TRAFFIC IMPACT STUDY

For

Rocky Mountain Calvary Chapel - Ellicott
El Paso County, Colorado

May 2024

Prepared for:

Rocky Mountain Calvary Chapel, Inc.
4285 N Academy Boulevard
Colorado Springs, Colorado 80918

Prepared by:

SM ROCHA, LLC
TRAFFIC AND TRANSPORTATION CONSULTANTS

8700 Turnpike Drive, Suite 240
Westminster, Colorado 80031
(303) 458-9798

6 South Tejon Street, Suite 618
Colorado Springs, Colorado 80903
(719) 203-6639

Project Manager:
Brandon Wilson, EIT

Project Engineer:
Zac Trotter, EIT

Engineer in Responsible Charge:
Fred Lantz, PE

COLORADO REGISTERED
FREDERICK C. LANTZ
23410
05/13/2024
PROFESSIONAL ENGINEER

24-032138

Traffic Engineer's Statement

The attached traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.

05/13/2024

Fred Lantz, P.E. #23410 Date

Developer's Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

_____ _____

Robert Beech Date
Rocky Mountain Calvary Chapel, Inc.
4285 N Academy Boulevard
Colorado Springs, Colorado 80918

Table of Contents

List of Figures

List of Tables

Appendices

I. Introduction

Project Overview

This traffic impact study is provided as a planning document and addresses the capacity, geometric, and control requirements associated with the development entitled Rocky Mountain Calvary Chapel - Ellicott. This analysis was prepared in accordance with Appendix B of the El Paso County Engineering Criteria Manual (ECM)[1].

This proposed institutional/religious development consists of a church building. The development is located within Lot 1 of the Rocky Mountain Calvary Church Ellicott Subdivision at 2150 N Ellicott Highway in El Paso County, Colorado.

Study Area Boundaries

The study area to be examined in this analysis encompasses the N Ellicott Highway intersections with State Highway 94 and Big Springs Road, and includes proposed site access drive.

Figure 1 illustrates location of the site and study intersections.

Site Description

Land within Lot 1 of the Rocky Mountain Calvary Church Ellicott Subdivision is partially vacant, with the eastern region being occupied by an existing church building approximately 3,600 square feet in size. The development site is surrounded by a mix of commercial, institutional, and residential land uses.

The proposed development is understood to entail the new construction of an approximate 10,000 square foot church building.

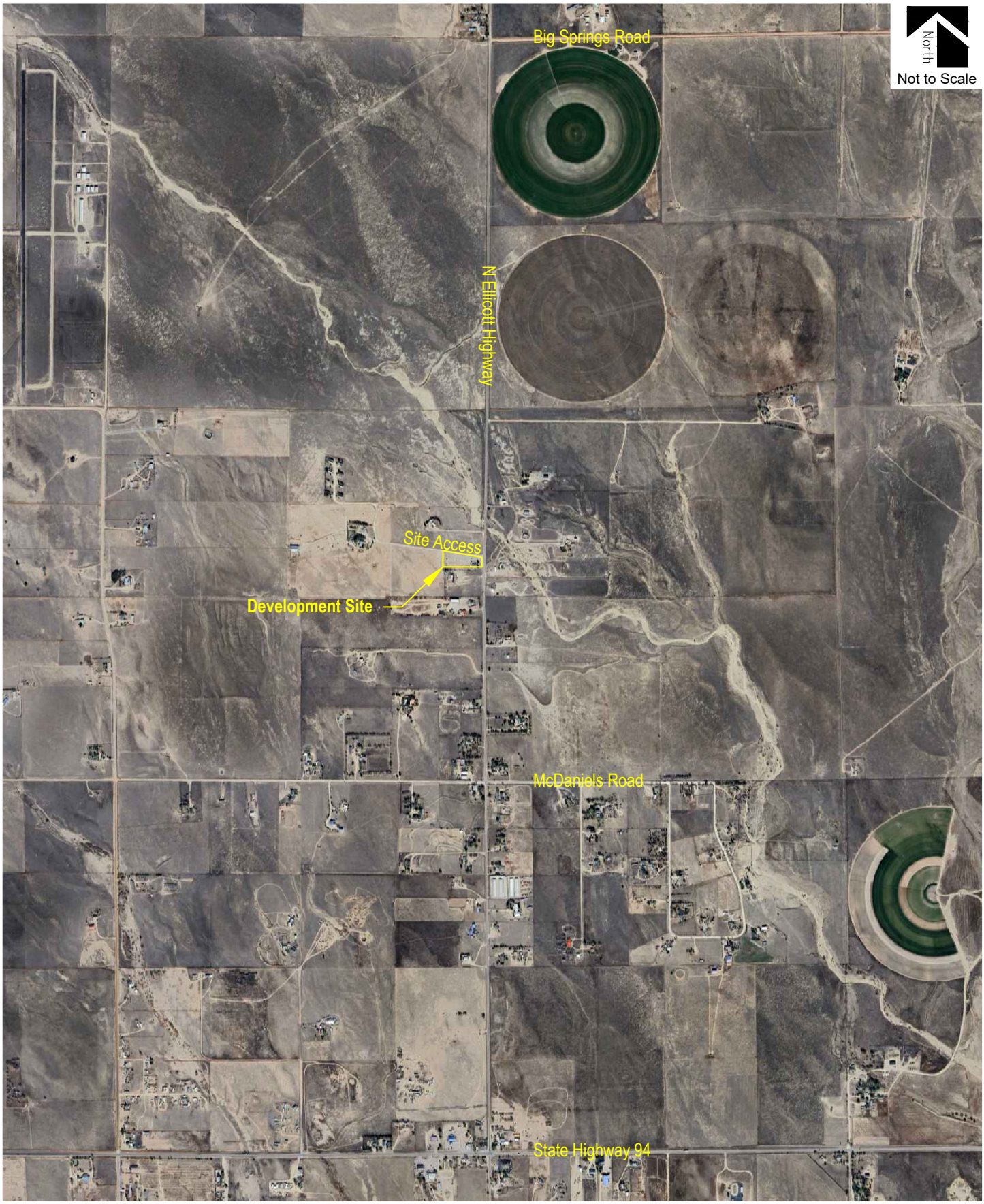
Existing access to the development is shared and provided via one full-movement access onto N Ellicott Highway (referred to as Site Access).

For purposes of this study, it is anticipated that development construction would be completed by end of Year 2026.

General site and access locations are shown in Figure 1.

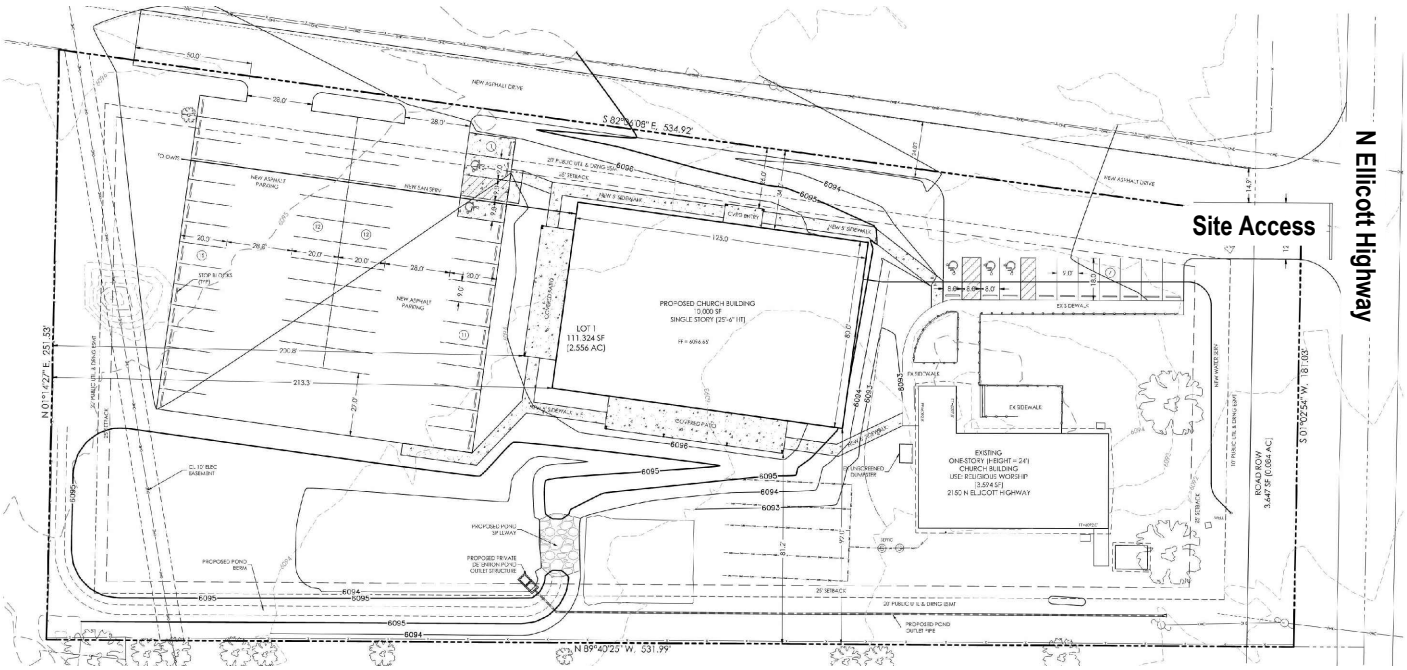
A site plan, as prepared by M.V.E., Inc., is shown in Figure 2. This plan is provided for illustrative purposes only.

[1] El Paso County Engineering Criteria Manual, El Paso County, July 2023.


Big Springs Road
North
Not to Scale
N Ellicott Highway
Site Access
Development Site
McDaniels Road
State Highway 94

North

Not to Scale



Existing and Committed Surface Transportation Network

Within the study area, N Ellicott Highway is the primary roadway that will accommodate traffic to and from the proposed development. The secondary roadways include Big Springs Road and State Highway 94. A brief description of each roadway, based on the County's 2016 Major Transportation Corridors Plan Update (MTCP)[2] and the County's ECM, is provided below:

> N Ellicott Highway is a north-south, rural, minor arterial roadway having two through lanes (one lane in each direction) with shared turn lanes at the intersections within the study area. N Ellicott Highway provides a posted speed limit of 55 MPH in either direction.
>
> Big Springs Road is an east-west rural, collector, gravel roadway having two through lanes (one lane in each direction) with shared turn lanes at the intersection within the study area. Big Springs Road does not provide a posted speed limit within the study area. In accordance with Table 2-5 of the County's ECM, Big Springs Road is assumed to be further classified as a minor collector roadway accommodating a design speed of 35 MPH.
>
> State Highway 94 is an east-west, principal arterial, state roadway having two through lanes (one lane in each direction) with a combination of shared and exclusive turn lanes at the intersection within the study area. The Colorado Department of Transportation (CDOT) categorizes the adjacent segment of State Highway 94, east and west of N Ellicott Highway, as a Regional Highway (R-A) and a Non-Rural Principal Highway (NR-A), respectively, and provides a posted speed limit of 45 MPH in either direction.

All study intersections operate under a stop-controlled condition. A stop-controlled intersection is defined as a roadway intersection where vehicle rights-of-way are controlled by one or more "STOP" signs.

No regional or specific improvements for the above-described roadways are known to be planned or committed at this time.

[2] El Paso County 2016 Major Transportation Corridors Plan Update, Felsburg Holt & Ullevig, December 2016.

II. Existing Traffic Conditions

Morning (AM), afternoon (PM), and Sunday peak hour traffic counts were collected at the N Ellicott Highway intersections with Big Springs Road, Site Access, and State Highway 94. Average daily traffic (ADT) volumes were collected over a 24-hour period on a typical weekday and Sunday along N Ellicott Highway. Weekday counts were collected on Tuesday, April 23, 2024, with AM peak hour counts being collected during the period of 7:00 a.m. to 9:00 a.m. and PM peak hour counts being collected during the period of 4:00 p.m. to 6:00 p.m. Sunday counts were collected on April 21, 2024, with peak hour counts being represented during the period of 11:00 a.m. to 1:00 p.m.

Existing volumes and intersection geometry are shown in Figure 3. Traffic count data is included for reference in Appendix A.

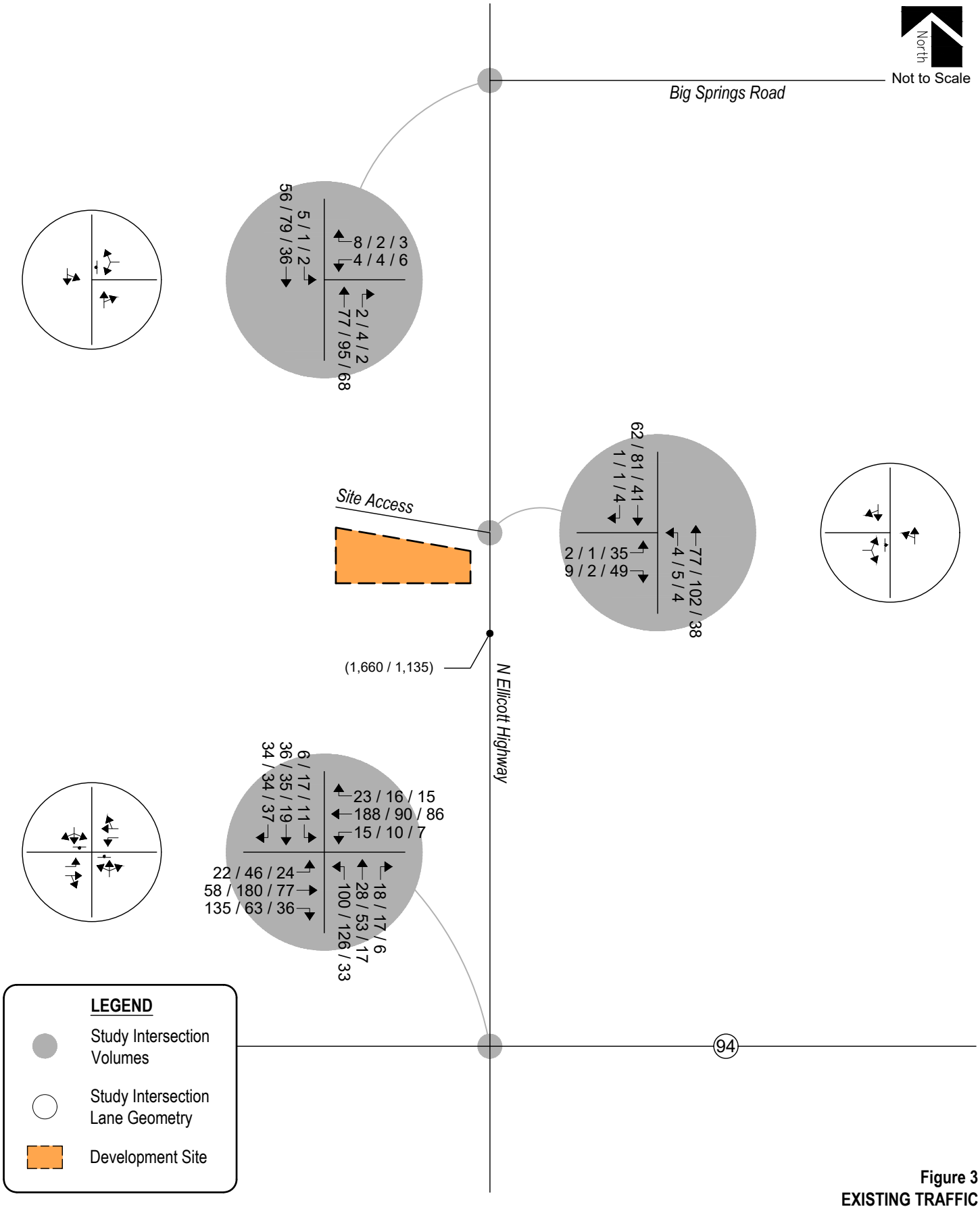


Figure 3
EXISTING TRAFFIC
Volumes & Intersection Geometry
AM / PM / Sunday Peak Hour
(ADT) : Weekday / Sunday Average Daily Traffic

Peak Hour Intersection Levels of Service – Existing Traffic

The Unsignalized Intersection Analysis techniques, as published in the Highway Capacity Manual (HCM), 6th Edition, by the Transportation Research Board and as incorporated into the SYNCHRO computer program, was used to analyze the study intersections for existing and future traffic conditions. This nationally accepted technique allows for the determination of intersection level of service (LOS) based on the congestion and delay of each traffic movement.

Pursuant to Section B.4.1.A of the County's ECM, the design objective for each scenario of this study shall be level of service "D". Level of service is a method of measurement used by transportation professionals to quantify a driver's perception of travel conditions that include travel time, number of stops, and total amount of stopped delay experienced on a roadway network. The HCM categorizes level of service into a range from "A" which indicates little, if any, vehicle delay, to "F" which indicates a level of operation considered unacceptable to most drivers. These levels of service grades with brief descriptions of the operating condition, for unsignalized and signalized intersections, are included for reference in Appendix B and have been used throughout this study.

The level of service analyses results for existing conditions are summarized in Table 1.

Intersection capacity worksheets developed for this study are provided in Appendix C.

Table 1 – Intersection Capacity Analysis Summary – Existing Traffic

INTERSECTION	LEVEL OF SERVICE		
LANE GROUPS	AM PEAK HOUR	PM PEAK HOUR	SUNDAY PEAK
N Ellicott Highway / Big Springs Road (Stop-Controlled)			
Westbound Left and Right	A	A	A
Southbound Left and Through	A	A	A
N Ellicott Highway / Site Access (Stop-Controlled)			
Eastbound Left and Right	A	A	A
Northbound Left and Through	A	A	A
N Ellicott Highway / State Highway 94 (Stop-Controlled)			
Eastbound Left	A	A	A
Westbound Left	A	A	A
Northbound Left, Through and Right	C	C	B
Southbound Left, Through and Right	B	B	B

Key: Stop-Controlled Intersection: Level of Service

Existing Traffic Analysis Results

Under existing conditions, Table 1 illustrates how the stop-controlled intersections within the study area have turning movement operations at or better than LOS C during the morning, afternoon, and Sunday peak traffic hours.

III. Future Traffic Conditions Without Proposed Development

Background traffic is the traffic projected to be on area roadways without consideration of the proposed development. Background traffic includes traffic generated by development of vacant parcels in the area.

To account for projected increases in background traffic for Years 2026 and 2040, a compounded annual growth rate was determined using historical traffic data provided by CDOT's Online Transportation Information System (OTIS) along the adjacent segment of State Highway 94, which anticipates a 20-year growth rate between one and two percent. Therefore, in order to provide for a conservative analysis, a growth rate of two percent was applied to existing traffic volumes.

Pursuant to the area roadway improvements discussed in Section I, Year 2026 and Year 2040 background traffic conditions assume no roadway improvements to accommodate regional transportation demands. This assumption continues to allow for a conservative analysis.

Projected background traffic volumes and intersection geometry for Years 2026 and 2040 are shown on Figure 4 and Figure 5, respectively.

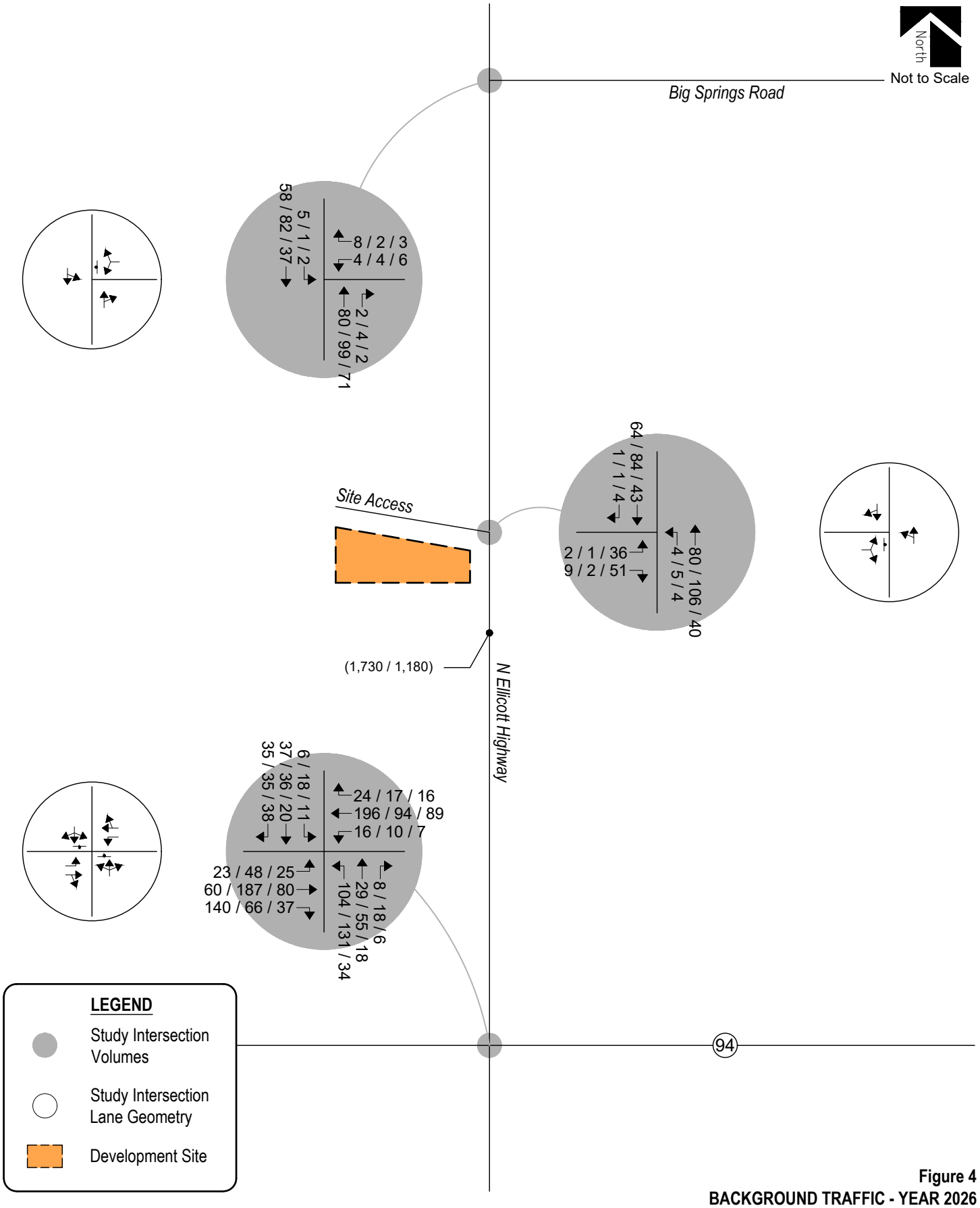


Figure 4
BACKGROUND TRAFFIC - YEAR 2026
Volumes & Intersection Geometry
AM / PM / Sunday Peak Hour
(ADT) : Weekday / Sunday Average Daily Traffic

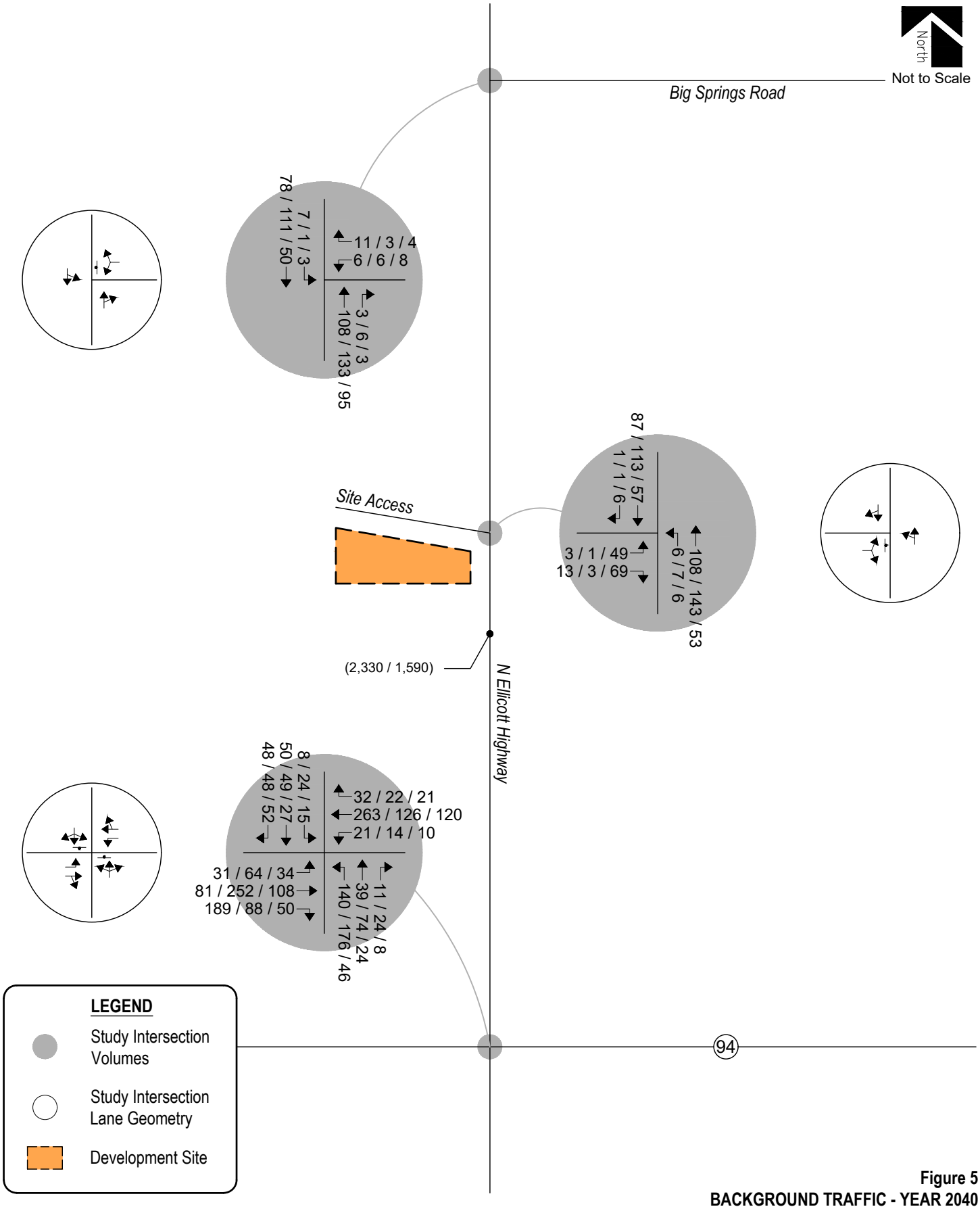


Figure 5
BACKGROUND TRAFFIC - YEAR 2040
Volumes & Intersection Geometry
AM / PM / Sunday Peak Hour
(ADT) : Weekday / Sunday Average Daily Traffic

Peak Hour Intersection Levels of Service – Background Traffic

As with existing traffic conditions, the operations of study intersections were analyzed under background conditions, without the proposed development, using the SYNCHRO computer program.

Background traffic level of service analysis results for Year 2026 are listed in Table 2. Year 2040 operational results are summarized in Table 3.

Definitions of levels of service are given in Appendix B. Intersection capacity worksheets are provided in Appendix C.

Table 2 – Intersection Capacity Analysis Summary – Background Traffic – Year 2026

INTERSECTION	LEVEL OF SERVICE		
LANE GROUPS	AM PEAK HOUR	PM PEAK HOUR	SUNDAY PEAK
N Ellicott Highway / Big Springs Road (Stop-Controlled)			
Westbound Left and Right	A	A	A
Southbound Left and Through	A	A	A
N Ellicott Highway / Site Access (Stop-Controlled)			
Eastbound Left and Right	A	A	A
Northbound Left and Through	A	A	A
N Ellicott Highway / State Highway 94 (Stop-Controlled)			
Eastbound Left	A	A	A
Westbound Left	A	A	A
Northbound Left, Through and Right	C	C	B
Southbound Left, Through and Right	B	B	B

Key: Stop-Controlled Intersection: Level of Service

Background Traffic Analysis Results – Year 2026

Year 2026 background traffic analysis indicates that the unsignalized intersection of N Ellicott Highway and Big Springs Road continues to project turning movement operations at LOS A during the AM, PM, and Sunday peak traffic hours.

The unsignalized intersection of N Ellicott Highway and Site Access continues to anticipate turning movement area operations at LOS A during the AM, PM, and Sunday peak traffic hours.

The stop-controlled intersection of N Ellicott Highway and State Highway 94 continues to project turning movement operations at LOS C or better during the AM and PM peak traffic hours and LOS B or better during the Sunday peak traffic hour.

Table 3 – Intersection Capacity Analysis Summary – Background Traffic – Year 2040

INTERSECTION LANE GROUPS	LEVEL OF SERVICE AM PEAK HOUR	 PM PEAK HOUR	 SUNDAY PEAK
N Ellicott Highway / Big Springs Road (Stop-Controlled)			
Westbound Left and Right	A	A	A
Southbound Left and Through	A	A	A
N Ellicott Highway / Site Access (Stop-Controlled)			
Eastbound Left and Right	A	A	A
Northbound Left and Through	A	A	A
N Ellicott Highway / State Highway 94 (Stop-Controlled)			
Eastbound Left	A	A	A
Westbound Left	A	A	A
Northbound Left, Through and Right	D	F	B
Southbound Left, Through and Right	C	C	B

Key: Stop-Controlled Intersection: Level of Service

Background Traffic Analysis Results – Year 2040

By Year 2040 and without the proposed development, the unsignalized intersection of N Ellicott Highway and Big Springs Road continues to experience LOS A operations during the AM, PM, and Sunday peak traffic hours.

The stop-controlled intersection of N Ellicott Highway and Site Access continues to project turning movement operations at LOS A during the AM, PM, and Sunday peak traffic hours.

The unsignalized intersection of N Ellicott Highway and State Highway 94 anticipates turning movement operations at LOS D or better during the morning peak traffic hour, LOS C or better during the afternoon peak traffic hour, and LOS B or better during the Sunday peak traffic hour. Exceptions would include the northbound shared turning movement which operates at LOS F during the afternoon peak traffic hour. The LOS F operation is attributed to regional growth projections along State Highway 94 and the stop-controlled nature of the intersection. To successfully mitigate poor operations, modifying the intersection control to all-way stop-control, if warranted by the latest version of the Manual on Uniform Traffic Control Devices (MUTCD)[3], is predicted to allow for LOS C or better operations.

It is to be noted that it is not uncommon for unsignalized movements to or from an arterial roadway, in urban areas, to operate with noticeable delays during peak traffic hours. It is, however, likely that turn movements will operate better than the results obtained with this HCM Two-Way Stop-Control (TWSC) level of service analysis would indicate, as the HCM analysis may not accurately account for the effect of vehicle platooning and gaps caused by upstream signals.

[3] Manual on Uniform Traffic Control Devices, 11th Edition, Federal Highway Administration, December 2023.

IV. Proposed Project Traffic

Trip Generation

Standard traffic generation characteristics compiled by the Institute of Transportation Engineers (ITE) in their report entitled Trip Generation Manual, 11th Edition, were applied to the proposed land use in order to estimate average daily traffic (ADT), AM Peak Hour, PM Peak Hour, and Sunday Peak Hour vehicle trips. A vehicle trip is defined as a one-way vehicle movement from a point of origin to a point of destination.

The ITE land use code 560 (Church) was used for estimating trip generation because of its conservative rates and best fit to the existing and proposed land use descriptions within Lot 1 of the Rocky Mountain Calvary Church Ellicott Subdivision.

Trip generation rates used in this study are presented in Table 4.

Table 4 – Trip Generation Rates

			TRIP GENERATION RATES										
			WEEKDAY							SUNDAY			
ITE			24	AM PEAK HOUR			PM PEAK HOUR			24	PEAK HOUR OF GENERATOR		
CODE	LAND USE	UNIT	HOUR	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL	HOUR	ENTER	EXIT	TOTAL
560	Church	KSF	7.60	0.20	0.12	0.32	0.22	0.27	0.49	31.46	4.97	5.39	10.36

Key: KSF = Thousand Square Feet Gross Floor Area.
Note: All data and calculations above are subject to being rounded to nearest value.

Table 5 illustrates projected ADT, AM Peak Hour, PM Peak Hour, and Sunday Peak Hour traffic volumes likely generated by the existing and proposed developments upon build-out of Lot 1 of the Rocky Mountain Calvary Church Ellicott Subdivision.

Table 5 – Trip Generation Summary

			TOTAL TRIPS GENERATED										
			WEEKDAY							SUNDAY			
ITE			24	AM PEAK HOUR			PM PEAK HOUR			24	PEAK HOUR OF GENERATOR		
CODE	LAND USE	SIZE	HOUR	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL	HOUR	ENTER	EXIT	TOTAL
Site Development - Existing													
560	Church	3.6 KSF	27	1	0	1	1	1	2	113	18	19	37
		Existing Total:	*27*	*1*	*0*	*1*	*1*	*1*	*2*	*113*	*18*	*19*	*37*
Site Development - Proposed													
560	Church	10.0 KSF	76	2	1	3	2	3	5	315	50	54	104
		Proposed Total:	*76*	*2*	*1*	*3*	*2*	*3*	*5*	*315*	*50*	*54*	*104*
		Total:	***103***	***3***	***2***	***4***	***3***	***4***	***7***	***428***	***68***	***73***	***141***

Key: KSF = Thousand Square Feet Gross Floor Area.
Note: All data and calculations above are subject to being rounded to nearest value.

During the weekday and upon build-out, Table 5 illustrates that Lot 1 of the subdivision has the potential to generate approximately 103 daily vehicle trips with 4 of those occurring during the morning peak hour and 7 during the afternoon peak hour. Compared to the existing land use, this represents a potential increase in site traffic generation of approximately 76 daily trips with 3 of those occurring during the morning peak hour and 5 during the afternoon peak hour.

During Sunday and upon build-out, Table 5 illustrates that Lot 1 of the subdivision has the potential to generate approximately 428 daily vehicle trips with 141 of those occurring during the Sunday peak hour. Compared to the existing land use, this represents a potential increase in site traffic generation of approximately 315 daily trips with 104 of those occurring during the Sunday peak hour.

Adjustments to Trip Generation Rates

A development of this type is not likely to attract trips from within area land uses nor pass-by or diverted link trips from the adjacent roadway system, therefore no trip reduction was taken in this analysis.

Trip Distribution

The overall directional distribution of site-generated traffic was determined based on the location of development site within the County, proposed and existing area land uses, allowed turning movements, available roadway network, and in reference to historical traffic count data provided by CDOT's Traffic Count Database System (TCDS)[4].

Overall trip distribution patterns for weekday and Sunday of the development are shown in Figures 6a and 6b, respectively.

Trip Assignment

Traffic assignment is how generated and distributed vehicle trips are expected to be loaded onto the available roadway network.

Applying trip distribution patterns to site-generated traffic provides the overall site-generated trip assignments for weekday and Sunday shown in Figures 6a and 6b, respectively.

[4] Transportation Data Management System, MS2, 2022.

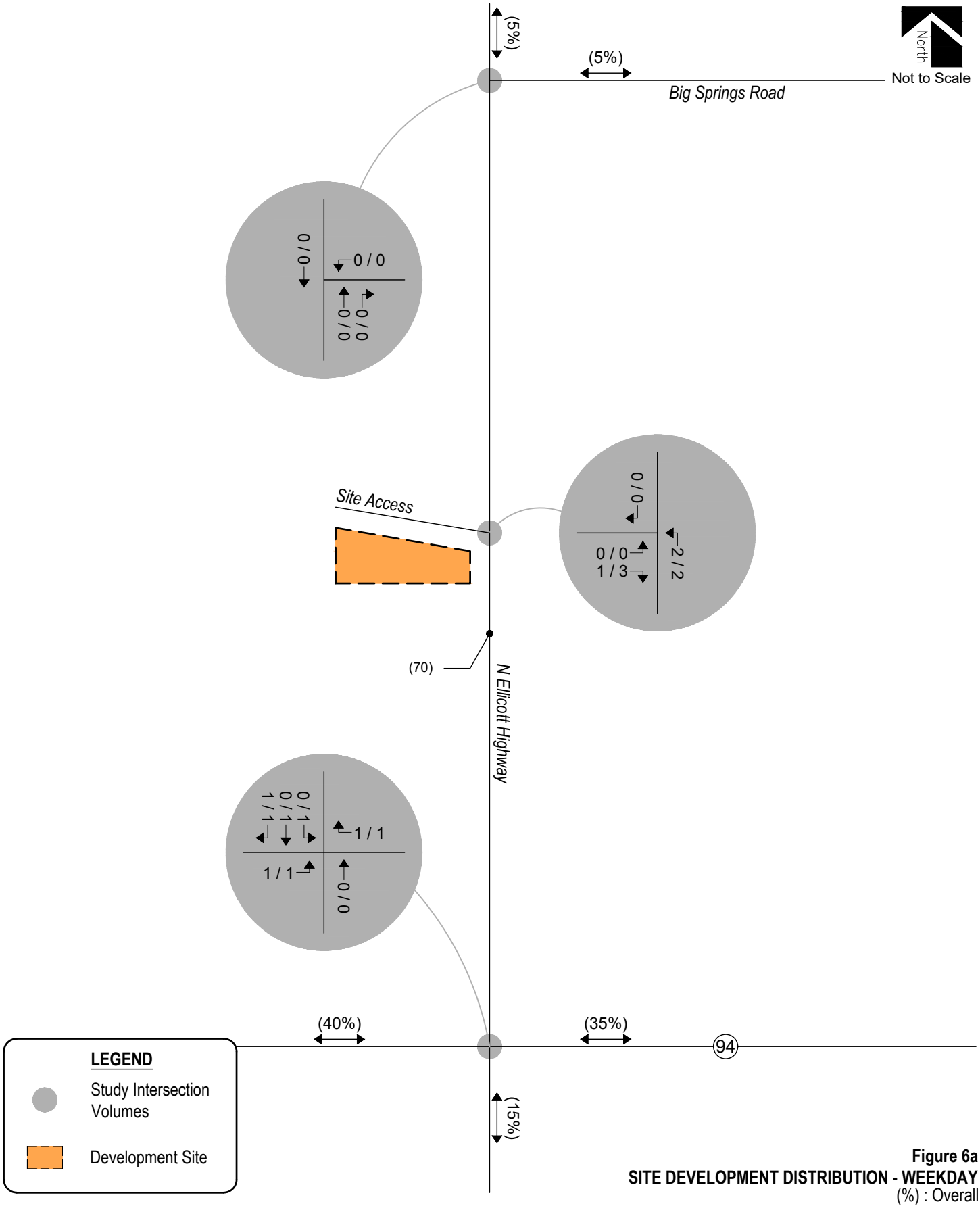


Figure 6a
SITE DEVELOPMENT DISTRIBUTION - WEEKDAY
(%) : Overall
SITE-GENERATED TRIPS
AM / PM Peak Hour
(ADT) : Weekday Average Daily Traffic

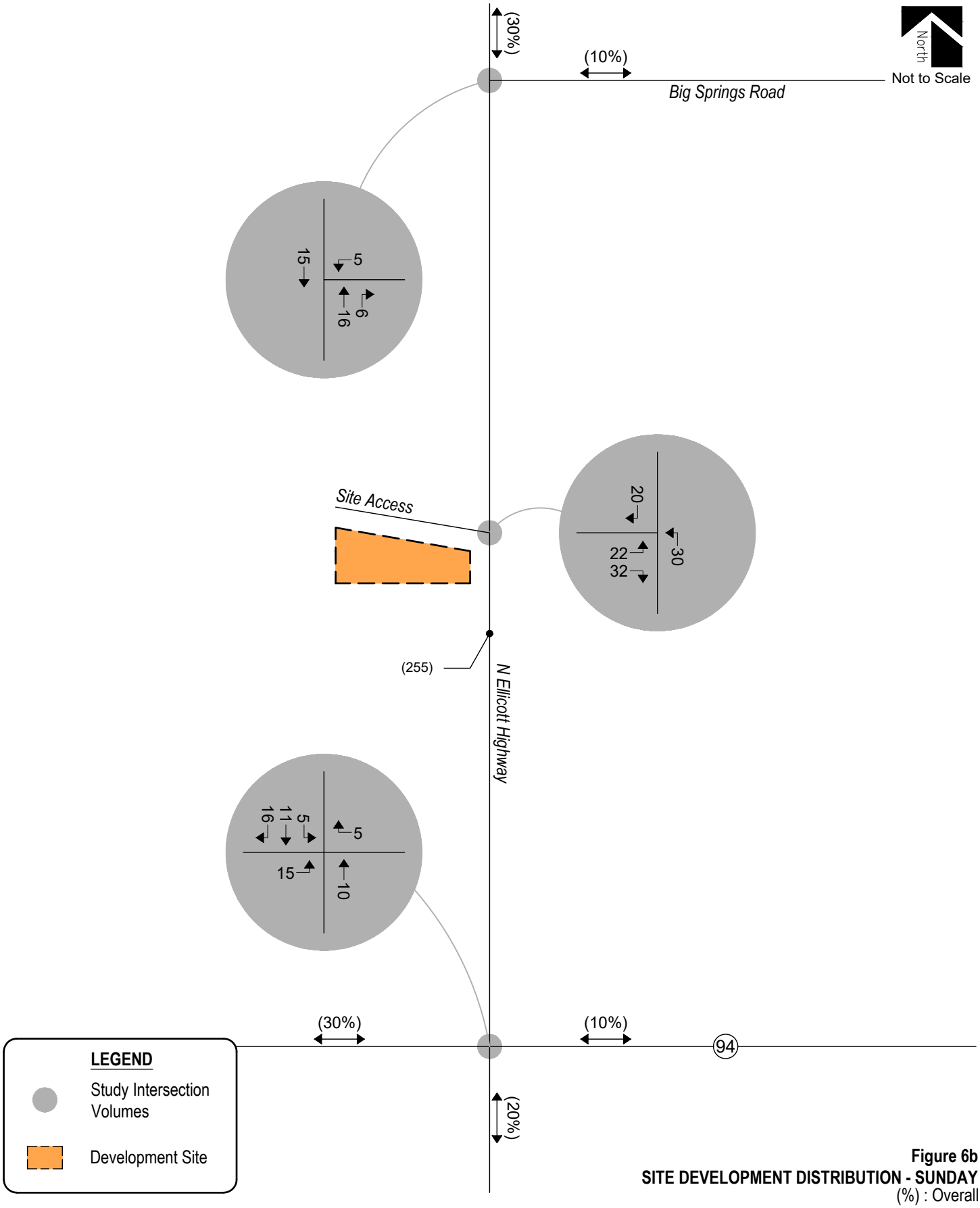


Figure 6b
SITE DEVELOPMENT DISTRIBUTION - SUNDAY
(%) : Overall
SITE-GENERATED TRIPS
Sunday Peak Hour
(ADT) : Sunday Average Daily Traffic

V. Future Traffic Conditions With Proposed Developments

Total traffic is the traffic projected to be on area roadways with consideration of the proposed development. Total traffic includes background traffic projections for Years 2026 and 2040 with consideration of site-generated traffic. For analysis purposes, it was assumed that development construction would be completed by end of Year 2026.

Pursuant to area roadway improvement discussions provided in Section III, Year 2026 and Year 2040 total traffic conditions assume no roadway improvements to accommodate regional transportation demands. Roadway improvements associated with site development are expected to be limited to site access and frontage as required by the governing agency.

Projected Year 2026 total traffic volumes and intersection geometry are shown in Figure 7.

Figure 8 shows projected total traffic volumes and intersection geometry for Year 2040.

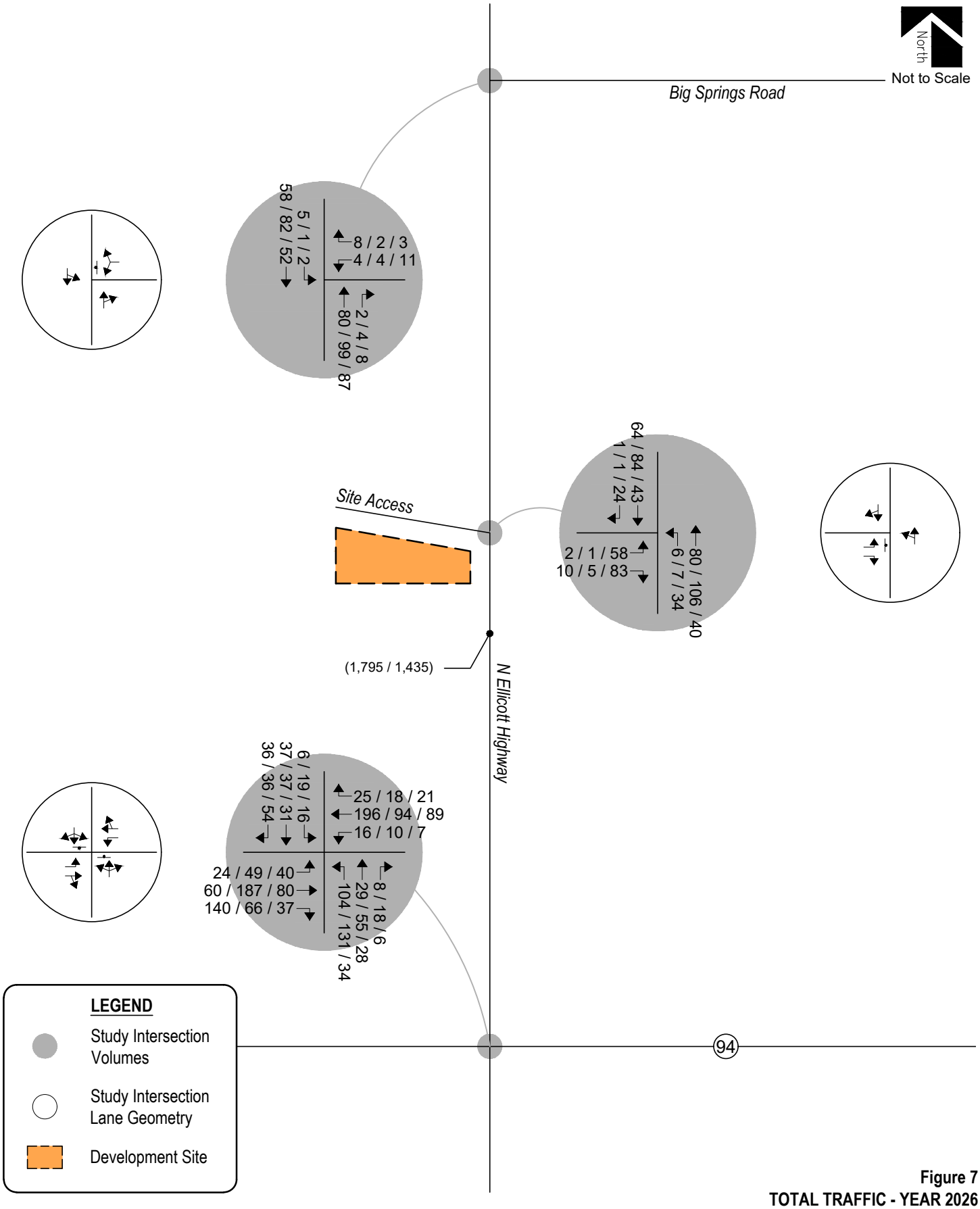


Figure 7
TOTAL TRAFFIC - YEAR 2026
Volumes & Intersection Geometry
AM / PM / Sunday Peak Hour
(ADT) : Weekday / Sunday Average Daily Traffic

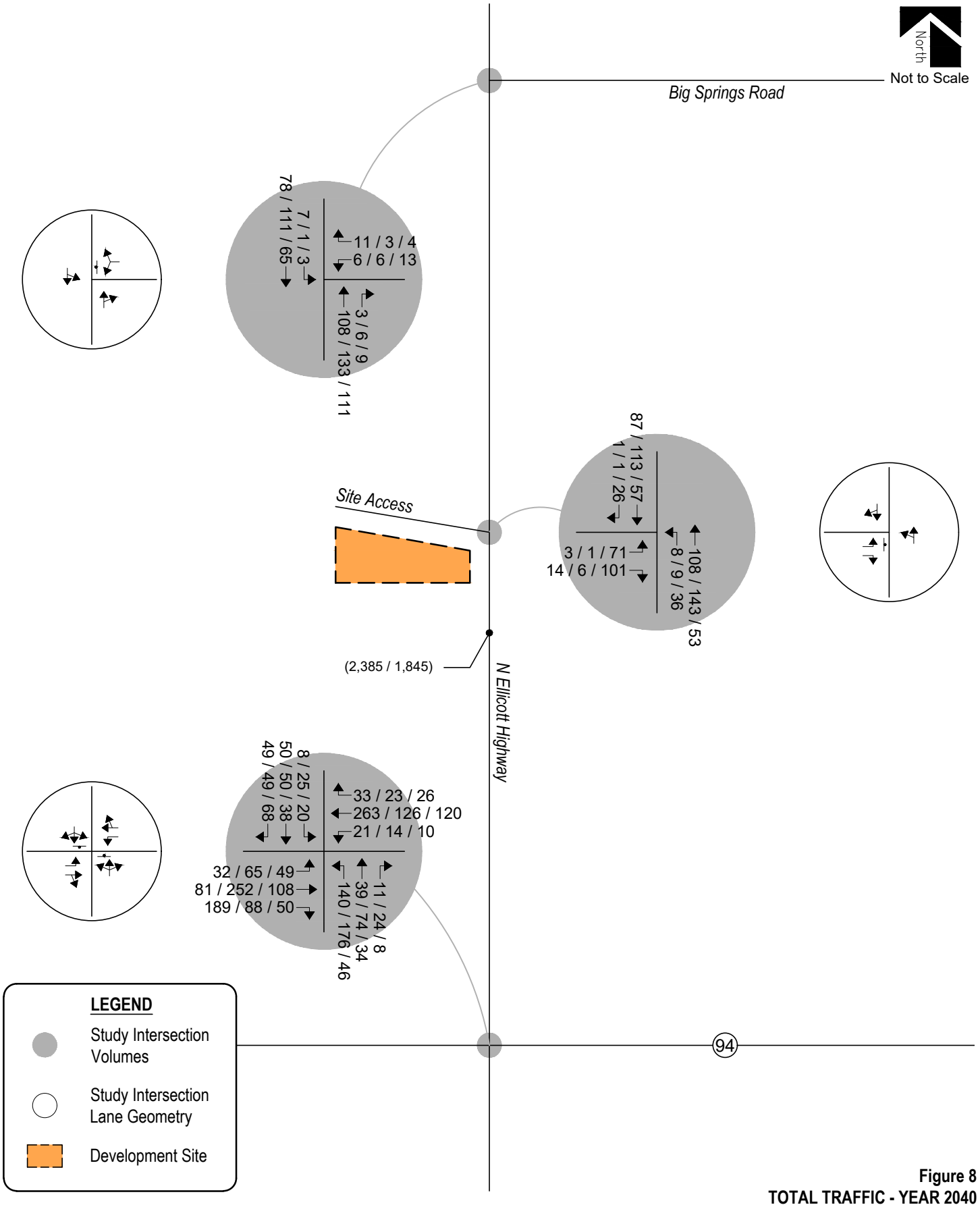


Figure 8
TOTAL TRAFFIC - YEAR 2040
Volumes & Intersection Geometry
AM / PM / Sunday Peak Hour
(ADT) : Weekday / Sunday Average Daily Traffic

VI. Project Impacts

The analyses and procedures described in this study were performed in accordance with the latest HCM and are based upon the worst-case conditions that occur during a typical weekday and Sunday upon build-out of site development and analyzed land uses. Therefore, study intersections are likely to operate with traffic conditions better than those described within this study.

Peak Hour Intersection Levels of Service – Total Traffic

As with background traffic, the operations of the study intersections were analyzed under projected total traffic conditions using the SYNCHRO computer program. Total traffic level of service analysis results for Years 2026 and 2040 are summarized in Table 6 and Table 7, respectively.

Definitions of levels of service are given in Appendix B. Intersection capacity worksheets are provided in Appendix C.

Table 6 – Intersection Capacity Analysis Summary – Total Traffic – Year 2026

INTERSECTION	LEVEL OF SERVICE		
LANE GROUPS	AM PEAK HOUR	PM PEAK HOUR	SUNDAY PEAK
N Ellicott Highway / Big Springs Road (Stop-Controlled)			
Westbound Left and Right	A	A	A
Southbound Left and Through	A	A	A
N Ellicott Highway / Site Access (Stop-Controlled)			
Eastbound Left	A	A	A
Eastbound Right	A	A	A
Northbound Left and Through	A	A	A
N Ellicott Highway / State Highway 94 (Stop-Controlled)			
Eastbound Left	A	A	A
Westbound Left	A	A	A
Northbound Left, Through and Right	C	C	B
Southbound Left, Through and Right	B	B	B

Key: Stop-Controlled Intersection: Level of Service

Table 7 – Intersection Capacity Analysis Summary – Total Traffic – Year 2040

INTERSECTION	LEVEL OF SERVICE		
LANE GROUPS	AM PEAK HOUR	PM PEAK HOUR	SUNDAY PEAK
N Ellicott Highway / Big Springs Road (Stop-Controlled)			
Westbound Left and Right	A	A	A
Southbound Left and Through	A	A	A
N Ellicott Highway / Site Access (Stop-Controlled)			
Eastbound Left	A	B	B
Eastbound Right	A	A	A
Northbound Left and Through	A	A	A
N Ellicott Highway / State Highway 94 (Stop-Controlled)			
Eastbound Left	A	A	A
Westbound Left	A	A	A
Northbound Left, Through and Right	D	F	B
Southbound Left, Through and Right	C	C	B

Key: Stop-Controlled Intersection: Level of Service

Total Traffic Analysis Results Upon Development Build-Out

Table 7 illustrates how, by Year 2040 and upon development build-out, the unsignalized intersection of N Ellicott Highway and Big Springs Road continues to project turning movement operations at LOS A during the morning, afternoon, and Sunday peak traffic hours.

The unsignalized intersection of N Ellicott Highway and Site Access is projected to have turning movement operations at LOS A during the morning peak traffic hour and LOS B or better during the afternoon and Sunday peak traffic hours.

The stop-controlled intersection of N Ellicott Highway and State Highway 94 is projected to have turning movement operations at LOS D or better for the morning peak traffic hour, LOS C or better during the afternoon peak traffic hour, and LOS B or better for the Sunday peak traffic hour. Exceptions still include the northbound turning movement which continues to operate at LOS F during the afternoon peak traffic hour. The LOS F operation continues to be attributed to regional growth projections along State Highway 94 and the stop-controlled nature of the intersection. Similar to background traffic conditions, implementing all-way stop-control for the intersection is anticipated to successfully mitigate poor intersection operations.

These intersection operations are similar to background conditions.

Queue Length Analysis

Queue lengths for the study intersections were analyzed using Year 2040 total traffic conditions. The analysis yields estimate of 95th percentile queue lengths, which have only a five percent probability of being exceeded during the analysis time period. An average vehicle length of 25 feet was assumed. Queue lengths were modeled and are included with the Synchro worksheets in Appendix C.

Table 8 summarizes the 95th percentile queue results in comparison to the projected storage requirements for turn movements within study area for Year 2040.

Table 8 – Turn Lane Queues and Storage Requirements – Total Traffic – Year 2040

Intersection	Turn Movement		Existing Turn Lane Length (feet)	AM Peak Hour		PM Peak Hour		Sunday Peak Hour		Recommended Turn Lane Length (feet)
				95th Percentile Queue Length (feet)	Vehicle Equivalent (vehicles)	95th Percentile Queue Length (feet)	Vehicle Equivalent (vehicles)	95th Percentile Queue Length (feet)	Vehicle Equivalent (vehicles)	
Stop-Controlled Intersections										
N Ellicott Highway / Big Springs Road	WB	L,R	-	3'	1	0'	0	3'	1	-
	NB	T,R	-	0'	0	0'	0	0'	0	-
	SB	L,T	-	0'	0	0'	0	0'	0	-
N Ellicott Highway / Site Access	EB	L	-	0'	0	0'	0	8'	1	-
		R	-	0'	0	0'	0	10'	1	-
	NB	L,T	-	0'	0	0'	0	3'	1	-
	SB	T,R	-	0'	0	0'	0	0'	0	-
N Ellicott Highway / State Highway 94	EB	L	145'	3'	1	5'	1	3'	1	145'
		T,R	-	0'	0	0'	0	0'	0	-
	WB	L	290'	3'	1	0'	0	0'	0	290'
		T,R	-	0'	0	0'	0	0'	0	-
	NB	L,T,R	-	105'	5	235'	10	20'	1	-
	SB	L,T,R	-	25'	1	33'	2	20'	1	-

Note: Turn Lane Length does not include taper length.

As Table 8 shows, all existing turn lane lengths at the stop-controlled intersections within the study area have sufficient storage to accommodate future traffic volumes.

VII. Conclusion

This traffic impact study addressed the capacity, geometric, and control requirements associated with the development entitled Rocky Mountain Calvary - Ellicott. This proposed institutional/religious development consists of an approximate 10,000 square foot church building within Lot 1 of the Rocky Mountain Calvary Church Ellicott Subdivision. The development is located at 2150 N Ellicott Highway in El Paso County, Colorado.

The study area to be examined in this analysis encompassed the N Ellicott Highway intersections with State Highway 94, Site Access, and Big Springs Road.

Analysis was conducted for critical AM Peak Hour, PM Peak Hour, and Sunday Peak Hour traffic operations for existing traffic conditions, Year 2026 and Year 2040 background traffic conditions, and Year 2026 and Year 2040 total traffic conditions.

Analysis of existing traffic conditions indicates that the unsignalized intersections within the study area have turning movement operations at LOS C or better during the morning, afternoon, and Sunday peak traffic hours.

Without the proposed development, Year 2026 background operational analysis shows that the unsignalized intersections within the study area continue to project turning movement operations at LOS C or better during the morning, afternoon, and Sunday peak traffic hours.

By Year 2040 and without the proposed development, the unsignalized intersections within the study area project turning movement operations at LOS D or better for the morning, afternoon, and Sunday peak traffic hour. Exceptions would include the northbound turning movement at N Ellicott Highway and State Highway 94 which operates at LOS F during the afternoon peak traffic hour. The LOS F operation is attributed to regional growth projections along State Highway 94 and the stop-controlled nature of the intersection. Introducing all-way stop-control for the intersection is anticipated to allow for acceptable intersection operations.

Analysis of future traffic conditions indicates that the addition of site-generated traffic is expected to create no negative impact to traffic operations for the existing and surrounding roadway system upon roadway and intersection control improvements assumed within this analysis. With all conservative assumptions defined in this analysis, the study intersections are projected to operate at future levels of service comparable to Year 2040 background traffic conditions. Existing Site Access has long-term operations at LOS B or better during peak traffic periods and upon build-out.

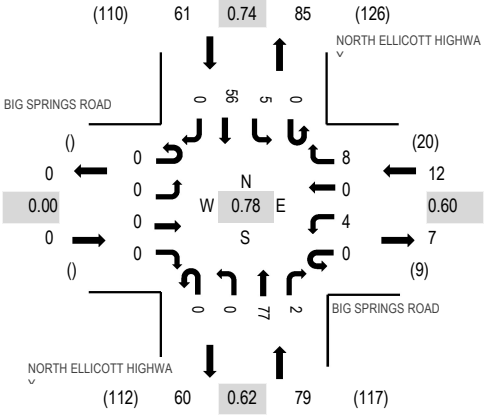
APPENDIX A

Traffic Count Data

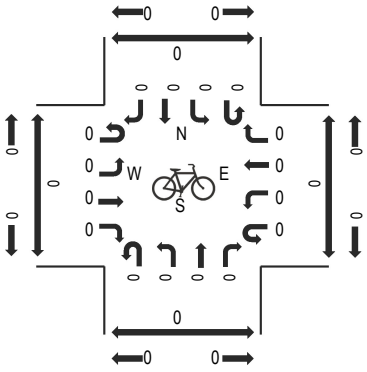
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 NORTH ELLICOTT HIGHWAY & BIG SPRINGS ROAD AM
Date: Tuesday, April 23, 2024
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

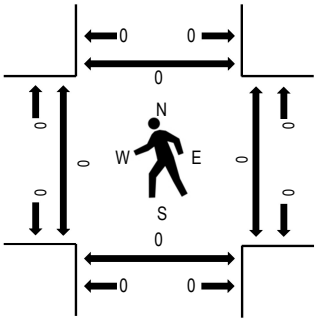
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

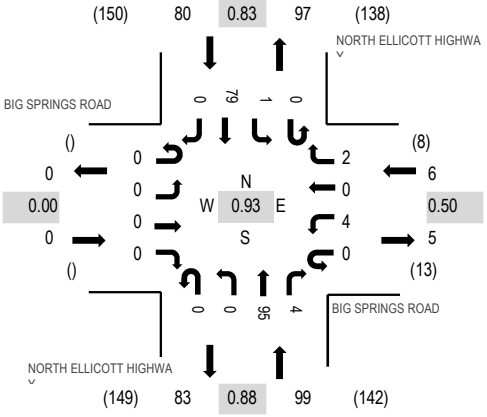
Traffic Counts - Motorized Vehicles

Interval Start Time	BIG SPRINGS ROAD Eastbound				BIG SPRINGS ROAD Westbound				NORTH ELLICOTT HIGHWAY Northbound				NORTH ELLICOTT HIGHWAY Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	0	0	0	1	0	1	0	0	9	0	0	1	13	0	25	146	0	0	0	0
7:15 AM	0	0	0	0	0	2	0	1	0	0	7	0	0	1	19	0	30	152	0	0	0	0
7:30 AM	0	0	0	0	0	2	0	3	0	0	22	0	0	1	21	0	49	142	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	32	1	0	0	9	0	42	121	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	4	0	0	16	1	0	3	7	0	31	101	0	0	0	0
8:15 AM	0	0	0	0	0	1	0	1	0	0	10	0	0	0	8	0	20		0	0	0	0
8:30 AM	0	0	0	0	0	2	0	1	0	0	9	0	0	0	16	0	28		0	0	0	0
8:45 AM	0	0	0	0	0	0	0	1	0	0	9	1	0	0	11	0	22		0	0	0	0
Count Total	0	0	0	0	0	8	0	12	0	0	114	3	0	6	104	0	247		0	0	0	0
Peak Hour	0	0	0	0	0	4	0	8	0	0	77	2	0	5	56	0	152		0	0	0	0

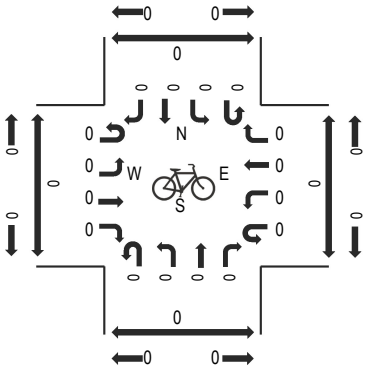
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 NORTH ELLICOTT HIGHWAY & BIG SPRINGS ROAD PM
Date: Tuesday, April 23, 2024
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:00 PM - 04:15 PM

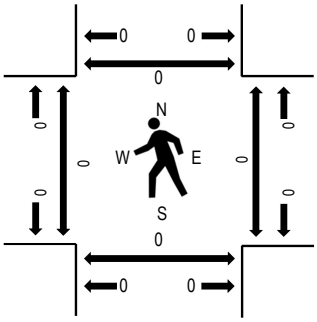
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

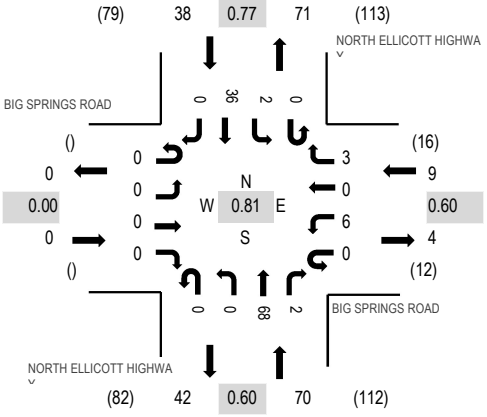
Traffic Counts - Motorized Vehicles

Interval Start Time	BIG SPRINGS ROAD Eastbound				BIG SPRINGS ROAD Westbound				NORTH ELLICOTT HIGHWAY Northbound				NORTH ELLICOTT HIGHWAY Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	0	0	0	2	0	1	0	0	26	1	0	0	20	0	50	185	0	0	0	0
4:15 PM	0	0	0	0	0	1	0	1	0	0	27	1	0	0	19	0	49	168	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	18	1	0	1	23	0	43	151	0	0	0	0
4:45 PM	0	0	0	0	0	1	0	0	0	0	24	1	0	0	17	0	43	124	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	12	3	0	1	17	0	33	115	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	1	0	0	14	0	0	2	15	0	32		0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	10	0	16		0	0	0	0
5:45 PM	0	0	0	0	0	1	0	0	0	0	8	0	0	2	23	0	34		0	0	0	0
Count Total	0	0	0	0	0	5	0	3	0	0	135	7	0	6	144	0	300		0	0	0	0
Peak Hour	0	0	0	0	0	4	0	2	0	0	95	4	0	1	79	0	185		0	0	0	0

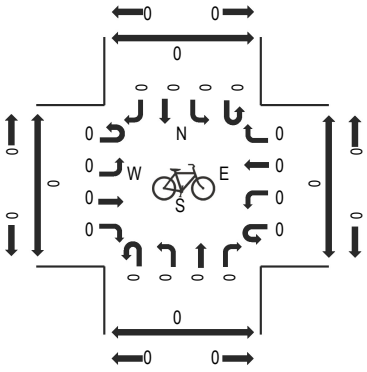
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 NORTH ELLICOTT HIGHWAY & BIG SPRINGS ROAD Noon
Date: Sunday, April 21, 2024
Peak Hour: 11:00 AM - 12:00 PM
Peak 15-Minutes: 11:00 AM - 11:15 AM

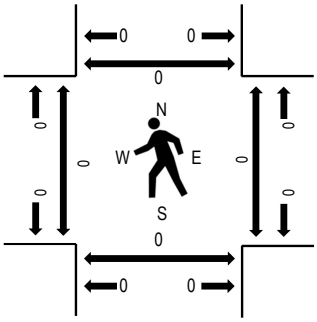
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

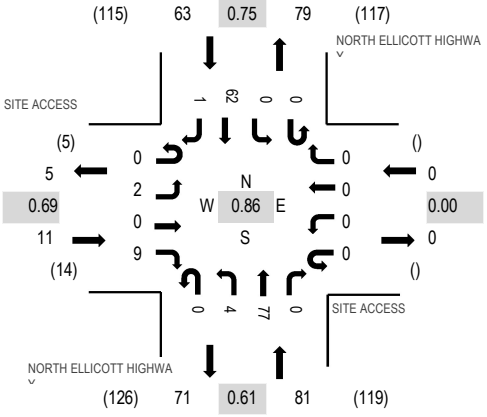
Traffic Counts - Motorized Vehicles

Interval Start Time	BIG SPRINGS ROAD Eastbound				BIG SPRINGS ROAD Westbound				NORTH ELLICOTT HIGHWAY Northbound				NORTH ELLICOTT HIGHWAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
11:00 AM	0	0	0	0	0	0	0	1	0	0	29	0	0	0	6	0	36	117	0	0	0	0
11:15 AM	0	0	0	0	0	2	0	1	0	0	17	0	0	1	3	0	24	102	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	9	1	0	1	11	0	22	101	0	0	0	0
11:45 AM	0	0	0	0	0	4	0	1	0	0	13	1	0	0	16	0	35	105	0	0	0	0
12:00 PM	0	0	0	0	0	1	0	1	0	0	9	0	1	0	9	0	21	90	0	0	0	0
12:15 PM	0	0	0	0	0	1	0	0	0	0	10	1	0	2	9	0	23		0	0	0	0
12:30 PM	0	0	0	0	0	2	0	2	0	0	10	1	0	1	10	0	26		0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	9	2	0	1	8	0	20		0	0	0	0
Count Total	0	0	0	0	0	10	0	6	0	0	106	6	1	6	72	0	207		0	0	0	0
Peak Hour	0	0	0	0	0	6	0	3	0	0	68	2	0	2	36	0	117		0	0	0	0

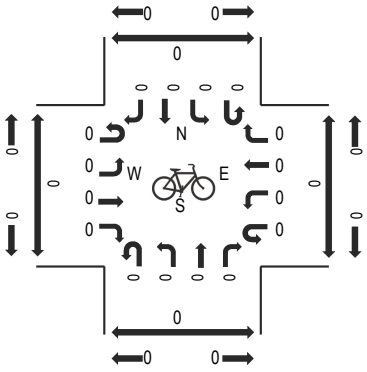
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 NORTH ELLICOTT HIGHWAY & SITE ACCESS AM
Date: Tuesday, April 23, 2024
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

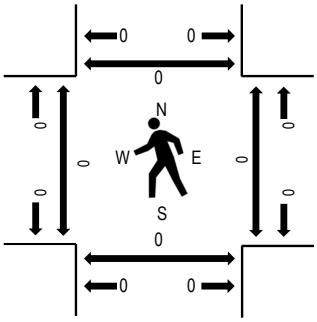
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

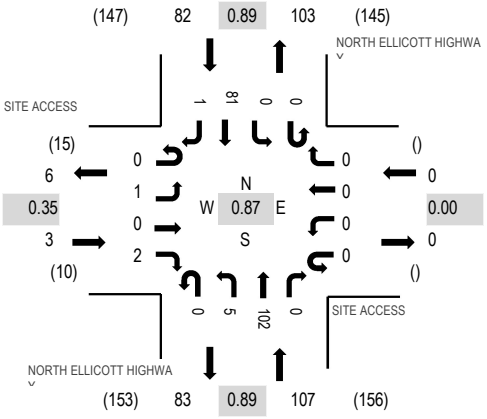
Traffic Counts - Motorized Vehicles

Interval Start Time	SITE ACCESS Eastbound				SITE ACCESS Westbound				NORTH ELLICOTT HIGHWAY Northbound				NORTH ELLICOTT HIGHWAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	3	0	0	0	0	0	0	9	0	0	0	14	0	26	153	0	0	0	0
7:15 AM	0	0	0	4	0	0	0	0	0	2	10	0	0	0	22	0	38	155	0	0	0	0
7:30 AM	0	0	0	1	0	0	0	0	0	0	20	0	0	0	23	0	44	135	0	0	0	0
7:45 AM	0	1	0	1	0	0	0	0	0	1	32	0	0	0	9	1	45	117	0	0	0	0
8:00 AM	0	1	0	3	0	0	0	0	0	1	15	0	0	0	8	0	28	95	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	11	0	0	0	7	0	18		0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	9	0	0	0	17	0	26		0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	9	0	0	0	14	0	23		0	0	0	0
Count Total	0	2	0	12	0	0	0	0	0	4	115	0	0	0	114	1	248		0	0	0	0
Peak Hour	0	2	0	9	0	0	0	0	0	4	77	0	0	0	62	1	155		0	0	0	0

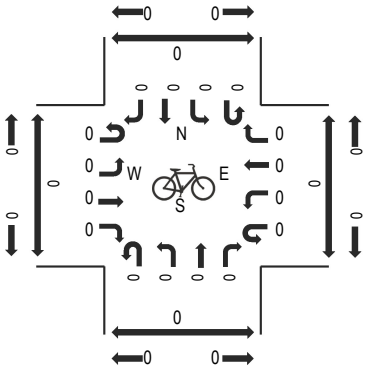
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 NORTH ELLICOTT HIGHWAY & SITE ACCESS PM
Date: Tuesday, April 23, 2024
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:15 PM - 04:30 PM

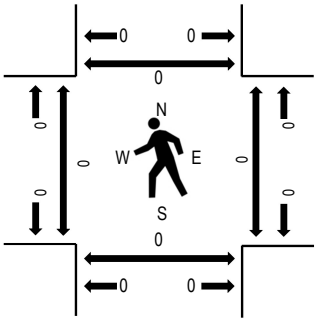
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

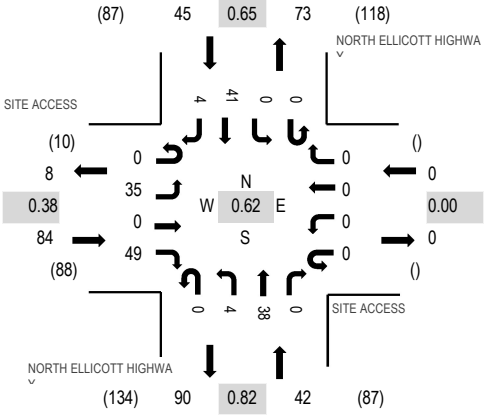
Traffic Counts - Motorized Vehicles

Interval Start Time	SITE ACCESS Eastbound				SITE ACCESS Westbound				NORTH ELLICOTT HIGHWAY Northbound				NORTH ELLICOTT HIGHWAY Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	0	0	0	0	0	0	0	2	28	0	0	0	20	0	50	192	0	0	0	0
4:15 PM	0	1	0	1	0	0	0	0	0	3	27	0	0	0	23	0	55	171	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	22	0	0	0	20	1	43	150	0	0	0	0
4:45 PM	0	0	0	1	0	0	0	0	0	0	25	0	0	0	18	0	44	124	0	0	0	0
5:00 PM	0	0	0	1	0	0	0	0	0	1	11	0	0	0	15	1	29	121	0	0	0	0
5:15 PM	0	0	0	1	0	0	0	0	0	0	17	0	0	0	16	0	34		0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	3	7	0	0	0	7	0	17		0	0	0	0
5:45 PM	0	0	0	5	0	0	0	0	0	3	7	0	0	0	25	1	41		0	0	0	0
Count Total	0	1	0	9	0	0	0	0	0	12	144	0	0	0	144	3	313		0	0	0	0
Peak Hour	0	1	0	2	0	0	0	0	0	5	102	0	0	0	81	1	192		0	0	0	0

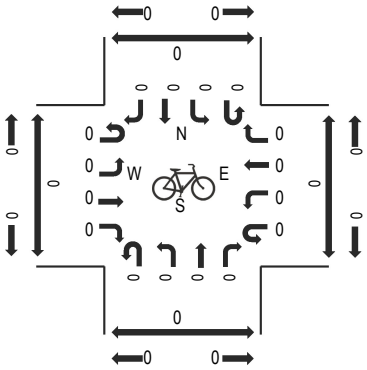
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 NORTH ELLICOTT HIGHWAY & SITE ACCESS Noon
Date: Sunday, April 21, 2024
Peak Hour: 11:00 AM - 12:00 PM
Peak 15-Minutes: 11:00 AM - 11:15 AM

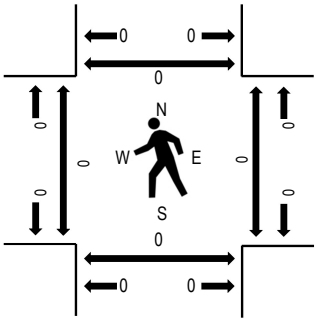
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

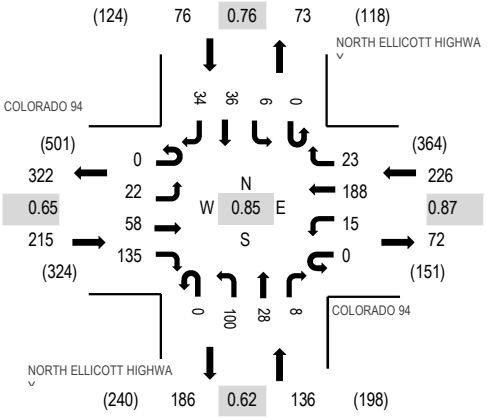
Traffic Counts - Motorized Vehicles

Interval Start Time	SITE ACCESS Eastbound				SITE ACCESS Westbound				NORTH ELLICOTT HIGHWAY Northbound				NORTH ELLICOTT HIGHWAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
11:00 AM	0	25	0	31	0	0	0	0	0	1	6	0	0	0	6	0	69	171	0	0	0	0
11:15 AM	0	7	0	15	0	0	0	0	0	1	8	0	0	0	3	0	34	123	0	0	0	0
11:30 AM	0	2	0	1	0	0	0	0	0	1	10	0	0	0	11	3	28	116	0	0	0	0
11:45 AM	0	1	0	2	0	0	0	0	0	1	14	0	0	0	21	1	40	109	0	0	0	0
12:00 PM	0	1	0	0	0	0	0	0	0	0	10	0	0	0	10	0	21	91	0	0	0	0
12:15 PM	0	1	0	2	0	0	0	0	0	1	12	0	0	0	11	0	27		0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	1	9	0	0	0	11	0	21		0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	12	0	0	0	10	0	22		0	0	0	0
Count Total	0	37	0	51	0	0	0	0	0	6	81	0	0	0	83	4	262		0	0	0	0
Peak Hour	0	35	0	49	0	0	0	0	0	4	38	0	0	0	41	4	171		0	0	0	0

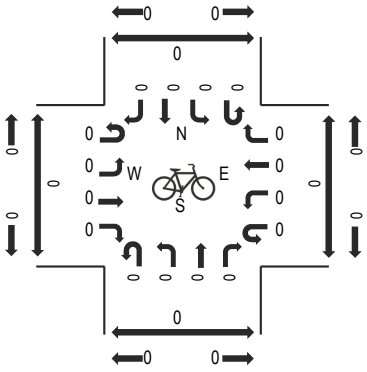
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 3 NORTH ELLICOTT HIGHWAY & COLORADO 94 AM
Date: Tuesday, April 23, 2024
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

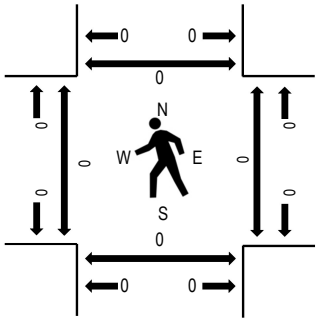
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

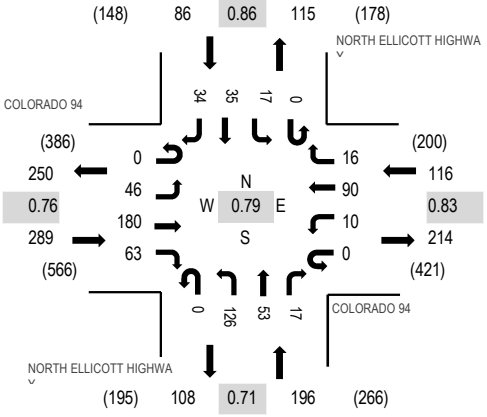
Traffic Counts - Motorized Vehicles

Interval Start Time	COLORADO 94 Eastbound				COLORADO 94 Westbound				NORTH ELLICOTT HIGHWAY Northbound				NORTH ELLICOTT HIGHWAY Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	4	14	18	0	3	59	3	0	15	2	0	0	0	6	17	141	653	0	0	0	0
7:15 AM	0	2	16	41	0	9	47	5	0	10	2	0	0	3	14	8	157	635	0	0	0	0
7:30 AM	0	9	17	58	0	3	37	4	0	31	11	5	0	3	7	7	192	558	0	0	0	0
7:45 AM	0	7	11	18	0	0	45	11	0	44	13	3	0	0	9	2	163	451	0	0	0	0
8:00 AM	0	6	26	9	0	0	35	7	0	19	6	1	0	4	5	5	123	357	0	0	0	0
8:15 AM	0	3	17	8	0	1	27	3	0	12	3	0	0	1	2	3	80		0	0	0	0
8:30 AM	0	4	7	8	0	7	31	3	0	4	3	1	0	6	3	8	85		0	0	0	0
8:45 AM	0	1	13	7	0	2	20	2	0	9	4	0	0	3	2	6	69		0	0	0	0
Count Total	0	36	121	167	0	25	301	38	0	144	44	10	0	20	48	56	1,010		0	0	0	0
Peak Hour	0	22	58	135	0	15	188	23	0	100	28	8	0	6	36	34	653		0	0	0	0

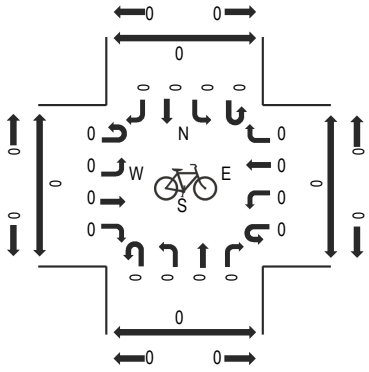
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 3 NORTH ELLICOTT HIGHWAY & COLORADO 94 PM
Date: Tuesday, April 23, 2024
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:00 PM - 04:15 PM

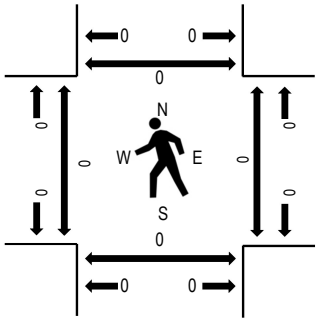
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

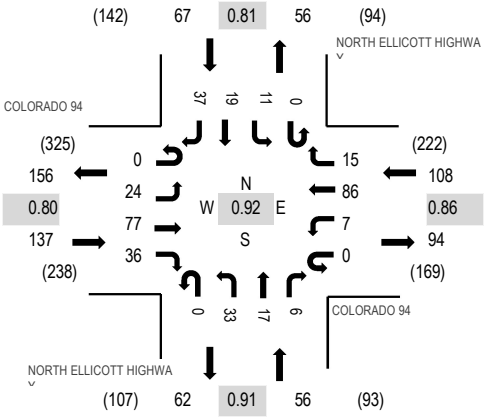
Traffic Counts - Motorized Vehicles

Interval Start Time	COLORADO 94 Eastbound				COLORADO 94 Westbound				NORTH ELLICOTT HIGHWAY Northbound				NORTH ELLICOTT HIGHWAY Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	9	59	27	0	4	24	7	0	48	14	6	0	5	8	6	217	687	0	0	0	0
4:15 PM	0	13	32	9	0	3	19	1	0	41	23	5	0	6	8	9	169	580	0	0	0	0
4:30 PM	0	13	41	16	0	1	28	4	0	18	12	4	0	4	10	11	162	535	0	0	0	0
4:45 PM	0	11	48	11	0	2	19	4	0	19	4	2	0	2	9	8	139	496	0	0	0	0
5:00 PM	0	11	42	12	0	0	9	2	0	13	5	3	0	4	6	3	110	493	0	0	0	0
5:15 PM	0	6	40	13	0	2	23	3	0	11	6	4	0	6	4	6	124		0	0	0	0
5:30 PM	0	10	53	14	0	1	20	0	0	9	4	2	0	3	2	5	123		0	0	0	0
5:45 PM	0	12	38	26	0	1	21	2	0	10	2	1	0	11	6	6	136		0	0	0	0
Count Total	0	85	353	128	0	14	163	23	0	169	70	27	0	41	53	54	1,180		0	0	0	0
Peak Hour	0	46	180	63	0	10	90	16	0	126	53	17	0	17	35	34	687		0	0	0	0

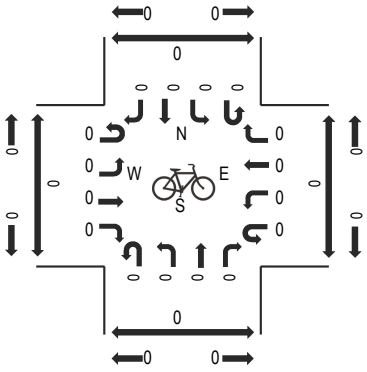
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 3 NORTH ELLICOTT HIGHWAY & COLORADO 94 Noon
Date: Sunday, April 21, 2024
Peak Hour: 11:45 AM - 12:45 PM
Peak 15-Minutes: 12:15 PM - 12:30 PM

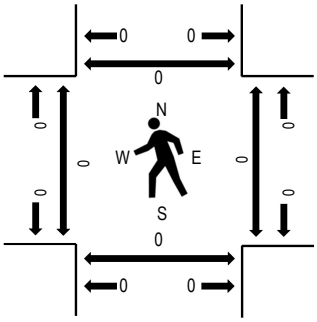
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	COLORADO 94 Eastbound				COLORADO 94 Westbound				NORTH ELLICOTT HIGHWAY Northbound				NORTH ELLICOTT HIGHWAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
11:00 AM	0	3	11	4	0	1	19	3	0	5	1	1	0	4	8	18	78	344	0	0	0	0
11:15 AM	1	0	24	8	0	0	23	6	0	3	2	0	0	2	4	14	87	346	0	0	0	0
11:30 AM	0	4	12	6	1	0	22	5	0	10	3	0	0	1	3	13	80	359	0	0	0	0
11:45 AM	0	7	13	10	0	1	19	5	0	9	5	0	0	3	12	15	99	368	0	0	0	0
12:00 PM	0	3	16	6	0	3	21	4	0	9	3	3	0	2	3	7	80	351	0	0	0	0
12:15 PM	0	6	26	11	0	1	22	4	0	8	6	2	0	4	1	9	100		0	0	0	0
12:30 PM	0	8	22	9	0	2	24	2	0	7	3	1	0	2	3	6	89		0	0	0	0
12:45 PM	0	3	17	8	0	1	25	8	0	12	0	0	0	2	2	4	82		0	0	0	0
Count Total	1	34	141	62	1	9	175	37	0	63	23	7	0	20	36	86	695		0	0	0	0
Peak Hour	0	24	77	36	0	7	86	15	0	33	17	6	0	11	19	37	368		0	0	0	0

All Traffic Data Services
9660 W 44th Ave
Wheat Ridge, CO 80033
www.alltrafficdata.net

Site Code: 4
Station ID: 4
ELLICOTT HWY S.O. SITE ACCESS

Start Time	21-Apr-24 Sun	NB	SB							Total
12:00 AM		3	4							7
01:00		0	2							2
02:00		3	1							4
03:00		0	2							2
04:00		3	0							3
05:00		5	1							6
06:00		7	3							10
07:00		17	11							28
08:00		35	19							54
09:00		**70**	20							90
10:00		37	36							73
11:00		41	**90**							**131**
12:00 PM		42	44							86
01:00		35	**63**							**98**
02:00		33	48							81
03:00		**43**	50							93
04:00		36	45							81
05:00		37	37							74
06:00		32	34							66
07:00		23	29							52
08:00		27	19							46
09:00		8	12							20
10:00		9	11							20
11:00		1	7							8
Total		547	588							1135
Percent		48.2%	51.8%							
AM Peak	-	09:00	11:00	-	-	-	-	-	-	11:00
Vol.	-	70	90	-	-	-	-	-	-	131
PM Peak	-	15:00	13:00	-	-	-	-	-	-	13:00
Vol.	-	43	63	-	-	-	-	-	-	98
Grand Total		547	588							1135
Percent		48.2%	51.8%							
ADT		ADT 1,135		AADT 1,135						

All Traffic Data Services
9660 W 44th Ave
Wheat Ridge, CO 80033
www.alltrafficdata.net

Site Code: 4
Station ID: 4
ELLICOTT HWY S.O. SITE ACCESS

Start Time	23-Apr-24 Tue	NB	SB							Total
12:00 AM		2	5							7
01:00		2	5							7
02:00		3	5							8
03:00		3	0							3
04:00		9	9							18
05:00		17	13							30
06:00		68	47							115
07:00		**75**	**77**							**152**
08:00		42	49							91
09:00		42	37							79
10:00		44	38							82
11:00		44	44							88
12:00 PM		47	49							96
01:00		48	37							85
02:00		51	52							103
03:00		47	62							109
04:00		**106**	**85**							**191**
05:00		49	70							119
06:00		48	59							107
07:00		23	30							53
08:00		21	24							45
09:00		19	16							35
10:00		6	14							20
11:00		10	9							19
Total		826	836							1662
Percent		49.7%	50.3%							
AM Peak	-	07:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	75	77	-	-	-	-	-	-	152
PM Peak	-	16:00	16:00	-	-	-	-	-	-	16:00
Vol.	-	106	85	-	-	-	-	-	-	191
Grand Total		826	836							1662
Percent		49.7%	50.3%							
ADT		ADT 1,662		AADT 1,662						

APPENDIX B

Level of Service Definitions

The following information is referenced from the Highway Capacity Manual: A Guide for Multimodal Mobility Analysis, 6th Edition, Transportation Research Board, 2016: Chapter 19 – Signalized Intersections.

Motorized Vehicle Level of Service (LOS) for Signalized Intersections

Levels of service are defined to represent reasonable ranges in control delay.

LOS A Describes operations with a control delay of 10 s/veh or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

LOS B Describes operations with control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

LOS C Describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual *cycle failures* (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

LOS D Describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

LOS E Describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

LOS F Describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio[a]	
	$v/c \leq 1.0$	$v/c > 1.0$
≤ 10	A	F
> 10 – 20	B	F
> 20 – 35	C	F
> 35 – 55	D	F
> 55 – 80	E	F
> 80	F	F

Note: [a] For approach-based and intersectionwide assessments, LOS is defined solely by control delay.

The following information is referenced from the Highway Capacity Manual: A Guide for Multimodal Mobility Analysis, 6th Edition, Transportation Research Board, 2016: Chapter 20 – Two-Way Stop-Controlled Intersections, Chapter 21 – All-Way Stop-Controlled Intersections, and Chapter 22 - Roundabouts.

Motorized Vehicle Level of Service (LOS) for Unsignalized & Roundabout Intersections

LOS is a quantitative stratification of performance measure(s) representing quality of service. Quality of service describes how well a transportation facility or service operates from a traveler's perspective. LOS is measured on an A – F scale, with LOS A representing the best operating conditions from a traveler's perspective.

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio[a]	
	$v/c \leq 1.0$	$v/c > 1.0$
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 major-street approaches or for the intersection as a whole.

[a] For approaches and intersectionwide assessment, LOS is defined solely by control delay.

APPENDIX C

Capacity Worksheets

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	8	77	2	5	56
Future Vol, veh/h	4	8	77	2	5	56
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	9	84	2	5	61

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	156	85	0	0	86	0
Stage 1	85	-	-	-	-	-
Stage 2	71	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	835	974	-	-	1510	-
Stage 1	938	-	-	-	-	-
Stage 2	952	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	832	974	-	-	1510	-
Mov Cap-2 Maneuver	832	-	-	-	-	-
Stage 1	938	-	-	-	-	-
Stage 2	949	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	922	1510	-
HCM Lane V/C Ratio	-	-	0.014	0.004	-
HCM Control Delay (s)	-	-	9	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	9	4	77	62	1
Future Vol, veh/h	2	9	4	77	62	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	10	4	84	67	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	160	68	68	0	-	0
Stage 1	68	-	-	-	-	-
Stage 2	92	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	831	995	1533	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	932	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	829	995	1533	-	-	-
Mov Cap-2 Maneuver	829	-	-	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	932	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1533	-	960	-	-
HCM Lane V/C Ratio	0.003	-	0.012	-	-
HCM Control Delay (s)	7.4	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	58	135	15	188	23	100	28	8	6	36	34
Future Vol, veh/h	22	58	135	15	188	23	100	28	8	6	36	34
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	145	-	-	290	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	63	147	16	204	25	109	30	9	7	39	37

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	229	0	0	210	0	0	472	446	137	453	507	217
Stage 1	-	-	-	-	-	-	185	185	-	249	249	-
Stage 2	-	-	-	-	-	-	287	261	-	204	258	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1339	-	-	1361	-	-	502	507	911	517	468	823
Stage 1	-	-	-	-	-	-	817	747	-	755	701	-
Stage 2	-	-	-	-	-	-	720	692	-	798	694	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1339	-	-	1361	-	-	438	492	911	477	454	823
Mov Cap-2 Maneuver	-	-	-	-	-	-	438	492	-	477	454	-
Stage 1	-	-	-	-	-	-	802	734	-	741	693	-
Stage 2	-	-	-	-	-	-	641	684	-	744	682	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.5	16.4	12.4
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	463	1339	-	-	1361	-	-	571
HCM Lane V/C Ratio	0.319	0.018	-	-	0.012	-	-	0.145
HCM Control Delay (s)	16.4	7.7	-	-	7.7	-	-	12.4
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	1.4	0.1	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	2	95	4	1	79
Future Vol, veh/h	4	2	95	4	1	79
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	2	103	4	1	86

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	193	105	0	0	107	0
Stage 1	105	-	-	-	-	-
Stage 2	88	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	796	949	-	-	1484	-
Stage 1	919	-	-	-	-	-
Stage 2	935	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	795	949	-	-	1484	-
Mov Cap-2 Maneuver	795	-	-	-	-	-
Stage 1	919	-	-	-	-	-
Stage 2	934	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	840	1484	-
HCM Lane V/C Ratio	-	-	0.008	0.001	-
HCM Control Delay (s)	-	-	9.3	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	2	5	102	81	1
Future Vol, veh/h	1	2	5	102	81	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	2	5	111	88	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	210	89	89	0	-	0
Stage 1	89	-	-	-	-	-
Stage 2	121	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	778	969	1506	-	-	-
Stage 1	934	-	-	-	-	-
Stage 2	904	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	775	969	1506	-	-	-
Mov Cap-2 Maneuver	775	-	-	-	-	-
Stage 1	930	-	-	-	-	-
Stage 2	904	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1506	-	894	-	-
HCM Lane V/C Ratio	0.004	-	0.004	-	-
HCM Control Delay (s)	7.4	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	180	63	10	90	16	126	53	17	17	35	34
Future Vol, veh/h	46	180	63	10	90	16	126	53	17	17	35	34
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	145	-	-	290	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	196	68	11	98	17	137	58	18	18	38	37

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	115	0	0	264	0	0	496	467	230	497	493	107
Stage 1	-	-	-	-	-	-	330	330	-	129	129	-
Stage 2	-	-	-	-	-	-	166	137	-	368	364	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1474	-	-	1300	-	-	484	493	809	483	477	947
Stage 1	-	-	-	-	-	-	683	646	-	875	789	-
Stage 2	-	-	-	-	-	-	836	783	-	652	624	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1474	-	-	1300	-	-	422	472	809	414	457	947
Mov Cap-2 Maneuver	-	-	-	-	-	-	422	472	-	414	457	-
Stage 1	-	-	-	-	-	-	660	624	-	845	783	-
Stage 2	-	-	-	-	-	-	758	777	-	559	603	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.7	19.7	12.7
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	454	1474	-	-	1300	-	-	560
HCM Lane V/C Ratio	0.469	0.034	-	-	0.008	-	-	0.167
HCM Control Delay (s)	19.7	7.5	-	-	7.8	-	-	12.7
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	2.5	0.1	-	-	0	-	-	0.6

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	3	68	2	2	36
Future Vol, veh/h	6	3	68	2	2	36
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	3	74	2	2	39

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	118	75	0	0	76	0
Stage 1	75	-	-	-	-	-
Stage 2	43	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	878	986	-	-	1523	-
Stage 1	948	-	-	-	-	-
Stage 2	979	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	877	986	-	-	1523	-
Mov Cap-2 Maneuver	877	-	-	-	-	-
Stage 1	948	-	-	-	-	-
Stage 2	978	-	-	-	-	-

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)	-	-	911	1523	-
HCM Lane V/C Ratio	-	-	0.011	0.001	-
HCM Control Delay (s)	-	-	9	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	35	49	4	38	41	4
Future Vol, veh/h	35	49	4	38	41	4
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	53	4	41	45	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	96	47	49	0	-	0
Stage 1	47	-	-	-	-	-
Stage 2	49	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	903	1022	1558	-	-	-
Stage 1	975	-	-	-	-	-
Stage 2	973	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	900	1022	1558	-	-	-
Mov Cap-2 Maneuver	900	-	-	-	-	-
Stage 1	972	-	-	-	-	-
Stage 2	973	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1558	-	967	-	-
HCM Lane V/C Ratio	0.003	-	0.094	-	-
HCM Control Delay (s)	7.3	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	77	36	7	86	15	33	17	6	11	19	37
Future Vol, veh/h	24	77	36	7	86	15	33	17	6	11	19	37
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	145	-	-	290	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	84	39	8	93	16	36	18	7	12	21	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	109	0	0	123	0	0	304	281	104	285	292	101
Stage 1	-	-	-	-	-	-	156	156	-	117	117	-
Stage 2	-	-	-	-	-	-	148	125	-	168	175	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1481	-	-	1464	-	-	648	627	951	667	619	954
Stage 1	-	-	-	-	-	-	846	769	-	888	799	-
Stage 2	-	-	-	-	-	-	855	792	-	834	754	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1481	-	-	1464	-	-	594	613	951	636	605	954
Mov Cap-2 Maneuver	-	-	-	-	-	-	594	613	-	636	605	-
Stage 1	-	-	-	-	-	-	831	755	-	872	795	-
Stage 2	-	-	-	-	-	-	793	788	-	794	740	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.5	11.4	10.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	625	1481	-	-	1464	-	-	766
HCM Lane V/C Ratio	0.097	0.018	-	-	0.005	-	-	0.095
HCM Control Delay (s)	11.4	7.5	-	-	7.5	-	-	10.2
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	8	80	2	5	58
Future Vol, veh/h	4	8	80	2	5	58
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	9	87	2	5	63

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	161	88	0	0	89	0
Stage 1	88	-	-	-	-	-
Stage 2	73	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	830	970	-	-	1506	-
Stage 1	935	-	-	-	-	-
Stage 2	950	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	828	970	-	-	1506	-
Mov Cap-2 Maneuver	828	-	-	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	947	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	918	1506	-
HCM Lane V/C Ratio	-	-	0.014	0.004	-
HCM Control Delay (s)	-	-	9	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	9	4	80	64	1
Future Vol, veh/h	2	9	4	80	64	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	10	4	87	70	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	166	71	71	0	-	0
Stage 1	71	-	-	-	-	-
Stage 2	95	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	824	991	1529	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	929	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	822	991	1529	-	-	-
Mov Cap-2 Maneuver	822	-	-	-	-	-
Stage 1	949	-	-	-	-	-
Stage 2	929	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1529	-	955	-	-
HCM Lane V/C Ratio	0.003	-	0.013	-	-
HCM Control Delay (s)	7.4	0	8.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	60	140	16	196	24	104	29	8	6	37	35
Future Vol, veh/h	23	60	140	16	196	24	104	29	8	6	37	35
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	145	-	-	290	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	65	152	17	213	26	113	32	9	7	40	38

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	239	0	0	217	0	0	490	464	141	472	527	226
Stage 1	-	-	-	-	-	-	191	191	-	260	260	-
Stage 2	-	-	-	-	-	-	299	273	-	212	267	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1328	-	-	1353	-	-	489	495	907	502	456	813
Stage 1	-	-	-	-	-	-	811	742	-	745	693	-
Stage 2	-	-	-	-	-	-	710	684	-	790	688	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1328	-	-	1353	-	-	423	479	907	461	441	813
Mov Cap-2 Maneuver	-	-	-	-	-	-	423	479	-	461	441	-
Stage 1	-	-	-	-	-	-	796	728	-	731	684	-
Stage 2	-	-	-	-	-	-	629	675	-	734	675	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.5	17.2	12.6
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	447	1328	-	-	1353	-	-	557
HCM Lane V/C Ratio	0.343	0.019	-	-	0.013	-	-	0.152
HCM Control Delay (s)	17.2	7.8	-	-	7.7	-	-	12.6
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	1.5	0.1	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	2	99	4	1	82
Future Vol, veh/h	4	2	99	4	1	82
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	2	108	4	1	89

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	201	110	0	0	112	0
Stage 1	110	-	-	-	-	-
Stage 2	91	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	788	943	-	-	1478	-
Stage 1	915	-	-	-	-	-
Stage 2	933	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	787	943	-	-	1478	-
Mov Cap-2 Maneuver	787	-	-	-	-	-
Stage 1	915	-	-	-	-	-
Stage 2	932	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	833	1478	-
HCM Lane V/C Ratio	-	-	0.008	0.001	-
HCM Control Delay (s)	-	-	9.4	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	2	5	106	84	1
Future Vol, veh/h	1	2	5	106	84	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	2	5	115	91	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	217	92	92	0	-	0
Stage 1	92	-	-	-	-	-
Stage 2	125	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	771	965	1503	-	-	-
Stage 1	932	-	-	-	-	-
Stage 2	901	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	768	965	1503	-	-	-
Mov Cap-2 Maneuver	768	-	-	-	-	-
Stage 1	928	-	-	-	-	-
Stage 2	901	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1503	-	889	-	-
HCM Lane V/C Ratio	0.004	-	0.004	-	-
HCM Control Delay (s)	7.4	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	8.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	48	187	66	10	94	17	131	55	18	18	36	35
Future Vol, veh/h	48	187	66	10	94	17	131	55	18	18	36	35
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	145	-	-	290	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	52	203	72	11	102	18	142	60	20	20	39	38

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	120	0	0	275	0	0	515	485	239	516	512	111
Stage 1	-	-	-	-	-	-	343	343	-	133	133	-
Stage 2	-	-	-	-	-	-	172	142	-	383	379	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1468	-	-	1288	-	-	470	482	800	470	465	942
Stage 1	-	-	-	-	-	-	672	637	-	870	786	-
Stage 2	-	-	-	-	-	-	830	779	-	640	615	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1468	-	-	1288	-	-	407	461	800	400	445	942
Mov Cap-2 Maneuver	-	-	-	-	-	-	407	461	-	400	445	-
Stage 1	-	-	-	-	-	-	648	615	-	840	779	-
Stage 2	-	-	-	-	-	-	750	772	-	544	593	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.6	21.2	13
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	440	1468	-	-	1288	-	-	546
HCM Lane V/C Ratio	0.504	0.036	-	-	0.008	-	-	0.177
HCM Control Delay (s)	21.2	7.5	-	-	7.8	-	-	13
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	2.8	0.1	-	-	0	-	-	0.6

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	3	71	2	2	37
Future Vol, veh/h	6	3	71	2	2	37
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	3	77	2	2	40

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	122	78	0	0	79	0
Stage 1	78	-	-	-	-	-
Stage 2	44	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	873	983	-	-	1519	-
Stage 1	945	-	-	-	-	-
Stage 2	978	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	872	983	-	-	1519	-
Mov Cap-2 Maneuver	872	-	-	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	977	-	-	-	-	-

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)	-	-	906	1519	-
HCM Lane V/C Ratio	-	-	0.011	0.001	-
HCM Control Delay (s)	-	-	9	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	36	51	4	40	43	4
Future Vol, veh/h	36	51	4	40	43	4
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	55	4	43	47	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	100	49	51	0	-	0
Stage 1	49	-	-	-	-	-
Stage 2	51	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	899	1020	1555	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	971	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	896	1020	1555	-	-	-
Mov Cap-2 Maneuver	896	-	-	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	971	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1555	-	965	-	-
HCM Lane V/C Ratio	0.003	-	0.098	-	-
HCM Control Delay (s)	7.3	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	80	37	7	89	16	34	18	6	11	20	38
Future Vol, veh/h	25	80	37	7	89	16	34	18	6	11	20	38
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	145	-	-	290	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	87	40	8	97	17	37	20	7	12	22	41

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	114	0	0	127	0	0	314	291	107	297	303	106
Stage 1	-	-	-	-	-	-	161	161	-	122	122	-
Stage 2	-	-	-	-	-	-	153	130	-	175	181	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1475	-	-	1459	-	-	639	619	947	655	610	948
Stage 1	-	-	-	-	-	-	841	765	-	882	795	-
Stage 2	-	-	-	-	-	-	849	789	-	827	750	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1475	-	-	1459	-	-	583	605	947	623	596	948
Mov Cap-2 Maneuver	-	-	-	-	-	-	583	605	-	623	596	-
Stage 1	-	-	-	-	-	-	826	751	-	866	791	-
Stage 2	-	-	-	-	-	-	785	785	-	785	737	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.5	11.5	10.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	614	1475	-	-	1459	-	-	756
HCM Lane V/C Ratio	0.103	0.018	-	-	0.005	-	-	0.099
HCM Control Delay (s)	11.5	7.5	-	-	7.5	-	-	10.3
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	11	108	3	7	78
Future Vol, veh/h	6	11	108	3	7	78
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	12	117	3	8	85

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	220	119	0	0	120	0
Stage 1	119	-	-	-	-	-
Stage 2	101	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	768	933	-	-	1468	-
Stage 1	906	-	-	-	-	-
Stage 2	923	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	763	933	-	-	1468	-
Mov Cap-2 Maneuver	763	-	-	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	917	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	865	1468	-
HCM Lane V/C Ratio	-	-	0.021	0.005	-
HCM Control Delay (s)	-	-	9.3	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	13	6	108	87	1
Future Vol, veh/h	3	13	6	108	87	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	14	7	117	95	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	227	96	96	0	-	0
Stage 1	96	-	-	-	-	-
Stage 2	131	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	761	960	1498	-	-	-
Stage 1	928	-	-	-	-	-
Stage 2	895	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	757	960	1498	-	-	-
Mov Cap-2 Maneuver	757	-	-	-	-	-
Stage 1	923	-	-	-	-	-
Stage 2	895	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1498	-	914	-	-
HCM Lane V/C Ratio	0.004	-	0.019	-	-
HCM Control Delay (s)	7.4	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	9.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	81	189	21	263	32	140	39	11	8	50	48
Future Vol, veh/h	31	81	189	21	263	32	140	39	11	8	50	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	145	-	-	290	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	88	205	23	286	35	152	42	12	9	54	52

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	321	0	0	293	0	0	662	626	191	636	711	304
Stage 1	-	-	-	-	-	-	259	259	-	350	350	-
Stage 2	-	-	-	-	-	-	403	367	-	286	361	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1239	-	-	1269	-	-	375	401	851	391	358	736
Stage 1	-	-	-	-	-	-	746	694	-	666	633	-
Stage 2	-	-	-	-	-	-	624	622	-	721	626	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1239	-	-	1269	-	-	296	383	851	341	342	736
Mov Cap-2 Maneuver	-	-	-	-	-	-	296	383	-	341	342	-
Stage 1	-	-	-	-	-	-	726	675	-	648	622	-
Stage 2	-	-	-	-	-	-	520	611	-	648	609	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.5	34	15.7
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	323	1239	-	-	1269	-	-	451
HCM Lane V/C Ratio	0.639	0.027	-	-	0.018	-	-	0.255
HCM Control Delay (s)	34	8	-	-	7.9	-	-	15.7
HCM Lane LOS	D	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	4.1	0.1	-	-	0.1	-	-	1

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	3	133	6	1	111
Future Vol, veh/h	6	3	133	6	1	111
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	3	145	7	1	121

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	272	149	0	0	152	0
Stage 1	149	-	-	-	-	-
Stage 2	123	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	717	898	-	-	1429	-
Stage 1	879	-	-	-	-	-
Stage 2	902	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	716	898	-	-	1429	-
Mov Cap-2 Maneuver	716	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	901	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	768	1429	-
HCM Lane V/C Ratio	-	-	0.013	0.001	-
HCM Control Delay (s)	-	-	9.7	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	3	7	143	113	1
Future Vol, veh/h	1	3	7	143	113	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	3	8	155	123	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	295	124	124	0	-	0
Stage 1	124	-	-	-	-	-
Stage 2	171	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	696	927	1463	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	859	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	692	927	1463	-	-	-
Mov Cap-2 Maneuver	692	-	-	-	-	-
Stage 1	897	-	-	-	-	-
Stage 2	859	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1463	-	854	-	-
HCM Lane V/C Ratio	0.005	-	0.005	-	-
HCM Control Delay (s)	7.5	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	23.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	64	252	88	14	126	22	176	74	24	24	49	48
Future Vol, veh/h	64	252	88	14	126	22	176	74	24	24	49	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	145	-	-	290	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	70	274	96	15	137	24	191	80	26	26	53	52

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	161	0	0	370	0	0	694	653	322	694	689	149
Stage 1	-	-	-	-	-	-	462	462	-	179	179	-
Stage 2	-	-	-	-	-	-	232	191	-	515	510	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1418	-	-	1189	-	-	357	387	719	357	369	898
Stage 1	-	-	-	-	-	-	580	565	-	823	751	-
Stage 2	-	-	-	-	-	-	771	742	-	543	538	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1418	-	-	1189	-	-	283	363	719	272	346	898
Mov Cap-2 Maneuver	-	-	-	-	-	-	283	363	-	272	346	-
Stage 1	-	-	-	-	-	-	552	537	-	783	741	-
Stage 2	-	-	-	-	-	-	666	732	-	423	512	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.7	71.8	17.1
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	319	1418	-	-	1189	-	-	427
HCM Lane V/C Ratio	0.934	0.049	-	-	0.013	-	-	0.308
HCM Control Delay (s)	71.8	7.7	-	-	8.1	-	-	17.1
HCM Lane LOS	F	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	9.3	0.2	-	-	0	-	-	1.3

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	4	95	3	3	50
Future Vol, veh/h	8	4	95	3	3	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	4	103	3	3	54

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	165	105	0	0	106	0
Stage 1	105	-	-	-	-	-
Stage 2	60	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	826	949	-	-	1485	-
Stage 1	919	-	-	-	-	-
Stage 2	963	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	824	949	-	-	1485	-
Mov Cap-2 Maneuver	824	-	-	-	-	-
Stage 1	919	-	-	-	-	-
Stage 2	961	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	862	1485	-
HCM Lane V/C Ratio	-	-	0.015	0.002	-
HCM Control Delay (s)	-	-	9.2	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	49	69	6	53	57	6
Future Vol, veh/h	49	69	6	53	57	6
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	53	75	7	58	62	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	138	66	69	0	-	0
Stage 1	66	-	-	-	-	-
Stage 2	72	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	855	998	1532	-	-	-
Stage 1	957	-	-	-	-	-
Stage 2	951	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	851	998	1532	-	-	-
Mov Cap-2 Maneuver	851	-	-	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	951	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1532	-	931	-	-
HCM Lane V/C Ratio	0.004	-	0.138	-	-
HCM Control Delay (s)	7.4	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	108	50	10	120	21	46	24	8	15	27	52
Future Vol, veh/h	34	108	50	10	120	21	46	24	8	15	27	52
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	145	-	-	290	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	117	54	11	130	23	50	26	9	16	29	57

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	153	0	0	171	0	0	425	393	144	400	409	142
Stage 1	-	-	-	-	-	-	218	218	-	164	164	-
Stage 2	-	-	-	-	-	-	207	175	-	236	245	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1428	-	-	1406	-	-	540	543	903	560	532	906
Stage 1	-	-	-	-	-	-	784	723	-	838	762	-
Stage 2	-	-	-	-	-	-	795	754	-	767	703	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1428	-	-	1406	-	-	472	525	903	520	514	906
Mov Cap-2 Maneuver	-	-	-	-	-	-	472	525	-	520	514	-
Stage 1	-	-	-	-	-	-	764	704	-	816	756	-
Stage 2	-	-	-	-	-	-	711	748	-	713	685	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.5	13.4	11.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	513	1428	-	-	1406	-	-	677
HCM Lane V/C Ratio	0.165	0.026	-	-	0.008	-	-	0.151
HCM Control Delay (s)	13.4	7.6	-	-	7.6	-	-	11.3
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	8	80	2	5	58
Future Vol, veh/h	4	8	80	2	5	58
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	9	87	2	5	63

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	161	88	0	0	89	0
Stage 1	88	-	-	-	-	-
Stage 2	73	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	830	970	-	-	1506	-
Stage 1	935	-	-	-	-	-
Stage 2	950	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	828	970	-	-	1506	-
Mov Cap-2 Maneuver	828	-	-	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	947	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	918	1506	-
HCM Lane V/C Ratio	-	-	0.014	0.004	-
HCM Control Delay (s)	-	-	9	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	10	6	80	64	1
Future Vol, veh/h	2	10	6	80	64	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	11	7	87	70	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	172	71	71	0	-	0
Stage 1	71	-	-	-	-	-
Stage 2	101	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	818	991	1529	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	923	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	814	991	1529	-	-	-
Mov Cap-2 Maneuver	814	-	-	-	-	-
Stage 1	947	-	-	-	-	-
Stage 2	923	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1529	-	814	991	-	-
HCM Lane V/C Ratio	0.004	-	0.003	0.011	-	-
HCM Control Delay (s)	7.4	0	9.4	8.7	-	-
HCM Lane LOS	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	0	-	-

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	60	140	16	196	25	104	29	8	6	37	36
Future Vol, veh/h	24	60	140	16	196	25	104	29	8	6	37	36
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	145	-	-	290	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	65	152	17	213	27	113	32	9	7	40	39

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	240	0	0	217	0	0	493	467	141	475	530	227
Stage 1	-	-	-	-	-	-	193	193	-	261	261	-
Stage 2	-	-	-	-	-	-	300	274	-	214	269	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1327	-	-	1353	-	-	486	493	907	500	455	812
Stage 1	-	-	-	-	-	-	809	741	-	744	692	-
Stage 2	-	-	-	-	-	-	709	683	-	788	687	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1327	-	-	1353	-	-	420	477	907	459	440	812
Mov Cap-2 Maneuver	-	-	-	-	-	-	420	477	-	459	440	-
Stage 1	-	-	-	-	-	-	793	726	-	729	683	-
Stage 2	-	-	-	-	-	-	627	674	-	732	673	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.5	17.3	12.6
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	444	1327	-	-	1353	-	-	558
HCM Lane V/C Ratio	0.345	0.02	-	-	0.013	-	-	0.154
HCM Control Delay (s)	17.3	7.8	-	-	7.7	-	-	12.6
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	1.5	0.1	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	2	99	4	1	82
Future Vol, veh/h	4	2	99	4	1	82
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	2	108	4	1	89

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	201	110	0	0	112	0
Stage 1	110	-	-	-	-	-
Stage 2	91	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	788	943	-	-	1478	-
Stage 1	915	-	-	-	-	-
Stage 2	933	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	787	943	-	-	1478	-
Mov Cap-2 Maneuver	787	-	-	-	-	-
Stage 1	915	-	-	-	-	-
Stage 2	932	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	833	1478	-
HCM Lane V/C Ratio	-	-	0.008	0.001	-
HCM Control Delay (s)	-	-	9.4	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	5	7	106	84	1
Future Vol, veh/h	1	5	7	106	84	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	5	8	115	91	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	223	92	92	0	-	0
Stage 1	92	-	-	-	-	-
Stage 2	131	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	765	965	1503	-	-	-
Stage 1	932	-	-	-	-	-
Stage 2	895	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	760	965	1503	-	-	-
Mov Cap-2 Maneuver	760	-	-	-	-	-
Stage 1	926	-	-	-	-	-
Stage 2	895	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1503	-	760	965	-	-
HCM Lane V/C Ratio	0.005	-	0.001	0.006	-	-
HCM Control Delay (s)	7.4	0	9.7	8.8	-	-
HCM Lane LOS	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	0	-	-

Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	187	66	10	94	18	131	55	18	19	37	36
Future Vol, veh/h	49	187	66	10	94	18	131	55	18	19	37	36
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	145	-	-	290	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	203	72	11	102	20	142	60	20	21	40	39

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	122	0	0	275	0	0	519	489	239	519	515	112
Stage 1	-	-	-	-	-	-	345	345	-	134	134	-
Stage 2	-	-	-	-	-	-	174	144	-	385	381	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1465	-	-	1288	-	-	467	480	800	467	464	941
Stage 1	-	-	-	-	-	-	671	636	-	869	785	-
Stage 2	-	-	-	-	-	-	828	778	-	638	613	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1465	-	-	1288	-	-	403	458	800	396	443	941
Mov Cap-2 Maneuver	-	-	-	-	-	-	403	458	-	396	443	-
Stage 1	-	-	-	-	-	-	647	613	-	838	778	-
Stage 2	-	-	-	-	-	-	746	771	-	541	591	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.6	21.5	13.1
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	436	1465	-	-	1288	-	-	542
HCM Lane V/C Ratio	0.509	0.036	-	-	0.008	-	-	0.185
HCM Control Delay (s)	21.5	7.5	-	-	7.8	-	-	13.1
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	2.8	0.1	-	-	0	-	-	0.7

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	3	87	8	2	52
Future Vol, veh/h	11	3	87	8	2	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	3	95	9	2	57

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	161	100	0	0	104	0
Stage 1	100	-	-	-	-	-
Stage 2	61	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	830	956	-	-	1488	-
Stage 1	924	-	-	-	-	-
Stage 2	962	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	829	956	-	-	1488	-
Mov Cap-2 Maneuver	829	-	-	-	-	-
Stage 1	924	-	-	-	-	-
Stage 2	961	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	853	1488	-
HCM Lane V/C Ratio	-	-	0.018	0.001	-
HCM Control Delay (s)	-	-	9.3	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	58	83	34	40	43	24
Future Vol, veh/h	58	83	34	40	43	24
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	63	90	37	43	47	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	177	60	73	0	-	0
Stage 1	60	-	-	-	-	-
Stage 2	117	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	813	1005	1527	-	-	-
Stage 1	963	-	-	-	-	-
Stage 2	908	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	793	1005	1527	-	-	-
Mov Cap-2 Maneuver	793	-	-	-	-	-
Stage 1	939	-	-	-	-	-
Stage 2	908	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	3.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1527	-	793	1005	-	-
HCM Lane V/C Ratio	0.024	-	0.079	0.09	-	-
HCM Control Delay (s)	7.4	0	9.9	8.9	-	-
HCM Lane LOS	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	0.3	-	-

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	80	37	7	89	21	34	28	6	16	31	54
Future Vol, veh/h	40	80	37	7	89	21	34	28	6	16	31	54
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	145	-	-	290	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	87	40	8	97	23	37	30	7	17	34	59

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	120	0	0	127	0	0	364	329	107	337	338	109
Stage 1	-	-	-	-	-	-	193	193	-	125	125	-
Stage 2	-	-	-	-	-	-	171	136	-	212	213	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1468	-	-	1459	-	-	592	590	947	617	583	945
Stage 1	-	-	-	-	-	-	809	741	-	879	792	-
Stage 2	-	-	-	-	-	-	831	784	-	790	726	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1468	-	-	1459	-	-	516	570	947	573	563	945
Mov Cap-2 Maneuver	-	-	-	-	-	-	516	570	-	573	563	-
Stage 1	-	-	-	-	-	-	786	720	-	854	788	-
Stage 2	-	-	-	-	-	-	742	780	-	729	705	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0.4	12.4	10.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	560	1468	-	-	1459	-	-	721
HCM Lane V/C Ratio	0.132	0.03	-	-	0.005	-	-	0.152
HCM Control Delay (s)	12.4	7.5	-	-	7.5	-	-	10.9
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	11	108	3	7	78
Future Vol, veh/h	6	11	108	3	7	78
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	12	117	3	8	85

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	220	119	0	0	120	0
Stage 1	119	-	-	-	-	-
Stage 2	101	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	768	933	-	-	1468	-
Stage 1	906	-	-	-	-	-
Stage 2	923	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	763	933	-	-	1468	-
Mov Cap-2 Maneuver	763	-	-	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	917	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	865	1468	-
HCM Lane V/C Ratio	-	-	0.021	0.005	-
HCM Control Delay (s)	-	-	9.3	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	14	8	108	87	1
Future Vol, veh/h	3	14	8	108	87	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	15	9	117	95	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	231	96	96	0	-	0
Stage 1	96	-	-	-	-	-
Stage 2	135	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	757	960	1498	-	-	-
Stage 1	928	-	-	-	-	-
Stage 2	891	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	752	960	1498	-	-	-
Mov Cap-2 Maneuver	752	-	-	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	891	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1498	-	752	960	-	-
HCM Lane V/C Ratio	0.006	-	0.004	0.016	-	-
HCM Control Delay (s)	7.4	0	9.8	8.8	-	-
HCM Lane LOS	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	0	-	-

Intersection	
Int Delay, s/veh	9.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	32	81	189	21	263	33	140	39	11	8	50	49
Future Vol, veh/h	32	81	189	21	263	33	140	39	11	8	50	49
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	145	-	-	290	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	88	205	23	286	36	152	42	12	9	54	53

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	322	0	0	293	0	0	665	629	191	638	713	304
Stage 1	-	-	-	-	-	-	261	261	-	350	350	-
Stage 2	-	-	-	-	-	-	404	368	-	288	363	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1238	-	-	1269	-	-	374	399	851	389	357	736
Stage 1	-	-	-	-	-	-	744	692	-	666	633	-
Stage 2	-	-	-	-	-	-	623	621	-	720	625	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1238	-	-	1269	-	-	294	381	851	339	341	736
Mov Cap-2 Maneuver	-	-	-	-	-	-	294	381	-	339	341	-
Stage 1	-	-	-	-	-	-	723	673	-	647	622	-
Stage 2	-	-	-	-	-	-	518	610	-	646	608	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.5	34.4	15.7
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	321	1238	-	-	1269	-	-	452
HCM Lane V/C Ratio	0.643	0.028	-	-	0.018	-	-	0.257
HCM Control Delay (s)	34.4	8	-	-	7.9	-	-	15.7
HCM Lane LOS	D	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	4.2	0.1	-	-	0.1	-	-	1

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	3	133	6	1	111
Future Vol, veh/h	6	3	133	6	1	111
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	3	145	7	1	121

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	272	149	0	0	152	0
Stage 1	149	-	-	-	-	-
Stage 2	123	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	717	898	-	-	1429	-
Stage 1	879	-	-	-	-	-
Stage 2	902	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	716	898	-	-	1429	-
Mov Cap-2 Maneuver	716	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	901	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	768	1429	-
HCM Lane V/C Ratio	-	-	0.013	0.001	-
HCM Control Delay (s)	-	-	9.7	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	6	9	143	113	1
Future Vol, veh/h	1	6	9	143	113	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	7	10	155	123	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	299	124	124	0	-	0
Stage 1	124	-	-	-	-	-
Stage 2	175	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	692	927	1463	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	687	927	1463	-	-	-
Mov Cap-2 Maneuver	687	-	-	-	-	-
Stage 1	896	-	-	-	-	-
Stage 2	855	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1463	-	687	927	-	-
HCM Lane V/C Ratio	0.007	-	0.002	0.007	-	-
HCM Control Delay (s)	7.5	0	10.2	8.9	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0	0	-	-

Intersection	
Int Delay, s/veh	23.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	252	88	14	126	23	176	74	24	25	50	49
Future Vol, veh/h	65	252	88	14	126	23	176	74	24	25	50	49
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	145	-	-	290	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	71	274	96	15	137	25	191	80	26	27	54	53

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	162	0	0	370	0	0	697	656	322	697	692	150
Stage 1	-	-	-	-	-	-	464	464	-	180	180	-
Stage 2	-	-	-	-	-	-	233	192	-	517	512	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1417	-	-	1189	-	-	356	385	719	356	367	896
Stage 1	-	-	-	-	-	-	578	564	-	822	750	-
Stage 2	-	-	-	-	-	-	770	742	-	541	536	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1417	-	-	1189	-	-	281	361	719	271	344	896
Mov Cap-2 Maneuver	-	-	-	-	-	-	281	361	-	271	344	-
Stage 1	-	-	-	-	-	-	549	536	-	781	740	-
Stage 2	-	-	-	-	-	-	663	732	-	421	509	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.7	73.4	17.4
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	317	1417	-	-	1189	-	-	424
HCM Lane V/C Ratio	0.94	0.05	-	-	0.013	-	-	0.318
HCM Control Delay (s)	73.4	7.7	-	-	8.1	-	-	17.4
HCM Lane LOS	F	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	9.4	0.2	-	-	0	-	-	1.3

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	4	111	9	3	65
Future Vol, veh/h	13	4	111	9	3	65
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	4	121	10	3	71

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	203	126	0	0	131	0
Stage 1	126	-	-	-	-	-
Stage 2	77	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	786	924	-	-	1454	-
Stage 1	900	-	-	-	-	-
Stage 2	946	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	784	924	-	-	1454	-
Mov Cap-2 Maneuver	784	-	-	-	-	-
Stage 1	900	-	-	-	-	-
Stage 2	944	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	813	1454	-
HCM Lane V/C Ratio	-	-	0.023	0.002	-
HCM Control Delay (s)	-	-	9.5	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	71	101	36	53	57	26
Future Vol, veh/h	71	101	36	53	57	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	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	77	110	39	58	62	28

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	212	76	90	0	-	0
Stage 1	76	-	-	-	-	-
Stage 2	136	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	776	985	1505	-	-	-
Stage 1	947	-	-	-	-	-
Stage 2	890	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	755	985	1505	-	-	-
Mov Cap-2 Maneuver	755	-	-	-	-	-
Stage 1	921	-	-	-	-	-
Stage 2	890	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1505	-	755	985	-	-
HCM Lane V/C Ratio	0.026	-	0.102	0.111	-	-
HCM Control Delay (s)	7.5	0	10.3	9.1	-	-
HCM Lane LOS	A	A	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	0.4	-	-

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	49	108	50	10	120	26	46	34	8	20	38	68
Future Vol, veh/h	49	108	50	10	120	26	46	34	8	20	38	68
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	145	-	-	290	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	117	54	11	130	28	50	37	9	22	41	74

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	158	0	0	171	0	0	474	430	144	439	443	144
Stage 1	-	-	-	-	-	-	250	250	-	166	166	-
Stage 2	-	-	-	-	-	-	224	180	-	273	277	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1422	-	-	1406	-	-	501	518	903	528	509	903
Stage 1	-	-	-	-	-	-	754	700	-	836	761	-
Stage 2	-	-	-	-	-	-	779	750	-	733	681	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1422	-	-	1406	-	-	415	495	903	476	486	903
Mov Cap-2 Maneuver	-	-	-	-	-	-	415	495	-	476	486	-
Stage 1	-	-	-	-	-	-	726	674	-	805	755	-
Stage 2	-	-	-	-	-	-	671	744	-	661	656	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.8	0.5	14.7	12.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	467	1422	-	-	1406	-	-	644
HCM Lane V/C Ratio	0.205	0.037	-	-	0.008	-	-	0.213
HCM Control Delay (s)	14.7	7.6	-	-	7.6	-	-	12.1
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0	-	-	0.8