	262	91
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	1872	1872	1800	1872	1800
Adj Flow Rate, veh/h	86	262	226	0	276	96
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	110	1362	1159		327	280
Arrive On Green	0.06	0.73	0.20	0.00	0.18	0.18
Sat Flow, veh/h	1714	1872	1872	1525	1783	1525
Grp Volume(v), veh/h	86	262	226	0	276	96
Grp Sat Flow(s),veh/h/ln	1714	1872	1872	1525	1783	1525
Q Serve(g_s), s	4.4	4.0	9.0	0.0	13.5	4.9
Cycle Q Clear(g_c), s	4.4	4.0	9.0	0.0	13.5	4.9
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	110	1362	1159		327	280
V/C Ratio(X)	0.78	0.19	0.20		0.84	0.34
Avail Cap(c_a), veh/h	305	1362	1159		654	559
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.15	0.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	3.9	17.2	0.0	35.5	32.0
Incr Delay (d2), s/veh	11.2	0.3	0.1	0.0	6.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	1.0	3.5	0.0	6.2	4.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	52.7	4.2	17.3	0.0	41.5	32.8
LnGrp LOS	D	A	B		D	C
Approach Vol, veh/h		348	226	A	372	
Approach Delay, s/veh		16.2	17.3		39.2	
Approach LOS		B	B		D	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	69.5		20.5	9.8	59.7
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s	49.0		33.0	16.0	29.0
Max Q Clear Time (g_c+I1), s	6.0		15.5	6.4	11.0
Green Ext Time (p_c), s	1.3		1.0	0.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	25.5
HCM 6th LOS	C

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

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	205	Left	157	161
SB	Through	0	Departure	417	Through	0	0
	Right	50			Right	49	49
West leg	Left	131	Approach	421	Left	140	140
EB	Through	264	Departure	84	Through	282	282
	Right	0			Right	0	0
East leg	Left	0	Approach	313	Left	0	0
WB	Through	25	Departure	438	Through	36	37
	Right	153			Right	278	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	191	Left	101	104
SB	Through	0	Departure	653	Through	0	0
	Right	94			Right	91	91
West leg	Left	67	Approach	317	Left	82	82
EB	Through	227	Departure	297	Through	236	243
	Right	0			Right	0	0
East leg	Left	0	Approach	779	Left	0	0
WB	Through	179	Departure	336	Through	207	208

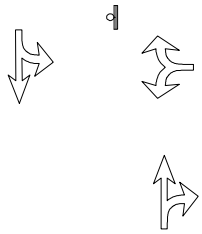
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

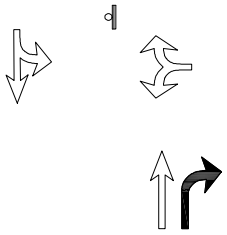
E/W STREET : I-15 SB RAMPS
N/S STREET : QUARRY RD
CONDITION : AM PEAK HOUR

INTERSECTION : 8
PROJECTED GROWTH PER YEAR : 2.0%

CONDITION DIAGRAMS



EXISTING GEOMETRICS



PROJECT GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	1			3		5	7	9
I-15 SB RAMPS								
EB LEFT	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0
EB RIGHT	0	0	0	0	0	0	0	0
WB LEFT	178	7	124	309	118	427	333	451
WB THRU	0	0	0	0	0	0	0	0
WB RIGHT	1	0	0	1	0	1	1	1
QUARRY RD								
NB LEFT	0	0	0	0	0	0	0	0
NB THRU	1	0	0	1	0	1	2	2
NB RIGHT	283	11	193	487	41	528	609	650
SB LEFT	1	0	0	1	0	1	2	2
SB THRU	1	0	0	1	0	1	1	1
SB RIGHT	0	0	0	0	0	0	0	0
TOTALS	**465**	**18**	**317**	**800**	**159**	**959**	**948**	**1107**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	4-Apr-23	FGFW0000-0001	2	OF 2

E/W STREET : I-15 SB RAMPS
CONDITION : AM PEAK HOUR

N/S STREET : QUARRY RD
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	5.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	309	1	1	487	1	1
Future Vol, veh/h	309	1	1	487	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	343	1	1	541	1	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	275	272	0	0	542	0
Stage 1	272	-	-	-	-	-
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	719	772	-	-	1037	-
Stage 1	778	-	-	-	-	-
Stage 2	1025	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	718	772	-	-	1037	-
Mov Cap-2 Maneuver	718	-	-	-	-	-
Stage 1	778	-	-	-	-	-
Stage 2	1024	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.5	0	4.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	718	1037	-
HCM Lane V/C Ratio	-	-	0.48	0.001	-
HCM Control Delay (s)	-	-	14.5	8.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	2.6	0	-

Intersection	
Int Delay, s/veh	9.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	427	1	1	528	1	1
Future Vol, veh/h	427	1	1	528	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	474	1	1	587	1	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	298	295	0	0	588	0
Stage 1	295	-	-	-	-	-
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	698	749	-	-	997	-
Stage 1	760	-	-	-	-	-
Stage 2	1025	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	697	749	-	-	997	-
Mov Cap-2 Maneuver	697	-	-	-	-	-
Stage 1	760	-	-	-	-	-
Stage 2	1024	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.5	0	4.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	697	997	-
HCM Lane V/C Ratio	-	-	0.682	0.001	-
HCM Control Delay (s)	-	-	20.5	8.6	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	5.4	0	-

Intersection	
Int Delay, s/veh	5.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	427	1	1	528	1	1
Future Vol, veh/h	427	1	1	528	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	-	-	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	474	1	1	587	1	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	4	1	0	0	588	0
Stage 1	1	-	-	-	-	-
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	1023	1090	-	-	997	-
Stage 1	1028	-	-	-	-	-
Stage 2	1025	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	1022	1090	-	-	997	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1028	-	-	-	-	-
Stage 2	1024	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	4.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1022	997	-
HCM Lane V/C Ratio	-	-	0.465	0.001	-
HCM Control Delay (s)	-	-	11.6	8.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	2.5	0	-

Intersection	
Int Delay, s/veh	5.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	333	1	2	609	2	1
Future Vol, veh/h	333	1	2	609	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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	351	1	2	641	2	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	328	323	0	0	643	0
Stage 1	323	-	-	-	-	-
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	671	723	-	-	951	-
Stage 1	738	-	-	-	-	-
Stage 2	1023	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	670	723	-	-	951	-
Mov Cap-2 Maneuver	670	-	-	-	-	-
Stage 1	738	-	-	-	-	-
Stage 2	1021	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.2	0	5.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	670	951	-
HCM Lane V/C Ratio	-	-	0.525	0.002	-
HCM Control Delay (s)	-	-	16.2	8.8	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	3.1	0	-

Intersection	
Int Delay, s/veh	9.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	451	1	2	650	2	1
Future Vol, veh/h	451	1	2	650	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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	475	1	2	684	2	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	349	344	0	0	686	0
Stage 1	344	-	-	-	-	-
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	652	703	-	-	917	-
Stage 1	722	-	-	-	-	-
Stage 2	1023	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	651	703	-	-	917	-
Mov Cap-2 Maneuver	651	-	-	-	-	-
Stage 1	722	-	-	-	-	-
Stage 2	1021	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24	0	6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	651	917	-
HCM Lane V/C Ratio	-	-	0.731	0.002	-
HCM Control Delay (s)	-	-	24	8.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	6.3	0	-

Intersection	
Int Delay, s/veh	4.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	451	1	2	650	2	1
Future Vol, veh/h	451	1	2	650	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	-	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	475	1	2	684	2	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	7	2	0	0	686	0
Stage 1	2	-	-	-	-	-
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	1019	1088	-	-	917	-
Stage 1	1026	-	-	-	-	-
Stage 2	1023	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	1017	1088	-	-	917	-
Mov Cap-2 Maneuver	1017	-	-	-	-	-
Stage 1	1026	-	-	-	-	-
Stage 2	1021	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1017	917	-
HCM Lane V/C Ratio	-	-	0.468	0.002	-
HCM Control Delay (s)	-	-	11.6	8.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	2.5	0	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	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 : 2.0%

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	2			4		6	8	10
I-15 SB RAMPS								
EB LEFT	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0
EB RIGHT	0	0	0	0	0	0	0	0
WB LEFT	154	6	114	274	44	318	308	352
WB THRU	0	0	0	0	0	0	0	0
WB RIGHT	2	0	0	2	0	2	2	2
QUARRY RD								
NB LEFT	0	0	0	0	0	0	0	0
NB THRU	1	0	0	1	0	1	2	2
NB RIGHT	317	13	326	656	127	783	978	1105
SB LEFT	1	0	0	1	0	1	2	2
SB THRU	1	0	0	1	0	1	1	1
SB RIGHT	0	0	0	0	0	0	0	0
TOTALS	**476**	**19**	**440**	**935**	**171**	**1106**	**1293**	**1464**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	4-Apr-23	FGFW0000-0001	2	OF 2

E/W STREET : I-15 SB RAMPS
CONDITION : PM PEAK HOUR
N/S STREET : QUARRY RD
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

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

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	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	6.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	274	2	1	656	1	1
Future Vol, veh/h	274	2	1	656	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	361	3	1	863	1	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	436	433	0	0	864	0
Stage 1	433	-	-	-	-	-
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	581	627	-	-	787	-
Stage 1	658	-	-	-	-	-
Stage 2	1025	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	580	627	-	-	787	-
Mov Cap-2 Maneuver	580	-	-	-	-	-
Stage 1	658	-	-	-	-	-
Stage 2	1024	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21	0	4.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	580	787	-
HCM Lane V/C Ratio	-	-	0.626	0.002	-
HCM Control Delay (s)	-	-	21	9.6	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	4.3	0	-

Intersection	
Int Delay, s/veh	10.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	318	2	1	783	1	1
Future Vol, veh/h	318	2	1	783	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	418	3	1	1030	1	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	519	516	0	0	1031	0
Stage 1	516	-	-	-	-	-
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	521	563	-	-	682	-
Stage 1	603	-	-	-	-	-
Stage 2	1025	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	520	563	-	-	682	-
Mov Cap-2 Maneuver	520	-	-	-	-	-
Stage 1	603	-	-	-	-	-
Stage 2	1024	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	35.1	0	5.1
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	520	682	-
HCM Lane V/C Ratio	-	-	0.81	0.002	-
HCM Control Delay (s)	-	-	35.1	10.3	0
HCM Lane LOS	-	-	E	B	A
HCM 95th %tile Q(veh)	-	-	7.8	0	-

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	318	2	1	783	1	1
Future Vol, veh/h	318	2	1	783	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	-	-	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	418	3	1	1030	1	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	4	1	0	0	1031	0
Stage 1	1	-	-	-	-	-
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	1023	1090	-	-	682	-
Stage 1	1028	-	-	-	-	-
Stage 2	1025	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	1022	1090	-	-	682	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1028	-	-	-	-	-
Stage 2	1024	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	5.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1022	682	-
HCM Lane V/C Ratio	-	-	0.412	0.002	-
HCM Control Delay (s)	-	-	11	10.3	0
HCM Lane LOS	-	-	B	B	A
HCM 95th %tile Q(veh)	-	-	2	0	-

Intersection	
Int Delay, s/veh	5.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	308	2	2	978	2	1
Future Vol, veh/h	308	2	2	978	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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	324	2	2	1029	2	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	522	517	0	0	1031	0
Stage 1	517	-	-	-	-	-
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	519	562	-	-	682	-
Stage 1	603	-	-	-	-	-
Stage 2	1023	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	517	562	-	-	682	-
Mov Cap-2 Maneuver	517	-	-	-	-	-
Stage 1	603	-	-	-	-	-
Stage 2	1020	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.1	0	6.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	517	682	-
HCM Lane V/C Ratio	-	-	0.631	0.003	-
HCM Control Delay (s)	-	-	23.1	10.3	0
HCM Lane LOS	-	-	C	B	A
HCM 95th %tile Q(veh)	-	-	4.3	0	-

Intersection	
Int Delay, s/veh	8.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	352	2	2	1105	2	1
Future Vol, veh/h	352	2	2	1105	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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	371	2	2	1163	2	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	589	584	0	0	1165	0
Stage 1	584	-	-	-	-	-
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	474	515	-	-	607	-
Stage 1	561	-	-	-	-	-
Stage 2	1023	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	473	515	-	-	607	-
Mov Cap-2 Maneuver	473	-	-	-	-	-
Stage 1	561	-	-	-	-	-
Stage 2	1020	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	35.4	0	7.3
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	473	607	-
HCM Lane V/C Ratio	-	-	0.788	0.003	-
HCM Control Delay (s)	-	-	35.4	11	0
HCM Lane LOS	-	-	E	B	A
HCM 95th %tile Q(veh)	-	-	7.1	0	-

Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	352	2	2	1105	2	1
Future Vol, veh/h	352	2	2	1105	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	-	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	371	2	2	1163	2	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	7	2	0	0	1165	0
Stage 1	2	-	-	-	-	-
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	1019	1088	-	-	607	-
Stage 1	1026	-	-	-	-	-
Stage 2	1023	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	1016	1088	-	-	607	-
Mov Cap-2 Maneuver	1016	-	-	-	-	-
Stage 1	1026	-	-	-	-	-
Stage 2	1020	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	7.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1016	607	-
HCM Lane V/C Ratio	-	-	0.367	0.003	-
HCM Control Delay (s)	-	-	10.6	11	0
HCM Lane LOS	-	-	B	B	A
HCM 95th %tile Q(veh)	-	-	1.7	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	2	2
	Right	283			Right	405	416
North leg	Left	1	Approach	2	Left	2	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	188	209
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	2	2
	Right	317			Right	628	652
North leg	Left	1	Approach	2	Left	2	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	170	194
WB	Through	0	Departure	629	Through	0	0

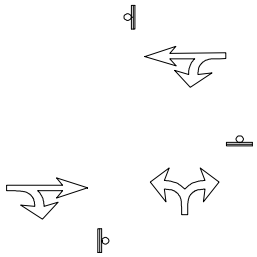
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

E/W STREET : FALCHION RD
N/S STREET : APPLE VALLEY RD
CONDITION : AM PEAK HOUR

INTERSECTION : 9
PROJECTED GROWTH PER YEAR : 2.0%

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	1			3		5	7	9
FALCHION RD								
EB LEFT	0	0	0	0	0	0	0	0
EB THRU	5	0	0	5	0	5	28	28
EB RIGHT	1	0	0	1	11	12	13	24
WB LEFT	5	0	0	5	0	5	9	9
WB THRU	12	0	0	12	0	12	51	51
WB RIGHT	0	0	0	0	0	0	0	0
APPLE VALLEY RD								
NB LEFT	3	0	0	3	36	39	30	66
NB THRU	0	0	0	0	0	0	0	0
NB RIGHT	16	0	0	16	0	16	26	26
SB LEFT	0	0	0	0	0	0	0	0
SB THRU	0	0	0	0	0	0	0	0
SB RIGHT	0	0	0	0	0	0	0	0
TOTALS	**42**	**0**	**0**	**42**	**47**	**89**	**157**	**204**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	4-Apr-23	FGFW0000-0001	2	OF 2

E/W STREET : FALCHION RD
CONDITION : AM PEAK HOUR
N/S STREET : APPLE VALLEY RD
PHF : 0.79

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	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
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											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0	1	0	0
1	0	0	0	0	0	0	0	0	2	0	0
2	0	0	0	0	0	0	0	0	0	0	0
1	0	1	0	0	0	0	0	0	1	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
0	0	2	0	0	0	0	0	0	0	0	0
0	1	1	0	0	0	0	1	0	0	1	0
0	2	1	0	0	0	0	0	0	0	0	0
0	0	1	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
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
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
FALCHION RD					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	1	1	**2**	**4**	**5**
EB RIGHT	0	0	**0**	**1**	**1**
WB LEFT	0	5	**5**	**5**	**5**
WB THRU	3	3	**6**	**11**	**12**
WB RIGHT	0	0	**0**	**0**	**0**
APPLE VALLEY RD					
NB LEFT	0	1	**1**	**1**	**3**
NB THRU	0	0	**0**	**0**	**0**
NB RIGHT	4	4	**8**	**16**	**16**
SB LEFT	0	0	**0**	**0**	**0**
SB THRU	0	0	**0**	**0**	**0**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Intersection Delay, s/veh	6.8
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	5	1	5	12	3	16
Future Vol, veh/h	5	1	5	12	3	16
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	6	1	6	15	4	20
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	6.9	7.1	6.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	16%	0%	29%
Vol Thru, %	0%	83%	71%
Vol Right, %	84%	17%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	19	6	17
LT Vol	3	0	5
Through Vol	0	5	12
RT Vol	16	1	0
Lane Flow Rate	24	8	22
Geometry Grp	1	1	1
Degree of Util (X)	0.023	0.008	0.024
Departure Headway (Hd)	3.477	3.857	4.006
Convergence, Y/N	Yes	Yes	Yes
Cap	1032	931	898
Service Time	1.488	1.866	2.011
HCM Lane V/C Ratio	0.023	0.009	0.024
HCM Control Delay	6.6	6.9	7.1
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0	0.1

Intersection	
Intersection Delay, s/veh	6.9
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	10	1	5	12	3	16
Future Vol, veh/h	10	1	5	12	3	16
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	13	1	6	15	4	20
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7	7.1	6.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	16%	0%	29%
Vol Thru, %	0%	91%	71%
Vol Right, %	84%	9%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	19	11	17
LT Vol	3	0	5
Through Vol	0	10	12
RT Vol	16	1	0
Lane Flow Rate	24	14	22
Geometry Grp	1	1	1
Degree of Util (X)	0.023	0.015	0.024
Departure Headway (Hd)	3.486	3.903	4.01
Convergence, Y/N	Yes	Yes	Yes
Cap	1028	921	896
Service Time	1.502	1.911	2.017
HCM Lane V/C Ratio	0.023	0.015	0.025
HCM Control Delay	6.6	7	7.1
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0	0.1

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	10	35	5	12	39	16
Future Vol, veh/h	10	35	5	12	39	16
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	13	44	6	15	49	20
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	6.8	7.3	7.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	71%	0%	29%
Vol Thru, %	0%	22%	71%
Vol Right, %	29%	78%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	55	45	17
LT Vol	39	0	5
Through Vol	0	10	12
RT Vol	16	35	0
Lane Flow Rate	70	57	22
Geometry Grp	1	1	1
Degree of Util (X)	0.077	0.057	0.025
Departure Headway (Hd)	4.003	3.571	4.125
Convergence, Y/N	Yes	Yes	Yes
Cap	895	999	866
Service Time	2.026	1.606	2.16
HCM Lane V/C Ratio	0.078	0.057	0.025
HCM Control Delay	7.4	6.8	7.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.2	0.1

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	80	18	9	51	30	26
Future Vol, veh/h	80	18	9	51	30	26
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	84	19	9	54	32	27
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.5	7.5	7.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	54%	0%	15%
Vol Thru, %	0%	82%	85%
Vol Right, %	46%	18%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	56	98	60
LT Vol	30	0	9
Through Vol	0	80	51
RT Vol	26	18	0
Lane Flow Rate	59	103	63
Geometry Grp	1	1	1
Degree of Util (X)	0.066	0.113	0.072
Departure Headway (Hd)	4.014	3.94	4.111
Convergence, Y/N	Yes	Yes	Yes
Cap	882	906	867
Service Time	2.084	1.982	2.157
HCM Lane V/C Ratio	0.067	0.114	0.073
HCM Control Delay	7.4	7.5	7.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.4	0.2

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	80	52	9	51	66	26
Future Vol, veh/h	80	52	9	51	66	26
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	84	55	9	54	69	27
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.6	7.6	7.9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	72%	0%	15%
Vol Thru, %	0%	61%	85%
Vol Right, %	28%	39%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	92	132	60
LT Vol	66	0	9
Through Vol	0	80	51
RT Vol	26	52	0
Lane Flow Rate	97	139	63
Geometry Grp	1	1	1
Degree of Util (X)	0.114	0.15	0.074
Departure Headway (Hd)	4.221	3.881	4.207
Convergence, Y/N	Yes	Yes	Yes
Cap	838	913	841
Service Time	2.304	1.953	2.287
HCM Lane V/C Ratio	0.116	0.152	0.075
HCM Control Delay	7.9	7.6	7.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	0.5	0.2

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

E/W STREET : FALCHION RD
N/S STREET : APPLE VALLEY RD
CONDITION : PM PEAK HOUR

INTERSECTION : 9
PROJECTED GROWTH PER YEAR : 2.0%

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	2			4		6	8	10
FALCHION RD								
EB LEFT	0	0	0	0	0	0	0	0
EB THRU	10	0	0	10	0	10	80	80
EB RIGHT	1	0	0	1	34	35	18	52
WB LEFT	5	0	0	5	0	5	17	17
WB THRU	27	1	0	28	0	28	91	91
WB RIGHT	0	0	0	0	0	0	0	0
APPLE VALLEY RD								
NB LEFT	4	0	0	4	13	17	34	47
NB THRU	0	0	0	0	0	0	0	0
NB RIGHT	3	0	0	3	0	3	13	13
SB LEFT	0	0	0	0	0	0	0	0
SB THRU	0	0	0	0	0	0	0	0
SB RIGHT	0	0	0	0	0	0	0	0
TOTALS	**50**	**1**	**0**	**51**	**47**	**98**	**253**	**300**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	4-Apr-23	FGFW0000-0001	2	OF 2

E/W STREET : FALCHION RD
CONDITION : PM PEAK HOUR
N/S STREET : APPLE VALLEY RD
PHF : 0.59

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	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
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											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
1	0	2	0	0	0	0	0	0	0	0	0
0	0	2	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	2	2	0	0	0	0	0	0	0	2	0
0	2	1	0	0	0	0	0	0	0	2	0
0	4	2	0	0	0	0	0	0	0	2	0
0	1	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	0	0	0	0	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0	0	0	0	0
0	2	0	0	0	0	0	0	0	0	2	0
0	1	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
FALCHION RD					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	2	4	**6**	**10**	**10**
EB RIGHT	0	0	**0**	**1**	**1**
WB LEFT	0	5	**5**	**5**	**5**
WB THRU	6	9	**15**	**27**	**27**
WB RIGHT	0	0	**0**	**0**	**0**
APPLE VALLEY RD					
NB LEFT	0	4	**4**	**4**	**4**
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	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	10	1	5	27	4	3
Future Vol, veh/h	10	1	5	27	4	3
Peak Hour Factor	0.59	0.59	0.59	0.59	0.59	0.59
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	17	2	8	46	7	5
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7	7.2	7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	57%	0%	16%
Vol Thru, %	0%	91%	84%
Vol Right, %	43%	9%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	7	11	32
LT Vol	4	0	5
Through Vol	0	10	27
RT Vol	3	1	0
Lane Flow Rate	12	19	54
Geometry Grp	1	1	1
Degree of Util (X)	0.013	0.02	0.06
Departure Headway (Hd)	3.883	3.907	3.967
Convergence, Y/N	Yes	Yes	Yes
Cap	920	918	907
Service Time	1.912	1.921	1.974
HCM Lane V/C Ratio	0.013	0.021	0.06
HCM Control Delay	7	7	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.1	0.2

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	10	1	5	28	4	3
Future Vol, veh/h	10	1	5	28	4	3
Peak Hour Factor	0.59	0.59	0.59	0.59	0.59	0.59
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	17	2	8	47	7	5
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7	7.2	7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	57%	0%	15%
Vol Thru, %	0%	91%	85%
Vol Right, %	43%	9%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	7	11	33
LT Vol	4	0	5
Through Vol	0	10	28
RT Vol	3	1	0
Lane Flow Rate	12	19	56
Geometry Grp	1	1	1
Degree of Util (X)	0.013	0.02	0.062
Departure Headway (Hd)	3.887	3.909	3.966
Convergence, Y/N	Yes	Yes	Yes
Cap	919	918	907
Service Time	1.916	1.923	1.973
HCM Lane V/C Ratio	0.013	0.021	0.062
HCM Control Delay	7	7	7.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.1	0.2

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	10	35	5	28	17	3
Future Vol, veh/h	10	35	5	28	17	3
Peak Hour Factor	0.59	0.59	0.59	0.59	0.59	0.59
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	17	59	8	47	29	5
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	6.9	7.3	7.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	85%	0%	15%
Vol Thru, %	0%	22%	85%
Vol Right, %	15%	78%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	20	45	33
LT Vol	17	0	5
Through Vol	0	10	28
RT Vol	3	35	0
Lane Flow Rate	34	76	56
Geometry Grp	1	1	1
Degree of Util (X)	0.04	0.075	0.063
Departure Headway (Hd)	4.208	3.534	4.047
Convergence, Y/N	Yes	Yes	Yes
Cap	848	1011	885
Service Time	2.246	1.565	2.073
HCM Lane V/C Ratio	0.04	0.075	0.063
HCM Control Delay	7.4	6.9	7.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.1	0.2	0.2

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	80	18	17	91	34	13
Future Vol, veh/h	80	18	17	91	34	13
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	84	19	18	96	36	14
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.5	7.8	7.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	72%	0%	16%
Vol Thru, %	0%	82%	84%
Vol Right, %	28%	18%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	47	98	108
LT Vol	34	0	17
Through Vol	0	80	91
RT Vol	13	18	0
Lane Flow Rate	49	103	114
Geometry Grp	1	1	1
Degree of Util (X)	0.058	0.114	0.129
Departure Headway (Hd)	4.249	3.962	4.097
Convergence, Y/N	Yes	Yes	Yes
Cap	830	899	871
Service Time	2.343	2.014	2.144
HCM Lane V/C Ratio	0.059	0.115	0.131
HCM Control Delay	7.6	7.5	7.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.4	0.4

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	80	52	17	91	47	13
Future Vol, veh/h	80	52	17	91	47	13
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	84	55	18	96	49	14
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.6	7.8	7.8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	78%	0%	16%
Vol Thru, %	0%	61%	84%
Vol Right, %	22%	39%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	60	132	108
LT Vol	47	0	17
Through Vol	0	80	91
RT Vol	13	52	0
Lane Flow Rate	63	139	114
Geometry Grp	1	1	1
Degree of Util (X)	0.078	0.149	0.131
Departure Headway (Hd)	4.46	3.86	4.148
Convergence, Y/N	Yes	Yes	Yes
Cap	808	918	856
Service Time	2.46	1.93	2.214
HCM Lane V/C Ratio	0.078	0.151	0.133
HCM Control Delay	7.8	7.6	7.8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	0.5	0.5

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

Intersection No.: 9
North/South Street: APPLE VALLEY RD
East/West Street: FALCHION 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	3	Approach	55	Left	30	30
NB	Through	0	Departure	16	Through	0	0
	Right	16			Right	26	26
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	24	Left	0	0
EB	Through	5	Departure	79	Through	17	28
	Right	1			Right	8	13
East leg	Left	5	Approach	58	Left	9	9
WB	Through	12	Departure	42	Through	50	51
	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	4	Approach	46	Left	34	34
NB	Through	0	Departure	26	Through	0	0
	Right	3			Right	13	13
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	54	Left	0	0
EB	Through	10	Departure	124	Through	44	80
	Right	1			Right	10	18
East leg	Left	5	Approach	107	Left	17	17
WB	Through	27	Departure	56	Through	91	91

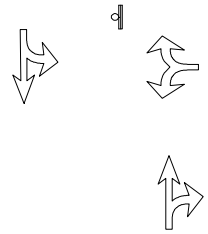
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

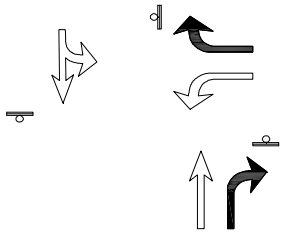
E/W STREET : FALCHION RD
N/S STREET : OUTER HWY 15N
CONDITION : AM PEAK HOUR

INTERSECTION : 10
PROJECTED GROWTH PER YEAR : 2.0%

CONDITION DIAGRAMS



EXISTING GEOMETRICS



PROJECT GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	1			3		5	7	9
FALCHION RD								
EB LEFT	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0
EB RIGHT	0	0	0	0	0	0	0	0
WB LEFT	10	0	0	10	92	102	52	144
WB THRU	0	0	0	0	0	0	0	0
WB RIGHT	5	0	0	5	21	26	29	50
OUTER HWY 15N								
NB LEFT	0	0	0	0	0	0	0	0
NB THRU	20	0	0	20	68	88	21	89
NB RIGHT	5	0	0	5	304	309	36	340
SB LEFT	1	0	0	1	68	69	5	73
SB THRU	30	1	0	31	21	52	30	51
SB RIGHT	0	0	0	0	0	0	0	0
TOTALS	**71**	**1**	**0**	**72**	**574**	**646**	**173**	**747**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	4-Apr-23	FGFW0000-0001	2	OF 2

E/W STREET : FALCHION RD
CONDITION : AM PEAK HOUR
N/S STREET : OUTER HWY 15N
PHF : 0.70

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	5	0	0	0	0	0	0	0	0	0	0
0	5	0	0	0	0	0	0	0	0	0	0
0	11	0	0	0	0	0	0	0	0	0	0
0	9	1	0	0	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
1	3	0	0	0	0	0	0	0	0	0	0
0	5	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	1	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
0	0	2	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
1	0	2	0	0	0	0	0	0	1	0	1

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	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
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
FALCHION RD					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	2	4	**6**	**10**	**10**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	1	2	**3**	**5**	**5**
OUTER HWY 15N					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	0	20	**20**	**20**	**20**
NB RIGHT	1	1	**2**	**4**	**5**
SB LEFT	0	1	**1**	**1**	**1**
SB THRU	0	30	**30**	**30**	**30**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	5	20	5	1	30
Future Vol, veh/h	10	5	20	5	1	30
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	70	70	70	70	70	70
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	14	7	29	7	1	43

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	78	33	0	0	36	0
Stage 1	33	-	-	-	-	-
Stage 2	45	-	-	-	-	-
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	930	1046	-	-	1588	-
Stage 1	995	-	-	-	-	-
Stage 2	983	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	929	1046	-	-	1588	-
Mov Cap-2 Maneuver	929	-	-	-	-	-
Stage 1	995	-	-	-	-	-
Stage 2	982	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	965	1588	-
HCM Lane V/C Ratio	-	-	0.022	0.001	-
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	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	5	20	5	1	31
Future Vol, veh/h	10	5	20	5	1	31
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	70	70	70	70	70	70
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	14	7	29	7	1	44

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	79	33	0	0	36	0
Stage 1	33	-	-	-	-	-
Stage 2	46	-	-	-	-	-
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	929	1046	-	-	1588	-
Stage 1	995	-	-	-	-	-
Stage 2	982	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	928	1046	-	-	1588	-
Mov Cap-2 Maneuver	928	-	-	-	-	-
Stage 1	995	-	-	-	-	-
Stage 2	981	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	964	1588	-
HCM Lane V/C Ratio	-	-	0.022	0.001	-
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	4.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	102	26	88	309	69	52
Future Vol, veh/h	102	26	88	309	69	52
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	70	70	70	70	70	70
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	146	37	126	441	99	74

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	619	347	0	0	567	0
Stage 1	347	-	-	-	-	-
Stage 2	272	-	-	-	-	-
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	455	701	-	-	1015	-
Stage 1	720	-	-	-	-	-
Stage 2	778	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	409	701	-	-	1015	-
Mov Cap-2 Maneuver	409	-	-	-	-	-
Stage 1	720	-	-	-	-	-
Stage 2	699	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.5	0	5.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	447	1015	-
HCM Lane V/C Ratio	-	-	0.409	0.097	-
HCM Control Delay (s)	-	-	18.5	8.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	2	0.3	-

Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	102	26	88	309	69	52
Future Vol, veh/h	102	26	88	309	69	52
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	146	37	126	441	99	74
Number of Lanes	1	1	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	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	11.2	12.2	10.7
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	0%	100%	0%	57%
Vol Thru, %	100%	0%	0%	0%	43%
Vol Right, %	0%	100%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	88	309	102	26	121
LT Vol	0	0	102	0	69
Through Vol	88	0	0	0	52
RT Vol	0	309	0	26	0
Lane Flow Rate	126	441	146	37	173
Geometry Grp	7	7	7	7	4
Degree of Util (X)	0.184	0.558	0.272	0.057	0.267
Departure Headway (Hd)	5.259	4.554	6.718	5.503	5.556
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	678	786	538	655	640
Service Time	3.03	2.324	4.418	3.203	3.651
HCM Lane V/C Ratio	0.186	0.561	0.271	0.056	0.27
HCM Control Delay	9.2	13	11.9	8.5	10.7
HCM Lane LOS	A	B	B	A	B
HCM 95th-tile Q	0.7	3.5	1.1	0.2	1.1

Intersection	
Int Delay, s/veh	4.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	52	29	21	36	5	30
Future Vol, veh/h	52	29	21	36	5	30
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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	55	31	22	38	5	32

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	83	41	0	0	60	0
Stage 1	41	-	-	-	-	-
Stage 2	42	-	-	-	-	-
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	924	1036	-	-	1556	-
Stage 1	987	-	-	-	-	-
Stage 2	986	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	921	1036	-	-	1556	-
Mov Cap-2 Maneuver	921	-	-	-	-	-
Stage 1	987	-	-	-	-	-
Stage 2	983	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	959	1556	-
HCM Lane V/C Ratio	-	-	0.089	0.003	-
HCM Control Delay (s)	-	-	9.1	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	4.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	144	50	89	340	73	51
Future Vol, veh/h	144	50	89	340	73	51
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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	152	53	94	358	77	54

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	481	273	0	0	452	0
Stage 1	273	-	-	-	-	-
Stage 2	208	-	-	-	-	-
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	548	771	-	-	1119	-
Stage 1	778	-	-	-	-	-
Stage 2	832	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	509	771	-	-	1119	-
Mov Cap-2 Maneuver	509	-	-	-	-	-
Stage 1	778	-	-	-	-	-
Stage 2	773	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.1	0	5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	558	1119	-
HCM Lane V/C Ratio	-	-	0.366	0.069	-
HCM Control Delay (s)	-	-	15.1	8.5	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.7	0.2	-

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	144	50	89	340	73	51
Future Vol, veh/h	144	50	89	340	73	51
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	152	53	94	358	77	54
Number of Lanes	1	1	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	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	10.6	10.5	9.9
HCM LOS	B	B	A

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	0%	100%	0%	59%
Vol Thru, %	100%	0%	0%	0%	41%
Vol Right, %	0%	100%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	89	340	144	50	124
LT Vol	0	0	144	0	73
Through Vol	89	0	0	0	51
RT Vol	0	340	0	50	0
Lane Flow Rate	94	358	152	53	131
Geometry Grp	7	7	7	7	4
Degree of Util (X)	0.136	0.451	0.265	0.074	0.199
Departure Headway (Hd)	5.244	4.539	6.298	5.087	5.489
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	681	791	567	697	650
Service Time	2.993	2.288	4.082	2.871	3.558
HCM Lane V/C Ratio	0.138	0.453	0.268	0.076	0.202
HCM Control Delay	8.8	11	11.4	8.3	9.9
HCM Lane LOS	A	B	B	A	A
HCM 95th-tile Q	0.5	2.4	1.1	0.2	0.7

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

E/W STREET : FALCHION RD
N/S STREET : OUTER HWY 15N
CONDITION : PM PEAK HOUR

INTERSECTION : 10
PROJECTED GROWTH PER YEAR : 2.0%

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	2			4		6	8	10
FALCHION RD								
EB LEFT	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0
EB RIGHT	0	0	0	0	0	0	0	0
WB LEFT	22	0	0	22	284	306	88	372
WB THRU	0	0	0	0	0	0	0	0
WB RIGHT	9	0	0	9	64	73	37	101
OUTER HWY 15N								
NB LEFT	0	0	0	0	0	0	0	0
NB THRU	22	0	0	22	25	47	26	51
NB RIGHT	8	0	0	8	110	118	77	187
SB LEFT	2	0	0	2	25	27	21	46
SB THRU	39	1	0	40	64	104	48	112
SB RIGHT	0	0	0	0	0	0	0	0
TOTALS	**102**	**1**	**0**	**103**	**572**	**675**	**297**	**869**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	4-Apr-23	FGFW0000-0001	2	OF 2

E/W STREET : FALCHION RD
CONDITION : PM PEAK HOUR
N/S STREET : OUTER HWY 15N
PHF : 0.69

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	15	0	0	0	0	0	0	0	0	0	0
0	8	0	0	0	0	0	0	0	0	0	0
0	10	1	0	0	0	0	0	0	0	0	0
0	6	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

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	10	0	0	0	0	0	0	0	0	0	0
1	6	0	0	0	0	0	0	0	0	0	0
1	4	0	0	0	0	0	0	0	2	0	0
0	2	0	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
0	0	4	0	0	0	0	0	0	0	0	2
1	0	3	0	0	0	0	0	0	1	0	1
1	0	3	0	0	0	0	0	0	1	0	1
1	0	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	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
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
FALCHION RD					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	4	10	**14**	**22**	**22**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	2	3	**5**	**9**	**9**
OUTER HWY 15N					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	0	22	**22**	**22**	**22**
NB RIGHT	2	2	**4**	**8**	**8**
SB LEFT	0	2	**2**	**2**	**2**
SB THRU	0	39	**39**	**39**	**39**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	9	22	8	2	39
Future Vol, veh/h	22	9	22	8	2	39
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	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	32	13	32	12	3	57

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	101	38	0	0	44	0
Stage 1	38	-	-	-	-	-
Stage 2	63	-	-	-	-	-
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	902	1040	-	-	1577	-
Stage 1	990	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	900	1040	-	-	1577	-
Mov Cap-2 Maneuver	900	-	-	-	-	-
Stage 1	990	-	-	-	-	-
Stage 2	963	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	937	1577	-
HCM Lane V/C Ratio	-	-	0.048	0.002	-
HCM Control Delay (s)	-	-	9	7.3	0
HCM Lane LOS	-	-	A	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	22	9	22	8	2	40
Future Vol, veh/h	22	9	22	8	2	40
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	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	32	13	32	12	3	58

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	102	38	0	0	44	0
Stage 1	38	-	-	-	-	-
Stage 2	64	-	-	-	-	-
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	901	1040	-	-	1577	-
Stage 1	990	-	-	-	-	-
Stage 2	964	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	899	1040	-	-	1577	-
Mov Cap-2 Maneuver	899	-	-	-	-	-
Stage 1	990	-	-	-	-	-
Stage 2	962	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	936	1577	-
HCM Lane V/C Ratio	-	-	0.048	0.002	-
HCM Control Delay (s)	-	-	9	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	19.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	306	73	47	118	27	104
Future Vol, veh/h	306	73	47	118	27	104
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	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	443	106	68	171	39	151

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	383	154	0	0	239	0
Stage 1	154	-	-	-	-	-
Stage 2	229	-	-	-	-	-
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	624	897	-	-	1340	-
Stage 1	879	-	-	-	-	-
Stage 2	814	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	604	897	-	-	1340	-
Mov Cap-2 Maneuver	604	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	788	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	34.2	0	1.6
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	645	1340	-
HCM Lane V/C Ratio	-	-	0.852	0.029	-
HCM Control Delay (s)	-	-	34.2	7.8	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	9.6	0.1	-

Intersection	
Intersection Delay, s/veh	18.2
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	306	73	47	118	27	104
Future Vol, veh/h	306	73	47	118	27	104
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	443	106	68	171	39	151
Number of Lanes	1	1	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	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	23.6	10.5	12.5
HCM LOS	C	B	B

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	0%	100%	0%	21%
Vol Thru, %	100%	0%	0%	0%	79%
Vol Right, %	0%	100%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	47	118	306	73	131
LT Vol	0	0	306	0	27
Through Vol	47	0	0	0	104
RT Vol	0	118	0	73	0
Lane Flow Rate	68	171	443	106	190
Geometry Grp	7	7	7	7	4
Degree of Util (X)	0.123	0.274	0.772	0.149	0.333
Departure Headway (Hd)	6.479	5.767	6.267	5.056	6.319
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	552	622	577	710	568
Service Time	4.228	3.515	3.996	2.785	4.364
HCM Lane V/C Ratio	0.123	0.275	0.768	0.149	0.335
HCM Control Delay	10.1	10.7	27.1	8.7	12.5
HCM Lane LOS	B	B	D	A	B
HCM 95th-tile Q	0.4	1.1	7.1	0.5	1.5

Intersection	
Int Delay, s/veh	4.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	88	37	26	77	21	48
Future Vol, veh/h	88	37	26	77	21	48
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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	93	39	27	81	22	51

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	163	68	0	0	108	0
Stage 1	68	-	-	-	-	-
Stage 2	95	-	-	-	-	-
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	832	1001	-	-	1495	-
Stage 1	960	-	-	-	-	-
Stage 2	934	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	820	1001	-	-	1495	-
Mov Cap-2 Maneuver	820	-	-	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	920	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	2.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	866	1495	-
HCM Lane V/C Ratio	-	-	0.152	0.015	-
HCM Control Delay (s)	-	-	9.9	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0	-

Intersection	
Int Delay, s/veh	14.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	372	101	51	187	46	112
Future Vol, veh/h	372	101	51	187	46	112
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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	392	106	54	197	48	118

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	367	153	0	0	251	0
Stage 1	153	-	-	-	-	-
Stage 2	214	-	-	-	-	-
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	637	898	-	-	1326	-
Stage 1	880	-	-	-	-	-
Stage 2	826	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	612	898	-	-	1326	-
Mov Cap-2 Maneuver	612	-	-	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	794	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25.5	0	2.3
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	657	1326	-
HCM Lane V/C Ratio	-	-	0.758	0.037	-
HCM Control Delay (s)	-	-	25.5	7.8	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	7	0.1	-

Intersection	
Intersection Delay, s/veh	14.9
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	372	101	51	187	46	112
Future Vol, veh/h	372	101	51	187	46	112
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	392	106	54	197	48	118
Number of Lanes	1	1	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	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	18.2	10.5	11.7
HCM LOS	C	B	B

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	0%	100%	0%	29%
Vol Thru, %	100%	0%	0%	0%	71%
Vol Right, %	0%	100%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	51	187	372	101	158
LT Vol	0	0	372	0	46
Through Vol	51	0	0	0	112
RT Vol	0	187	0	101	0
Lane Flow Rate	54	197	392	106	166
Geometry Grp	7	7	7	7	4
Degree of Util (X)	0.093	0.303	0.674	0.147	0.285
Departure Headway (Hd)	6.245	5.535	6.194	4.984	6.169
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	574	650	583	721	582
Service Time	3.983	3.272	3.919	2.709	4.207
HCM Lane V/C Ratio	0.094	0.303	0.672	0.147	0.285
HCM Control Delay	9.6	10.7	20.8	8.6	11.7
HCM Lane LOS	A	B	C	A	B
HCM 95th-tile Q	0.3	1.3	5.1	0.5	1.2

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

Intersection No.: 10
North/South Street: OUTER HWY 15N
East/West Street: FALCHION 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	40	Left	0	0
NB	Through	20	Departure	81	Through	21	21
	Right	5			Right	20	36
North leg	Left	1	Approach	34	Left	5	5
SB	Through	30	Departure	49	Through	30	30
	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	10	Approach	79	Left	52	52
WB	Through	0	Departure	24	Through	0	0
	Right	5			Right	29	29

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	70	Left	0	0
NB	Through	22	Departure	128	Through	26	26
	Right	8			Right	77	77
North leg	Left	2	Approach	47	Left	21	21
SB	Through	39	Departure	59	Through	48	48
	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	22	Approach	80	Left	81	88
WB	Through	0	Departure	97	Through	0	0

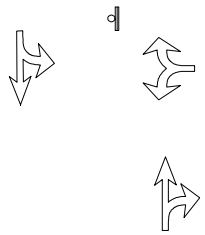
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

E/W STREET : NORCO ST
N/S STREET : OUTER HWY 15N
CONDITION : AM PEAK HOUR

INTERSECTION : 11
PROJECTED GROWTH PER YEAR : 2.0%

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	1			3		5	7	9
NORCO ST								
EB LEFT	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0
EB RIGHT	0	0	0	0	0	0	0	0
WB LEFT	1	0	0	1	21	22	1	22
WB THRU	0	0	0	0	0	0	0	0
WB RIGHT	2	0	0	2	62	64	3	65
OUTER HWY 15N								
NB LEFT	0	0	0	0	0	0	0	0
NB THRU	23	0	0	23	21	44	47	68
NB RIGHT	1	0	0	1	68	69	2	70
SB LEFT	1	0	0	1	204	205	1	205
SB THRU	26	1	0	27	68	95	30	98
SB RIGHT	0	0	0	0	0	0	0	0
TOTALS	**54**	**1**	**0**	**55**	**444**	**499**	**84**	**528**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	4-Apr-23	FGFW0000-0001	2	OF 2

E/W STREET : NORCO ST
CONDITION : AM PEAK HOUR
N/S STREET : OUTER HWY 15N
PHF : 0.75

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	4	0	0	0	0	0	0	0	0	0	0
0	6	0	0	0	0	0	0	0	0	0	0
0	8	0	0	0	0	0	0	0	0	0	0
0	7	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

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	3	0	0	0	0	0	0	0	0	0	0
0	5	0	0	0	0	0	0	0	0	0	0
0	7	0	0	0	0	0	0	0	0	0	0
1	5	0	0	0	0	0	0	0	0	1	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
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	1	0	0	0	0	0	0	0	0	0
0	0	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	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
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
NORCO ST					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	0	1	**1**	**1**	**1**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	0	2	**2**	**2**	**2**
OUTER HWY 15N					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	1	20	**21**	**23**	**23**
NB RIGHT	0	1	**1**	**1**	**1**
SB LEFT	0	1	**1**	**1**	**1**
SB THRU	0	25	**25**	**25**	**26**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	2	23	1	1	26
Future Vol, veh/h	1	2	23	1	1	26
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	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	3	31	1	1	35

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	69	32	0	0	32	0
Stage 1	32	-	-	-	-	-
Stage 2	37	-	-	-	-	-
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	941	1048	-	-	1593	-
Stage 1	996	-	-	-	-	-
Stage 2	991	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	940	1048	-	-	1593	-
Mov Cap-2 Maneuver	940	-	-	-	-	-
Stage 1	996	-	-	-	-	-
Stage 2	990	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1009	1593	-
HCM Lane V/C Ratio	-	-	0.004	0.001	-
HCM Control Delay (s)	-	-	8.6	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	2	23	1	1	27
Future Vol, veh/h	1	2	23	1	1	27
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	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	3	31	1	1	36

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	70	32	0	0	32	0
Stage 1	32	-	-	-	-	-
Stage 2	38	-	-	-	-	-
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	939	1048	-	-	1593	-
Stage 1	996	-	-	-	-	-
Stage 2	990	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	938	1048	-	-	1593	-
Mov Cap-2 Maneuver	938	-	-	-	-	-
Stage 1	996	-	-	-	-	-
Stage 2	989	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1009	1593	-
HCM Lane V/C Ratio	-	-	0.004	0.001	-
HCM Control Delay (s)	-	-	8.6	7.3	0
HCM Lane LOS	-	-	A	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	22	64	44	69	205	95
Future Vol, veh/h	22	64	44	69	205	95
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	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	29	85	59	92	273	127

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	778	105	0	0	151	0
Stage 1	105	-	-	-	-	-
Stage 2	673	-	-	-	-	-
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	368	955	-	-	1442	-
Stage 1	924	-	-	-	-	-
Stage 2	511	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	293	955	-	-	1442	-
Mov Cap-2 Maneuver	293	-	-	-	-	-
Stage 1	924	-	-	-	-	-
Stage 2	407	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.3	0	5.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	605	1442	-
HCM Lane V/C Ratio	-	-	0.19	0.19	-
HCM Control Delay (s)	-	-	12.3	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.7	0.7	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	3	47	2	1	30
Future Vol, veh/h	1	3	47	2	1	30
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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	3	49	2	1	32

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	84	50	0	0	51	0
Stage 1	50	-	-	-	-	-
Stage 2	34	-	-	-	-	-
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	923	1024	-	-	1568	-
Stage 1	978	-	-	-	-	-
Stage 2	994	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	922	1024	-	-	1568	-
Mov Cap-2 Maneuver	922	-	-	-	-	-
Stage 1	978	-	-	-	-	-
Stage 2	993	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	996	1568	-
HCM Lane V/C Ratio	-	-	0.004	0.001	-
HCM Control Delay (s)	-	-	8.6	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	4.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	65	68	70	205	98
Future Vol, veh/h	22	65	68	70	205	98
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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	23	68	72	74	216	103

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	644	109	0	0	146	0
Stage 1	109	-	-	-	-	-
Stage 2	535	-	-	-	-	-
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	440	950	-	-	1448	-
Stage 1	921	-	-	-	-	-
Stage 2	591	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	370	950	-	-	1448	-
Mov Cap-2 Maneuver	370	-	-	-	-	-
Stage 1	921	-	-	-	-	-
Stage 2	498	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	5.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	680	1448	-
HCM Lane V/C Ratio	-	-	0.135	0.149	-
HCM Control Delay (s)	-	-	11.1	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.5	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

E/W STREET : NORCO ST
N/S STREET : OUTER HWY 15N
CONDITION : PM PEAK HOUR

INTERSECTION : 11
PROJECTED GROWTH PER YEAR : 2.0%

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	2			4		6	8	10
NORCO ST								
EB LEFT	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0
EB RIGHT	0	0	0	0	0	0	0	0
WB LEFT	4	0	0	4	64	68	6	70
WB THRU	0	0	0	0	0	0	0	0
WB RIGHT	1	0	0	1	191	192	2	193
OUTER HWY 15N								
NB LEFT	0	0	0	0	0	0	0	0
NB THRU	36	1	0	37	64	101	67	131
NB RIGHT	1	0	0	1	25	26	2	27
SB LEFT	1	0	0	1	76	77	1	77
SB THRU	26	1	0	27	25	52	45	70
SB RIGHT	0	0	0	0	0	0	0	0
TOTALS	**69**	**2**	**0**	**71**	**445**	**516**	**123**	**568**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	4-Apr-23	FGFW0000-0001	2	OF 2

E/W STREET : NORCO ST
CONDITION : PM PEAK HOUR
N/S STREET : OUTER HWY 15N
PHF : 0.73

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	11	0	0	0	0	0	0	0	0	0	0
0	4	0	0	0	0	0	0	0	0	0	0
0	7	0	0	0	0	0	0	0	0	0	0
0	4	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											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	10	0	0	0	0	0	0	0	0	0	0
1	7	0	0	0	0	0	0	0	0	1	0
0	8	0	0	0	0	0	0	0	0	1	0
0	5	0	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
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	2	0	0	0	0	0	0	0	0	0
0	0	1	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	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
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
NORCO ST					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	0	0	**0**	**0**	**0**
WB LEFT	0	4	**4**	**4**	**4**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	0	1	**1**	**1**	**1**
OUTER HWY 15N					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	2	30	**32**	**36**	**36**
NB RIGHT	0	1	**1**	**1**	**1**
SB LEFT	0	0	**0**	**1**	**1**
SB THRU	0	26	**26**	**26**	**26**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	1	36	1	1	26
Future Vol, veh/h	4	1	36	1	1	26
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	73	73	73	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	1	49	1	1	36

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	88	50	0	0	50	0
Stage 1	50	-	-	-	-	-
Stage 2	38	-	-	-	-	-
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	918	1024	-	-	1570	-
Stage 1	978	-	-	-	-	-
Stage 2	990	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	917	1024	-	-	1570	-
Mov Cap-2 Maneuver	917	-	-	-	-	-
Stage 1	978	-	-	-	-	-
Stage 2	989	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	937	1570	-
HCM Lane V/C Ratio	-	-	0.007	0.001	-
HCM Control Delay (s)	-	-	8.9	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	1	37	1	1	27
Future Vol, veh/h	4	1	37	1	1	27
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	73	73	73	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	1	51	1	1	37

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	91	52	0	0	52	0
Stage 1	52	-	-	-	-	-
Stage 2	39	-	-	-	-	-
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	914	1021	-	-	1567	-
Stage 1	976	-	-	-	-	-
Stage 2	989	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	913	1021	-	-	1567	-
Mov Cap-2 Maneuver	913	-	-	-	-	-
Stage 1	976	-	-	-	-	-
Stage 2	988	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	933	1567	-
HCM Lane V/C Ratio	-	-	0.007	0.001	-
HCM Control Delay (s)	-	-	8.9	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	8.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	68	192	101	26	77	52
Future Vol, veh/h	68	192	101	26	77	52
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	73	73	73	73	73	73
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	93	263	138	36	105	71

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	437	156	0	0	174	0
Stage 1	156	-	-	-	-	-
Stage 2	281	-	-	-	-	-
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	895	-	-	1415	-
Stage 1	877	-	-	-	-	-
Stage 2	771	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	536	895	-	-	1415	-
Mov Cap-2 Maneuver	536	-	-	-	-	-
Stage 1	877	-	-	-	-	-
Stage 2	712	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.8	0	4.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	762	1415	-
HCM Lane V/C Ratio	-	-	0.467	0.075	-
HCM Control Delay (s)	-	-	13.8	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	2.5	0.2	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	2	67	2	1	45
Future Vol, veh/h	6	2	67	2	1	45
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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	2	71	2	1	47

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	121	72	0	0	73	0
Stage 1	72	-	-	-	-	-
Stage 2	49	-	-	-	-	-
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	879	996	-	-	1540	-
Stage 1	956	-	-	-	-	-
Stage 2	979	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	878	996	-	-	1540	-
Mov Cap-2 Maneuver	878	-	-	-	-	-
Stage 1	956	-	-	-	-	-
Stage 2	978	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	905	1540	-
HCM Lane V/C Ratio	-	-	0.009	0.001	-
HCM Control Delay (s)	-	-	9	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	6.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	70	193	131	27	77	70
Future Vol, veh/h	70	193	131	27	77	70
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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	74	203	138	28	81	74

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	388	152	0	0	166	0
Stage 1	152	-	-	-	-	-
Stage 2	236	-	-	-	-	-
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	900	-	-	1424	-
Stage 1	881	-	-	-	-	-
Stage 2	808	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	582	900	-	-	1424	-
Mov Cap-2 Maneuver	582	-	-	-	-	-
Stage 1	881	-	-	-	-	-
Stage 2	760	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.1	0	4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	786	1424	-
HCM Lane V/C Ratio	-	-	0.352	0.057	-
HCM Control Delay (s)	-	-	12.1	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.6	0.2	-

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

Intersection No.: 11
North/South Street: OUTER HWY 15N
East/West Street: NORCO ST

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	48	Left	0	0
NB	Through	23	Departure	30	Through	47	47
	Right	1			Right	2	2
North leg	Left	1	Approach	30	Left	1	1
SB	Through	26	Departure	49	Through	30	30
	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	3	Left	1	1
WB	Through	0	Departure	2	Through	0	0
	Right	2			Right	3	3

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	65	Left	0	0
NB	Through	36	Departure	36	Through	64	67
	Right	1			Right	2	2
North leg	Left	1	Approach	33	Left	1	1
SB	Through	26	Departure	65	Through	33	45
	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	4	Approach	5	Left	4	6
WB	Through	0	Departure	2	Through	0	0

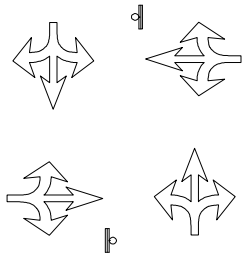
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

E/W STREET : QUARRY RD
N/S STREET : OUTER HWY 15N
CONDITION : AM PEAK HOUR

INTERSECTION : 12
PROJECTED GROWTH PER YEAR : 2.0%

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	1			3		5	7	9
QUARRY RD								
EB LEFT	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0
EB RIGHT	0	0	0	0	0	0	0	0
WB LEFT	9	0	0	9	0	9	9	9
WB THRU	0	0	0	0	0	0	0	0
WB RIGHT	2	0	0	2	0	2	3	3
OUTER HWY 15N								
NB LEFT	0	0	0	0	0	0	0	0
NB THRU	22	0	0	22	89	111	46	135
NB RIGHT	3	0	0	3	0	3	4	4
SB LEFT	5	0	0	5	0	5	5	5
SB THRU	22	0	0	22	89	111	26	115
SB RIGHT	0	0	0	0	0	0	0	0
TOTALS	**63**	**0**	**0**	**63**	**178**	**241**	**93**	**271**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	4-Apr-23	FGFW0000-0001	2	OF 2

E/W STREET : QUARRY RD
CONDITION : AM PEAK HOUR
N/S STREET : OUTER HWY 15N
PHF : 0.76

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	3	1	0	0	0	0	0	0	0	0	0
0	5	1	0	0	0	0	0	0	0	0	0
0	8	1	0	0	0	0	0	0	0	0	0
0	6	2	0	0	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
0	3	0	0	0	0	0	0	0	0	0	0
2	4	0	0	0	0	0	0	0	0	0	0
0	6	0	0	0	0	0	0	0	0	0	0
1	6	0	0	0	0	0	0	0	0	1	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
0	0	2	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0
1	0	3	0	0	0	0	0	0	0	0	0
0	0	4	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	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
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
QUARRY 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	9	**9**	**9**	**9**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	0	2	**2**	**2**	**2**
OUTER HWY 15N					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	1	19	**20**	**22**	**22**
NB RIGHT	0	3	**3**	**3**	**3**
SB LEFT	0	5	**5**	**5**	**5**
SB THRU	0	22	**22**	**22**	**22**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	9	0	2	0	22	3	5	22	0
Future Vol, veh/h	0	0	0	9	0	2	0	22	3	5	22	0
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	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	12	0	3	0	29	4	7	29	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	76	76	29	74	74	31	29	0	0	33	0	0
Stage 1	43	43	-	31	31	-	-	-	-	-	-	-
Stage 2	33	33	-	43	43	-	-	-	-	-	-	-
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	919	818	1052	921	820	1049	1597	-	-	1592	-	-
Stage 1	976	863	-	991	873	-	-	-	-	-	-	-
Stage 2	988	872	-	976	863	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	913	815	1052	918	817	1049	1597	-	-	1592	-	-
Mov Cap-2 Maneuver	913	815	-	918	817	-	-	-	-	-	-	-
Stage 1	976	860	-	991	873	-	-	-	-	-	-	-
Stage 2	986	872	-	972	860	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	8.9	0	1.3
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1597	-	-	-	939	1592	-	-
HCM Lane V/C Ratio	-	-	-	-	0.015	0.004	-	-
HCM Control Delay (s)	0	-	-	0	8.9	7.3	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0	0	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	9	0	2	0	22	3	5	22	0
Future Vol, veh/h	0	0	0	9	0	2	0	22	3	5	22	0
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	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	12	0	3	0	29	4	7	29	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	76	76	29	74	74	31	29	0	0	33	0	0
Stage 1	43	43	-	31	31	-	-	-	-	-	-	-
Stage 2	33	33	-	43	43	-	-	-	-	-	-	-
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	919	818	1052	921	820	1049	1597	-	-	1592	-	-
Stage 1	976	863	-	991	873	-	-	-	-	-	-	-
Stage 2	988	872	-	976	863	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	913	815	1052	918	817	1049	1597	-	-	1592	-	-
Mov Cap-2 Maneuver	913	815	-	918	817	-	-	-	-	-	-	-
Stage 1	976	860	-	991	873	-	-	-	-	-	-	-
Stage 2	985	872	-	972	860	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	8.9	0	1.3
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1597	-	-	-	939	1592	-	-
HCM Lane V/C Ratio	-	-	-	-	0.016	0.004	-	-
HCM Control Delay (s)	0	-	-	0	8.9	7.3	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0	0	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	9	0	2	0	111	3	5	111	0
Future Vol, veh/h	0	0	0	9	0	2	0	111	3	5	111	0
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	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	12	0	3	0	146	4	7	146	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	310	310	146	308	308	148	146	0	0	150	0	0
Stage 1	160	160	-	148	148	-	-	-	-	-	-	-
Stage 2	150	150	-	160	160	-	-	-	-	-	-	-
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	646	608	906	648	609	904	1448	-	-	1444	-	-
Stage 1	847	769	-	859	779	-	-	-	-	-	-	-
Stage 2	857	777	-	847	769	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	641	605	906	645	606	904	1448	-	-	1444	-	-
Mov Cap-2 Maneuver	641	605	-	645	606	-	-	-	-	-	-	-
Stage 1	847	765	-	859	779	-	-	-	-	-	-	-
Stage 2	855	777	-	843	765	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	10.4	0	0.3
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1448	-	-	-	680	1444	-	-
HCM Lane V/C Ratio	-	-	-	-	0.021	0.005	-	-
HCM Control Delay (s)	0	-	-	0	10.4	7.5	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.1	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	0	0	0	9	0	3	0	46	4	5	26	0
Future Vol, veh/h	0	0	0	9	0	3	0	46	4	5	26	0
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	0	0	0	9	0	3	0	48	4	5	27	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	89	89	27	87	87	50	27	0	0	52	0	0
Stage 1	37	37	-	50	50	-	-	-	-	-	-	-
Stage 2	52	52	-	37	37	-	-	-	-	-	-	-
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	901	805	1054	904	807	1024	1600	-	-	1567	-	-
Stage 1	984	868	-	968	857	-	-	-	-	-	-	-
Stage 2	966	856	-	984	868	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	896	803	1054	902	805	1024	1600	-	-	1567	-	-
Mov Cap-2 Maneuver	896	803	-	902	805	-	-	-	-	-	-	-
Stage 1	984	865	-	968	857	-	-	-	-	-	-	-
Stage 2	963	856	-	981	865	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	8.9	0	1.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1600	-	-	-	930	1567	-	-
HCM Lane V/C Ratio	-	-	-	-	0.014	0.003	-	-
HCM Control Delay (s)	0	-	-	0	8.9	7.3	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0	0	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	9	0	3	0	135	4	5	115	0
Future Vol, veh/h	0	0	0	9	0	3	0	135	4	5	115	0
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	0	0	0	9	0	3	0	142	4	5	121	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	277	277	121	275	275	144	121	0	0	146	0	0
Stage 1	131	131	-	144	144	-	-	-	-	-	-	-
Stage 2	146	146	-	131	131	-	-	-	-	-	-	-
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	679	634	936	681	636	909	1479	-	-	1448	-	-
Stage 1	877	792	-	864	782	-	-	-	-	-	-	-
Stage 2	861	780	-	877	792	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	674	631	936	679	633	909	1479	-	-	1448	-	-
Mov Cap-2 Maneuver	674	631	-	679	633	-	-	-	-	-	-	-
Stage 1	877	789	-	864	782	-	-	-	-	-	-	-
Stage 2	858	780	-	873	789	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	10.1	0	0.3
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1479	-	-	-	725	1448	-	-
HCM Lane V/C Ratio	-	-	-	-	0.017	0.004	-	-
HCM Control Delay (s)	0	-	-	0	10.1	7.5	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0	-	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

E/W STREET : QUARRY RD
N/S STREET : OUTER HWY 15N
CONDITION : PM PEAK HOUR

INTERSECTION : 12
PROJECTED GROWTH PER YEAR : 2.0%

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	2			4		6	8	10
QUARRY RD								
EB LEFT	0	0	0	0	0	0	0	0
EB THRU	0	0	0	0	0	0	0	0
EB RIGHT	0	0	0	0	0	0	0	0
WB LEFT	16	0	0	16	0	16	23	23
WB THRU	0	0	0	0	0	0	0	0
WB RIGHT	9	0	0	9	0	9	10	10
OUTER HWY 15N								
NB LEFT	0	0	0	0	0	0	0	0
NB THRU	28	1	0	29	89	118	59	148
NB RIGHT	3	0	0	3	0	3	4	4
SB LEFT	5	0	0	5	0	5	5	5
SB THRU	25	1	0	26	89	115	46	135
SB RIGHT	0	0	0	0	0	0	0	0
TOTALS	**86**	**2**	**0**	**88**	**178**	**266**	**147**	**325**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	4-Apr-23	FGFW0000-0001	2	OF 2

E/W STREET : QUARRY RD
CONDITION : PM PEAK HOUR
N/S STREET : OUTER HWY 15N
PHF : 0.71

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	10	2	0	0	0	0	0	0	0	0	0
0	4	0	0	0	0	0	0	0	0	0	0
0	6	3	0	0	0	0	0	0	0	0	0
0	5	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											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
2	8	0	0	0	0	0	0	0	0	0	0
1	6	0	0	0	0	0	0	0	0	1	0
0	5	0	0	0	0	0	0	0	0	1	0
0	3	0	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
2	0	5	0	0	0	0	0	0	0	0	0
2	0	4	0	0	0	0	0	0	0	0	0
3	0	5	0	0	0	0	0	0	0	0	0
2	0	2	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	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
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
QUARRY 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	16	**16**	**16**	**16**
WB THRU	0	0	**0**	**0**	**0**
WB RIGHT	0	9	**9**	**9**	**9**
OUTER HWY 15N					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	2	22	**24**	**28**	**28**
NB RIGHT	0	3	**3**	**3**	**3**
SB LEFT	0	5	**5**	**5**	**5**
SB THRU	0	25	**25**	**25**	**25**
SB RIGHT	0	0	**0**	**0**	**0**

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	0	0	0	16	0	9	0	28	3	5	25	0
Future Vol, veh/h	0	0	0	16	0	9	0	28	3	5	25	0
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	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	23	0	13	0	39	4	7	35	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	97	92	35	90	90	41	35	0	0	43	0	0
Stage 1	49	49	-	41	41	-	-	-	-	-	-	-
Stage 2	48	43	-	49	49	-	-	-	-	-	-	-
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	890	802	1044	900	804	1036	1589	-	-	1579	-	-
Stage 1	969	858	-	979	865	-	-	-	-	-	-	-
Stage 2	971	863	-	969	858	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	876	798	1044	896	800	1036	1589	-	-	1579	-	-
Mov Cap-2 Maneuver	876	798	-	896	800	-	-	-	-	-	-	-
Stage 1	969	854	-	979	865	-	-	-	-	-	-	-
Stage 2	959	863	-	964	854	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9	0	1.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1589	-	-	-	942	1579	-	-
HCM Lane V/C Ratio	-	-	-	-	0.037	0.004	-	-
HCM Control Delay (s)	0	-	-	0	9	7.3	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0	-	-

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	0	0	0	16	0	9	0	29	3	5	26	0
Future Vol, veh/h	0	0	0	16	0	9	0	29	3	5	26	0
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	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	23	0	13	0	41	4	7	37	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	101	96	37	94	94	43	37	0	0	45	0	0
Stage 1	51	51	-	43	43	-	-	-	-	-	-	-
Stage 2	50	45	-	51	51	-	-	-	-	-	-	-
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	885	798	1041	894	800	1033	1587	-	-	1576	-	-
Stage 1	967	856	-	976	863	-	-	-	-	-	-	-
Stage 2	968	861	-	967	856	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	871	794	1041	890	796	1033	1587	-	-	1576	-	-
Mov Cap-2 Maneuver	871	794	-	890	796	-	-	-	-	-	-	-
Stage 1	967	852	-	976	863	-	-	-	-	-	-	-
Stage 2	956	861	-	962	852	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9	0	1.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1587	-	-	-	937	1576	-	-
HCM Lane V/C Ratio	-	-	-	-	0.038	0.004	-	-
HCM Control Delay (s)	0	-	-	0	9	7.3	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	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	0	0	0	16	0	9	0	118	3	5	115	0
Future Vol, veh/h	0	0	0	16	0	9	0	118	3	5	115	0
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	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	23	0	13	0	166	4	7	162	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	351	346	162	344	344	168	162	0	0	170	0	0
Stage 1	176	176	-	168	168	-	-	-	-	-	-	-
Stage 2	175	170	-	176	176	-	-	-	-	-	-	-
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	608	580	888	614	582	881	1429	-	-	1420	-	-
Stage 1	831	757	-	839	763	-	-	-	-	-	-	-
Stage 2	832	762	-	831	757	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	597	577	888	612	579	881	1429	-	-	1420	-	-
Mov Cap-2 Maneuver	597	577	-	612	579	-	-	-	-	-	-	-
Stage 1	831	753	-	839	763	-	-	-	-	-	-	-
Stage 2	820	762	-	827	753	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	10.5	0	0.3
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1429	-	-	-	688	1420	-	-
HCM Lane V/C Ratio	-	-	-	-	0.051	0.005	-	-
HCM Control Delay (s)	0	-	-	0	10.5	7.5	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	23	0	10	0	59	4	5	46	0
Future Vol, veh/h	0	0	0	23	0	10	0	59	4	5	46	0
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	0	0	0	24	0	11	0	62	4	5	48	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	128	124	48	122	122	64	48	0	0	66	0	0
Stage 1	58	58	-	64	64	-	-	-	-	-	-	-
Stage 2	70	66	-	58	58	-	-	-	-	-	-	-
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	850	770	1027	858	772	1006	1572	-	-	1549	-	-
Stage 1	959	851	-	952	846	-	-	-	-	-	-	-
Stage 2	945	844	-	959	851	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	839	768	1027	856	770	1006	1572	-	-	1549	-	-
Mov Cap-2 Maneuver	839	768	-	856	770	-	-	-	-	-	-	-
Stage 1	959	848	-	952	846	-	-	-	-	-	-	-
Stage 2	935	844	-	956	848	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.2	0	0.7
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1572	-	-	-	897	1549	-	-
HCM Lane V/C Ratio	-	-	-	-	0.039	0.003	-	-
HCM Control Delay (s)	0	-	-	0	9.2	7.3	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	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	0	0	0	23	0	10	0	148	4	5	135	0
Future Vol, veh/h	0	0	0	23	0	10	0	148	4	5	135	0
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	0	0	0	24	0	11	0	156	4	5	142	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	316	312	142	310	310	158	142	0	0	160	0	0
Stage 1	152	152	-	158	158	-	-	-	-	-	-	-
Stage 2	164	160	-	152	152	-	-	-	-	-	-	-
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	641	606	911	646	608	893	1453	-	-	1432	-	-
Stage 1	855	775	-	849	771	-	-	-	-	-	-	-
Stage 2	843	769	-	855	775	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	631	604	911	644	606	893	1453	-	-	1432	-	-
Mov Cap-2 Maneuver	631	604	-	644	606	-	-	-	-	-	-	-
Stage 1	855	772	-	849	771	-	-	-	-	-	-	-
Stage 2	833	769	-	852	772	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	10.4	0	0.3
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1453	-	-	-	703	1432	-	-
HCM Lane V/C Ratio	-	-	-	-	0.049	0.004	-	-
HCM Control Delay (s)	0	-	-	0	10.4	7.5	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0	-	-

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

Intersection No.: 12
North/South Street: OUTER HWY 15N
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	0	Approach	49	Left	0	0
NB	Through	22	Departure	34	Through	46	46
	Right	3			Right	4	4
North leg	Left	5	Approach	30	Left	5	5
SB	Through	22	Departure	48	Through	26	26
	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	9	Approach	11	Left	9	9
WB	Through	0	Departure	8	Through	0	0
	Right	2			Right	3	3

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Rounded Volume
South leg	Left	0	Approach	59	Left	0	0
NB	Through	28	Departure	47	Through	56	59
	Right	3			Right	4	4
North leg	Left	5	Approach	36	Left	5	5
SB	Through	25	Departure	65	Through	32	46
	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	16	Approach	25	Left	16	23
WB	Through	0	Departure	8	Through	0	0

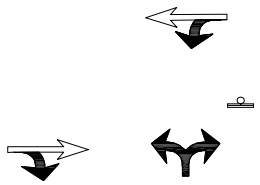
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

E/W STREET : NORCO ST
N/S STREET : PROJECT DWY 1
CONDITION : AM PEAK HOUR

INTERSECTION : 13
PROJECTED GROWTH PER YEAR : 2.0%

CONDITION DIAGRAMS



PROJECT GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	1			3		5	7	9
NORCO ST								
EB LEFT	0	0	0	0	0	0	0	0
EB THRU	2	0	0	2	0	2	3	3
EB RIGHT	0	0	0	0	272	272	0	272
WB LEFT	0	0	0	0	0	0	0	0
WB THRU	3	0	0	3	0	3	4	4
WB RIGHT	0	0	0	0	0	0	0	0
PROJECT DWY 1								
NB LEFT	0	0	0	0	83	83	0	83
NB THRU	0	0	0	0	0	0	0	0
NB RIGHT	0	0	0	0	0	0	0	0
SB LEFT	0	0	0	0	0	0	0	0
SB THRU	0	0	0	0	0	0	0	0
SB RIGHT	0	0	0	0	0	0	0	0
TOTALS	**5**	**0**	**0**	**5**	**355**	**360**	**7**	**362**

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	2	272	0	3	83	0
Future Vol, veh/h	2	272	0	3	83	0
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	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	363	0	4	111	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	366	0	189	185
Stage 1	-	-	-	-	185	-
Stage 2	-	-	-	-	4	-
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	-	-	1204	-	805	862
Stage 1	-	-	-	-	852	-
Stage 2	-	-	-	-	1024	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1204	-	805	862
Mov Cap-2 Maneuver	-	-	-	-	805	-
Stage 1	-	-	-	-	852	-
Stage 2	-	-	-	-	1024	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	805	-	-	1204	-
HCM Lane V/C Ratio	0.137	-	-	-	-
HCM Control Delay (s)	10.2	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	3	272	0	4	83	0
Future Vol, veh/h	3	272	0	4	83	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	286	0	4	87	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	289	0	150	146
Stage 1	-	-	-	-	146	-
Stage 2	-	-	-	-	4	-
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	-	-	1284	-	847	906
Stage 1	-	-	-	-	886	-
Stage 2	-	-	-	-	1024	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1284	-	847	906
Mov Cap-2 Maneuver	-	-	-	-	847	-
Stage 1	-	-	-	-	886	-
Stage 2	-	-	-	-	1024	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	847	-	-	1284	-
HCM Lane V/C Ratio	0.103	-	-	-	-
HCM Control Delay (s)	9.7	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

E/W STREET : NORCO ST
N/S STREET : PROJECT DWY 1
CONDITION : PM PEAK HOUR

INTERSECTION : 13
PROJECTED GROWTH PER YEAR : 2.0%

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	2			4		6	8	10
NORCO ST								
EB LEFT	0	0	0	0	0	0	0	0
EB THRU	2	0	0	2	0	2	3	3
EB RIGHT	0	0	0	0	101	101	0	101
WB LEFT	0	0	0	0	0	0	0	0
WB THRU	5	0	0	5	0	5	8	8
WB RIGHT	0	0	0	0	0	0	0	0
PROJECT DWY 1								
NB LEFT	0	0	0	0	255	255	0	255
NB THRU	0	0	0	0	0	0	0	0
NB RIGHT	0	0	0	0	0	0	0	0
SB LEFT	0	0	0	0	0	0	0	0
SB THRU	0	0	0	0	0	0	0	0
SB RIGHT	0	0	0	0	0	0	0	0
TOTALS	**7**	**0**	**0**	**7**	**356**	**363**	**11**	**367**

Intersection	
Int Delay, s/veh	7.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	2	101	0	5	255	0
Future Vol, veh/h	2	101	0	5	255	0
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	3	138	0	7	349	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	141	0	79	72
Stage 1	-	-	-	-	72	-
Stage 2	-	-	-	-	7	-
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	-	-	1455	-	929	996
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	1021	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1455	-	929	996
Mov Cap-2 Maneuver	-	-	-	-	929	-
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	1021	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	929	-	-	1455	-
HCM Lane V/C Ratio	0.376	-	-	-	-
HCM Control Delay (s)	11.2	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	1.8	-	-	0	-

Intersection	
Int Delay, s/veh	7.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	3	101	0	8	255	0
Future Vol, veh/h	3	101	0	8	255	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	106	0	8	268	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	109	0	64	56
Stage 1	-	-	-	-	56	-
Stage 2	-	-	-	-	8	-
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	-	-	1494	-	947	1016
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	1020	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1494	-	947	1016
Mov Cap-2 Maneuver	-	-	-	-	947	-
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	1020	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	947	-	-	1494	-
HCM Lane V/C Ratio	0.283	-	-	-	-
HCM Control Delay (s)	10.3	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	1.2	-	-	0	-

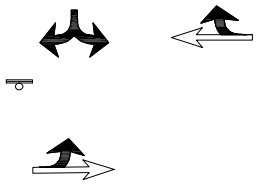
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

E/W STREET : FALCHION RD
N/S STREET : PROJECT DWY 2
CONDITION : AM PEAK HOUR

INTERSECTION : 14
PROJECTED GROWTH PER YEAR : 2.0%

CONDITION DIAGRAMS



PROJECT GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	1			3		5	7	9
FALCHION RD								
EB LEFT	0	0	0	0	372	372	0	372
EB THRU	6	0	0	6	0	6	41	41
EB RIGHT	0	0	0	0	0	0	0	0
WB LEFT	0	0	0	0	0	0	0	0
WB THRU	15	0	0	15	0	15	81	81
WB RIGHT	0	0	0	0	36	36	0	36
PROJECT DWY 2								
NB LEFT	0	0	0	0	0	0	0	0
NB THRU	0	0	0	0	0	0	0	0
NB RIGHT	0	0	0	0	0	0	0	0
SB LEFT	0	0	0	0	11	11	0	11
SB THRU	0	0	0	0	0	0	0	0
SB RIGHT	0	0	0	0	113	113	0	113
TOTALS	**21**	**0**	**0**	**21**	**532**	**553**	**122**	**654**

Intersection	
Int Delay, s/veh	8.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	372	6	15	36	11	113
Future Vol, veh/h	372	6	15	36	11	113
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	531	9	21	51	16	161

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	72	0	-	0	1118	47
Stage 1	-	-	-	-	47	-
Stage 2	-	-	-	-	1071	-
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	1541	-	-	-	231	1028
Stage 1	-	-	-	-	981	-
Stage 2	-	-	-	-	332	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1541	-	-	-	151	1028
Mov Cap-2 Maneuver	-	-	-	-	151	-
Stage 1	-	-	-	-	642	-
Stage 2	-	-	-	-	332	-

Approach	EB	WB	SB
HCM Control Delay, s	8.4	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1541	-	-	-	678
HCM Lane V/C Ratio	0.345	-	-	-	0.261
HCM Control Delay (s)	8.6	0	-	-	12.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	1.6	-	-	-	1

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	372	41	81	36	11	113
Future Vol, veh/h	372	41	81	36	11	113
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	392	43	85	38	12	119

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	123	0	-	0	931	104
Stage 1	-	-	-	-	104	-
Stage 2	-	-	-	-	827	-
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	-	-	-	299	956
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	433	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1477	-	-	-	218	956
Mov Cap-2 Maneuver	-	-	-	-	218	-
Stage 1	-	-	-	-	673	-
Stage 2	-	-	-	-	433	-

Approach	EB	WB	SB
HCM Control Delay, s	7.5	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1477	-	-	-	735
HCM Lane V/C Ratio	0.265	-	-	-	0.178
HCM Control Delay (s)	8.3	0	-	-	11
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	1.1	-	-	-	0.6

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	4-Apr-23	FGFW0000-0001	1 OF 2

E/W STREET : FALCHION RD
N/S STREET : PROJECT DWY 2
CONDITION : PM PEAK HOUR

INTERSECTION : 14
PROJECTED GROWTH PER YEAR : 2.0%

TURN MOVEMENTS

Condition	Existing Condition	Year 2024 Ambient Growth	Total Cumulative Project Trips	Background Condition	Project Trips	Project Condition	Future Year 2040 Condition	Future Year 2040 + Project Condition
Scenario #	2			4		6	8	10
FALCHION RD								
EB LEFT	0	0	0	0	135	135	0	135
EB THRU	10	0	0	10	0	10	98	98
EB RIGHT	0	0	0	0	0	0	0	0
WB LEFT	0	0	0	0	0	0	0	0
WB THRU	31	0	0	31	0	31	125	125
WB RIGHT	0	0	0	0	13	13	0	13
PROJECT DWY 2								
NB LEFT	0	0	0	0	0	0	0	0
NB THRU	0	0	0	0	0	0	0	0
NB RIGHT	0	0	0	0	0	0	0	0
SB LEFT	0	0	0	0	34	34	0	34
SB THRU	0	0	0	0	0	0	0	0
SB RIGHT	0	0	0	0	348	348	0	348
TOTALS	**41**	**0**	**0**	**41**	**530**	**571**	**223**	**753**

Intersection	
Int Delay, s/veh	11.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	135	10	31	13	34	348
Future Vol, veh/h	135	10	31	13	34	348
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	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	196	14	45	19	49	504

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	64	0	-	0	461	55
Stage 1	-	-	-	-	55	-
Stage 2	-	-	-	-	406	-
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	1551	-	-	-	562	1018
Stage 1	-	-	-	-	973	-
Stage 2	-	-	-	-	677	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1551	-	-	-	491	1018
Mov Cap-2 Maneuver	-	-	-	-	491	-
Stage 1	-	-	-	-	849	-
Stage 2	-	-	-	-	677	-

Approach	EB	WB	SB
HCM Control Delay, s	7.1	0	14.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1551	-	-	-	929
HCM Lane V/C Ratio	0.126	-	-	-	0.596
HCM Control Delay (s)	7.7	0	-	-	14.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.4	-	-	-	4.1

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	135	98	125	13	11	113
Future Vol, veh/h	135	98	125	13	11	113
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	142	103	132	14	12	119

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	146	0	-	0	526	139
Stage 1	-	-	-	-	139	-
Stage 2	-	-	-	-	387	-
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	1448	-	-	-	516	915
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	691	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1448	-	-	-	462	915
Mov Cap-2 Maneuver	-	-	-	-	462	-
Stage 1	-	-	-	-	800	-
Stage 2	-	-	-	-	691	-

Approach	EB	WB	SB
HCM Control Delay, s	4.5	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1448	-	-	-	842
HCM Lane V/C Ratio	0.098	-	-	-	0.155
HCM Control Delay (s)	7.8	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.5

Appendix F: Traffic Signal Warrant Analysis

PROJECT CONDITIONS
Page 1/2

COUNT DATE 6-28-22

CALC HEAY DATE 3-28-23

CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: STODDARD WELLS RD — Critical Approach Speed 50 mph

Minor St: OUTER HIGHWAY 15 S — Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☒

or

In built up area of isolated community of < 10,000 population..... ☐ **RURAL (R)**

☐ **URBAN (U)**

WARRANT 3 - Peak Hour **SATISFIED YES ☒ NO ☐**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☒**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

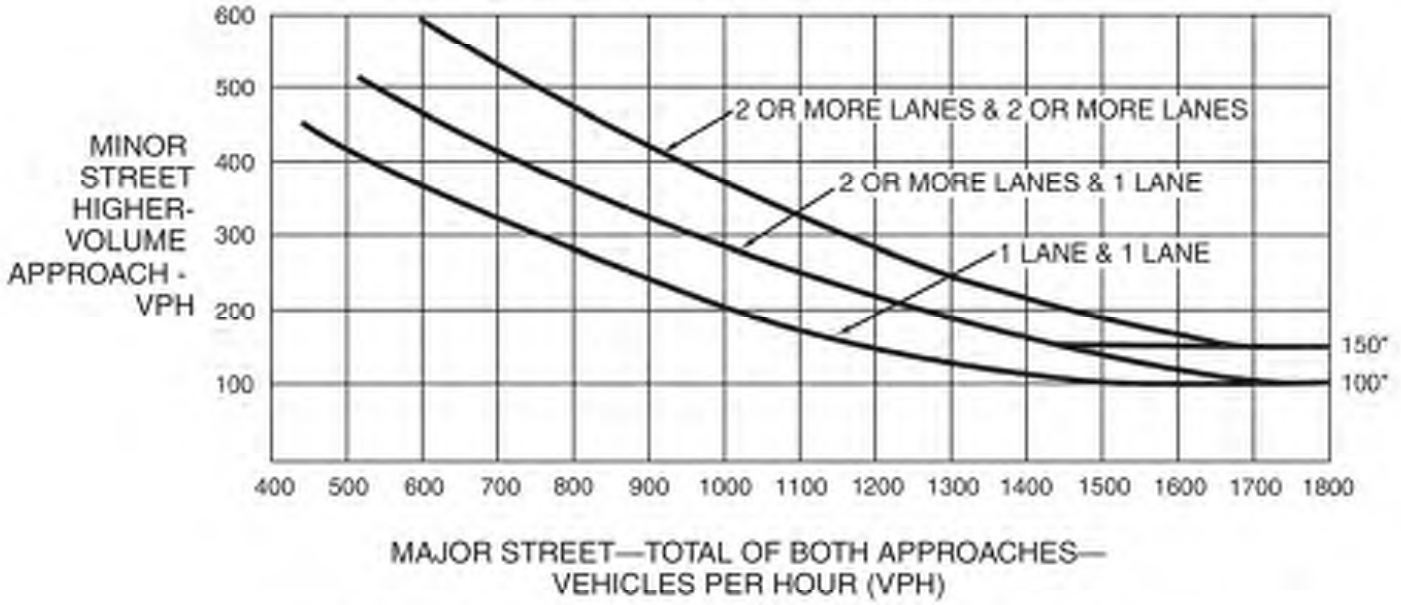
PART B **SATISFIED YES ☒ NO ☐**

APPROACH LANES	One	2 or More	4:00 - 5:00 PM Hour
Both Approaches - Major Street	X		913
Higher Approach - Minor Street		X	176

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐ No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☒ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

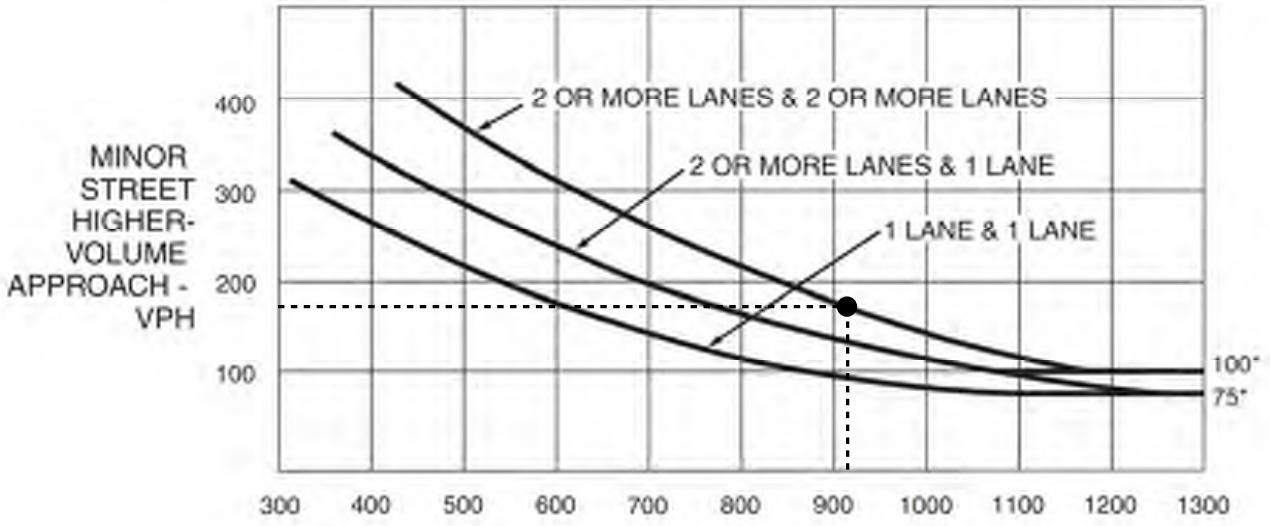
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

FUTURE + PROJECT CONDITIONS
Page 1/2

COUNT DATE 6-28-22
CALC HEAY DATE 3-28-23
CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: STODDARD WELLS RD — Critical Approach Speed 50 mph
Minor St: OUTER HIGHWAY 15 S — Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☒
or
In built up area of isolated community of < 10,000 population..... ☐
} RURAL (R)
☐ URBAN (U)

WARRANT 3 - Peak Hour **SATISFIED YES ☒ NO ☐**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☒ NO ☐**
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☒ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

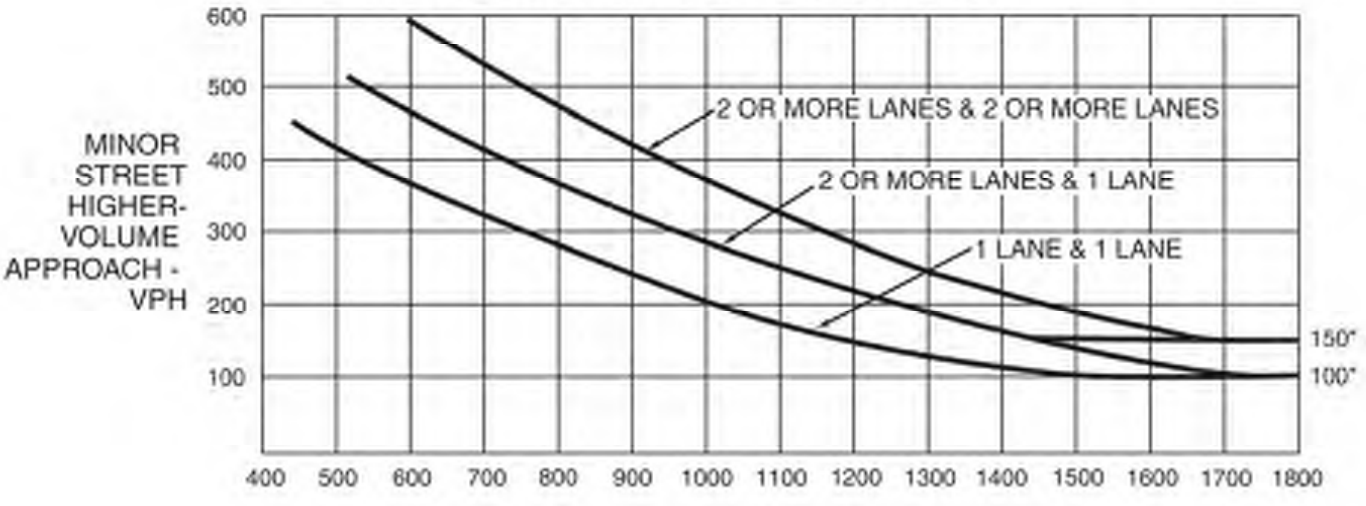
PART B **SATISFIED YES ☒ NO ☐**

APPROACH LANES	One	2 or More	4:00 - 5:00 PM Hour
Both Approaches - Major Street	X		1272
Higher Approach - Minor Street		X	353

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐ No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☒ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

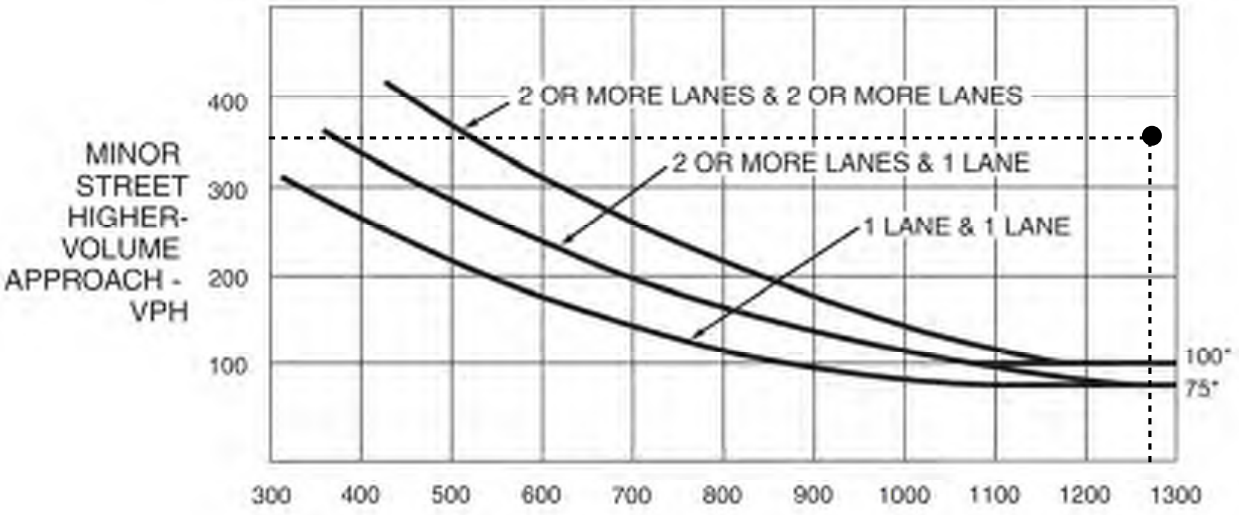
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

PROJECT CONDITIONS
Page 1/2

COUNT DATE 6-28-22
CALC HEAY DATE 3-28-23
CHK _____ DATE _____

DIST CO RTE PM

Major St: OUTER HWY 15 S — Critical Approach Speed 50 mph
Minor St: I-15 NB RAMPS — Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☒
or
In built up area of isolated community of < 10,000 population..... ☐
} RURAL (R)

☐ URBAN (U)

WARRANT 3 - Peak Hour **SATISFIED YES ☒ NO ☐**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☒**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

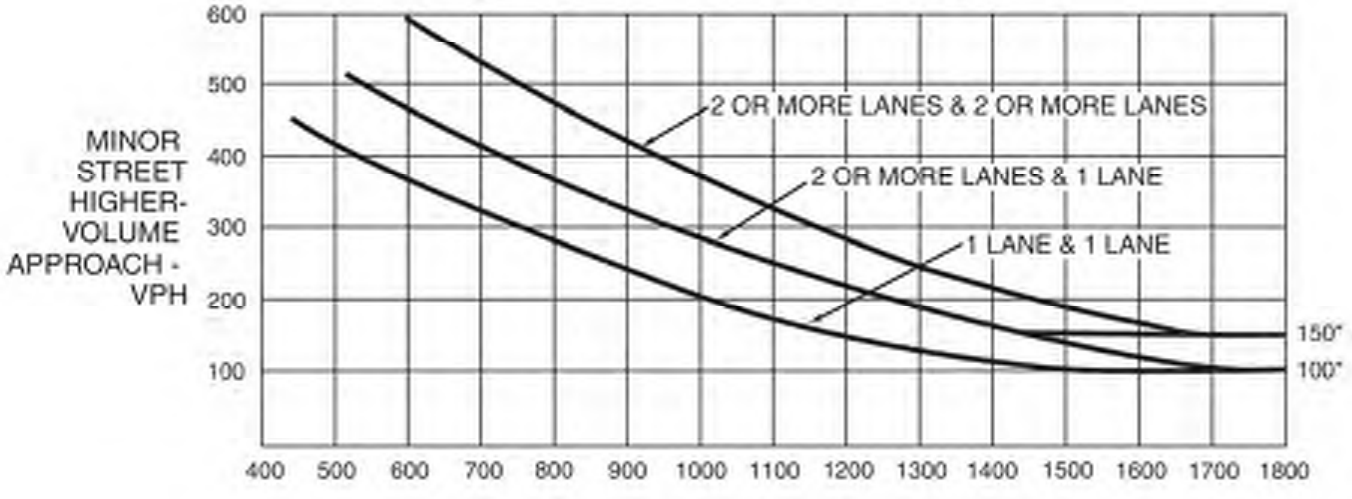
PART B **SATISFIED YES ☒ NO ☐**

APPROACH LANES	One	2 or More	4:00 - 5:00 PM Hour
Both Approaches - Major Street	X		558
Higher Approach - Minor Street		X	498

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐ No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☒ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

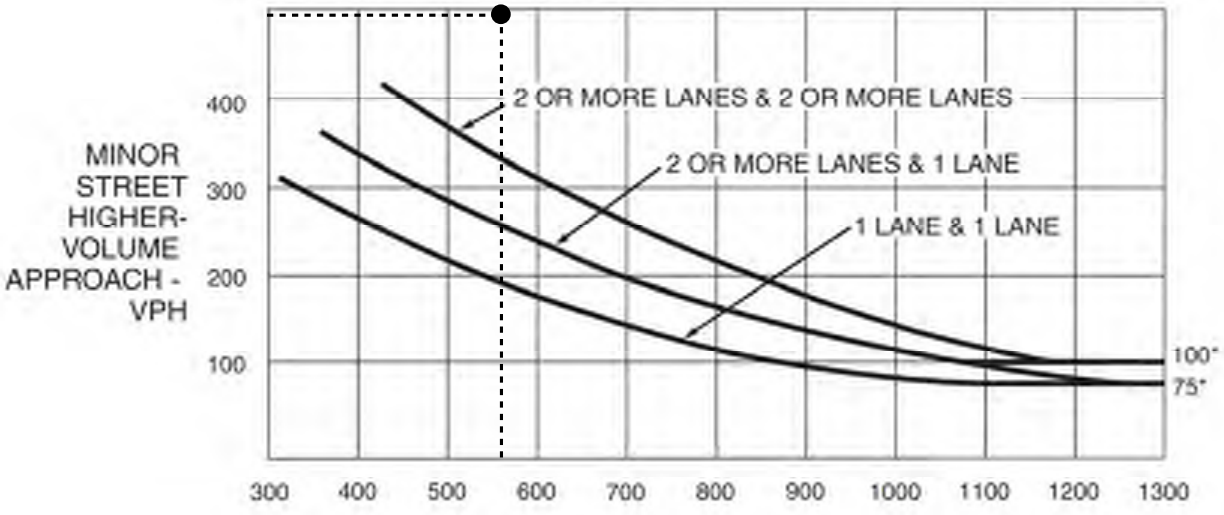
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

FUTURE + PROJECT CONDITIONS
Page 1/2

COUNT DATE 6-28-22
CALC HEAY DATE 3-28-23
CHK _____ DATE _____

DIST CO RTE PM

Major St: OUTER HWY 15 S — Critical Approach Speed 50 mph
Minor St: I-15 NB RAMPS — Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☒
or
In built up area of isolated community of < 10,000 population..... ☐
} RURAL (R)

☐ URBAN (U)

WARRANT 3 - Peak Hour **SATISFIED YES ☒ NO ☐**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☒ NO ☐**
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☒ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

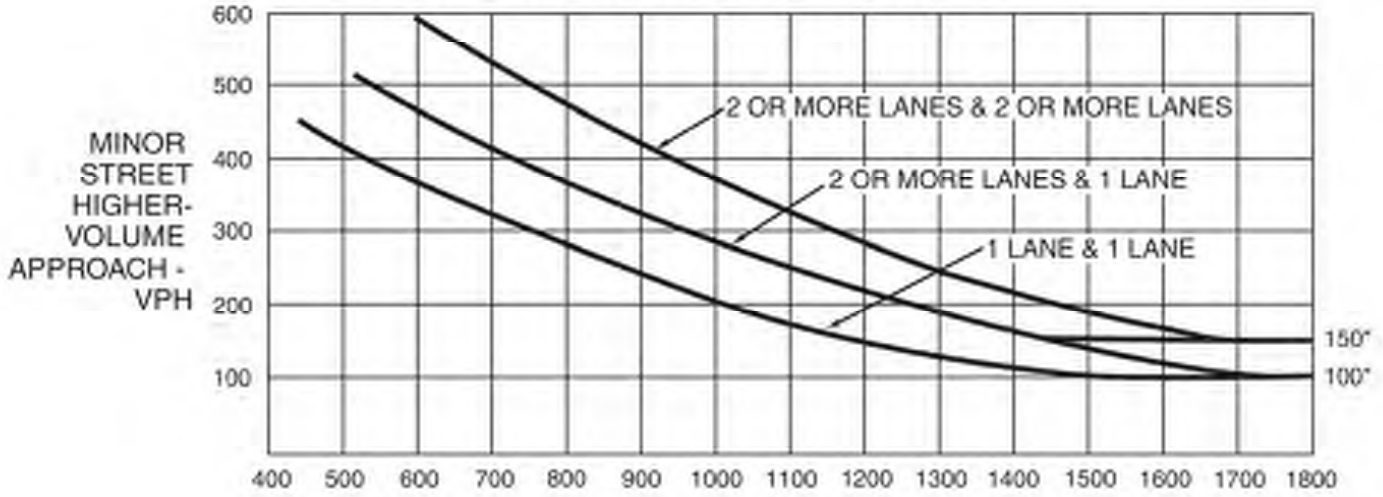
PART B **SATISFIED YES ☒ NO ☐**

APPROACH LANES	One	2 or More	4:00 - 5:00 PM Hour
Both Approaches - Major Street	X		752
Higher Approach - Minor Street		X	635

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐ No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☒ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

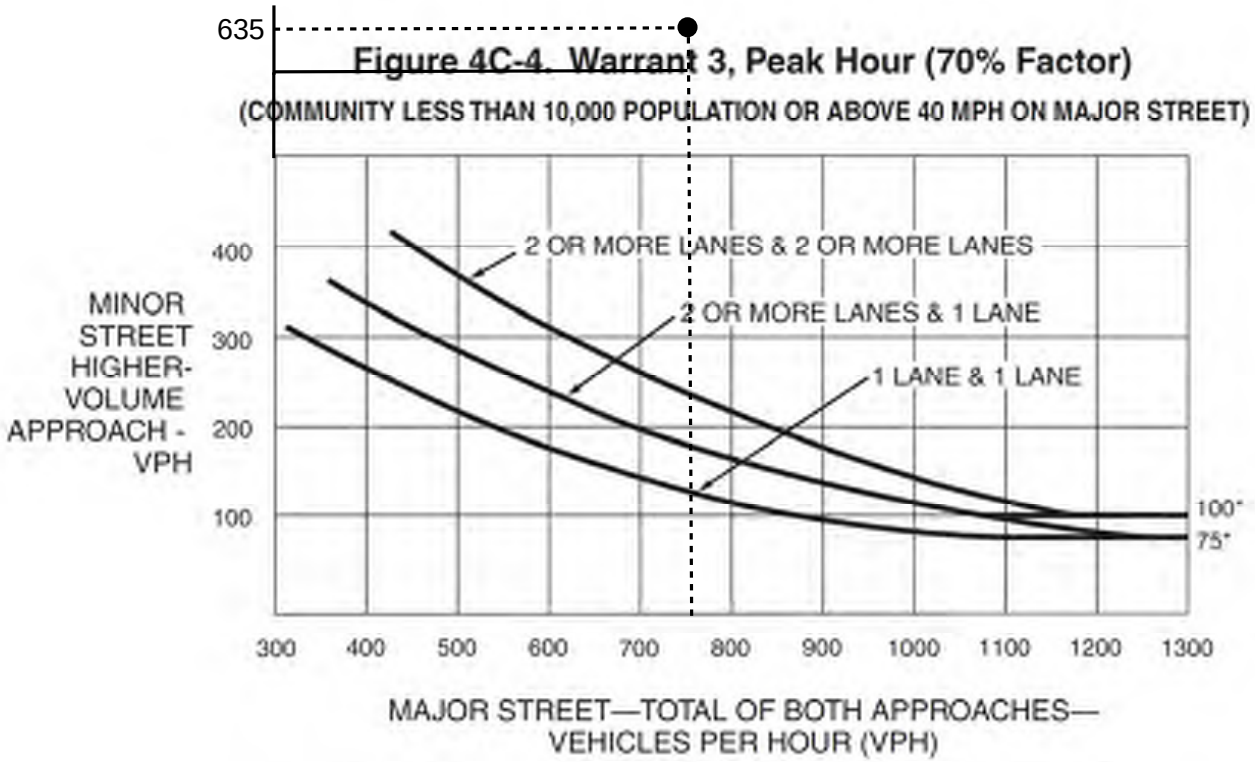
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

PROJECT CONDITIONS

COUNT DATE 6-29-22

CALC HEAY DATE 3-28-23

CHK _____ DATE _____

DIST	CO	RTE	PM

Major St: W FRONTAGE RD — Critical Approach Speed 45 mph

Minor St: STODDARD WELLS RD — Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☒

or

In built up area of isolated community of < 10,000 population..... ☐

} RURAL (R)

☐ URBAN (U)

WARRANT 3 - Peak Hour **SATISFIED YES ☒ NO ☐**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☒ NO ☐**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☒ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

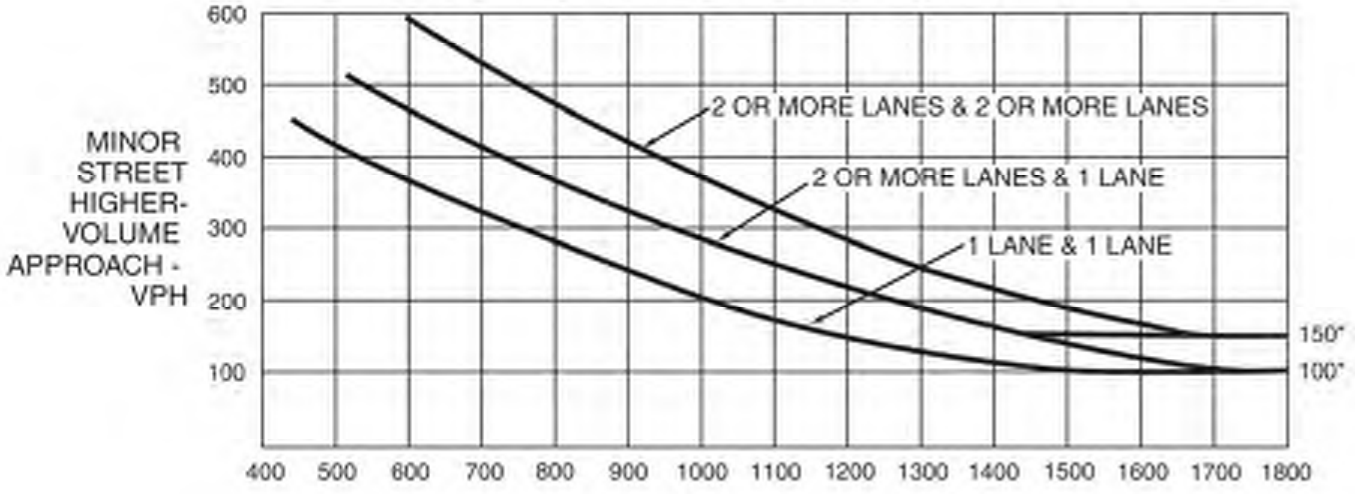
PART B **SATISFIED YES ☒ NO ☐**

APPROACH LANES	One	2 or More	4:15 - 5:15 PM Hour
Both Approaches - Major Street	X		379
Higher Approach - Minor Street		X	560

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐ No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☒ No ☐

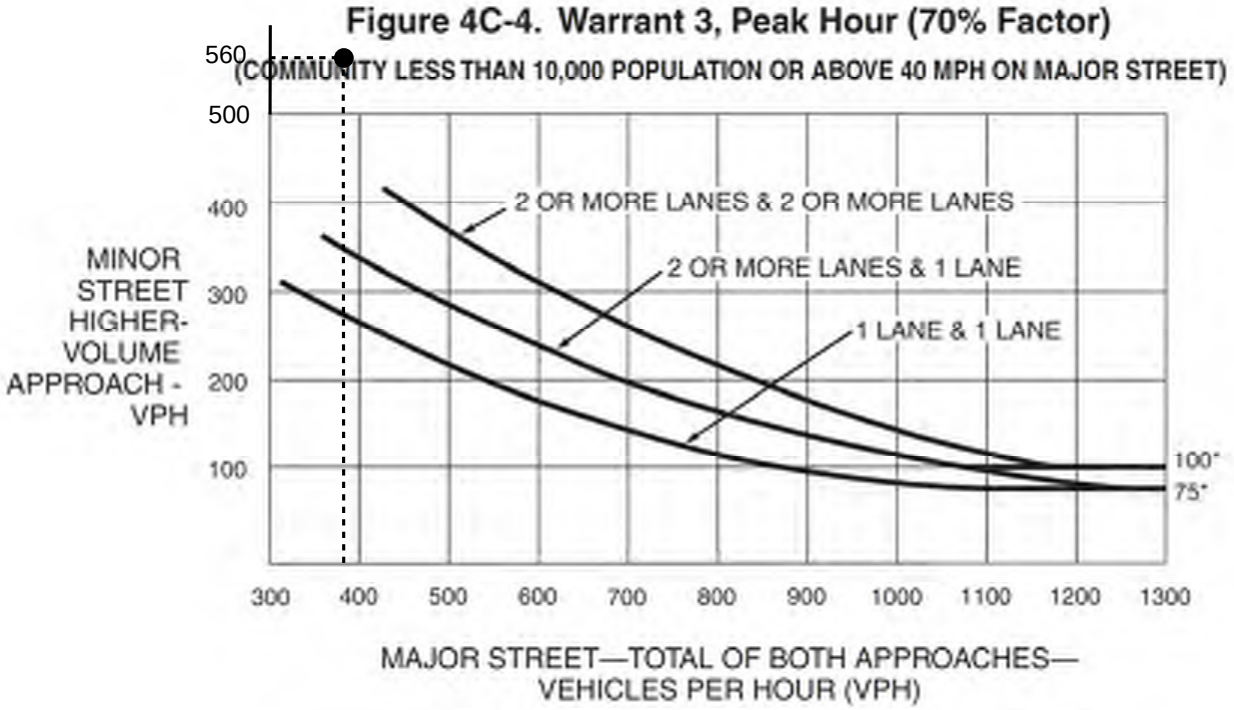
The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

FUTURE + PROJECT CONDITIONS
Page 1/2

COUNT DATE 6-29-22
CALC HEAY DATE 3-28-23
CHK _____ DATE _____

DIST CO RTE PM

Major St: W FRONTAGE RD
Minor St: STODDARD WELLS RD

Critical Approach Speed 50 mph
Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☒
or
In built up area of isolated community of < 10,000 population..... ☐
} RURAL (R)

☐ URBAN (U)

WARRANT 3 - Peak Hour SATISFIED YES ☒ NO ☐
(Part A or Part B must be satisfied)

PART A SATISFIED YES ☒ NO ☐
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☒ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

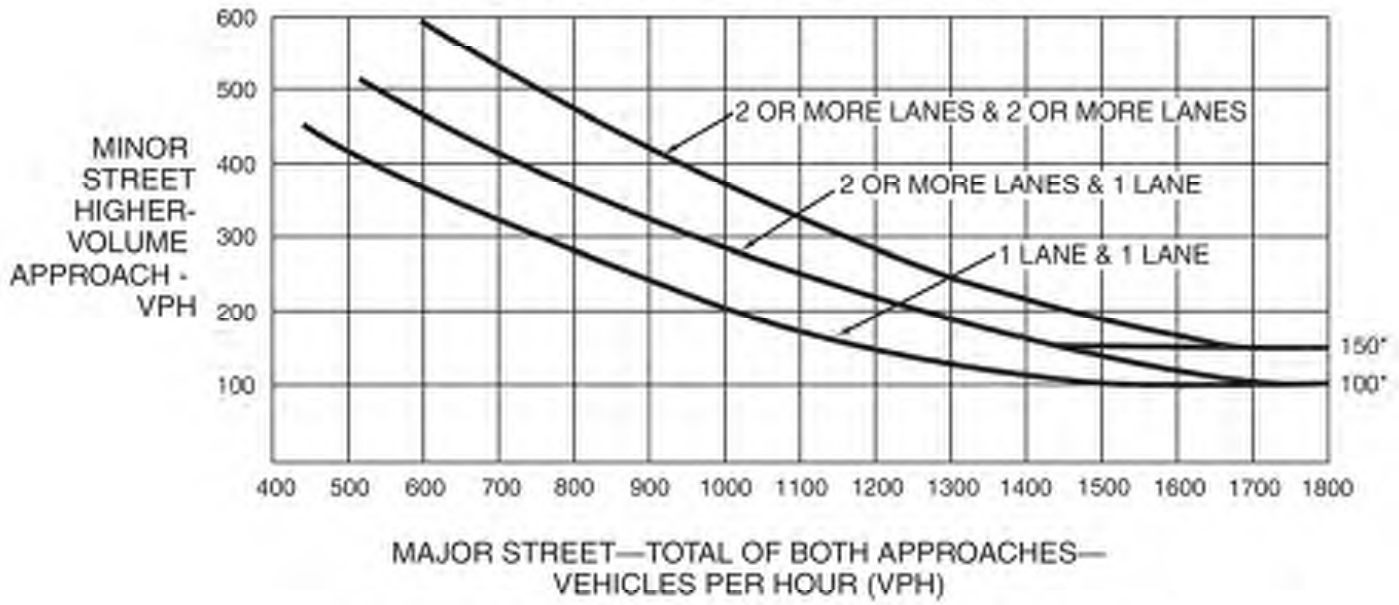
PART B SATISFIED YES ☒ NO ☐

APPROACH LANES	One	2 or More	4:15 - 5:15 PM Hour
Both Approaches - Major Street	X		607
Higher Approach - Minor Street		X	785

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐ No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☒ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3. Warrant 3, Peak Hour



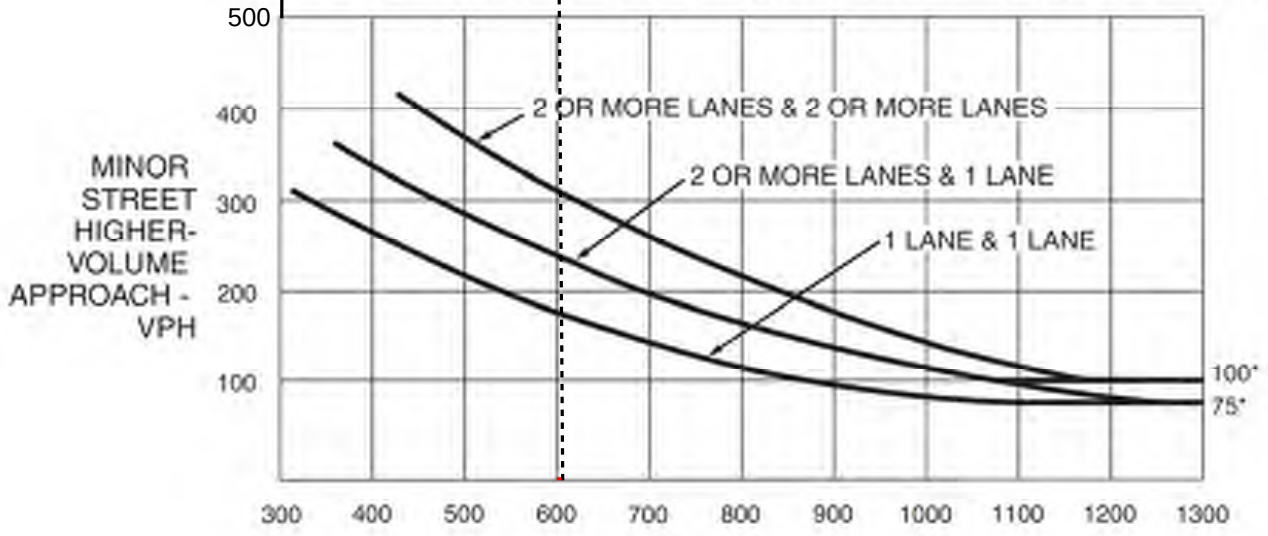
*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

785

500

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

PROJECT CONDITIONS
Page 1/2

COUNT DATE 11-9-22
CALC HEAY DATE 3-28-23
CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: STODDARD WELLS RD — Critical Approach Speed 55 mph
Minor St: OUTER HWY 15 S / I-15 NB RAMPS — Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☒
or
In built up area of isolated community of < 10,000 population..... ☐
} RURAL (R)
☐ URBAN (U)

WARRANT 3 - Peak Hour **SATISFIED YES ☒ NO ☐**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☒ NO ☐**
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☒ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

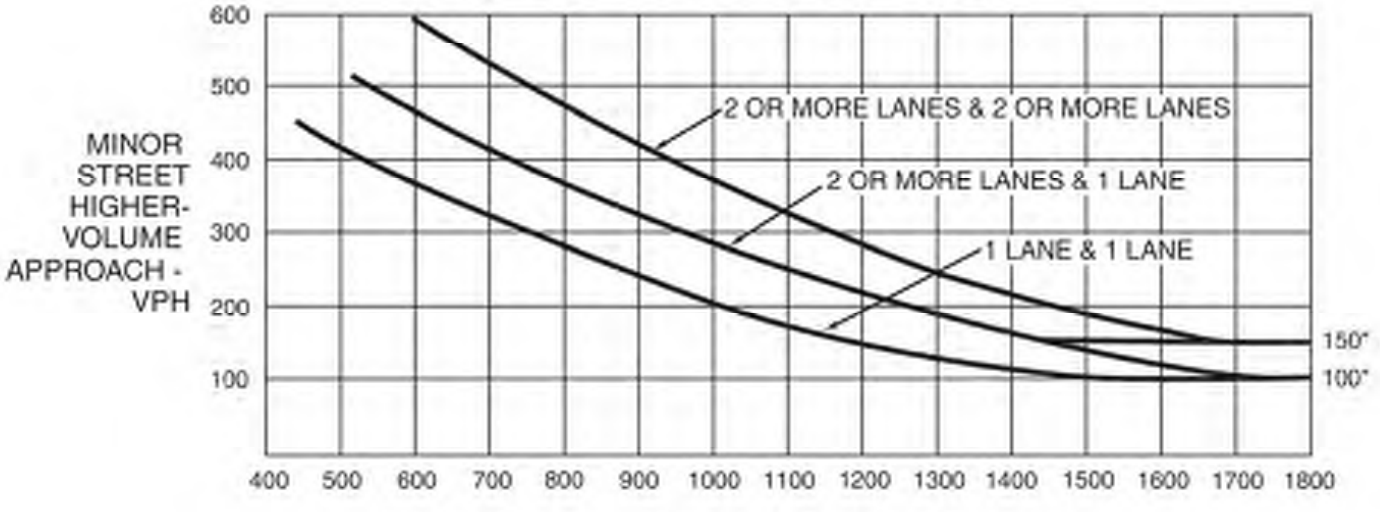
PART B **SATISFIED YES ☒ NO ☐**

APPROACH LANES	One	2 or More	4:30 - 5:30 PM Hour
Both Approaches - Major Street	X		1670
Higher Approach - Minor Street	X		445

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐ No ☐
OR. The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☒ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

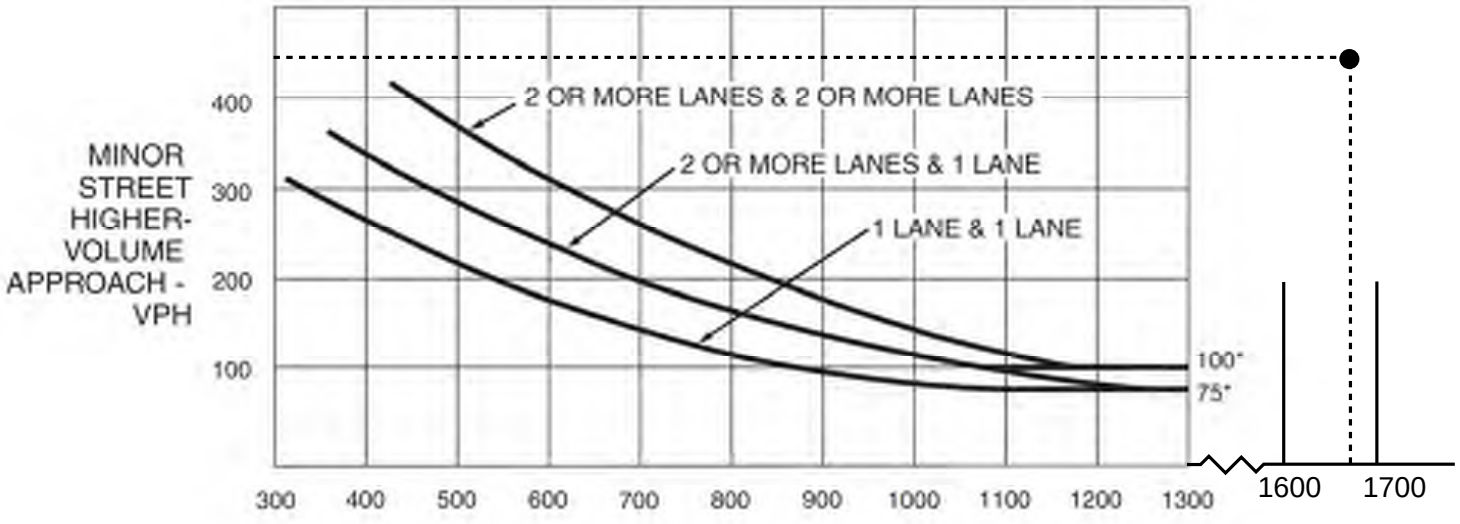
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

FUTURE + PROJECT CONDITIONS
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COUNT DATE 11-9-22

DIST	CO	RTE	PM

CALC HEAY DATE 3-28-23

CHK _____ DATE _____

Major St: STODDARD WELLS RD

Minor St: OUTER HWY 15 S / I-15 NB RAMPS

Critical Approach Speed 55 mph

Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☒

or

In built up area of isolated community of < 10,000 population..... ☐

☒ RURAL (R)

☐ URBAN (U)

WARRANT 3 - Peak Hour **SATISFIED YES ☒ NO ☐**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☒ NO ☐**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☒ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

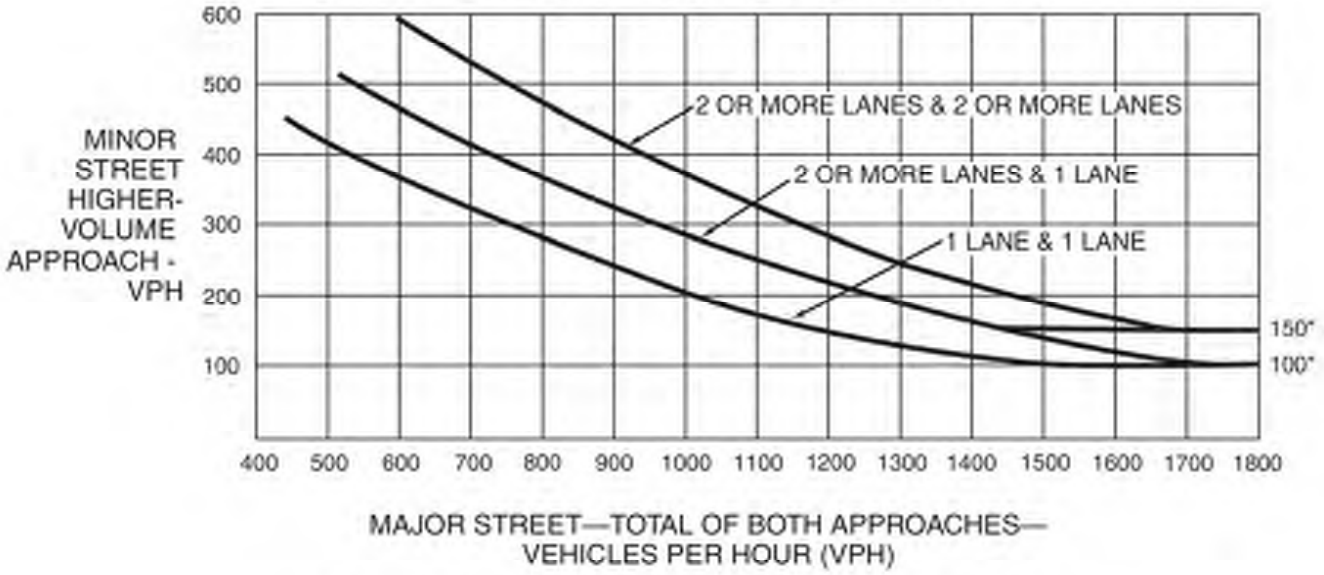
PART B **SATISFIED YES ☒ NO ☐**

APPROACH LANES	One	2 or More	4:30 - 5:30 PM Hour
Both Approaches - Major Street	X		2048
Higher Approach - Minor Street	X		695

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐ No ☐
OR. The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☒ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3. Warrant 3, Peak Hour

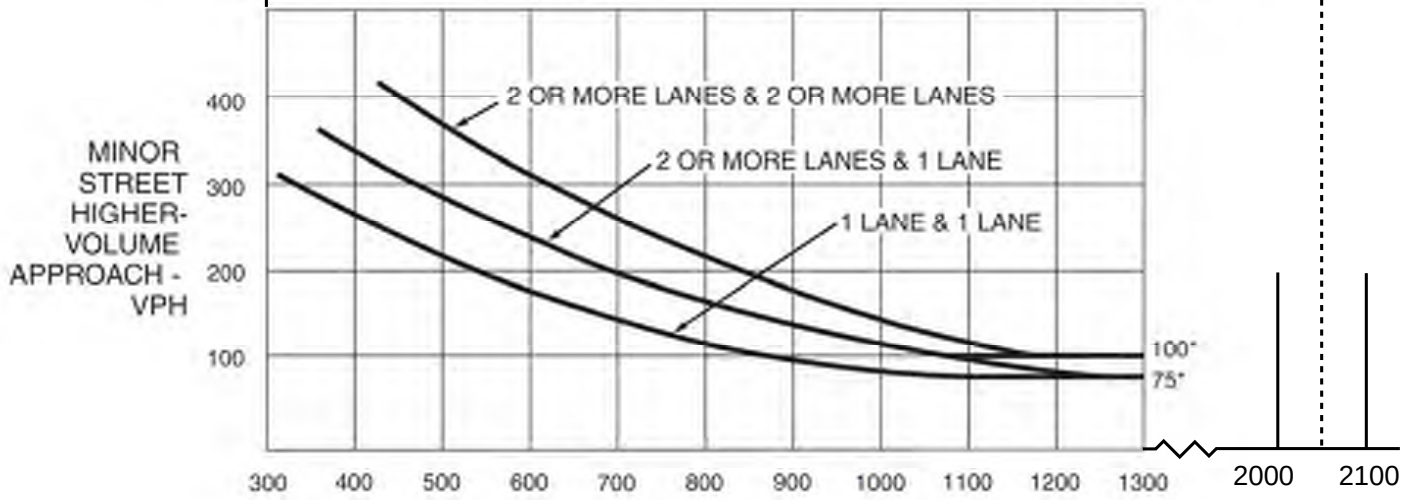


*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

695

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

PROJECT CONDITIONS
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COUNT DATE 11-9-22

DIST	CO	RTE	PM

CALC HEAY DATE 3-28-23

CHK _____ DATE _____

Major St: STODDARD WELLS RD — Critical Approach Speed 55 mph

Minor St: QUARRY RD — Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☒ or ☐ } RURAL (R)

In built up area of isolated community of < 10,000 population..... ☐ URBAN (U)

WARRANT 3 - Peak Hour **SATISFIED YES ☒ NO ☐**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☒ NO ☐**
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☒ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

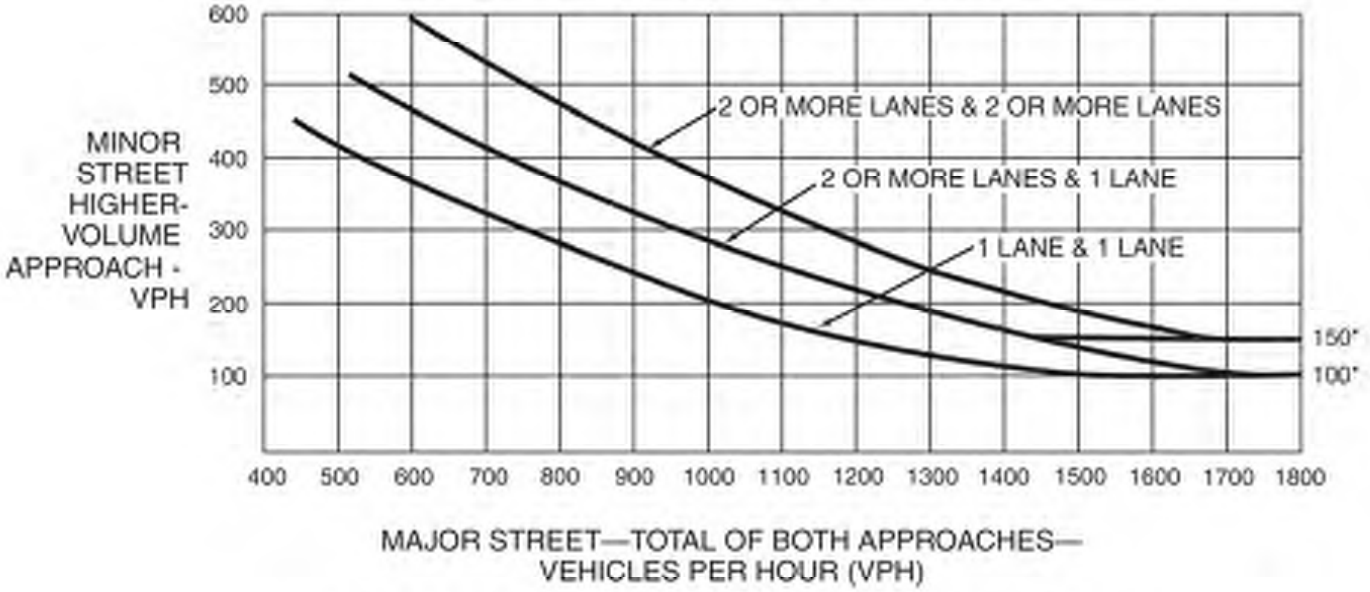
PART B **SATISFIED YES ☒ NO ☐**

APPROACH LANES	One	2 or More	4:30 - 5:30 PM Hour
Both Approaches - Major Street	X		1331
Higher Approach - Minor Street	X		373

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐ No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☒ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

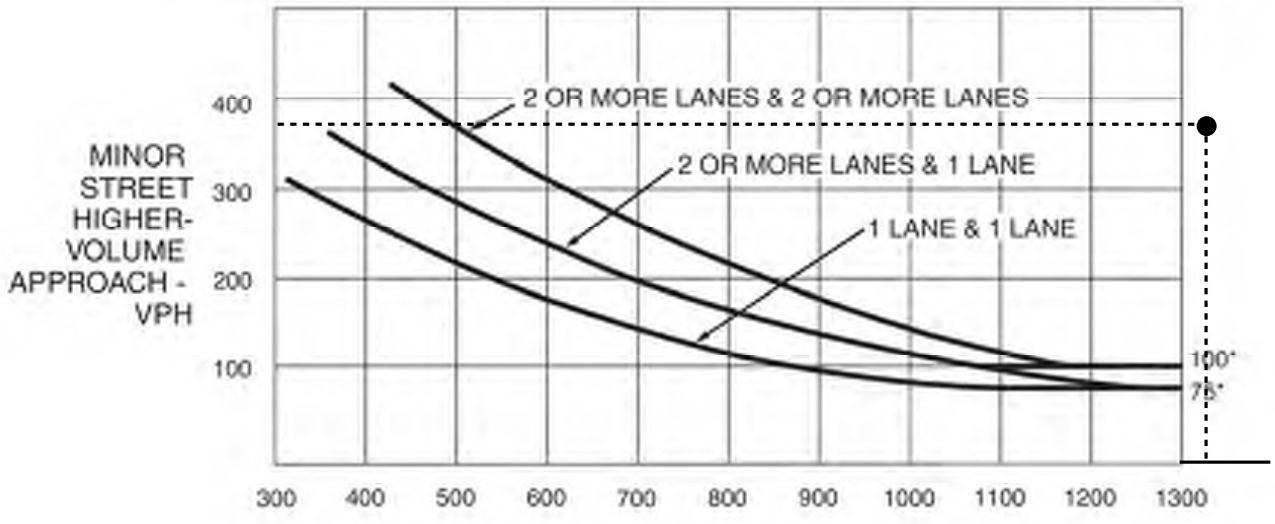
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

FUTURE + PROJECT CONDITIONS

COUNT DATE 11-9-22

DIST ____ CO ____ RTE ____ PM ____

CALC HEAY DATE 3-28-23

CHK ____ DATE ____

Major St: STODDARD WELLS RD — Critical Approach Speed 55 mph

Minor St: QUARRY RD — Critical Approach Speed ____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☒
or
In built up area of isolated community of < 10,000 population..... ☐ } RURAL (R)

☐ URBAN (U)

WARRANT 3 - Peak Hour **SATISFIED YES ☒ NO ☐**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☒ NO ☐**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☒ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

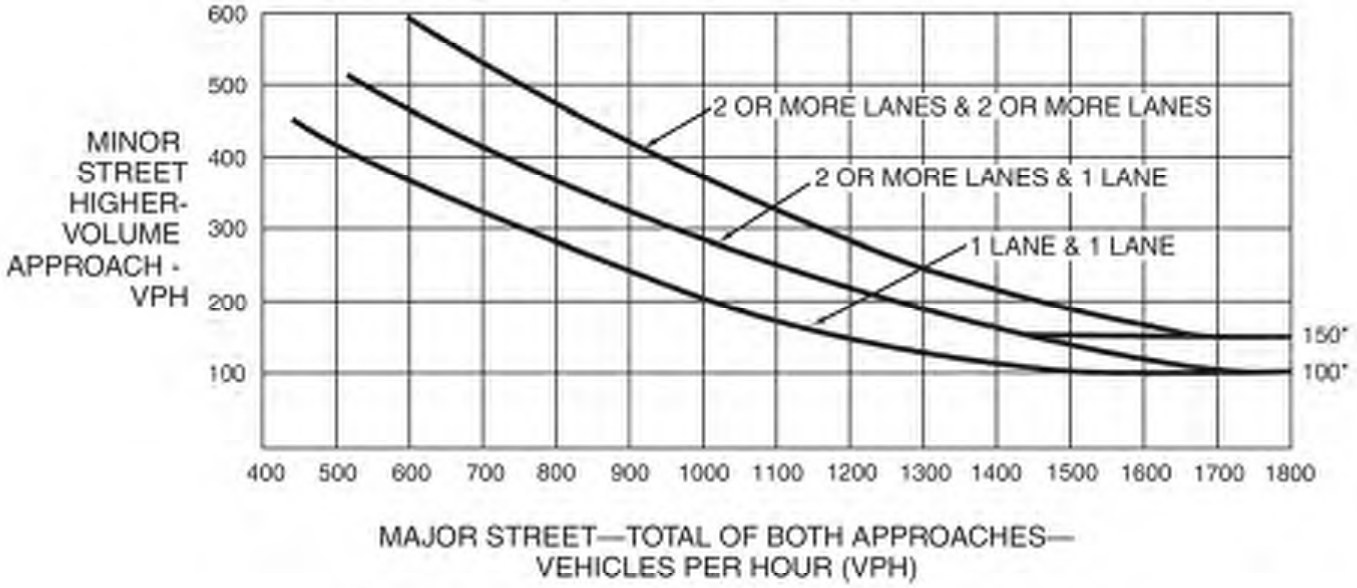
PART B **SATISFIED YES ☒ NO ☐**

APPROACH LANES	One	2 or More	4:30 - 5:30 PM Hour
Both Approaches - Major Street	X		1683
Higher Approach - Minor Street	X		407

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐ No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☒ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

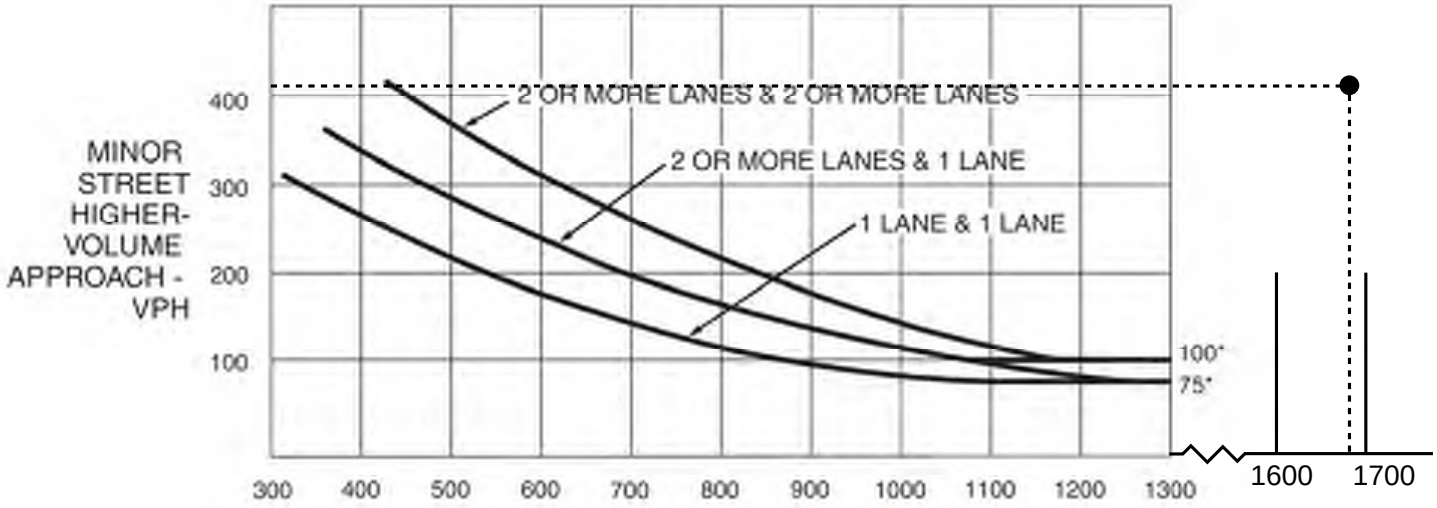
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

PROJECT CONDITIONS
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COUNT DATE 2-22-23

CALC HEAY DATE 3-28-23

CHK _____ DATE _____

DIST _____ CO _____ RTE _____ PM _____

Major St: OUTER HWY 15 N — Critical Approach Speed 50 mph

Minor St: FALCHION RD — Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☒

or

In built up area of isolated community of < 10,000 population..... ☐ } RURAL (R)

☐ URBAN (U)

WARRANT 3 - Peak Hour — SATISFIED YES ☐ NO ☒

(Part A or Part B must be satisfied)

PART A — SATISFIED YES ☐ NO ☒

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

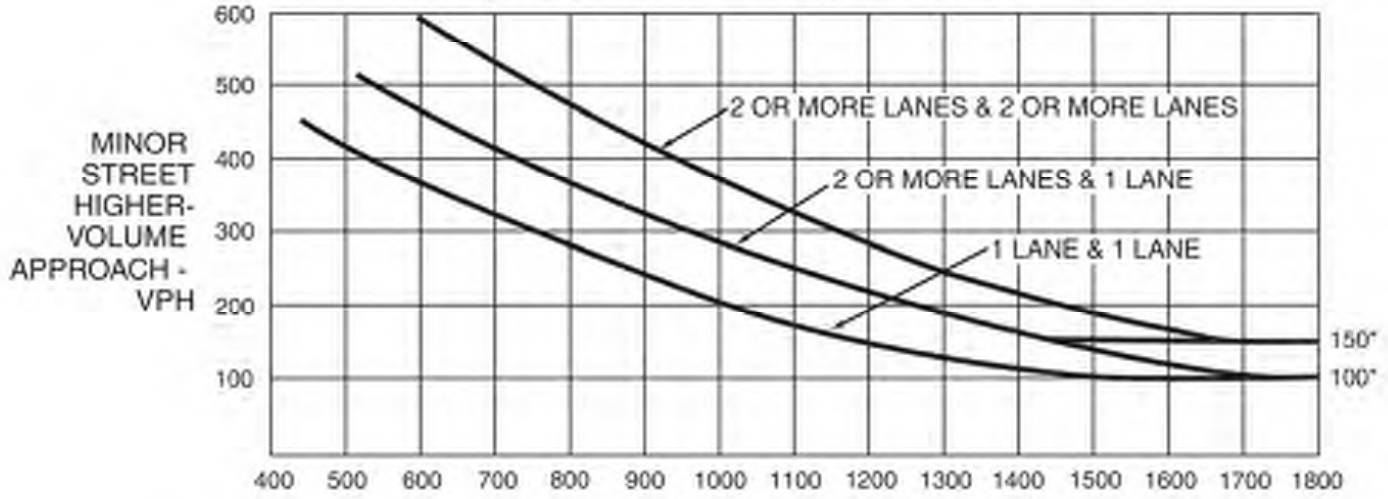
PART B — SATISFIED YES ☒ NO ☐

APPROACH LANES	One	2 or More	4:00 - 5:00 PM Hour
Both Approaches - Major Street	X		296
Higher Approach - Minor Street	X		379

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐ No ☐
OR. The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☐ No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

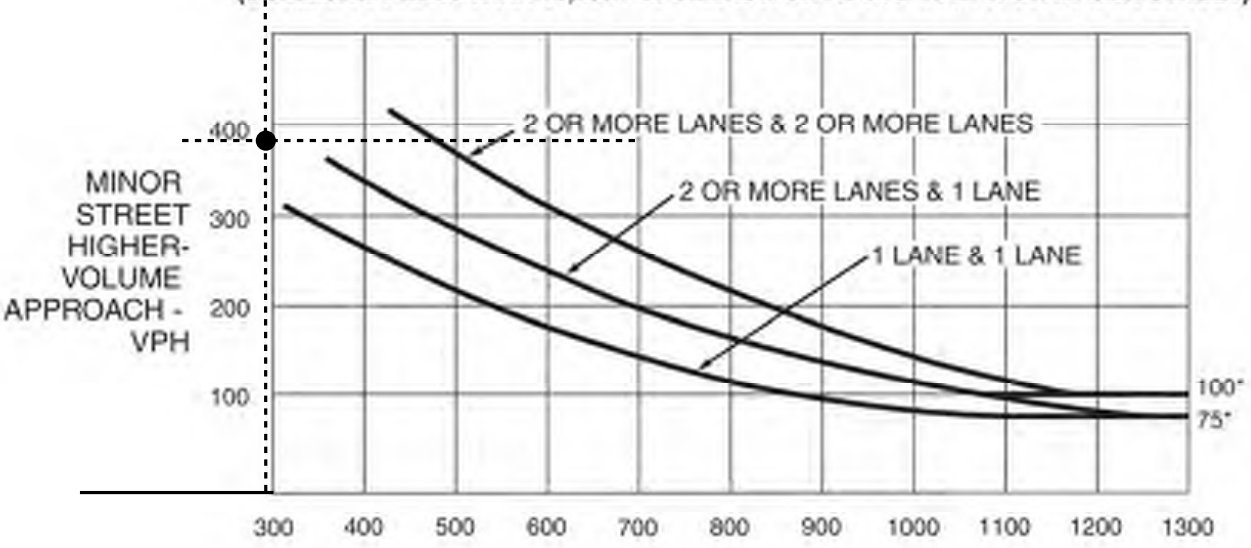
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

FUTURE + PROJECT CONDITIONS
Page 1/2

COUNT DATE 2-22-23

DIST ____ CO ____ RTE ____ PM ____

CALC HEAY DATE 3-28-23

CHK ____ DATE ____

Major St: OUTER HWY 15 N Critical Approach Speed 50 mph

Minor St: FALCHION RD Critical Approach Speed ____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☒ } RURAL (R)

In built up area of isolated community of < 10,000 population..... ☐ or } RURAL (R)

☐ URBAN (U)

WARRANT 3 - Peak Hour **SATISFIED YES ☒ NO ☐**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☒**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

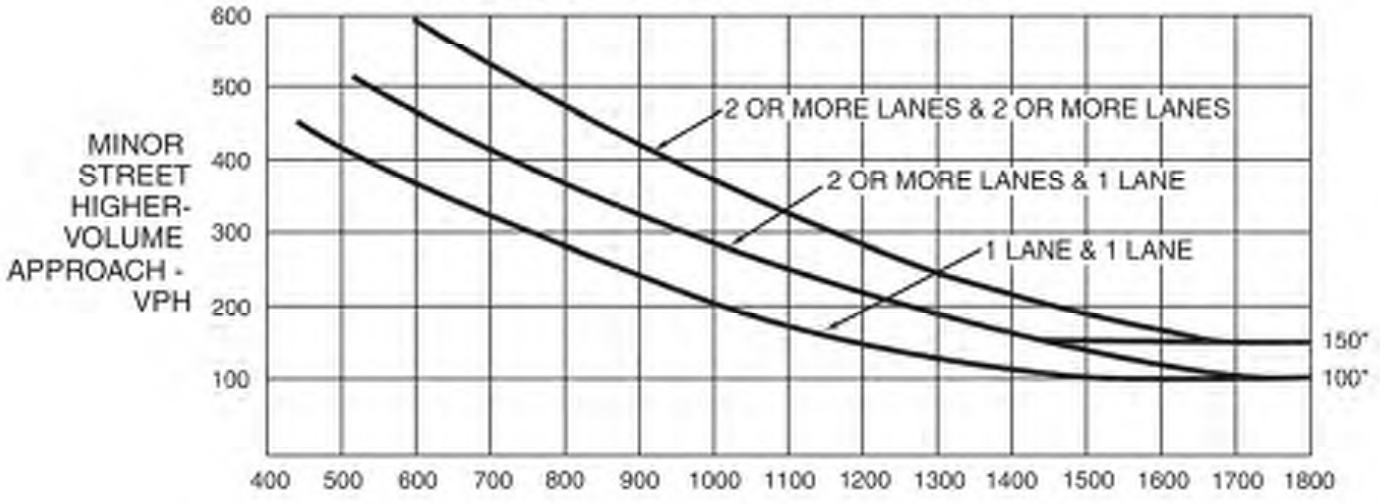
PART B **SATISFIED YES ☒ NO ☐**

APPROACH LANES	One	2 or More	4:00 - 5:00 PM Hour
Both Approaches - Major Street	X		396
Higher Approach - Minor Street	X		473

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐ No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☒ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

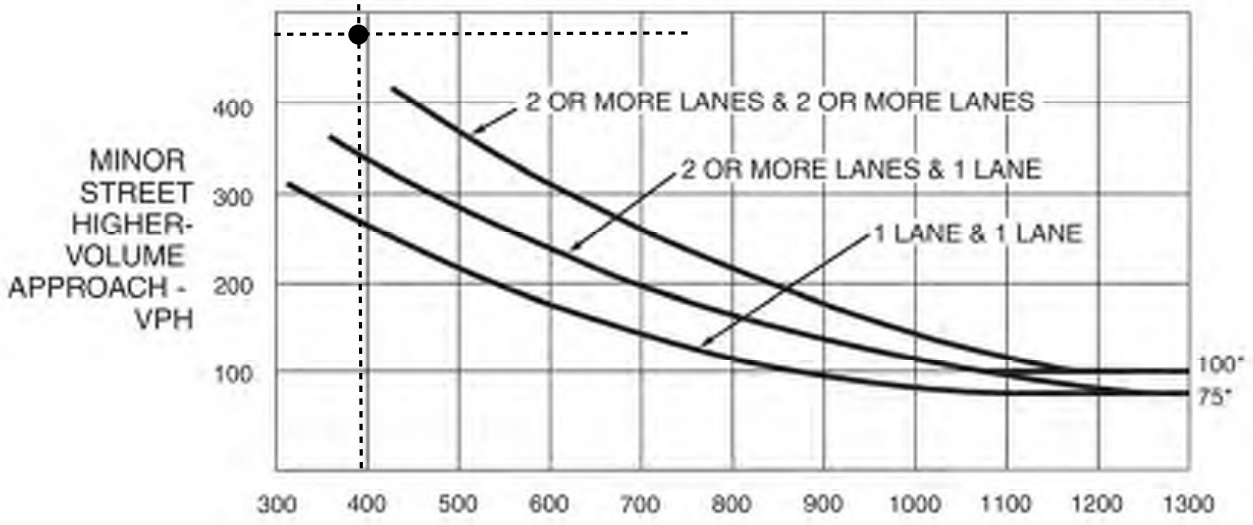
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

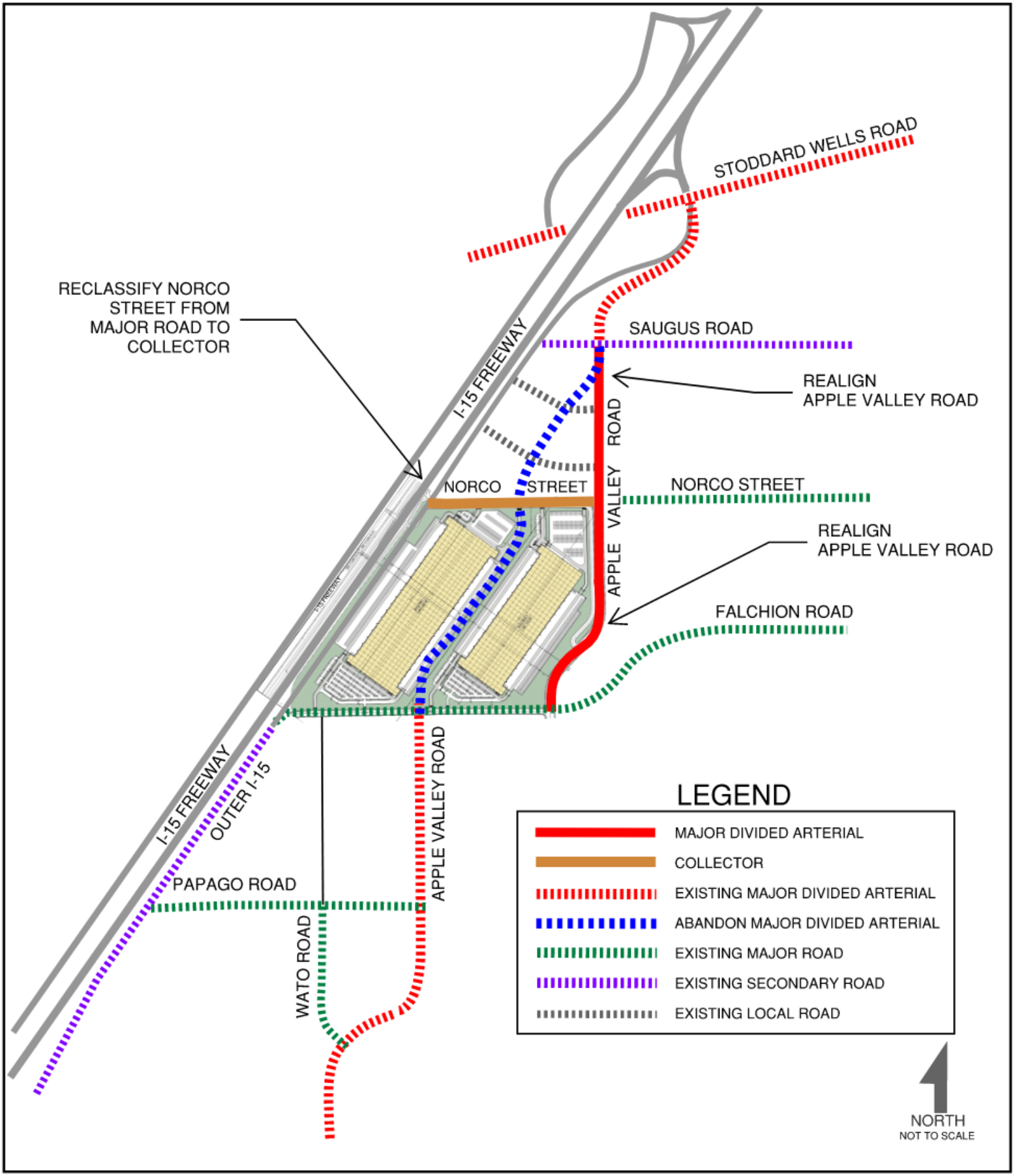
Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Appendix G: General Plan Amendment



DAVID EVANS AND ASSOCIATES INC.

PROPOSED AMENDMENTS TO THE TOWN'S GENERL PLAN STREETS AND ROAD PLAN INLAND EMPIRE NORTH LOGISTICS CENTER APPLE VALLEY, CALIFORNIA

Appendix H: VMT Analysis

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MEMORANDUM

Date:	February 28, 2023	**GTS:** 230124
To:	James M. Daisa, DEA	
From:	Rawad Hani, GTS	
Subject:	**Vehicle Miles Traveled (VMT) Analysis** **North Logistics Center, Town of Apple Valley, CA**	

This memorandum describes the development of vehicle miles traveled (VMT) analysis for the proposed North Logistics Center in the Town of Apple Valley (City), CA. The project is located at the northeast corner of Falchion Road and Outer Highway 15 south, in the Town of Apple Valley. The project proposes development of two speculative warehouse buildings. Building 1 is the westernmost building on the site and is proposed to be a 1,507,326 square foot (SF) and building 2 is proposed to be a 1,097,120 SF. 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 "Resolution No. 2021-08, A Resolution of the City 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 1,234 employees as shown in Table 1 which was used as input for the model runs.

Table 1: North Logistics Center – Employment Estimates

Land Use Type	Square Footage (SF)	SF/Employee *	Total Employees
Warehouse (Building 1 + Building 2)	2,604,446	2,111	**1,234**
Total	**2,604,446**		**1,234**

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.

As indicated previously, 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 periods 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 or 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 (*https://www.gosbcta.com/vmtscreening*).

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	North Logistics Center (project)	Town of Apple Valley General Plan Buildout (Threshold) *
Population	0	
Employment	1,234	
Service Population	1,234	
OD VMT	27,883	
OD VMT per service population	22.6	33.2

2040	North Logistics Center (project)	Town of Apple Valley General Plan Buildout (Threshold) *
Population	0	
Employment	1,234	
Service Population	1,234	
OD VMT	26,419	
OD VMT per service population	21.4	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	855,591	847,823
Service population	92,347	91,113
VMT per service population	9.3	9.3

2040	With Project	Without Project
Roadway VMT	1,367,429	1,362,981
Service population	128,040	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.