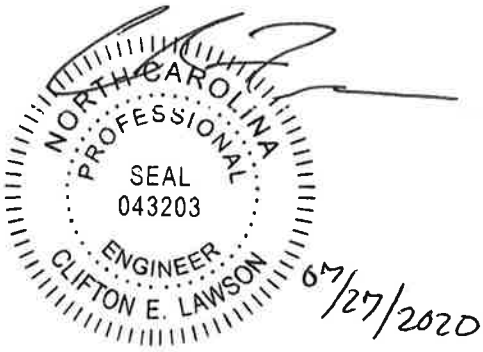
Castleton Village Mixed Use

Traffic Impact Analysis

Jamestown, North Carolina

July 2020



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1 INTRODUCTION

This report presents the findings of the traffic impact analysis for the proposed Castleton Village Mixed-Use development. The proposed development will be constructed on 440 acres bounded by SR 1356 (Guilford College Road) to the south and west and SR 1549 (Mackay Road) to the north in Jamestown, NC (see Figure 1-1).The development will consist of 643 detached single-family residential units, 841 multifamily residential units, a 30,000 square-foot church, 25,200 square-feet of commercial use, 3 athletic fields, a farmer's market, and a 40,000 square-foot government office building. The development is proposed to be constructed over three (3) phases. Phase 1 of the development be constructed by 2023. Phase 2 will be constructed by 2025. Finally, Phase 3 will to be constructed by 2027.

Analyses were completed for the following scenarios:

- 2020 Existing traffic volumes
- 2023 Background traffic volumes (ambient growth + approved surrounding developments)
- 2025 Background traffic volumes (ambient growth + approved surrounding developments)
- 2027 Background traffic volumes (ambient growth + approved surrounding developments)
- 2023 Phase 1 Build traffic volumes (Background + site trips for Phase 1)
- 2025 Phase 2 Build traffic volumes (Background + site trips for Phase 1 – 2)
- 2027 Phase 3 Build traffic volumes (Background + site trips for Phases 1 – 3)
- 2040 Horizon Year traffic volumes (U-2412A)

The following steps were taken to determine the potential traffic impacts associated with this project:

1. Data Collection – AM (7:00 – 9:00) and PM (4:00 – 6:00) peak hour turning movement counts were collected in November 2019, December 2019, and January 2020 at the following intersections:

    - SR 1549 (Mackay Road) / SR 1640 (Thornwood Road) / SR 1546 (Guilford College Road) – Signalized;
    - SR 1549 (Mackay Road) / Jordan Creek Drive – Unsignalized;
    - SR 1549 (Mackay Road) / Renaissance Parkway – Unsignalized;
    - SR 1549 (Mackay Road) / Brookrun Drive – Unsignalized;
    - SR 1549 (Mackay Road) / Kildare Woods Drive – Unsignalized;
    - SR 1549 (Mackay Road) / Adams Farm Parkway – Signalized;
    - SR 1549 (Mackay Road) / SR 4121 (W Gate City Boulevard) – Signalized;
    - SR 4121 (W Gate City Boulevard) / SR 4193 (High Point Road) – Signalized;
    - SR 4121 (W Gate City Boulevard) / SR 4255 (Jamestown Parkway) / SR 1546 (Guilford College Road) – Signalized;
    - SR 4255 (Jamestown Parkway) / SR 4228 (Vickrey Chapel Road) – Signalized;
    - SR 1546 (Guilford College Road) / SR 4241 (Guilford Road) – Signalized;
    - SR 1546 (Guilford College Road) / SR 1628 (Cedarwood Drive) – Unsignalized;

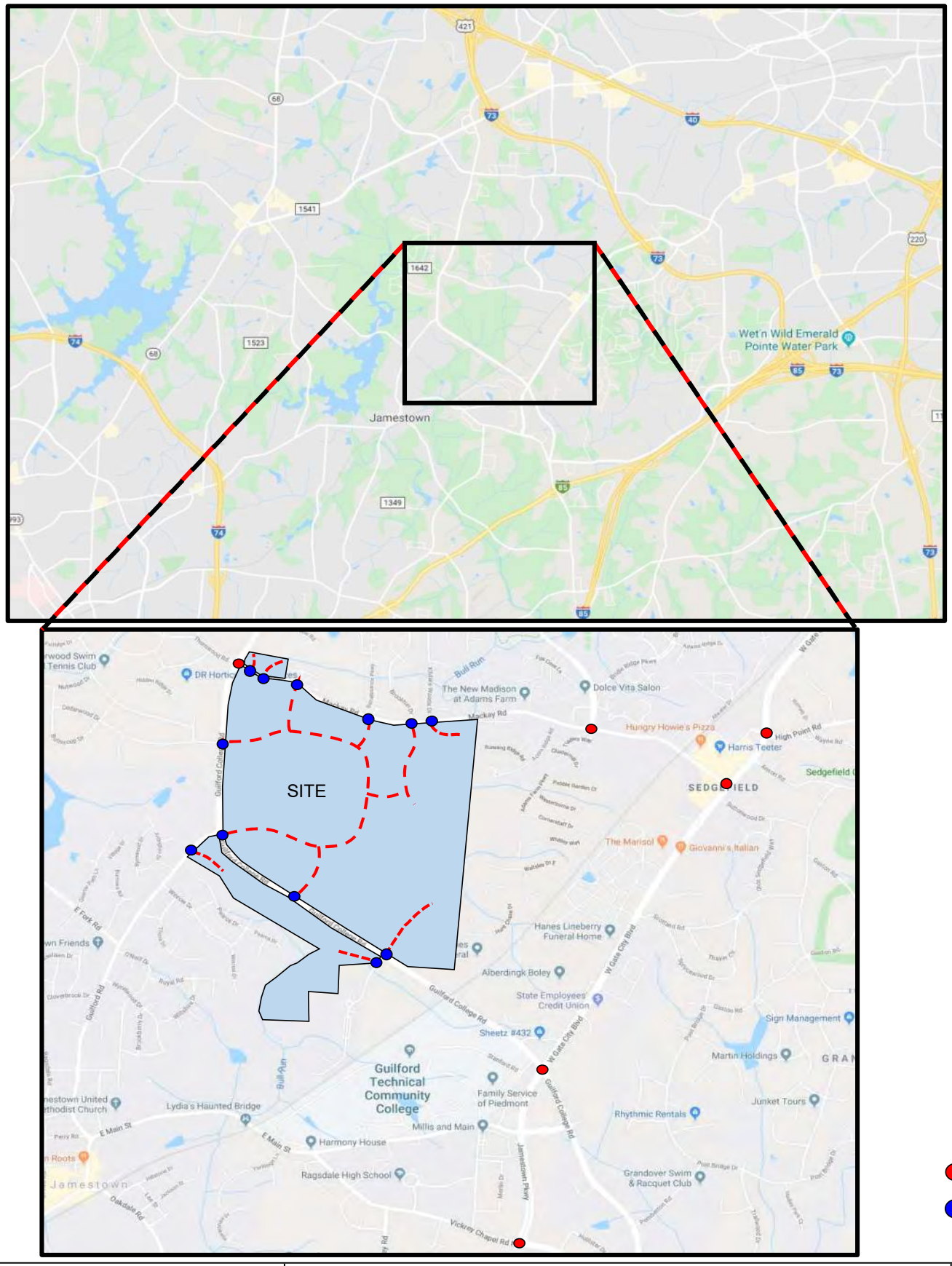
2. Trip Generation/Future Traffic – Traffic generated by the proposed development was estimated using the 10th edition of the Institute of Transportation Engineers' *Trip Generation Manual*. Trip generation was calculated for the development following the NCDOT standards and practices for trip generation. Projected traffic volumes were calculated using an ambient growth rate of 2%.

3. Trip Distribution and Projections – The distribution of site-generated trips was based on the distribution of existing area traffic and engineering judgement. It was assumed, for purposes of analysis, that projected trips would follow similar patterns as existing traffic.

4. Traffic Capacity Analysis – Level of service analyses were performed using SYNCHRO Version 10.3 for the following intersections:

    - Mackay Road / Thornwood Road / Guilford College Road
    - Mackay Road / Site Driveway #6
    - Mackay Road / Jordan Creek Drive / Site Driveway #7
    - Mackay Road / Renaissance Parkway / Site Driveway #8
    - Mackay Road / Brookrun Drive / Site Driveway #9
    - Mackay Road / Kildare Woods Drive / Site Driveway #10
    - Mackay Road / Adams Farm Parkway
    - Mackay Road / W Gate City Boulevard
    - W Gate City Boulevard / High Point Road
    - W Gate City Boulevard / Jamestown Pkwy / Guilford College Road
    - Jamestown Parkway / Vickrey Chapel Road
    - Guilford College Road / Jamestown Square Drive / Site Driveway #1
    - Guilford College Road / Site Driveway #2
    - Guilford College Road / Guilford Road / Site Driveway #3
    - Guilford Road / Site Driveway #4
    - Guilford College Road / Cedarwood Drive / Site Driveway #5

5. Review of Proposed Improvements – Roadway improvements proposed to accommodate projected site-generated traffic were evaluated.



NOT TO SCALE

Legend

= Study Area Intersection

= Driveway Intersection

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Castleton Village
Traffic Impact Analysis
Site Location Map

Figure
1-1

2 EXISTING INFORMATION

The proposed development will be constructed on 440 acres bounded by Guilford College Road to the south and west and SR Mackay Road to the north in Jamestown, NC as shown on Figure 1-1.

2.1 STUDY LIMITS

Access to the proposed site will be provided via eleven (11)* driveway connections to Mackay Road and Guildford College Road. The entrances are shown graphically on Figure 1-1 and on the preliminary site layout for the mixed-use development on Figure 2-1a (all figures are located at the end of their respective chapter). The proposed phasing plan and site build-out are depicted on Figure 2-1b.

*Per the preliminary site plan (see Figure 2-1a), there will be two driveways on Mackay Road (accessing the proposed residential section north of Mackay Road) just east of Guilford College Road . Due to the relatively low trips projected to utilize these driveways (and analysis software limitations), Timmons Group analyzed these driveways as one combined driveway (Driveway #6).

The study limits include the following sixteen (16) intersections:

- Mackay Road / Thornwood Road / SR Guilford College Road
- Mackay Road / Site Driveway #6
- Mackay Road / Jordan Creek Drive / Site Driveway #7
- Mackay Road / Renaissance Parkway / Site Driveway #8
- Mackay Road / Brookrun Drive / Site Driveway #9
- Mackay Road / Kildare Woods Drive / Site Driveway #10
- Mackay Road / Adams Farm Parkway
- Mackay Road / W Gate City Boulevard
- W Gate City Boulevard / High Point Road
- W Gate City Boulevard / Jamestown Pkwy / Guilford College Road
- Jamestown Parkway / Vickrey Chapel Road
- Guilford College Road / Jamestown Square Drive / Site Driveway #1
- Guilford College Road / Site Driveway #2
- Guilford College Road / Guilford Road / Site Driveway #3
- Guilford Road / Site Driveway #4
- Guilford College Road / Cedarwood Drive / Site Driveway #5

All study area intersections and project assumptions were based on the scoping document (see Appendix A). It should be noted that the final build-out year has been revised from 2028 to 2027. Per the scoping document (see Appendix A), the assumed 2028 build-out year listed was approximate.

2.2 EXISTING ROADWAYS

SR 1549 (Mackay Road) is an undivided facility whose cross-section varies from two-lanes to three-lanes over its length. The facility runs east-west and stretches from Guilford College Road to W Gate City Boulevard. This roadway has a posted speed limit of 40 mph and services primarily residential land uses with a small section of commercial. Per 2018 NCDOT Average Annual Daily Traffic (AADT) maps, Mackay Rd carries 4,800 vehicles per day (VPD) and 11,000 VPD west and east of Adams Farm Parkway, respectively. At full build-out the proposed development will have six (6) driveway connections to Mackay Road.

SR 1640 (Thornwood Road) is a two-lane undivided facility that runs east-west in the project study area. The facility has a posted speed limit of 25 mph and primarily residential land uses. Currently, no AADT data is available for Thornwood Road.

SR 1546 (Guilford College Road) is a four-lane divided facility that runs northwest-southeast in the project study area. The facility stretches from W Market Street to Vickrey Chapel Road and has a posted speed limit of 45 mph. Along its length Guilford College Road services residential and commercial developments. Per 2018 NCDOT AADT maps, this roadway carries 16,000 VPD and 6,500 VPD north and south of Guilford Road, respectively. At full build-out the proposed development will have four (4) driveway connections to Guilford College Road.

Adams Farm Parkway is a two-lane facility with divided and undivided sections over its length. The facility runs north-south and connects Mackay Road to Hilltop Road). This roadway has a posted speed limit of 35 mph and services primarily residential land uses. Per 2018 NCDOT AADT maps, Adams Farm Parkway carries 10,000 VPD on its northern end and 7,400 at its southern end.

SR 4121 (W Gate City Boulevard) is a six-lane divided facility that runs southwest-northeast from Jamestown, NC to Greensboro, NC. This facility serves a variety of land uses over its length and connects to many major routes. Within the study area, this roadway has a posted speed limit of 45 mph. Per 2018 NCDOT AADT maps, W Gate City Boulevard carries 13,000 VPD and 12,000 VPD north and south of Mackay Road, respectively.

SR 4193 (High Point Road) is a three-lane undivided facility that circles to connect to W Gate City Boulevard at two different locations. This facility serves primarily residential land uses with a small section of commercial, and has a posted speed limit of 45 mph. Per 2018 NCDOT AADT maps, High Point Road carries 5,000 VPD and 4,800 VPD north and south of SR 1372 (Alamance Road), respectively.

SR 4255 (Jamestown Parkway) is a six-lane divided facility that runs north-south and serves as an extension of W Gate City Boulevard to connect to SR 4228 (Vickrey Chapel Road). The facility runs alongside residential developments as well as Guilford Technical Community College, Ragsdale High School, and Mills Road Elementary School.

SR 4228 (Vickrey Chapel Road) is a two-lane undivided facility that runs approximately east-west and connects Jamestown Pkwy to E Main Street. The facility has a posted speed limit of 35 mph and services residential land uses as well as providing access to Ragsdale High School. Per 2018 NCDOT AADT maps, Vickrey Chapel Road carries 4,500 VPD and 2,900 VPD east and west of Harvey Road, respectively.

SR 4241 (Guilford Road) is a two-lane undivided facility that runs approximately north-south and stretches from Guilford College Road to E Main Street. The facility services primarily residential land uses and has a posted speed limit of 35 mph. Per 2018 NCDOT AADT maps, Guilford Road carries 12,000 VPD and 15,000 VPD north and south of E Fork Road, respectively.

SR 1628 (Cedarwood Drive) is an undivided two-lane facility that runs east-west and connects to Guilford College Road. The facility services residential land uses and has a posted speed limit of 25 mph. Currently, no AADT data is available for Cedarwood Drive.

Jordan Creek Drive, Renaissance Parkway, Brookrun Drive, and Jamestown Square Drive are local facilities that service residential developments. Currently, no AADT data is available for these facilities. Brookrun Drive has a posted speed limit of 25 mph. Jamestown Square Drive has a posted speed limit of 20 mph. Jordan Creek Drive and Renaissance Parkway were both assumed to have a 25 mph speed limit.

2.3 EXISTING INTERSECTIONS

Using available aerial imagery and site visits, Timmons Group compiled the existing geometry for the study area intersection. The existing intersection geometry is shown on Figure 2-2 and used for the existing and future analyses.

Mackay Road / Thornwood Road / Guilford College Road is a five-phased signalized intersection with protected-only left-turn phasing on the north and southbound approaches and permitted-only left-turn phasing on the east and westbound approaches. The north and southbound approaches consist of an exclusive left-turn lane, two through lanes, and an exclusive right turn lane. The eastbound approach consists of an exclusive left-turn lane and a shared through / right-turn lane. The westbound approach consists of an exclusive left-turn lane, a through lane, and a channelized right-turn lane.*

*Pavement markings and signage suggests a yield condition for the westbound right-turning movement; however, per the provided signal plan (see Appendix C), the movement is detected.

Mackay Road / Jordan Creek Drive is an unsignalized intersection with the southbound approach encountering the stopped condition. The southbound approach consists of a shared left / right-turn lane. The eastbound approach consists of a shared left-turn / through lane. The westbound approach consists of shared through / right-turn lane. As part of Phase 2 of the proposed development, Site Driveway #7 will be constructed and form the fourth leg of this intersection.

Mackay Road / Renaissance Parkway is unsignalized intersection with the southbound approach encountering the stopped condition. The southbound approach consists of a shared left / right-turn lane. The eastbound approach consists of an exclusive left-turn lane and a through lane. The westbound approach consists of a through lane and an exclusive right-turn lane. As part of Phase 1 of the proposed development, Site Driveway #8 will be constructed and form the fourth leg of this intersection.

Mackay Road / Brookrun Drive is unsignalized intersection with the southbound approach encountering the stopped condition. The southbound approach consists of a shared left / right-turn lane. The eastbound approach consists of an exclusive left-turn lane and a through lane. The westbound approach consists of a through lane and an exclusive right-turn lane. As part of Phase 1 of the proposed development, Site Driveway #9 will be constructed and form the fourth leg of this intersection.

Mackay Road / Kildare Woods Drive is unsignalized intersection with the southbound approach encountering the stopped condition. The southbound approach consists of a shared left / right-turn lane. The eastbound approach consists of an exclusive left-turn lane and a through lane. The westbound approach consists of two through lanes and an exclusive right-turn lane. As part of Phase 3 of the proposed development, Site Driveway #10 will be constructed and form the fourth leg of this intersection.

Mackay Road / Adams Farm Parkway is a three-phased signalized intersection with split side-street phasing on the north and southbound approaches and permitted-only left-turn phasing on the east and westbound approaches. The northbound approach consists a single shared left / through / right-turn lane. The south, east, and westbound approaches consists of an exclusive left-turn lane and a shared through / right-turn lane.

Mackay Road / W Gate City Boulevard is a six-phased signalized intersection with protected-only left-turn phasing on the north and eastbound approaches and protected-permitted left-turn phasing on the southbound approach. Permitted-only left-turn phasing is present on the westbound approach. The northbound approach consists of dual left-turn lanes, two through lanes, and a shared through / right-turn lane. The southbound approach consists of an exclusive left-turn lane, three through lanes, and an exclusive right-turn lane. The eastbound approach consists of dual left-turn lanes, a through lane, and an

exclusive right-turn lane. The southbound approach consists of an exclusive left-turn lane and a shared through / right -turn lane.

W Gate City Boulevard / High Point Road is an eight-phase signalized intersection with protected-permitted left-turn phasing on the north and southbound approaches and protected-only left-t-turn phasing on the east and westbound approaches. The north and southbound approaches consist of an exclusive left-turn lane, three through lanes, and an exclusive right-turn lane. The east and westbound approaches consist of dual left-turn lanes and a shared through/ right-turn lane.

W Gate City Boulevard / Jamestown Parkway / Guilford College Road is a six-phased signalized intersection with protected-only left-turn phasing on the north, south, and eastbound approaches. Permitted-only left-turn phasing is present on the westbound approach. The north and southbound approaches consist of dual left-turn lanes, three through lanes, and an exclusive right-turn lane. The eastbound approach consists of dual left-turn lanes, two through lanes, and an exclusive right-turn lane. The westbound approach consists of an exclusive left-turn lane two through lanes, and an exclusive right-turn lane.

Jamestown Parkway / Vickrey Chapel Road is a three-phased signalized intersection with protected-only left-turn phasing on the eastbound approach. The southbound approach consists of dual left-turn lanes and an exclusive right-turn lane. The eastbound approach consists of dual left-turn lanes and two through lanes. The westbound approach consists of a through lane and channelized right-turn lane that operates under the yield condition.

Guilford College Road / Jamestown Square Drive is an unsignalized intersection with the northbound approach encountering the stopped condition. The northbound approach consists of exclusive left and right-turn lanes. The eastbound approach consists of an exclusive U-turn lane, two through lanes, and an exclusive right-turn taper. The westbound approach consists of an exclusive left-turn lane and two through lanes. As part of Phase 3 of the proposed development, Site Driveway #1 will be constructed and form the fourth leg of this intersection.

Guilford College Road / Guilford Road is a three phased signalized intersection with protected-only northbound left-turn phasing and permitted-only southbound U-turn phasing. The northbound approach consists of an exclusive left-turn lane and two through lanes. The southbound approach consists of an exclusive U-turn lane, two through lanes, and an exclusive right-turn lane. The eastbound approach consists of dual left-turn lanes and an exclusive right-turn lane. As part of Phase 1 of the proposed development, Site Driveway #3 will be constructed and form the fourth leg of this intersection.

Guilford College Road / Cedarwood Drive is an unsignalized intersection with the eastbound approach encountering the stopped condition. The northbound approach consists of an exclusive left-turn lane and two through lanes. The southbound approach consists of an exclusive U-turn lane, two through lanes, and an exclusive right-turn lane.

2.4 TRAFFIC VOLUMES

Timmons Group calculated peak hour volumes for the study area intersections using the AM (7:00 – 9:00) and PM (4:00 – 6:00) peak period turning movement counts undertaken on November 2019, December 2019, and January 2020. Traffic count data is summarized in Figure 2-3. The complete traffic count data can be found in Appendix B. 2019 Balanced traffic volumes are shown on Figure 2-4*. To complete the 2020 Existing analyses, Timmons Group grew all 2019 Balanced Traffic Volumes by a 2% ambient growth rate for one (1) year (see Figure 2-5)*.

*Since some counts were collected in 2020, the methodology used represents a worst-case scenario from a traffic perspective.

It should be noted that counts were not conducted at the intersection Guilford College Road / Jamestown Square Drive due to its low assumed traffic volume. A minimum of 4 vehicles per movement was used.

2.5 CAPACITY ANALYSIS

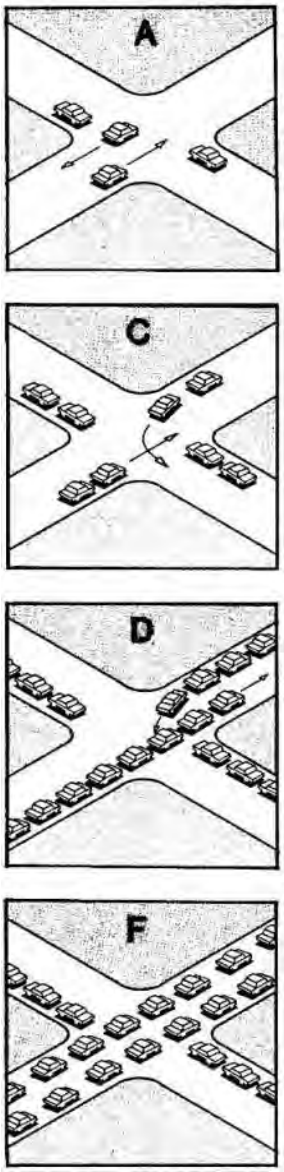
Using field observations, aerial photography, and traffic count data, traffic operations were analyzed during 2020 (existing) and 2023, 2025, and 2027 (without and with the proposed development site trips).

Capacity analysis allows traffic engineers to determine the impacts of traffic on the surrounding roadway network. The Transportation Research Board's (TRB) *Highway Capacity Manual* (HCM) methodologies govern how the capacity analyses are conducted and how the results are interpreted. There are six letter grades of Levels of Service (LOS) from A to F, with LOS A representing the best operating conditions and LOS F the worst operating conditions. At signalized intersections, an overall intersection LOS E is generally considered unacceptable. At unsignalized intersections, a LOS E is generally considered acceptable only if the side street encounters delay. Nevertheless, side streets typically function at a LOS F during peak traffic periods, because the traffic volumes often do not warrant a traffic signal to assist side street traffic. Table 2-1 shows in detail how each of these levels of service are interpreted.

Table 2-1: Level of Service Definitions

Level of Service	Roadway Segments or Controlled Access Highways	Intersections
A	Free flow, low traffic density.	No vehicle waits longer than one signal indication.
B	Delay is not unreasonable, stable traffic flow.	On a rare occasion motorists wait through more than one signal indication.
C	Stable condition, movements somewhat restricted due to higher volumes, but not objectionable for motorists.	Intermittently drivers wait through more than one signal indication, and occasionally backups may develop behind left turning vehicles, traffic flow still stable and acceptable.
D	Movements more restricted, queues and delays may occur during short peaks, but lower demands occur often enough to permit clearing, thus preventing excessive backups.	Delays at intersections may become extensive with some, especially left-turning vehicles waiting two or more signal indications, but enough cycles with lower demand occur to permit periodic clearance, thus preventing excessive backups.
E	Actual capacity of the roadway invloves delay to all motorists due to congestion.	Very long queues may create lengthly delays, especially for left-turning vehicles.
F	Forced flow with demand volumes greater than capacity resulting in complete congestion. Volumes drop to zero in extreme cases.	Backups from locations downstream restrict or prevent movement of vehicles out of approach creating a storage ares during part or all of an hour.

SOURCE: *"A Policy on Design of Design of Urban Highways and Arterial Streets"* - AASHTO, 1973 based upon material published in *"Highway Capacity Manual"*, National Academy of Sciences, 1965.



For signalized and unsignalized intersections, level of service is defined in terms of delay, a measure of driver discomfort, frustration, fuel consumption and lost travel time. Table 2-2 summarizes the delay associated with each LOS category:

Table 2-2: Signalized and Unsignalized Intersection Level of Service Criteria

Signalized Intersections		Unsignalized Intersections	
Level of Service	Control Delay per Vehicle (sec/veh)	Level of Service	Average Control Delay (sec/veh)
A	≤ 10	A	0 to 10
B	> 10 to ≤ 20	B	> 10 to ≤ 15
C	> 20 to ≤ 35	C	> 15 to ≤ 25
D	> 35 to ≤ 55	D	> 25 to ≤ 35
E	> 55 to ≤ 80	E	> 35 to ≤ 50
F	> 80	F	> 50

Source: Exhibit 16-2 and Exhibit 17-2 from TRB's "Highway Capacity Manual 2000"

Capacity analyses were performed to assess operational conditions. Study area intersections were analyzed using SYNCHRO Version 10.3 based on Highway Capacity Manual (HCM) methodologies with the following assumptions:

- Existing grades;
- 12-foot lane widths;
- No parking activity, bus stops, or pedestrians;
- AM and PM Peak Hour Factors (PHFs) of 0.90;
- Heavy vehicle percentages 2%;
- Minimum turning movement of 4 vehicles per hour (VPH) for all allowed movements with exception of U-turn movements;
- Existing signal data found in the provided traffic signal plans (see Appendix C).

In order to avoid coding conflicts in SYNCHRO, all existing U-turning volumes were added to the corresponding left-turning volumes (if applicable).

- C — CHURCH/CIVIC
- FM — FARMERS MARKET
- MU — MIXED-USE
- C/I — CIVIC/INSTITUTIONAL
- T1 — TOWNHOUSE 1, 20' X 100' LOTS
- T2 — TOWNHOUSE 2, 22' X 100' LOTS
- S1 — SINGLE FAMILY 1, 53' X 120' LOTS
- S2 — SINGLE FAMILY 2 AGE -TARGETED, 50' X 130' LOTS
- S3 — SINGLE FAMILY 3, 55' X 130' LOTS

- 1 — MAIN AMENITY AREA
- 2 — OPEN SPACE/NATURAL AREA
- 3 — SPORTS FIELDS

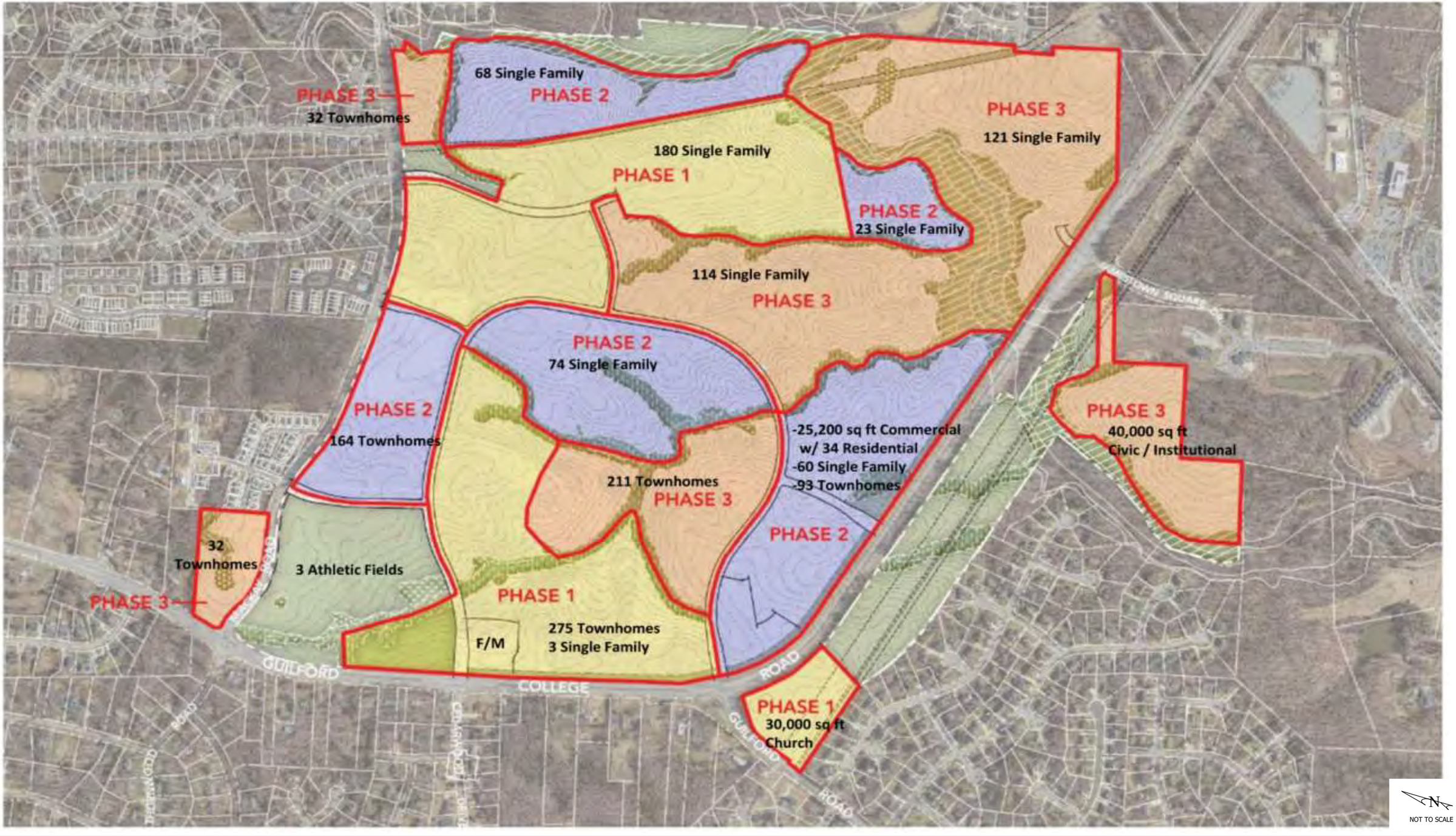


NOT TO SCALE

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Castleton Village
Traffic Impact Analysis
Site Plan

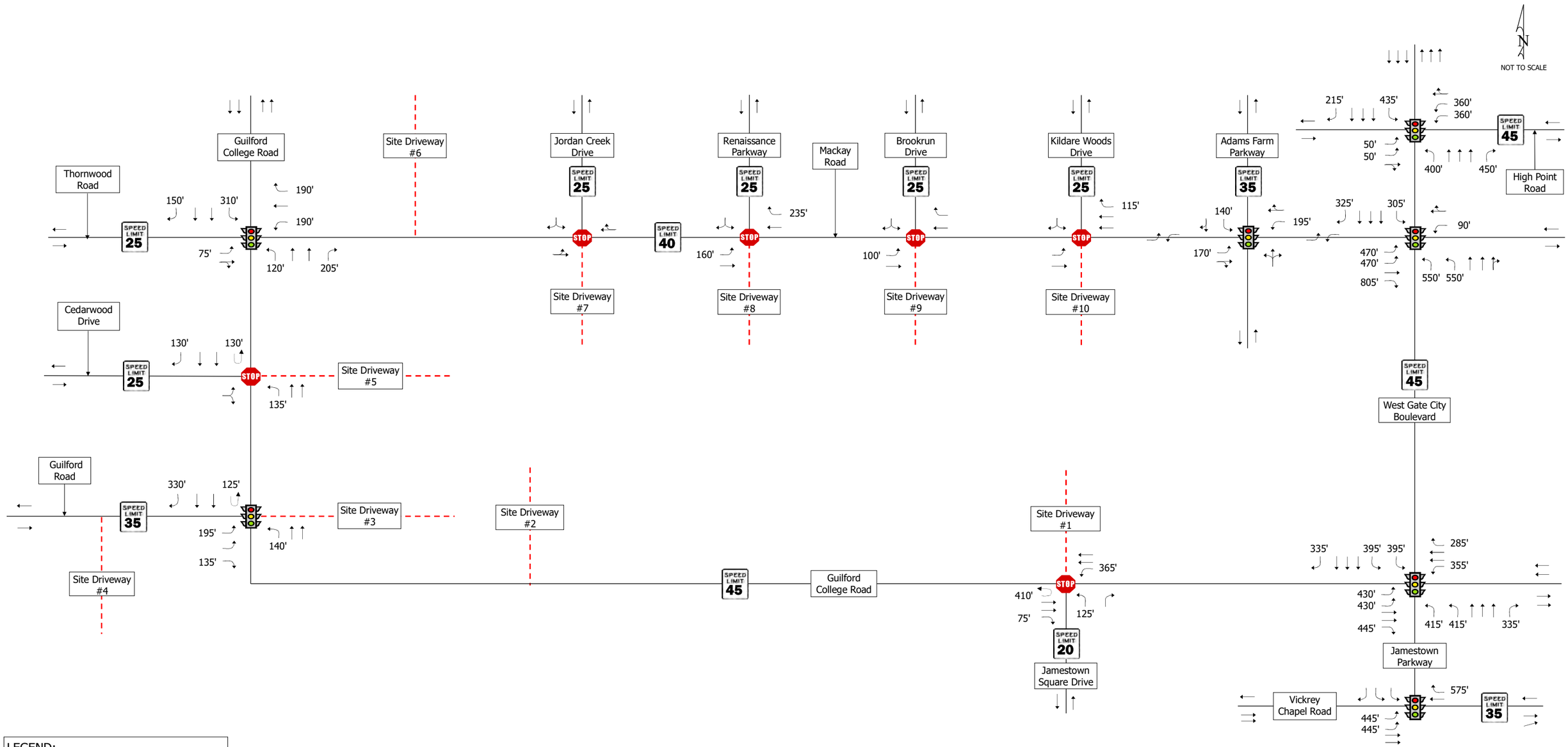
Figure 2-1a



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Castleton Village
Traffic Impact Analysis
Site Plan Phasing

Figure 2-1b



LEGEND:

- Existing Road
- Proposed Road
- Signalized Intersection
- Unsignalized Intersection
- Lane Configuration

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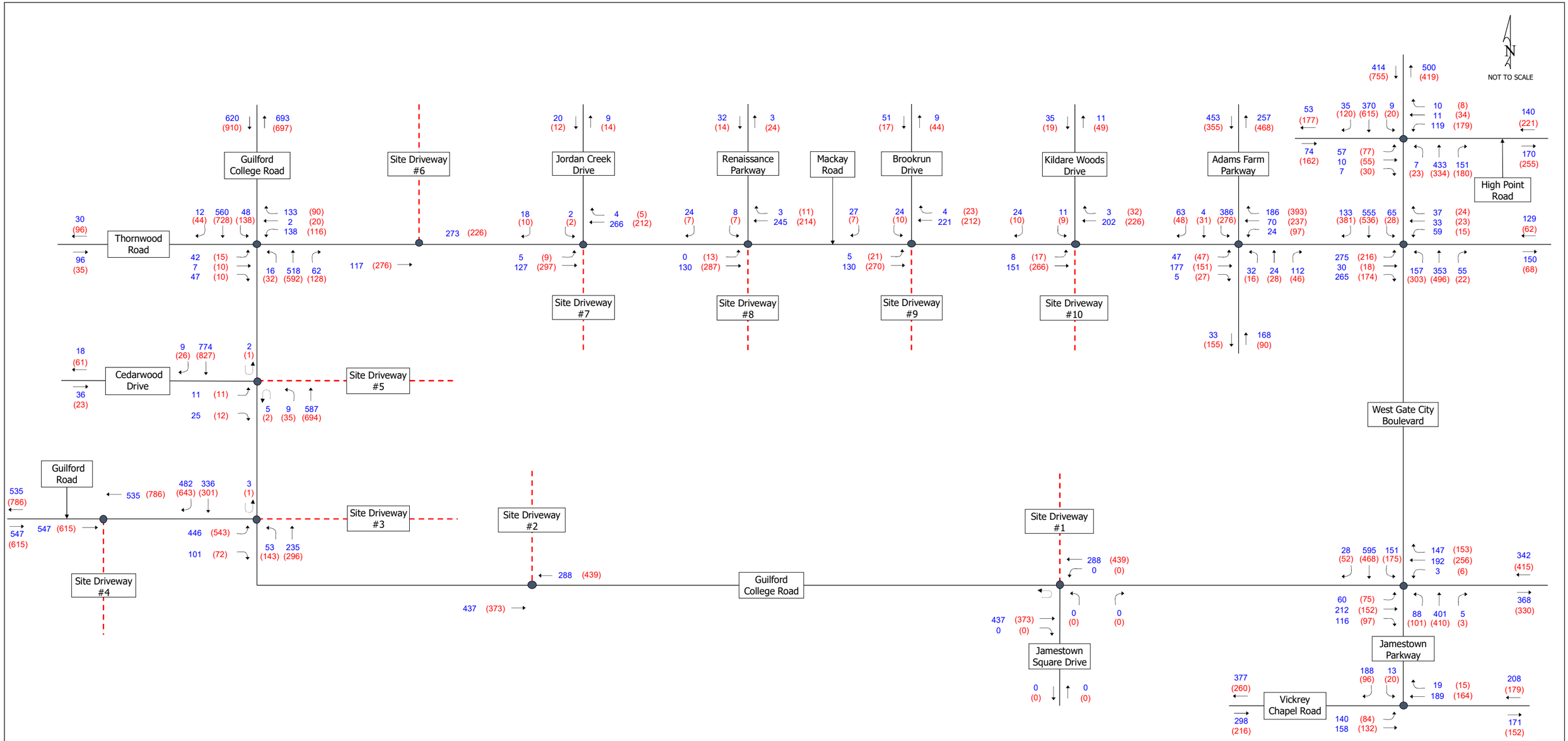
Castleton Village Traffic Impact Analysis

Existing Lane Configuration

Figure 2-2



LEGEND:

- Existing Road
- Proposed Road
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)

TIMMONS GROUP
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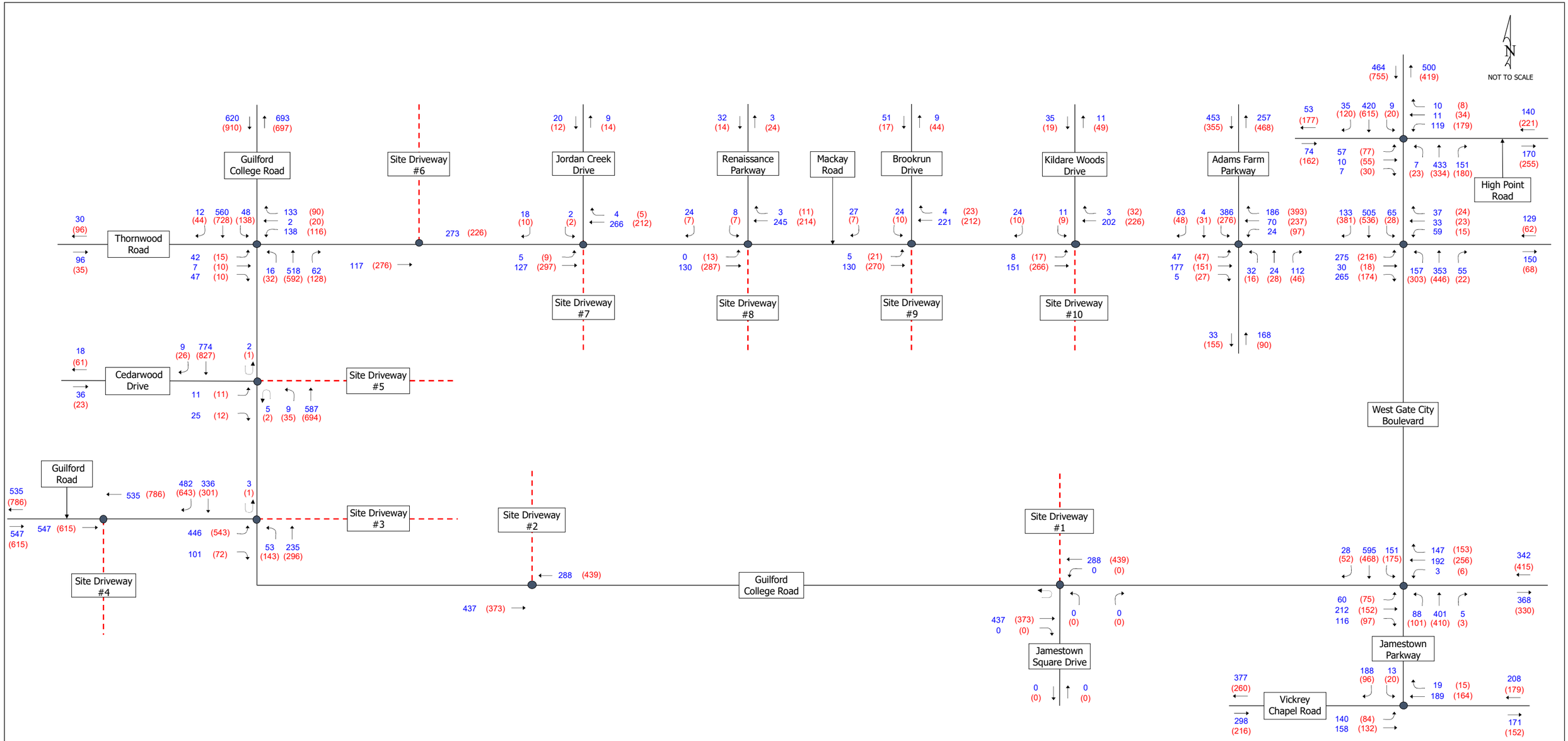
Castleton Village Traffic Impact Analysis

2019 Existing Traffic Volumes

Figure 2-3



LEGEND:

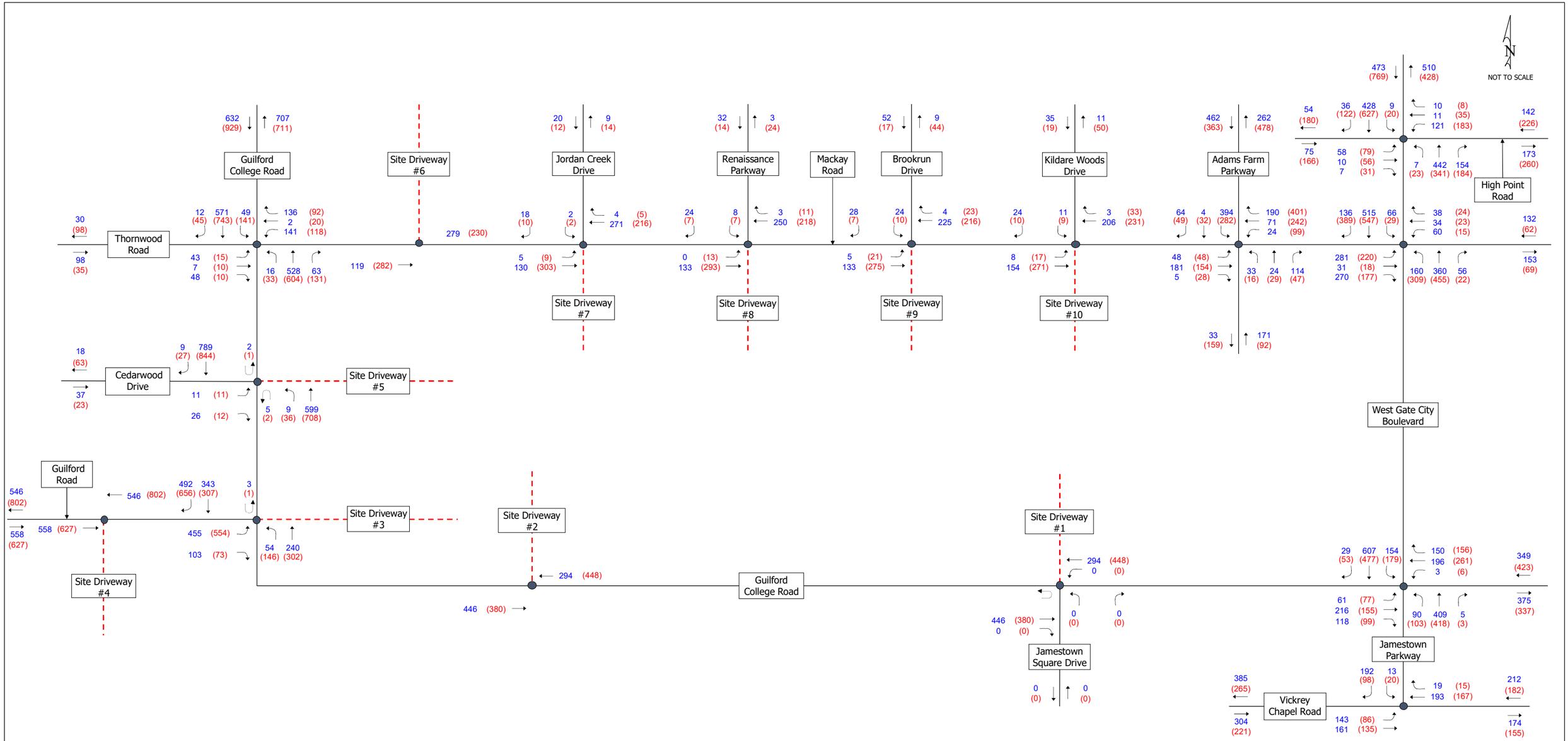
- Existing Road
- Proposed Road
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Castleton Village Traffic Impact Analysis

2019 Balanced Traffic Volumes

Figure 2-4



LEGEND:

- Existing Road
- Proposed Road
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Castleton Village Traffic Impact Analysis

2020 Traffic Volumes

Figure 2-5

3 EXISTING AND BACKGROUND CONDITIONS AND ANALYSIS

3.1 2020 ANALYSES

Table 3-1 summarizes the 2020 Existing intersection LOS and delay based on the geometry shown on Figure 2-2 and the 2020 traffic volumes shown on Figure 2-5. The corresponding SYNCHRO outputs are included in Appendix D.

The unsignalized intersection of Mackay Road / Jordan Creek Drive is currently operating at a LOS B or better on all approaches during the 2020 Existing AM and PM peak hours.

The unsignalized intersection of Mackay Road / Renaissance Parkway is currently operating at a LOS B or better on all approaches during the 2020 Existing AM and PM peak hours.

The unsignalized intersection of Mackay Road / Brookrun Drive is currently operating at a LOS B or better on all approaches during the 2020 Existing AM and PM peak hours.

The unsignalized intersection of Mackay Road / Kildare Woods Drive is currently operating at a LOS B or better on all approaches during the 2020 Existing AM and PM peak hours.

The unsignalized intersection of Guilford College Road / Jamestown Square Drive is currently operating at a LOS B or better on all approaches during the 2020 Existing AM and PM peak hours.

The unsignalized intersection of Guilford College Road / Cedarwood Drive is currently operating at a LOS D or better on all approaches during the 2020 Existing AM and PM peak hours.

The signalized intersection of Mackay Road / Thornwood Road / Guilford College Road is currently operating at a LOS B during both 2020 Existing AM and PM peak hours. All approaches are currently operating acceptably during both peak hours.

The signalized intersection of Mackay Road / Adams Farm Parkway is currently operating at a LOS C during both 2020 Existing AM and PM peak hours. All approaches are currently operating acceptably during both peak hours.

The signalized intersection of Mackay Road / W Gate City Boulevard is currently operating at a LOS C during both 2020 Existing AM and PM peak hours. The westbound approach is currently operating unacceptably during both peak hours.

The signalized intersection of W Gate City Boulevard / High Point Road is currently operating at a LOS B during the 2020 Existing AM peak hour and LOS C during the PM peak hour. The eastbound and westbound approaches are currently operating unacceptably during both peak hours.

The signalized intersection of W Gate City Boulevard / Jamestown Parkway / Guilford College Road is currently operating at a LOS D during both 2020 Existing AM and PM peak hours. The eastbound and westbound approaches are currently operating unacceptably during both peak hours.

The signalized intersection of Jamestown Parkway / Vickrey Chapel Road is currently operating at a LOS A during both 2020 Existing AM and PM peak hours. All approaches are currently operating acceptably during both peak hours.

The signalized intersection of Guilford College Road / Guilford Road is currently operating at a LOS B during both 2020 Existing AM and PM peak hours. All approaches are currently operating acceptably during both peak hours.

Table 3-1: Intersection Level of Service and Delay – 2020 Traffic Volumes

Intersection and Type of Control	Movement and Approach	AM PEAK HOUR		PM PEAK HOUR	
		Delay [1] (sec/veh)	LOS [1]	Delay [1] (sec/veh)	LOS [1]
3: Mackay Rd & Jordan Creek Dr	EB Approach	0.3	A	0.2	A
	WB Approach	0.0	0	0.0	0
	SB Approach	10.2	B	10.6	B
4: Mackay Rd & Renaissance Pkwy	EB Approach	0.2	A	0.3	A
	WB Approach	0.0	0	0.0	0
	SB Approach	10.4	B	11.3	B
5: Mackay Rd & Brookrun Dr	EB Approach	0.3	A	0.6	A
	WB Approach	0.0	0	0.0	0
	SB Approach	10.7	B	11.7	B
6: Mackay Rd & Kildare Woods Dr	EB Approach	0.4	A	0.5	A
	WB Approach	0.0	0	0.0	0
	SB Approach	9.9	A	11.2	B
12: Jamestown Square Dr & Guilford College Rd	EB Approach	0.0	0	0.0	0
	WB Approach	0.1	A	0.1	A
	NB Approach	12.1	B	12.0	B
16: Guilford College Rd & Cedarwood Dr	EB Approach	17.7	C	25.4	D
	NB Approach	0.2	A	0.5	A
	SB Approach	0.0	0	0.0	0
1: Guilford College Rd & Thornwood Rd/Mackay Rd	EB Approach	17.2	B	20.7	C
	WB Approach	20.5	C	25.9	C
	NB Approach	14.4	B	16.4	B
	SB Approach	11.0	B	13.2	B
	Overall	14.3	B	16.1	B
7: Adams Farm Pkwy & Mackay Rd	EB Approach	26.0	C	18.8	B
	WB Approach	32.5	C	35.8	D
	NB Approach	37.6	D	40.3	D
	SB Approach	28.9	C	36.1	D
	Overall	30.5	C	33.4	C
8: W Gate City Blvd & Mackay Rd	EB Approach	53.2	D	36.2	D
	WB Approach	***61.0***	***E***	***63.7***	***E***
	NB Approach	33.1	C	39.0	D
	SB Approach	16.1	B	24.2	C
	Overall	34.7	C	32.7	C
9: W Gate City Blvd & High Point Rd	EB Approach	***77.8***	***E***	***80.6***	***F***
	WB Approach	***78.8***	***E***	***76.5***	***E***
	NB Approach	5.2	A	9.2	A
	SB Approach	5.0	A	11.0	B
	Overall	17.4	B	25.9	C
10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd	EB Approach	***72.0***	***F***	***68.5***	***E***
	WB Approach	***84.8***	***F***	***82.1***	***F***
	NB Approach	27.4	C	31.2	C
	SB Approach	27.8	C	33.6	C
	Overall	46.1	D	49.1	D
11: Vickrey Chapel Rd & Jamestown Pkwy	EB Approach	6.5	A	5.7	A
	WB Approach	9.8	A	8.9	A
	SB Approach	11.5	B	10.1	B
	Overall	8.9	A	7.8	A
14: Guilford College Rd & Guilford Rd	EB Approach	14.9	B	14.9	B
	NB Approach	7.0	A	9.8	A
	SB Approach	11.0	B	12.5	B
	Overall	11.6	B	12.7	B

[1] *Overall intersection LOS and delay reported for signalized intersections and roundabouts only.*

† SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

3.2 BACKGROUND TRAFFIC VOLUMES

Figures 3-1, 3-2, and 3-3 show the Background traffic volumes for 2023, 2025, and 2027, respectively. The Background traffic volumes were calculated by multiplying 2020 existing balanced traffic volumes by a 2% growth rate for three, five, and seven years, respectively.

Per discussions with the Town and NCDOT (see Appendix A), there are currently there are no approved developments in the project study area that will be partially or fully built-out by 2027.

Currently, there is one public STIP project scheduled for completion within the project study area: U-2412A (see Appendix F). This project is currently under construction* and is creating a section of the US 311 Bypass. This section will connect Greensboro Road to the intersection of Jamestown Parkway / Vickrey Chapel Road in Jamestown, NC.

*Several NCDOT projects have been postponed or cancelled due to the NCDOT budgetary constraints exacerbated by the COVID-19 pandemic. To represent a worst-case scenario from a traffic capacity perspective, it was assumed that U-2412A would not be constructed by 2027. U-2412A was only assumed to be constructed during the 2040 Horizon year analysis.

3.3 2023 BACKGROUND TRAFFIC ANALYSIS

Table 3-2 summarizes the 2023 Background intersection LOS and delay based on the geometry shown in Figure 2-2. The corresponding SYNCHRO outputs are included in Appendix D.

The unsignalized intersection of Mackay Road / Jordan Creek Drive is projected to operate at a LOS B or better on all approaches during the 2023 Background AM and PM peak hours.

The unsignalized intersection of Mackay Road / Renaissance Parkway is projected to operate at a LOS B or better on all approaches during the 2023 Background AM and PM peak hours.

The unsignalized intersection of Mackay Road / Brookrun Drive is projected to operate at a LOS B or better on all approaches during the 2023 Background AM and PM peak hours.

The unsignalized intersection of Mackay Road / Kildare Woods Drive is projected to operate at a LOS B or better on all approaches during the 2023 Background AM and PM peak hours.

The unsignalized intersection of Guilford College Road / Jamestown Square Drive is projected to operate at a LOS B or better on all approaches during the 2023 Background AM and PM peak hours.

The unsignalized intersection of Guilford College Road / Cedarwood Drive is projected to operate at a LOS D or better on all approaches during the 2023 Background AM and PM peak hours.

Using existing signal timings, the signalized intersection of Mackay Road / Thornwood Road / Guilford College Road is projected to operate at a LOS B during both the 2023 Background AM and PM peak hours. All approaches are projected to operate acceptably during both peak hours.

Using existing signal timings, the signalized intersection of Mackay Road / Adams Farm Parkway is projected to operate at a LOS C during the 2023 Background AM peak hour and a LOS D during the PM peak hour. All approaches are projected to operate acceptably during both peak hours.

Using existing signal timings, the signalized intersection of Mackay Road / W Gate City Boulevard is projected to operate at a LOS C during both the 2023 Background AM and PM peak hours. The westbound approach is projected to operate unacceptably during both peak hours.

Using existing signal timings, the signalized intersection of W Gate City Boulevard / High Point Road is projected to operate at a LOS B during the 2023 Background AM peak hour and LOS C during the PM peak hour. The eastbound and westbound approaches are projected to operate unacceptably during both peak hours.

Using existing signal timings, the signalized intersection of W Gate City Boulevard / Jamestown Parkway / Guilford College Road is projected to operate at a LOS D during both the 2023 Background AM and PM peak hours. The eastbound and westbound approaches are projected to operate unacceptably during both peak hours.

Using existing signal timings, the signalized intersection of Jamestown Parkway / Vickrey Chapel Road is projected to operate at a LOS A during both the 2023 Background AM and PM peak hours. All approaches are projected to operate acceptably during both peak hours.

Using existing signal timings, the signalized intersection of Guilford College Road / Guilford Road is projected to operate at a LOS B during both the 2023 Background AM and PM peak hours. All approaches are projected to operate acceptably during both peak hours.

Table 3-2: Intersection Level of Service and Delay – 2023 Background Traffic Volumes

Intersection and Type of Control	Movement and Approach	AM PEAK HOUR		PM PEAK HOUR	
		Delay [1] (sec/veh)	LOS [1]	Delay [1] (sec/veh)	LOS [1]
3: Mackay Rd & Jordan Creek Dr	EB Approach	0.3	A	0.2	A
	WB Approach	0.0	0	0.0	0
	SB Approach	10.5	B	10.7	B
4: Mackay Rd & Renaissance Pkwy	EB Approach	0.2	A	0.3	A
	WB Approach	0.0	0	0.0	0
	SB Approach	10.6	B	11.6	B
5: Mackay Rd & Brookrun Dr	EB Approach	0.3	A	0.6	A
	WB Approach	0.0	0	0.0	0
	SB Approach	11.0	B	12.0	B
6: Mackay Rd & Kildare Woods Dr	EB Approach	0.4	A	0.5	A
	WB Approach	0.0	0	0.0	0
	SB Approach	10.1	B	11.5	B
12: Jamestown Square Dr & Guilford College Rd	EB Approach	0.0	0	0.0	0
	WB Approach	0.1	A	0.1	A
	NB Approach	12.4	B	12.4	B
16: Guilford College Rd & Cedarwood Dr	EB Approach	19.4	C	28.8	D
	NB Approach	0.2	A	0.5	A
	SB Approach	0.0	0	0.0	0
1: Guilford College Rd & Thornwood Rd/Mackay Rd	EB Approach	17.5	B	21.1	C
	WB Approach	20.9	C	26.6	C
	NB Approach	15.0	B	16.8	B
	SB Approach	11.7	B	14.0	B
	Overall	14.9	B	16.7	B
7: Adams Farm Pkwy & Mackay Rd	EB Approach	26.7	C	24.1	C
	WB Approach	34.0	C	46.4	D
	NB Approach	38.8	D	41.3	D
	SB Approach	31.8	C	36.5	D
	Overall	32.3	C	40.0	D
8: W Gate City Blvd & Mackay Rd	EB Approach	51.7	D	34.7	C
	WB Approach	***60.4***	***E***	***63.8***	***E***
	NB Approach	34.1	C	38.9	D
	SB Approach	17.1	B	26.5	C
	Overall	34.8	C	33.5	C
9: W Gate City Blvd & High Point Rd	EB Approach	***77.9***	***E***	***80.6***	***F***
	WB Approach	***78.7***	***E***	***76.3***	***E***
	NB Approach	5.4	A	9.6	A
	SB Approach	6.1	A	11.7	B
	Overall	18.0	B	26.2	C
10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd	EB Approach	***71.5***	***E***	***67.8***	***E***
	WB Approach	***84.5***	***F***	***81.6***	***F***
	NB Approach	28.0	C	31.9	C
	SB Approach	28.3	C	34.0	C
	Overall	46.2	D	49.2	D
11: Vickrey Chapel Rd & Jamestown Pkwy	EB Approach	6.5	A	5.7	A
	WB Approach	10.0	B	9.1	A
	SB Approach	11.7	B	10.2	B
	Overall	9.0	A	7.9	A
14: Guilford College Rd & Guilford Rd	EB Approach	14.6	B	15.3	B
	NB Approach	7.8	A	10.0	A
	SB Approach	11.6	B	13.4	B
	Overall	11.9	B	13.2	B

[1] *Overall intersection LOS and delay reported for signalized intersections and roundabouts only.*

† SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

3.4 2025 BACKGROUND TRAFFIC ANALYSIS

Table 3-3 summarizes the 2025 Background intersection LOS and delay based on the geometry shown in Figure 2-2. The corresponding SYNCHRO outputs are included in Appendix D.

The unsignalized intersection of Mackay Road / Jordan Creek Drive is projected to operate at a LOS B or better on all approaches during the 2025 Background AM and PM peak hours.

The unsignalized intersection of Mackay Road / Renaissance Parkway is projected to operate at a LOS B or better on all approaches during the 2025 Background AM and PM peak hours.

The unsignalized intersection of Mackay Road / Brookrun Drive is projected to operate at a LOS B or better on all approaches during the 2025 Background AM and PM peak hours.

The unsignalized intersection of Mackay Road / Kildare Woods Drive is projected to operate at a LOS B or better on all approaches during the 2025 Background AM and PM peak hours.

The unsignalized intersection of Guilford College Road / Jamestown Square Drive is projected to operate at a LOS B or better on all approaches during the 2025 Background AM and PM peak hours.

The unsignalized intersection of Guilford College Road / Cedarwood Drive is projected to operate at a LOS D or better on all approaches during the 2025 Background AM and PM peak hours.

Using existing signal timings, the signalized intersection of Mackay Road / Thornwood Road / Guilford College Road is projected to operate at a LOS B during both the 2025 Background AM and PM peak hours. All approaches are projected to operate acceptably during both peak hours.

Using existing signal timings, the signalized intersection of Mackay Road / Adams Farm Parkway is projected to operate at a LOS C during the 2025 Background AM peak hour and a LOS D during the PM peak hour. The westbound approach is projected to operate unacceptably during the PM peak hour.

Using existing signal timings, the signalized intersection of Mackay Road / W Gate City Boulevard is projected to operate at a LOS D during the 2025 Background AM peak hour and a LOS C during the PM peak hour. The westbound approach is projected to operate unacceptably during both peak hours.

Using existing signal timings, the signalized intersection of W Gate City Boulevard / High Point Road is projected to operate at a LOS B during the 2025 Background AM peak hour and LOS C during the PM peak hour. The eastbound and westbound approaches are projected to operate unacceptably during both peak hours.

Using existing signal timings, the signalized intersection of W Gate City Boulevard / Jamestown Parkway / Guilford College Road is projected to operate at a LOS D during both the 2025 Background AM and PM peak hours. The eastbound and westbound approaches are projected to operate unacceptably during both peak hours.

Using existing signal timings, the signalized intersection of Jamestown Parkway / Vickrey Chapel Road is projected to operate at a LOS A during both the 2025 Background AM and PM peak hours. All approaches are projected to operate acceptably during both peak hours.

Using existing signal timings, the signalized intersection of Guilford College Road / Guilford Road is projected to operate at a LOS B during both the 2025 Background AM and PM peak hours. All approaches are projected to operate acceptably during both peak hours.

Table 3-3: Intersection Level of Service and Delay – 2025 Background Traffic Volumes

Intersection and Type of Control	Movement and Approach	AM PEAK HOUR		PM PEAK HOUR	
		Delay [1] (sec/veh)	LOS [1]	Delay [1] (sec/veh)	LOS [1]
3: Mackay Rd & Jordan Creek Dr	EB Approach	0.3	A	0.2	A
	WB Approach	0.0	0	0.0	0
	SB Approach	10.6	B	10.9	B
4: Mackay Rd & Renaissance Pkwy	EB Approach	0.2	A	0.3	A
	WB Approach	0.0	0	0.0	0
	SB Approach	10.7	B	11.8	B
5: Mackay Rd & Brookrun Dr	EB Approach	0.3	A	0.6	A
	WB Approach	0.0	0	0.0	0
	SB Approach	11.1	B	12.2	B
6: Mackay Rd & Kildare Woods Dr	EB Approach	0.4	A	0.5	A
	WB Approach	0.0	0	0.0	0
	SB Approach	10.1	B	11.6	B
12: Jamestown Square Dr & Guilford College Rd	EB Approach	0.0	0	0.0	0
	WB Approach	0.1	A	0.1	A
	NB Approach	12.6	B	12.6	B
16: Guilford College Rd & Cedarwood Dr	EB Approach	20.4	C	30.6	D
	NB Approach	0.2	A	0.5	A
	SB Approach	0.0	0	0.0	0
1: Guilford College Rd & Thornwood Rd/Mackay Rd	EB Approach	17.7	B	21.5	C
	WB Approach	20.9	C	27.3	C
	NB Approach	15.6	B	17.0	B
	SB Approach	12.2	B	16.2	B
	Overall	15.3	B	17.9	B
7: Adams Farm Pkwy & Mackay Rd	EB Approach	27.2	C	25.4	C
	WB Approach	35.0	D	***58.4***	***E***
	NB Approach	39.3	D	41.9	D
	SB Approach	34.7	C	37.1	D
	Overall	33.9	C	46.6	D
8: W Gate City Blvd & Mackay Rd	EB Approach	50.5	D	33.2	C
	WB Approach	***60.2***	***E***	***63.3***	***E***
	NB Approach	34.9	C	39.3	D
	SB Approach	18.0	B	28.6	C
	Overall	35.0	D	34.2	C
9: W Gate City Blvd & High Point Rd	EB Approach	***77.8***	***E***	***80.6***	***F***
	WB Approach	***78.7***	***E***	***76.2***	***E***
	NB Approach	5.5	A	9.9	A
	SB Approach	6.2	A	12.8	B
	Overall	18.0	B	26.8	C
10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd	EB Approach	***71.3***	***E***	***67.3***	***E***
	WB Approach	***84.2***	***F***	***81.1***	***F***
	NB Approach	28.4	C	32.6	C
	SB Approach	28.6	C	34.3	C
	Overall	46.4	D	49.3	D
11: Vickrey Chapel Rd & Jamestown Pkwy	EB Approach	6.5	A	5.7	A
	WB Approach	10.2	B	9.2	A
	SB Approach	11.9	B	10.3	B
	Overall	9.1	A	8.0	A
14: Guilford College Rd & Guilford Rd	EB Approach	14.7	B	15.7	B
	NB Approach	8.1	A	10.0	B
	SB Approach	11.8	B	14.3	B
	Overall	12.1	B	13.8	B

[1] *Overall intersection LOS and delay reported for signalized intersections and roundabouts only.*

† SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

3.5 2027 BACKGROUND TRAFFIC ANALYSIS

Table 3-4 summarizes the 2027 Background intersection LOS and delay based on the geometry shown in Figure 2-2. The corresponding SYNCHRO outputs are included in Appendix D.

The unsignalized intersection of Mackay Road / Jordan Creek Drive is projected to operate at a LOS B or better on all approaches during the 2027 Background AM and PM peak hours.

The unsignalized intersection of Mackay Road / Renaissance Parkway is projected to operate at a LOS B or better on all approaches during the 2027 Background AM and PM peak hours.

The unsignalized intersection of Mackay Road / Brookrun Drive is projected to operate at a LOS B or better on all approaches during the 2027 Background AM and PM peak hours.

The unsignalized intersection of Mackay Road / Kildare Woods Drive is projected to operate at a LOS B or better on all approaches during the 2027 Background AM and PM peak hours.

The unsignalized intersection of Guilford College Road / Jamestown Square Drive is projected to operate at a LOS B or better on all approaches during the 2027 Background AM and PM peak hours.

The unsignalized intersection of Guilford College Road / Cedarwood Drive is projected to operate at a LOS D or better on all approaches during the 2027 Background AM and PM peak hours.

Using existing signal timings, the signalized intersection of Mackay Road / Thornwood Road / Guilford College Road is projected to operate at a LOS B during both the 2027 Background AM and PM peak hours. All approaches are projected to operate acceptably during both peak hours.

Using existing signal timings, the signalized intersection of Mackay Road / Adams Farm Parkway is projected to operate at a LOS D during both the 2027 Background AM and PM peak hours. The westbound approach is projected to operate unacceptably during the PM peak hour.

Using existing signal timings, the signalized intersection of Mackay Road / W Gate City Boulevard is projected to operate at a LOS D during the 2027 Background AM peak hour and a LOS C during the PM peak hour. The westbound approach is projected to operate unacceptably during both peak hours.

Using existing signal timings, the signalized intersection of W Gate City Boulevard / High Point Road is projected to operate at a LOS B during the 2027 Background AM peak hour and LOS C during the PM peak hour. The eastbound and westbound approaches are projected to operate unacceptably during both peak hours.

Using existing signal timings, the signalized intersection of W Gate City Boulevard / Jamestown Parkway / Guilford College Road is projected to operate at a LOS D during both the 2027 Background AM and PM peak hours. The eastbound and westbound approaches are projected to operate unacceptably during both peak hours.

Using existing signal timings, the signalized intersection of Jamestown Parkway / Vickrey Chapel Road is projected to operate at a LOS A during both the 2027 Background AM and PM peak hours. All approaches are projected to operate acceptably during both peak hours.

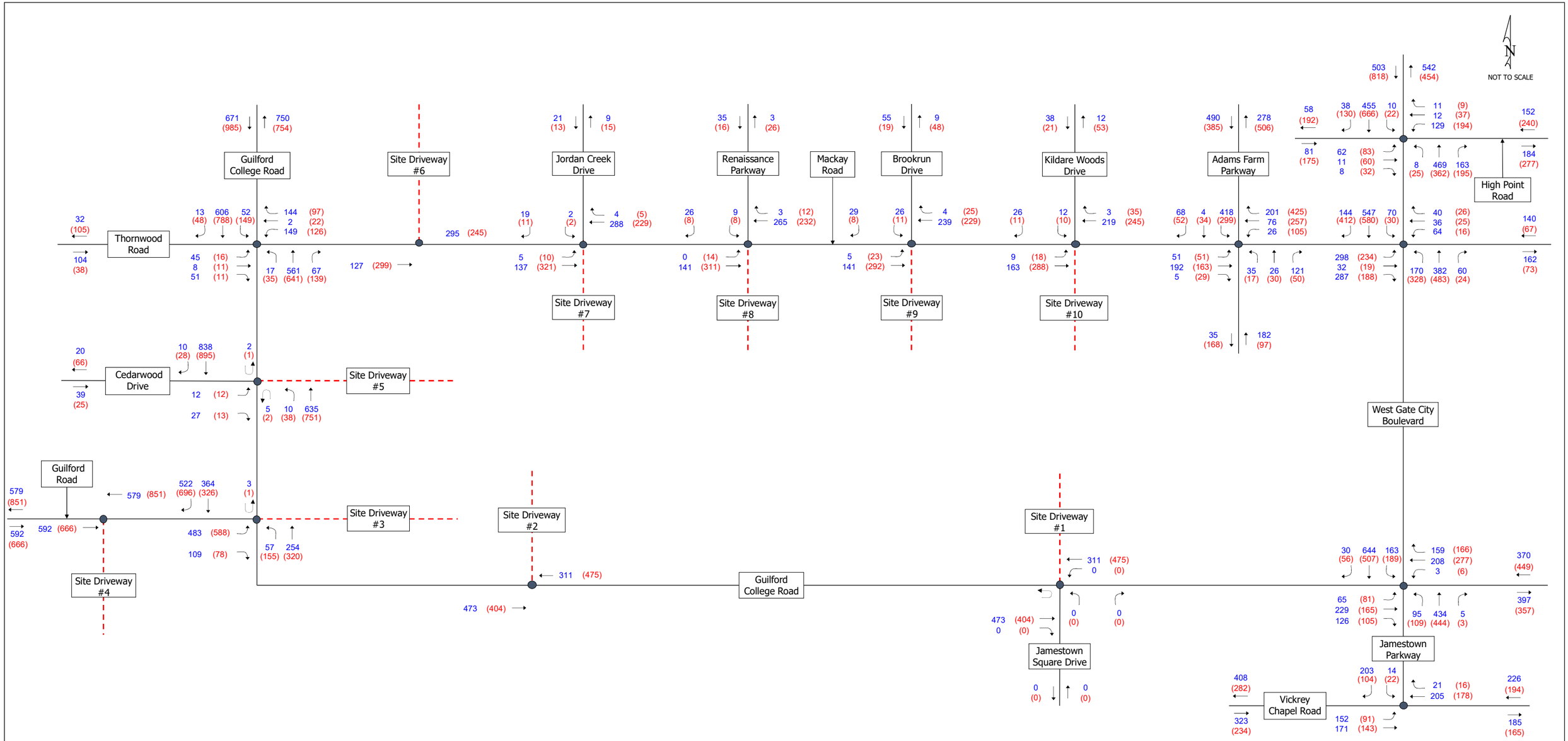
Using existing signal timings, the signalized intersection of Guilford College Road / Guilford Road is projected to operate at a LOS B during both the 2027 Background AM and PM peak hours. All approaches are projected to operate acceptably during both peak hours.

Table 3-4: Intersection Level of Service and Delay – 2027 Background Traffic Volumes

Intersection and Type of Control	Movement and Approach	AM PEAK HOUR		PM PEAK HOUR	
		Delay [1] (sec/veh)	LOS [1]	Delay [1] (sec/veh)	LOS [1]
3: Mackay Rd & Jordan Creek Dr	EB Approach	0.3	A	0.2	A
	WB Approach	0.0	0	0.0	0
	SB Approach	10.7	B	10.9	B
4: Mackay Rd & Renaissance Pkwy	EB Approach	0.2	A	0.3	A
	WB Approach	0.0	0	0.0	0
	SB Approach	10.8	B	12.0	B
5: Mackay Rd & Brookrun Dr	EB Approach	0.3	A	0.6	A
	WB Approach	0.0	0	0.0	0
	SB Approach	11.3	B	12.6	B
6: Mackay Rd & Kildare Woods Dr	EB Approach	0.4	A	0.5	A
	WB Approach	0.0	0	0.0	0
	SB Approach	10.2	B	11.9	B
12: Jamestown Square Dr & Guilford College Rd	EB Approach	0.0	0	0.0	0
	WB Approach	0.1	A	0.1	A
	NB Approach	13.0	B	12.9	B
16: Guilford College Rd & Cedarwood Dr	EB Approach	22.2	C	34.9	D
	NB Approach	0.3	A	0.6	A
	SB Approach	0.0	0	0.0	0
1: Guilford College Rd & Thornwood Rd/Mackay Rd	EB Approach	17.6	B	21.9	C
	WB Approach	20.7	C	27.9	C
	NB Approach	16.4	B	17.2	B
	SB Approach	12.9	B	16.9	B
	Overall	15.9	B	18.4	B
7: Adams Farm Pkwy & Mackay Rd	EB Approach	27.5	C	26.3	C
	WB Approach	35.8	D	***73.7***	***E***
	NB Approach	40.2	D	42.4	D
	SB Approach	38.7	D	37.1	D
	Overall	35.9	D	54.8	D
8: W Gate City Blvd & Mackay Rd	EB Approach	49.4	D	32.2	C
	WB Approach	***59.7***	***E***	***63.0***	***E***
	NB Approach	35.7	D	39.4	D
	SB Approach	18.9	B	30.4	C
	Overall	35.2	D	34.8	C
9: W Gate City Blvd & High Point Rd	EB Approach	***77.8***	***E***	***80.5***	***F***
	WB Approach	***78.7***	***E***	***76.0***	***E***
	NB Approach	5.6	A	10.2	B
	SB Approach	6.3	A	13.2	B
	Overall	18.0	B	27.0	C
10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd	EB Approach	***70.9***	***E***	***67.0***	***E***
	WB Approach	***83.8***	***F***	***80.6***	***F***
	NB Approach	28.8	C	33.2	C
	SB Approach	29.0	C	34.6	C
	Overall	46.5	D	49.4	D
11: Vickrey Chapel Rd & Jamestown Pkwy	EB Approach	6.4	A	5.7	A
	WB Approach	10.3	B	9.2	A
	SB Approach	12.1	B	10.3	B
	Overall	9.2	A	8.0	A
14: Guilford College Rd & Guilford Rd	EB Approach	14.8	B	16.2	B
	NB Approach	8.4	A	10.1	B
	SB Approach	12.2	B	15.4	B
	Overall	12.4	B	14.5	B

[1] *Overall intersection LOS and delay reported for signalized intersections and roundabouts only.*

† SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.



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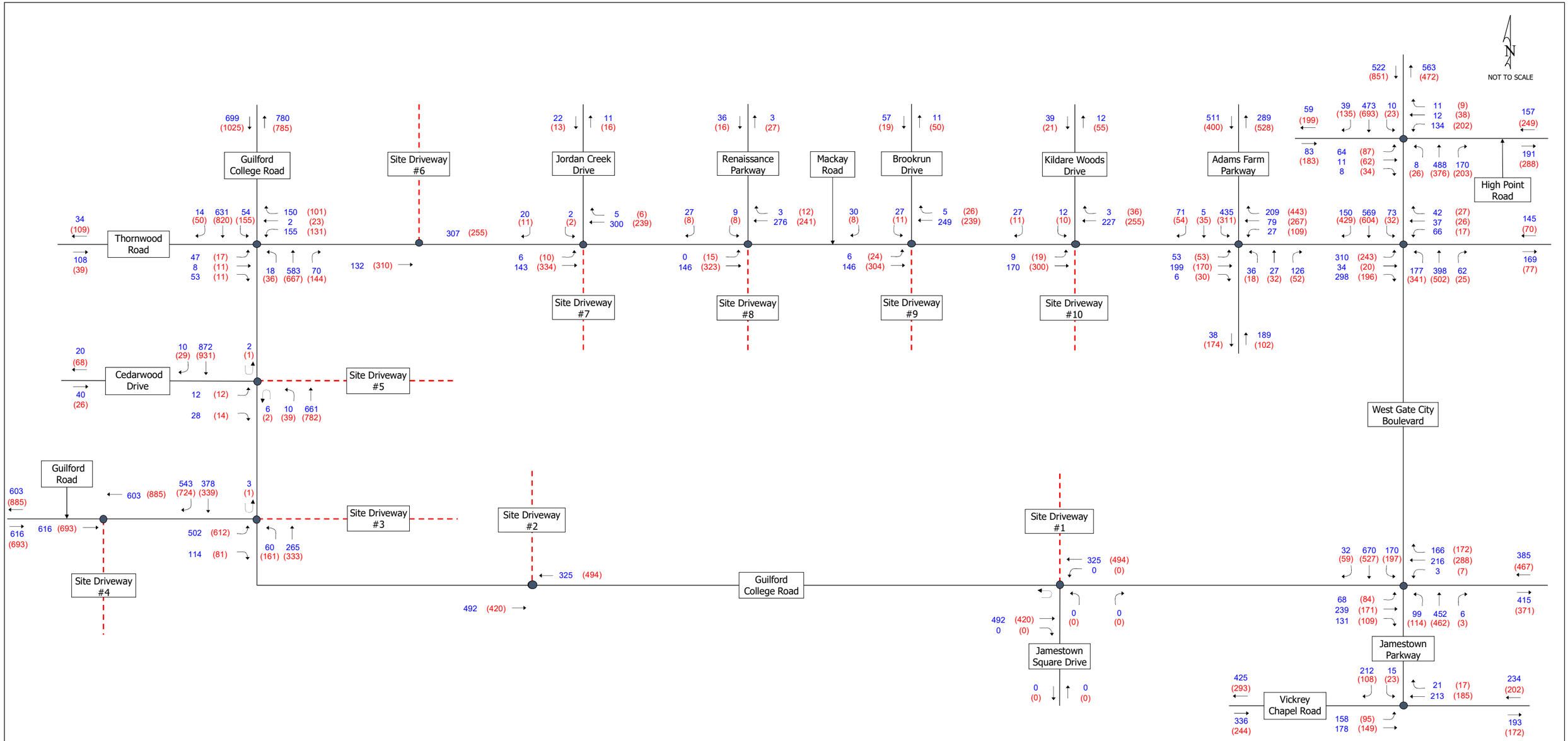
2023 Background Traffic Volumes

Figure 3-1



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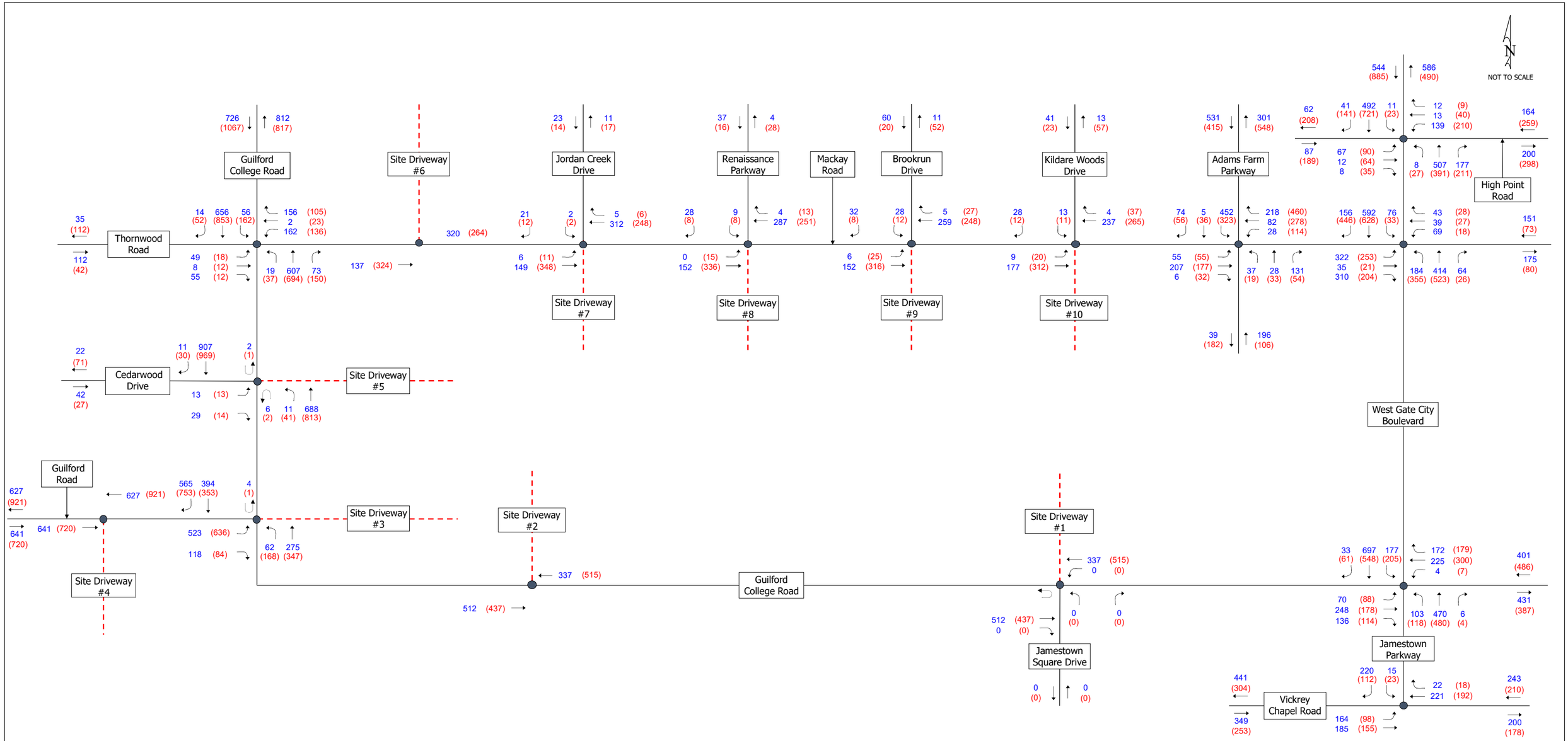
2025 Background Traffic Volumes

Figure 3-2



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2027 Background Traffic Volumes

Figure 3-3

4 SITE TRIP GENERATION AND DISTRIBUTION

Site trips for the Castleton Village Mixed-Use Development were estimated based on the proposed land uses supplied by the developer and subsequently distributed onto the surrounding roadway network.

4.1 TRIP GENERATION

The site-generated trips shown in Tables 4-1, 4-2, and 4-3 are based on trip generation information provided in the 10th edition of the Institute of Transportation Engineer's (ITE's) *Trip Generation Manual* and the anticipated development of the mixed-use land uses. The trip generation was calculated using the building square footages, proposed number of residential units, and number of fields as the independent variables. The provided average rate / equations were used to help generate trips (per NCDOT standards).

Tables 4-1, 4-2, and 4-3 summarize the estimated traffic generation for the proposed development during the 2023 Phase 1, 2025 Phase 2, and 2027 Phase 3 AM and PM peak hours as well as during an average weekday. No attempt was made to reduce the number of trips by a transit factor or other alternate form of transportation.

Table 4-1: 2023 Phase 1 Trip Generation Summary

ITE Land Use Code	Independent Variable	AM Peak Hour			PM Peak Hour			Daily Traffic
		In	Out	Total	In	Out	Total	
210 – Single Family Detached Housing	183 DU	34	101	135	114	67	181	1,813
220 – Multifamily Housing (Low Rise)	275 DU	29	96	125	91	54	145	2,038
560 – Church	30,000 SF	11	9	20	15	9	24	209
Total:		74	206	280	220	13	350	4,060

SOURCE: Institute of Transportation Engineers' *Trip Generation Manual* 10th Edition (2017)

AM peak hour trips totaled 74 incoming and 206 outgoing where PM peak hour trips totaled 220 incoming and 130 outgoing for Phase 1. Average daily traffic (ADT) volumes generated by the development totaled 4,060 VPD.

Table 4-2: 2025 Phase 2 Trip Generation Summary

ITE Land Use Code	Independent Variable	AM Peak Hour			PM Peak Hour			Daily Traffic
		In	Out	Total	In	Out	Total	
210 – Single Family Detached Housing	225 DU	41	124	165	139	82	221	2,193
220 – Multifamily Housing (Low Rise)	291 DU	30	102	132	96	57	153	2,159
820 – Shopping Center	25,200 SF	102	62	164	94	102	196	2,355
Subtotal:		173	288	461	329	241	570	6,707
Pass-by (LUC 820 34%, PM)					-32	-35	-67	
Total:		173	288	461	297	206	503	6,707

SOURCE: Institute of Transportation Engineers' *Trip Generation Manual* 10th Edition (2017)

Prior to reductions* due to pass-by trips, AM peak hour trips generated totaled 173 incoming and 288 outgoing where PM peak hour trips totaled 329 incoming and 241 outgoing for Phase 2 of the proposed development. Average daily traffic (ADT) volumes generated by the development totaled 6,707 VPD.

Per NCDOT standards and procedures, pass-by percentages were applied to the projected traffic volumes. A pass-by percentage of 34% was applied to the PM peak hour traffic for LUC 820. Following this reduction, trips totaled 173 incoming and 288 outgoing AM peak hour trips and 297 incoming and 206 outgoing PM peak hour trips for Phase 2 of the proposed development. ADT volumes totaled 6,707 VPD.

Table 4-3: 2027 Phase 3 Trip Generation Summary

ITE Land Use Code	Independent Variable	AM Peak Hour			PM Peak Hour			Daily Traffic
		In	Out	Total	In	Out	Total	
210 – Single Family Detached Housing	235 DU	43	129	172	146	85	231	2,282
220 – Multifamily Housing (Low Rise)	275 DU	29	96	125	91	54	145	2,038
730 – Government Office Building	40,000 SF	100	34	134	17	51	68	904
488 – Soccer Complex	3 Fields	3	2	5	24	27	51	214
	Total:	175	261	436	278	217	495	5,438

SOURCE: Institute of Transportation Engineers' *Trip Generation Manual* 10th Edition (2017)

AM peak hour trips totaled 175 incoming and 261 outgoing where PM peak hour trips totaled 278 incoming and 217 outgoing for Phase 3. Average daily traffic (ADT) volumes generated by the development totaled 5,438 VPD.

*No reductions were taken due to internal capture. It can be expected that there will be some internal capture associated with this mixed-use perspective; therefore, this methodology represents a worst case scenario from a trip generation perspective.

Trip generation was not completed for the farmer's market component of the development. Per the developer, the farmer's market is proposed to primarily operate on weekends; therefore, it is anticipated that the farmer's market will generate minimal traffic during the weekdays. To account for this minimal traffic, five (5) vehicle trips were included for both entering and exiting traffic at Site Driveway #5 during the AM and PM peak hours.

4.2 TRIP DISTRIBUTION

The directional traffic patterns, or trip distribution, of the site-generated traffic was determined using the existing AM and PM peak hour traffic characteristics and engineering judgement. It was assumed, for purposes of this study, that all site traffic would enter and exit the study area in a simialr manner as the existing traffic. Area trip distribution is based on traffic counts performed by Timmons Group. Total trips into and out of the study area using W Gate City Boulevard, High Point Rd, Vickery Chapel Rd, Guilford College Rd, Guilford Rd, and Adams Farm Pkwy form the basis for the percentage distribution. Distribution percentages into and out of the study area were calculated using existing traffic volumes entering and exiting the study area. The percentages were routed, via shortest path, to and from the proposed development. The distribution percentages were then applied to the generated trips to predict routes and project traffic volumes for the 2023 Phase 1, 2025 Phase 2, and 2027 Phase 3 build-out scenarios, respectively.

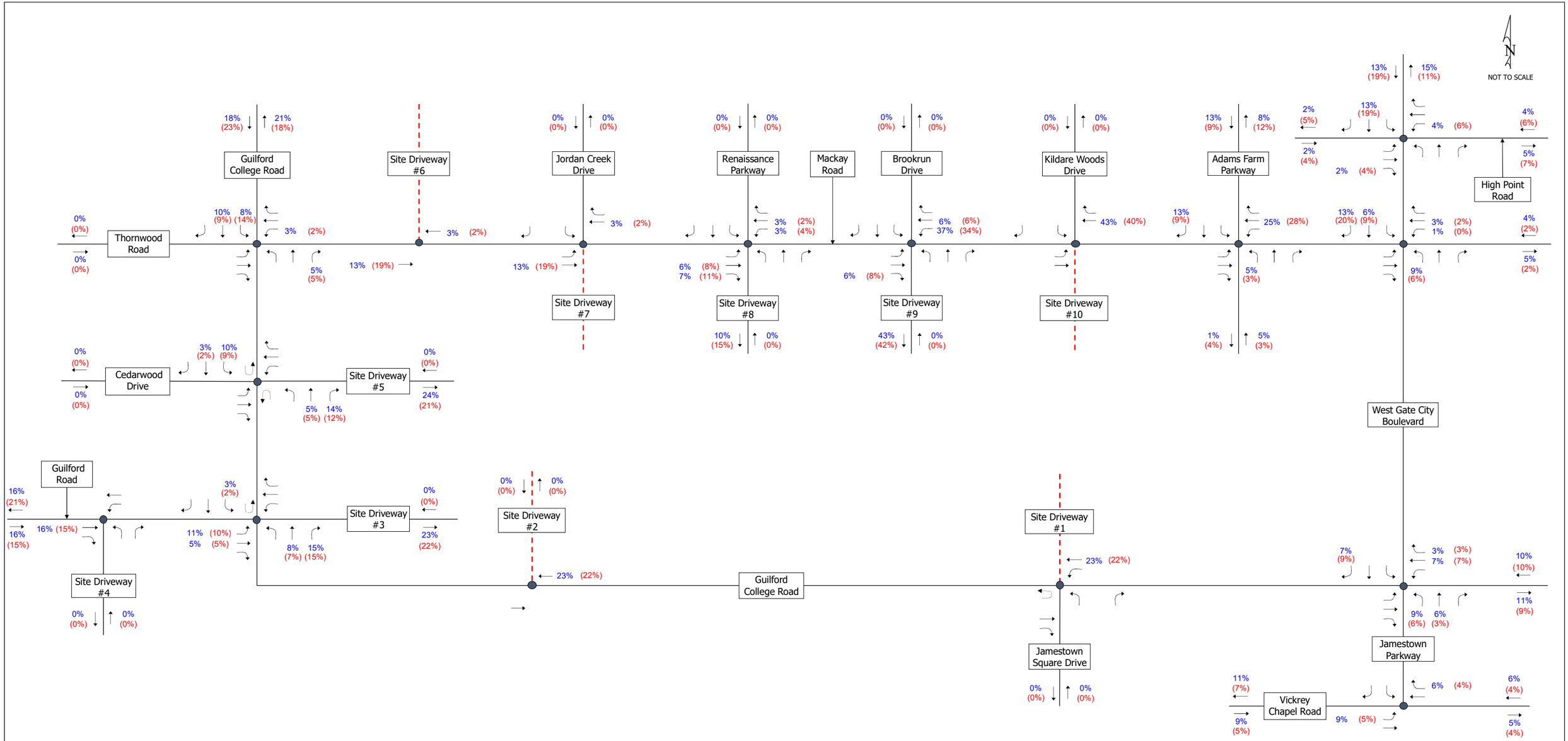
Access to the development will be provided via 11 driveway connections to the existing roadway network. In Phase 1 of the development, the following driveway connections will be constructed: Mackay Road /

Renaissance Parkway / Site Driveway #8, Mackay Road / Brookrun Drive / Site Driveway #9, Guilford College Road / Guilford Road / Site Driveway #3, Guilford Road / Site Driveway #4, and Guilford College Road / Cedarwood Drive / Site Driveway #5. In Phase 2 of the development, the following driveway connections will be constructed: Mackay Road / Jordan Creek Drive / Site Driveway #7 and Guilford College Road / Site Driveway #2. In Phase 3 of the development, the following driveway connections will be constructed: Mackay Road / Site Driveway #6, Mackay Road / Kildare Woods Drive / Site Driveway #10, and Guilford College Road / Site Driveway #1. Access to the site will also be provided via Jamestown Square Drive during Phase 3.

Figure 4-1 shows the Phase 1 distribution percentages for residential traffic entering the site. The proposed church component of the site is located on Guilford Road, separate from the remainder of the development. Figure 4-2 shows the Phase 1 distribution percentages for the church traffic entering the site. Similarly, Figures 4-3 and 4-4 show distribution percentages for Phase 1 traffic exiting the site from the residential and church land uses, respectively. Figures 4-5 through 4-8 show the Phase 1 entering and exiting trip distribution volumes based on the corresponding trip distribution percentages from Figures 4-1 through 4-4. Trip volumes on Figures 4-5 through 4-8 were summed together to calculate the Phase 1 total trip volumes shown on Figure 4-9.

Phase 2 distribution percentages are shown on Figure 4-10 for traffic entering the site. Phase 2 distribution percentages are shown on Figure 4-11 for traffic exiting the site. Phase 2 pass-by percentages and volumes are shown on Figures 4-12 and 4-13, respectively. Phase 2 trip distribution volumes are shown on Figure 4-14 for entering site traffic and on Figure 4-15 for exiting site traffic. Trip volumes on Figures 4-14 and 4-15 were summed together, along with the pass-by volumes on Figure 4-13, to calculate the Phase 2 total trip volumes shown on Figure 4-16. Combined Phase 1 and Phase 2 trip volumes are shown on Figure 4-17.

Figure 4-18 shows the Phase 3 distribution percentages for the residential and athletic fields traffic entering the site. The proposed government office building component of the site is located on Jamestown Square Drive, separate from the remainder of the development. Figure 4-19 shows the Phase 3 distribution percentages for the government office building traffic entering the site. Similarly, Figures 4-20 and 4-21 show distribution percentages for Phase 3 traffic exiting the site for the residential / athletic fields and government office building land uses, respectively. Figures 4-22 through 4-25 show the Phase 3 entering and exiting trip distribution volumes based on the corresponding trip distribution percentages from Figures 4-18 through 4-21. Trip volumes on Figures 4-22 through 4-25 were summed together to calculate the Phase 3 total trip volumes shown on Figure 4-26. Combined Phase 1, Phase 2, and Phase 3 trip volumes are shown on Figure 4-27.



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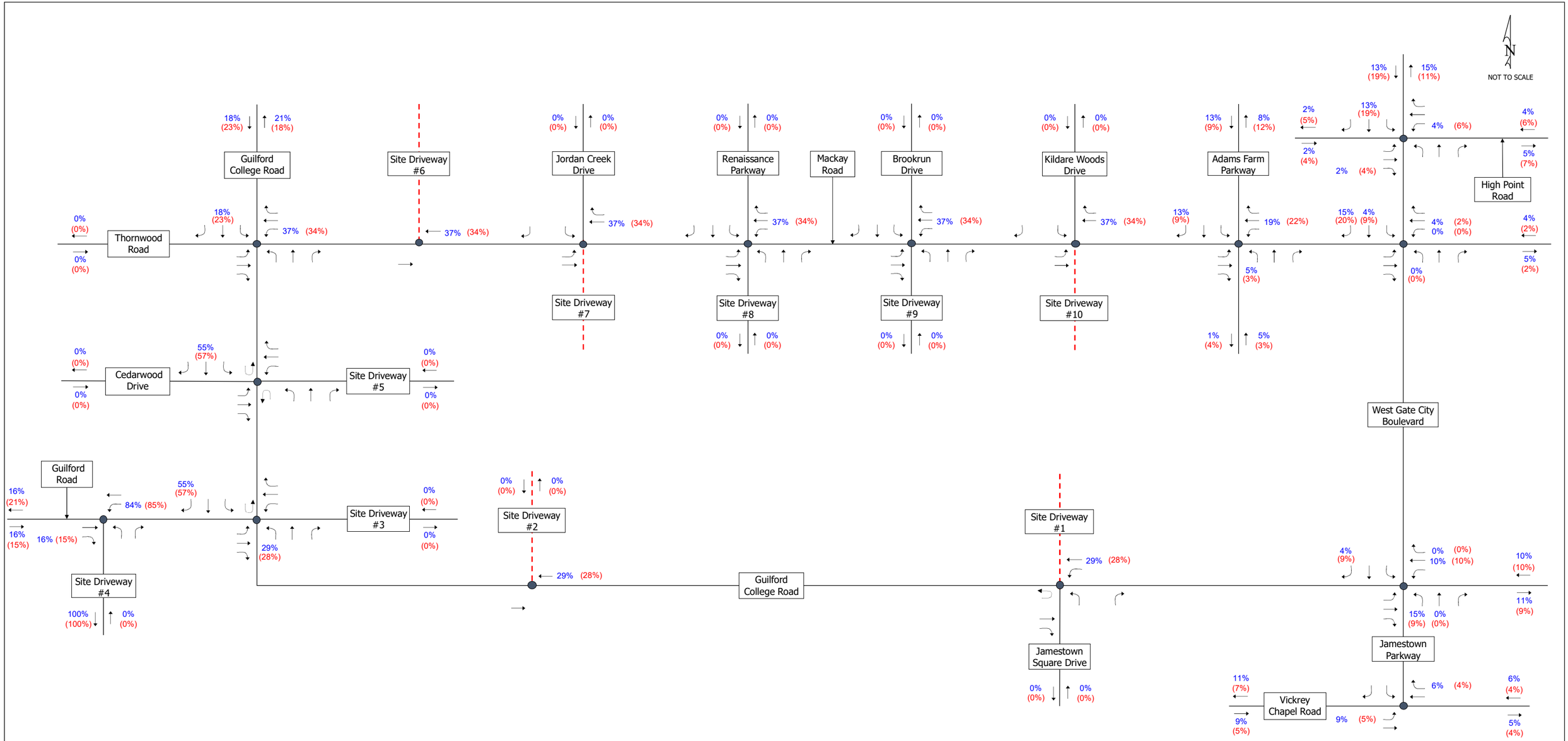
2023 Phase 1 - Residential Trip Distribution Percentages (Entering Site)

Figure 4-1



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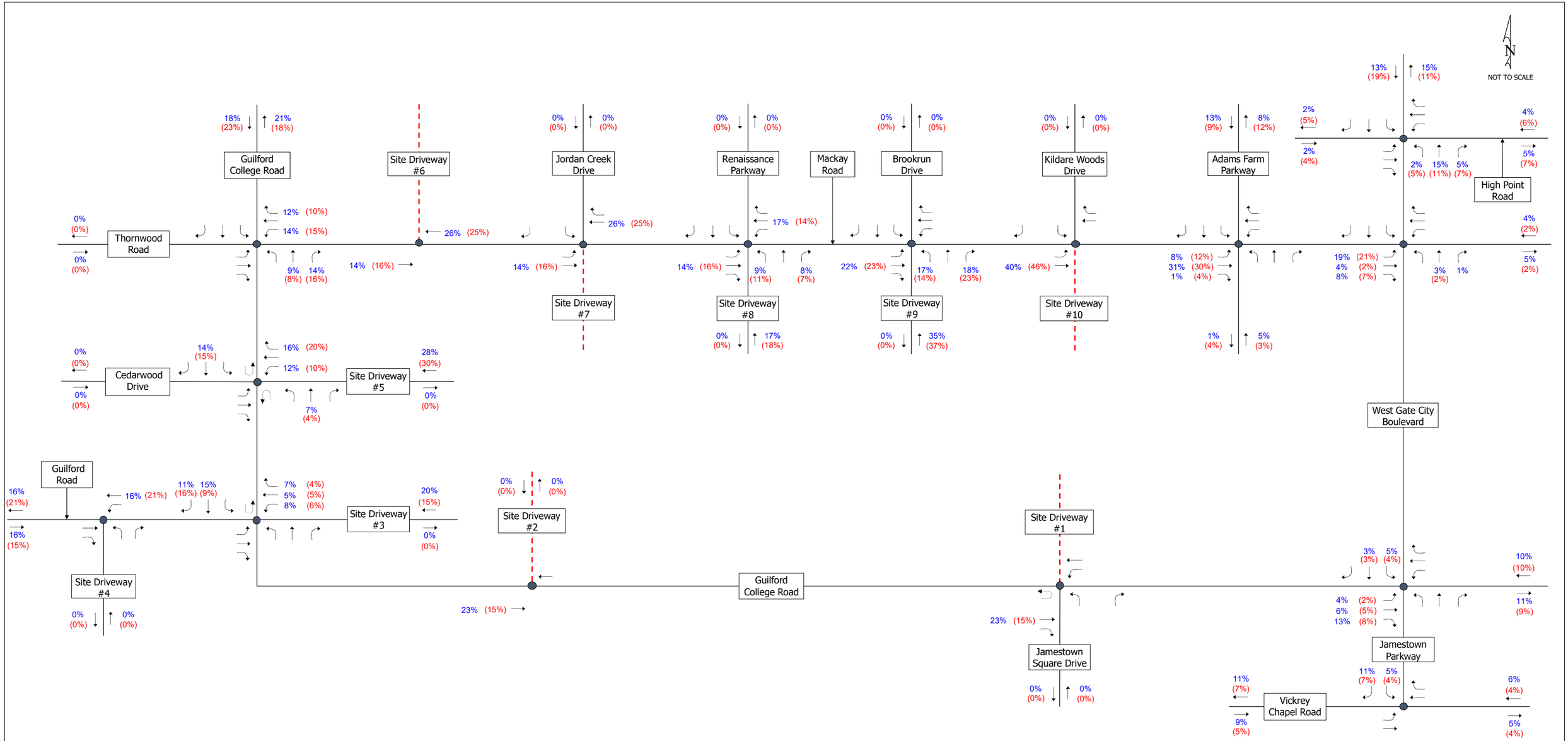
2023 Phase 1 - Church Trip Distribution Percentages (Entering Site)

Figure 4-2



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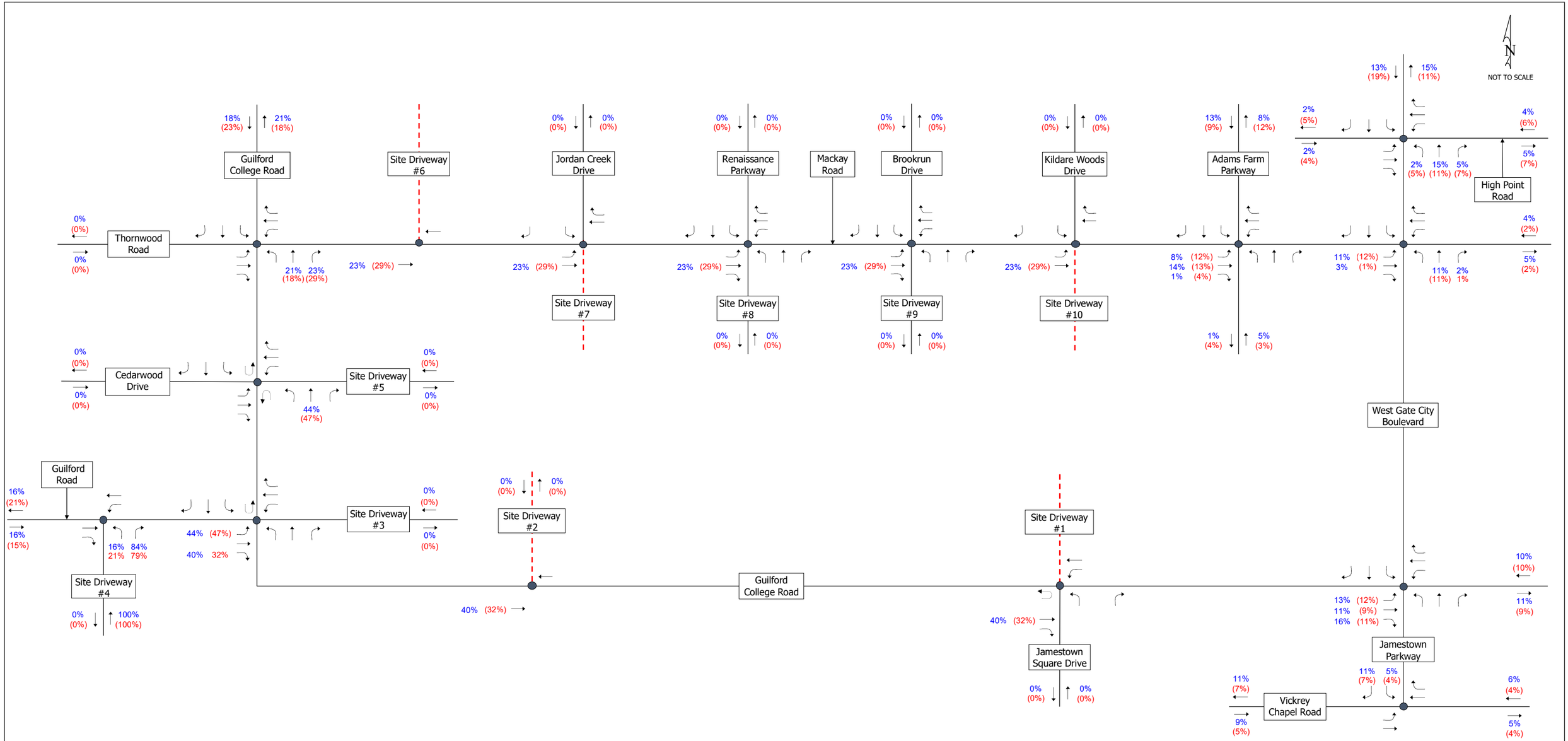
2023 Phase 1 - Residential Trip Distribution Percentages (Exiting Site)

Figure 4-3



LEGEND:

- Existing Road
- Proposed Road
- XX AM Peak Hour Percentage
- (XX) PM Peak Hour Percentage

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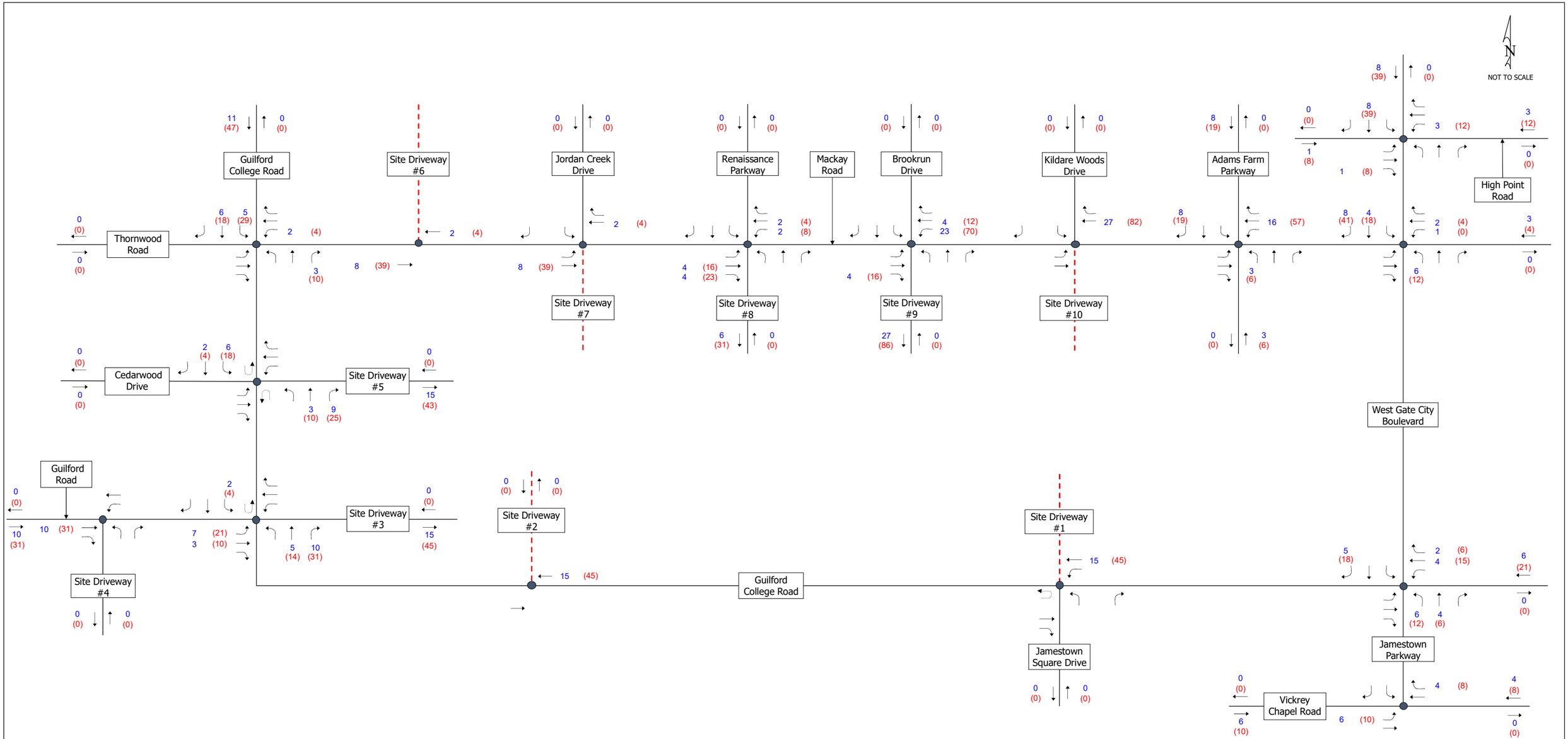
2023 Phase 1 - Church Trip Distribution Percentages (Exiting Site)

Figure 4-4



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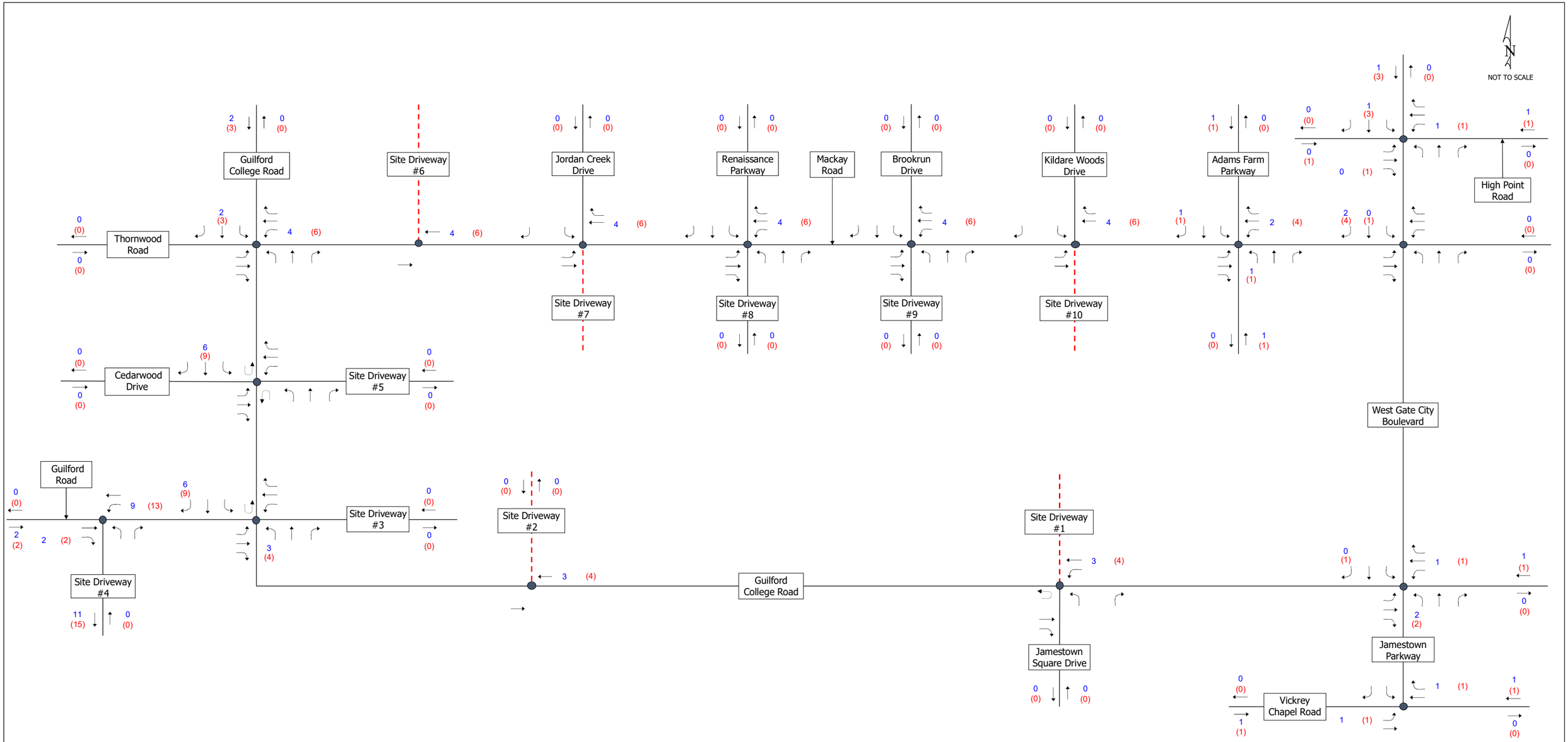
2023 Phase 1 - Residential Trip Distribution Volumes (Entering Site)

Figure 4-5



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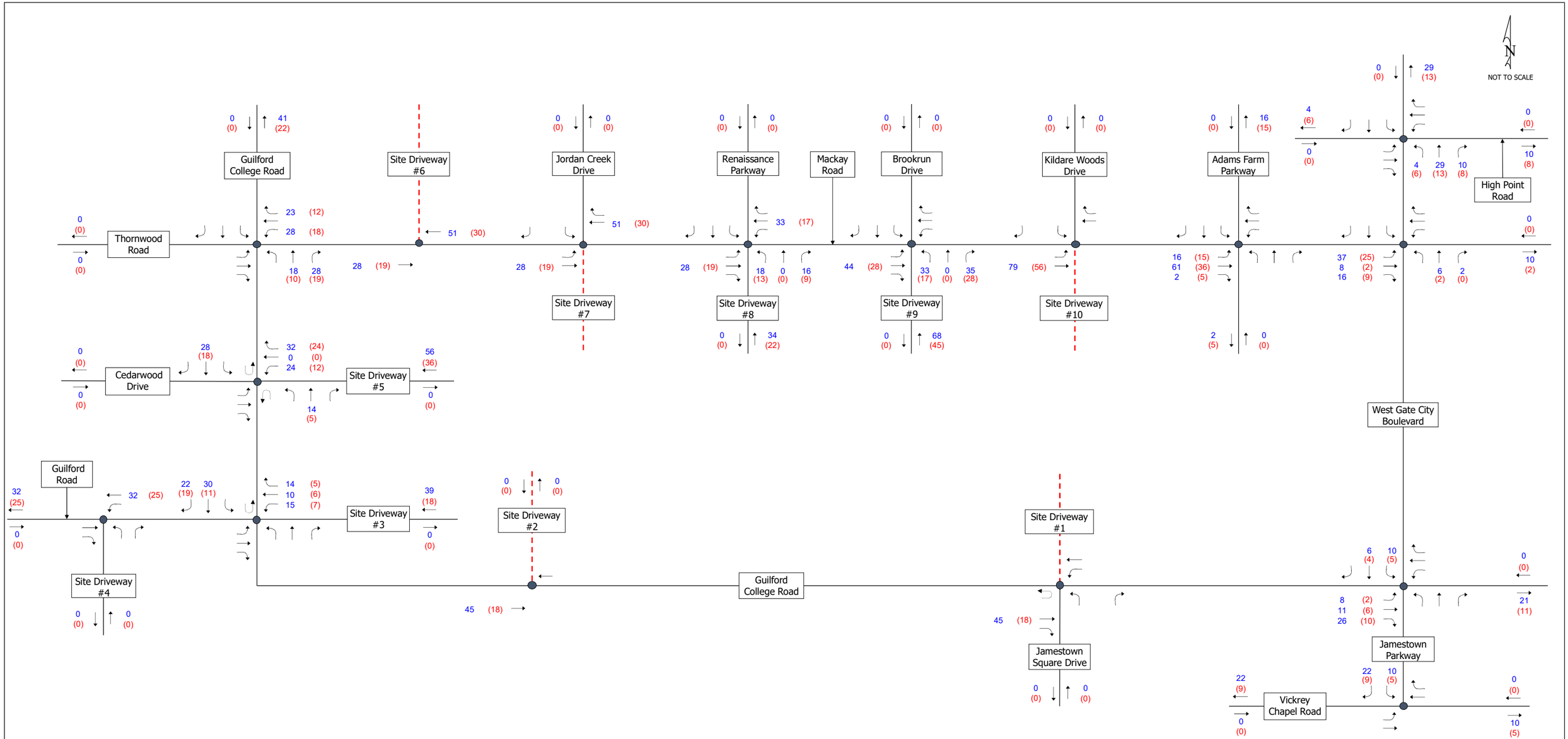
2023 Phase 1 - Church Trip Distribution Volumes (Entering Site)

Figure 4-6



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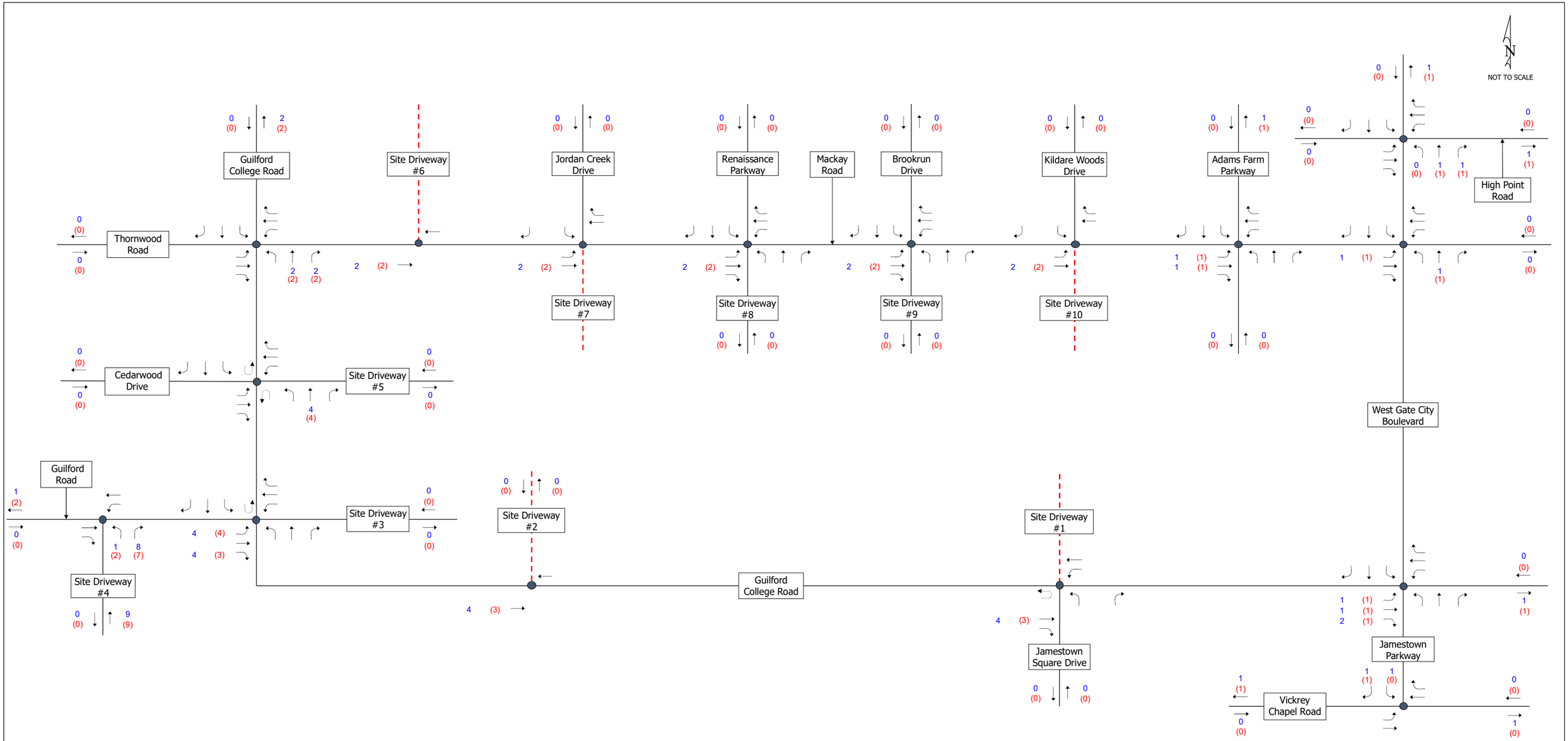
2023 Phase 1 - Residential Trip Distribution Volumes (Exiting Site)

Figure 4-7



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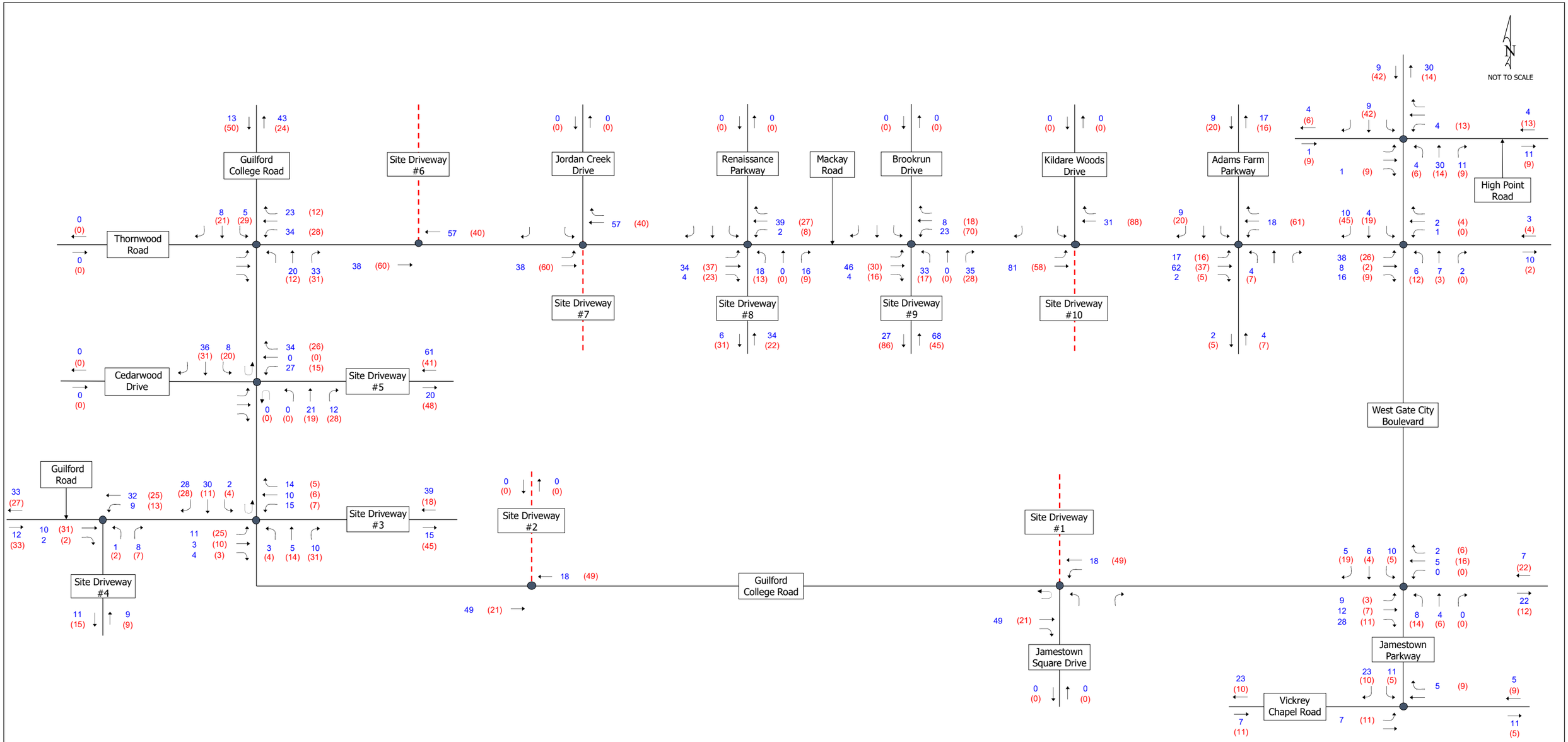
2023 Phase 1 - Church Trip Distribution Volumes (Exiting Site)

Figure 4-8



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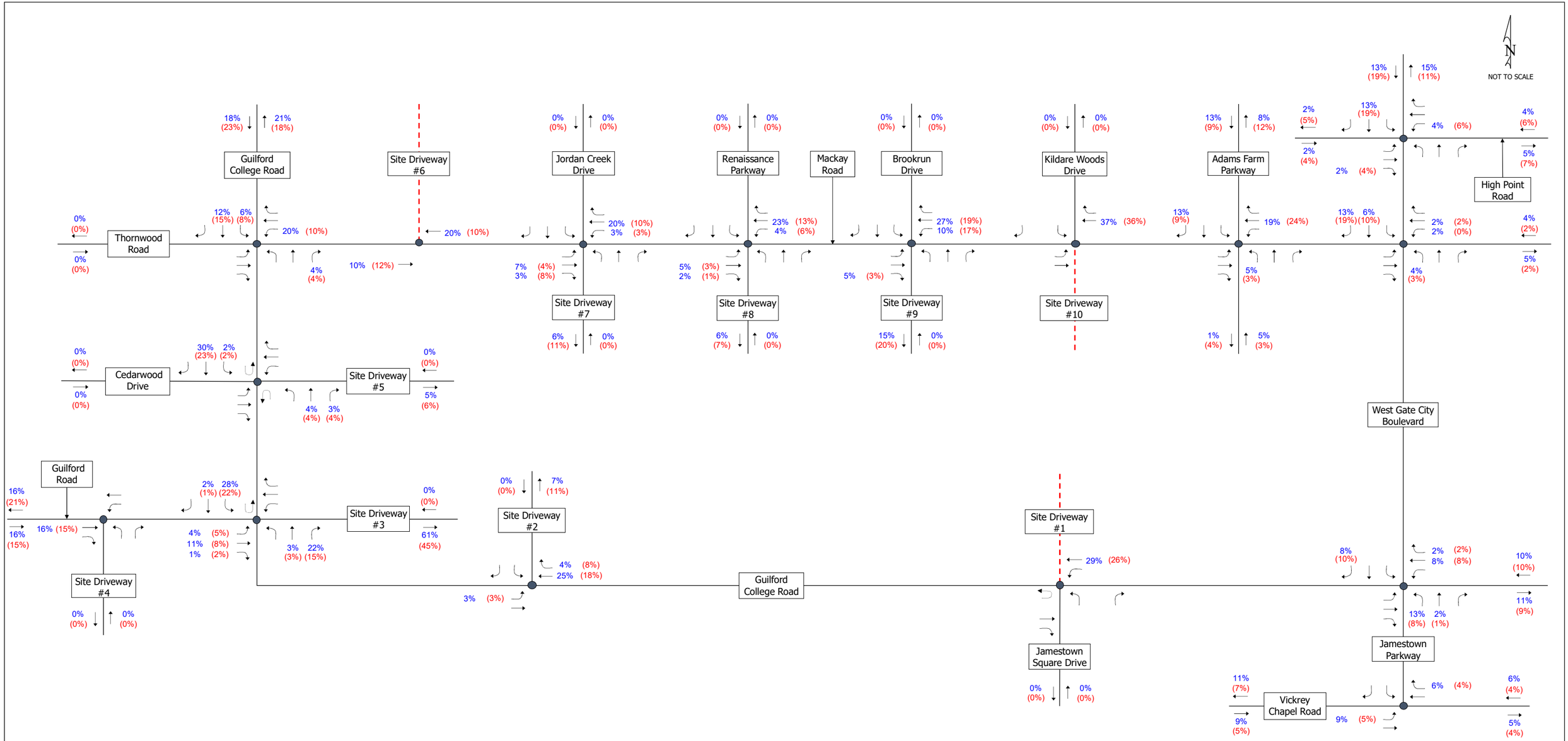
2023 Phase 1 - Total Trip Volumes

Figure 4-9



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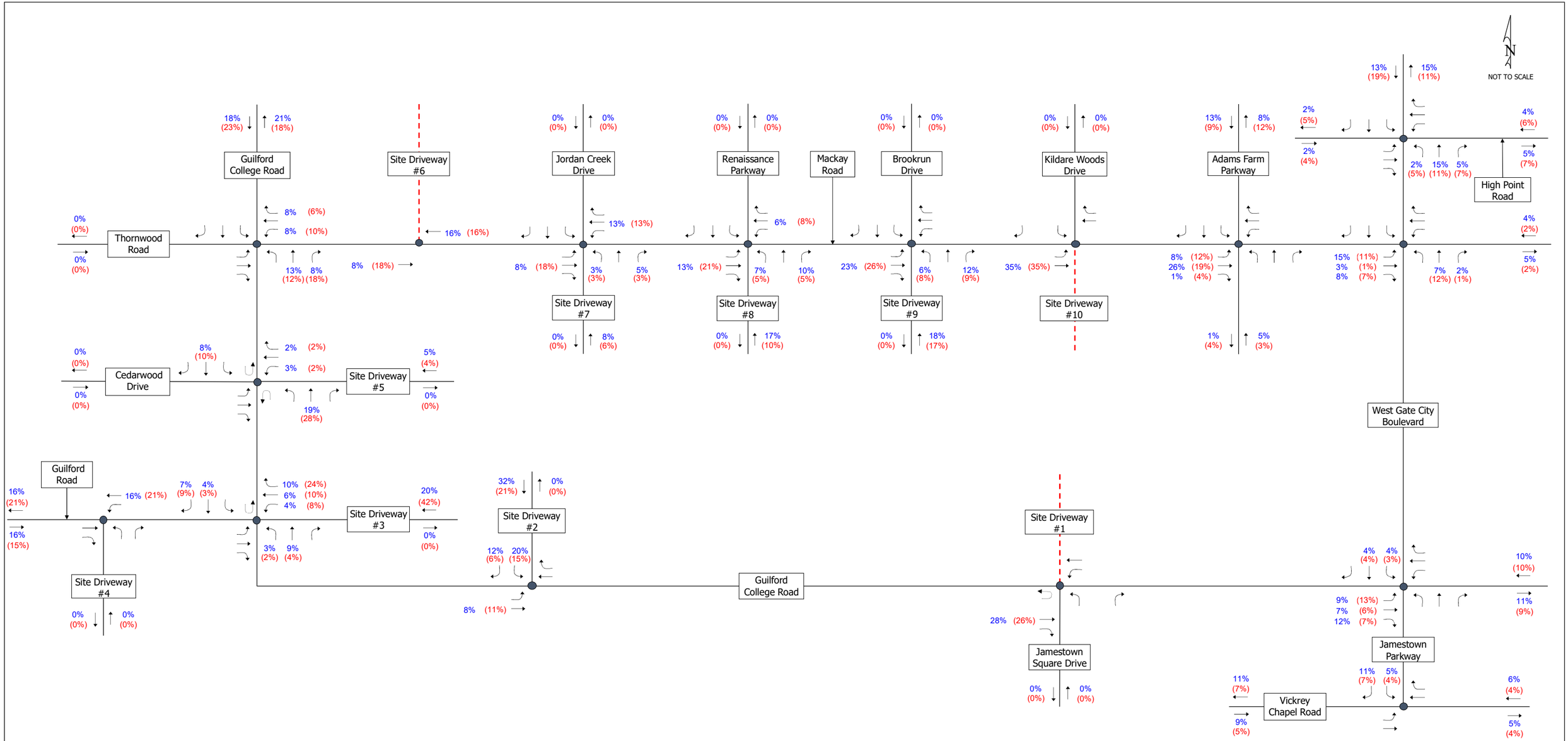
2025 Phase 2 - Trip Distribution Percentages (Entering Site)

Figure 4-10



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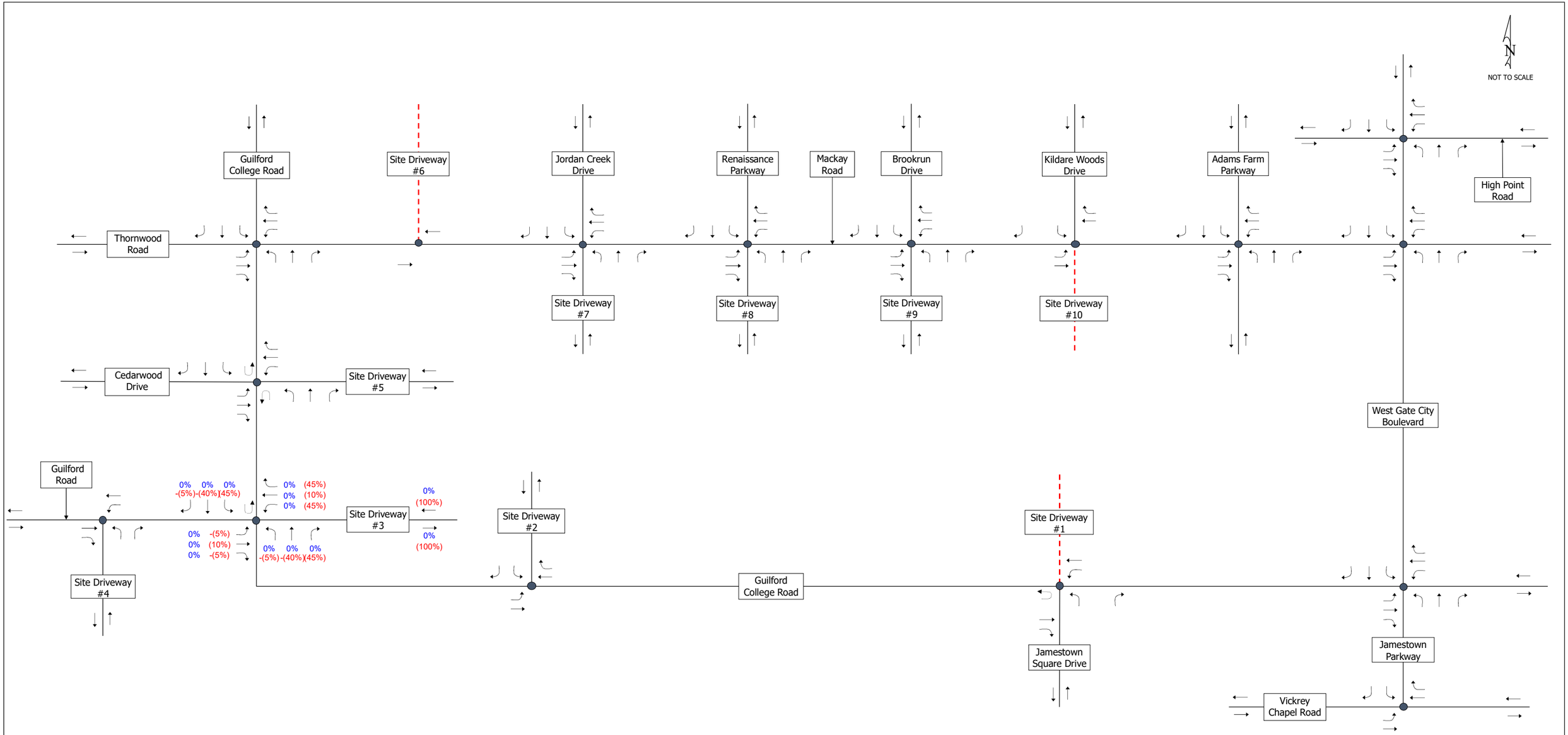
2025 Phase 2 - Trip Distribution Percentages (Exiting Site)

Figure 4-11



LEGEND:

- Existing Road
- Proposed Road
- XX AM Peak Hour Percentage
- (XX) PM Peak Hour Percentage

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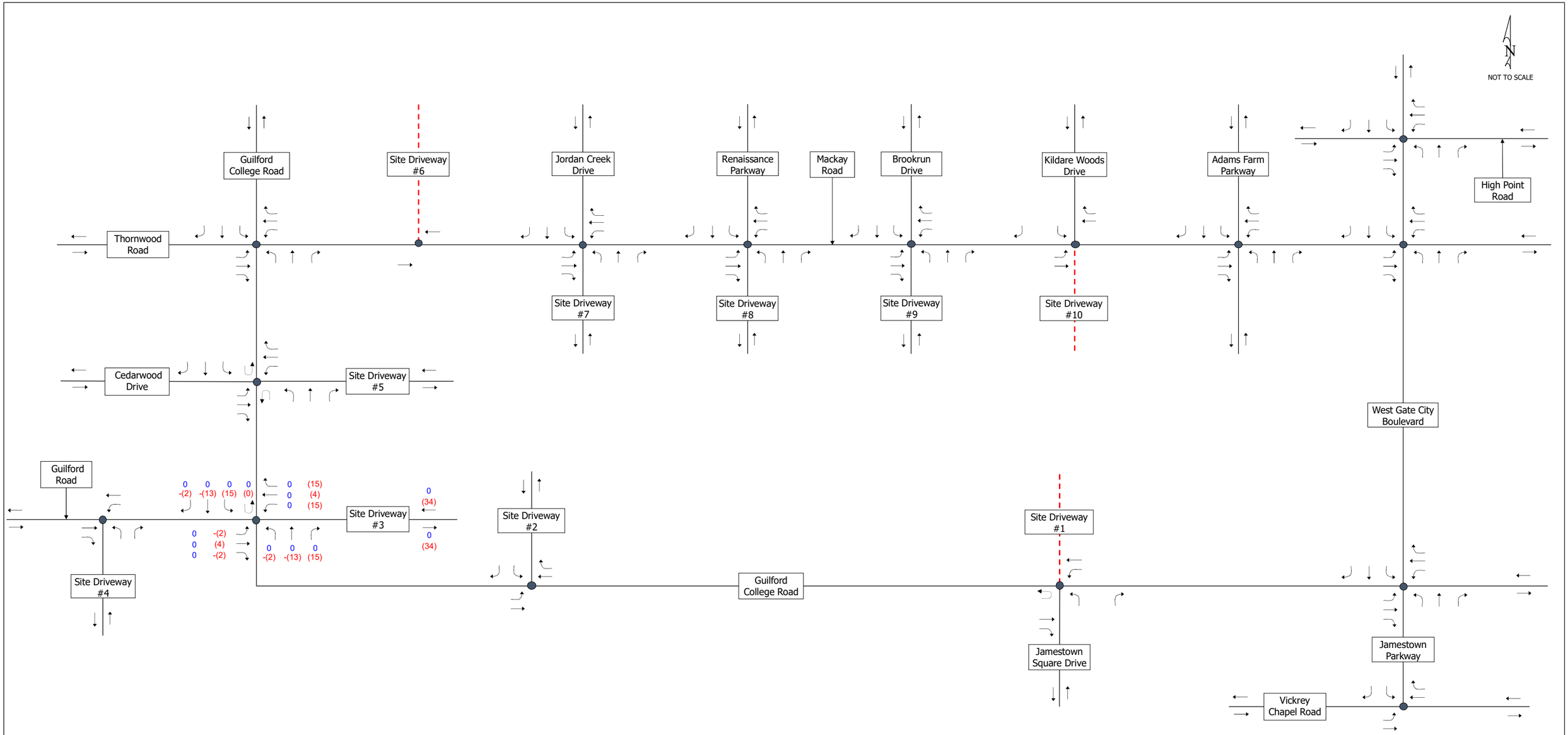
2025 Phase 2 - Pass-By Percentages

Figure 4-12



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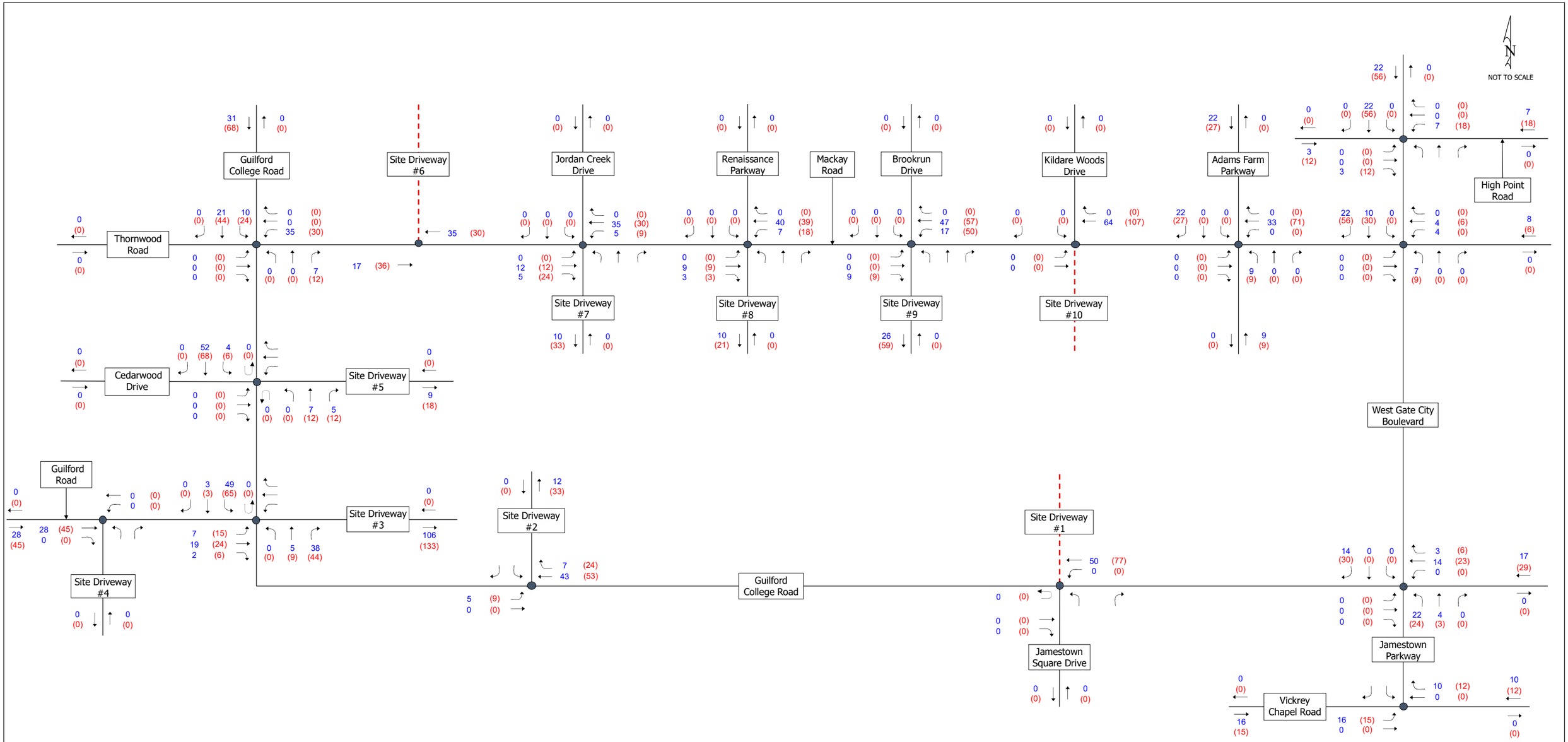
2025 Phase 2 - Pass-By Volumes

Figure 4-13



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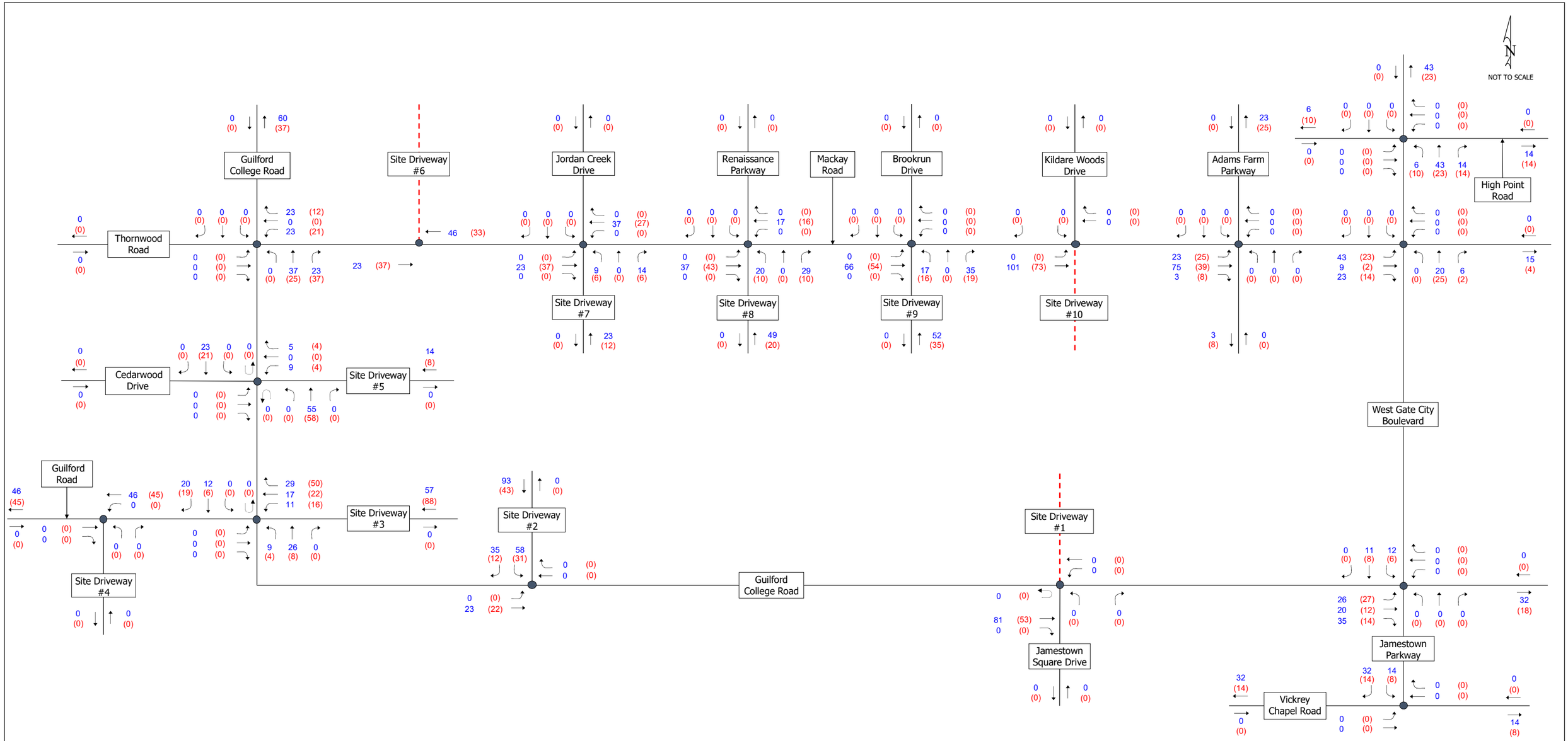
2025 Phase 2 - Trip Distribution Volumes (Entering Site)

Figure 4-14



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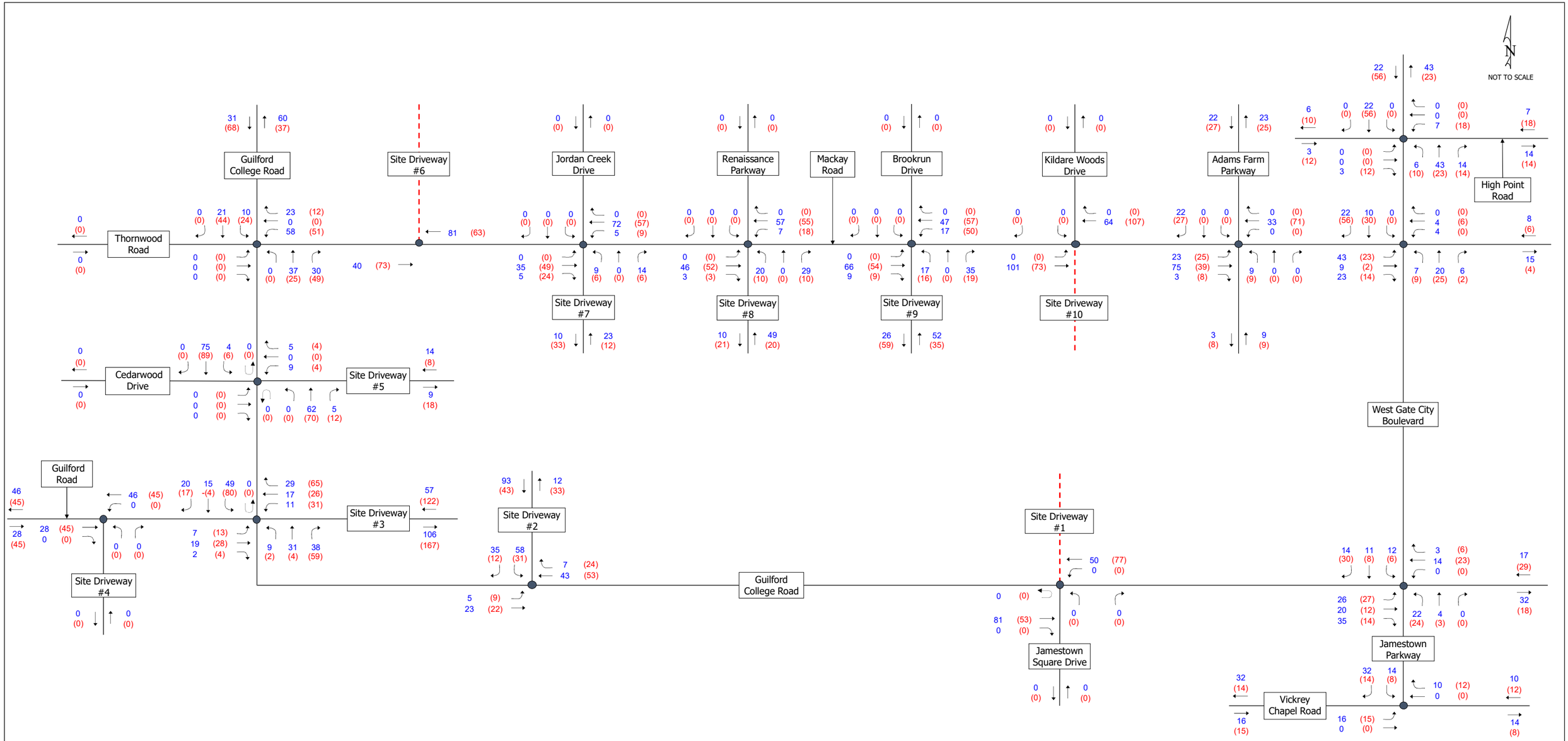
2025 Phase 2 - Trip Distribution Volumes (Exiting Site)

Figure 4-15



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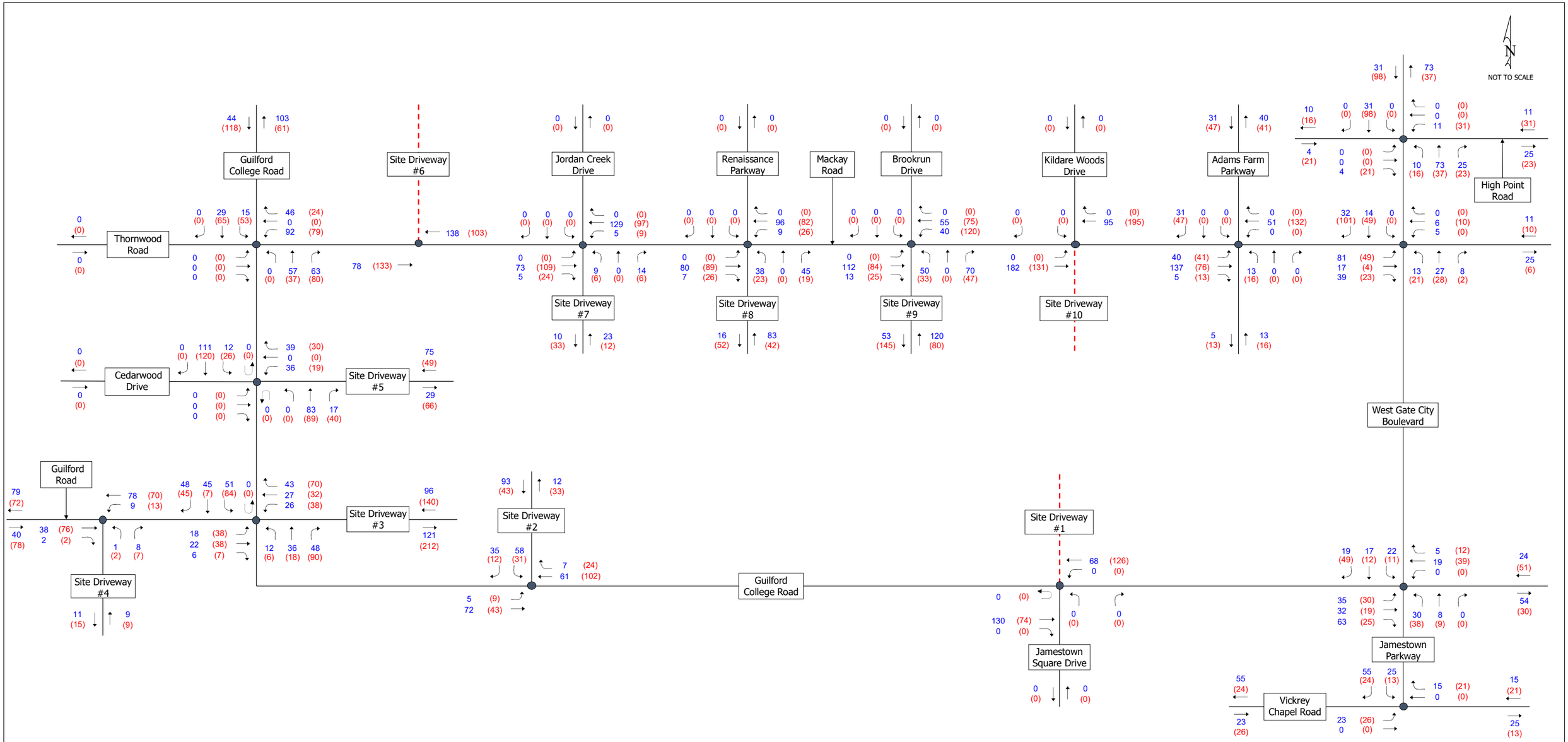
2025 Phase 2 - Total Trip Volumes

Figure 4-16



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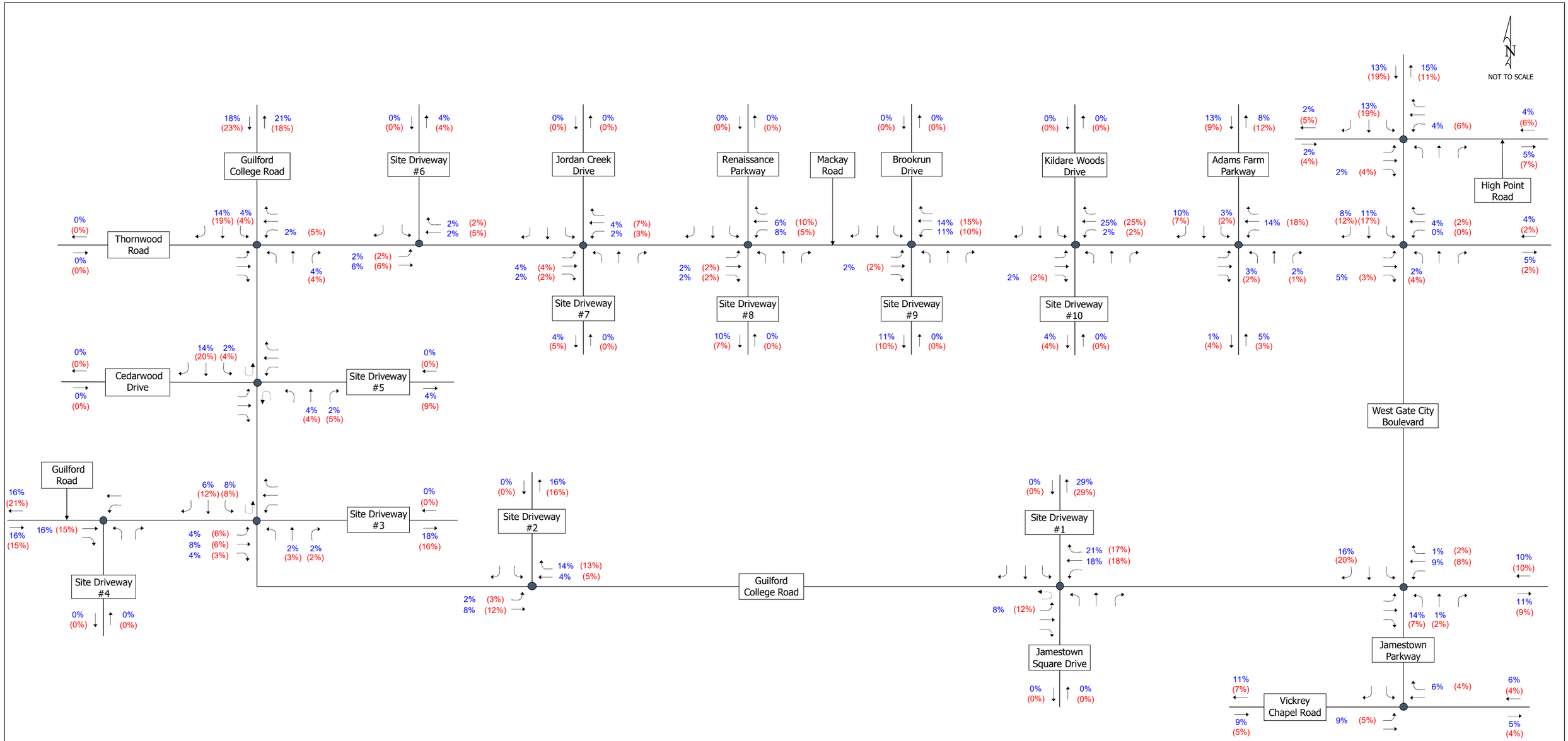
2025 Phase 1 & 2 - Total Trip Volumes

Figure 4-17



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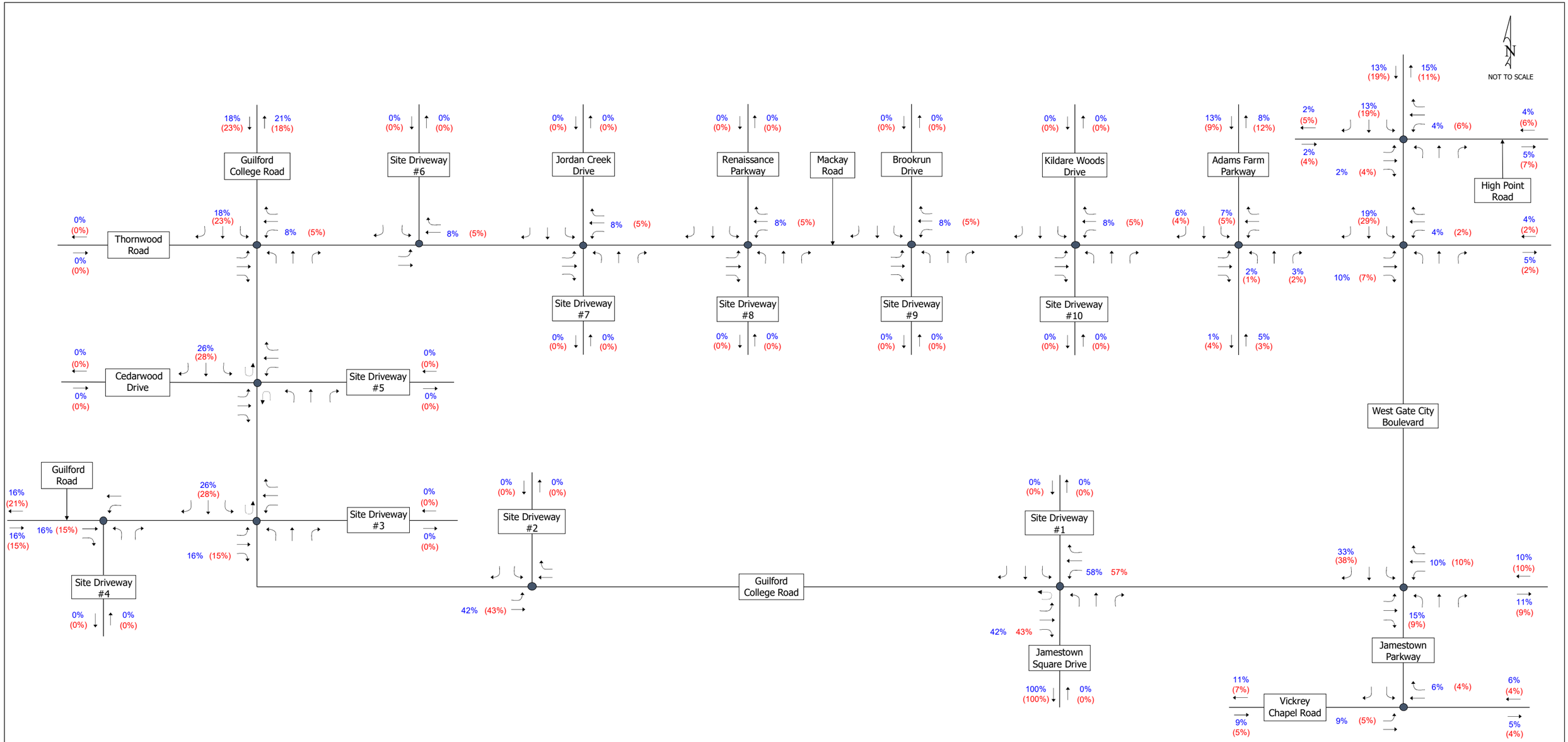
2027 Phase 3 - Residential and Athletic Fields Trip Distribution Percentages (Entering Site)

Figure 4-18



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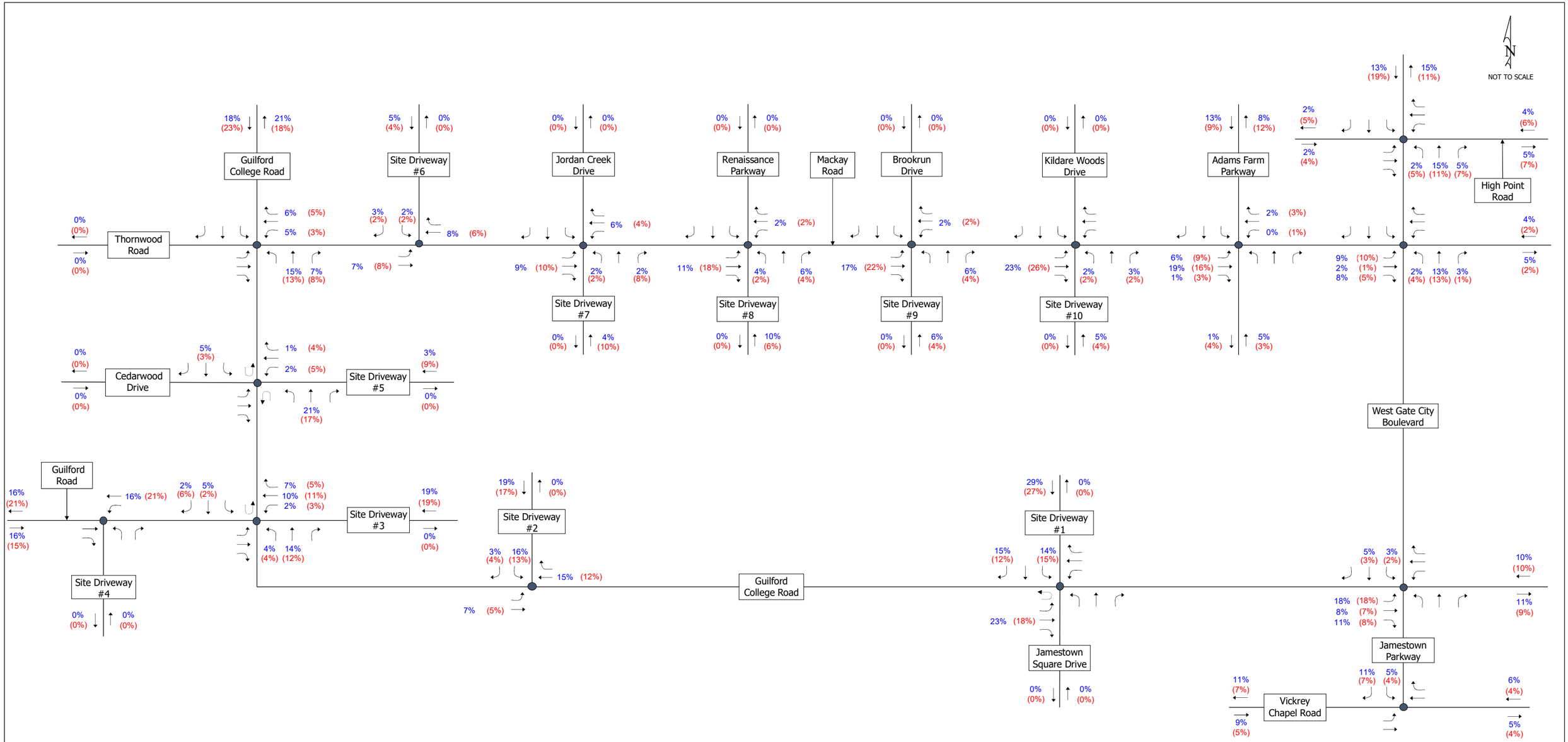
2027 Phase 3 - Office Trip Distribution Percentages (Entering Site)

Figure 4-19



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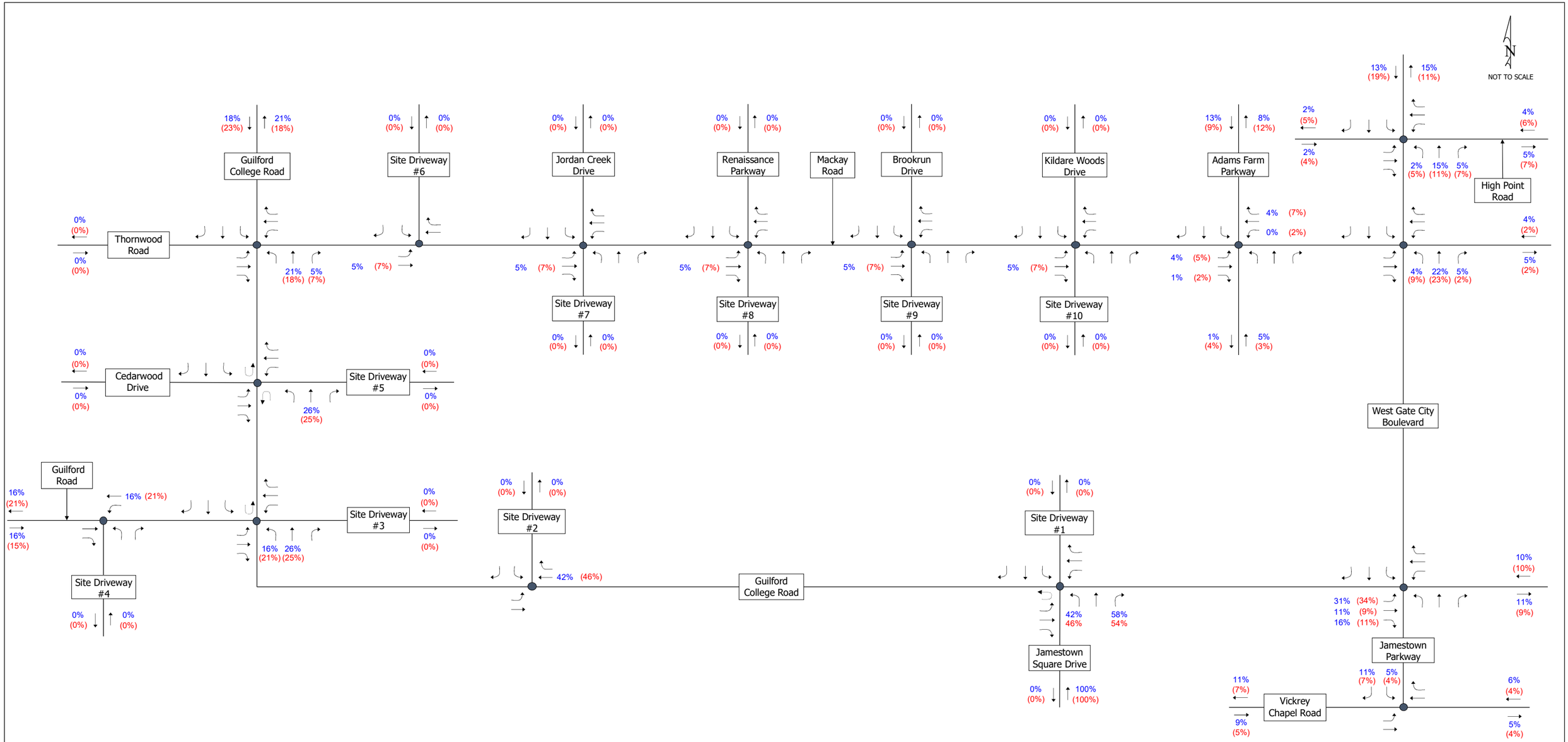
2027 Phase 3 - Residential and Athletic Fields Trip Distribution Percentages (Exiting Site)

Figure 4-20



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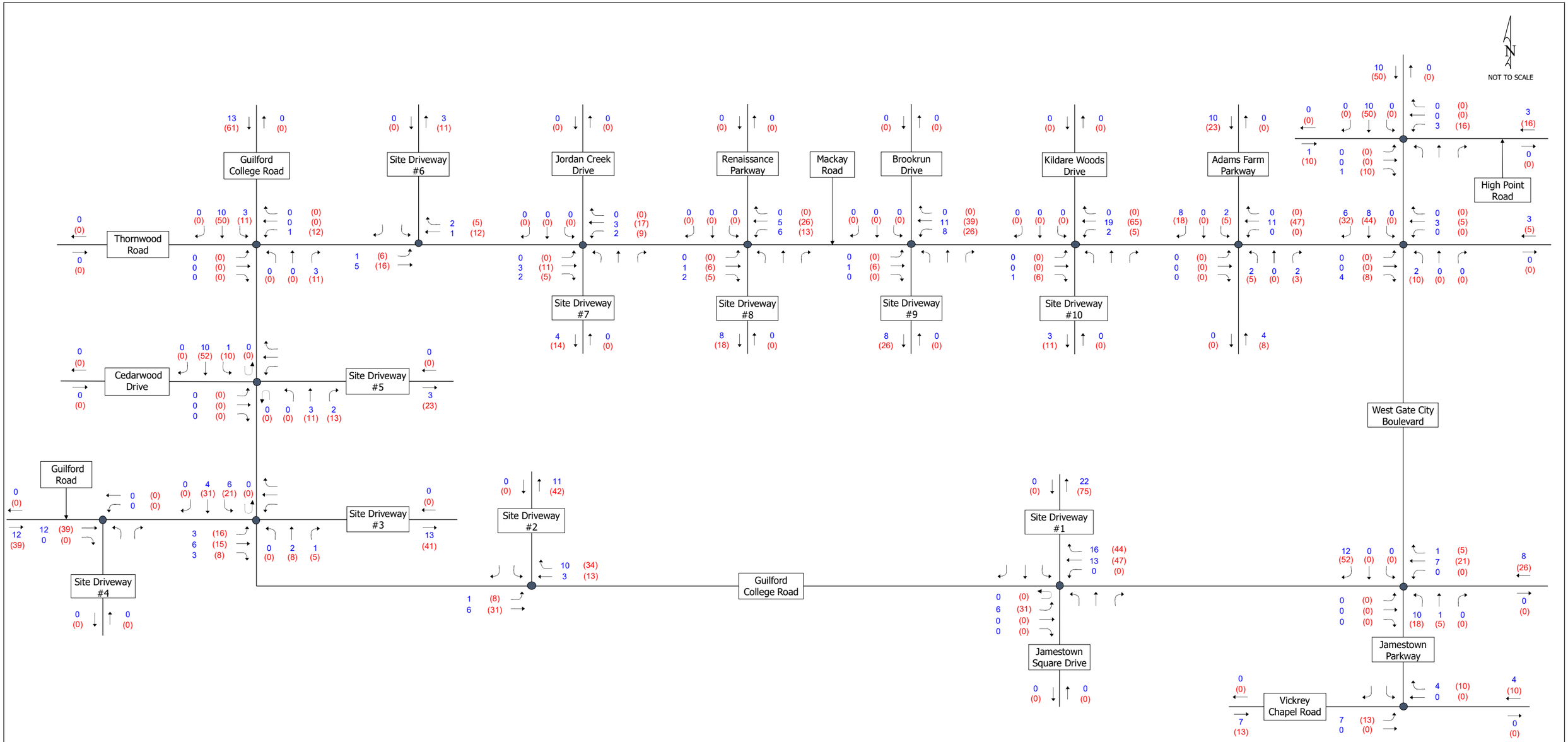
2027 Phase 3 - Office Trip Distribution Percentages (Exiting Site)

Figure 4-21



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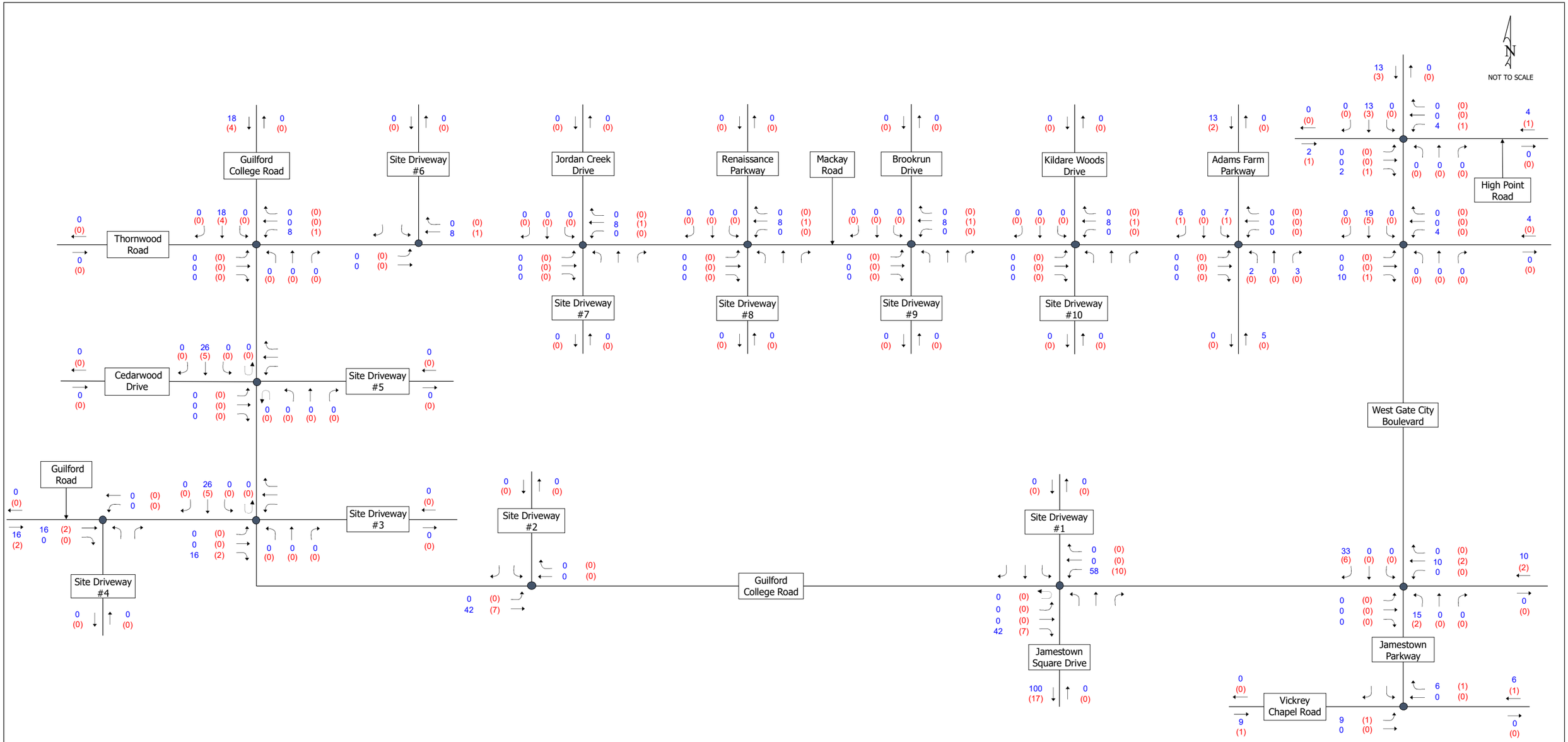
Castleton Village Traffic Impact Analysis

2027 Phase 3 - Residential and Athletic Fields Trip Distribution Volumes (Entering Site)

Figure 4-22



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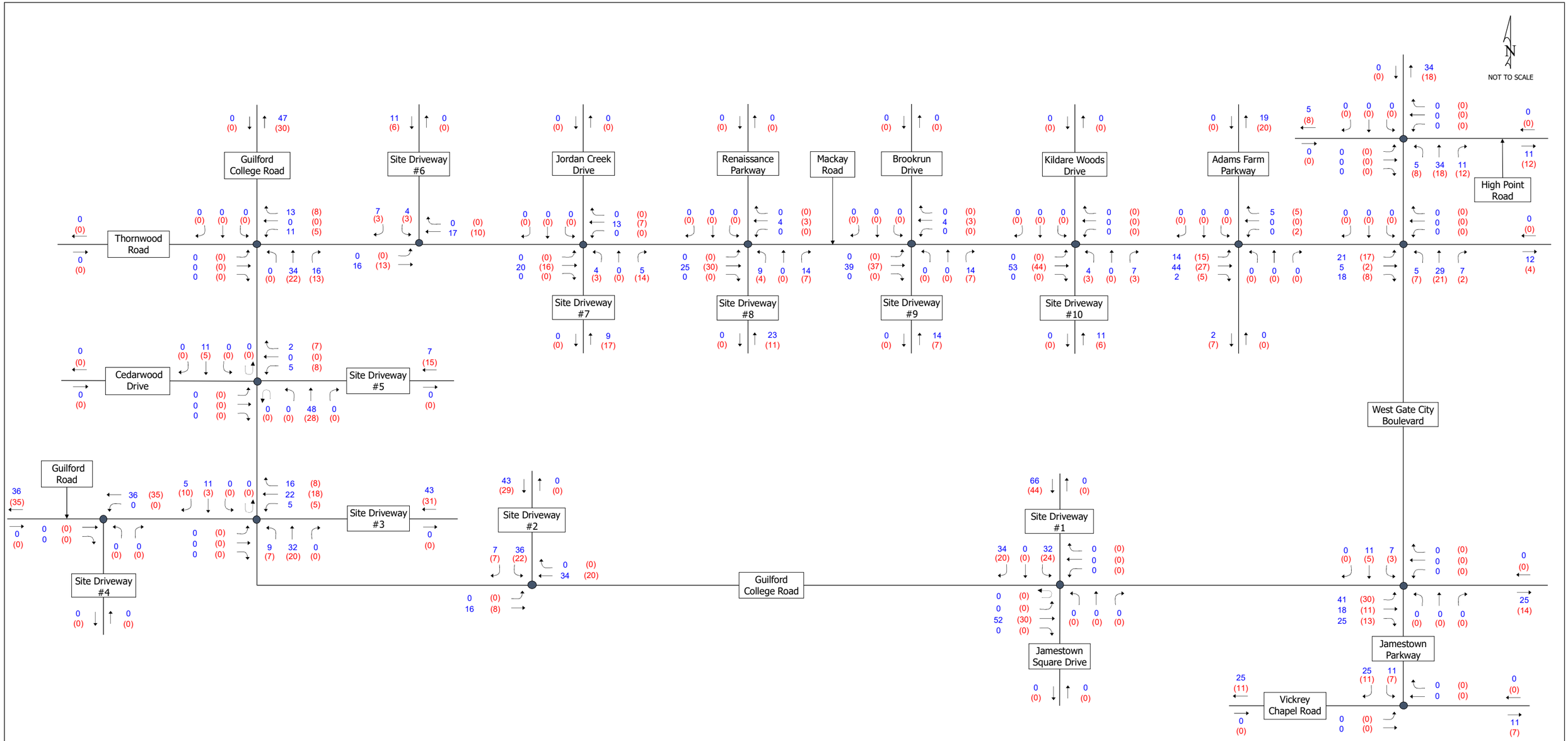
Castleton Village Traffic Impact Analysis

2027 Phase 3 - Office Trip Distribution Volumes (Entering Site)

Figure 4-23



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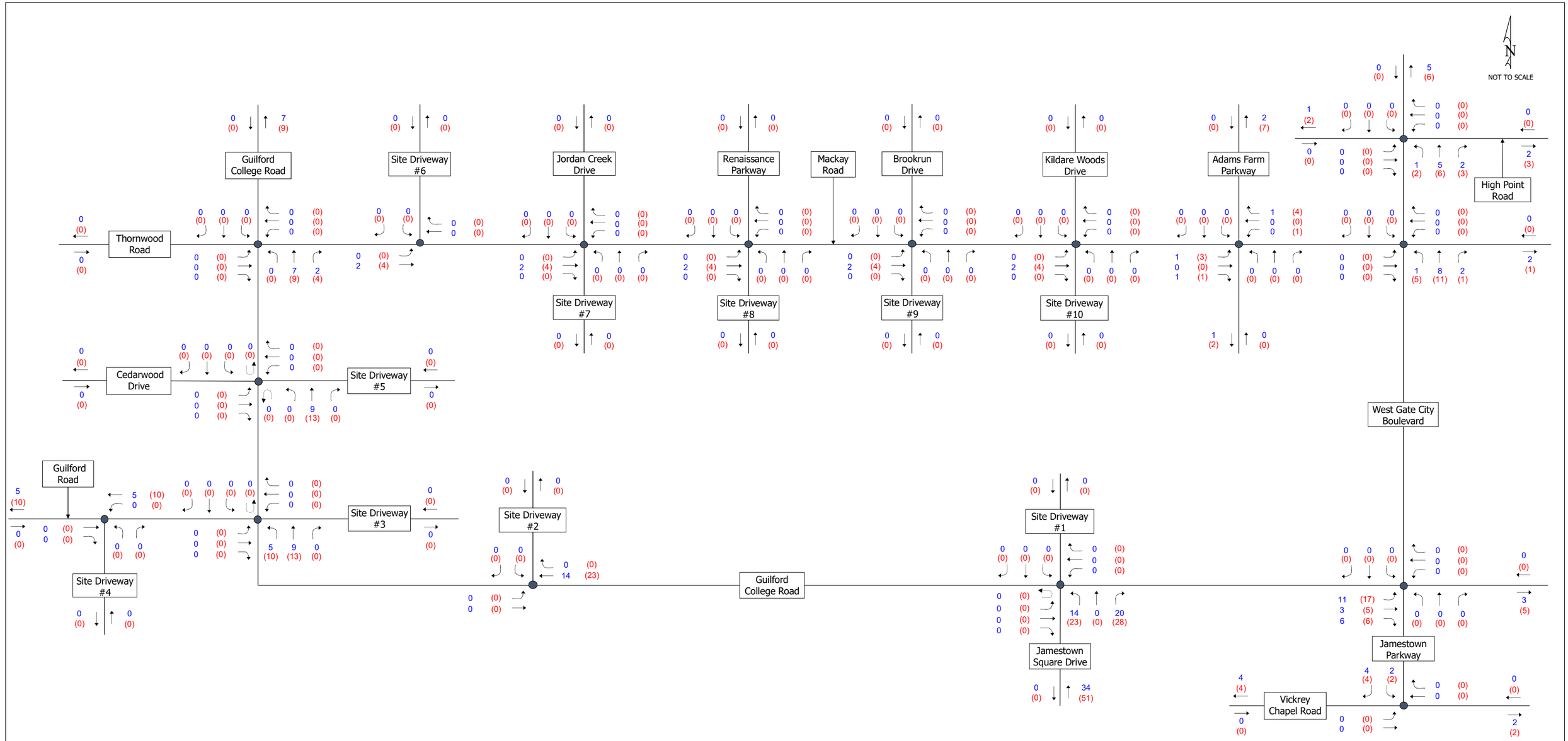
Castleton Village Traffic Impact Analysis

2027 Phase 3 - Residential and Athletic Fields Trip Distribution Volumes (Exiting Site)

Figure 4-24



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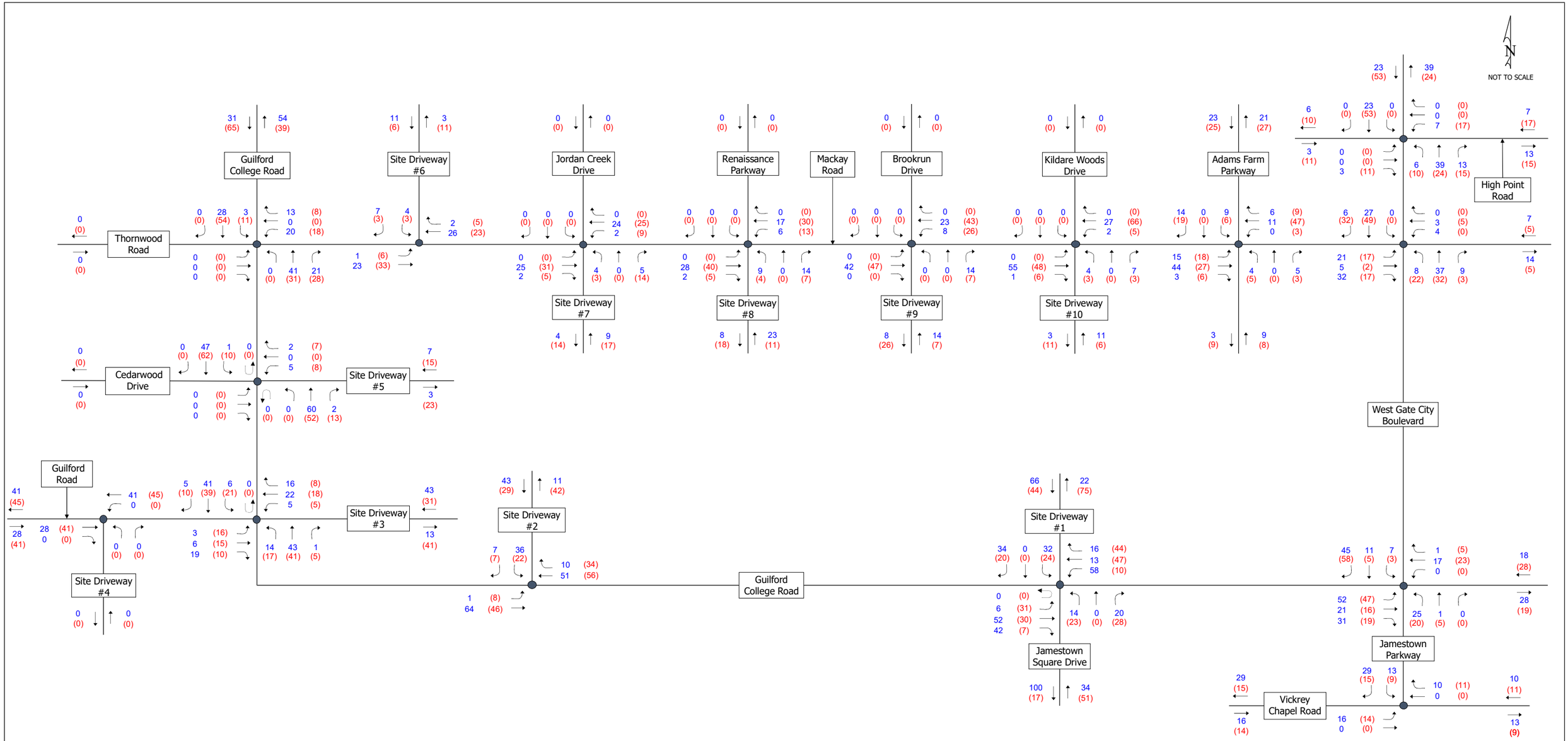
Castleton Village Traffic Impact Analysis

2027 Phase 3 - Office Trip Distribution Volumes (Exiting Site)

Figure 4-25



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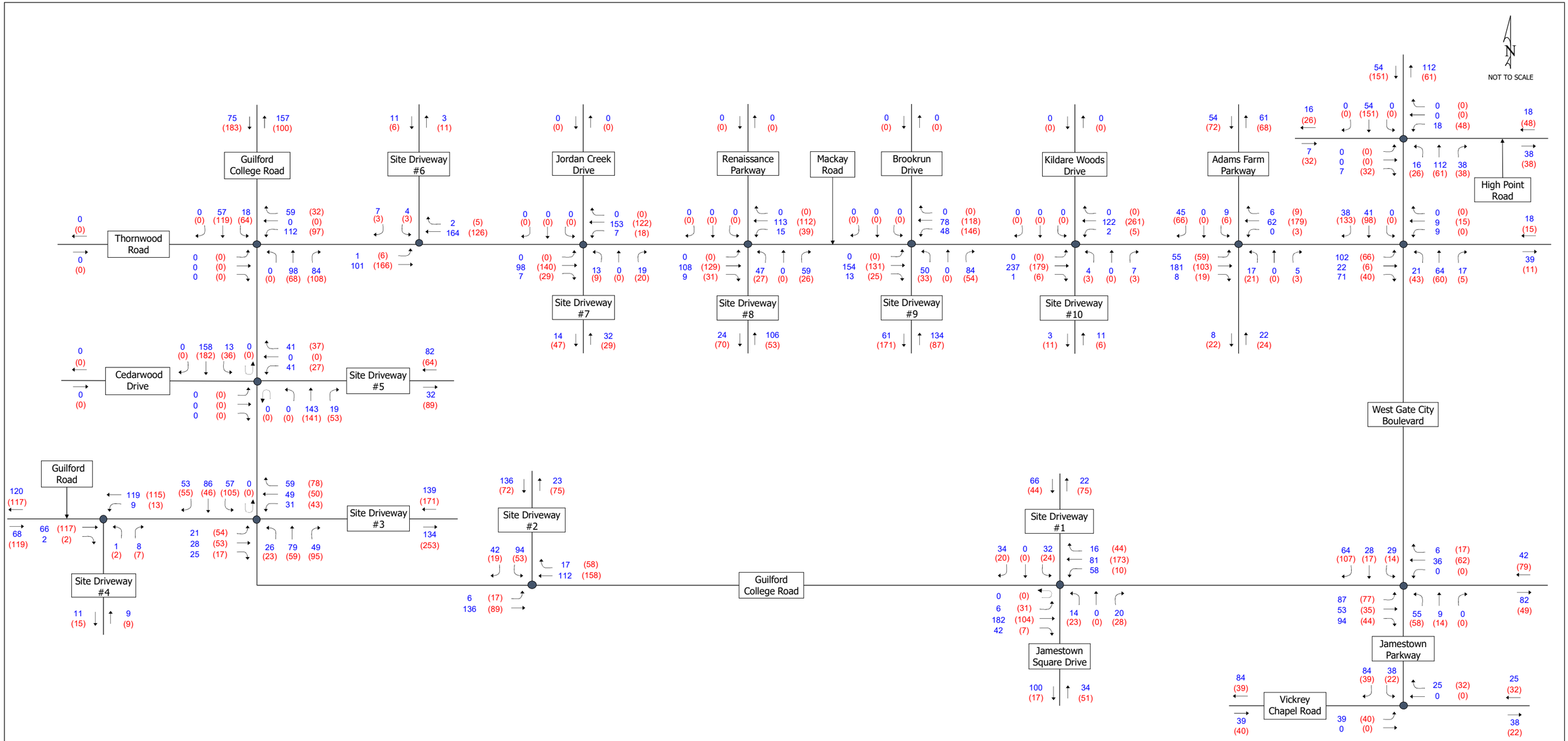
Castleton Village Traffic Impact Analysis

2027 Phase 3 - Total Trip Volumes

Figure 4-26



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Castleton Village Traffic Impact Analysis

2025 Phase 1 - 3 - Total Trip Volumes

Figure 4-27

5 BUILD CONDITION AND ANALYSIS

To complete the Build analyses (including the proposed development) for Phases 1 – 3, the estimated site trips were added to the Background traffic volumes for the corresponding year. The projected total volumes, along with the existing intersection geometry and existing signal timings, were used to complete the capacity and turn lane warrant analyses. Additionally, 2025 Phase 2 Build analyses include roadway improvements recommended due to the construction of Phase 1 of the Castleton Village Mixed-Use development (see Figure 7-1). Similarly, 2027 Phase 3 Build analyses include roadway improvements recommended due to the construction of Phase 1 and Phase 2 of the development (see Figure 7-1).

The Background traffic volumes (Figures 3-1, 3-2, and 3-3) were added to the projected site trips (Figures 4-9, 4-17, and 4-27) from the subject development to generate 2023 Phase 1 Build traffic volumes (background + site) shown in Figure 5-1, 2025 Phase 2 Build traffic volumes shown in Figure 5-2, and 2027 Phase 3 Build traffic volumes shown in Figure 5-3.

To summarize, the 2023 Phase 1, 2025 Phase 2, and 2027 Phase 3 Build traffic volumes shown on Figures 5-1, 5-2, and 5-3 contain the following:

- Existing 2020 turning movement traffic count volumes (collected by Timmons Group in 2019 / 2020) grown by an ambient growth rate of 2% for one year;
- Ambient traffic grown exponentially for 3, 5, and 7 years at a 2% ambient growth rate; and
- Site trips generated by the subject development (Phases 1, 2, and 3).

5.1 2023 PHASE 1 BUILD ANALYSIS

Table 5-1 summarizes the intersection LOS and delay based on the 2023 Phase 1 Build traffic volumes shown on Figure 5-1. The corresponding SYNCHRO outputs are included in Appendix D.

The unsignalized intersection of Mackay Road / Jordan Creek Drive is projected to operate at a LOS B or better on all approaches during the 2023 Phase 1 Build AM and PM peak hours. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the construction of Phase 1 of the proposed development.

The unsignalized intersection of Mackay Road / Renaissance Parkway / Site Driveway #8 is projected to operate at a LOS C or better on all approaches during the 2023 Phase 1 Build AM and PM peak hours. Per the NCDOT Policy on Street and Driveway Access to North Carolina Highways Manual:

"Generally left and right turn lanes and tapers shall be considered when:

- *In accordance with G.S. 136-18(29), the average daily traffic meets or exceeds 4,000 vehicles per day on any secondary route (the average daily traffic should include both the existing traffic plus traffic generated by the proposed development)"*

With AADTs along Mackay Road exceeding 4,000 VPD, an eastbound right-turn lane and westbound left-turn lane are recommended at Site Driveway #8. Per the nomograph (provided in the Driveway Manual – see Appendix E), and projected 2027 Phase 3 Build traffic volumes, a 50-foot eastbound right-turn lane (with appropriate taper) and a 50-foot westbound left-turn lane (with appropriate taper) are recommended (see Figure 7-1). Additionally, it is recommended that the northbound approach be constructed to include a shared left-turn / through lane and an exclusive right-turn lane. As shown in

Table 5-2, following the construction of these improvements all approaches are projected to continue to operate acceptably.

The unsignalized intersection of Mackay Road / Brookrun Drive / Site Driveway #9 is projected to operate at a LOS C or better on all approaches during the 2023 Phase 1 Build AM and PM peak hours. Per the nomograph (provided in the Driveway Manual – see Appendix E), and projected 2027 Phase 3 Build traffic volumes, the construction of a 125-foot westbound left-turn lane (with appropriate taper) is recommended. Additionally, it is recommended that the northbound approach be constructed to include a shared left-turn / through lane and an exclusive right-turn lane. As shown in Table 5-2, following the construction of these improvements all approaches are projected to continue to operate acceptably.

The unsignalized intersection of Mackay Road / Kildare Woods Drive is projected to operate at a LOS B or better on all approaches during the 2023 Phase 1 Build AM and PM peak hours. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the construction of Phase 1 of the proposed development.

The unsignalized intersection of Guilford College Road / Jamestown Square Drive is projected to operate at a LOS B or better on all approaches during the 2023 Phase 1 Build AM and PM peak hours. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the construction of Phase 1 of the proposed development.

The unsignalized intersection of Guilford Road / Site Driveway #4 is projected to operate at a LOS D or better on all approaches during the 2023 Phase 1 Build AM and PM peak hours. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the construction of Phase 1 of the proposed development.

The unsignalized intersection of Guilford College Road / Cedarwood Drive / Site Driveway #5 is projected to operate at a LOS A on the northbound and southbound approaches during the 2023 Phase 1 Build AM and PM peak hours. The eastbound and westbound approaches are projected to operate unacceptably during one or more peak hour. Per the nomograph (provided in the Driveway Manual – see Appendix E), and projected 2027 Phase 3 Build traffic volumes, the construction of a 50-foot northbound right-turn lane (with appropriate taper) is recommended. Additionally, it is recommended that the westbound approach be constructed to include a shared left-turn / through lane and an exclusive right-turn lane. As shown in Table 5-2, following the construction of these improvements the eastbound and westbound approaches will continue to operate unacceptably during the PM peak hour. Despite the fact that these intersection approaches are projected to operate unacceptably, no additional improvements are recommended due to the construction of Phase 1 of the proposed development. Outside of signalization, no amount of geometric improvements will result in an acceptable level of service for the failing approaches. Based on projected volumes and peaking characteristics of developments in the area, traffic signal warrants will likely not be met for the MUTCD's 4-hour and 8-hour volume warrants (which the NCDOT typically requires for signalization).

Using existing signal timings, the signalized intersection of Mackay Road / Thornwood Road / Guilford College Road is projected to operate at a LOS B during both the 2023 Phase 1 Build AM and PM peak hours. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the construction of Phase 1 of the proposed development.

Using existing signal timings, the signalized intersection of Mackay Road / Adams Farm Parkway is projected to operate at a LOS C during the 2023 Phase 1 Build AM peak hour and a LOS D during the PM peak hour. The westbound approach is projected to operate unacceptably during the PM peak hour. Because the intersection is projected to operate acceptably overall, no improvements are recommended due to the construction of Phase 1 of the proposed development.

Using existing signal timings, the signalized intersection of Mackay Road / W Gate City Boulevard is projected to operate at a LOS D during the 2023 Phase 1 Build AM and PM peak hours. The westbound approach is projected to operate unacceptably during both peak hours. Despite the fact that the westbound approach is anticipated to operate unacceptably, no improvements are recommended due to the construction of Phase 1 of the proposed development. It should be noted that the westbound approach is projected to operate unacceptably during both 2023 Background peak hours without construction of the proposed development. Additionally, the percent difference of the overall intersection delays (between the 2023 Background and 2023 Phase 1 Build scenarios) are less than 25%, which does not trigger requirement for improvement recommendations per NCDOT's Driveway Manual. Furthermore, the overall intersection is projected to operate acceptably during both AM and PM peak hours.

Using existing signal timings, the signalized intersection of W Gate City Boulevard / High Point Road is projected to operate at a LOS B during the 2023 Phase 1 Build AM peak hour and LOS C during the PM peak hour. The eastbound and westbound approaches are projected to operate unacceptably during both peak hours. Despite the fact that these approaches are projected to operate unacceptably, no improvements are recommended due to the construction of Phase 1 of the proposed development. It should be noted that these approaches are projected to operate unacceptably during both 2023 Background peak hours without construction of the proposed development. Additionally, the percent difference of the overall intersection delays (between the 2023 Background and 2023 Phase 1 Build scenarios) are less than 25%, which does not trigger requirement for improvement recommendations per NCDOT's Driveway Manual. Furthermore, the overall intersection is projected to operate acceptably during both AM and PM peak hours.

Using existing signal timings, the signalized intersection of W Gate City Boulevard / Jamestown Parkway / Guilford College Road is projected to operate at a LOS D during both the 2023 Phase 1 Build AM and PM peak hours. The eastbound and westbound approaches are projected to operate unacceptably during both peak hours. Despite the fact that these approaches are projected to operate unacceptably, no improvements are recommended due to the construction of Phase 1 of the proposed development. It should be noted that these approaches are projected to operate unacceptably during both 2023 Background peak hours without construction of the proposed development. Additionally, the percent difference of the overall intersection delays (between the 2023 Background and 2023 Phase 1 Build scenarios) are less than 25%, which does not trigger requirement for improvement recommendations per NCDOT's Driveway Manual. Furthermore, the overall intersection is projected to operate acceptably during both AM and PM peak hours.

Using existing signal timings, the signalized intersection of Jamestown Parkway / Vickrey Chapel Road is projected to operate at a LOS A during both the 2023 Phase 1 Build AM and PM peak hours. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the construction of Phase 1 of the proposed development.

The signalized intersection of Guilford College Road / Guilford Road / Site Driveway #3 is projected to operate at a LOS B during both the 2023 Phase 1 Build AM and PM peak hours. To accommodate 2023 Phase 1 Build traffic, construction of a 100-foot northbound right-turn lane is recommended due to construction of Phase 1 of the proposed development. Additionally, it is recommended that the westbound approach be constructed to include a shared left-turn / through lane and an exclusive right-turn lane. As shown in Table 5-2, following the construction of these improvements, the intersection is projected to continue to operate acceptably.

Table 5-1: Intersection Level of Service and Delay – 2023 Phase 1 Build Traffic Volumes

Intersection and Type of Control	Movement and Approach	AM PEAK HOUR		PM PEAK HOUR	
		Delay [1] (sec/veh)	LOS [1]	Delay [1] (sec/veh)	LOS [1]
3: Site Driveway #7/Jordan Creek Dr & Mackay Rd	EB Approach	0.2	A	0.2	A
	WB Approach	0.0	0	0.0	A
	SB Approach	11.1	B	11.3	B
4: Site Driveway #8/Renaissance Pkwy & Mackay Rd	EB Approach	0.2	A	0.3	A
	WB Approach	0.1	A	0.2	A
	NB Approach	12.4	B	15.1	C
	SB Approach	11.7	B	14.1	B
5: Site Driveway #9/Brookrun Dr & Mackay Rd	EB Approach	0.2	A	0.5	A
	WB Approach	0.6	A	1.7	A
	NB Approach	12.8	B	15.8	C
	SB Approach	12.8	B	17.2	C
6: Mackay Rd & Kildare Woods Dr	EB Approach	0.3	A	0.4	A
	WB Approach	0.0	A	0.0	A
	SB Approach	10.6	B	12.8	B
12: Jamestown Square Dr & Guilford College Rd	EB Approach	0.0	A	0.0	0
	WB Approach	0.1	A	0.1	A
	NB Approach	13.0	B	12.8	B
15: Guilford Rd & Site Driveway #4	EB Approach	0.0	A	0.0	0
	WB Approach	0.1	A	0.1	A
	NB Approach	18.5	C	27.2	D
16: Guilford College Rd & Cedarwood Dr/Site Driveway #5	EB Approach	31.9	D	***62.1***	***F***
	WB Approach	***36.9***	***E***	***49.6***	***E***
	NB Approach	0.2	A	0.5	A
	SB Approach	0.1	A	0.2	A
1: Guilford College Rd & Thornwood Rd/Mackay Rd	EB Approach	16.6	B	20.4	C
	WB Approach	19.4	B	26.0	C
	NB Approach	18.2	B	18.5	B
	SB Approach	14.5	B	17.3	B
	Overall	16.9	B	18.9	B
7: Adams Farm Pkwy & Mackay Rd	EB Approach	30.0	C	30.5	C
	WB Approach	35.1	D	***67.2***	***E***
	NB Approach	39.3	D	41.6	D
	SB Approach	32.8	C	35.9	D
	Overall	33.6	C	51.3	D
8: W Gate City Blvd & Mackay Rd	EB Approach	48.7	D	31.2	C
	WB Approach	***59.4***	***E***	***63.5***	***E***
	NB Approach	36.0	D	41.0	D
	SB Approach	18.8	B	30.2	C
	Overall	35.4	D	35.1	D
9: W Gate City Blvd & High Point Rd	EB Approach	***77.9***	***E***	***80.9***	***F***
	WB Approach	***78.7***	***E***	***76.0***	***E***
	NB Approach	5.5	A	10.2	B
	SB Approach	6.2	A	13.4	B
	Overall	17.8	B	27.2	C
10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd	EB Approach	***71.3***	***E***	***66.8***	***E***
	WB Approach	***84.0***	***F***	***81.1***	***F***
	NB Approach	29.3	C	33.9	C
	SB Approach	29.1	C	34.3	C
	Overall	47.2	D	49.7	D
11: Vickrey Chapel Rd & Jamestown Pkwy	EB Approach	6.6	A	6.0	A
	WB Approach	9.7	A	8.8	A
	SB Approach	12.6	B	10.4	B
	Overall	9.3	A	8.0	A
14: Guilford College Rd & Guilford Rd/Site Driveway #3	EB Approach	23.7	C	23.2	C
	WB Approach	31.7	C	26.9	C
	NB Approach	14.4	B	11.9	B
	SB Approach	19.1	B	18.7	B
	Overall	20.0	B	18.6	B

[1] *Overall intersection LOS and delay reported for signalized intersections and roundabouts only.*

† SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

Table 5-2: Intersection Level of Service and Delay – 2023 Phase 1 Build Traffic Volumes with Recommended Improvements

Intersection and Type of Control	Movement and Approach	AM PEAK HOUR		PM PEAK HOUR	
		Delay [1] (sec/veh)	LOS [1]	Delay [1] (sec/veh)	LOS [1]
4: Site Driveway #8/Renaissance Pkwy & Mackay Rd	EB Approach	0.2	A	0.3	A
	WB Approach	0.1	A	0.2	A
	NB Approach	12.1	B	14.6	B
	SB Approach	11.7	B	14.1	B
5: Site Driveway #9/Brookrun Dr & Mackay Rd	EB Approach	0.2	A	0.5	A
	WB Approach	0.6	A	1.7	A
	NB Approach	12.3	B	15.0	C
	SB Approach	12.8	B	17.1	C
16: Guilford College Rd & Cedarwood Dr/Site Driveway #5	EB Approach	31.9	D	***62.1***	***F***
	WB Approach	32.5	D	***42.6***	***E***
	NB Approach	0.2	A	0.5	A
	SB Approach	0.1	A	0.2	A
14: Guilford College Rd & Guilford Rd/Site Driveway #3	EB Approach	22.6	C	27.6	C
	WB Approach	25.6	C	26.5	C
	NB Approach	18.5	B	16.6	B
	SB Approach	18.4	B	25.0	C
	Overall	19.9	B	23.9	C

[1] *Overall intersection LOS and delay reported for signalized intersections and roundabouts only.*

† SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

5.2 2025 PHASE 2 BUILD ANALYSIS

Table 5-3 summarizes the intersection LOS and delay based on the 2025 Phase 2 Build traffic volumes shown on Figure 5-2. Additionally, 2025 Phase 2 Build analyses include roadway improvements recommended due to the construction of Phase 1 of the development (see Figure 7-1). The corresponding SYNCHRO outputs are included in Appendix D.

The unsignalized intersection of Mackay Road / Jordan Creek Drive / Site Driveway #7 is projected to operate at a LOS C or better on all approaches during the 2025 Phase 2 Build AM and PM peak hours. Per the nomograph (provided in the Driveway Manual – see Appendix E), and projected 2027 Phase 3 Build traffic volumes, the construction of a 50-foot eastbound right-turn lane (with appropriate taper) is recommended. As shown in Table 5-4, following the construction of this improvement all approaches are projected to continue to operate acceptably.

The unsignalized intersection of Mackay Road / Renaissance Parkway / Site Driveway #8 is projected to operate at a LOS C or better on all approaches during the 2025 Phase 2 Build AM and PM peak hours.

Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the construction of Phase 2 of the proposed development.

The unsignalized intersection of Mackay Road / Brookrun Drive / Site Driveway #9 is projected to operate at a LOS C or better on all approaches during the 2025 Phase 2 Build AM and PM peak hours. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the construction of Phase 2 of the proposed development.

The unsignalized intersection of Mackay Road / Kildare Woods Drive is projected to operate at a LOS C or better on all approaches during the 2025 Phase 2 Build AM and PM peak hours. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the construction of Phase 2 of the proposed development.

The unsignalized intersection of Guilford College Road / Jamestown Square Drive is projected to operate at a LOS B or better on all approaches during the 2025 Phase 2 Build AM and PM peak hours. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the construction of Phase 2 of the proposed development.

The unsignalized intersection of Guilford College Road / Site Driveway #2 is projected to operate at a LOS C or better on all approaches during the 2025 Phase 2 Build AM and PM peak hours. Per the nomograph (provided in the Driveway Manual – see Appendix E) and projected 2027 Phase 3 Build traffic volumes, the construction of a 50-foot eastbound left-turn lane (with appropriate taper) and a 50-foot westbound right-turn lane (with appropriate taper) is recommended. It is also recommended that the southbound approach be constructed to include exclusive left and right-turn lanes. As shown in Table 5-4, following the construction of these improvements all approaches are projected to continue to operate acceptably.

The unsignalized intersection of Guilford Road / Site Driveway #4 is projected to operate at a LOS D or better on all approaches during the 2025 Phase 2 Build AM and PM peak hours. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the construction of Phase 2 of the proposed development.

The unsignalized intersection of Guilford College Road / Cedarwood Drive / Site Driveway #5 is projected to operate at a LOS A on the northbound and southbound approaches during the 2025 Phase 2 Build AM and PM peak hours. The eastbound and westbound approaches are projected to operate unacceptably during both peak hours. Despite the fact that these intersection approaches are projected to operate unacceptably, no improvements are recommended due to the construction of Phase 2 of the proposed development. Outside of signalization, no amount of geometric improvements will result in an acceptable level of service for the failing approaches. Based on projected volumes and peaking characteristics of developments in the area, traffic signal warrants will likely not be met for the MUTCD's 4-hour and 8-hour volume warrants (which the NCDOT typically requires for signalization).

Using existing signal timings, the signalized intersection of Mackay Road / Thornwood Road / Guilford College Road is projected to operate at a LOS B during the 2025 Phase 2 Build AM peak hour and a LOS C during the PM peak hour. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the construction of Phase 2 of the proposed development.

Using existing signal timings, the signalized intersection of Mackay Road / Adams Farm Parkway is projected to operate at a LOS D during the 2025 Phase 2 Build AM peak hour and a LOS F during the PM peak hour. The eastbound and westbound approaches are projected to operate unacceptably during the PM peak hour. Despite the fact that the intersection is projected to operate unacceptably during one peak hour, no improvements are recommended due to the construction of Phase 2 of the proposed development. The intersection is projected to fail primarily due to a) the less efficient split side street

signal phasing and b) the high number of southbound left-turning vehicles vs the high number of westbound right-turning vehicles. It should be noted that the proposed development is not projected to contribute any trips to the southbound left-turning or westbound right-turning movements.

Using existing signal timings, the signalized intersection of Mackay Road / W Gate City Boulevard is projected to operate at a LOS D during the 2025 Phase 2 Build AM and PM peak hours. The westbound approach is projected to operate unacceptably during both peak hours. Despite the fact that the westbound approach is anticipated to operate unacceptably, no improvements are recommended due to the construction of Phase 2 of the proposed development. It should be noted that the westbound approach is projected to operate unacceptably during both 2025 Background peak hours without construction of the proposed development. Additionally, the percent difference of the overall intersection delays (between the 2025 Background and 2025 Phase 2 Build scenarios) are less than 25%, which does not trigger requirement for improvement recommendations per NCDOT's Driveway Manual. Furthermore, the overall intersection is projected to operate acceptably during both AM and PM peak hours.

Using existing signal timings, the signalized intersection of W Gate City Boulevard / High Point Road is projected to operate at a LOS B during the 2025 Phase 2 Build AM peak hour and LOS C during the PM peak hour. The eastbound and westbound approaches are projected to operate unacceptably during both peak hours. Despite the fact that these approaches are projected to operate unacceptably, no improvements are recommended due to the construction of Phase 2 of the proposed development. It should be noted that these approaches are projected to operate unacceptably during both 2025 Background peak hours without construction of the proposed development. Additionally, the percent difference of the overall intersection delays (between the 2025 Background and 2025 Phase 2 Build scenarios) are less than 25%, which does not trigger requirement for improvement recommendations per NCDOT's Driveway Manual. Furthermore, the overall intersection is projected to operate acceptably during both AM and PM peak hours.

Using existing signal timings, the signalized intersection of W Gate City Boulevard / Jamestown Parkway / Guilford College Road is projected to operate at a LOS D during both the 2025 Phase 2 Build AM and PM peak hours. The eastbound and westbound approaches are projected to operate unacceptably during both peak hours. Despite the fact that these approaches are projected to operate unacceptably, no improvements are recommended due to the construction of Phase 2 of the proposed development. It should be noted that these approaches are projected to operate unacceptably during both 2025 Background peak hours without construction of the proposed development. Additionally, the percent difference of the overall intersection delays (between the 2025 Background and 2025 Phase 2 Build scenarios) are less than 25%, which does not trigger requirement for improvement recommendations per NCDOT's Driveway Manual. Furthermore, the overall intersection is projected to operate acceptably during both AM and PM peak hours.

Using existing signal timings, the signalized intersection of Jamestown Parkway / Vickrey Chapel Road is projected to operate at a LOS B during both the 2025 Phase 2 AM peak hour and LOS A during the PM peak hour. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the construction of Phase 2 of the proposed development.

The signalized intersection of Guilford College Road / Guilford Road / Site Driveway #3 is projected to operate at a LOS C during both the 2025 Phase 2 Build AM and PM peak hours. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the construction of Phase 2 of the proposed development.

Table 5-3: Intersection Level of Service and Delay – 2025 Phase 2 Build Traffic Volumes

Intersection and Type of Control	Movement and Approach	AM PEAK HOUR		PM PEAK HOUR	
		Delay [1] (sec/veh)	LOS [1]	Delay [1] (sec/veh)	LOS [1]
3: Site Driveway #7/Jordan Creek Dr & Mackay Rd	EB Approach	0.2	A	0.2	A
	WB Approach	0.1	A	0.2	A
	NB Approach	13.5	B	17.3	C
	SB Approach	13.1	B	14.8	B
4: Site Driveway #8/Renaissance Pkwy & Mackay Rd	EB Approach	0.1	A	0.3	A
	WB Approach	0.2	A	0.6	A
	NB Approach	13.7	B	17.6	C
	SB Approach	13.1	B	17.2	C
5: Site Driveway #9/Brooknun Dr & Mackay Rd	EB Approach	0.2	A	0.4	A
	WB Approach	0.9	A	2.3	A
	NB Approach	14.6	B	22.2	C
	SB Approach	16.0	C	24.9	C
6: Mackay Rd & Kildare Woods Dr	EB Approach	0.2	A	0.4	A
	WB Approach	0.0	0	0.0	0
	SB Approach	11.6	B	15.2	C
12: Jamestown Square Dr & Guilford College Rd	EB Approach	0.0	0	0.0	0
	WB Approach	0.1	A	0.1	A
	NB Approach	14.6	B	14.2	B
13: Guilford College Rd & Site Driveway #2	EB Approach	0.1	A	0.3	A
	WB Approach	0.0	0	0.0	0
	SB Approach	15.9	C	19.0	C
15: Guilford Rd & Site Driveway #4	EB Approach	0.0	0	0.0	0
	WB Approach	0.1	A	0.1	A
	NB Approach	20.7	C	33.2	D
16: Guilford College Rd & Cedarwood Dr/Site Driveway #5	EB Approach	***45.6***	***E***	***110.9***	***F***
	WB Approach	***58.6***	***F***	***81.9***	***F***
	NB Approach	0.2	A	0.5	A
	SB Approach	0.1	A	0.3	A
1: Guilford College Rd & Thornwood Rd/Mackay Rd	EB Approach	18.8	B	20.7	C
	WB Approach	25.9	C	27.1	C
	NB Approach	19.3	B	21.1	C
	SB Approach	14.1	B	26.7	C
	Overall	18.8	B	24.5	C
7: Adams Farm Pkwy & Mackay Rd	EB Approach	36.9	D	***57.8***	***E***
	WB Approach	37.7	D	***140.7***	***F***
	NB Approach	41.8	D	43.6	D
	SB Approach	39.2	D	38.4	D
	Overall	38.5	D	***93.8***	***F***
8: W Gate City Blvd & Mackay Rd	EB Approach	44.5	D	27.3	C
	WB Approach	***57.8***	***E***	***63.8***	***E***
	NB Approach	39.0	D	43.1	D
	SB Approach	21.9	C	37.4	D
	Overall	36.1	D	38.1	D
9: W Gate City Blvd & High Point Rd	EB Approach	***77.9***	***E***	***81.0***	***F***
	WB Approach	***78.6***	***E***	***75.4***	***E***
	NB Approach	5.8	A	11.4	B
	SB Approach	7.3	A	15.3	B
	Overall	18.0	B	28.3	C
10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd	EB Approach	***70.4***	***E***	***65.7***	***E***
	WB Approach	***82.9***	***F***	***79.6***	***E***
	NB Approach	33.3	C	38.1	D
	SB Approach	30.8	C	35.4	D
	Overall	48.9	D	50.9	D
11: Vickrey Chapel Rd & Jamestown Pkwy	EB Approach	8.4	A	7.8	A
	WB Approach	11.2	B	10.2	B
	SB Approach	12.5	B	10.3	B
	Overall	10.6	B	9.3	A
14: Guilford College Rd & Guilford Rd/Site Driveway #3	EB Approach	27.3	C	37.9	D
	WB Approach	26.3	C	26.3	C
	NB Approach	22.2	C	25.9	C
	SB Approach	21.2	C	35.0	D
	Overall	23.4	C	33.4	C

[1] *Overall intersection LOS and delay reported for signalized intersections and roundabouts only.*

† SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

Table 5-4: Intersection Level of Service and Delay – 2025 Phase 2 Build Traffic Volumes with Recommended Improvements

Intersection and Type of Control	Movement and Approach	AM PEAK HOUR		PM PEAK HOUR	
		Delay [1] (sec/veh)	LOS [1]	Delay [1] (sec/veh)	LOS [1]
3: Site Driveway #7/Jordan Creek Dr & Mackay Rd	EB Approach	0.2	A	0.2	A
	WB Approach	0.1	A	0.2	A
	NB Approach	13.4	B	17.0	C
	SB Approach	13.1	B	14.8	B
13: Guilford College Rd & Site Driveway #2	EB Approach	0.1	A	0.2	A
	WB Approach	0.0	0	0.0	0
	SB Approach	14.9	B	18.0	C

[1] *Overall intersection LOS and delay reported for signalized intersections and roundabouts only.*

† SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

5.3 2027 PHASE 3 BUILD ANALYSIS

Table 5-5 summarizes the intersection LOS and delay based on the 2027 Phase 3 Build traffic volumes shown on Figure 5-3. Additionally, 2027 Phase 3 Build analyses include roadway improvements recommended due to the construction of Phase 1 and Phase 2 of the development (see Figure 7-1). The corresponding SYNCHRO outputs are included in Appendix D.

The unsignalized intersection of Mackay Road / Site Driveway #6 is projected to operate at a LOS B or better on all approaches during the 2027 Phase 3 Build AM and PM peak hours. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the construction of Phase 3 of the proposed development.*

*As mentioned earlier in the document, Site Driveway #6 is actually two closely spaced driveways that were analyzed as one. It is recommended that the western driveway be right-in / right-out (RIRO) and the eastern driveway be full movement.

The unsignalized intersection of Mackay Road / Jordan Creek Drive / Site Driveway #7 is projected to operate at a LOS C or better on all approaches during the 2027 Phase 3 Build AM and PM peak hours. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the construction of Phase 3 of the proposed development.

The unsignalized intersection of Mackay Road / Renaissance Parkway / Site Driveway #8 is projected to operate at a LOS C or better on all approaches during the 2027 Phase 3 Build AM and PM peak hours. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the construction of Phase 3 of the proposed development.

The unsignalized intersection of Mackay Road / Brookrun Drive / Site Driveway #9 is projected to operate at a LOS E on the southbound approach during the 2025 Phase 2 Build PM peak hour. All other approaches are projected to operate at a LOS D or better on all approaches AM and PM peak hours. Although the

southbound approach is projected to operate unacceptably during the PM peak hour, no improvements are recommended due to the construction of Phase 3 of the proposed development. The number of vehicles anticipated to experience the delay on this approach during the PM peak hour is minimal (20 vehicles).

The unsignalized intersection of Mackay Road / Kildare Woods Drive / Site Driveway #10 is projected to operate at a LOS C or better on all approaches during the 2027 Phase 3 Build AM and PM peak hours. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the construction of Phase 3 of the proposed development.

The unsignalized intersection of Guilford College Road / Jamestown Square Drive / Site Driveway #1 is projected to operate at a LOS D or better on all approaches during the 2027 Phase 3 Build AM and PM peak hours. Per the nomograph (provided in the Driveway Manual – see Appendix E) and projected 2027 Phase 3 Build traffic volumes, the construction of a 50-foot westbound right-turn lane (with appropriate taper) is recommended. It is also recommended that the southbound approach be constructed to include a shared left-turn / through lane and an exclusive right-turn lane. As shown in Table 5-6, following the construction of these improvements all approaches are projected to continue to operate acceptably.

The unsignalized intersection of Guilford College Road / Site Driveway #2 is projected to operate at a LOS C or better on all approaches during the 2027 Phase 3 Build AM and PM peak hours. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the construction of Phase 3 of the proposed development

The unsignalized intersection of Guilford Road / Site Driveway #4 is projected to operate at a LOS A on the eastbound and westbound approaches during the 2027 Phase 3 Build AM and PM peak hours. The northbound approach is projected to operate unacceptably during the PM peak hour. Although the northbound approach is projected to operate unacceptably during the PM peak hour, no improvements are recommended due to the construction of Phase 3 of the proposed development. The number of vehicles anticipated to experience the delay on this approach during the PM peak hour is minimal (9 vehicles).

The unsignalized intersection of Guilford College Road / Cedarwood Drive / Site Driveway #5 is projected to operate at a LOS A on the northbound and southbound approaches during the 2027 Phase 3 Build AM and PM peak hours. The eastbound and westbound approaches are projected to operate unacceptably during both peak hours. Despite the fact that these intersection approaches are projected to operate unacceptably, no improvements are recommended due to the construction of Phase 3 of the proposed development. Outside of signalization, no amount of geometric improvements will result in an acceptable level of service for the failing approaches. Based on projected volumes and peaking characteristics of developments in the area, traffic signal warrants will likely not be met for the MUTCD's 4-hour and 8-hour volume warrants (which the NCDOT typically requires for signalization).

Using existing signal timings, the signalized intersection of Mackay Road / Thornwood Road / Guilford College Road is projected to operate at a LOS B during the 2027 Phase 3 Build AM peak hour and a LOS C during the PM peak hour. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the construction of Phase 3 of the proposed development.

Using existing signal timings, the signalized intersection of Mackay Road / Adams Farm Parkway is projected to operate at a LOS D during the 2027 Phase 3 Build AM peak hour and a LOS F during the PM peak hour. The eastbound and westbound approaches are projected to operate unacceptably during the PM peak hour. Despite the fact that the intersection is projected to operate unacceptably during one peak hour, no improvements are recommended due to the construction of Phase 3 of the proposed development. The intersection is projected to fail primarily due to a) the less efficient split side street

signal phasing and b) the high number of southbound left-turning vehicles vs the high number of westbound right-turning vehicles. It should be noted that the proposed development is not projected to contribute any trips to the southbound left-turning or westbound right-turning movements.

Using existing signal timings, the signalized intersection of Mackay Road / W Gate City Boulevard is projected to operate at a LOS D during the 2027 Phase 3 Build AM and PM peak hours. The westbound approach is projected to operate unacceptably during both peak hours. Despite the fact that the westbound approach is anticipated to operate unacceptably, no improvements are recommended due to the construction of Phase 3 of the proposed development. It should be noted that the westbound approach is projected to operate unacceptably during both 2027 Background peak hours without construction of the proposed development. Additionally, the percent difference of the overall intersection delays (between the 2027 Background and 2027 Phase 3 Build scenarios) are less than 25%, which does not trigger requirement for improvement recommendations per NCDOT's Driveway Manual. Furthermore, the overall intersection is projected to operate acceptably during both AM and PM peak hours.

Using existing signal timings, the signalized intersection of W Gate City Boulevard / High Point Road is projected to operate at a LOS B during the 2027 Phase 3 Build AM peak hour and LOS C during the PM peak hour. The eastbound and westbound approaches are projected to operate unacceptably during both peak hours. Despite the fact that these approaches are projected to operate unacceptably, no improvements are recommended due to the construction of Phase 3 of the proposed development. It should be noted that these approaches are projected to operate unacceptably during both 2027 Background peak hours without construction of the proposed development. Additionally, the percent difference of the overall intersection delays (between the 2027 Background and 2027 Phase 3 Build scenarios) are less than 25%, which does not trigger requirement for improvement recommendations per NCDOT's Driveway Manual. Furthermore, the overall intersection is projected to operate acceptably during both AM and PM peak hours.

Using existing signal timings, the signalized intersection of W Gate City Boulevard / Jamestown Parkway / Guilford College Road is projected to operate at a LOS D during both the 2027 Phase 3 Build AM and PM peak hours. The eastbound and westbound approaches are projected to operate unacceptably during both peak hours. Despite the fact that these approaches are projected to operate unacceptably, no improvements are recommended due to the construction of Phase 3 of the proposed development. It should be noted that these approaches are projected to operate unacceptably during both 2025 Background peak hours without construction of the proposed development. Additionally, the percent difference of the overall intersection delays (between the 2027 Background and 2027 Phase 3 Build scenarios) are less than 25%, which does not trigger requirement for improvement recommendations per NCDOT's Driveway Manual. Furthermore, the overall intersection is projected to operate acceptably during both AM and PM peak hours.

Using existing signal timings, the signalized intersection of Jamestown Parkway / Vickrey Chapel Road is projected to operate at a LOS B during both the 2027 Phase 3 AM peak hour and LOS A during the PM peak hour. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the construction of Phase 3 of the proposed development.

The signalized intersection of Guilford College Road / Guilford Road / Site Driveway #3 is projected to operate at a LOS C during the 2027 Phase 3 Build AM peak hour and LOS D during the PM peak hour. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the construction of Phase 3 of the proposed development.

Table 5-5: Intersection Level of Service and Delay – 2027 Phase 3 Build Traffic Volumes

Intersection and Type of Control	Movement and Approach	AM PEAK HOUR		PM PEAK HOUR	
		Delay [1] (sec/veh)	LOS [2]	Delay [1] (sec/veh)	LOS [2]
2: Mackay Rd & Site Driveway #6	EB Approach	0.1	A	0.1	A
	WB Approach	0.0	A	0.0	A
	SB Approach	13.2	B	14.8	B
3: Site Driveway #7/Jordan Creek Dr & Mackay Rd	EB Approach	0.2	A	0.2	A
	WB Approach	0.1	A	0.4	A
	NB Approach	14.6	B	17.3	C
	SB Approach	13.8	B	16.3	C
4: Site Driveway #8/Renaissance Pkwy & Mackay Rd	EB Approach	0.1	A	0.2	A
	WB Approach	0.3	A	0.8	A
	NB Approach	15.1	C	20.5	C
	SB Approach	14.0	B	20.1	C
5: Site Driveway #9/Brookrun Dr & Mackay Rd	EB Approach	0.1	A	0.4	A
	WB Approach	1.0	A	2.5	A
	NB Approach	16.1	C	29.2	D
	SB Approach	18.6	C	***35.1***	***E***
6: Site Driveway #10/Kildare Woods Dr & Mackay Rd	EB Approach	0.2	A	0.3	A
	WB Approach	0.1	A	0.1	A
	NB Approach	14.7	B	20.3	C
	SB Approach	14.3	B	22.7	C
12: Jamestown Square Dr/Site Driveway #1 & Guilford College Rd	EB Approach	0.1	A	0.5	A
	WB Approach	1.2	A	0.1	A
	NB Approach	23.4	C	22.7	C
	SB Approach	24.0	C	31.4	D
13: Guilford College Rd & Site Driveway #2	EB Approach	0.1	A	0.3	A
	WB Approach	0.0	A	0.0	A
	SB Approach	20.1	C	24.2	C
15: Guilford Rd & Site Driveway #4	EB Approach	0.0	A	0.0	A
	WB Approach	0.1	A	0.1	A
	NB Approach	23.3	C	***40.7***	***E***
16: Guilford College Rd & Cederwood Dr/Site Driveway #5	EB Approach	***69.2***	***F***	***232.6***	***F***
	WB Approach	***110.9***	***F***	***204.2***	***F***
	NB Approach	0.2	A	0.5	A
	SB Approach	0.1	A	0.3	A
1: Guilford College Rd & Thornwood Rd/Mackay Rd	EB Approach	20.1	C	21.9	C
	WB Approach	30.4	C	31.3	C
	NB Approach	19.3	B	21.0	C
	SB Approach	14.0	B	31.9	C
	Overall	19.9	B	27.5	C
7: Adams Farm Pkwy & Mackay Rd	EB Approach	44.6	D	***97.8***	***F***
	WB Approach	39.4	D	***198.4***	***F***
	NB Approach	44.2	D	44.7	D
	SB Approach	49.9	D	39.8	D
	Overall	45.1	D	***128.8***	***F***
8: W Gate City Blvd & Mackay Rd	EB Approach	42.1	D	27.9	C
	WB Approach	***56.0***	***E***	***64.8***	***E***
	NB Approach	41.0	D	41.7	D
	SB Approach	24.5	C	42.4	D
	Overall	36.8	D	40.0	D
9: W Gate City Blvd & High Point Rd	EB Approach	***75.8***	***E***	***80.6***	***F***
	WB Approach	***77.9***	***E***	***74.9***	***E***
	NB Approach	6.6	A	12.6	B
	SB Approach	8.3	A	17.3	B
	Overall	18.4	B	29.4	C
10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd	EB Approach	***68.6***	***E***	***64.4***	***E***
	WB Approach	***81.5***	***F***	***77.7***	***E***
	NB Approach	38.0	D	42.0	D
	SB Approach	32.4	C	36.5	D
	Overall	50.3	D	51.9	D
11: Vickrey Chapel Rd & Jamestown Pkwy	EB Approach	9.8	A	8.1	A
	WB Approach	12.5	B	9.9	A
	SB Approach	12.4	B	10.6	B
	Overall	11.4	B	9.4	A
14: Guilford College Rd & Guilford Rd/Site Driveway #3	EB Approach	32.9	C	54.9	D
	WB Approach	28.6	C	28.1	C
	NB Approach	23.3	C	26.0	C
	SB Approach	24.5	C	53.4	D
	Overall	26.9	C	46.1	D

[2] *Overall intersection LOS and delay reported for signalized intersections and roundabouts only.*

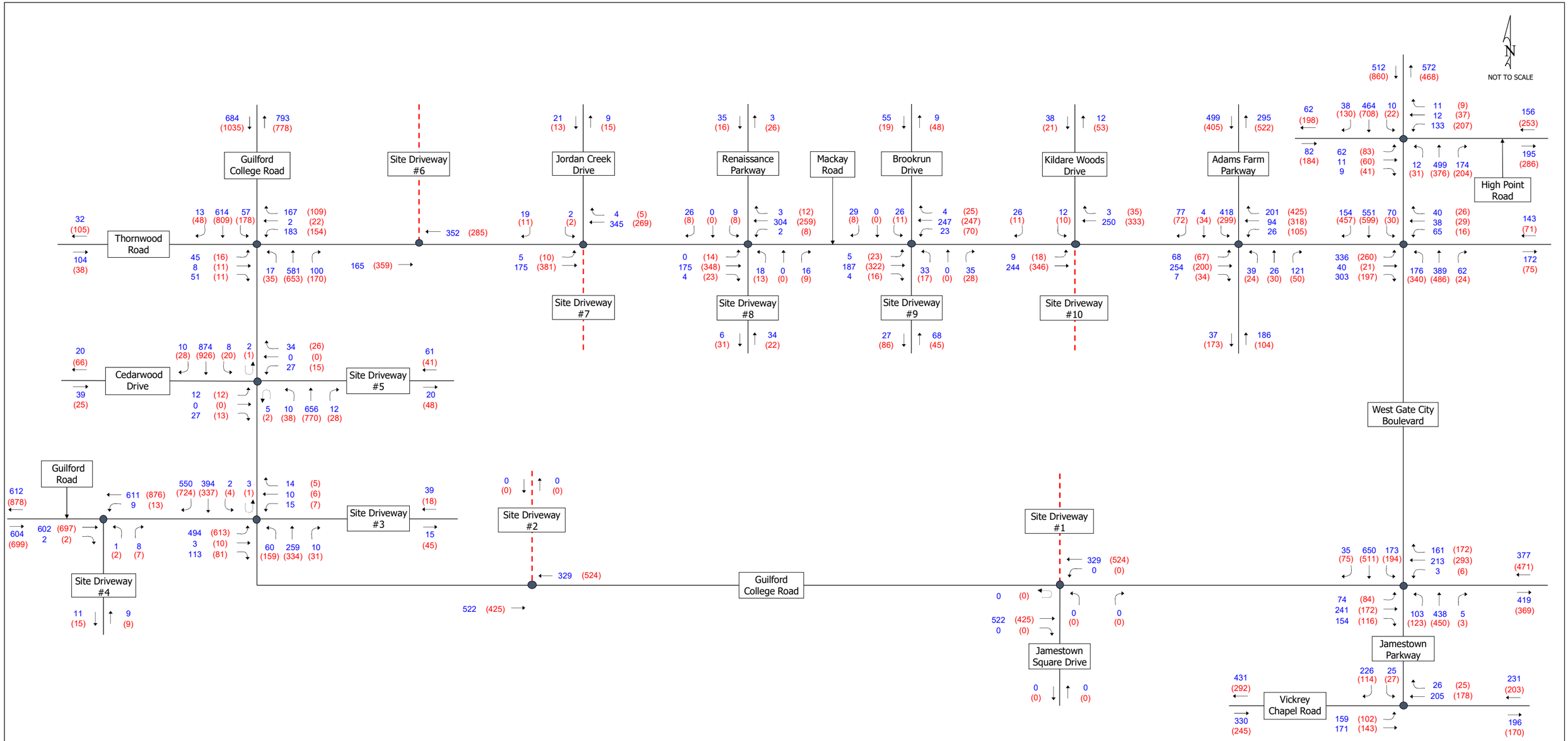
[1] SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

Table 5-6: Intersection Level of Service and Delay – 2027 Phase 3 Build Traffic Volumes with Recommended Improvements

Intersection and Type of Control	Movement and Approach	AM PEAK HOUR		PM PEAK HOUR	
		Delay [1] (sec/veh)	LOS [1]	Delay [1] (sec/veh)	LOS [1]
12: Jamestown Square Dr/Site Driveway #1 & Guilford College Rd	EB Approach	0.1	A	0.5	A
	WB Approach	1.2	A	0.1	A
	NB Approach	23.4	C	22.7	C
	SB Approach	21.9	C	28.3	D

[1] *Overall intersection LOS and delay reported for signalized intersections and roundabouts only.*

† SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.



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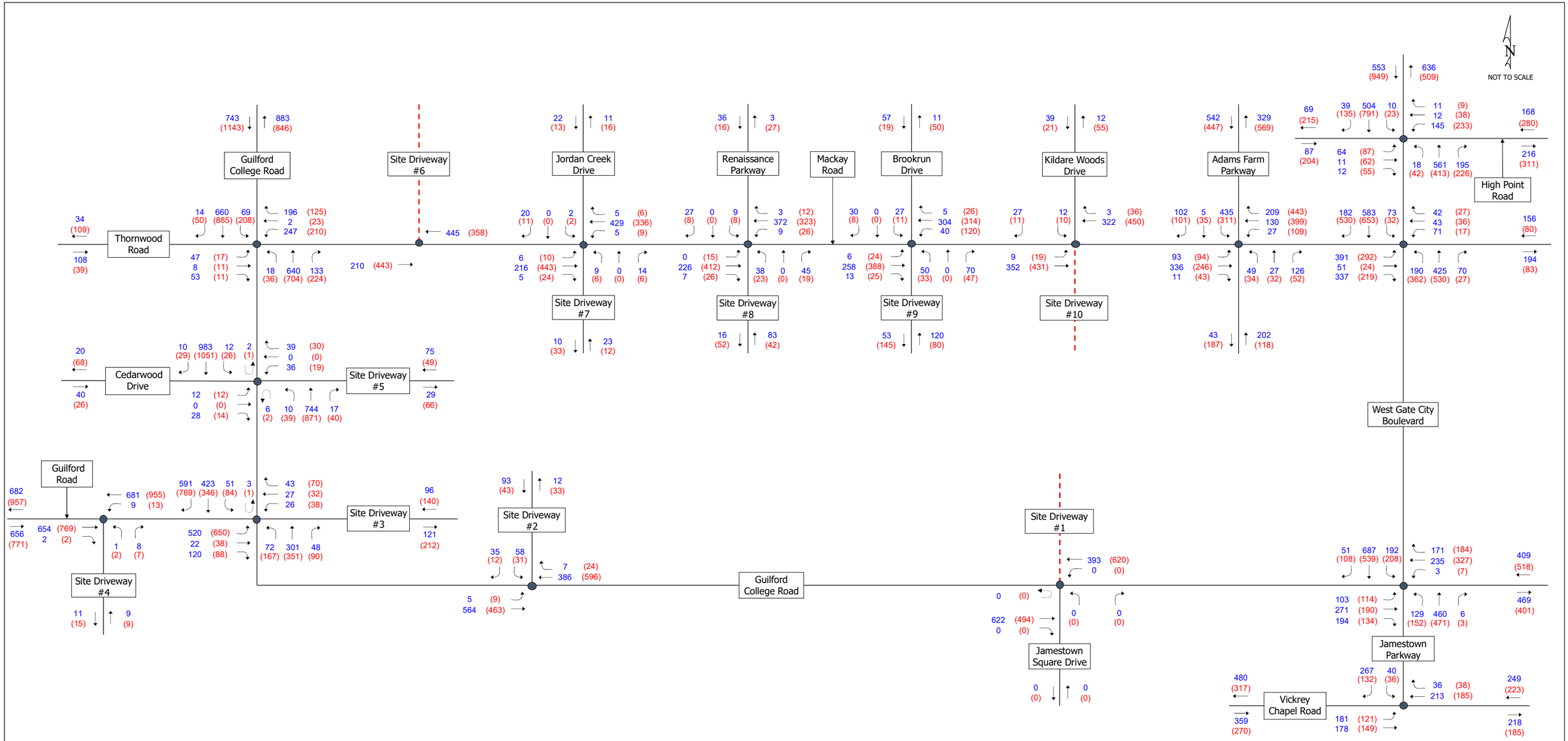
2023 Phase 1 Build Traffic Volumes

Figure 5-1



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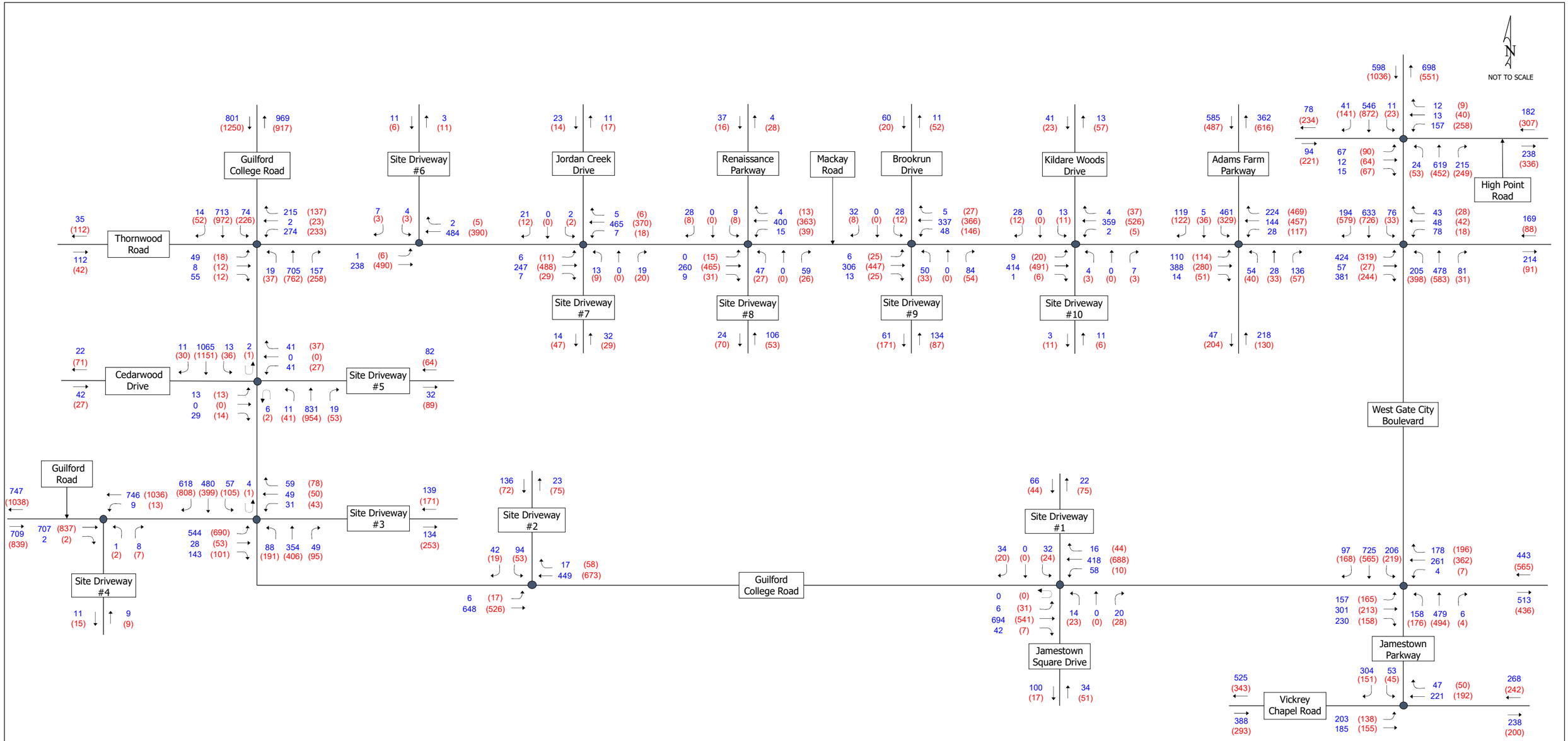
2025 Phase 2 Build Traffic Volumes

Figure 5-2



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2027 Phase 3 Build Traffic Volumes

Figure 5-3

6 U-2412A 2040 HORIZON YEAR BUILD ANALYSIS

Currently, there is one public STIP project scheduled for completion within the project study area: U-2412A (see Appendix F). This project is currently under construction and is creating a section of the US 311 Bypass. This section will connect Greensboro Road to the intersection of Jamestown Parkway / Vickrey Chapel Road in Jamestown, NC.

As mentioned earlier in the document, the U-2412A project was only included in the 2040 Horizon Year analyses.

Volumes for this scenario were calculated by utilizing the U-2412A traffic forecast completed in July 2016 (see Appendix F). The 2040 U-2412A Build forecast was broken out into AM and PM peak hour volumes to determine the 2040 Horizon Year Background traffic volumes (see Figure 6-1) Site generated traffic volumes for the full build out of the development (see Figure 4-27) were then added to 2040 Horizon Year Background Traffic Volumes to determine the 2040 Horizon Year Build traffic volumes (see Figure 6-2). Signal timings / lane geometry for the Jamestown Parkway / Vickrey Chapel Road intersection were taken directly from U-2412A final signal plans (see Appendix C).

Table 6-1 summarizes the intersection LOS and delay based on the 2040 Horizon Year Background traffic volumes (see Figure 6-1) and the 2040 Horizon Year Build traffic volumes (Figure 6-2). The corresponding SYNCHRO outputs are included in Appendix D.

Using the proposed signal timings under U-2421A (see Appendix C), the signalized intersection of Jamestown Parkway / Vickrey Chapel Road is projected to operate at a LOS C during all 2040 Horizon Year Background and Build peak hours. Because this intersection is projected to operate acceptably, no improvements are recommended due to the construction of the proposed development.

Table 6-1: Intersection Level of Service and Delay

2040 Horizon Year Traffic Volumes with U-2412A

		No Build				Build			
		AM PEAK HOUR		PM PEAK HOUR		AM PEAK HOUR		PM PEAK HOUR	
Intersection and Type of Control	Movement and Approach	Delay [1] (sec/veh)	LOS [1]	Delay [1] (sec/veh)	LOS [1]	Delay [1] (sec/veh)	LOS [1]	Delay [1] (sec/veh)	LOS [1]
2040 Horizon Year - No Build	EB Approach	***57.3***	***E***	***58.4***	***E***	***59.9***	***E***	***58.0***	***E***
	WB Approach	45.2	D	49.9	D	48.1	D	***55.7***	***E***
	NB Approach	24.2	C	23.8	C	24.3	C	24.7	C
	SB Approach	25.1	C	22.8	C	25.4	C	23.5	C
	Overall	30.8	C	30.6	C	31.8	C	32.5	C

[1] *Overall intersection LOS and delay reported for signalized intersections and roundabouts only.*

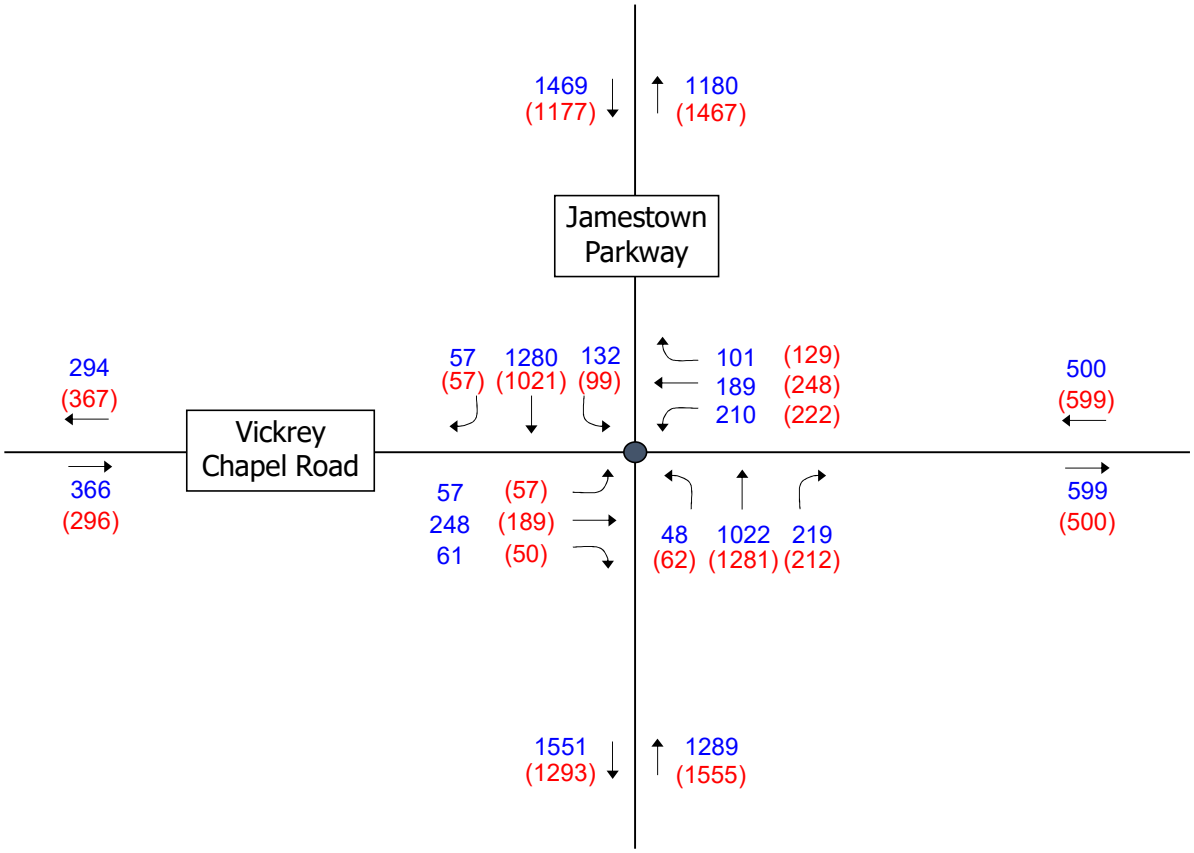
† SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

LEGEND:

- Existing Road
- Proposed Road
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)

N

NOT TO SCALE



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Traffic Impact Analysis
2040 Horizon Year Background Traffic Volumes - U-2412A

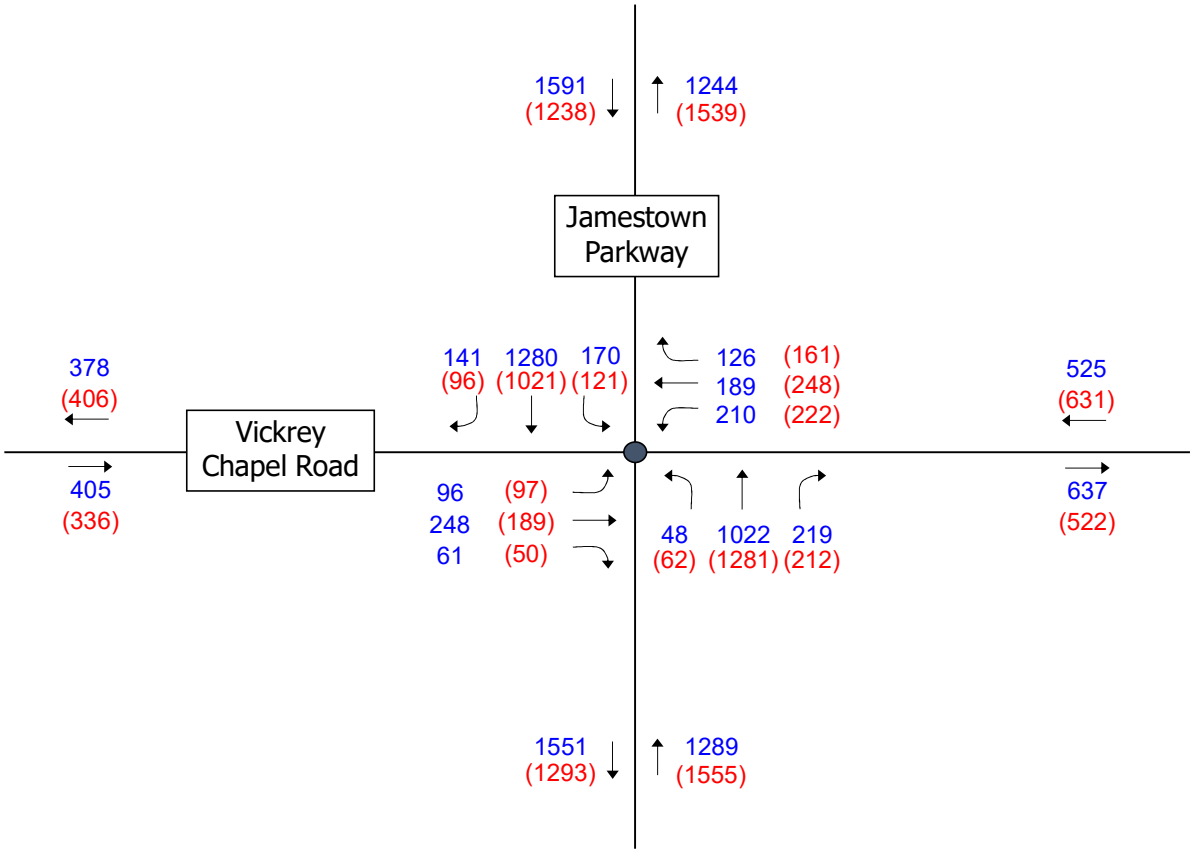
Figure 6-1

LEGEND:

- Existing Road
- Proposed Road
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)

N

NOT TO SCALE



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Traffic Impact Analysis
2040 Horizon Year Build
Traffic Volumes - U-2412A

Figure
6-2

7 CONCLUSIONS AND RECOMMENDATIONS

Capacity analyses were performed for the following scenarios:

- 2020 Existing traffic volumes
- 2023 Background traffic volumes (ambient growth + approved surrounding developments)
- 2025 Background traffic volumes (ambient growth + approved surrounding developments)
- 2027 Background traffic volumes (ambient growth + approved surrounding developments)
- 2023 Phase 1 Build traffic volumes (Background + site trips for Phase 1)
- 2025 Phase 2 Build traffic volumes (Background + site trips for Phase 1 – 2)
- 2027 Phase 3 Build traffic volumes (Background + site trips for Phases 1 – 3)
- 2040 Horizon Year traffic volumes (U-2412A)

In closing, the following improvements (see Figure 7-1) are recommended in conjunction with the construction of the proposed development:

Phase 1:

- Mackay Road / Rennessance Parkway / Site Driveway #8
  - Construction of a 50-foot eastbound right-turn lane (with appropriate taper)
  - Construction of a 50-foot westbound left-turn lane (with appropriate taper)
  - Construction of a shared northbound left-turn / through lane
  - Construction of an exclusive northbound right-turn lane

- Mackay Road / Brookrun Drive / Site Driveway #9
  - Construction of a 125-foot westbound left-turn lane (with appropriate taper)
  - Construction a shared northbound left-turn / through lane
  - Construction of an exclusive northbound right-turn lane

- Guildford College Road / Guilford Road / Site Driveway #3
  - Construction of a 100-foot northbound right-turn lane (with appropriate taper)
  - Construction of a shared westbound left-turn / through lane
  - Construction of an exclusive westbound right-turn lane
  - Signal modification

- Guildford College Road / Cedarwood Drive / Site Driveway #5
  - Construction of a 50-foot northbound right-turn lane (with appropriate taper)
  - Construction of a shared westbound left-turn / through lane
  - Construction of an exclusive westbound right-turn lane

Phase 2:

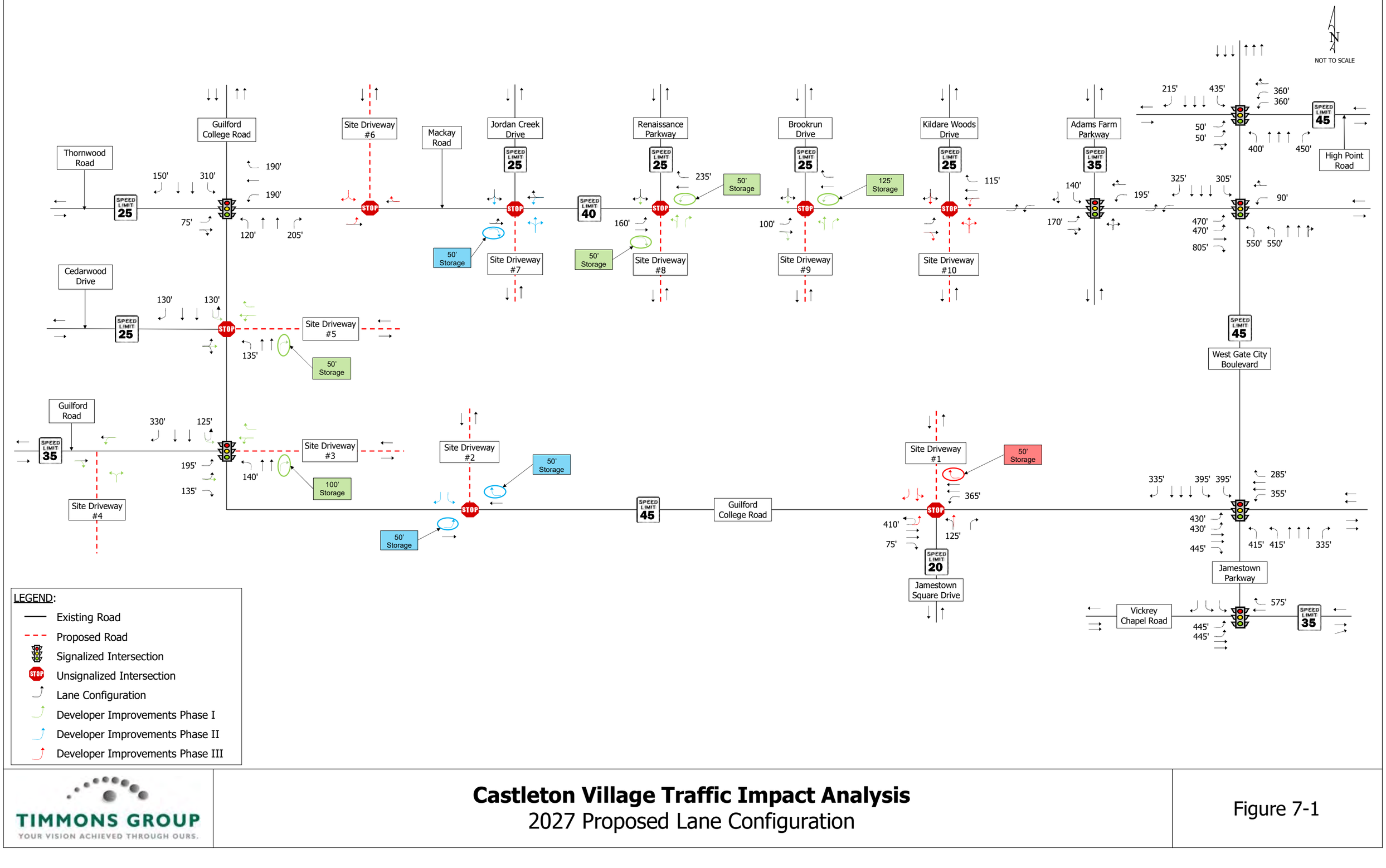
- Mackay Road / Jordan Creek Drive / Site Driveway #7
  - Construction of a 50-foot eastbound right-turn lane (with appropriate taper)

- Guildford College Road / Site Driveway #2
  - Construction of a 50-foot eastbound left-turn lane (with appropriate taper)
  - Construction of a 50-foot westbound right-turn lane (with appropriate taper)
  - Construction of an exclusive southbound left-turn lane
  - Construction of an exclusive southbound right-turn lane

Phase 3:

- Guildford College Road / Jamestown Square Drive / Site Driveway #1
    - Construction of a 50-foot westbound right-turn lane (with appropriate taper)
    - Construction of a shared southbound left-turn / through lane
    - Construction of an exclusive southbound right-turn lane

- Mackay Road / Site Driveway #6
    - Restriction of western driveway to RIRO
    - Eastern driveway full movement



LEGEND:

- Existing Road
- Proposed Road
- Signalized Intersection
- Unsignalized Intersection
- Lane Configuration
- Developer Improvements Phase I
- Developer Improvements Phase II
- Developer Improvements Phase III

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2027 Proposed Lane Configuration

Figure 7-1

Appendix A – Scoping Documents

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Jamestown Mixed-Use TIA Scoping Meeting Minutes (12/17/19)

Attendees:

Bobby Norris, PE	NCDOT Division 7 / District 2	bnorris@ncdot.gov
Braden Walker (via Phone)	NCDOT Congestion Man.	bmwalker1@ncdot.gov
Matthew Johnson, AICP	Jamestown	mjohnson@jamestown-nc.gov
Paul Blanchard, PE	Jamestown	pblanchard@jamestown-nc.gov
Jeff Hochanadel, PE, PTOE	Timmons Group	jeff.hochanade@timmons.com

Items Discussed:

- The proposed development will be constructed on 440 acres bounded by Guilford College Road to the south and west and Mackay Road to the north, in Jamestown, NC
- The proposed development includes the construction of approximately 1,500 residential units (mix of multifamily and single family) and 230,000 square-feet of commercial development in Jamestown, NC
- Some residential units will be age targeted, but not age restricted
- Guilford College Road is currently controlled access from Guilford Road southward
- The project will seek a break in controlled access and median breaks for several driveway connections to Guilford College Road
- Project study area intersections include:
    - Mackay Road / Gate City Boulevard*
    - Mackay Road / Adams Farm Parkway*
    - Thornwood Road / Mackay Road / Guilford College Road*
    - Guilford Road / Guilford College Road*
    - Gate City Boulevard / Guilford College Road*
    - Vickrey Chapel Road / Jamestown Parkway**
    - Gate City Boulevard / High Point Road**

  * Assumed study area intersection discussed in 11/14/19 meeting with NCDOT District. Turning movement traffic counts conducted on Wednesday, 11/20/19.

  ** Intersections added to assumed study area intersections (from 11/14/19 meeting). Turning movement traffic counts to be conducted on 12/19/19.
- The existing site concept includes (up to) eight (8) site full movement driveway connections to adjacent facilities:
    - Site Driveway 1 / Jamestown Square Drive / Guilford College Road
    - Site Driveway 2^ / Guilford College Road
    - Site Driveway 3 / Guilford Road / Guilford College Road
    - Site Driveway 4 / Cedarwood Drive / Guilford College Road^^
    - Site Driveway 5 / Jordan Creek Drive / Mackay Road
    - Site Driveway 6 / Renaissance Parkway / Mackay Road
    - Site Driveway 7 / Brookrun Drive / Mackay Road
    - Site Driveway 8^* / Kildare Woods Drive / Mackay Road

  ^ Timmons Group to demonstrate the need for the Site Driveway 2 connection and the need for Site Driveway 2 to be full movement

  ^^ Site Driveway 4 / Cedarwood Drive / Guilford College Road intersection assumed to be signalized

  ^* Site Driveway 8 connection is dependent upon the development's ability to construct an internal roadway over the existing gas line (located on the north side of the property). The NCDOT would prefer the Site Driveway 8 connection not be constructed.
- TIA to include project phasing (assumed to be three (3) phases). Initial phase of development to access Mackay Road.
- Assumed full build-out year is 2028 (to be confirmed prior to TIA completion)
- A 2% yearly ambient growth rate will be used for all future year analyses

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- No additional area approved development traffic will be included in future year analyses
- There is one STIP project in the project study area: U-2412A (currently under construction)
- There are currently no known site distance restrictions along Mackay Road
- Mackay Road has a varying two to three-lane cross-section
- The Town will require curb & gutter and sidewalks along the property frontages
- Timmons Group will submit the following TIA copies:
    - NCDOT District – 1 Hard Copy / 1 Electronic Copy
    - NCDOT Congestion Management – 1 Electronic Copy
    - Jamestown – 2 Hard Copies / 1 Electronic Copy
- Timmons Group has submitted meeting minute in lieu of the NCDOT TIA scoping checklist

Appendix B – Traffic Counts



File Name : Jamestown(Adams Farm and Mackay)AM Peak
Site Code :
Start Date : 11/20/2019
Page No : 1

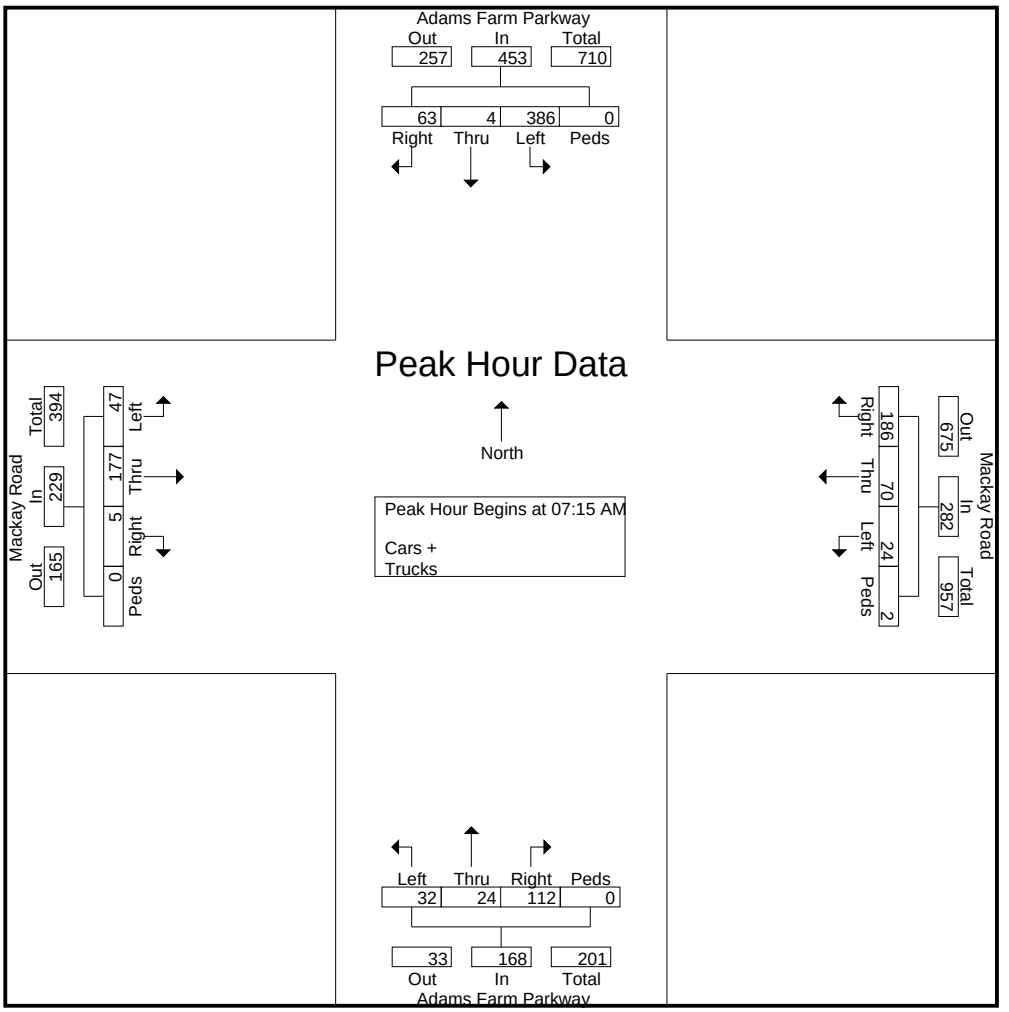
Groups Printed- Cars + - Trucks

	Adams Farm Parkway Southbound					Mackay Road Westbound					Adams Farm Parkway Northbound					Mackay Road Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	10	3	85	0	98	38	11	2	0	51	27	7	3	0	37	1	34	10	0	45	231
07:15 AM	12	2	94	0	108	36	14	2	0	52	28	5	8	0	41	2	37	18	0	57	258
07:30 AM	27	1	137	0	165	48	18	7	0	73	36	8	8	0	52	0	38	16	0	54	344
07:45 AM	15	0	85	0	100	52	21	10	2	85	25	7	11	0	43	1	58	8	0	67	295
Total	64	6	401	0	471	174	64	21	2	261	116	27	30	0	173	4	167	52	0	223	1128
08:00 AM	9	1	70	0	80	50	17	5	0	72	23	4	5	0	32	2	44	5	0	51	235
08:15 AM	8	1	76	0	85	38	13	6	0	57	21	4	3	0	28	2	49	4	0	55	225
08:30 AM	17	5	79	0	101	38	29	8	0	75	22	4	5	0	31	0	40	7	0	47	254
08:45 AM	12	3	90	0	105	36	27	8	1	72	18	4	1	0	23	2	35	7	0	44	244
Total	46	10	315	0	371	162	86	27	1	276	84	16	14	0	114	6	168	23	0	197	958
Grand Total	110	16	716	0	842	336	150	48	3	537	200	43	44	0	287	10	335	75	0	420	2086
Apprch %	13.1	1.9	85	0		62.6	27.9	8.9	0.6		69.7	15	15.3	0		2.4	79.8	17.9	0		
Total %	5.3	0.8	34.3	0	40.4	16.1	7.2	2.3	0.1	25.7	9.6	2.1	2.1	0	13.8	0.5	16.1	3.6	0	20.1	
Cars +	110	16	716	0	842	336	149	48	3	536	200	43	44	0	287	10	333	75	0	418	2083
% Cars +	100	100	100	0	100	100	99.3	100	100	99.8	100	100	100	0	100	100	99.4	100	0	99.5	99.9
Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
% Trucks	0	0	0	0	0	0	0.7	0	0	0.2	0	0	0	0	0	0	0.6	0	0	0.5	0.1

TRAFFIC DATA COLLECTION

File Name : Jamestown(Adams Farm and Mackay)AM Peak
Site Code :
Start Date : 11/20/2019
Page No : 2

	Adams Farm Parkway Southbound					Mackay Road Westbound					Adams Farm Parkway Northbound					Mackay Road Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	12	**2**	94	0	108	36	14	2	0	52	28	5	8	0	41	**2**	37	**18**	0	57	258
07:30 AM	**27**	1	**137**	0	**165**	48	18	7	0	73	**36**	**8**	8	0	**52**	0	38	16	0	54	**344**
07:45 AM	15	0	85	0	100	**52**	**21**	**10**	**2**	**85**	25	7	**11**	0	43	1	**58**	8	0	**67**	295
08:00 AM	9	1	70	0	80	50	17	5	0	72	23	4	5	0	32	2	44	5	0	51	235
Total Volume	63	4	386	0	453	186	70	24	2	282	112	24	32	0	168	5	177	47	0	229	1132
% App. Total	13.9	0.9	85.2	0		66	24.8	8.5	0.7		66.7	14.3	19	0		2.2	77.3	20.5	0		
PHF	.583	.500	.704	.000	.686	.894	.833	.600	.250	.829	.778	.750	.727	.000	.808	.625	.763	.653	.000	.854	.823





File Name : Jamestown(Adams Farm and Mackay)PM Peak
Site Code :
Start Date : 11/20/2019
Page No : 1

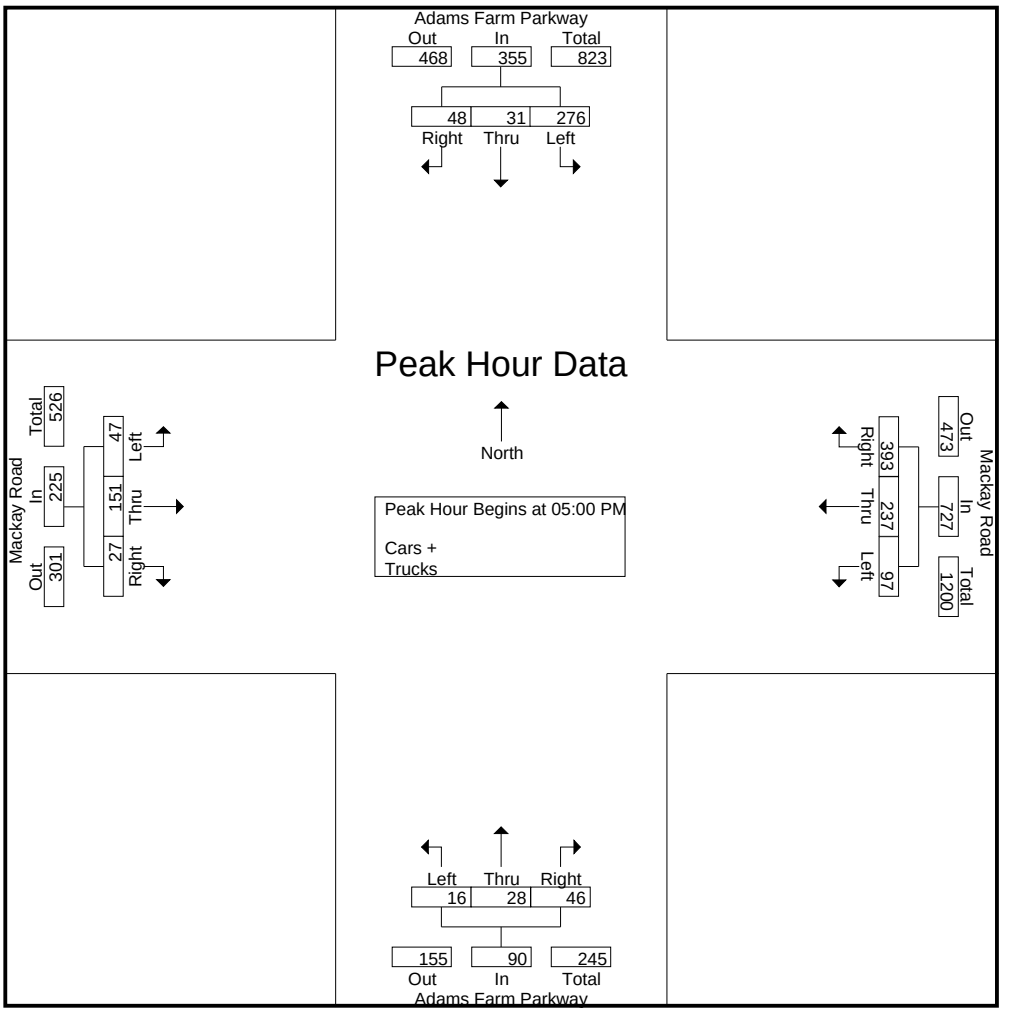
Groups Printed- Cars + - Trucks

	Adams Farm Parkway Southbound				Mackay Road Westbound				Adams Farm Parkway Northbound				Mackay Road Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	14	9	48	71	108	48	28	184	10	6	4	20	4	27	10	41	316
04:15 PM	11	12	56	79	70	58	20	148	13	2	3	18	1	43	11	55	300
04:30 PM	6	3	58	67	70	38	18	126	18	7	5	30	12	42	10	64	287
04:45 PM	20	5	77	102	77	42	18	137	11	6	2	19	3	33	8	44	302
Total	51	29	239	319	325	186	84	595	52	21	14	87	20	145	39	204	1205
05:00 PM	9	6	68	83	92	49	21	162	14	5	4	23	5	35	6	46	314
05:15 PM	15	11	67	93	85	70	34	189	13	6	6	25	10	40	13	63	370
05:30 PM	16	5	71	92	113	58	26	197	10	8	5	23	7	43	16	66	378
05:45 PM	8	9	70	87	103	60	16	179	9	9	1	19	5	33	12	50	335
Total	48	31	276	355	393	237	97	727	46	28	16	90	27	151	47	225	1397
Grand Total	99	60	515	674	718	423	181	1322	98	49	30	177	47	296	86	429	2602
Apprch %	14.7	8.9	76.4		54.3	32	13.7		55.4	27.7	16.9		11	69	20		
Total %	3.8	2.3	19.8	25.9	27.6	16.3	7	50.8	3.8	1.9	1.2	6.8	1.8	11.4	3.3	16.5	
Cars +	99	60	515	674	718	422	181	1321	98	49	30	177	47	296	86	429	2601
% Cars +	100	100	100	100	100	99.8	100	99.9	100	100	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
% Trucks	0	0	0	0	0	0.2	0	0.1	0	0	0	0	0	0	0	0	0

TRAFFIC DATA COLLECTION

File Name : Jamestown(Adams Farm and Mackay)PM Peak
Site Code :
Start Date : 11/20/2019
Page No : 2

	Adams Farm Parkway Southbound				Mackay Road Westbound				Adams Farm Parkway Northbound				Mackay Road Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	9	6	68	83	92	49	21	162	**14**	5	4	23	5	35	6	46	314
05:15 PM	15	**11**	67	**93**	85	**70**	**34**	189	13	6	**6**	**25**	**10**	40	13	63	370
05:30 PM	**16**	5	**71**	92	**113**	58	26	**197**	10	8	5	23	7	**43**	**16**	**66**	**378**
05:45 PM	8	9	70	87	103	60	16	179	9	**9**	1	19	5	33	12	50	335
Total Volume	48	31	276	355	393	237	97	727	46	28	16	90	27	151	47	225	1397
% App. Total	13.5	8.7	77.7		54.1	32.6	13.3		51.1	31.1	17.8		12	67.1	20.9		
PHF	.750	.705	.972	.954	.869	.846	.713	.923	.821	.778	.667	.900	.675	.878	.734	.852	.924





File Name : Jamestown(Gate City and Mackay)AM Peak
Site Code :
Start Date : 11/20/2020
Page No : 1

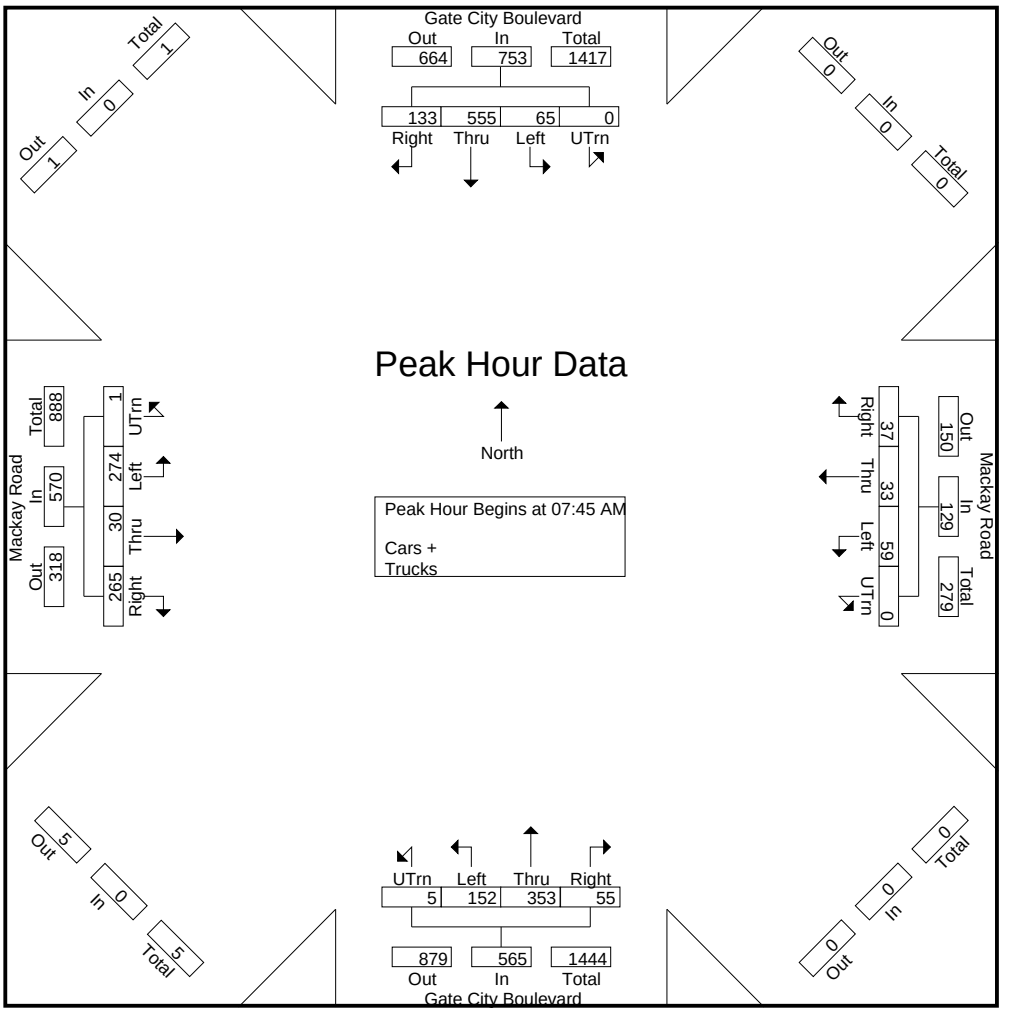
Groups Printed- Cars + - Trucks

	Gate City Boulevard Southbound					Mackay Road Westbound					Gate City Boulevard Northbound					Mackay Road Eastbound					
Start Time	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Int. Total
07:00 AM	24	56	11	0	91	7	5	8	0	20	7	48	14	0	69	47	12	66	0	125	305
07:15 AM	26	118	10	0	154	12	6	8	0	26	10	72	24	0	106	68	8	73	0	149	435
07:30 AM	38	122	8	0	168	11	1	8	0	20	9	97	34	0	140	90	5	86	2	183	511
07:45 AM	37	179	16	0	232	7	6	16	0	29	16	98	58	3	175	67	9	88	0	164	600
Total	125	475	45	0	645	37	18	40	0	95	42	315	130	3	490	272	34	313	2	621	1851
08:00 AM	24	95	19	0	138	8	7	14	0	29	6	101	35	0	142	57	7	67	0	131	440
08:15 AM	37	120	16	0	173	8	7	8	0	23	13	78	26	0	117	70	9	61	1	141	454
08:30 AM	35	161	14	0	210	14	13	21	0	48	20	76	33	2	131	71	5	58	0	134	523
08:45 AM	39	179	15	0	233	13	5	15	0	33	17	72	37	3	129	57	9	63	0	129	524
Total	135	555	64	0	754	43	32	58	0	133	56	327	131	5	519	255	30	249	1	535	1941
Grand Total	260	1030	109	0	1399	80	50	98	0	228	98	642	261	8	1009	527	64	562	3	1156	3792
Apprch %	18.6	73.6	7.8	0		35.1	21.9	43	0		9.7	63.6	25.9	0.8		45.6	5.5	48.6	0.3		
Total %	6.9	27.2	2.9	0	36.9	2.1	1.3	2.6	0	6	2.6	16.9	6.9	0.2	26.6	13.9	1.7	14.8	0.1	30.5	
Cars +	258	1025	108	0	1391	80	50	97	0	227	98	639	261	8	1006	527	62	562	3	1154	3778
% Cars +	99.2	99.5	99.1	0	99.4	100	100	99	0	99.6	100	99.5	100	100	99.7	100	96.9	100	100	99.8	99.6
Trucks	2	5	1	0	8	0	0	1	0	1	0	3	0	0	3	0	2	0	0	2	14
% Trucks	0.8	0.5	0.9	0	0.6	0	0	1	0	0.4	0	0.5	0	0	0.3	0	3.1	0	0	0.2	0.4

TRAFFIC DATA COLLECTION

File Name : Jamestown(Gate City and Mackay)AM Peak
Site Code :
Start Date : 11/20/2020
Page No : 2

	Gate City Boulevard Southbound					Mackay Road Westbound					Gate City Boulevard Northbound					Mackay Road Eastbound					
Start Time	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	**37**	**179**	16	0	**232**	7	6	16	0	29	16	98	**58**	**3**	**175**	67	**9**	**88**	0	**164**	**600**
08:00 AM	24	95	**19**	0	138	8	7	14	0	29	6	**101**	35	0	142	57	7	67	0	131	440
08:15 AM	37	120	16	0	173	8	7	8	0	23	13	78	26	0	117	70	9	61	**1**	141	454
08:30 AM	35	161	14	0	210	**14**	**13**	**21**	0	**48**	**20**	76	33	2	131	**71**	5	58	0	134	523
Total Volume	133	555	65	0	753	37	33	59	0	129	55	353	152	5	565	265	30	274	1	570	2017
% App. Total	17.7	73.7	8.6	0		28.7	25.6	45.7	0		9.7	62.5	26.9	0.9		46.5	5.3	48.1	0.2		
PHF	.899	.775	.855	.000	.811	.661	.635	.702	.000	.672	.688	.874	.655	.417	.807	.933	.833	.778	.250	.869	.840





File Name : Jamestown(Gate City and Mackay)PM Peak
Site Code :
Start Date : 11/20/2020
Page No : 1

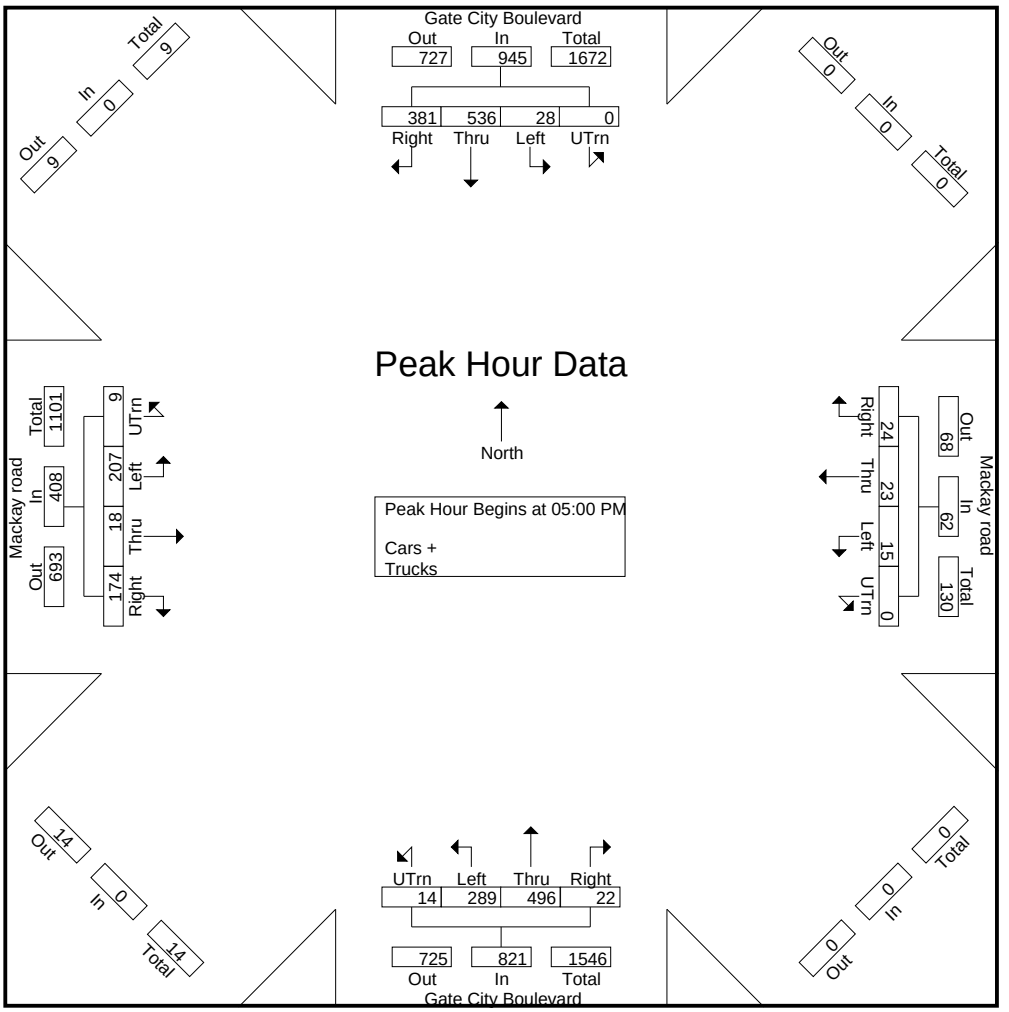
Groups Printed- Cars + - Trucks

	Gate City Boulevard Southbound					Mackay road Westbound					Gate City Boulevard Northbound					Mackay road Eastbound					
Start Time	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Int. Total
04:00 PM	56	98	2	0	156	10	2	4	0	16	8	147	118	1	274	31	4	41	4	80	526
04:15 PM	80	86	5	0	171	2	3	6	0	11	1	92	56	1	150	40	2	59	1	102	434
04:30 PM	72	107	7	0	186	6	5	3	0	14	8	132	45	2	187	56	4	57	2	119	506
04:45 PM	74	122	4	0	200	4	13	6	0	23	7	96	60	3	166	42	8	57	3	110	499
Total	282	413	18	0	713	22	23	19	0	64	24	467	279	7	777	169	18	214	10	411	1965
05:00 PM	87	132	6	0	225	6	6	5	0	17	4	124	79	2	209	43	8	49	3	103	554
05:15 PM	104	143	7	0	254	8	8	3	0	19	4	131	59	2	196	52	2	54	1	109	578
05:30 PM	116	131	9	0	256	6	2	5	0	13	5	130	71	7	213	39	3	50	1	93	575
05:45 PM	74	130	6	0	210	4	7	2	0	13	9	111	80	3	203	40	5	54	4	103	529
Total	381	536	28	0	945	24	23	15	0	62	22	496	289	14	821	174	18	207	9	408	2236
Grand Total	663	949	46	0	1658	46	46	34	0	126	46	963	568	21	1598	343	36	421	19	819	4201
Apprch %	40	57.2	2.8	0		36.5	36.5	27	0		2.9	60.3	35.5	1.3		41.9	4.4	51.4	2.3		
Total %	15.8	22.6	1.1	0	39.5	1.1	1.1	0.8	0	3	1.1	22.9	13.5	0.5	38	8.2	0.9	10	0.5	19.5	
Cars +	663	946	46	0	1655	46	46	34	0	126	46	963	567	21	1597	343	36	421	19	819	4197
% Cars +	100	99.7	100	0	99.8	100	100	100	0	100	100	100	99.8	100	99.9	100	100	100	100	100	99.9
Trucks	0	3	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	4
% Trucks	0	0.3	0	0	0.2	0	0	0	0	0	0	0	0.2	0	0.1	0	0	0	0	0	0.1

TRAFFIC DATA COLLECTION

File Name : Jamestown(Gate City and Mackay)PM Peak
Site Code :
Start Date : 11/20/2020
Page No : 2

	Gate City Boulevard Southbound					Mackay road Westbound					Gate City Boulevard Northbound					Mackay road Eastbound					
Start Time	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	87	132	6	0	225	6	6	**5**	0	17	4	124	79	2	209	43	**8**	49	3	103	554
05:15 PM	104	**143**	7	0	254	**8**	**8**	3	0	**19**	4	**131**	59	2	196	**52**	2	**54**	1	**109**	**578**
05:30 PM	**116**	131	**9**	0	**256**	6	2	5	0	13	5	130	71	**7**	**213**	39	3	50	1	93	575
05:45 PM	74	130	6	0	210	4	7	2	0	13	**9**	111	**80**	3	203	40	5	54	**4**	103	529
Total Volume	381	536	28	0	945	24	23	15	0	62	22	496	289	14	821	174	18	207	9	408	2236
% App. Total	40.3	56.7	3	0		38.7	37.1	24.2	0		2.7	60.4	35.2	1.7		42.6	4.4	50.7	2.2		
PHF	.821	.937	.778	.000	.923	.750	.719	.750	.000	.816	.611	.947	.903	.500	.964	.837	.563	.958	.563	.936	.967





File Name : Jamestown(Guilford College and Cedarwood)AM Peak
Site Code :
Start Date : 1/15/2020
Page No : 1

Groups Printed- Cars + - Trucks

	Guilford College Road Southbound					Guilford College Road Northbound					Cedarwood Drive Eastbound					
Start Time	Right	Thru	UTrn	Peds	App. Total	Thru	Left	UTrn	Peds	App. Total	Right	Left	UTrn	Peds	App. Total	Int. Total
07:00 AM	0	134	0	0	134	89	1	1	0	91	4	1	0	0	5	230
07:15 AM	2	159	0	0	161	105	1	1	0	107	6	2	0	0	8	276
07:30 AM	2	220	0	0	222	180	0	1	0	181	11	4	0	0	15	418
07:45 AM	1	230	0	0	231	169	3	1	0	173	7	3	0	0	10	414
Total	5	743	0	0	748	543	5	4	0	552	28	10	0	0	38	1338
08:00 AM	4	165	2	0	171	133	5	2	0	140	1	2	0	1	4	315
08:15 AM	1	128	1	0	130	121	2	0	0	123	9	4	0	0	13	266
08:30 AM	0	153	0	0	153	104	4	0	0	108	0	3	0	0	3	264
08:45 AM	2	143	0	0	145	132	1	2	0	135	8	5	0	0	13	293
Total	7	589	3	0	599	490	12	4	0	506	18	14	0	1	33	1138
Grand Total	12	1332	3	0	1347	1033	17	8	0	1058	46	24	0	1	71	2476
Apprch %	0.9	98.9	0.2	0		97.6	1.6	0.8	0		64.8	33.8	0	1.4		
Total %	0.5	53.8	0.1	0	54.4	41.7	0.7	0.3	0	42.7	1.9	1	0	0	2.9	
Cars +	12	1326	3	0	1341	1024	16	8	0	1048	46	24	0	1	71	2460
% Cars +	100	99.5	100	0	99.6	99.1	94.1	100	0	99.1	100	100	0	100	100	99.4
Trucks	0	6	0	0	6	9	1	0	0	10	0	0	0	0	0	16
% Trucks	0	0.5	0	0	0.4	0.9	5.9	0	0	0.9	0	0	0	0	0	0.6

TRAFFIC DATA COLLECTION

File Name : Jamestown(Guilford College and Cedarwood)AM Peak
Site Code :
Start Date : 1/15/2020
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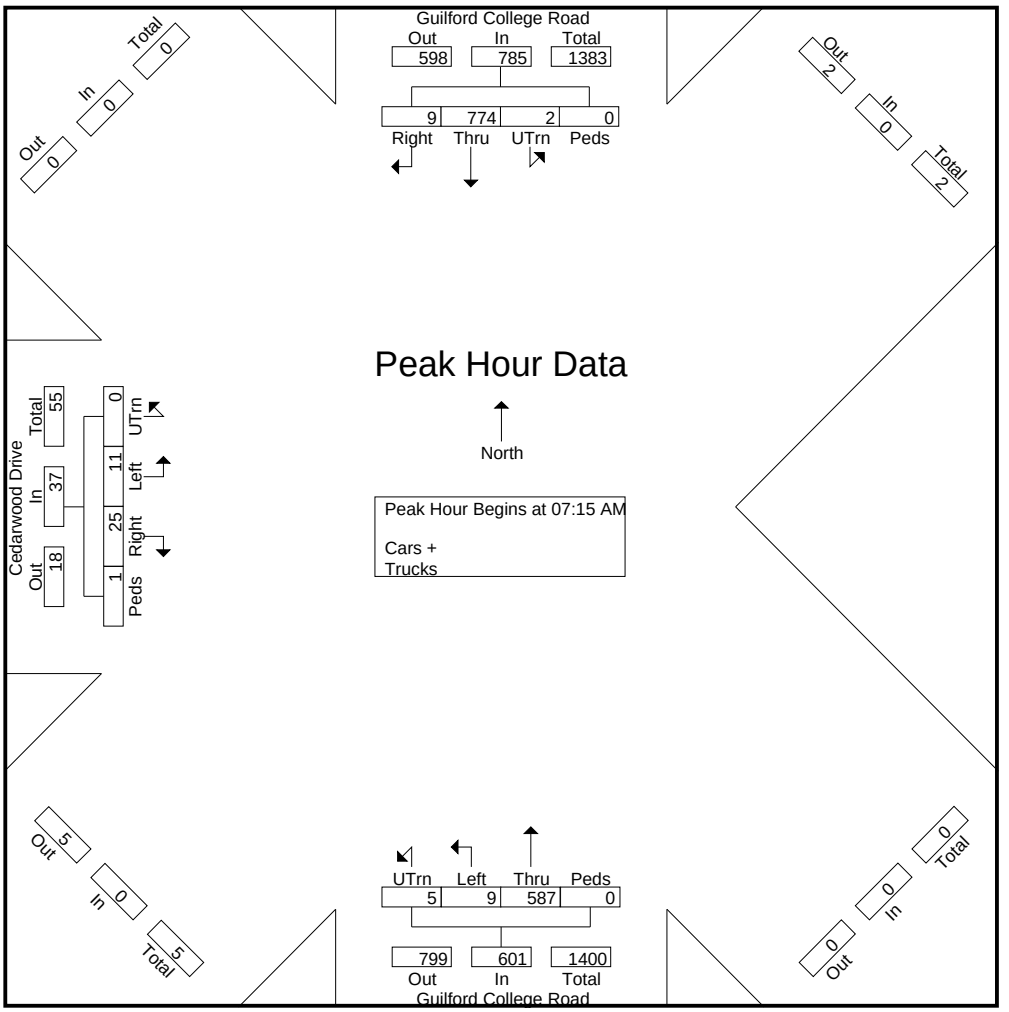
	Guilford College Road Southbound					Guilford College Road Northbound					Cedarwood Drive Eastbound					
Start Time	Right	Thru	UTrn	Peds	App. Total	Thru	Left	UTrn	Peds	App. Total	Right	Left	UTrn	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 07:15 AM																
07:15 AM	2	159	0	0	161	105	1	1	0	107	6	2	0	0	8	276
07:30 AM	2	220	0	0	222	**180**	0	1	0	**181**	**11**	**4**	0	0	**15**	**418**
07:45 AM	1	**230**	0	0	**231**	169	3	1	0	173	7	3	0	0	10	414
08:00 AM	**4**	165	**2**	0	171	133	**5**	**2**	0	140	1	2	0	**1**	4	315
Total Volume	9	774	2	0	785	587	9	5	0	601	25	11	0	1	37	1423
% App. Total	1.1	98.6	0.3	0		97.7	1.5	0.8	0		67.6	29.7	0	2.7		
PHF	.563	.841	.250	.000	.850	.815	.450	.625	.000	.830	.568	.688	.000	.250	.617	.851





File Name : Jamestown(Guilford College and Cedarwood)PM Peak
Site Code :
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Groups Printed- Cars + - Trucks

	Guilford College Road Southbound					Guilford College Road Northbound					Cedarwood Drive Eastbound					
Start Time	Right	Thru	UTrn	Peds	App. Total	Thru	Left	UTrn	Peds	App. Total	Right	Left	UTrn	Peds	App. Total	Int. Total
04:00 PM	4	150	1	0	155	171	5	0	0	176	5	0	0	1	6	337
04:15 PM	4	152	0	0	156	174	9	0	0	183	2	1	0	2	5	344
04:30 PM	8	147	1	0	156	149	3	0	0	152	4	2	0	3	9	317
04:45 PM	4	151	0	0	155	151	8	1	0	160	4	4	0	2	10	325
Total	20	600	2	0	622	645	25	1	0	671	15	7	0	8	30	1323
05:00 PM	5	208	0	0	213	156	8	0	0	164	1	2	0	0	3	380
05:15 PM	8	220	0	0	228	192	13	1	0	206	1	3	0	0	4	438
05:30 PM	9	224	0	0	233	179	7	1	0	187	4	3	0	1	8	428
05:45 PM	4	175	1	0	180	167	7	0	0	174	6	3	0	0	9	363
Total	26	827	1	0	854	694	35	2	0	731	12	11	0	1	24	1609
Grand Total	46	1427	3	0	1476	1339	60	3	0	1402	27	18	0	9	54	2932
Apprch %	3.1	96.7	0.2	0		95.5	4.3	0.2	0		50	33.3	0	16.7		
Total %	1.6	48.7	0.1	0	50.3	45.7	2	0.1	0	47.8	0.9	0.6	0	0.3	1.8	
Cars +	46	1425	3	0	1474	1332	60	3	0	1395	27	18	0	9	54	2923
% Cars +	100	99.9	100	0	99.9	99.5	100	100	0	99.5	100	100	0	100	100	99.7
Trucks	0	2	0	0	2	7	0	0	0	7	0	0	0	0	0	9
% Trucks	0	0.1	0	0	0.1	0.5	0	0	0	0.5	0	0	0	0	0	0.3

TRAFFIC DATA COLLECTION

File Name : Jamestown(Guilford College and Cedarwood)PM Peak
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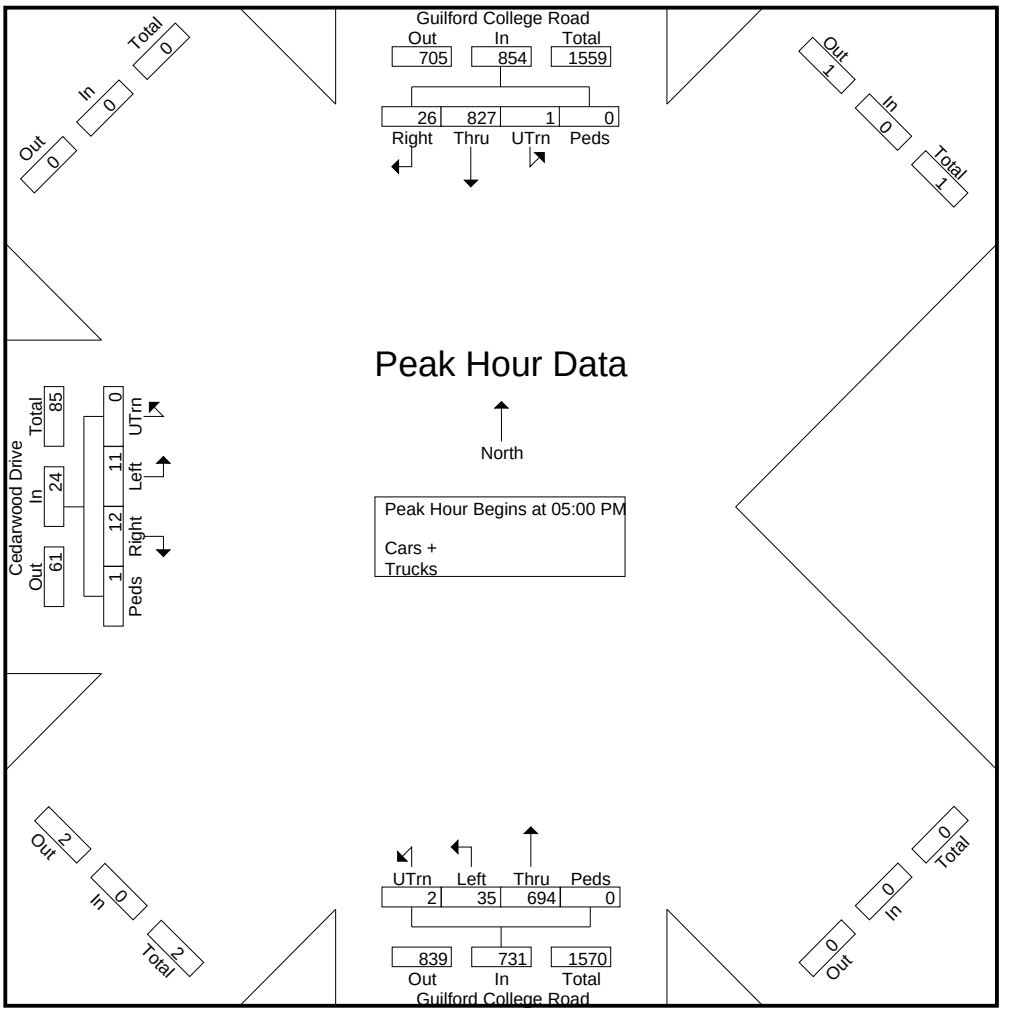
	Guilford College Road Southbound					Guilford College Road Northbound					Cedarwood Drive Eastbound					
Start Time	Right	Thru	UTrn	Peds	App. Total	Thru	Left	UTrn	Peds	App. Total	Right	Left	UTrn	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 05:00 PM																
05:00 PM	5	208	0	0	213	156	8	0	0	164	1	2	0	0	3	380
05:15 PM	8	220	0	0	228	**192**	**13**	**1**	0	**206**	1	**3**	0	0	4	**438**
05:30 PM	**9**	**224**	0	0	**233**	179	7	1	0	187	4	3	0	**1**	8	428
05:45 PM	4	175	**1**	0	180	167	7	0	0	174	**6**	3	0	0	**9**	363
Total Volume	26	827	1	0	854	694	35	2	0	731	12	11	0	1	24	1609
% App. Total	3	96.8	0.1	0		94.9	4.8	0.3	0		50	45.8	0	4.2		
PHF	.722	.923	.250	.000	.916	.904	.673	.500	.000	.887	.500	.917	.000	.250	.667	.918





File Name : Jamestown(Guilford College and Guilford)AM Peak
Site Code :
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Groups Printed- Cars + - Trucks

	Guilford College Road Southbound				Guilford College Road Northbound				Guilford Road Eastbound				
Start Time	Right	Thru	UTrn	App. Total	Thru	Left	UTrn	App. Total	Right	Left	UTrn	App. Total	Int. Total
07:00 AM	86	39	0	125	21	6	0	27	14	67	0	81	233
07:15 AM	116	57	0	173	43	15	0	58	23	97	0	120	351
07:30 AM	135	99	3	237	65	11	0	76	25	147	0	172	485
07:45 AM	133	107	0	240	72	15	0	87	28	117	0	145	472
Total	470	302	3	775	201	47	0	248	90	428	0	518	1541
08:00 AM	98	73	0	171	55	12	0	67	25	85	0	110	348
08:15 AM	76	79	1	156	44	12	0	56	19	91	1	111	323
08:30 AM	78	84	2	164	33	10	1	44	13	94	0	107	315
08:45 AM	94	84	0	178	58	12	0	70	13	88	0	101	349
Total	346	320	3	669	190	46	1	237	70	358	1	429	1335
Grand Total	816	622	6	1444	391	93	1	485	160	786	1	947	2876
Apprch %	56.5	43.1	0.4		80.6	19.2	0.2		16.9	83	0.1		
Total %	28.4	21.6	0.2	50.2	13.6	3.2	0	16.9	5.6	27.3	0	32.9	
Cars +	811	613	6	1430	387	93	1	481	160	782	1	943	2854
% Cars +	99.4	98.6	100	99	99	100	100	99.2	100	99.5	100	99.6	99.2
Trucks	5	9	0	14	4	0	0	4	0	4	0	4	22
% Trucks	0.6	1.4	0	1	1	0	0	0.8	0	0.5	0	0.4	0.8

TRAFFIC DATA COLLECTION

File Name : Jamestown(Guilford College and Guilford)AM Peak
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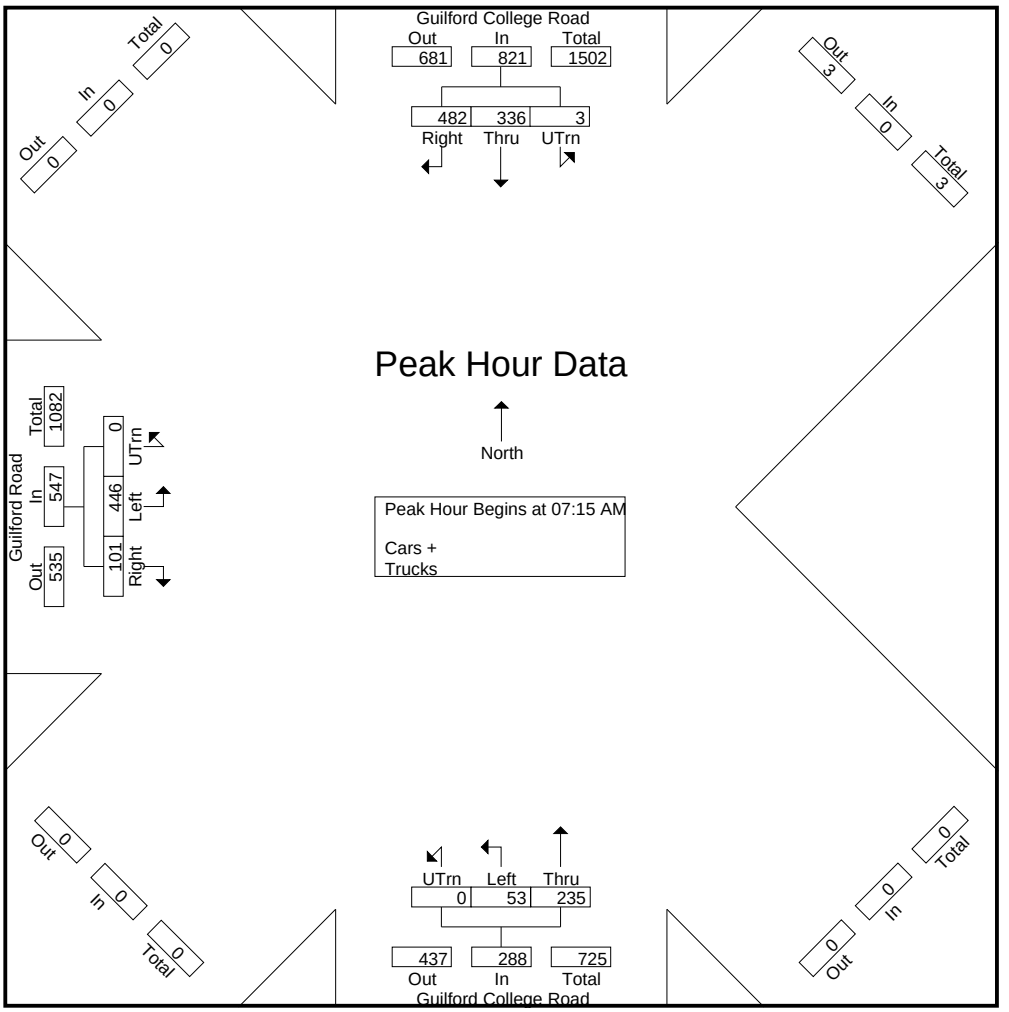
	Guilford College Road Southbound				Guilford College Road Northbound				Guilford Road Eastbound				
Start Time	Right	Thru	UTrn	App. Total	Thru	Left	UTrn	App. Total	Right	Left	UTrn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:15 AM													
07:15 AM	116	57	0	173	43	**15**	0	58	23	97	0	120	351
07:30 AM	**135**	99	**3**	237	65	11	0	76	25	**147**	0	**172**	**485**
07:45 AM	133	**107**	0	**240**	**72**	15	0	**87**	**28**	117	0	145	472
08:00 AM	98	73	0	171	55	12	0	67	25	85	0	110	348
Total Volume	482	336	3	821	235	53	0	288	101	446	0	547	1656
% App. Total	58.7	40.9	0.4		81.6	18.4	0		18.5	81.5	0		
PHF	.893	.785	.250	.855	.816	.883	.000	.828	.902	.759	.000	.795	.854





File Name : Jamestown(Guilford College and Guilford)PM Peak
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Groups Printed- Cars + - Trucks

	Guilford College Road Southbound				Guilford College Road Northbound				Guilford Road Eastbound				
Start Time	Right	Thru	UTrn	App. Total	Thru	Left	UTrn	App. Total	Right	Left	UTrn	App. Total	Int. Total
04:00 PM	113	50	1	164	70	25	0	95	17	97	5	119	378
04:15 PM	122	35	1	158	59	23	0	82	15	114	0	129	369
04:30 PM	123	50	0	173	72	34	0	106	14	112	0	126	405
04:45 PM	118	69	0	187	59	28	0	87	17	120	4	141	415
Total	476	204	2	682	260	110	0	370	63	443	9	515	1567
05:00 PM	153	69	1	223	70	33	0	103	17	151	0	168	494
05:15 PM	188	89	0	277	83	36	0	119	11	143	0	154	550
05:30 PM	165	75	0	240	72	34	2	108	24	123	0	147	495
05:45 PM	137	68	0	205	71	38	0	109	20	126	0	146	460
Total	643	301	1	945	296	141	2	439	72	543	0	615	1999
Grand Total	1119	505	3	1627	556	251	2	809	135	986	9	1130	3566
Apprch %	68.8	31	0.2		68.7	31	0.2		11.9	87.3	0.8		
Total %	31.4	14.2	0.1	45.6	15.6	7	0.1	22.7	3.8	27.7	0.3	31.7	
Cars +	1117	500	3	1620	554	250	2	806	135	985	9	1129	3555
% Cars +	99.8	99	100	99.6	99.6	99.6	100	99.6	100	99.9	100	99.9	99.7
Trucks	2	5	0	7	2	1	0	3	0	1	0	1	11
% Trucks	0.2	1	0	0.4	0.4	0.4	0	0.4	0	0.1	0	0.1	0.3

TRAFFIC DATA COLLECTION

File Name : Jamestown(Guilford College and Guilford)PM Peak
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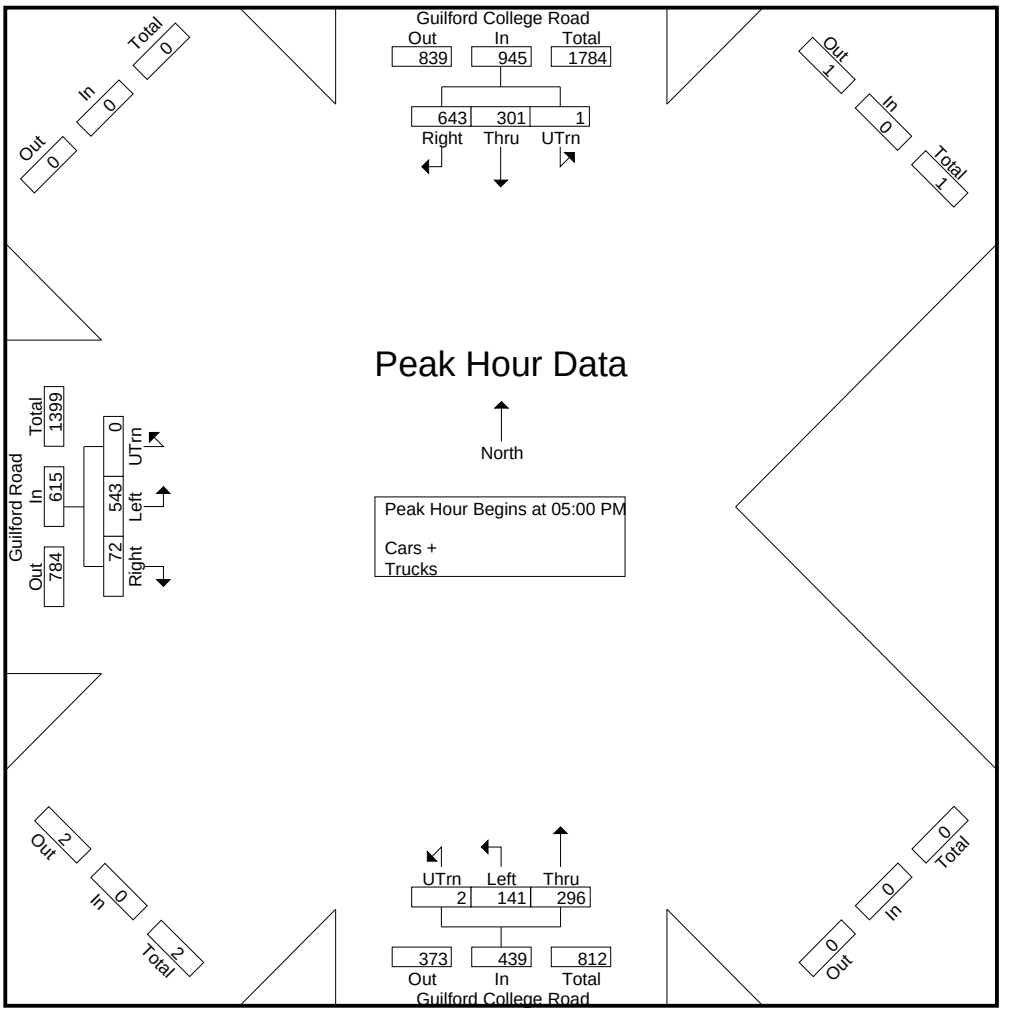
	Guilford College Road Southbound				Guilford College Road Northbound				Guilford Road Eastbound				
Start Time	Right	Thru	UTrn	App. Total	Thru	Left	UTrn	App. Total	Right	Left	UTrn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	153	69	**1**	223	70	33	0	103	17	**151**	0	**168**	494
05:15 PM	**188**	**89**	0	**277**	**83**	36	0	**119**	11	143	0	154	**550**
05:30 PM	165	75	0	240	72	34	**2**	108	**24**	123	0	147	495
05:45 PM	137	68	0	205	71	**38**	0	109	20	126	0	146	460
Total Volume	643	301	1	945	296	141	2	439	72	543	0	615	1999
% App. Total	68	31.9	0.1		67.4	32.1	0.5		11.7	88.3	0		
PHF	.855	.846	.250	.853	.892	.928	.250	.922	.750	.899	.000	.915	.909





File Name : Jamestown(Guilford College and Jamestown)AM Peak
Site Code :
Start Date : 11/20/2019

Groups Printed- Cars + - Trucks

	Guilford College Road Southbound					Gate City Boulevard Westbound					Guilford College Road Northbound					Jamestown Parkway Eastbound					
Start Time	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Int. Total
07:00 AM	16	33	5	4	58	4	70	24	1	99	11	15	0	0	26	0	52	11	0	63	246
07:15 AM	21	36	9	3	69	8	124	45	3	180	20	37	1	0	58	1	65	25	0	91	398
07:30 AM	32	64	5	2	103	8	179	37	5	229	44	48	0	0	92	3	101	23	0	127	551
07:45 AM	30	58	15	5	108	5	179	40	3	227	42	56	0	0	98	2	136	28	0	166	599
Total	99	191	34	14	338	25	552	146	12	735	117	156	1	0	274	6	354	87	0	447	1794
08:00 AM	31	45	10	5	91	8	106	27	2	143	33	56	2	0	91	0	86	28	0	114	439
08:15 AM	23	45	12	6	86	7	131	35	2	175	28	32	1	0	61	0	78	9	0	87	409
08:30 AM	39	30	4	1	74	6	180	22	5	213	22	21	0	0	43	1	84	31	0	116	446
08:45 AM	45	36	12	4	97	10	228	31	2	271	22	38	0	0	60	0	115	29	0	144	572
Total	138	156	38	16	348	31	645	115	11	802	105	147	3	0	255	1	363	97	0	461	1866
Grand Total	237	347	72	30	686	56	1197	261	23	1537	222	303	4	0	529	7	717	184	0	908	3660
Apprch %	34.5	50.6	10.5	4.4		3.6	77.9	17	1.5		42	57.3	0.8	0		0.8	79	20.3	0		
Total %	6.5	9.5	2	0.8	18.7	1.5	32.7	7.1	0.6	42	6.1	8.3	0.1	0	14.5	0.2	19.6	5	0	24.8	
Cars +	237	339	72	30	678	56	1195	258	23	1532	219	301	4	0	524	7	717	184	0	908	3642
% Cars +	100	97.7	100	100	98.8	100	99.8	98.9	100	99.7	98.6	99.3	100	0	99.1	100	100	100	0	100	99.5
Trucks	0	8	0	0	8	0	2	3	0	5	3	2	0	0	5	0	0	0	0	0	18
% Trucks	0	2.3	0	0	1.2	0	0.2	1.1	0	0.3	1.4	0.7	0	0	0.9	0	0	0	0	0	0.5

TRAFFIC DATA COLLECTION

File Name : Jamestown(Guilford College and Jamestown)AM Peak
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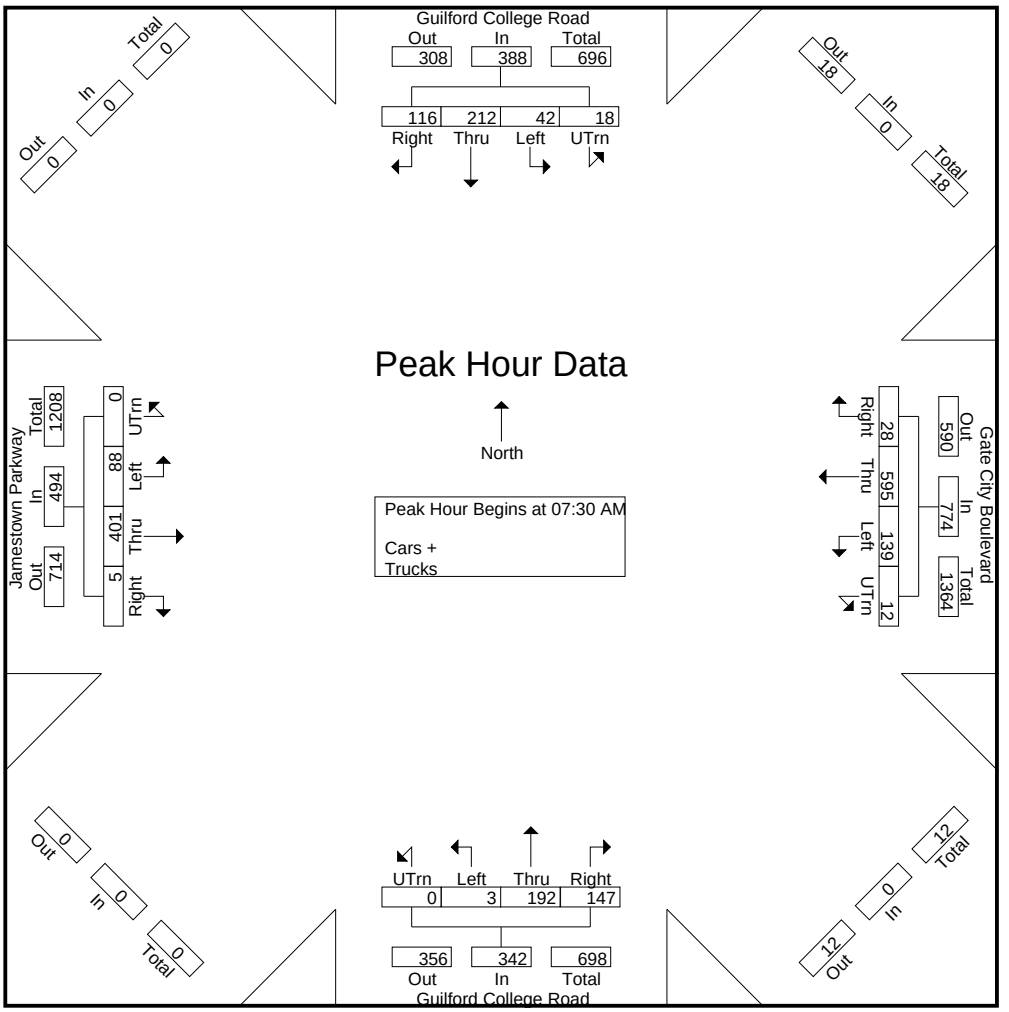
	Guilford College Road Southbound					Gate City Boulevard Westbound					Guilford College Road Northbound					Jamestown Parkway Eastbound					
Start Time	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	**32**	**64**	5	2	103	**8**	**179**	37	**5**	**229**	**44**	48	0	0	92	**3**	101	23	0	127	551
07:45 AM	30	58	**15**	5	**108**	5	179	**40**	3	227	42	**56**	0	0	**98**	2	**136**	**28**	0	**166**	**599**
08:00 AM	31	45	10	5	91	8	106	27	2	143	33	56	**2**	0	91	0	86	28	0	114	439
08:15 AM	23	45	12	**6**	86	7	131	35	2	175	28	32	1	0	61	0	78	9	0	87	409
Total Volume	116	212	42	18	388	28	595	139	12	774	147	192	3	0	342	5	401	88	0	494	1998
% App. Total	29.9	54.6	10.8	4.6		3.6	76.9	18	1.6		43	56.1	0.9	0		1	81.2	17.8	0		
PHF	.906	.828	.700	.750	.898	.875	.831	.869	.600	.845	.835	.857	.375	.000	.872	.417	.737	.786	.000	.744	.834





File Name : Jamestown(Guilford College and Jamestown)PM Peak
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Groups Printed- Cars + - Trucks

	Guilford College Road Southbound					Gate City Boulevard Westbound					Guilford College Road Northbound					Jamestown Parkway Eastbound					
Start Time	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Int. Total
04:00 PM	10	26	13	5	54	12	100	29	8	149	27	47	0	0	74	1	188	41	0	230	507
04:15 PM	13	27	13	1	54	6	91	32	8	137	27	56	1	0	84	1	88	29	0	118	393
04:30 PM	10	33	10	0	53	15	95	40	7	157	39	63	4	0	106	1	107	26	0	134	450
04:45 PM	21	45	12	5	83	12	98	33	7	150	34	59	0	0	93	0	74	21	0	95	421
Total	54	131	48	11	244	45	384	134	30	593	127	225	5	0	357	3	457	117	0	577	1771
05:00 PM	32	39	13	2	86	11	101	53	4	169	34	46	1	0	81	1	111	27	0	139	475
05:15 PM	22	36	10	7	75	13	140	34	12	199	40	68	2	0	110	0	110	26	0	136	520
05:30 PM	18	39	24	7	88	15	105	36	6	162	40	83	0	0	123	1	92	28	0	121	494
05:45 PM	25	38	9	3	75	13	122	24	6	165	39	59	2	1	101	1	97	19	1	118	459
Total	97	152	56	19	324	52	468	147	28	695	153	256	5	1	415	3	410	100	1	514	1948
Grand Total	151	283	104	30	568	97	852	281	58	1288	280	481	10	1	772	6	867	217	1	1091	3719
Apprch %	26.6	49.8	18.3	5.3		7.5	66.1	21.8	4.5		36.3	62.3	1.3	0.1		0.5	79.5	19.9	0.1		
Total %	4.1	7.6	2.8	0.8	15.3	2.6	22.9	7.6	1.6	34.6	7.5	12.9	0.3	0	20.8	0.2	23.3	5.8	0	29.3	
Cars +	151	281	104	30	566	97	851	279	58	1285	279	480	10	1	770	6	867	217	1	1091	3712
% Cars +	100	99.3	100	100	99.6	100	99.9	99.3	100	99.8	99.6	99.8	100	100	99.7	100	100	100	100	100	99.8
Trucks	0	2	0	0	2	0	1	2	0	3	1	1	0	0	2	0	0	0	0	0	7
% Trucks	0	0.7	0	0	0.4	0	0.1	0.7	0	0.2	0.4	0.2	0	0	0.3	0	0	0	0	0	0.2

TRAFFIC DATA COLLECTION

File Name : Jamestown(Guilford College and Jamestown)PM Peak
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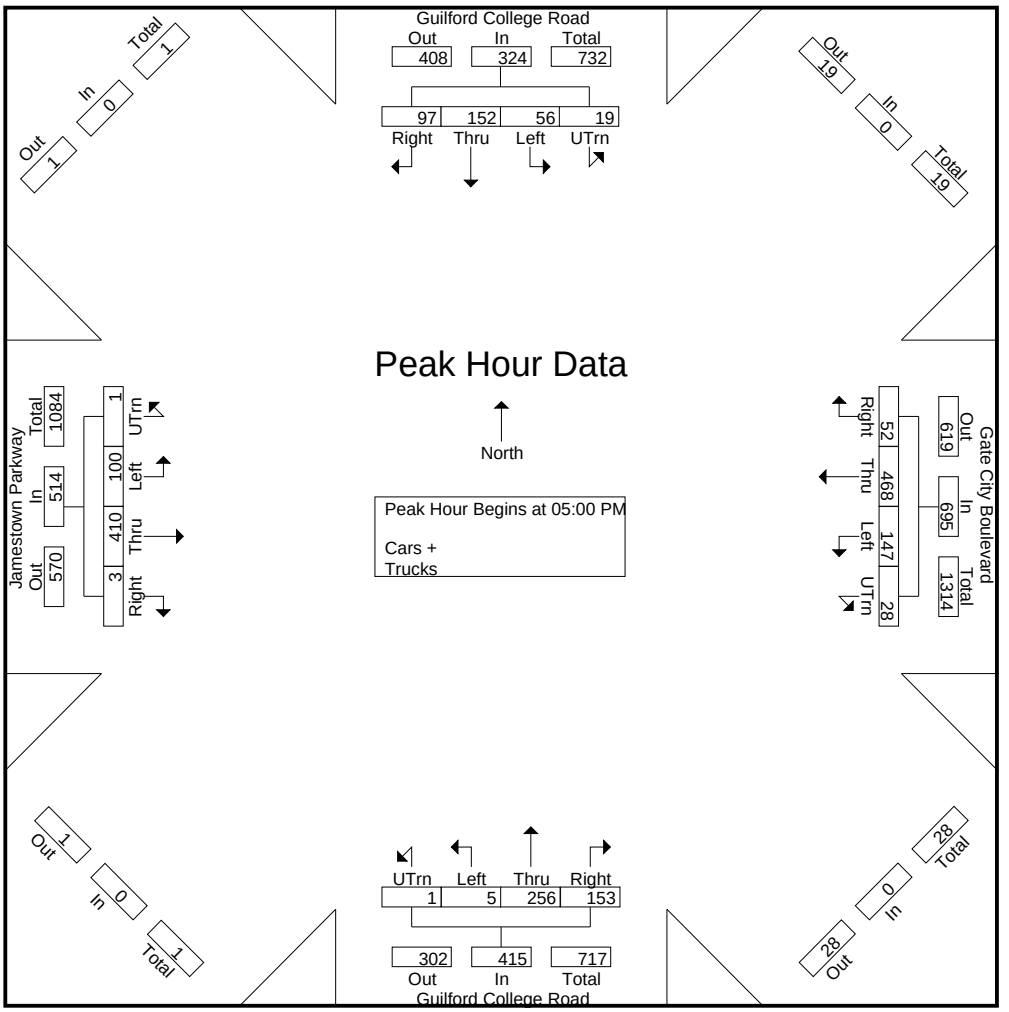
	Guilford College Road Southbound					Gate City Boulevard Westbound					Guilford College Road Northbound					Jamestown Parkway Eastbound					
Start Time	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	**32**	**39**	13	2	86	11	101	**53**	4	169	34	46	1	0	81	**1**	**111**	27	0	**139**	475
05:15 PM	22	36	10	**7**	75	13	**140**	34	**12**	**199**	**40**	68	**2**	0	110	0	110	26	0	136	**520**
05:30 PM	18	39	**24**	7	**88**	**15**	105	36	6	162	40	**83**	0	0	**123**	1	92	**28**	0	121	494
05:45 PM	25	38	9	3	75	13	122	24	6	165	39	59	2	**1**	101	1	97	19	**1**	118	459
Total Volume	97	152	56	19	324	52	468	147	28	695	153	256	5	1	415	3	410	100	1	514	1948
% App. Total	29.9	46.9	17.3	5.9		7.5	67.3	21.2	4		36.9	61.7	1.2	0.2		0.6	79.8	19.5	0.2		
PHF	.758	.974	.583	.679	.920	.867	.836	.693	.583	.873	.956	.771	.625	.250	.843	.750	.923	.893	.250	.924	.937





File Name : Jamestown(Guilford College and Thronwood)AM Peak
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Groups Printed- Cars + - Trucks

	Guilford College Road Southbound					mackay Road Westbound					Guilford College Road Northbound					Thornwood Road Eastbound					
Start Time	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Int. Total
07:00 AM	2	82	4	1	89	16	0	23	0	39	4	75	2	0	81	10	1	12	0	23	232
07:15 AM	2	126	9	1	138	29	1	25	0	55	14	110	3	0	127	13	1	8	0	22	342
07:30 AM	3	154	5	4	166	38	0	46	0	84	15	149	6	0	170	13	1	10	0	24	444
07:45 AM	7	154	17	1	179	43	0	42	0	85	13	150	2	0	165	14	5	9	0	28	457
Total	14	516	35	7	572	126	1	136	0	263	46	484	13	0	543	50	8	39	0	97	1475
08:00 AM	0	126	11	0	137	23	1	25	0	49	20	109	5	0	134	7	0	15	0	22	342
08:15 AM	6	95	17	3	121	26	2	26	0	54	16	98	2	0	116	7	5	17	0	29	320
08:30 AM	4	113	16	2	135	18	1	28	0	47	13	90	2	2	107	7	4	9	0	20	309
08:45 AM	5	123	15	5	148	26	1	25	0	52	8	121	0	0	129	7	1	3	0	11	340
Total	15	457	59	10	541	93	5	104	0	202	57	418	9	2	486	28	10	44	0	82	1311
Grand Total	29	973	94	17	1113	219	6	240	0	465	103	902	22	2	1029	78	18	83	0	179	2786
Apprch %	2.6	87.4	8.4	1.5		47.1	1.3	51.6	0		10	87.7	2.1	0.2		43.6	10.1	46.4	0		
Total %	1	34.9	3.4	0.6	39.9	7.9	0.2	8.6	0	16.7	3.7	32.4	0.8	0.1	36.9	2.8	0.6	3	0	6.4	
Cars +	29	962	93	17	1101	219	6	239	0	464	102	897	22	2	1023	78	18	83	0	179	2767
% Cars +	100	98.9	98.9	100	98.9	100	100	99.6	0	99.8	99	99.4	100	100	99.4	100	100	100	0	100	99.3
Trucks	0	11	1	0	12	0	0	1	0	1	1	5	0	0	6	0	0	0	0	0	19
% Trucks	0	1.1	1.1	0	1.1	0	0	0.4	0	0.2	1	0.6	0	0	0.6	0	0	0	0	0	0.7

TRAFFIC DATA COLLECTION

File Name : Jamestown(Guilford College and Thronwood)AM Peak
Site Code :
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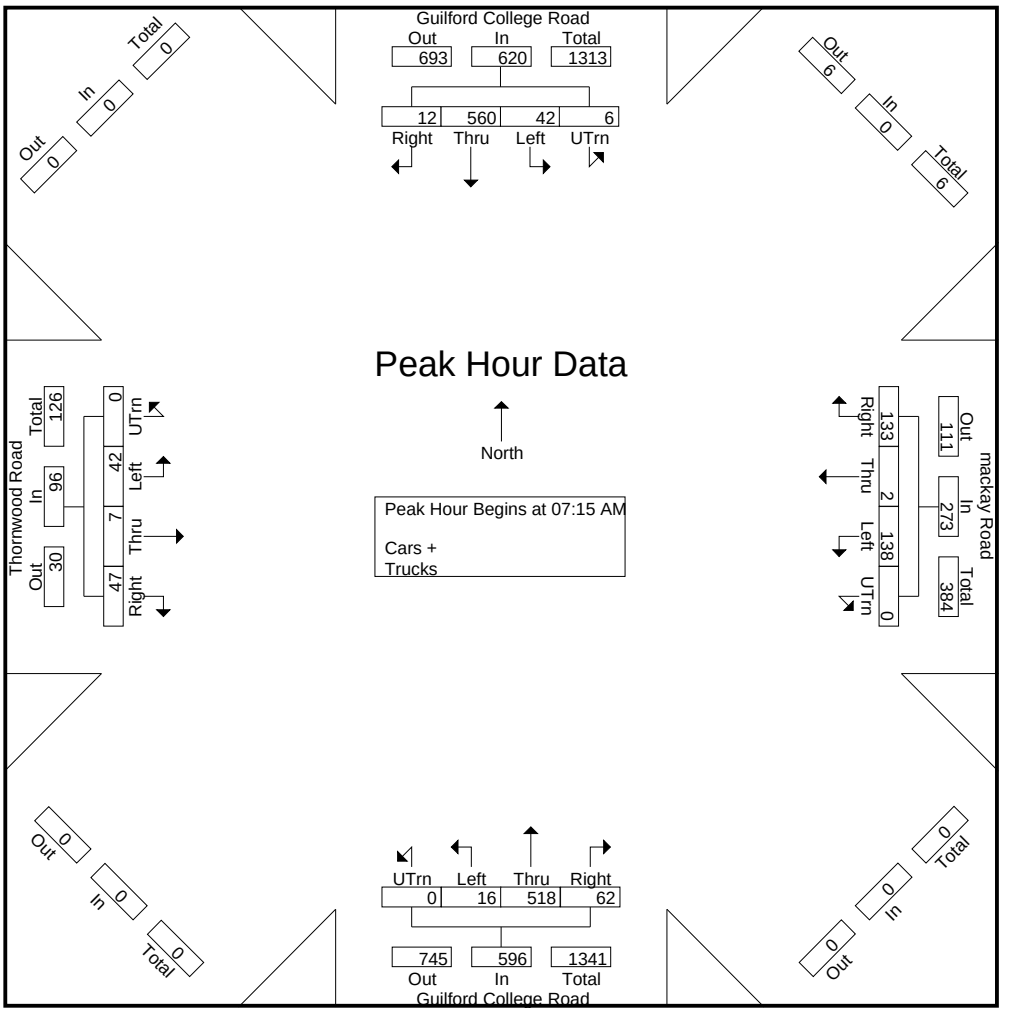
	Guilford College Road Southbound					mackay Road Westbound					Guilford College Road Northbound					Thornwood Road Eastbound					
Start Time	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	2	126	9	1	138	29	**1**	25	0	55	14	110	3	0	127	13	1	8	0	22	342
07:30 AM	3	**154**	5	**4**	166	38	0	**46**	0	84	15	149	**6**	0	**170**	13	1	10	0	24	444
07:45 AM	**7**	154	**17**	1	**179**	**43**	0	42	0	**85**	13	**150**	2	0	165	**14**	**5**	9	0	**28**	**457**
08:00 AM	0	126	11	0	137	23	1	25	0	49	**20**	109	5	0	134	7	0	**15**	0	22	342
Total Volume	12	560	42	6	620	133	2	138	0	273	62	518	16	0	596	47	7	42	0	96	1585
% App. Total	1.9	90.3	6.8	1		48.7	0.7	50.5	0		10.4	86.9	2.7	0		49	7.3	43.8	0		
PHF	.429	.909	.618	.375	.866	.773	.500	.750	.000	.803	.775	.863	.667	.000	.876	.839	.350	.700	.000	.857	.867





File Name : Jamestown(Guilford College and Thronwood)PM Peak
Site Code :
Start Date : 11/20/2019
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Groups Printed- Cars + - Trucks

	Guilford College Road Southbound						Mackay Road Westbound						Guilford College Road Northbound						Thornwood Road Eastbound						
Start Time	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total	Int. Total
04:00 PM	18	128	27	2	0	175	11	1	15	0	0	27	40	132	8	1	0	181	6	0	5	0	0	11	394
04:15 PM	10	126	21	1	0	158	21	4	23	0	0	48	31	120	12	0	0	163	3	1	2	0	0	6	375
04:30 PM	8	129	43	0	0	180	14	2	22	0	0	38	31	128	8	0	0	167	2	0	4	0	0	6	391
04:45 PM	5	151	23	0	0	179	19	4	27	0	0	50	28	132	12	0	0	172	1	3	7	0	0	11	412
Total	41	534	114	3	0	692	65	11	87	0	0	163	130	512	40	1	0	683	12	4	18	0	0	34	1572
05:00 PM	12	167	35	0	0	214	16	7	35	0	0	58	35	150	3	1	0	189	4	2	6	0	0	12	473
05:15 PM	12	208	42	1	0	263	32	6	36	0	0	74	39	154	9	0	0	202	0	2	2	0	0	4	543
05:30 PM	12	183	36	0	0	231	20	2	25	0	0	47	31	156	11	0	0	198	4	4	5	0	1	14	490
05:45 PM	8	170	22	2	0	202	22	5	20	0	0	47	23	132	6	2	0	163	2	2	2	0	0	6	418
Total	44	728	135	3	0	910	90	20	116	0	0	226	128	592	29	3	0	752	10	10	15	0	1	36	1924
Grand Total	85	1262	249	6	0	1602	155	31	203	0	0	389	258	1104	69	4	0	1435	22	14	33	0	1	70	3496
Apprch %	5.3	78.8	15.5	0.4	0		39.8	8	52.2	0	0		18	76.9	4.8	0.3	0		31.4	20	47.1	0	1.4		
Total %	2.4	36.1	7.1	0.2	0	45.8	4.4	0.9	5.8	0	0	11.1	7.4	31.6	2	0.1	0	41	0.6	0.4	0.9	0	0	2	
Cars +	85	1257	249	6	0	1597	153	31	203	0	0	387	258	1102	69	4	0	1433	22	14	33	0	1	70	3487
% Cars +	100	99.6	100	100	0	99.7	98.7	100	100	0	0	99.5	100	99.8	100	100	0	99.9	100	100	100	0	100	100	99.7
Trucks	0	5	0	0	0	5	2	0	0	0	0	2	0	2	0	0	0	2	0	0	0	0	0	0	9
% Trucks	0	0.4	0	0	0	0.3	1.3	0	0	0	0	0.5	0	0.2	0	0	0	0.1	0	0	0	0	0	0	0.3

TRAFFIC DATA COLLECTION

File Name : Jamestown(Guilford College and Thronwood)PM Peak
Site Code :
Start Date : 11/20/2019
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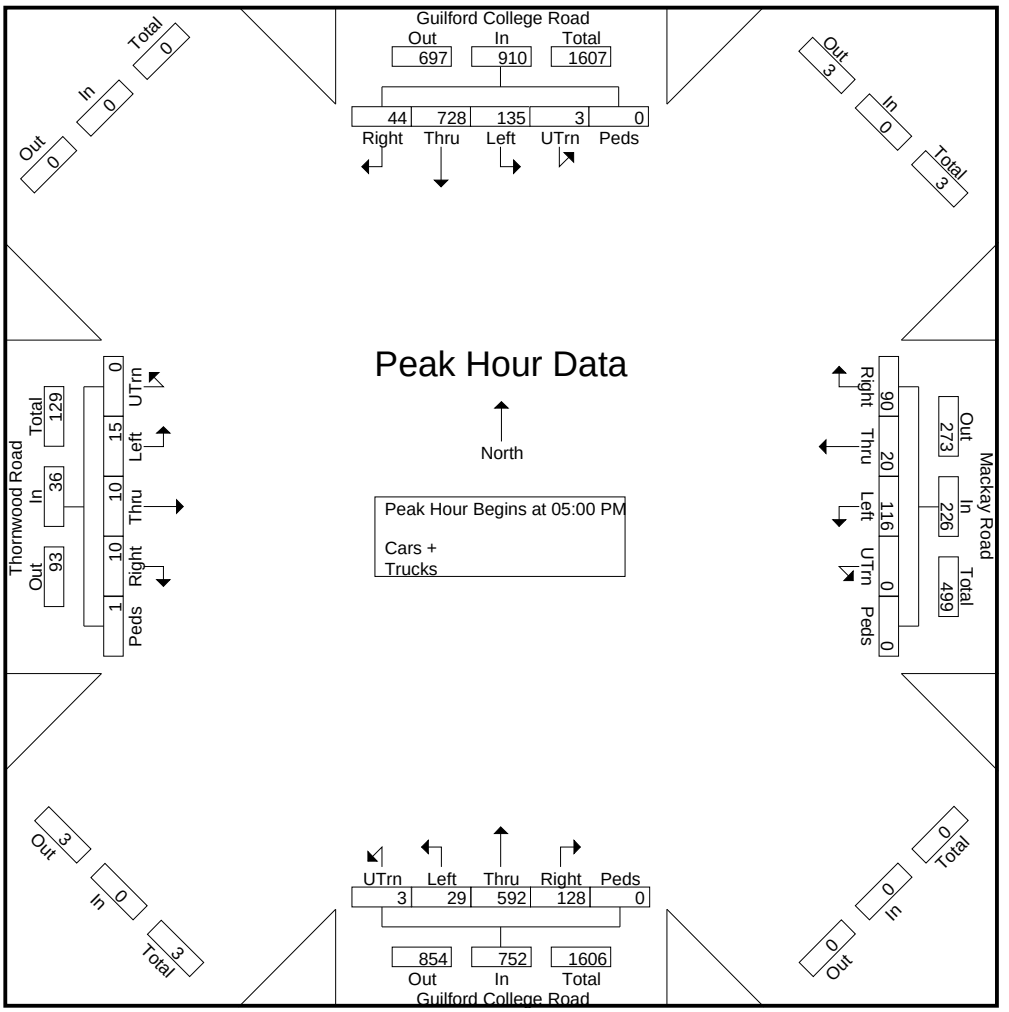
	Guilford College Road Southbound						Mackay Road Westbound						Guilford College Road Northbound						Thornwood Road Eastbound						
Start Time	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total	Right	Thru	Left	UTrn	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 05:00 PM																									
05:00 PM	**12**	167	35	0	0	214	16	**7**	35	0	0	58	35	150	3	1	0	189	**4**	2	**6**	0	0	12	473
05:15 PM	12	**208**	**42**	1	0	**263**	**32**	6	**36**	0	0	**74**	**39**	154	9	0	0	**202**	0	2	2	0	0	4	**543**
05:30 PM	12	183	36	0	0	231	20	2	25	0	0	47	31	**156**	**11**	0	0	198	4	**4**	5	0	**1**	**14**	490
05:45 PM	8	170	22	**2**	0	202	22	5	20	0	0	47	23	132	6	**2**	0	163	2	2	2	0	0	6	418
Total Volume	44	728	135	3	0	910	90	20	116	0	0	226	128	592	29	3	0	752	10	10	15	0	1	36	1924
% App. Total	4.8	80	14.8	0.3	0		39.8	8.8	51.3	0	0		17	78.7	3.9	0.4	0		27.8	27.8	41.7	0	2.8		
PHF	.917	.875	.804	.375	.000	.865	.703	.714	.806	.000	.000	.764	.821	.949	.659	.375	.000	.931	.625	.625	.625	.000	.250	.643	.886





File Name : Jamestown(High Point and Gate City)AM Peak
Site Code :
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Groups Printed- Cars + - Trucks

	Gate City Boulevard Southbound					High Point Road Westbound					Gate City Boulevard Northbound					High Point Road Eastbound					
Start Time	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Int. Total
07:00 AM	7	49	0	0	56	3	2	28	0	33	24	97	0	2	123	0	5	6	0	11	223
07:15 AM	4	100	0	0	104	3	5	27	0	35	31	98	1	0	130	1	3	11	0	15	284
07:30 AM	4	90	1	1	96	3	3	39	0	45	45	142	0	1	188	2	2	17	0	21	350
07:45 AM	13	108	2	0	123	1	1	25	0	27	38	109	3	0	150	1	2	13	0	16	316
Total	28	347	3	1	379	10	11	119	0	140	138	446	4	3	591	4	12	47	0	63	1173
08:00 AM	14	72	5	0	91	3	2	28	0	33	37	84	2	0	123	3	3	16	0	22	269
08:15 AM	9	69	1	0	79	1	4	20	0	25	38	77	0	2	117	2	5	8	0	15	236
08:30 AM	8	77	4	0	89	2	7	34	0	43	24	85	1	0	110	2	4	8	0	14	256
08:45 AM	7	77	4	0	88	4	6	28	0	38	41	102	5	0	148	0	5	10	0	15	289
Total	38	295	14	0	347	10	19	110	0	139	140	348	8	2	498	7	17	42	0	66	1050
Grand Total	66	642	17	1	726	20	30	229	0	279	278	794	12	5	1089	11	29	89	0	129	2223
Apprch %	9.1	88.4	2.3	0.1		7.2	10.8	82.1	0		25.5	72.9	1.1	0.5		8.5	22.5	69	0		
Total %	3	28.9	0.8	0	32.7	0.9	1.3	10.3	0	12.6	12.5	35.7	0.5	0.2	49	0.5	1.3	4	0	5.8	
Cars +	66	635	17	1	719	20	30	229	0	279	278	792	12	5	1087	11	29	89	0	129	2214
% Cars +	100	98.9	100	100	99	100	100	100	0	100	100	99.7	100	100	99.8	100	100	100	0	100	99.6
Trucks	0	7	0	0	7	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	9
% Trucks	0	1.1	0	0	1	0	0	0	0	0	0	0.3	0	0	0.2	0	0	0	0	0	0.4

TRAFFIC DATA COLLECTION

File Name : Jamestown(High Point and Gate City)AM Peak
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Start Date : 12/18/2019
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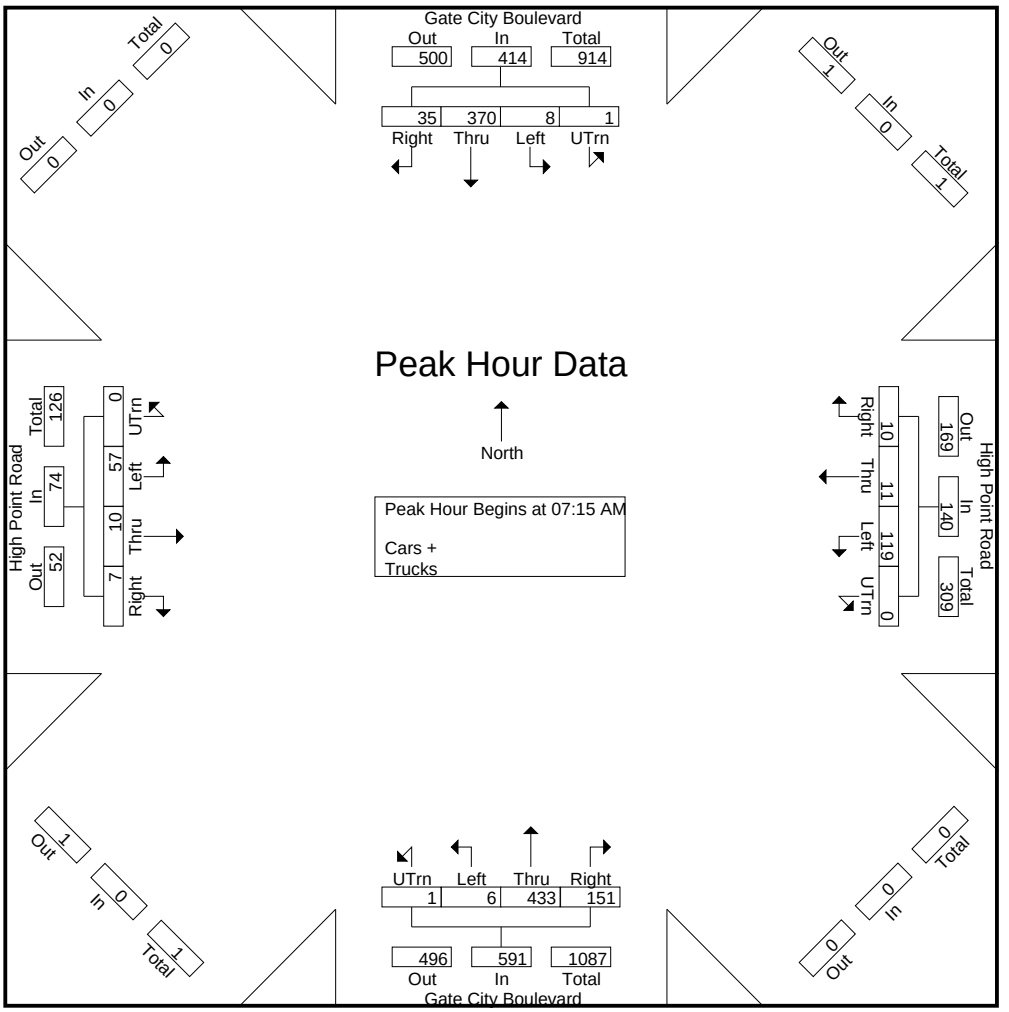
	Gate City Boulevard Southbound					High Point Road Westbound					Gate City Boulevard Northbound					High Point Road Eastbound					
Start Time	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	4	100	0	0	104	**3**	**5**	27	0	35	31	98	1	0	130	1	**3**	11	0	15	284
07:30 AM	4	90	1	**1**	96	3	3	**39**	0	**45**	**45**	**142**	0	**1**	**188**	2	2	**17**	0	21	**350**
07:45 AM	13	**108**	2	0	**123**	1	1	25	0	27	38	109	**3**	0	150	1	2	13	0	16	316
08:00 AM	**14**	72	**5**	0	91	3	2	28	0	33	37	84	2	0	123	**3**	3	16	0	**22**	269
Total Volume	35	370	8	1	414	10	11	119	0	140	151	433	6	1	591	7	10	57	0	74	1219
% App. Total	8.5	89.4	1.9	0.2		7.1	7.9	85	0		25.5	73.3	1	0.2		9.5	13.5	77	0		
PHF	.625	.856	.400	.250	.841	.833	.550	.763	.000	.778	.839	.762	.500	.250	.786	.583	.833	.838	.000	.841	.871





File Name : Jamestown(High Point and Gate City)PM Peak
Site Code :
Start Date : 12/18/2019
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Groups Printed- Cars + - Trucks

	Gate City Boulevard Southbound					High Point Road Westbound					Gate City Boulevard Northbound					High Point Road Eastbound					
Start Time	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Int. Total
04:00 PM	25	110	7	1	143	1	10	29	0	40	59	95	1	0	155	8	10	30	0	48	386
04:15 PM	19	108	2	0	129	3	16	35	0	54	46	79	6	4	135	8	19	27	0	54	372
04:30 PM	23	124	6	1	154	4	9	37	0	50	58	91	3	0	152	9	18	22	0	49	405
04:45 PM	33	130	1	0	164	6	8	40	0	54	39	70	3	0	112	9	16	18	0	43	373
Total	100	472	16	2	590	14	43	141	0	198	202	335	13	4	554	34	63	97	0	194	1536
05:00 PM	34	149	5	0	188	1	5	31	0	37	47	94	4	2	147	9	15	22	0	46	418
05:15 PM	23	157	6	1	187	3	8	41	0	52	33	80	5	0	118	11	17	22	0	50	407
05:30 PM	34	163	3	0	200	2	14	58	0	74	49	86	3	0	138	4	10	22	0	36	448
05:45 PM	29	146	5	0	180	2	7	49	0	58	51	74	9	0	134	6	13	11	0	30	402
Total	120	615	19	1	755	8	34	179	0	221	180	334	21	2	537	30	55	77	0	162	1675
Grand Total	220	1087	35	3	1345	22	77	320	0	419	382	669	34	6	1091	64	118	174	0	356	3211
Apprch %	16.4	80.8	2.6	0.2		5.3	18.4	76.4	0		35	61.3	3.1	0.5		18	33.1	48.9	0		
Total %	6.9	33.9	1.1	0.1	41.9	0.7	2.4	10	0	13	11.9	20.8	1.1	0.2	34	2	3.7	5.4	0	11.1	
Cars +	220	1085	35	2	1342	22	77	320	0	419	382	669	34	6	1091	64	118	173	0	355	3207
% Cars +	100	99.8	100	66.7	99.8	100	100	100	0	100	100	100	100	100	100	100	100	99.4	0	99.7	99.9
Trucks	0	2	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	4
% Trucks	0	0.2	0	33.3	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0.6	0	0.3	0.1

TRAFFIC DATA COLLECTION

File Name : Jamestown(High Point and Gate City)PM Peak
Site Code :
Start Date : 12/18/2019
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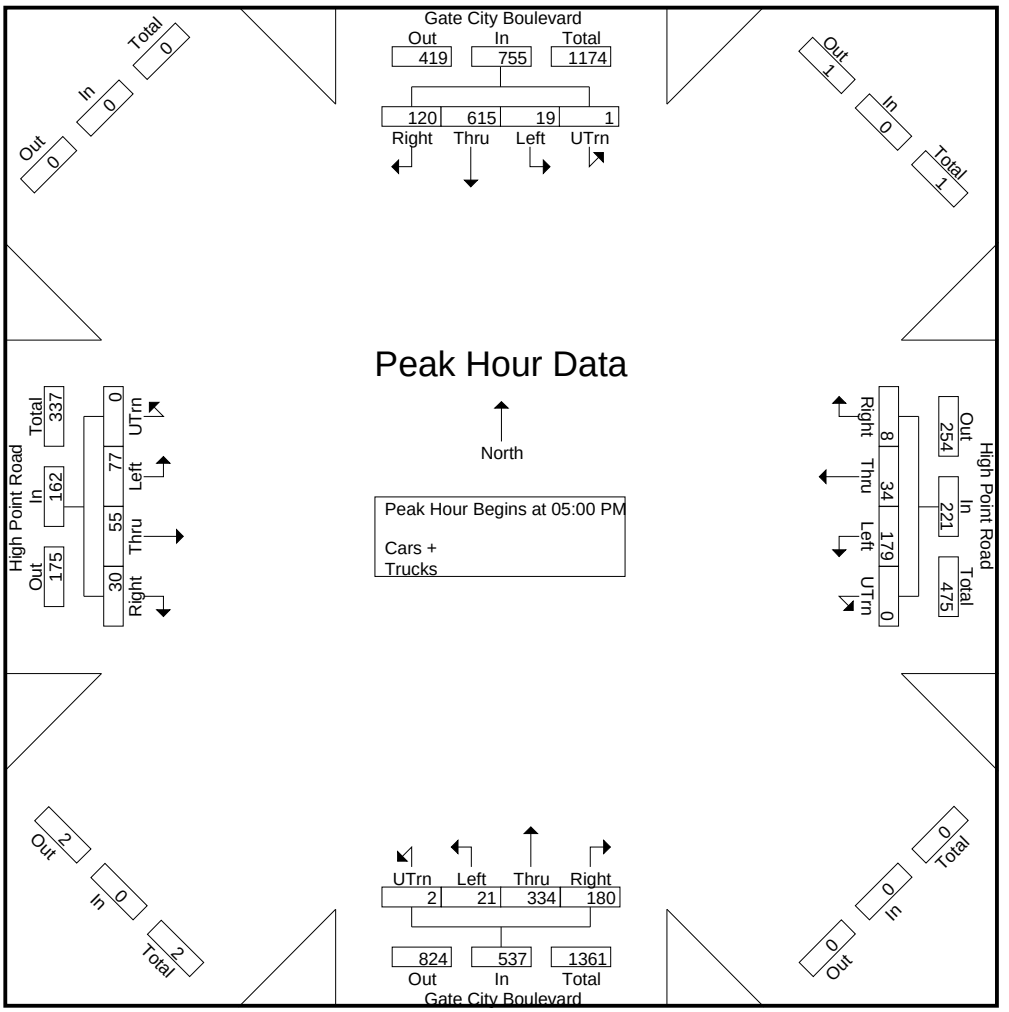
	Gate City Boulevard Southbound					High Point Road Westbound					Gate City Boulevard Northbound					High Point Road Eastbound					
Start Time	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	**34**	149	5	0	188	1	5	31	0	37	47	**94**	4	**2**	**147**	9	15	**22**	0	46	418
05:15 PM	23	157	**6**	**1**	187	**3**	8	41	0	52	33	80	5	0	118	**11**	**17**	22	0	**50**	407
05:30 PM	34	**163**	3	0	**200**	2	**14**	**58**	0	**74**	49	86	3	0	138	4	10	22	0	36	**448**
05:45 PM	29	146	5	0	180	2	7	49	0	58	**51**	74	**9**	0	134	6	13	11	0	30	402
Total Volume	120	615	19	1	755	8	34	179	0	221	180	334	21	2	537	30	55	77	0	162	1675
% App. Total	15.9	81.5	2.5	0.1		3.6	15.4	81	0		33.5	62.2	3.9	0.4		18.5	34	47.5	0		
PHF	.882	.943	.792	.250	.944	.667	.607	.772	.000	.747	.882	.888	.583	.250	.913	.682	.809	.875	.000	.810	.935





File Name : Jamestown(Mackay and Brookrun)AM Peak
Site Code :
Start Date : 1/7/2020
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Groups Printed- Cars + - Trucks

	Brookrun Drive Southbound			Mackay Road Westbound			Mackay Road Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
07:00 AM	2	5	7	2	43	45	21	0	21	73
07:15 AM	6	4	10	0	43	43	27	1	28	81
07:30 AM	6	3	9	1	72	73	32	1	33	115
07:45 AM	9	12	21	2	48	50	44	1	45	116
Total	23	24	47	5	206	211	124	3	127	385
08:00 AM	6	5	11	1	58	59	27	2	29	99
08:15 AM	5	1	6	0	44	44	25	1	26	76
08:30 AM	3	1	4	0	36	36	28	0	28	68
08:45 AM	0	3	3	1	44	45	32	2	34	82
Total	14	10	24	2	182	184	112	5	117	325
Grand Total	37	34	71	7	388	395	236	8	244	710
Apprch %	52.1	47.9		1.8	98.2		96.7	3.3		
Total %	5.2	4.8	10	1	54.6	55.6	33.2	1.1	34.4	
Cars +	37	34	71	7	388	395	236	8	244	710
% Cars +	100	100	100	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0

TRAFFIC DATA COLLECTION

File Name : Jamestown(Mackay and Brookrun)AM Peak
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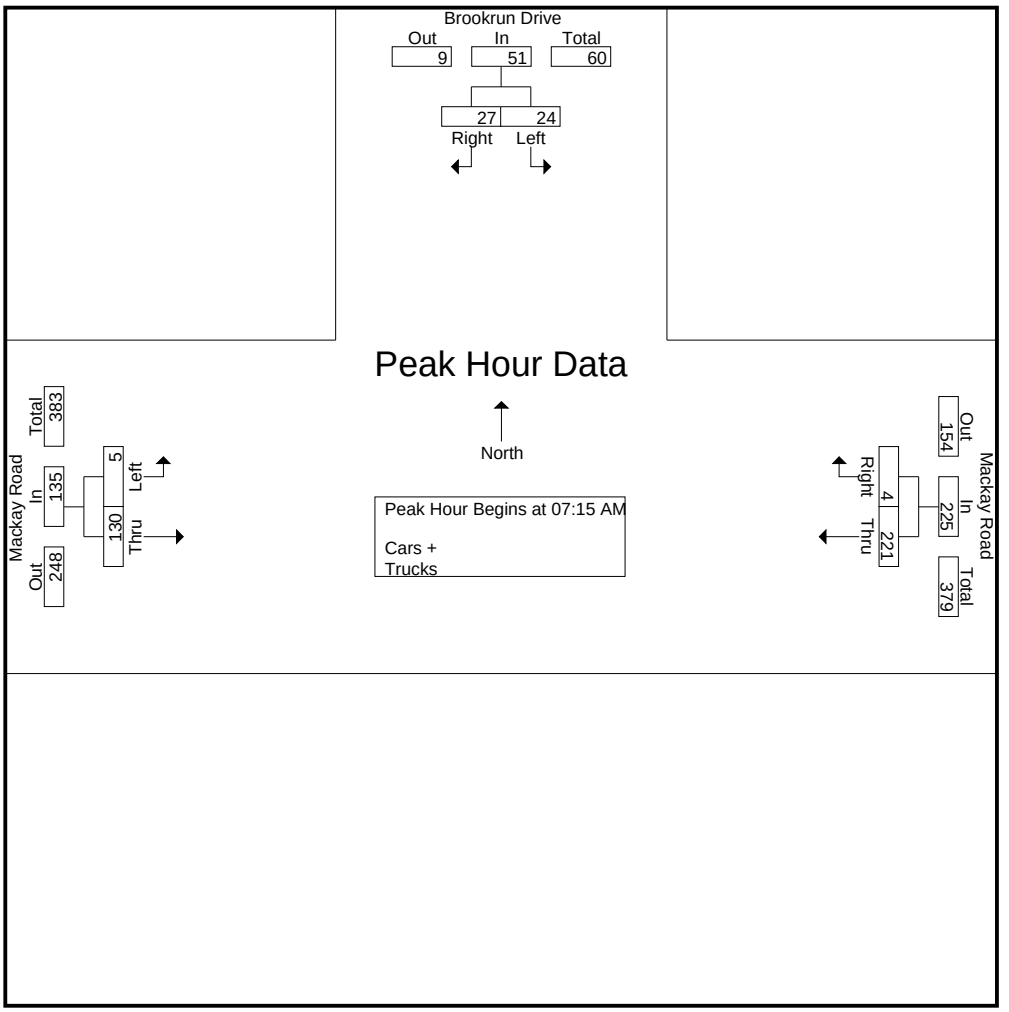
	Brookrun Drive Southbound			Mackay Road Westbound			Mackay Road Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	6	4	10	0	43	43	27	1	28	81
07:30 AM	6	3	9	1	**72**	**73**	32	1	33	115
07:45 AM	**9**	**12**	**21**	**2**	48	50	**44**	1	**45**	**116**
08:00 AM	6	5	11	1	58	59	27	**2**	29	99
Total Volume	27	24	51	4	221	225	130	5	135	411
% App. Total	52.9	47.1		1.8	98.2		96.3	3.7		
PHF	.750	.500	.607	.500	.767	.771	.739	.625	.750	.886





File Name : Jamestown(Mackay and Brookrun)PM Peak
Site Code :
Start Date : 1/7/2020
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Groups Printed- Cars + - Trucks

	Brookrun Drive Southbound			Mackay Road Westbound			Mackay Road Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
04:00 PM	0	3	3	4	46	50	43	2	45	98
04:15 PM	3	4	7	4	57	61	53	5	58	126
04:30 PM	3	1	4	5	50	55	53	1	54	113
04:45 PM	3	0	3	3	38	41	44	3	47	91
Total	9	8	17	16	191	207	193	11	204	428
05:00 PM	1	6	7	7	48	55	56	5	61	123
05:15 PM	3	1	4	6	60	66	81	7	88	158
05:30 PM	1	0	1	9	53	62	71	3	74	137
05:45 PM	2	3	5	1	51	52	62	6	68	125
Total	7	10	17	23	212	235	270	21	291	543
Grand Total	16	18	34	39	403	442	463	32	495	971
Apprch %	47.1	52.9		8.8	91.2		93.5	6.5		
Total %	1.6	1.9	3.5	4	41.5	45.5	47.7	3.3	51	
Cars +	16	18	34	39	402	441	463	32	495	970
% Cars +	100	100	100	100	99.8	99.8	100	100	100	99.9
Trucks	0	0	0	0	1	1	0	0	0	1
% Trucks	0	0	0	0	0.2	0.2	0	0	0	0.1

TRAFFIC DATA COLLECTION

File Name : Jamestown(Mackay and Brookrun)PM Peak
Site Code :
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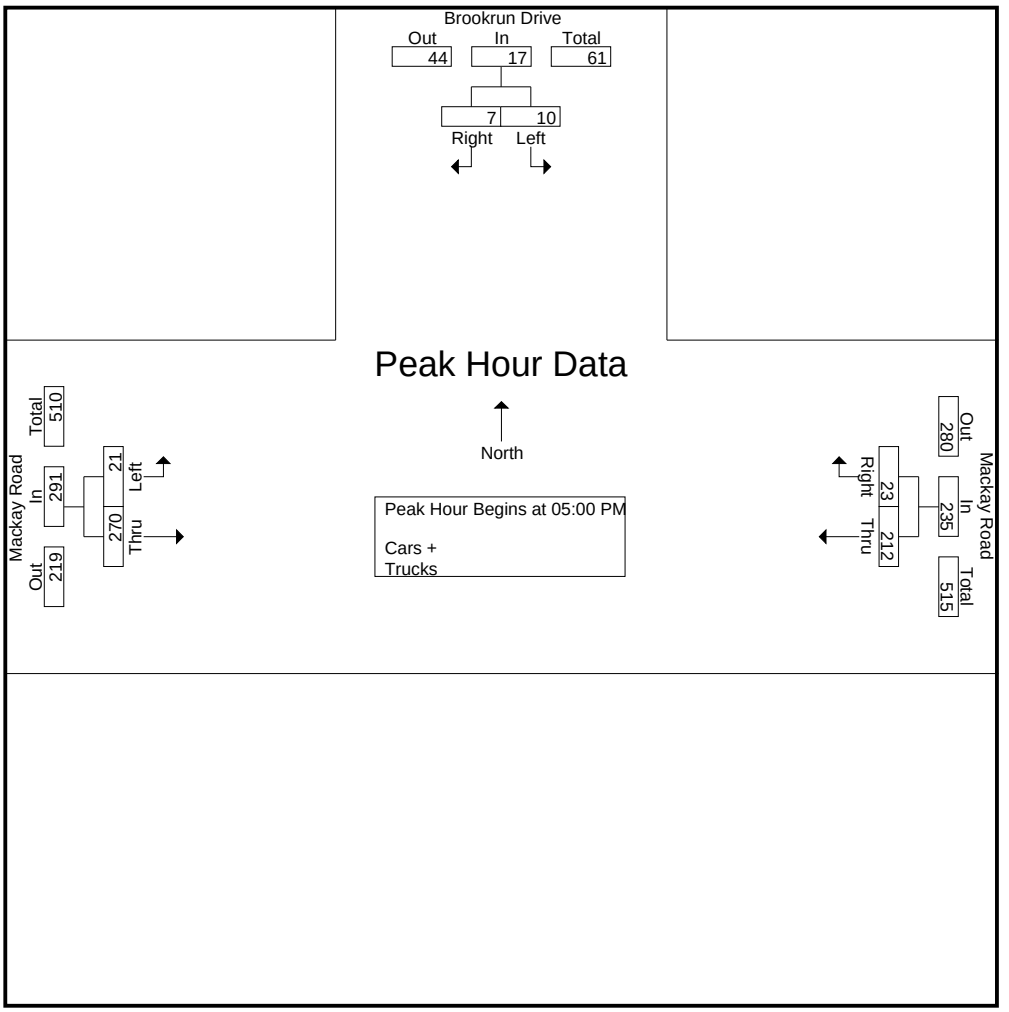
	Brookrun Drive Southbound			Mackay Road Westbound			Mackay Road Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	1	**6**	**7**	7	48	55	56	5	61	123
05:15 PM	**3**	1	4	6	**60**	**66**	**81**	**7**	**88**	**158**
05:30 PM	1	0	1	**9**	53	62	71	3	74	137
05:45 PM	2	3	5	1	51	52	62	6	68	125
Total Volume	7	10	17	23	212	235	270	21	291	543
% App. Total	41.2	58.8		9.8	90.2		92.8	7.2		
PHF	.583	.417	.607	.639	.883	.890	.833	.750	.827	.859





File Name : Jamestown(Mackay and Jordan Creek)AM Peak
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Start Date : 1/7/2020
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Groups Printed- Cars + - Trucks

	Jordan Creek Drive Southbound				Mckay Road Westbound				Mckay Road Eastbound				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	4	0	0	4	0	47	0	47	21	0	0	21	72
07:15 AM	2	1	0	3	0	49	0	49	26	2	0	28	80
07:30 AM	1	1	0	2	2	83	0	85	32	1	0	33	120
07:45 AM	5	1	1	7	1	65	0	66	48	0	0	48	121
Total	12	3	1	16	3	244	0	247	127	3	0	130	393
08:00 AM	7	0	0	7	0	66	0	66	22	3	0	25	98
08:15 AM	5	0	0	5	1	52	0	53	25	1	0	26	84
08:30 AM	3	1	0	4	0	43	0	43	24	0	0	24	71
08:45 AM	1	1	0	2	1	45	0	46	32	3	0	35	83
Total	16	2	0	18	2	206	0	208	103	7	0	110	336
Grand Total	28	5	1	34	5	450	0	455	230	10	0	240	729
Apprch %	82.4	14.7	2.9		1.1	98.9	0		95.8	4.2	0		
Total %	3.8	0.7	0.1	4.7	0.7	61.7	0	62.4	31.6	1.4	0	32.9	
Cars +	27	5	1	33	4	450	0	454	226	10	0	236	723
% Cars +	96.4	100	100	97.1	80	100	0	99.8	98.3	100	0	98.3	99.2
Trucks	1	0	0	1	1	0	0	1	4	0	0	4	6
% Trucks	3.6	0	0	2.9	20	0	0	0.2	1.7	0	0	1.7	0.8

TRAFFIC DATA COLLECTION

File Name : Jamestown(Mackay and Jordan Creek)AM Peak
Site Code :
Start Date : 1/7/2020
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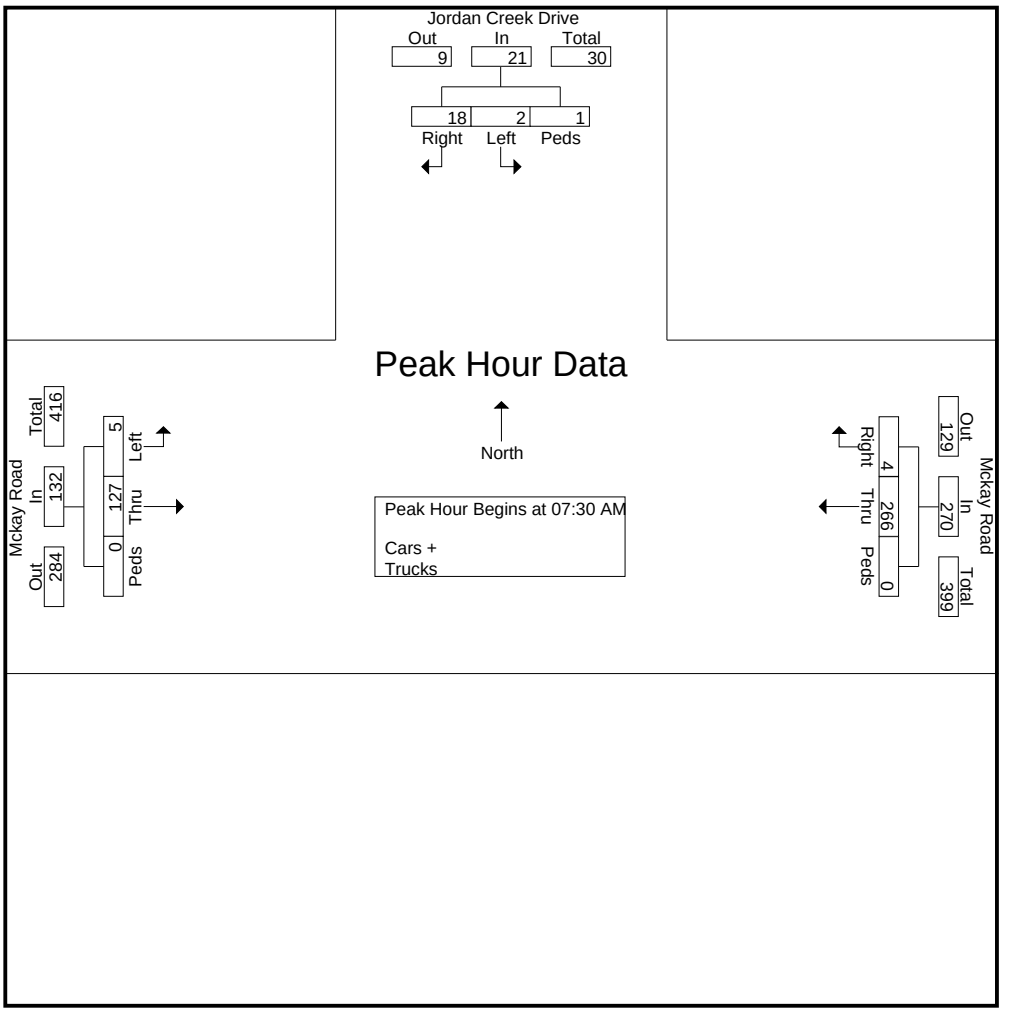
	Jordan Creek Drive Southbound				Mckay Road Westbound				Mckay Road Eastbound				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	1	**1**	0	2	**2**	**83**	0	**85**	32	1	0	33	120
07:45 AM	5	1	**1**	**7**	1	65	0	66	**48**	0	0	**48**	**121**
08:00 AM	**7**	0	0	7	0	66	0	66	22	**3**	0	25	98
08:15 AM	5	0	0	5	1	52	0	53	25	1	0	26	84
Total Volume	18	2	1	21	4	266	0	270	127	5	0	132	423
% App. Total	85.7	9.5	4.8		1.5	98.5	0		96.2	3.8	0		
PHF	.643	.500	.250	.750	.500	.801	.000	.794	.661	.417	.000	.688	.874





File Name : Jamestown(Mackay and Jordan Creek)PM Peak
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Groups Printed- Cars + - Trucks

	Jordan Creek Drive Southbound				Mackay Road Westbound				Mackay Road Eastbound				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	2	0	0	2	0	41	0	41	47	3	0	50	93
04:15 PM	1	0	0	1	0	60	0	60	60	3	0	63	124
04:30 PM	4	0	0	4	2	49	0	51	56	3	0	59	114
04:45 PM	1	2	1	4	1	42	0	43	45	5	0	50	97
Total	8	2	1	11	3	192	0	195	208	14	0	222	428
05:00 PM	3	0	2	5	2	46	0	48	67	1	0	68	121
05:15 PM	1	1	0	2	0	63	0	63	83	3	0	86	151
05:30 PM	3	0	0	3	2	53	0	55	82	2	0	84	142
05:45 PM	3	1	0	4	1	50	0	51	65	3	0	68	123
Total	10	2	2	14	5	212	0	217	297	9	0	306	537
Grand Total	18	4	3	25	8	404	0	412	505	23	0	528	965
Apprch %	72	16	12		1.9	98.1	0		95.6	4.4	0		
Total %	1.9	0.4	0.3	2.6	0.8	41.9	0	42.7	52.3	2.4	0	54.7	
Cars +	18	4	3	25	8	403	0	411	504	23	0	527	963
% Cars +	100	100	100	100	100	99.8	0	99.8	99.8	100	0	99.8	99.8
Trucks	0	0	0	0	0	1	0	1	1	0	0	1	2
% Trucks	0	0	0	0	0	0.2	0	0.2	0.2	0	0	0.2	0.2

TRAFFIC DATA COLLECTION

File Name : Jamestown(Mackay and Jordan Creek)PM Peak
Site Code :
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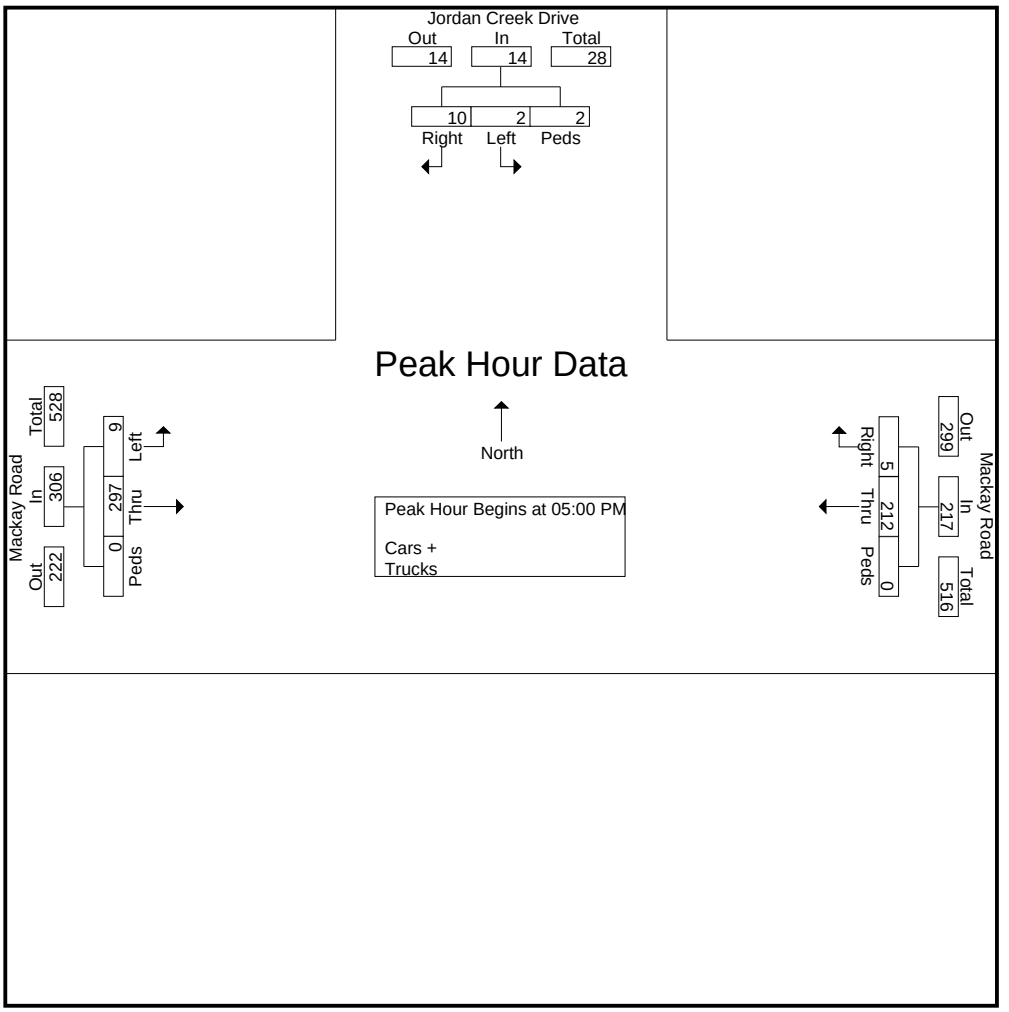
	Jordan Creek Drive Southbound				Mackay Road Westbound				Mackay Road Eastbound				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	**3**	0	**2**	**5**	**2**	46	0	48	67	1	0	68	121
05:15 PM	1	**1**	0	2	0	**63**	0	**63**	**83**	**3**	0	**86**	**151**
05:30 PM	3	0	0	3	2	53	0	55	82	2	0	84	142
05:45 PM	3	1	0	4	1	50	0	51	65	3	0	68	123
Total Volume	10	2	2	14	5	212	0	217	297	9	0	306	537
% App. Total	71.4	14.3	14.3		2.3	97.7	0		97.1	2.9	0		
PHF	.833	.500	.250	.700	.625	.841	.000	.861	.895	.750	.000	.890	.889





File Name : Jamestown(Mackay and Kildare woods)AM Peak
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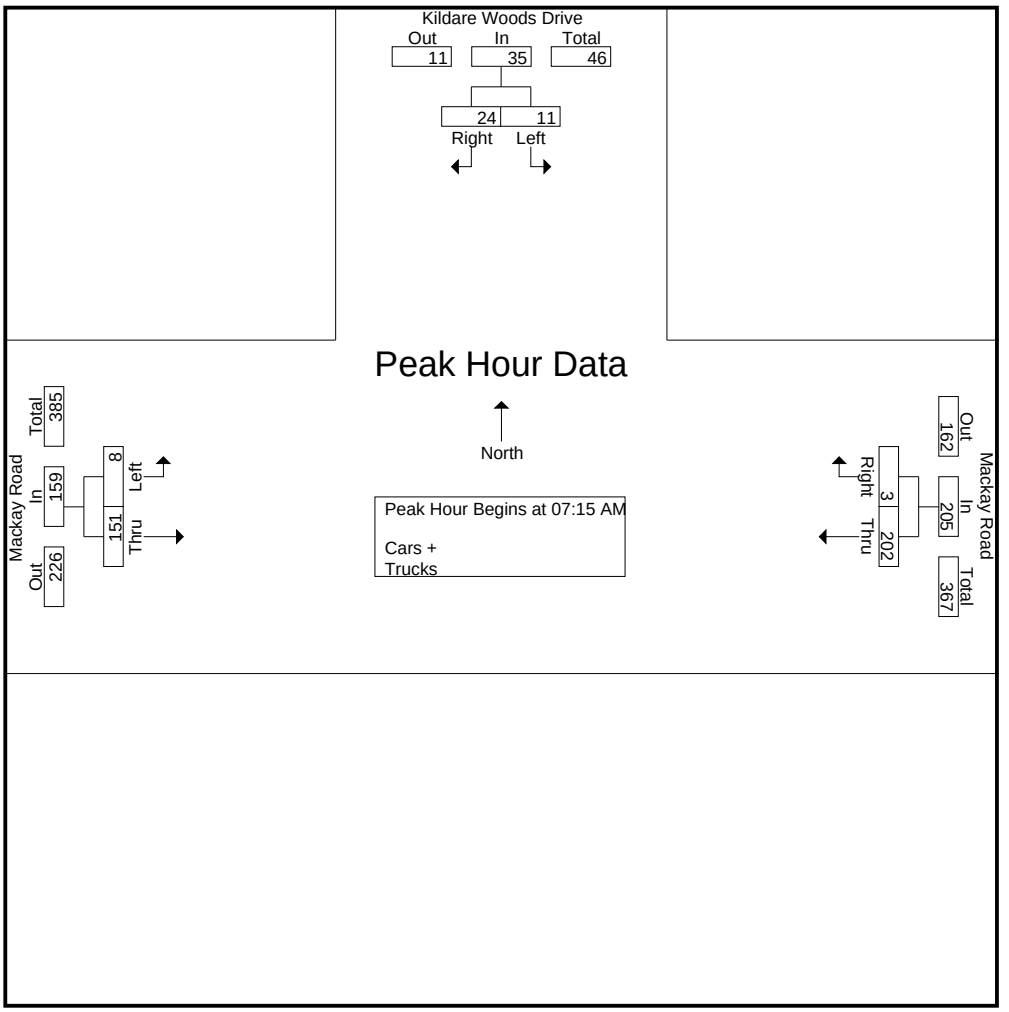
Groups Printed- Cars + - Trucks

	Kildare Woods Drive Southbound			Mackay Road Westbound			Mackay Road Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
07:00 AM	7	2	9	0	38	38	25	1	26	73
07:15 AM	10	6	16	0	37	37	30	1	31	84
07:30 AM	4	2	6	0	65	65	33	4	37	108
07:45 AM	5	2	7	1	46	47	58	1	59	113
Total	26	12	38	1	186	187	146	7	153	378
08:00 AM	5	1	6	2	54	56	30	2	32	94
08:15 AM	8	3	11	0	37	37	24	2	26	74
08:30 AM	2	7	9	2	35	37	28	0	28	74
08:45 AM	3	0	3	1	42	43	35	1	36	82
Total	18	11	29	5	168	173	117	5	122	324
Grand Total	44	23	67	6	354	360	263	12	275	702
Apprch %	65.7	34.3		1.7	98.3		95.6	4.4		
Total %	6.3	3.3	9.5	0.9	50.4	51.3	37.5	1.7	39.2	
Cars +	44	23	67	6	353	359	260	11	271	697
% Cars +	100	100	100	100	99.7	99.7	98.9	91.7	98.5	99.3
Trucks	0	0	0	0	1	1	3	1	4	5
% Trucks	0	0	0	0	0.3	0.3	1.1	8.3	1.5	0.7

TRAFFIC DATA COLLECTION

File Name : Jamestown(Mackay and Kildare woods)AM Peak
Site Code :
Start Date : 1/7/2020

	Kildare Woods Drive Southbound			Mackay Road Westbound			Mackay Road Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	**10**	**6**	**16**	0	37	37	30	1	31	84
07:30 AM	4	2	6	0	**65**	**65**	33	**4**	37	108
07:45 AM	5	2	7	1	46	47	**58**	1	**59**	**113**
08:00 AM	5	1	6	**2**	54	56	30	2	32	94
Total Volume	24	11	35	3	202	205	151	8	159	399
% App. Total	68.6	31.4		1.5	98.5		95	5		
PHF	.600	.458	.547	.375	.777	.788	.651	.500	.674	.883





File Name : Jamestown(Mackay and Kildare woods)PM Peak
Site Code :
Start Date : 1/7/2020

Groups Printed- Cars + - Trucks

	Kildare Woods Drive Southbound			Mackay Road Westbound			Mackay Road Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
04:00 PM	2	2	4	3	48	51	42	5	47	102
04:15 PM	2	1	3	3	57	60	52	5	57	120
04:30 PM	1	6	7	2	56	58	50	5	55	120
04:45 PM	3	2	5	4	36	40	40	4	44	89
Total	8	11	19	12	197	209	184	19	203	431
05:00 PM	2	0	2	7	57	64	61	1	62	128
05:15 PM	6	0	6	9	59	68	77	6	83	157
05:30 PM	1	5	6	12	61	73	66	6	72	151
05:45 PM	1	4	5	4	49	53	62	4	66	124
Total	10	9	19	32	226	258	266	17	283	560
Grand Total	18	20	38	44	423	467	450	36	486	991
Apprch %	47.4	52.6		9.4	90.6		92.6	7.4		
Total %	1.8	2	3.8	4.4	42.7	47.1	45.4	3.6	49	
Cars +	18	20	38	44	422	466	449	36	485	989
% Cars +	100	100	100	100	99.8	99.8	99.8	100	99.8	99.8
Trucks	0	0	0	0	1	1	1	0	1	2
% Trucks	0	0	0	0	0.2	0.2	0.2	0	0.2	0.2

TRAFFIC DATA COLLECTION

File Name : Jamestown(Mackay and Kildare woods)PM Peak
Site Code :
Start Date : 1/7/2020
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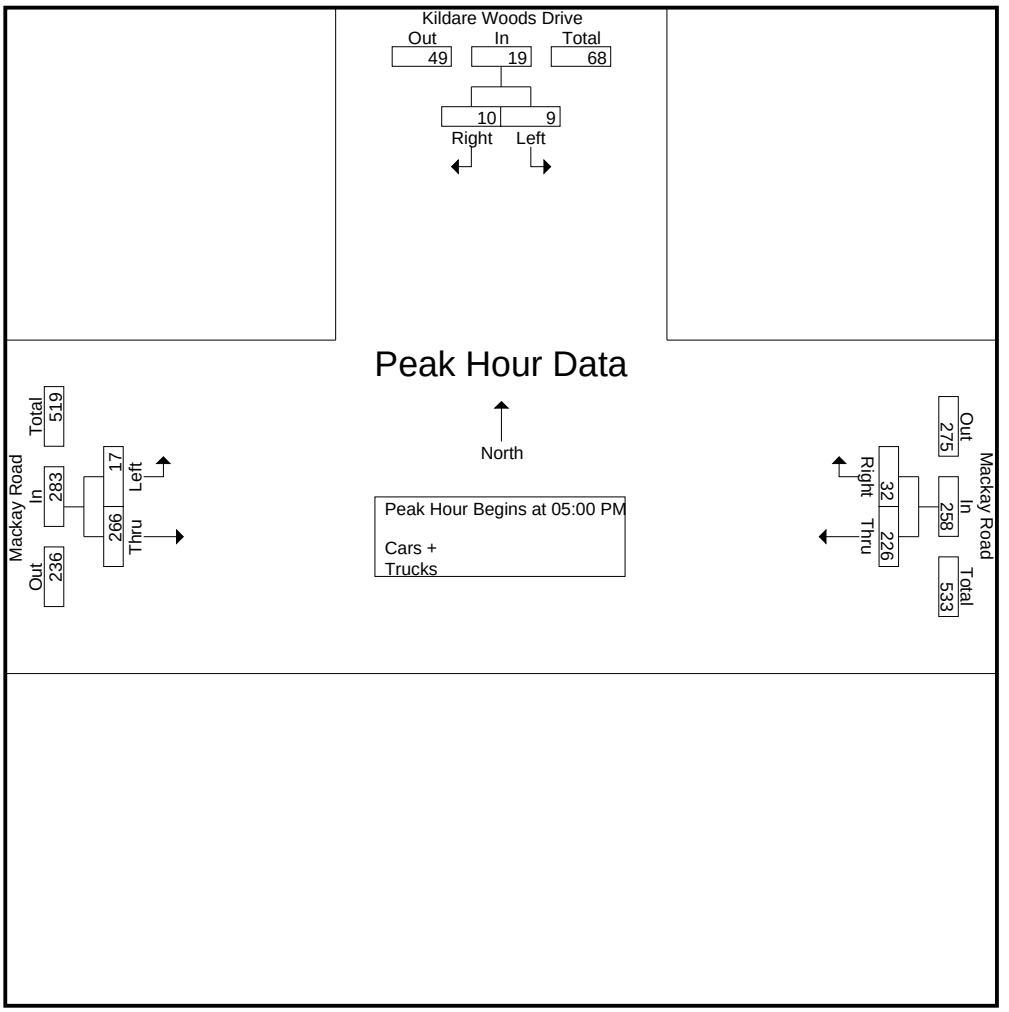
	Kildare Woods Drive Southbound			Mackay Road Westbound			Mackay Road Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	2	0	2	7	57	64	61	1	62	128
05:15 PM	**6**	0	**6**	9	59	68	**77**	**6**	**83**	**157**
05:30 PM	1	**5**	6	**12**	**61**	**73**	66	6	72	151
05:45 PM	1	4	5	4	49	53	62	4	66	124
Total Volume	10	9	19	32	226	258	266	17	283	560
% App. Total	52.6	47.4		12.4	87.6		94	6		
PHF	.417	.450	.792	.667	.926	.884	.864	.708	.852	.892





File Name : Jamestown(Mackay and Renaissance)AM Peak
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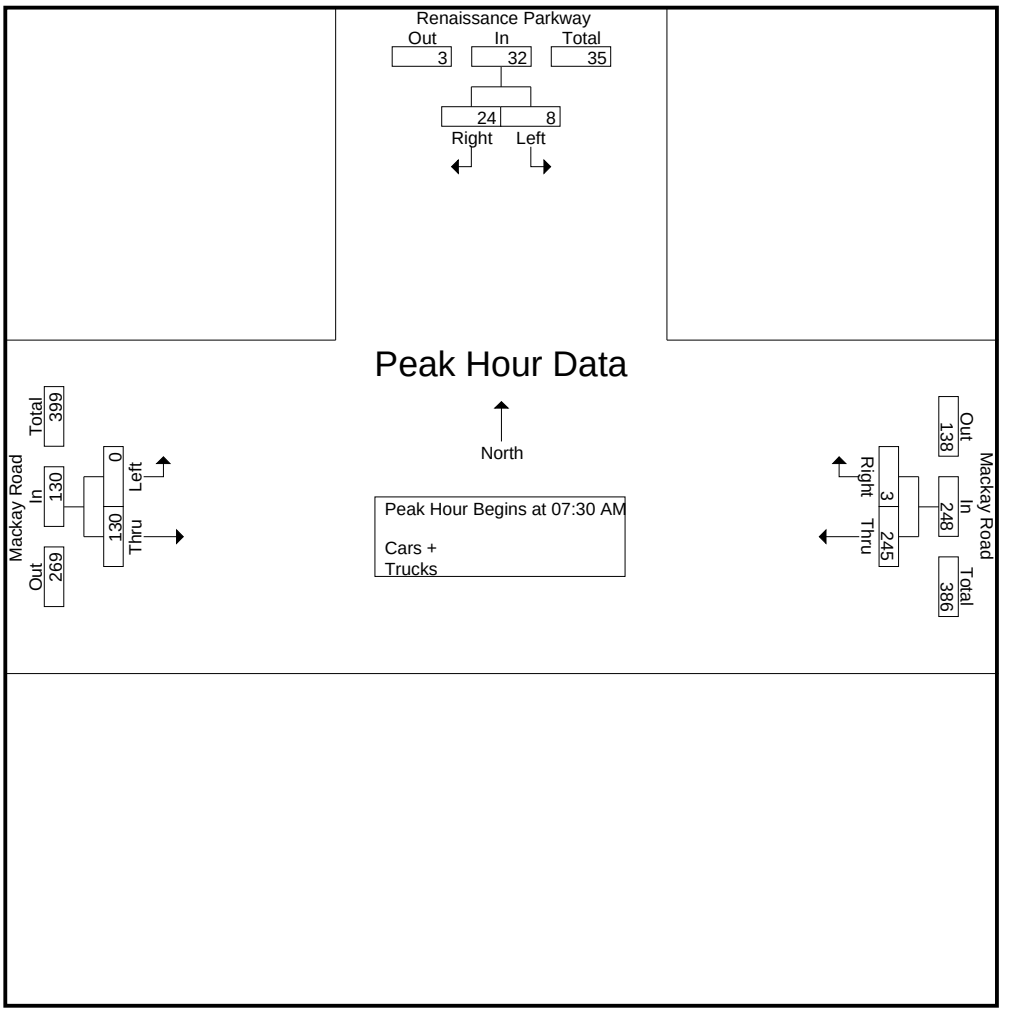
Groups Printed- Cars + - Trucks

	Renaissance Parkway Southbound			Mackay Road Westbound			Mackay Road Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
07:00 AM	2	1	3	0	44	44	20	1	21	68
07:15 AM	0	3	3	0	50	50	25	0	25	78
07:30 AM	10	2	12	1	75	76	34	0	34	122
07:45 AM	6	1	7	0	59	59	46	0	46	112
Total	18	7	25	1	228	229	125	1	126	380
08:00 AM	4	4	8	2	62	64	25	0	25	97
08:15 AM	4	1	5	0	49	49	25	0	25	79
08:30 AM	2	3	5	0	40	40	26	0	26	71
08:45 AM	3	2	5	1	43	44	32	0	32	81
Total	13	10	23	3	194	197	108	0	108	328
Grand Total	31	17	48	4	422	426	233	1	234	708
Apprch %	64.6	35.4		0.9	99.1		99.6	0.4		
Total %	4.4	2.4	6.8	0.6	59.6	60.2	32.9	0.1	33.1	
Cars +	31	17	48	4	419	423	228	1	229	700
% Cars +	100	100	100	100	99.3	99.3	97.9	100	97.9	98.9
Trucks	0	0	0	0	3	3	5	0	5	8
% Trucks	0	0	0	0	0.7	0.7	2.1	0	2.1	1.1

TRAFFIC DATA COLLECTION

File Name : Jamestown(Mackay and Renaissance)AM Peak
Site Code :
Start Date : 1/7/2020

	Renaissance Parkway Southbound			Mackay Road Westbound			Mackay Road Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	**10**	2	**12**	1	**75**	**76**	34	0	34	**122**
07:45 AM	6	1	7	0	59	59	**46**	0	**46**	112
08:00 AM	4	**4**	8	**2**	62	64	25	0	25	97
08:15 AM	4	1	5	0	49	49	25	0	25	79
Total Volume	24	8	32	3	245	248	130	0	130	410
% App. Total	75	25		1.2	98.8		100	0		
PHF	.600	.500	.667	.375	.817	.816	.707	.000	.707	.840





File Name : Jamestown(Mackay and Renaissance)PM Peak
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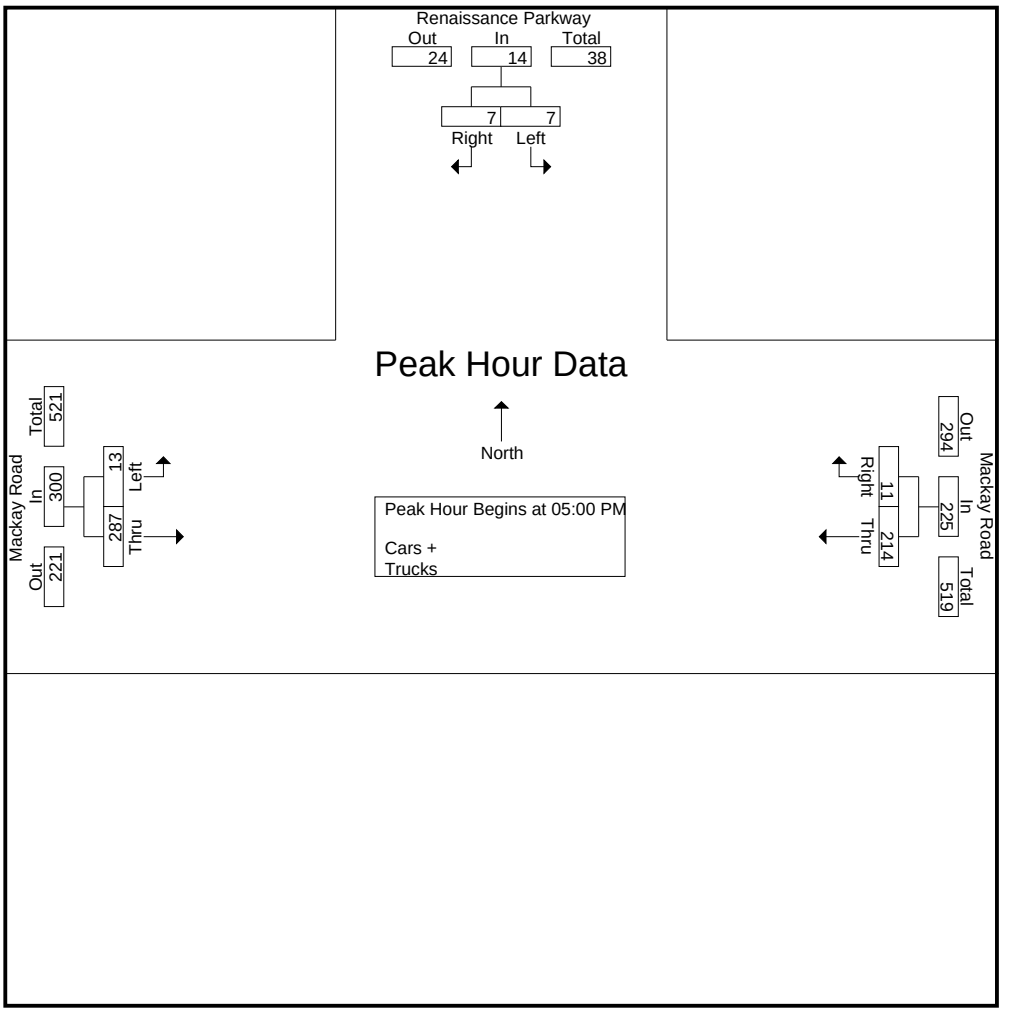
Groups Printed- Cars + - Trucks

	Renaissance Parkway Southbound			Mackay Road Westbound			Mackay Road Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
04:00 PM	1	2	3	4	40	44	44	4	48	95
04:15 PM	3	2	5	2	58	60	58	2	60	125
04:30 PM	1	1	2	2	50	52	50	4	54	108
04:45 PM	2	1	3	3	41	44	47	1	48	95
Total	7	6	13	11	189	200	199	11	210	423
05:00 PM	2	2	4	5	52	57	59	4	63	124
05:15 PM	2	3	5	1	59	60	88	3	91	156
05:30 PM	2	0	2	3	51	54	77	4	81	137
05:45 PM	1	2	3	2	52	54	63	2	65	122
Total	7	7	14	11	214	225	287	13	300	539
Grand Total	14	13	27	22	403	425	486	24	510	962
Apprch %	51.9	48.1		5.2	94.8		95.3	4.7		
Total %	1.5	1.4	2.8	2.3	41.9	44.2	50.5	2.5	53	
Cars +	14	13	27	22	397	419	483	24	507	953
% Cars +	100	100	100	100	98.5	98.6	99.4	100	99.4	99.1
Trucks	0	0	0	0	6	6	3	0	3	9
% Trucks	0	0	0	0	1.5	1.4	0.6	0	0.6	0.9

TRAFFIC DATA COLLECTION

File Name : Jamestown(Mackay and Renaissance)PM Peak
Site Code :
Start Date : 1/7/2020

	Renaissance Parkway Southbound			Mackay Road Westbound			Mackay Road Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**2**	2	4	**5**	52	57	59	**4**	63	124
05:15 PM	2	**3**	**5**	1	**59**	**60**	**88**	3	**91**	**156**
05:30 PM	2	0	2	3	51	54	77	4	81	137
05:45 PM	1	2	3	2	52	54	63	2	65	122
Total Volume	7	7	14	11	214	225	287	13	300	539
% App. Total	50	50		4.9	95.1		95.7	4.3		
PHF	.875	.583	.700	.550	.907	.938	.815	.813	.824	.864



TRAFFIC DATA COLLECTION

File Name : Jamestown(Vickery Chapel and Jamestown)AM Peak
Site Code :
Start Date : 12/18/2019
Page No : 1

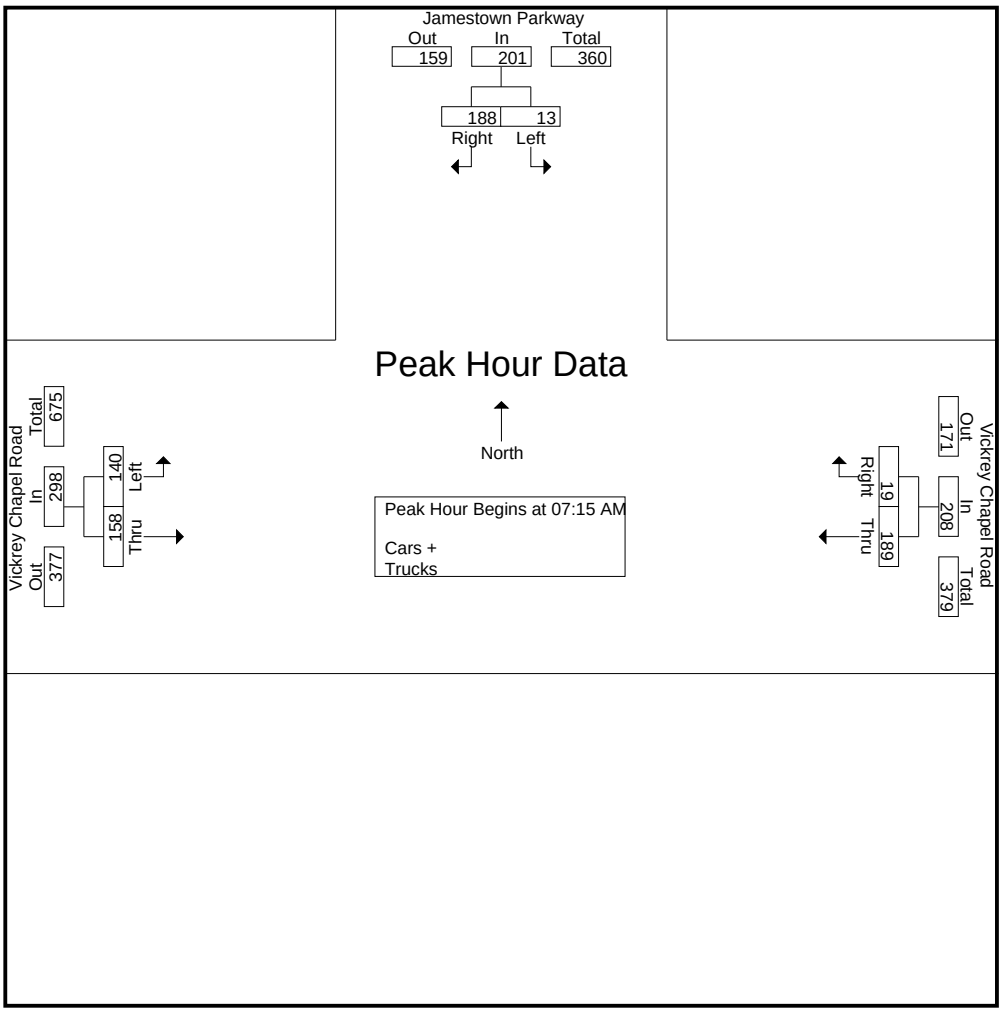
Groups Printed- Cars + - Trucks

	Jamestown Parkway Southbound			Vickrey Chapel Road Westbound			Vickrey Chapel Road Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
07:00 AM	11	1	12	4	24	28	16	7	23	63
07:15 AM	33	2	35	4	45	49	35	13	48	132
07:30 AM	50	1	51	8	61	69	44	23	67	187
07:45 AM	64	7	71	3	43	46	52	52	104	221
Total	158	11	169	19	173	192	147	95	242	603
08:00 AM	41	3	44	4	40	44	27	52	79	167
08:15 AM	35	0	35	4	29	33	32	12	44	112
08:30 AM	37	4	41	3	45	48	31	20	51	140
08:45 AM	22	3	25	3	48	51	39	35	74	150
Total	135	10	145	14	162	176	129	119	248	569
Grand Total	293	21	314	33	335	368	276	214	490	1172
Apprch %	93.3	6.7		9	91		56.3	43.7		
Total %	25	1.8	26.8	2.8	28.6	31.4	23.5	18.3	41.8	
Cars +	293	21	314	33	334	367	276	214	490	1171
% Cars +	100	100	100	100	99.7	99.7	100	100	100	99.9
Trucks	0	0	0	0	1	1	0	0	0	1
% Trucks	0	0	0	0	0.3	0.3	0	0	0	0.1

TRAFFIC DATA COLLECTION

File Name : Jamestown(Vickery Chapel and Jamestown)AM Peak
Site Code :
Start Date : 12/18/2019
Page No : 2

	Jamestown Parkway Southbound			Vickrey Chapel Road Westbound			Vickrey Chapel Road Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	33	2	35	4	45	49	35	13	48	132
07:30 AM	50	1	51	**8**	**61**	**69**	44	23	67	187
07:45 AM	**64**	**7**	**71**	3	43	46	**52**	**52**	**104**	**221**
08:00 AM	41	3	44	4	40	44	27	52	79	167
Total Volume	188	13	201	19	189	208	158	140	298	707
% App. Total	93.5	6.5		9.1	90.9		53	47		
PHF	.734	.464	.708	.594	.775	.754	.760	.673	.716	.800





File Name : Jamestown(Vickery Chapel and Jamestown)PM Peak
Site Code :
Start Date : 12/18/2019
Page No : 1

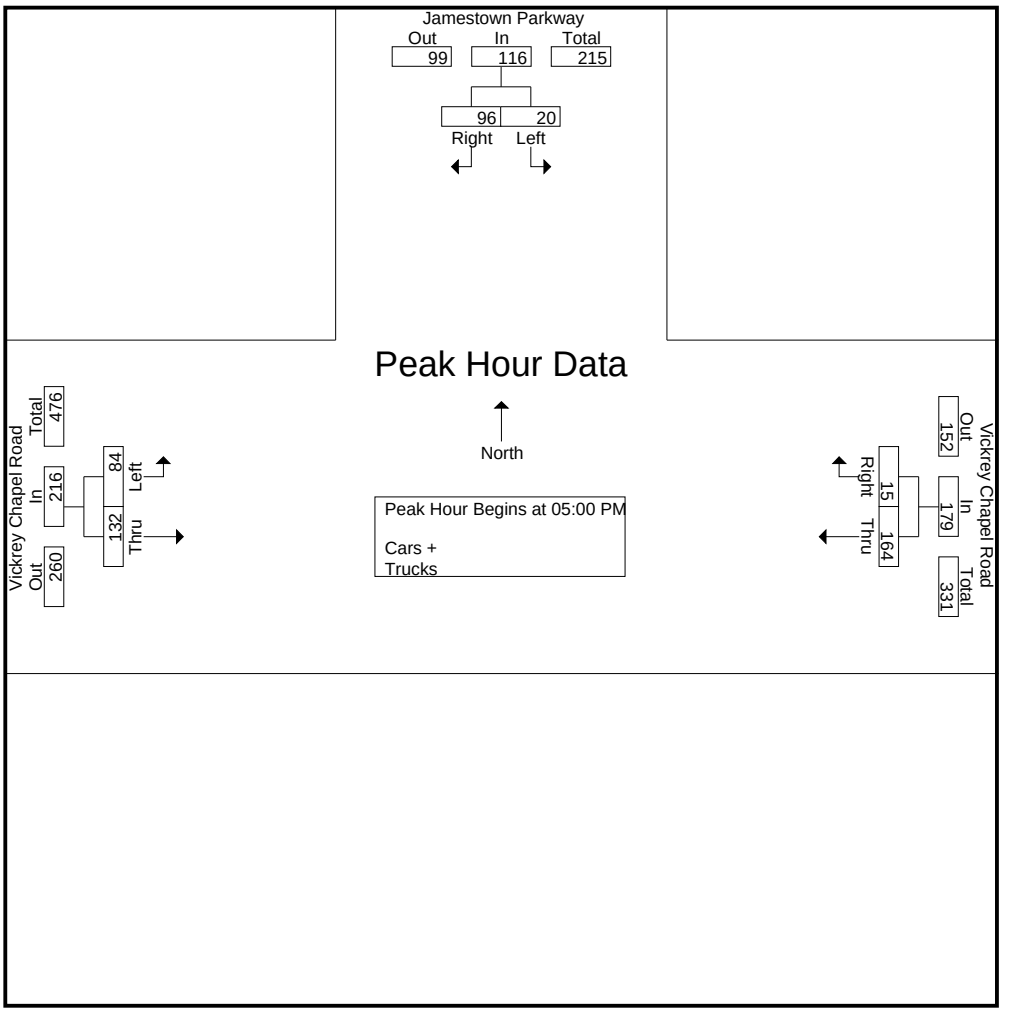
Groups Printed- Cars + - Trucks

	Jamestown Parkway Southbound			Vickrey Chapel Road Westbound			Vickrey Chapel Road Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
04:00 PM	18	6	24	4	31	35	44	29	73	132
04:15 PM	25	4	29	1	40	41	34	15	49	119
04:30 PM	26	3	29	1	21	22	27	18	45	96
04:45 PM	32	1	33	5	36	41	21	22	43	117
Total	101	14	115	11	128	139	126	84	210	464
05:00 PM	21	4	25	3	36	39	35	26	61	125
05:15 PM	28	4	32	3	50	53	30	13	43	128
05:30 PM	26	7	33	4	40	44	30	20	50	127
05:45 PM	21	5	26	5	38	43	37	25	62	131
Total	96	20	116	15	164	179	132	84	216	511
Grand Total	197	34	231	26	292	318	258	168	426	975
Apprch %	85.3	14.7		8.2	91.8		60.6	39.4		
Total %	20.2	3.5	23.7	2.7	29.9	32.6	26.5	17.2	43.7	
Cars +	197	34	231	26	290	316	255	168	423	970
% Cars +	100	100	100	100	99.3	99.4	98.8	100	99.3	99.5
Trucks	0	0	0	0	2	2	3	0	3	5
% Trucks	0	0	0	0	0.7	0.6	1.2	0	0.7	0.5

TRAFFIC DATA COLLECTION

File Name : Jamestown(Vickery Chapel and Jamestown)PM Peak
Site Code :
Start Date : 12/18/2019
Page No : 2

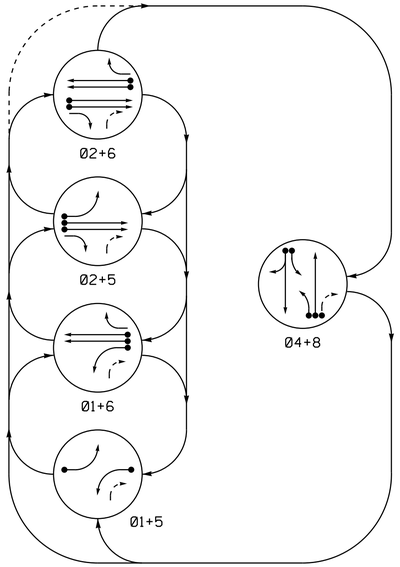
	Jamestown Parkway Southbound			Vickrey Chapel Road Westbound			Vickrey Chapel Road Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	21	4	25	3	36	39	35	**26**	61	125
05:15 PM	**28**	4	32	3	**50**	**53**	30	13	43	128
05:30 PM	26	**7**	**33**	4	40	44	30	20	50	127
05:45 PM	21	5	26	**5**	38	43	**37**	25	**62**	**131**
Total Volume	96	20	116	15	164	179	132	84	216	511
% App. Total	82.8	17.2		8.4	91.6		61.1	38.9		
PHF	.857	.714	.879	.750	.820	.844	.892	.808	.871	.975



Appendix C – Traffic Signal Plans

PROJECT REFERENCE NO.	SHEET NO.
C-5558	Sig. 96.0

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

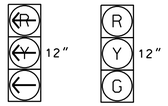
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE 0 1 + 5	0 1 + 6	0 2 + 5	0 2 + 6	0 4 + 8	FLASH
11	←	←	~~R~~	~~R~~	~~R~~	~~R~~
21, 22	R	R	G	G	R	Y
41, 42	R	R	R	R	G	R
51	←	~~R~~	←	~~R~~	~~R~~	~~R~~
61, 62	R	G	R	G	R	Y
81, 82	R	R	R	R	G	R

SIGNAL FACE I.D.

All Heads L.E.D.

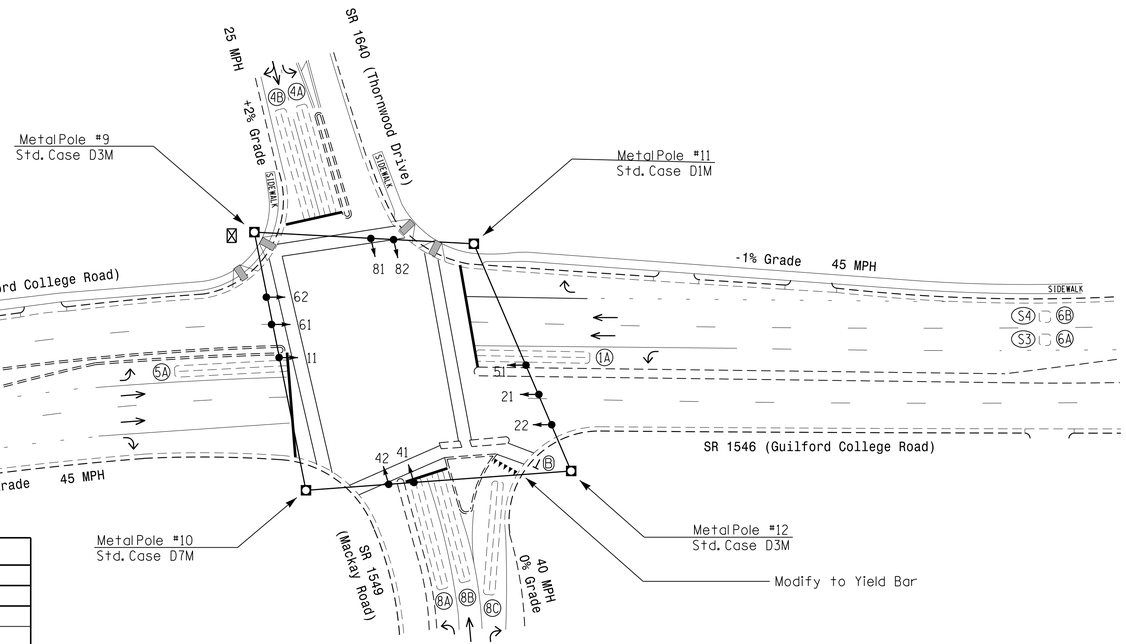


11
51

21, 22
41, 42
61, 62
81, 82

DETECTOR INSTALLATION CHART (1)

DETECTOR					PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTEND TIME	DELAY TIME	USE ADDED INITIAL	TYPE	SYSTEM LOOP	NEW CARD
1A	6X60	0	2-4-2	-	1	Yes	-	-	-	S	-	X
2A/S1	6X6	300	5	-	2	Yes	-	-	X	N	X	X
2B/S2	6X6	300	5	-	2	Yes	-	-	X	N	X	X
4A	6X60	0	2-4-2	-	4	Yes	-	-	-	S	-	X
4B	6X60	0	2-4-2	-	4	Yes	-	10	-	S	-	X
5A	6X60	0	2-4-2	-	5	Yes	-	-	-	S	-	X
6A/S3	6X6	300	5	-	6	Yes	-	-	X	N	X	X
6B/S4	6X6	300	5	-	6	Yes	-	-	X	N	X	X
8A	6X60	0	2-4-2	-	8	Yes	-	-	-	S	-	X
8B	6X60	0	2-4-2	-	8	Yes	-	-	-	S	-	X
8C	6X60	10	2-4-2	-	8	Yes	-	30	-	G	-	X



TIMING CHART (1)

FEATURE	PHASE 1	2	4	5	6	8
Min Green *	7	12	7	7	12	7
Walk *	-	-	-	-	-	-
Ped Clear	-	-	-	-	-	-
Veh. Extension *	1.0	6.0	1.0	1.0	6.0	1.0
Max 1 *	15	100	25	15	100	25
Yellow	3.0	4.4	3.1	3.0	4.6	4.2
Red Clear	2.8	1.3	3.5	2.8	1.5	2.3
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0
Actuations B4 Add *	-	-	-	-	-	-
Seconds /Actuation *	-	1.8	-	-	1.8	-
Max Initial *	-	34	-	-	34	-
Time Before Reduction *	-	15	-	-	15	-
Time To Reduce *	-	45	-	-	45	-
Minimum Gap	-	3.0	-	-	3.0	-
Locking Detector	-	X	-	-	X	-
Recall Position **	-	SOFT RECALL	-	-	SOFT RECALL	-
Dual Entry	-	-	X	-	-	X
Simultaneous Gap	X	X	X	X	X	X

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

** May be changed to Min Recall by Time of Day at Discretion of City Traffic Engineer.

5 Phase
Fully Actuated
(High Point Signal System)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 and/or phase 5 may be lagged.
4. Remove existing signal head 83 and U-Turn "MUST YIELD" (R3-27) sign.
5. Set all detector units to presence mode.
6. In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
7. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
8. The cabinet should be designed to include an Auxiliary Output file for future use.
9. Pavement markings are existing unless otherwise shown.
10. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button & Sign	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	
	Metal Strain Pole	
(B)	"YIELD" Sign (R1-2)	(B)

Signal Revision

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared In the Offices of:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy.Garner,NC 27529

SR 1546 (Guilford College Road)
at
SR 1640 (Thornwood Drive) and
SR 1549 (Mackay Road)

Division 7 Guilford County Jamestown

PLAN DATE: May 2014 PREPARED BY: R.N. Zinser

PREPARED BY: T.L. Averette REVIEWED BY:

SCALE 0 40 1"=40'

REVISIONS	BY	DATE
(1) Revise to ASC/3 Software	RS	9/

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 026486 ENGINEER ROBERT J. ZIEMBA

Digitally signed by: 1B9B4B6827A4484...

SIG. INVENTORY NO. 07-1071

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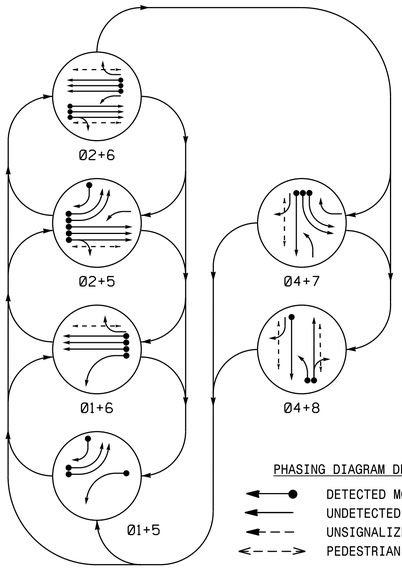
S:***TSCM\TIS\Signals\Signal Design Section\Central Region\Div 7\C-5558 High Point\ASC3 Revisions\071071_sig_rev_20191114.dgn
rzieMeb

PROJECT REFERENCE NO.	SHEET NO.
U-2412B & U-2524AE	Sig. 46

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

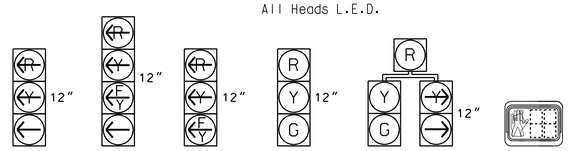
SIGNAL FACE	PHASE 01+5	01+6	02+5	02+6	04+7	04+8	FLASH
11	~~R~~	~~R~~	~~F.Y.~~	~~F.Y.~~	~~R~~	~~R~~	~~Y~~
21, 22, 23	R	R	G	G	R	R	Y
41, 43	R	R	R	R	G	G	R
42	R/~~R~~	R	R/~~R~~	R	G	G	R
51, 52	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
61, 62	R	G	R	G	R	R	Y
63	R	G	R	G	R/~~R~~	R	Y
▽ 71, 72, 73	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
81	~~R~~	~~R~~	~~R~~	~~R~~	~~F.Y.~~	~~F.Y.~~	~~R~~
▽ 82, 83, 84	R	R	R	R	R	G	R
P21, P22	DW	DW	W	W	DW	DW	DRK
P41, P42	DW	DW	DW	DW	W	W	DRK
P61, P62	DW	W	DW	W	DW	DW	DRK
P81, P82	DW	DW	DW	DW	DW	W	DRK

~~F.Y.~~ = Flashing Yellow Arrow

W - Walk
DW - Don't Walk
DRK - Dark

SIGNAL FACE I.D.

All Heads L.E.D.



51, 52
71, 72, 73▽

11

81

21, 22, 23
41, 43
61, 62
82, 83, 84▽

42
63

P21, P22
P41, P42
P61, P62
P81, P82

LOOP & DETECTOR UNIT INSTALLATION CHART

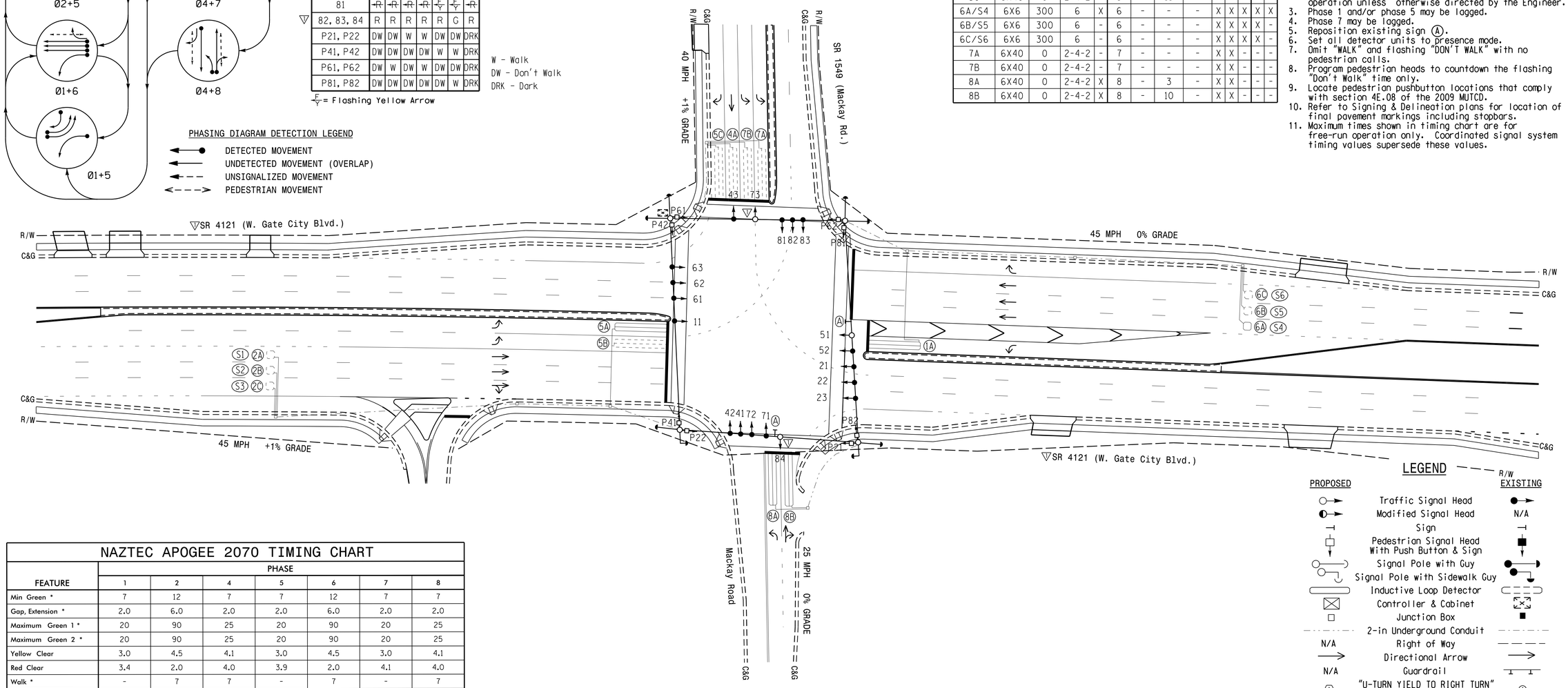
NAZTEC APOGEE SOFTWARE 2070 CONTROLLER

INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	SWITCH (PHASE)	DELAY TIME	STRETCH TIME	CALLING	EXTENSION	ADDED INIT.	SYSTEM LOOP	NEW CARD
1A	6X40	0	2-4-2	X	1	6	15	-	X	X	-	-	-
2A/S1	6X6	300	6	-	2	-	-	-	X	X	X	X	-
2B/S2	6X6	300	6	-	2	-	-	-	X	X	X	X	-
2C/S3	6X6	300	6	-	2	-	-	-	X	X	X	X	-
4A	6X40	0	2-4-2	-	4	-	-	-	X	X	-	-	-
5A	6X40	0	2-4-2	X	5	-	-	-	X	X	-	-	X
5B	6X40	0	2-4-2	-	5	-	-	-	X	X	-	-	-
5C	6X40	0	2-4-2	-	5	-	15	-	X	X	-	-	-
6A/S4	6X6	300	6	X	6	-	-	-	X	X	X	X	X
6B/S5	6X6	300	6	-	6	-	-	-	X	X	X	X	-
6C/S6	6X6	300	6	-	6	-	-	-	X	X	X	X	-
7A	6X40	0	2-4-2	-	7	-	-	-	X	X	-	-	-
7B	6X40	0	2-4-2	-	7	-	-	-	X	X	-	-	-
8A	6X40	0	2-4-2	X	8	-	3	-	X	X	-	-	-
8B	6X40	0	2-4-2	X	8	-	10	-	X	X	-	-	-

6 Phase
Fully Actuated
(Greensboro Signal System)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 and/or phase 5 may be lagged.
4. Phase 7 may be lagged.
5. Reposition existing sign (A).
6. Set all detector units to presence mode.
7. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
8. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
9. Locate pedestrian pushbutton locations that comply with section 4E.08 of the 2009 MUTCD.
10. Refer to Signing & Delineation plans for location of final pavement markings including stopbars.
11. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.



NAZTEC APOGEE 2070 TIMING CHART

FEATURE	PHASE 1	2	4	5	6	7	8
Min Green *	7	12	7	7	12	7	7
Gap, Extension *	2.0	6.0	2.0	2.0	6.0	2.0	2.0
Maximum Green 1 *	20	90	25	20	90	20	25
Maximum Green 2 *	20	90	25	20	90	20	25
Yellow Clear	3.0	4.5	4.1	3.0	4.5	3.0	4.1
Red Clear	3.4	2.0	4.0	3.9	2.0	4.1	4.0
Walk *	-	7	7	-	7	-	7
Pedestrian Clear	-	16	34	-	22	-	39
Added Initial *	-	1.0	-	-	1.0	-	-
Maximum Initial *	-	34	-	-	34	-	-
Time Before Reduction *	-	15	-	-	15	-	-
Time To Reduce *	-	30	-	-	30	-	-
Minimum Gap	-	3.0	-	-	3.0	-	-
Recall Mode	-	MIN RECALL	-	-	MIN RECALL	-	-
Lock Calls	NO	YES	NO	NO	YES	NO	NO
Dual Entry	-	-	ON	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button & Sign	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	
N/A	Guardrail	
(A)	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	(A)

SIGNAL REVISION - FINAL DESIGN

REVISION ▽ SEAL

NORTH CAROLINA PROFESSIONAL SEAL 026486 ENGINEER ROBERT J. ZIEMBA

Docu Signed by: 1B9B4B6027A4494...

Prepared for the Offices of:
Transportation Mobility and Safety Division
NC DEPARTMENT OF TRANSPORTATION
Signal Design Section
750 N.Greenfield Pkwy.Garner,NC 27529

SCALE 0 40 1"=40'

SR 4121 (W. Gate City Blvd.)▽ at SR 1549 (Mackay Rd.)

DIVISION 7 GUILFORD COUNTY GREENSBORO

PLAN DATE: FEBRUARY 2012 REVIEWED BY: B.L. WATSON

PREPARED BY: K. WIESKAMP REVIEWED BY:

REVISIONS

▽ Add Near Side Signal Heads; Change Street Name. 08 /28/17

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL

Not a certified document as to the Original Document but Only as to the Revisions - This document originally Issued and sealed by Betsy L.Watson,PE. #029449, on 4/26/2012. This document is only certified as to the revisions.

SIGNATURE DATE

SIG. INVENTORY NO. 07-1185

23-MAY-2017 15:34
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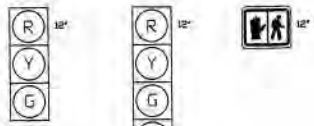
rzziemba

DETECTOR CHART											
SIZE AND PLACEMENT				DETECTOR PROGRAMMING							
LOOP	SIZE (FT.)	DISTANCE FROM STOP BAR (FT.)	TURNS	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
2A	6x6	115	4	2	Y	Y	–	–	–	–	Y
2B	6x6	230	4	2	Y	Y	–	–	–	–	Y
2C	6x50	0	2-4-2	2	Y	Y	–	–	–	–	Y
3A	6x50	0	2-4-2	3	Y	Y	–	–	–	–	Y
3B	6x60	0	2-4-2	3	Y	Y	–	–	–	–	–
4A	6x60	0	2-4-2	4	Y	Y	–	–	–	–	Y
4B	6x20	0	2-4-2	4	Y	Y	–	–	5	–	–
6A	6x6	115	4	6	Y	Y	–	–	–	–	Y
6B	6x6	230	4	6	Y	Y	–	–	–	–	Y
6C	6x50	0	2-4-2	6	Y	Y	–	–	–	–	Y

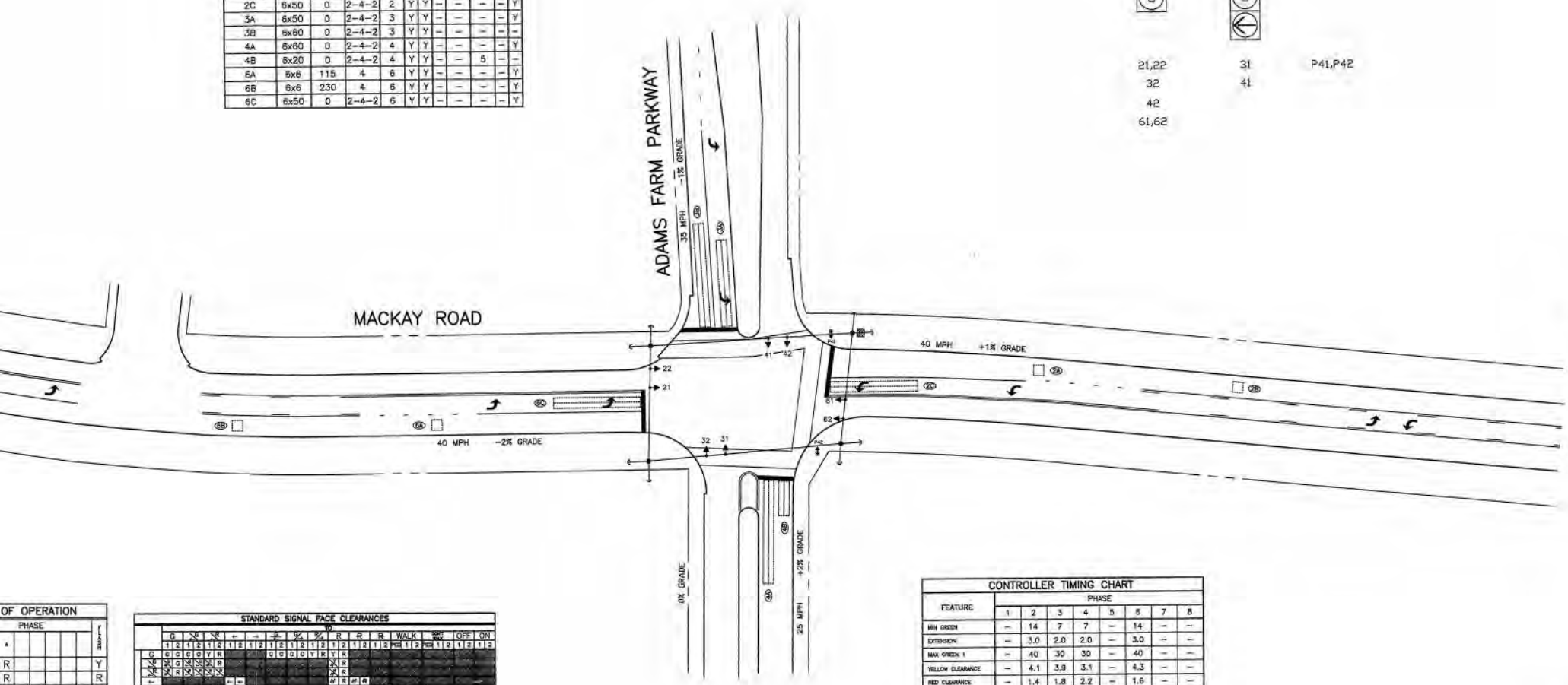
SIGNAL HEADS



21,22
32
42
61,62

31
41

P41,P42

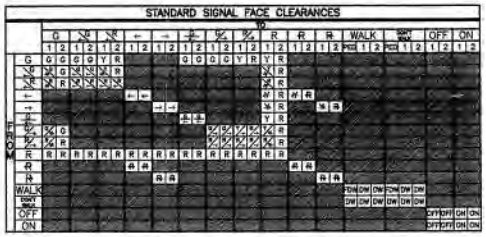


CONTROLLER TIMING CHART								
FEATURE	PHASE							
	1	2	3	4	5	6	7	8
MIN GREEN	–	14	7	7	–	14	–	–
EXTENSION	–	3.0	2.0	2.0	–	3.0	–	–
MAX. GREEN 1	–	40	30	30	–	40	–	–
YELLOW CLEARANCE	–	4.1	3.9	3.1	–	4.3	–	–
RED CLEARANCE	–	1.4	1.8	2.2	–	1.6	–	–
WALK	–	–	–	7	–	–	–	–
DON'T WALK	–	–	–	14	–	–	–	–
RECALL MODE	–	MIN	–	–	–	MIN	–	–
VEHICLE CALL MEMORY	–	LOCK	–	–	–	LOCK	–	–
DUAL ENTRY	–	ON	–	–	–	ON	–	–
SIMULTANEOUS GAP	–	ON	–	–	–	ON	–	–

OF OPERATION

PHASE							
							FLASH
R							Y
R							R
R							R
G							R
G							R
R							Y

STANDARD SIGNAL FACE CLEARANCES



LEGEND

- POLE
- POLE W/MAST ARM
- SIGNAL HEAD
- PED. SIGNAL HEAD
- DETECTOR LOOP
- CONTROLLER CABINET

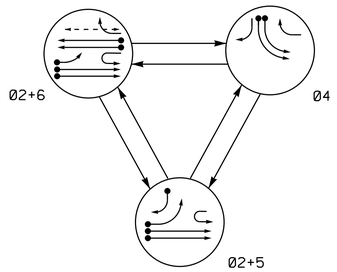
SIGNAL INV

REVISIONS	
DATE	BY
12-03-98	T.J.R.
11-21-00	T.J.R
10-09-08	J.F.M.

PROJECT REFERENCE NO.	SHEET NO.
C-5558	Sig. 162.0

3 Phase
Fully Actuated
(High Point Signal System)

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

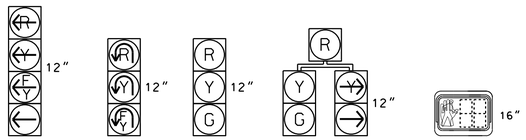
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE Ø2+5	Ø2+6	Ø4	FLASH
21, 22	G	G	R	Y
41	R	R	G	R
42	R/	R	G	R
51	←	←Y	←R	←Y
61	(←)	(←)	(←R)	(←Y)
62	R	G	R	Y
63	R	G	R/	Y
P61, P62	DW	W	DW	ORK

SIGNAL FACE I.D.

All Heads L.E.D.



DETECTOR INSTALLATION CHART (1)

DETECTOR LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PROGRAMMING PHASE	CALLING	EXTEND TIME	DELAY TIME	USE ADDED INITIAL	TYPE	SYSTEM LOOP	NEW CARD
2A	6X6	300	EXIST	-	2	Yes	-	-	X	N	-	X
2B	6X6	300	EXIST	-	2	Yes	-	-	X	N	-	X
4A	6X60	0	2-4-2	-	4	Yes	-	-	-	S	-	X
4B	6X60	0	2-4-2	-	4	Yes	-	-	-	S	-	X
5A	6X60	0	2-4-2	-	5	Yes	-	15	-	S	-	X
					2	Yes	-	3	-	G	-	X
5B	6X60	0	2-4-2	-	5	Yes	-	20	-	S	-	X
6A	6X6	300	EXIST	-	6	Yes	-	-	X	N	-	X
6B	6X6	300	EXIST	-	6	Yes	-	-	X	N	-	X

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 5 may be lagged.
4. Set all detector units to presence mode.
5. In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
6. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
7. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
8. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
9. Existing lane control signs (R3-5L and/or R3-5R) may be removed at the direction of the Engineer.
10. Pavement markings are existing.
11. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

TIMING CHART (1)

FEATURE	PHASE 2	4	5	6
Min Green *	12	7	7	12
Walk *	-	-	-	7
Ped Clear	-	-	-	28
Veh. Extension *	6.0	1.0	1.0	6.0
Max 1 *	100	25	15	100
Yellow	4.6	3.0	3.0	4.6
Red Clear	1.9	3.3	2.4	1.9
Red Revert	2.0	2.0	2.0	2.0
Actuations B4 Add *	-	-	-	-
Seconds /Actuation *	1.5	-	-	1.5
Max Initial *	34	-	-	34
Time Before Reduction *	15	-	-	15
Time To Reduce *	45	-	-	45
Minimum Gap	3.0	-	-	3.0
Locking Detector	X	-	-	X
Recall Position **	SOFT RECALL	-	-	SOFT RECALL
Dual Entry	-	-	-	-
Simultaneous Gap	X	X	X	X

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

** May be changed to Min Recall by Time of Day at discretion of City Traffic Engineer.

SIGNS

PROPOSED		EXISTING
(A)	Left Arrow "ONLY" Sign (R3-5L)	(A)
(B)	Right Arrow "ONLY" (R3-5R)	(B)
(C)	U-Turn "MUST YIELD" (R3-27)	(C)
(D)	Street Name Sign (D3-1)	(D)
(E)	"TURNING TRAFFIC MUST YIELD TO PEDESTRIANS" Sign (R10-15)	(E)

LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button & Sign	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	
	Metal Strain Pole	

Signal Revision

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared In the Offices of:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy.Garner,NC 27529

SR 1546 (Guilford College Rd.)
at
SR 4241 (Guilford Road)

Division 7 Guilford County Jamestown

PLAN DATE: May 2014 PREPARED BY:

PREPARED BY: T. L. Averette REVIEWED BY:

SCALE 0 40 1"=40'

REVISIONS — UNIT — DATE
(1) Revise to ASC/3 Software — RS — 9

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 026486 ENGINEER ROBERT J. ZIEMBA

DocuSigned by: Robert J. Ziemba
1B8B4B6E274A4BA...

SIG. INVENTORY NO. 07-2031

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S:\#TISG\Traffic Signals\Signal Design Section\Central Region\Div 7\C-5558 High Point\ASC3 Revisions\072031_sig_rev_20191113.dgn
rziemba

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PROJECT REFERENCE NO.	SHEET NO.
U-2412A	Sig. 11.0

PHASING DIAGRAM

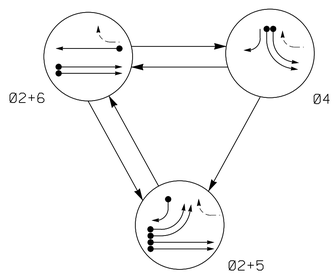
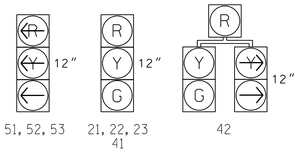


TABLE OF OPERATION

SIGNAL FACE	PHASE Ø2+5	PHASE Ø2+6	PHASE Ø4	FLASH
21, 22, 23	G	G	R	Y
41	R	R	G	R
42	R/←	R	G	R
51, 52, 53	←	~~R~~	~~R~~	~~R~~
61, 62, 63	R	G	R	Y

SIGNAL FACE I.D.

All Heads L.E.D.



LOOP & DETECTOR UNIT INSTALLATION CHART

NAZTEC APOGEE SOFTWARE 2070 CONTROLLER

INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	SWITCH (PHASE)	DELAY TIME	STRETCH TIME	CALLING	EXTENSION	ADDED INIT.	SYSTEM LOOP	NEW CARD
2A/S1	6X6	300	5	-	2	-	-	-	X	X	X	X	-
2B/S2	6X6	300	5	-	2	-	-	-	X	X	X	X	-
4A	6X40	0	2-4-2	-	4	-	-	-	X	X	-	-	-
4B	6X40	0	2-4-2	-	4	-	-	-	X	X	-	-	-
5A	6X40	0	2-4-2	-	5	-	-	-	X	X	-	-	-
5B	6X40	0	2-4-2	-	5	-	-	-	X	X	-	-	-
5C	6X40	0	2-4-2	-	5	-	15	-	X	X	-	-	-
6A/S3	6X6	300	6	-	6	-	-	-	X	X	X	X	-

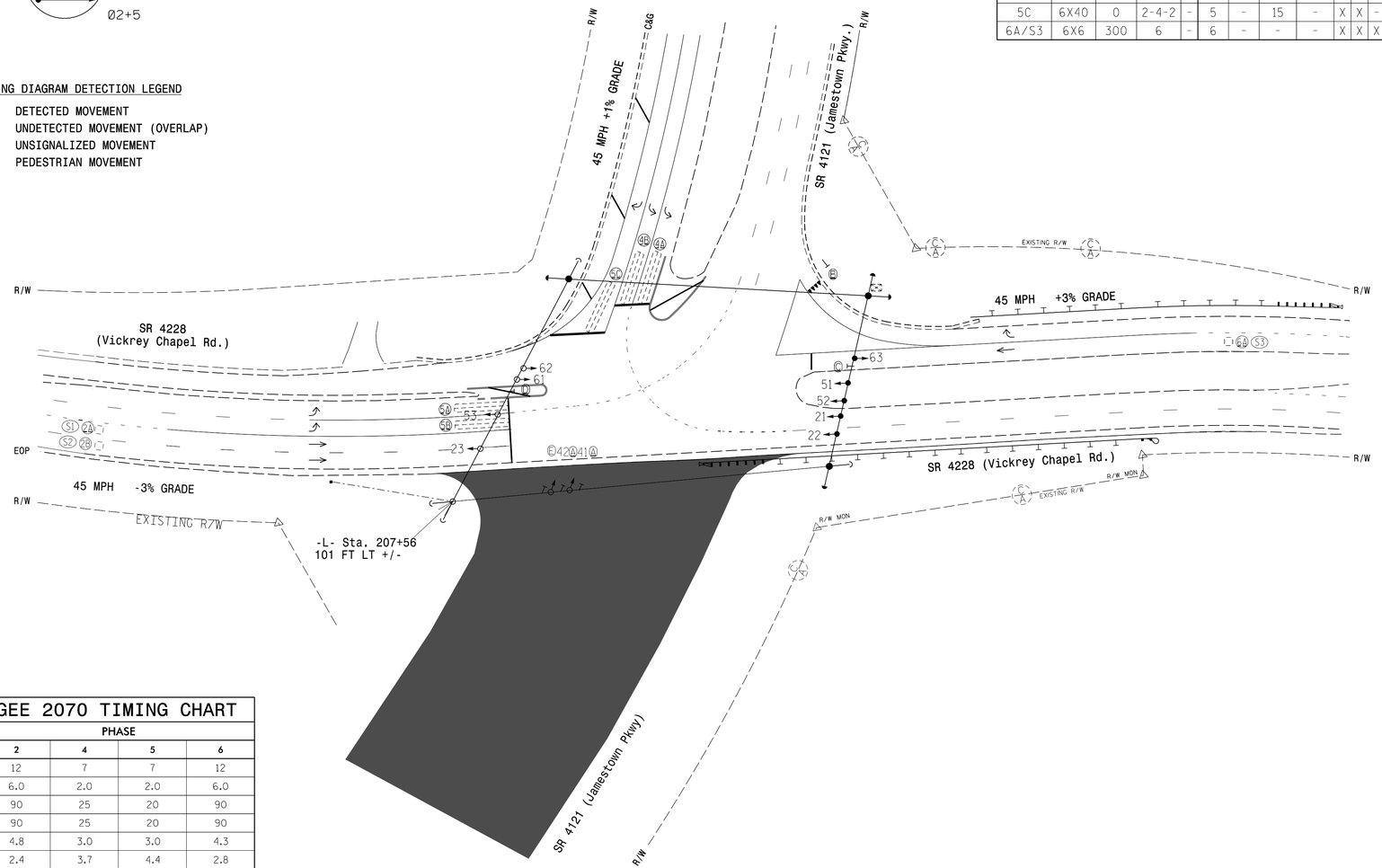
3 Phase
Fully Actuated
(Greensboro Signal System)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 5 may be lagged.
4. Set all detector units to presence mode.
5. Pavement markings are existing.
6. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT



LEGEND

PROPOSED		EXISTING
○→	Traffic Signal Head	●→
◐→	Modified Signal Head	N/A
⊣	Sign	⊣
▯↓	Pedestrian Signal Head With Push Button & Sign	■↓
○	Signal Pole with Guy	●
○	Signal Pole with Sidewalk Guy	●
▭	Inductive Loop Detector	▭
⊠	Controller & Cabinet	⊠
□	Junction Box	■
-----	2-in Underground Conduit	-----
N/A	Right of Way	-----
→	Directional Arrow	→
N/A	Guardrail	⊥⊥⊥
Ⓐ	Left Arrow "ONLY" Sign (R3-5L)	Ⓐ
Ⓑ	"YIELD" Sign (R1-2)	Ⓑ
Ⓒ	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	Ⓒ
Ⓓ	No U-Turn Sign (R3-4)	Ⓓ
Ⓔ	Right Arrow "ONLY" Sign (R3-5R)	Ⓔ
▩	Construction Area	

NAZTEC APOGEE 2070 TIMING CHART

FEATURE	PHASE 2	PHASE 4	PHASE 5	PHASE 6
Min Green *	12	7	7	12
Gap, Extension *	6.0	2.0	2.0	6.0
Maximum Green 1 *	90	25	20	90
Maximum Green 2 *	90	25	20	90
Yellow Clear	4.8	3.0	3.0	4.3
Red Clear	2.4	3.7	4.4	2.8
Walk *	-	-	-	-
Pedestrian Clear	-	-	-	-
Added Initial *	1.5	-	-	2.5
Maximum Initial *	34	-	-	34
Time Before Reduction *	15	-	-	15
Time To Reduce *	30	-	-	30
Minimum Gap	3.0	-	-	3.0
Recall Mode	MIN RECALL	-	-	MIN RECALL
Lock Calls	YES	NO	NO	YES
Dual Entry	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

Signal Revision - Temporary Design

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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Fuquay-Varina, NC 27526
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Prepared for the Offices of:
Transportation Mobility and Safety Division
Traffic Engineering Branch
Signal Design Section
750 N.Greenfield Pkwy.Garner,NC 27529

SR 4228 (Vickrey Chapel Rd.) at SR 4121 (Jamestown Pkwy.)

Division 7 Guilford County Greensboro

PLAN DATE: February 2018 REVIEWED BY: R. Thompson

PREPARED BY: B. Lehan REVIEWED BY:

SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 045256 ENGINEER BRENDAN A. LEHAN

Docu Signed by: Brendan Lehan 3/20/2018
DATE

SIG. INVENTORY NO. 07-2183T

$$$$$$SYSTIME$$$$$$
$$$$$$

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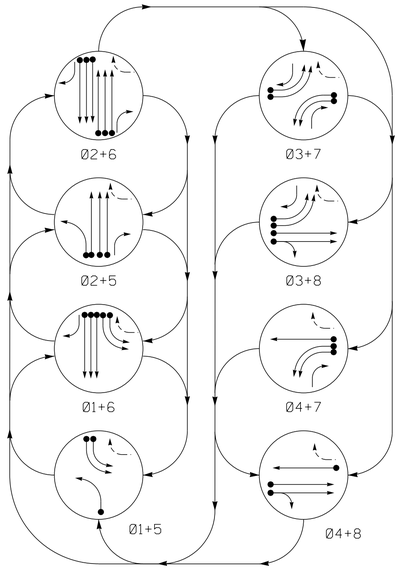
PROJECT REFERENCE NO.	SHEET NO.
U-2412A	Sig. 12.0

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

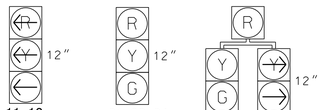
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE 0 1 + 5	0 1 + 6	0 2 + 5	0 2 + 6	0 3 + 7	0 3 + 8	0 4 + 7	0 4 + 8	FLASH
11,12	←●	←	←R	←R	←R	←R	←R	←R	←R
21,22,24	R	R	G	G	R	R	R	R	Y
23	R	R	G	G	R/→	R	R/→	R	Y
31,32,33	←R	←R	←R	←R	←	←	←R	←R	←R
41,42,43	R	R	R	R	R	R	G	G	R
51	←●	←R	←●	←R	←R	←R	←R	←R	←R
61,62,64	R	G	R	G	R	R	R	R	Y
63	R	G	R	G	R/→	R/→	R	R	Y
71,72,73	←R	←R	←R	←R	←	←	←R	←R	←R
81,82,83	R	R	R	R	R	G	R	G	R

SIGNAL FACE I.D.

All Heads L.E.D.



11,12
31,32,33
51
71,72,73

21,22,24
41,42,43
61,62,64
81,82,83

23
63

LOOP & DETECTOR UNIT INSTALLATION CHART

NAZTEC APOGEE SOFTWARE 2070 CONTROLLER

INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	SWITCH (PHASE)	DELAY TIME	STRETCH TIME	CALLING	EXTENSION	ADDED INIT.	SYSTEM LOOP	NEW CARD
1A	6X40	0	2-4-2	X	1	-	15	-	X	X	-	-	X
1B	6X40	0	2-4-2	X	1	-	15	-	X	X	-	-	X
2A	6X6	420	5	X	2	-	-	-	X	X	X	-	X
2B	6X6	420	5	X	2	-	-	-	X	X	X	-	X
2C	6X6	420	5	X	2	-	-	-	X	X	X	-	X
3A	6X40	0	2-4-2	X	3	-	15	-	X	X	-	-	X
3B	6X40	0	2-4-2	X	3	-	15	-	X	X	-	-	X
4A/S3	6x6	275	EXIST	-	4	-	-	2.4	-	X	X	X	X
4B	6X40	0	2-4-2	X	4	-	-	-	X	X	-	-	X
5A	6X40	0	2-4-2	X	5	-	15	-	X	X	-	-	X
6A	6X6	300	5	X	6	-	-	-	X	X	X	-	X
6B	6X6	300	5	X	6	-	-	-	X	X	X	-	X
6C	6X6	300	5	X	6	-	-	-	X	X	X	-	X
7A	6X40	0	2-4-2	X	7	-	15	-	X	X	-	-	X
7B	6X40	0	2-4-2	X	7	-	15	-	X	X	-	-	X
8A/S1	6x6	275	EXIST	-	8	-	-	2.4	-	X	X	X	X
8B/S2	6x6	275	EXIST	-	8	-	-	2.4	-	X	X	X	X
8C	6X40	0	2-4-2	X	8	-	-	-	X	X	-	-	X
8D	6X40	0	2-4-2	X	8	-	10	-	X	X	-	-	X

8 PHASE
Fully Actuated
(GREENSBORO SIGNAL SYSTEM)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 and/or 5 may be lagged.
4. Phase 3 and/or 7 may be lagged.
5. Set all detector units to presence mode.
6. Renumber existing signal phases, loops, and signal heads as shown.
7. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

LEGEND

PROPOSED		EXISTING
○→	Traffic Signal Head	●→
◐→	Modified Signal Head	N/A
⊣	Sign	⊣
□↓	Pedestrian Signal Head With Push Button & Sign	■↓
○	Signal Pole with Guy	●
○	Signal Pole with Sidewalk Guy	●
▭	Inductive Loop Detector	▭
⊠	Controller & Cabinet	⛶
□	Junction Box	■
·····	2-in Underground Conduit	·-·-·
N/A	Right of Way	------
→	Directional Arrow	→
N/A	Guardrail	I I
Ⓐ	Left Arrow "ONLY" Sign (R3-5L)	Ⓐ
Ⓑ	"YIELD" Sign (R1-2)	Ⓑ
Ⓒ	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	Ⓒ

NAZTEC APOGEE 2070 TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6	7	8
Min Green *	7	12	7	7	7	12	7	7
Gap, Extension *	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0
Maximum Green 1 *	20	90	20	25	20	90	20	25
Maximum Green 2 *	20	90	20	25	20	90	20	25
Yellow Clear	3.0	5.3	3.0	4.3	3.0	4.4	3.0	4.8
Red Clear	3.7	1.2	4.7	3.3	3.1	1.9	5.2	3.0
Walk *	-	-	-	-	-	-	-	-
Pedestrian Clear	-	-	-	-	-	-	-	-
Added Initial *	-	1.5	-	-	-	1.5	-	-
Maximum Initial *	-	46	-	-	-	34	-	-
Time Before Reduction *	-	15	-	-	-	15	-	-
Time To Reduce *	-	30	-	-	-	30	-	-
Minimum Gap	-	3.2	-	-	-	3.2	-	-
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL	-	-
Lock Calls	NO	YES	NO	NO	NO	YES	NO	NO
Dual Entry	-	-	-	-	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

SIGNAL UPGRADE- FINAL DESIGN

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Prepared for the Offices of:
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signal Design Section
750 N.Greenfield Pkwy.Garner,NC 27529

SCALE 0 50 1"=50'

SR 4121 (JAMESTOWN PARKWAY)
AT
SR 4228 (VICKREY CHAPEL ROAD)

DIVISION 7 GUILFORD COUNTY HIGH POINT

PLAN DATE: February 2018 REVIEWED BY: R. Thompson
PREPARED BY: B. LEHAN REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL 045256 NORTH CAROLINA PROFESSIONAL ENGINEER BRENDAN A. LEHAN

Digitally Signed by: Brendan Lehan 3/21/2018
BB1708E2F7B54CD... SIGNATURE DATE

SIG. INVENTORY NO. 07-2183

$$$$$SYSTIME$$$$$
$$$$$SYSDATE$$$$$
$$$$$USERNAME$$$$$

PROJECT REFERENCE NO.	SHEET NO.
U-2412B & U-2524AE	Sig. 24

PHASING DIAGRAM

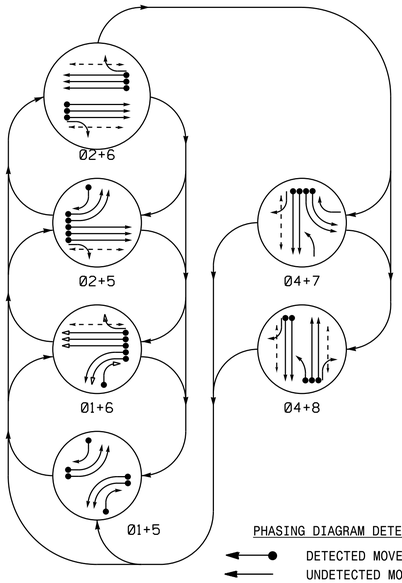


TABLE OF OPERATION

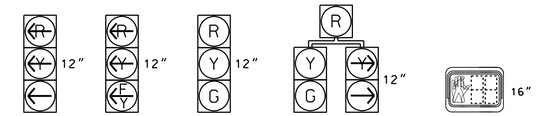
	SIGNAL FACE	PHASE 01+5	01+6	02+5	02+6	04+7	04+8	FLASH
▽	11, 12, 13	←—	——	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
▽	21, 22, 23, 24	R	R	G	G	R	R	Y
	41, 43	R	R	R	R	G	G	R
	42	R/—	R	R/—	R	G	G	R
▽	51, 52, 53	←—	~~R~~	←—	~~R~~	~~R~~	~~R~~	~~R~~
▽	61, 62, 64	R	G	R	G	R	R	Y
	63	R	G	R	G	R/—	R	Y
▽	71, 72, 73	~~R~~	~~R~~	~~R~~	~~R~~	←—	~~R~~	~~R~~
	81	~~R~~	~~R~~	~~R~~	~~R~~	F/Y	F/Y	~~R~~
	82, 84	R	R	R	R	R	G	R
	83	R/—	R/—	R	R	R	G	R
	P21, P22	DW	DW	W	W	DW	DW	DRK
	P41, P42	DW	DW	DW	DW	W	W	DRK
	P61, P62	DW	W	DW	W	DW	DW	DRK
	P81, P82	DW	DW	DW	DW	DW	W	DRK

F/Y = Flashing Yellow Arrow

W - Walk
DW - Don't Walk
DRK - Dark

SIGNAL FACE I.D.

All Heads L.E.D.



11, 12, 13▽ 51, 52, 53▽ 71, 72, 73▽ | 81 | 21, 22, 23, 24▽ 41, 43 61, 62, 64▽ 82, 84 | 42 63 83 | P21, P22 P41, P42 P61, P62 P81, P82

LOOP & DETECTOR UNIT INSTALLATION CHART

NAZTEC APOGEE SOFTWARE 2070 CONTROLLER

INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	SWITCH (PHASE)	DELAY TIME	STRETCH TIME	CALLING	EXTENSION	ADDED INIT.	SYSTEM LOOP	NEW CARD
1A	6X40	0	2-4-2	X	1	-	-	-	X	X	-	-	-
1B	6X40	0	2-4-2	X	1	-	-	-	X	X	-	-	X
1C	6X40	0	2-4-2	X	1	-	15	-	X	X	-	-	-
2A/S1	6X6	300	6	X	2	-	-	-	X	X	X	X	-
2B/S2	6X6	300	6	X	2	-	-	-	X	X	X	X	X
2C/S3	6X6	300	6	X	2	-	-	-	X	X	X	X	X
4A	6X6	300	5	X	4	-	-	3.4	-	X	-	-	X
4B	6X6	300	5	X	4	-	-	3.4	-	X	-	-	X
4C	6X40	0	2-4-2	X	4	-	-	-	X	X	-	-	-
4D	6X40	0	2-4-2	X	4	-	-	-	X	X	-	-	-
5A	6X40	0	2-4-2	X	5	-	-	-	X	X	-	-	-
5B	6X40	0	2-4-2	X	5	-	-	-	X	X	-	-	X
5C	6X40	0	2-4-2	X	5	-	15	-	X	X	-	-	-
6A/S4	6X6	300	6	X	6	-	-	-	X	X	X	X	-
6B/S5	6X6	300	6	X	6	-	-	-	X	X	X	X	X
6C/S6	6X6	300	6	X	6	-	-	-	X	X	X	X	X
7A	6X40	0	2-4-2	X	7	-	-	-	X	X	-	-	-
7B	6X40	0	2-4-2	X	7	-	-	-	X	X	-	-	X
8A	6X6	300	6	X	8	-	-	3.4	-	X	-	-	X
8B	6X6	300	6	X	8	-	-	3.4	-	X	-	-	X
8C	6X40	0	2-4-2	X	8	-	-	-	X	X	-	-	-
8D	6X40	0	2-4-2	X	8	-	-	-	X	X	-	-	-
8E	6X40	0	2-4-2	X	8	-	-	-	X	X	-	-	-

6 Phase Fully Actuated (Greensboro Signal System)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 and/or phase 5 may be lagged.
4. Phase 7 may be lagged.
5. Reposition existing signal heads numbered 11, 21, 22, 51, 61, & 63.
6. Set all detector units to presence mode.
7. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
8. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
9. Locate pedestrian pushbuttons in locations that comply with section 4E.08 of the 2009 MUTCD.
10. Refer to Signing & Delineation plans for location of final pavement markings including stopbars.
11. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

NAZTEC APOGEE 2070 TIMING CHART

FEATURE	PHASE 1	2	4	5	6	7	8
Min Green *	7	12	7	7	12	7	7
Gap, Extension *	2.0	6.0	2.0	2.0	6.0	2.0	2.0
Maximum Green 1 *	20	90	60	20	90	20	60
Maximum Green 2 *	20	90	60	20	90	20	60
Yellow Clear	3.0	4.4	4.5	3.0	4.6	3.0	4.5
Red Clear	4.9	3.1	2.8	5.0	3.1	3.8	2.8
Walk *	-	7	7	-	7	-	7
Pedestrian Clear	-	38	36	-	37	-	36
Added Initial *	-	1.0	-	-	1.0	-	-
Maximum Initial *	-	34	-	-	34	-	-
Time Before Reduction *	-	15	-	-	15	-	-
Time To Reduce *	-	30	-	-	30	-	-
Minimum Gap	-	3.0	-	-	3.0	-	-
Recall Mode	-	MIN RECALL	-	-	MIN RECALL	-	-
Lock Calls	NO	YES	NO	NO	YES	NO	NO
Dual Entry	-	-	ON	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

LEGEND

PROPOSED		EXISTING	PROPOSED		EXISTING
	Traffic Signal Head			2-in Underground Conduit	
	Modified Signal Head	N/A	N/A	Right of Way	
	Sign			Directional Arrow	
	Pedestrian Signal Head With Push Button & Sign			Type II Signal Pedestal	
	Signal Pole with Guy			Metal Strain Pole	
	Signal Pole with Sidewalk Guy		N/A	Guardrail	
	Inductive Loop Detector		Ⓐ	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	Ⓐ
	Controller & Cabinet				
	Junction Box				

SIGNAL REVISION - FINAL DESIGN

REVISION ▽ SEAL

NORTH CAROLINA PROFESSIONAL SEAL 026486 ENGINEER ROBERT J. ZIEMBA

Docusigned by: 1B9B4B8827AA494...

L7

Prepared in the Offices of: Transportation Mobility and Safety Division, Signal Design Section, STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

750 N.Greenfield Pkwy.Garner,NC 27529

SCALE 0 40 1"=40'

SR 4121 (W. Gate City Blvd./ Jamestown Pkwy.)▽ at SR 1546 (Guilford College Rd.)

DIVISION 7 GUILFORD COUNTY GREENSBORO

PLAN DATE: SEPTEMBER 2013 REVIEWED BY:

PREPARED BY: R. W. HOUGH REVIEWED BY:

REVISIONS	INIT.	DATE
▽ Add Near Side Signal Heads; ▽ Update SR Number and Street Names	RWH	17

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL

Not a certified document as to the Original Document but Only as to the Revisions - This document originally Issued and sealed by Ryan W.Hough,PE. #036833, on 9/25/2013. This document is only certified as to the revisions.

SIGNATURE DATE

SIG. INVENTORY NO. 07-2185

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PROJECT REFERENCE NO.	SHEET NO.
U-2412B & U-2524AE	Sig. 51

PHASING DIAGRAM

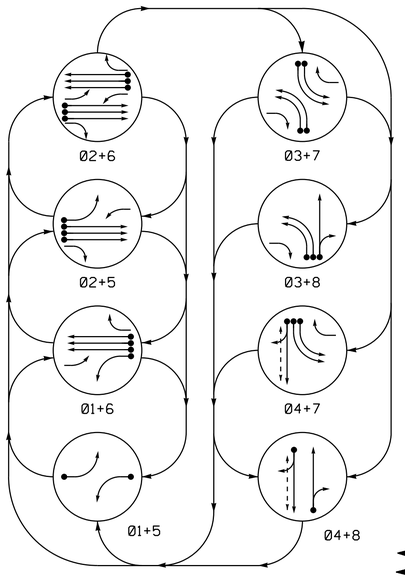


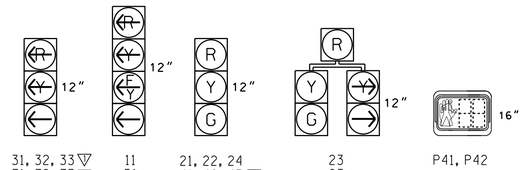
TABLE OF OPERATION

	SIGNAL FACE	PHASE 01+5	01+6	02+5	02+6	03+7	03+8	04+7	04+8	FLASH
	11	←-	←-	F Y	F Y	R	R	R	R	Y
	21, 22, 24	R	R	G	G	R	R	R	R	Y
	23	R	R	G	G	R/→	R/→	R	R	Y
▽	31, 32, 33	R	R	R	R	←-	←-	R	R	R
▽	41, 42, 43	R	R	R	R	R	R	G	G	R
	51	←-	F Y	←-	F Y	R	R	R	R	Y
	61, 62	R	G	R	G	R	R	R	R	Y
	63	R	G	R	G	R/→	R	R/→	R	Y
▽	71, 72, 73	R	R	R	R	←-	R	←-	R	R
▽	81, 82, 83	R	R	R	R	R	G	R	G	R
	P41, P42	DW	DW	DW	DW	DW	DW	W	W	DRK

W - Walk
DW - Don't Walk
DRK - Dark

SIGNAL FACE I.D.

All Heads L.E.D.



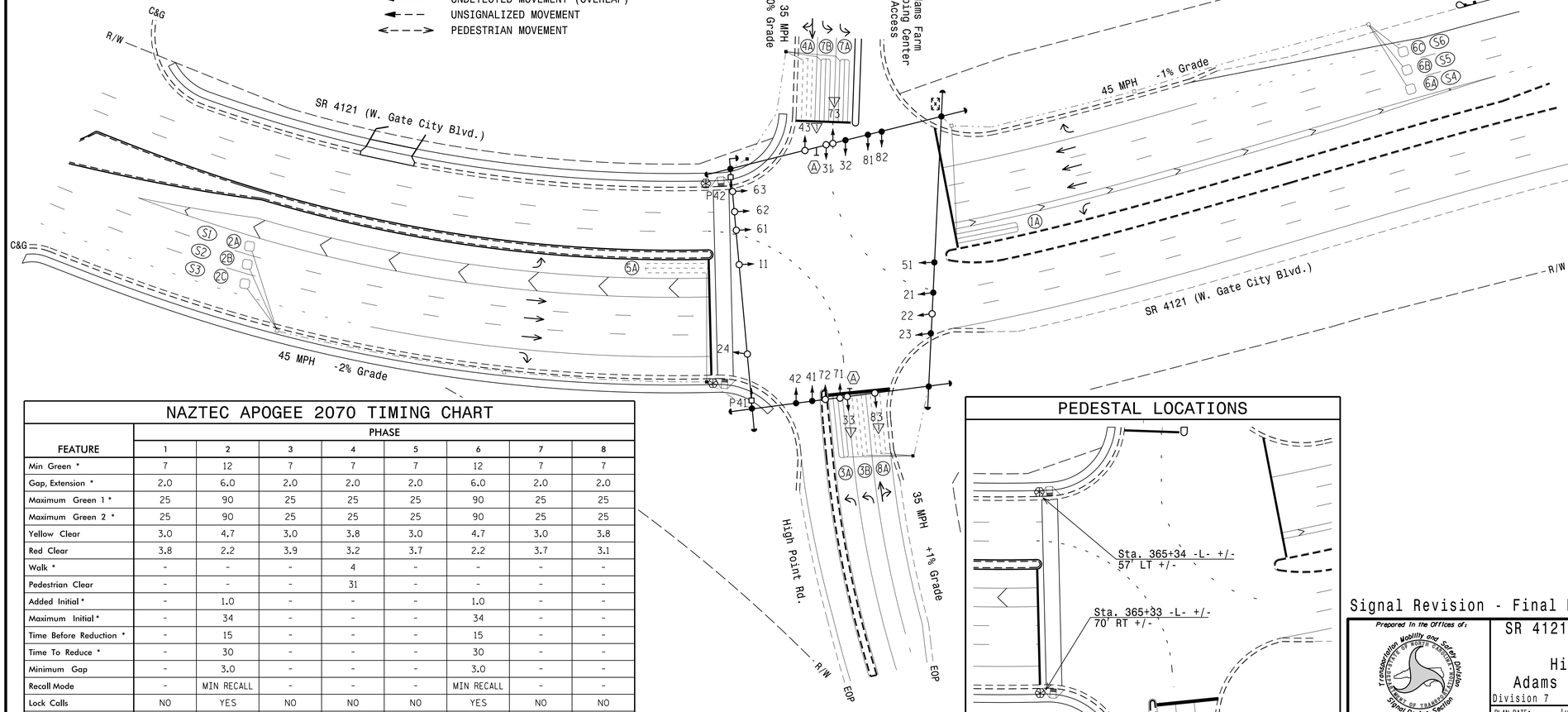
LOOP & DETECTOR UNIT INSTALLATION CHART

NAZTEC APOGEE SOFTWARE 2070 CONTROLLER

INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	SWITCH (PHASE)	DELAY TIME	STRETCH TIME	CALLING	EXTENSION	ADDED INIT.	SYSTEM LOOP	NEW CARD
1A	6X40	0	2-4-2	X	1	-	15	-	X	X	-	-	X
2A/S1	6X6	300	6	X	2	-	-	-	X	X	X	X	X
2B/S2	6X6	300	6	X	2	-	-	-	X	X	X	X	X
2C/S3	6X6	300	6	X	2	-	-	-	X	X	X	X	X
3A	6X40	0	2-4-2	X	3	-	-	-	X	X	-	-	X
3B	6X40	0	2-4-2	-	3	-	-	-	X	X	-	-	-
4A	6X40	0	2-4-2	-	4	-	10	-	X	X	-	-	-
5A	6X40	0	2-4-2	-	5	-	15	-	X	X	-	-	-
6A/S4	6X6	300	4	X	6	-	-	-	X	X	X	X	X
6B/S5	6X6	300	4	X	6	-	-	-	X	X	X	X	X
6C/S6	6X6	300	4	X	6	-	-	-	X	X	X	X	X
7A	6X40	0	2-4-2	X	7	-	-	-	X	X	-	-	X
7B	6X40	0	2-4-2	X	7	-	-	-	X	X	-	-	X
8A	6X40	0	2-4-2	-	8	-	10	-	X	X	-	-	-

PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT



PEDESTAL LOCATIONS

NAZTEC APOGEE 2070 TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6	7	8
Min Green *	7	12	7	7	7	12	7	7
Gap, Extension *	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0
Maximum Green 1 *	25	90	25	25	25	90	25	25
Maximum Green 2 *	25	90	25	25	25	90	25	25
Yellow Clear	3.0	4.7	3.0	3.8	3.0	4.7	3.0	3.8
Red Clear	3.8	2.2	3.9	3.2	3.7	2.2	3.7	3.1
Walk *	-	-	-	4	-	-	-	-
Pedestrian Clear	-	-	-	31	-	-	-	-
Added Initial *	-	1.0	-	-	-	1.0	-	-
Maximum Initial *	-	34	-	-	-	34	-	-
Time Before Reduction *	-	15	-	-	-	15	-	-
Time To Reduce *	-	30	-	-	-	30	-	-
Minimum Gap	-	3.0	-	-	-	3.0	-	-
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL	-	-
Lock Calls	NO	YES	NO	NO	NO	YES	NO	NO
Dual Entry	-	-	-	-	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

8 Phase
Fully Actuated
(Greensboro Signal System)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 and/or phase 5 may be lagged.
4. Phase 3 and/or phase 7 may be lagged.
5. Set all detector units to presence mode.
6. Reposition existing heads numbered 21, 23, 41, and 42.
7. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
8. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
9. Locate pedestrian pushbuttons in locations that comply with section 4E.08 of the 2009 MUTCD.
10. Refer to Signing & Delineation plans for location of final pavement markings including stopbars.
11. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button & Sign	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	
N/A	Guardrail	
N/A	Curb Ramp	
	Type I Signal Pedestal	
	Type II Signal Pedestal	
Ⓐ	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	Ⓐ

Signal Revision - Final Design

Prepared In the Offices of:
Transportation Mobility and Safety Division
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signal Design Section
750 N.Greenfield Pkwy.Garner,NC 27529

SR 4121 (W. Gate City Blvd.)
at
High Point Rd. and
Adams Farm Shopping Center
Division 7 Guilford County Greensboro

PLAN DATE: June 2015 REVIEWED BY:
PREPARED BY: M.E. Giles REVIEWED BY:

REVISIONS
▽Add Near Side Signal Heads RSB 17

SCALE 1"=40' (0 40)

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026486 ROBERT J. ZIEMBA
Docusigned by: 1B9B4B602744494...

SIG. INVENTORY NO. 07-2187

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Appendix D – SYNCHRO Analysis Outputs

2020 Existing Traffic Volumes

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	130	271	4	2	18
Future Vol, veh/h	5	130	271	4	2	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	144	301	4	2	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	305	0	-	0	459	303
Stage 1	-	-	-	-	303	-
Stage 2	-	-	-	-	156	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1256	-	-	-	560	737
Stage 1	-	-	-	-	749	-
Stage 2	-	-	-	-	872	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1256	-	-	-	557	737
Mov Cap-2 Maneuver	-	-	-	-	557	-
Stage 1	-	-	-	-	745	-
Stage 2	-	-	-	-	872	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1256	-	-	-	714
HCM Lane V/C Ratio	0.004	-	-	-	0.031
HCM Control Delay (s)	7.9	0	-	-	10.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	133	250	4	8	24
Future Vol, veh/h	4	133	250	4	8	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	160	-	-	235	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	148	278	4	9	27

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	282	0	-	0	434	278
Stage 1	-	-	-	-	278	-
Stage 2	-	-	-	-	156	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1280	-	-	-	579	761
Stage 1	-	-	-	-	769	-
Stage 2	-	-	-	-	872	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1280	-	-	-	577	761
Mov Cap-2 Maneuver	-	-	-	-	577	-
Stage 1	-	-	-	-	767	-
Stage 2	-	-	-	-	872	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1280	-	-	-	705
HCM Lane V/C Ratio	0.003	-	-	-	0.05
HCM Control Delay (s)	7.8	-	-	-	10.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	133	225	4	24	28
Future Vol, veh/h	5	133	225	4	24	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	148	250	4	27	31

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	254	0	-	0	410	250
Stage 1	-	-	-	-	250	-
Stage 2	-	-	-	-	160	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1311	-	-	-	598	789
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	869	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1311	-	-	-	595	789
Mov Cap-2 Maneuver	-	-	-	-	595	-
Stage 1	-	-	-	-	788	-
Stage 2	-	-	-	-	869	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1311	-	-	-	686
HCM Lane V/C Ratio	0.004	-	-	-	0.084
HCM Control Delay (s)	7.8	-	-	-	10.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	154	206	4	11	24
Future Vol, veh/h	8	154	206	4	11	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	115	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	171	229	4	12	27

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	233	0	-	0	418	115
Stage 1	-	-	-	-	229	-
Stage 2	-	-	-	-	189	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1333	-	-	-	577	916
Stage 1	-	-	-	-	788	-
Stage 2	-	-	-	-	843	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1333	-	-	-	573	916
Mov Cap-2 Maneuver	-	-	-	-	573	-
Stage 1	-	-	-	-	782	-
Stage 2	-	-	-	-	843	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1333	-	-	-	771
HCM Lane V/C Ratio	0.007	-	-	-	0.05
HCM Control Delay (s)	7.7	-	-	-	9.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.2

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	0	446	4	4	294	4	4
Future Vol, veh/h	0	446	4	4	294	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	410	-	75	365	-	125	0
Veh in Median Storage, #	-	0	-	-	0	0	-
Grade, %	-	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	496	4	4	327	4	4

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	327	0	0	500	0	668	248
Stage 1	-	-	-	-	-	496	-
Stage 2	-	-	-	-	-	172	-
Critical Hdwy	6.44	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.52	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	890	-	-	1060	-	391	752
Stage 1	-	-	-	-	-	577	-
Stage 2	-	-	-	-	-	841	-
Platoon blocked, %		-	-		-		
Mov Cap-1 Maneuver	890	-	-	1060	-	389	752
Mov Cap-2 Maneuver	-	-	-	-	-	389	-
Stage 1	-	-	-	-	-	577	-
Stage 2	-	-	-	-	-	838	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT
Capacity (veh/h)	389	752	890	-	-	1060	-
HCM Lane V/C Ratio	0.011	0.006	-	-	-	0.004	-
HCM Control Delay (s)	14.4	9.8	0	-	-	8.4	-
HCM Lane LOS	B	A	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	11	26	14	599	2	789	9
Future Vol, veh/h	11	26	14	599	2	789	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	135	-	130	-	130
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	12	29	16	666	2	877	10

Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	1246	439	887	0	666	-	0
Stage 1	881	-	-	-	-	-	-
Stage 2	365	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	6.44	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	2.52	-	-
Pot Cap-1 Maneuver	166	566	759	-	543	-	-
Stage 1	365	-	-	-	-	-	-
Stage 2	673	-	-	-	-	-	-
Platoon blocked, %				-		-	-
Mov Cap-1 Maneuver	162	566	759	-	543	-	-
Mov Cap-2 Maneuver	162	-	-	-	-	-	-
Stage 1	357	-	-	-	-	-	-
Stage 2	670	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.7	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	759	-	325	543	-	-
HCM Lane V/C Ratio	0.02	-	0.126	0.004	-	-
HCM Control Delay (s)	9.8	-	17.7	11.7	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	0	-	-

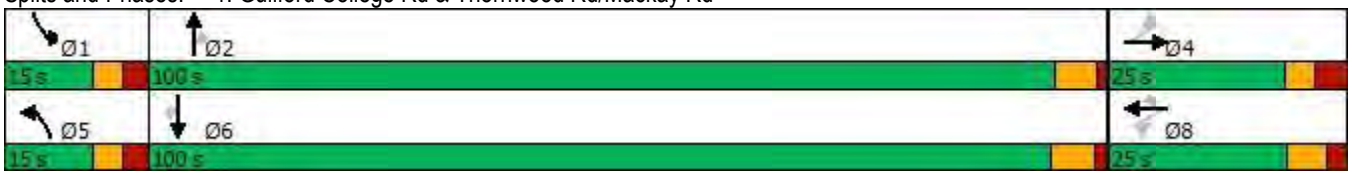
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	7	48	141	4	136	16	528	63	49	571	12
Future Volume (vph)	43	7	48	141	4	136	16	528	63	49	571	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	190		190	120		205	310		150
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.870				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1621	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.755			0.717			0.950			0.950		
Satd. Flow (perm)	1406	1621	0	1336	1863	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			40			45			45	
Link Distance (ft)		1208			556			1538			1743	
Travel Time (s)		32.9			9.5			23.3			26.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	48	8	53	157	4	151	18	587	70	54	634	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	61	0	157	4	151	18	587	70	54	634	13
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	13.6	13.6		13.5	13.5	13.5	12.8	17.7	17.7	12.8	18.1	18.1
Total Split (s)	25.0	25.0		25.0	25.0	25.0	15.0	100.0	100.0	15.0	100.0	100.0
Total Split (%)	17.9%	17.9%		17.9%	17.9%	17.9%	10.7%	71.4%	71.4%	10.7%	71.4%	71.4%
Maximum Green (s)	18.4	18.4		18.5	18.5	18.5	9.2	94.3	94.3	9.2	93.9	93.9
Yellow Time (s)	3.1	3.1		4.2	4.2	4.2	3.0	4.4	4.4	3.0	4.6	4.6
All-Red Time (s)	3.5	3.5		2.3	2.3	2.3	2.8	1.3	1.3	2.8	1.5	1.5
Lost Time Adjust (s)	-1.6	-1.6		-1.5	-1.5	-1.5	-0.8	-0.7	-0.7	-0.8	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	6.0	6.0	1.0	6.0	6.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0

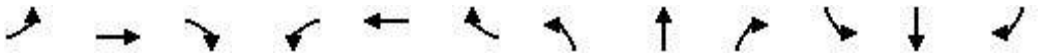
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	45.0	45.0	0.0	45.0	45.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	12.7	12.7		12.7	12.7	12.7	8.3	17.3	17.3	8.4	21.8	21.8
Actuated g/C Ratio	0.27	0.27		0.27	0.27	0.27	0.18	0.37	0.37	0.18	0.46	0.46
v/c Ratio	0.13	0.14		0.44	0.01	0.35	0.06	0.45	0.12	0.17	0.39	0.02
Control Delay	17.2	17.1		21.6	16.2	19.4	22.7	14.3	13.2	23.2	10.0	9.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.2	17.1		21.6	16.2	19.4	22.7	14.3	13.2	23.2	10.0	9.3
LOS	B	B		C	B	B	C	B	B	C	B	A
Approach Delay		17.2			20.5			14.4			11.0	
Approach LOS		B			C			B			B	
Queue Length 50th (ft)	11	14		40	1	38	5	75	15	15	47	2
Queue Length 95th (ft)	37	43		99	7	91	22	125	40	47	135	12
Internal Link Dist (ft)		1128			476			1458			1663	
Turn Bay Length (ft)	75			190		190	120		205	310		150
Base Capacity (vph)	637	734		605	844	717	401	3539	1583	401	3539	1583
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.08		0.26	0.00	0.21	0.04	0.17	0.04	0.13	0.18	0.01

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 47.2
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.45
Intersection Signal Delay: 14.3 Intersection LOS: B
Intersection Capacity Utilization 48.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: Guilford College Rd & Thornwood Rd/Mackay Rd





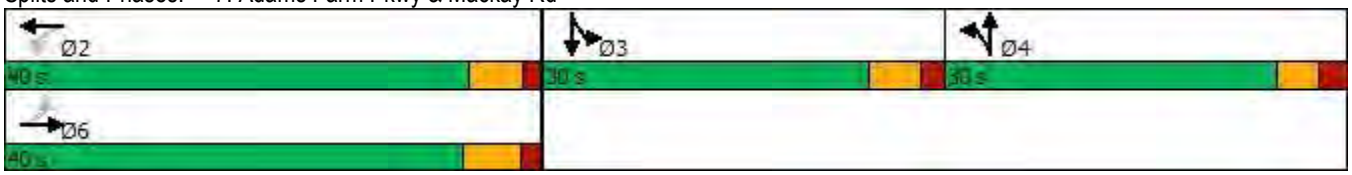
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	181	5	24	71	190	33	24	114	394	4	64
Future Volume (vph)	48	181	5	24	71	190	33	24	114	394	4	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	195		0	0		0	140		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.891			0.910			0.858	
Flt Protected	0.950			0.950				0.990		0.950		
Satd. Flow (prot)	1770	1855	0	1770	1660	0	0	1678	0	1770	1598	0
Flt Permitted	0.419			0.565				0.990		0.950		
Satd. Flow (perm)	780	1855	0	1052	1660	0	0	1678	0	1770	1598	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		1572			2792			867			1221	
Travel Time (s)		26.8			47.6			23.6			23.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	53	201	6	27	79	211	37	27	127	438	4	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	207	0	27	290	0	0	191	0	438	75	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		6			2		4	4		3	3	
Permitted Phases	6			2								
Detector Phase	6	6		2	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		26.3	26.3		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	34.1	34.1		34.5	34.5		24.7	24.7		24.3	24.3	
Yellow Time (s)	4.3	4.3		4.1	4.1		3.1	3.1		3.9	3.9	
All-Red Time (s)	1.6	1.6		1.4	1.4		2.2	2.2		1.8	1.8	
Lost Time Adjust (s)	-0.9	-0.9		-0.5	-0.5			-0.3		-0.7	-0.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)							7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)							14.0	14.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)	18.3	18.3		18.3	18.3			12.9		24.8	24.8	
Actuated g/C Ratio	0.26	0.26		0.26	0.26			0.18		0.35	0.35	
v/c Ratio	0.27	0.43		0.10	0.68			0.63		0.71	0.13	
Control Delay	26.0	26.0		22.2	33.4			37.6		30.4	19.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	26.0	26.0		22.2	33.4			37.6		30.4	19.7	
LOS	C	C		C	C			D		C	B	
Approach Delay		26.0			32.5			37.6			28.9	
Approach LOS		C			C			D			C	
Queue Length 50th (ft)	18	76		9	114			75		154	21	
Queue Length 95th (ft)	52	147		30	213			157		#391	64	
Internal Link Dist (ft)		1492			2712			787			1141	
Turn Bay Length (ft)	170			195						140		
Base Capacity (vph)	388	924		524	827			597		630	568	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.14	0.22		0.05	0.35			0.32		0.70	0.13	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 71.3
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 30.5 Intersection LOS: C
Intersection Capacity Utilization 75.7% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Adams Farm Pkwy & Mackay Rd

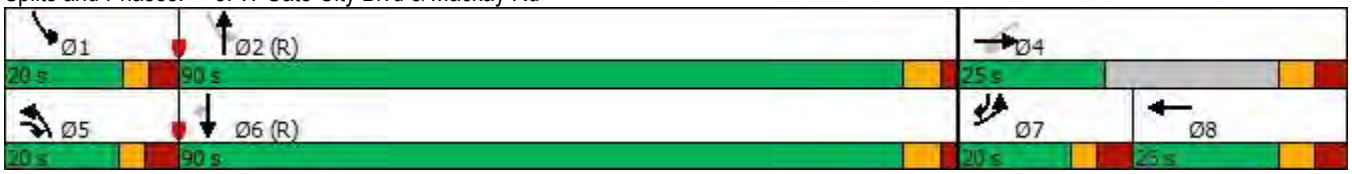


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	281	31	270	60	34	38	160	360	56	66	515	136
Future Volume (vph)	281	31	270	60	34	38	160	360	56	66	515	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		805	90		0	550		0	305		325
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Frt			0.850		0.921			0.980				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1716	0	3433	4984	0	1770	5085	1583
Flt Permitted	0.950			0.735			0.950			0.467		
Satd. Flow (perm)	3433	1863	1583	1369	1716	0	3433	4984	0	870	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		2792			1166			6342			1193	
Travel Time (s)		47.6			31.8			96.1			18.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	312	34	300	67	38	42	178	400	62	73	572	151
Shared Lane Traffic (%)												
Lane Group Flow (vph)	312	34	300	67	80	0	178	462	0	73	572	151
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA		Prot	NA		D.P+P	NA	pm+ov
Protected Phases	7	4	5		8		5	2		1	6	7
Permitted Phases			4	4						2		6
Detector Phase	7	4	5	4	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	14.1	50.1	14.0	50.1	54.1		14.0	29.5		14.0	35.5	14.1
Total Split (s)	20.0	25.0	20.0	25.0	25.0		20.0	90.0		20.0	90.0	20.0
Total Split (%)	12.9%	16.1%	12.9%	16.1%	16.1%		12.9%	58.1%		12.9%	58.1%	12.9%
Maximum Green (s)	12.9	16.9	13.1	16.9	16.9		13.1	83.5		13.6	83.5	12.9
Yellow Time (s)	3.0	4.1	3.0	4.1	4.1		3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	4.1	4.0	3.9	4.0	4.0		3.9	2.0		3.4	2.0	4.1
Lost Time Adjust (s)	-2.1	-3.1	-1.9	-3.1	-3.1		-1.9	-1.5		-1.4	-1.5	-2.1
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	6.0		2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		34.0		34.0	39.0			16.0			22.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	21.8	41.5	59.9	41.5	14.8		13.3	89.6		98.5	85.1	111.9
Actuated g/C Ratio	0.14	0.27	0.39	0.27	0.10		0.09	0.58		0.64	0.55	0.72
v/c Ratio	0.65	0.07	0.49	0.18	0.49		0.60	0.16		0.12	0.20	0.13
Control Delay	69.4	40.0	37.9	43.1	76.0		76.9	16.2		10.7	19.0	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	69.4	40.0	37.9	43.1	76.0		76.9	16.2		10.7	19.0	7.6
LOS	E	D	D	D	E		E	B		B	B	A
Approach Delay		53.2			61.0			33.1			16.1	
Approach LOS		D			E			C			B	
Queue Length 50th (ft)	155	26	228	53	78		91	76		24	105	43
Queue Length 95th (ft)	204	52	285	90	133		131	112		51	150	80
Internal Link Dist (ft)		2712			1086			6262			1113	
Turn Bay Length (ft)	470		805	90			550			305		325
Base Capacity (vph)	482	520	630	382	221		336	2912		667	2896	1142
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.65	0.07	0.48	0.18	0.36		0.53	0.16		0.11	0.20	0.13

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Offset: 20 (13%), Referenced to phase 2:NBSB and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 34.7		Intersection LOS: C	
Intersection Capacity Utilization 45.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: W Gate City Blvd & Mackay Rd

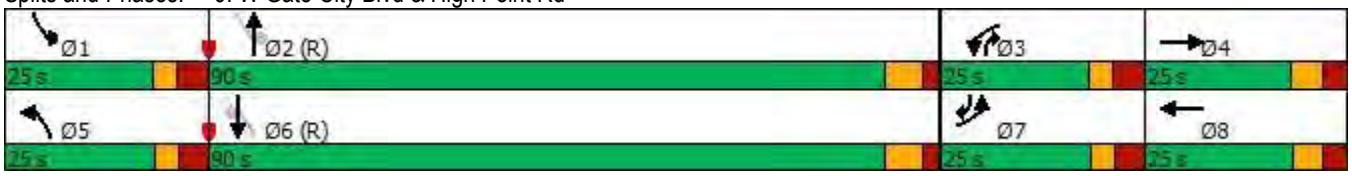


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	10	7	121	11	10	7	442	154	9	428	36
Future Volume (vph)	58	10	7	121	11	10	7	442	154	9	428	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	360		0	400		450	435		215
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.937			0.928				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1745	0	3433	1729	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.470			0.463		
Satd. Flow (perm)	3433	1745	0	3433	1729	0	875	5085	1583	862	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		746			1689			1193			1650	
Travel Time (s)		14.5			32.9			18.1			25.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	64	11	8	134	12	11	8	491	171	10	476	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	19	0	134	23	0	8	491	171	10	476	40
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases							6		2	2		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.7	42.0		13.9	13.9		13.7	18.9	13.9	13.8	18.9	13.7
Total Split (s)	25.0	25.0		25.0	25.0		25.0	90.0	25.0	25.0	90.0	25.0
Total Split (%)	15.2%	15.2%		15.2%	15.2%		15.2%	54.5%	15.2%	15.2%	54.5%	15.2%
Maximum Green (s)	18.3	18.0		18.1	18.1		18.3	83.1	18.1	18.2	83.1	18.3
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.7	3.2		3.9	3.1		3.7	2.2	3.9	3.8	2.2	3.7
Lost Time Adjust (s)	-1.7	-2.0		-1.9	-1.9		-1.7	-1.9	-1.9	-1.8	-1.9	-1.7
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Walk Time (s)		4.0										

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		31.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)	10.3	9.4		12.7	11.8		132.5	128.0	147.7	131.5	130.7	148.1
Actuated g/C Ratio	0.06	0.06		0.08	0.07		0.80	0.78	0.90	0.80	0.79	0.90
v/c Ratio	0.30	0.19		0.51	0.19		0.01	0.12	0.12	0.01	0.12	0.03
Control Delay	77.5	78.6		79.5	74.4		4.9	6.2	2.6	4.8	5.2	2.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.5	78.6		79.5	74.4		4.9	6.2	2.6	4.8	5.2	2.7
LOS	E	E		E	E		A	A	A	A	A	A
Approach Delay		77.8			78.8			5.2			5.0	
Approach LOS		E			E			A			A	
Queue Length 50th (ft)	35	20		73	24		2	42	17	2	41	5
Queue Length 95th (ft)	61	50		109	56		7	84	57	8	82	19
Internal Link Dist (ft)		666			1609			1113			1570	
Turn Bay Length (ft)	50			360			400		450	435		215
Base Capacity (vph)	416	211		416	209		816	3943	1450	807	4029	1476
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.09		0.32	0.11		0.01	0.12	0.12	0.01	0.12	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 165			
Actuated Cycle Length: 165			
Offset: 54 (33%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 17.4		Intersection LOS: B	
Intersection Capacity Utilization 33.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: W Gate City Blvd & High Point Rd

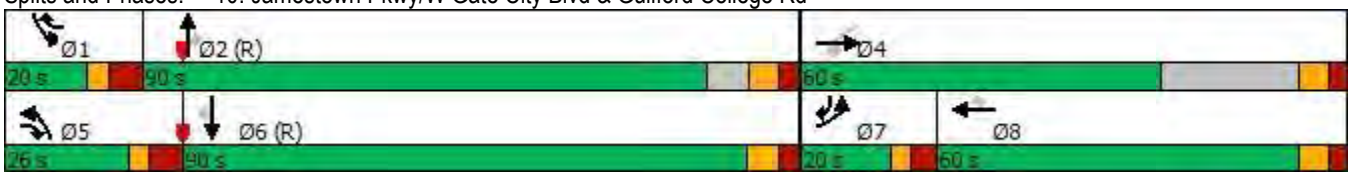


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	216	118	4	196	150	90	409	5	154	607	29
Future Volume (vph)	61	216	118	4	196	150	90	409	5	154	607	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430		445	355		285	415		335	395		335
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.476			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	887	3539	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		3577			1802			3389			6342	
Travel Time (s)		54.2			27.3			51.3			96.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	68	240	131	4	218	167	100	454	6	171	674	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	68	240	131	4	218	167	100	454	6	171	674	32
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	5		8	1	5	2		1	6	7
Permitted Phases			4	4		8			2			6
Detector Phase	7	4	5	4	8	1	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	7.0
Minimum Split (s)	14.0	25.3	26.0	25.3	20.0	14.9	26.0	25.5	25.5	14.9	25.7	14.0
Total Split (s)	20.0	60.0	26.0	60.0	60.0	20.0	26.0	90.0	90.0	20.0	90.0	20.0
Total Split (%)	10.2%	30.6%	13.3%	30.6%	30.6%	10.2%	13.3%	45.9%	45.9%	10.2%	45.9%	10.2%
Maximum Green (s)	13.2	52.7	18.0	52.7	52.7	12.1	18.0	82.5	82.5	12.1	82.3	13.2
Yellow Time (s)	3.0	4.5	3.0	4.5	4.5	3.0	3.0	4.4	4.4	3.0	4.6	3.0
All-Red Time (s)	3.8	2.8	5.0	2.8	2.8	4.9	5.0	3.1	3.1	4.9	3.1	3.8
Lost Time Adjust (s)	-1.8	-2.3	-3.0	-2.3	-2.3	-2.9	-3.0	-2.5	-2.5	-2.9	-2.7	-1.8
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	6.0	2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	0.0	30.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0		7.0				7.0	7.0		7.0	
Flash Dont Walk (s)		11.0		11.0				11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0		0				0	0		0	
Act Effct Green (s)	10.3	34.2	52.2	34.2	18.9	40.7	13.0	129.9	129.9	16.9	133.8	149.2
Actuated g/C Ratio	0.05	0.17	0.27	0.17	0.10	0.21	0.07	0.66	0.66	0.09	0.68	0.76
v/c Ratio	0.38	0.39	0.31	0.03	0.64	0.51	0.44	0.13	0.01	0.58	0.19	0.03
Control Delay	95.4	72.8	58.3	64.2	93.8	73.5	93.7	13.0	13.8	93.9	12.1	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.4	72.8	58.3	64.2	93.8	73.5	93.7	13.0	13.8	93.9	12.1	6.7
LOS	F	E	E	E	F	E	F	B	B	F	B	A
Approach Delay		72.0			84.8			27.4			27.8	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)	44	146	137	4	145	194	65	75	3	111	110	9
Queue Length 95th (ft)	74	187	193	17	192	266	100	109	10	154	152	23
Internal Link Dist (ft)		3497			1722			3309			6262	
Turn Bay Length (ft)	430		445	355		285	415		335	395		335
Base Capacity (vph)	262	1354	486	339	993	332	367	3371	1049	302	3471	1242
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.18	0.27	0.01	0.22	0.50	0.27	0.13	0.01	0.57	0.19	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 196			
Actuated Cycle Length: 196			
Offset: 20 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 46.1		Intersection LOS: D	
Intersection Capacity Utilization 46.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd



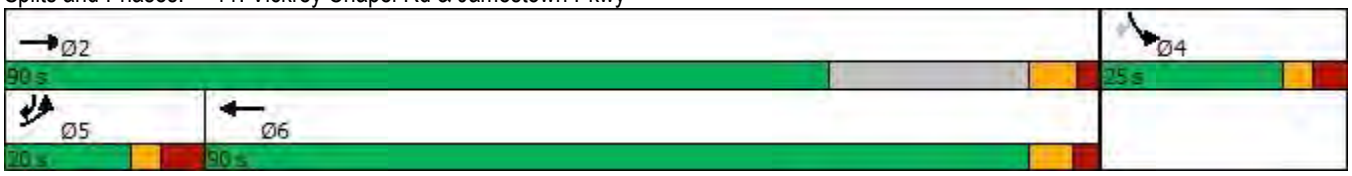


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	143	161	193	19	13	192
Future Volume (vph)	143	161	193	19	13	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	445			575	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	100				100	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	3539	1863	1583	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	3539	1863	1583	3433	1583
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		45	
Link Distance (ft)		638	755		3389	
Travel Time (s)		12.4	14.7		51.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	159	179	214	21	14	213
Shared Lane Traffic (%)						
Lane Group Flow (vph)	159	179	214	21	14	213
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		48	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Free	Prot	pm+ov
Protected Phases	5	2	6		4	5
Permitted Phases				Free		4
Detector Phase	5	2	6		4	5
Switch Phase						
Minimum Initial (s)	7.0	12.0	12.0		7.0	7.0
Minimum Split (s)	14.4	20.0	20.0		20.0	14.4
Total Split (s)	20.0	90.0	90.0		25.0	20.0
Total Split (%)	14.8%	66.7%	66.7%		18.5%	14.8%
Maximum Green (s)	12.6	82.8	82.9		18.3	12.6
Yellow Time (s)	3.0	4.8	4.3		3.0	3.0
All-Red Time (s)	4.4	2.4	2.8		3.7	4.4
Lost Time Adjust (s)	-2.4	-2.2	-2.1		-1.7	-2.4
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	6.0	6.0		2.0	2.0
Minimum Gap (s)	3.0	3.0	3.0		3.0	3.0
Time Before Reduce (s)	0.0	15.0	15.0		0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Time To Reduce (s)	0.0	30.0	30.0		0.0	0.0
Recall Mode	None	Min	Min		None	None
Act Effct Green (s)	10.3	34.1	14.4	37.0	8.9	12.4
Actuated g/C Ratio	0.28	0.92	0.39	1.00	0.24	0.34
v/c Ratio	0.17	0.05	0.30	0.01	0.02	0.40
Control Delay	12.1	1.5	10.7	0.0	13.2	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.1	1.5	10.7	0.0	13.2	11.4
LOS	B	A	B	A	B	B
Approach Delay		6.5	9.8		11.5	
Approach LOS		A	A		B	
Queue Length 50th (ft)	10	0	26	0	1	31
Queue Length 95th (ft)	38	16	92	0	7	63
Internal Link Dist (ft)		558	675		3309	
Turn Bay Length (ft)	445			575		
Base Capacity (vph)	1418	3539	1863	1583	1890	744
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.05	0.11	0.01	0.01	0.29

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 37			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.40			
Intersection Signal Delay: 8.9		Intersection LOS: A	
Intersection Capacity Utilization 34.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Vickrey Chapel Rd & Jamestown Pkwy

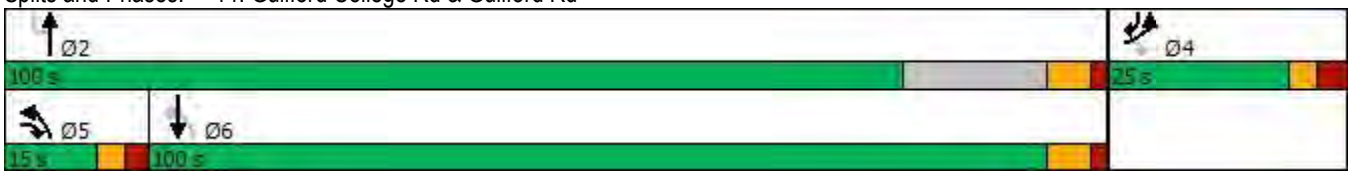


Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	455	103	54	240	3	343	492
Future Volume (vph)	455	103	54	240	3	343	492
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	195	135	140		125		330
Storage Lanes	1	1	1		1		1
Taper Length (ft)	100		100		100		
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	0.95	1.00
Frt		0.850					0.850
Flt Protected	0.950		0.950		0.950		
Satd. Flow (prot)	3433	1583	1770	3539	1770	3539	1583
Flt Permitted	0.950		0.526		0.587		
Satd. Flow (perm)	3433	1583	980	3539	1093	3539	1583
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	35			45		45	
Link Distance (ft)	471			1464		1684	
Travel Time (s)	9.2			22.2		25.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	506	114	60	267	3	381	547
Shared Lane Traffic (%)							
Lane Group Flow (vph)	506	114	60	267	3	381	547
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right
Median Width(ft)	24			12		12	
Link Offset(ft)	0			0		0	
Crosswalk Width(ft)	16			16		16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15		9		9
Turn Type	Prot	pm+ov	D.P+P	NA	D.Pm	NA	pm+ov
Protected Phases	4	5	5	2		6	4
Permitted Phases		4	6		2		6
Detector Phase	4	5	5	2	2	6	4
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	12.0	7.0
Minimum Split (s)	20.0	14.0	14.0	20.0	20.0	41.5	20.0
Total Split (s)	25.0	15.0	15.0	100.0	100.0	100.0	25.0
Total Split (%)	17.9%	10.7%	10.7%	71.4%	71.4%	71.4%	17.9%
Maximum Green (s)	18.7	9.6	9.6	93.5	93.5	93.5	18.7
Yellow Time (s)	3.0	3.0	3.0	4.6	4.6	4.6	3.0
All-Red Time (s)	3.3	2.4	2.4	1.9	1.9	1.9	3.3
Lost Time Adjust (s)	-1.3	-0.4	-0.4	-1.5	-1.5	-1.5	-1.3
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead			Lag	
Lead-Lag Optimize?		Yes	Yes			Yes	
Vehicle Extension (s)	1.0	1.0	1.0	6.0	6.0	6.0	1.0
Recall Mode	None	None	None	Min	Min	Min	None
Walk Time (s)						7.0	

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Flash Dont Walk (s)						28.0	
Pedestrian Calls (#/hr)						0	
Act Effct Green (s)	15.9	28.3	21.1	26.1	26.1	13.7	34.6
Actuated g/C Ratio	0.31	0.54	0.41	0.50	0.50	0.26	0.67
v/c Ratio	0.48	0.13	0.12	0.15	0.01	0.41	0.52
Control Delay	16.8	6.5	7.1	7.0	6.0	17.1	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.8	6.5	7.1	7.0	6.0	17.1	6.7
LOS	B	A	A	A	A	B	A
Approach Delay	14.9			7.0		11.0	
Approach LOS	B			A		B	
Queue Length 50th (ft)	63	15	8	20	1	49	66
Queue Length 95th (ft)	102	35	21	34	3	78	123
Internal Link Dist (ft)	391			1384		1604	
Turn Bay Length (ft)	195	135	140		125		330
Base Capacity (vph)	1320	942	597	3539	1093	3539	1177
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.12	0.10	0.08	0.00	0.11	0.46

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 52			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay: 11.6		Intersection LOS: B	
Intersection Capacity Utilization 45.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 14: Guilford College Rd & Guilford Rd



Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	303	216	5	4	10
Future Vol, veh/h	9	303	216	5	4	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	337	240	6	4	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	246	0	-	0	600	243
Stage 1	-	-	-	-	243	-
Stage 2	-	-	-	-	357	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1320	-	-	-	464	796
Stage 1	-	-	-	-	797	-
Stage 2	-	-	-	-	708	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1320	-	-	-	460	796
Mov Cap-2 Maneuver	-	-	-	-	460	-
Stage 1	-	-	-	-	790	-
Stage 2	-	-	-	-	708	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1320	-	-	-	659
HCM Lane V/C Ratio	0.008	-	-	-	0.024
HCM Control Delay (s)	7.7	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	293	218	11	7	7
Future Vol, veh/h	13	293	218	11	7	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	160	-	-	235	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	326	242	12	8	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	254	0	-	0	596	242
Stage 1	-	-	-	-	242	-
Stage 2	-	-	-	-	354	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1311	-	-	-	466	797
Stage 1	-	-	-	-	798	-
Stage 2	-	-	-	-	710	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1311	-	-	-	461	797
Mov Cap-2 Maneuver	-	-	-	-	461	-
Stage 1	-	-	-	-	789	-
Stage 2	-	-	-	-	710	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1311	-	-	-	584
HCM Lane V/C Ratio	0.011	-	-	-	0.027
HCM Control Delay (s)	7.8	-	-	-	11.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	275	216	23	10	7
Future Vol, veh/h	21	275	216	23	10	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	306	240	26	11	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	266	0	-	0	592	240
Stage 1	-	-	-	-	240	-
Stage 2	-	-	-	-	352	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1298	-	-	-	469	799
Stage 1	-	-	-	-	800	-
Stage 2	-	-	-	-	712	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1298	-	-	-	461	799
Mov Cap-2 Maneuver	-	-	-	-	461	-
Stage 1	-	-	-	-	786	-
Stage 2	-	-	-	-	712	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1298	-	-	-	558
HCM Lane V/C Ratio	0.018	-	-	-	0.034
HCM Control Delay (s)	7.8	-	-	-	11.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	271	231	33	9	10
Future Vol, veh/h	17	271	231	33	9	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	115	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	19	301	257	37	10	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	294	0	-	0	596	129
Stage 1	-	-	-	-	257	-
Stage 2	-	-	-	-	339	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1266	-	-	-	450	897
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	721	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1266	-	-	-	443	897
Mov Cap-2 Maneuver	-	-	-	-	443	-
Stage 1	-	-	-	-	752	-
Stage 2	-	-	-	-	721	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1266	-	-	-	604
HCM Lane V/C Ratio	0.015	-	-	-	0.035
HCM Control Delay (s)	7.9	-	-	-	11.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	0	380	4	4	448	4	4
Future Vol, veh/h	0	380	4	4	448	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	410	-	75	365	-	125	0
Veh in Median Storage, #	-	0	-	-	0	0	-
Grade, %	-	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	422	4	4	498	4	4

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	498	0	0	426	0	679	211
Stage 1	-	-	-	-	-	422	-
Stage 2	-	-	-	-	-	257	-
Critical Hdwy	6.44	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.52	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	694	-	-	1130	-	385	794
Stage 1	-	-	-	-	-	629	-
Stage 2	-	-	-	-	-	762	-
Platoon blocked, %		-	-		-		
Mov Cap-1 Maneuver	694	-	-	1130	-	383	794
Mov Cap-2 Maneuver	-	-	-	-	-	383	-
Stage 1	-	-	-	-	-	629	-
Stage 2	-	-	-	-	-	759	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT
Capacity (veh/h)	383	794	694	-	-	1130	-
HCM Lane V/C Ratio	0.012	0.006	-	-	-	0.004	-
HCM Control Delay (s)	14.5	9.6	0	-	-	8.2	-
HCM Lane LOS	B	A	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0	0	-	-	0	-

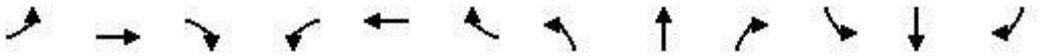
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	11	12	38	708	1	844	27
Future Vol, veh/h	11	12	38	708	1	844	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	135	-	130	-	130
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	12	13	42	787	1	938	30

Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	1418	469	968	0	787	-	0
Stage 1	940	-	-	-	-	-	-
Stage 2	478	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	6.44	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	2.52	-	-
Pot Cap-1 Maneuver	128	541	707	-	455	-	-
Stage 1	340	-	-	-	-	-	-
Stage 2	590	-	-	-	-	-	-
Platoon blocked, %				-		-	-
Mov Cap-1 Maneuver	120	541	707	-	455	-	-
Mov Cap-2 Maneuver	120	-	-	-	-	-	-
Stage 1	320	-	-	-	-	-	-
Stage 2	589	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.4	0.5	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	707	-	202	455	-	-
HCM Lane V/C Ratio	0.06	-	0.127	0.002	-	-
HCM Control Delay (s)	10.4	-	25.4	12.9	-	-
HCM Lane LOS	B	-	D	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	0	-	-



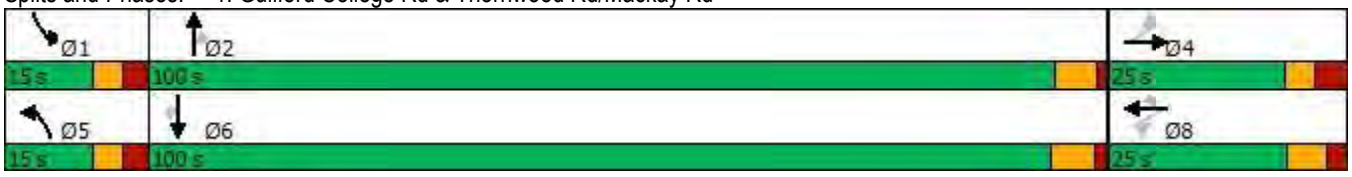
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	10	10	118	20	92	33	604	131	141	743	45
Future Volume (vph)	15	10	10	118	20	92	33	604	131	141	743	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	190		190	120		205	310		150
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.925				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1723	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.743			0.743			0.950			0.950		
Satd. Flow (perm)	1384	1723	0	1384	1863	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			40			45			45	
Link Distance (ft)		1208			556			1538			1743	
Travel Time (s)		32.9			9.5			23.3			26.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	17	11	11	131	22	102	37	671	146	157	826	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	22	0	131	22	102	37	671	146	157	826	50
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	13.6	13.6		13.5	13.5	13.5	12.8	17.7	17.7	12.8	18.1	18.1
Total Split (s)	25.0	25.0		25.0	25.0	25.0	15.0	100.0	100.0	15.0	100.0	100.0
Total Split (%)	17.9%	17.9%		17.9%	17.9%	17.9%	10.7%	71.4%	71.4%	10.7%	71.4%	71.4%
Maximum Green (s)	18.4	18.4		18.5	18.5	18.5	9.2	94.3	94.3	9.2	93.9	93.9
Yellow Time (s)	3.1	3.1		4.2	4.2	4.2	3.0	4.4	4.4	3.0	4.6	4.6
All-Red Time (s)	3.5	3.5		2.3	2.3	2.3	2.8	1.3	1.3	2.8	1.5	1.5
Lost Time Adjust (s)	-1.6	-1.6		-1.5	-1.5	-1.5	-0.8	-0.7	-0.7	-0.8	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	6.0	6.0	1.0	6.0	6.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0

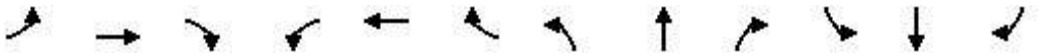
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	45.0	45.0	0.0	45.0	45.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	11.0	11.0		11.0	11.0	11.0	7.9	19.8	19.8	10.2	30.6	30.6
Actuated g/C Ratio	0.20	0.20		0.20	0.20	0.20	0.14	0.35	0.35	0.18	0.54	0.54
v/c Ratio	0.06	0.07		0.49	0.06	0.33	0.15	0.54	0.26	0.49	0.43	0.06
Control Delay	20.8	20.6		28.2	20.5	24.1	26.2	16.3	14.4	29.6	10.3	9.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.8	20.6		28.2	20.5	24.1	26.2	16.3	14.4	29.6	10.3	9.3
LOS	C	C		C	C	C	C	B	B	C	B	A
Approach Delay		20.7			25.9			16.4			13.2	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	5	6		39	6	29	11	89	33	47	57	5
Queue Length 95th (ft)	20	24		94	23	74	39	146	74	#128	175	29
Internal Link Dist (ft)		1128			476			1458			1663	
Turn Bay Length (ft)	75			190		190	120		205	310		150
Base Capacity (vph)	501	624		501	674	573	320	3539	1583	320	3539	1583
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.04		0.26	0.03	0.18	0.12	0.19	0.09	0.49	0.23	0.03

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 56.2
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.54
Intersection Signal Delay: 16.1 Intersection LOS: B
Intersection Capacity Utilization 52.1% ICU Level of Service A
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Guilford College Rd & Thornwood Rd/Mackay Rd





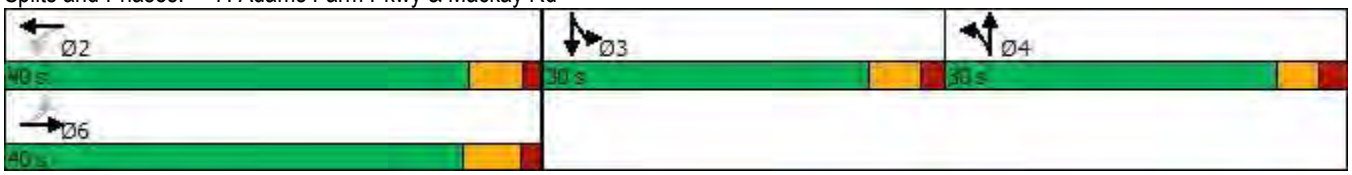
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	154	28	99	242	401	16	29	47	282	32	49
Future Volume (vph)	48	154	28	99	242	401	16	29	47	282	32	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	195		0	0		0	140		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.906			0.931			0.910	
Flt Protected	0.950			0.950				0.991		0.950		
Satd. Flow (prot)	1770	1820	0	1770	1688	0	0	1719	0	1770	1695	0
Flt Permitted	0.152			0.628				0.991		0.950		
Satd. Flow (perm)	283	1820	0	1170	1688	0	0	1719	0	1770	1695	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		1572			2792			867			1221	
Travel Time (s)		26.8			47.6			23.6			23.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	53	171	31	110	269	446	18	32	52	313	36	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	202	0	110	715	0	0	102	0	313	90	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		6			2		4	4		3	3	
Permitted Phases	6			2								
Detector Phase	6	6		2	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		26.3	26.3		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	34.1	34.1		34.5	34.5		24.7	24.7		24.3	24.3	
Yellow Time (s)	4.3	4.3		4.1	4.1		3.1	3.1		3.9	3.9	
All-Red Time (s)	1.6	1.6		1.4	1.4		2.2	2.2		1.8	1.8	
Lost Time Adjust (s)	-0.9	-0.9		-0.5	-0.5			-0.3		-0.7	-0.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)							7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)							14.0	14.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)	36.0	36.0		36.0	36.0			9.9		18.1	18.1	
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.13		0.24	0.24	
v/c Ratio	0.40	0.23		0.20	0.90			0.46		0.74	0.22	
Control Delay	29.5	16.0		16.8	38.7			40.3		39.1	25.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	29.5	16.0		16.8	38.7			40.3		39.1	25.8	
LOS	C	B		B	D			D		D	C	
Approach Delay		18.8			35.8			40.3			36.1	
Approach LOS		B			D			D			D	
Queue Length 50th (ft)	17	59		31	322			47		141	35	
Queue Length 95th (ft)	#71	127		79	#664			101		241	76	
Internal Link Dist (ft)		1492			2712			787			1141	
Turn Bay Length (ft)	170			195						140		
Base Capacity (vph)	133	860		553	798			580		598	572	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.40	0.23		0.20	0.90			0.18		0.52	0.16	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 76			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 33.4		Intersection LOS: C	
Intersection Capacity Utilization 83.8%		ICU Level of Service E	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Adams Farm Pkwy & Mackay Rd

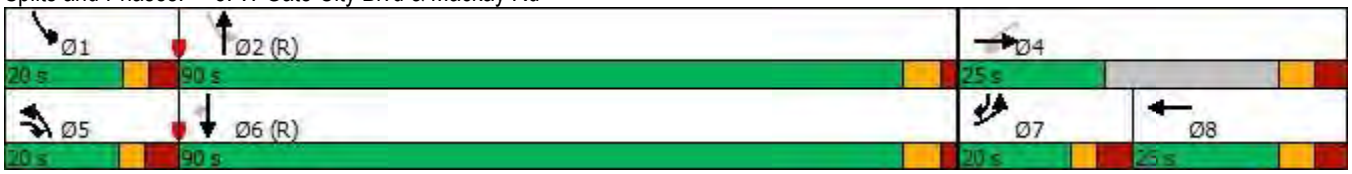


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	18	177	15	23	24	309	455	22	29	547	389
Future Volume (vph)	220	18	177	15	23	24	309	455	22	29	547	389
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		805	90		0	550		0	305		325
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Frt			0.850		0.924			0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1721	0	3433	5050	0	1770	5085	1583
Flt Permitted	0.950			0.744			0.950			0.424		
Satd. Flow (perm)	3433	1863	1583	1386	1721	0	3433	5050	0	790	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		2792			1166			6342			1193	
Travel Time (s)		47.6			31.8			96.1			18.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	244	20	197	17	26	27	343	506	24	32	608	432
Shared Lane Traffic (%)												
Lane Group Flow (vph)	244	20	197	17	53	0	343	530	0	32	608	432
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA		Prot	NA		D.P+P	NA	pm+ov
Protected Phases	7	4	5		8		5	2		1	6	7
Permitted Phases			4	4						2		6
Detector Phase	7	4	5	4	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	14.1	50.1	14.0	50.1	54.1		14.0	29.5		14.0	35.5	14.1
Total Split (s)	20.0	25.0	20.0	25.0	25.0		20.0	90.0		20.0	90.0	20.0
Total Split (%)	12.9%	16.1%	12.9%	16.1%	16.1%		12.9%	58.1%		12.9%	58.1%	12.9%
Maximum Green (s)	12.9	16.9	13.1	16.9	16.9		13.1	83.5		13.6	83.5	12.9
Yellow Time (s)	3.0	4.1	3.0	4.1	4.1		3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	4.1	4.0	3.9	4.0	4.0		3.9	2.0		3.4	2.0	4.1
Lost Time Adjust (s)	-2.1	-3.1	-1.9	-3.1	-3.1		-1.9	-1.5		-1.4	-1.5	-2.1
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	6.0		2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		34.0		34.0	39.0			16.0			22.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	35.1	49.7	79.4	49.7	12.7		24.6	84.4		91.3	65.6	105.7
Actuated g/C Ratio	0.23	0.32	0.51	0.32	0.08		0.16	0.54		0.59	0.42	0.68
v/c Ratio	0.31	0.03	0.24	0.04	0.38		0.63	0.19		0.06	0.28	0.40
Control Delay	49.7	29.9	20.0	30.0	74.5		66.5	21.1		16.4	32.3	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	49.7	29.9	20.0	30.0	74.5		66.5	21.1		16.4	32.3	13.3
LOS	D	C	C	C	E		E	C		B	C	B
Approach Delay		36.2			63.7			39.0			24.2	
Approach LOS		D			E			D			C	
Queue Length 50th (ft)	107	14	106	12	52		170	104		13	150	188
Queue Length 95th (ft)	136	29	118	27	98		221	158		35	219	292
Internal Link Dist (ft)		2712			1086			6262			1113	
Turn Bay Length (ft)	470		805	90			550			305		325
Base Capacity (vph)	777	634	810	472	222		545	2999		580	2832	1079
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.31	0.03	0.24	0.04	0.24		0.63	0.18		0.06	0.21	0.40

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Offset: 20 (13%), Referenced to phase 2:NBSB and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 32.7		Intersection LOS: C	
Intersection Capacity Utilization 51.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: W Gate City Blvd & Mackay Rd

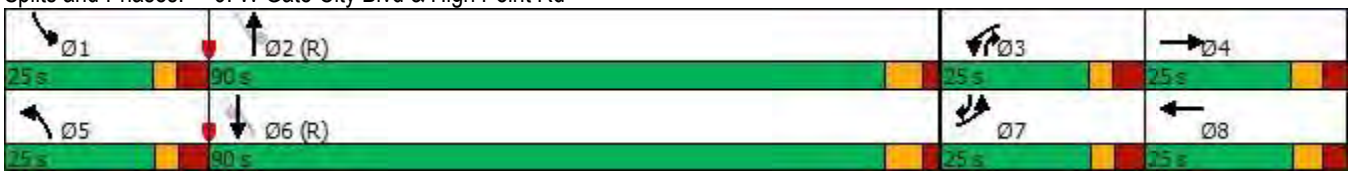


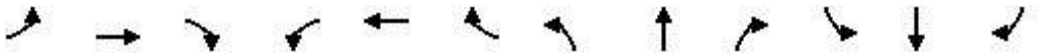
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	56	31	183	35	8	23	341	184	20	627	122
Future Volume (vph)	79	56	31	183	35	8	23	341	184	20	627	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	360		0	400		450	435		215
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.947			0.972				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1764	0	3433	1811	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.359			0.519		
Satd. Flow (perm)	3433	1764	0	3433	1811	0	669	5085	1583	967	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		746			1689			1193			1650	
Travel Time (s)		14.5			32.9			18.1			25.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	88	62	34	203	39	9	26	379	204	22	697	136
Shared Lane Traffic (%)												
Lane Group Flow (vph)	88	96	0	203	48	0	26	379	204	22	697	136
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases							6		2	2		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.7	42.0		13.9	13.9		13.7	18.9	13.9	13.8	18.9	13.7
Total Split (s)	25.0	25.0		25.0	25.0		25.0	90.0	25.0	25.0	90.0	25.0
Total Split (%)	15.2%	15.2%		15.2%	15.2%		15.2%	54.5%	15.2%	15.2%	54.5%	15.2%
Maximum Green (s)	18.3	18.0		18.1	18.1		18.3	83.1	18.1	18.2	83.1	18.3
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.7	3.2		3.9	3.1		3.7	2.2	3.9	3.8	2.2	3.7
Lost Time Adjust (s)	-1.7	-2.0		-1.9	-1.9		-1.7	-1.9	-1.9	-1.8	-1.9	-1.7
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Walk Time (s)		4.0										

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		31.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)	14.2	15.3		16.0	20.0		115.7	110.4	131.4	115.7	110.4	130.6
Actuated g/C Ratio	0.09	0.09		0.10	0.12		0.70	0.67	0.80	0.70	0.67	0.79
v/c Ratio	0.30	0.59		0.61	0.22		0.05	0.11	0.16	0.03	0.20	0.11
Control Delay	75.3	85.5		79.2	65.1		8.4	11.4	5.3	8.3	12.0	6.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.3	85.5		79.2	65.1		8.4	11.4	5.3	8.3	12.0	6.6
LOS	E	F		E	E		A	B	A	A	B	A
Approach Delay		80.6			76.5			9.2			11.0	
Approach LOS		F			E			A			B	
Queue Length 50th (ft)	47	101		110	47		7	56	54	6	110	40
Queue Length 95th (ft)	78	162		152	87		21	84	92	19	155	74
Internal Link Dist (ft)		666			1609			1113			1570	
Turn Bay Length (ft)	50			360			400		450	435		215
Base Capacity (vph)	445	215		416	247		614	3401	1298	792	3403	1322
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.45		0.49	0.19		0.04	0.11	0.16	0.03	0.20	0.10

Intersection Summary			
Area Type:	Other		
Cycle Length: 165			
Actuated Cycle Length: 165			
Offset: 54 (33%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 25.9		Intersection LOS: C	
Intersection Capacity Utilization 39.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: W Gate City Blvd & High Point Rd



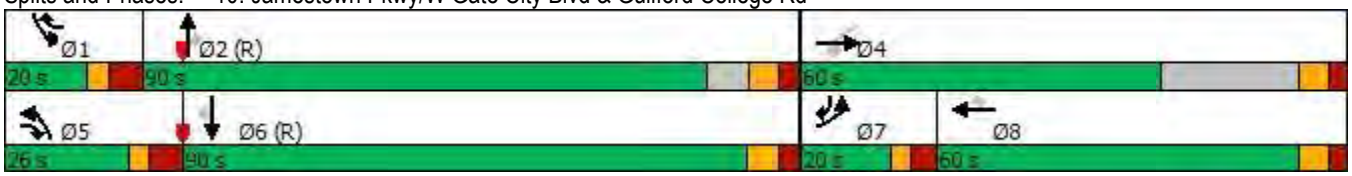


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	155	99	6	261	156	103	418	3	179	477	53
Future Volume (vph)	77	155	99	6	261	156	103	418	3	179	477	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430		445	355		285	415		335	395		335
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.589			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	1097	3539	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		3577			1802			3389			6342	
Travel Time (s)		54.2			27.3			51.3			96.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	86	172	110	7	290	173	114	464	3	199	530	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	86	172	110	7	290	173	114	464	3	199	530	59
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	5		8	1	5	2		1	6	7
Permitted Phases			4	4		8			2			6
Detector Phase	7	4	5	4	8	1	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	7.0
Minimum Split (s)	14.0	25.3	26.0	25.3	20.0	14.9	26.0	25.5	25.5	14.9	25.7	14.0
Total Split (s)	20.0	60.0	26.0	60.0	60.0	20.0	26.0	90.0	90.0	20.0	90.0	20.0
Total Split (%)	10.2%	30.6%	13.3%	30.6%	30.6%	10.2%	13.3%	45.9%	45.9%	10.2%	45.9%	10.2%
Maximum Green (s)	13.2	52.7	18.0	52.7	52.7	12.1	18.0	82.5	82.5	12.1	82.3	13.2
Yellow Time (s)	3.0	4.5	3.0	4.5	4.5	3.0	3.0	4.4	4.4	3.0	4.6	3.0
All-Red Time (s)	3.8	2.8	5.0	2.8	2.8	4.9	5.0	3.1	3.1	4.9	3.1	3.8
Lost Time Adjust (s)	-1.8	-2.3	-3.0	-2.3	-2.3	-2.9	-3.0	-2.5	-2.5	-2.9	-2.7	-1.8
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	6.0	2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	0.0	30.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0		7.0				7.0	7.0		7.0	
Flash Dont Walk (s)		11.0		11.0				11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0		0				0	0		0	
Act Effct Green (s)	11.2	39.3	58.2	39.3	23.1	46.8	13.8	123.0	123.0	18.7	127.8	144.1
Actuated g/C Ratio	0.06	0.20	0.30	0.20	0.12	0.24	0.07	0.63	0.63	0.10	0.65	0.74
v/c Ratio	0.44	0.24	0.23	0.03	0.70	0.46	0.47	0.15	0.00	0.61	0.16	0.05
Control Delay	95.9	65.5	51.7	59.7	91.9	66.8	93.6	16.0	17.3	93.0	14.1	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.9	65.5	51.7	59.7	91.9	66.8	93.6	16.0	17.3	93.0	14.1	8.2
LOS	F	E	D	E	F	E	F	B	B	F	B	A
Approach Delay		68.5			82.1			31.2			33.6	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)	56	100	109	7	193	193	74	86	1	129	93	20
Queue Length 95th (ft)	89	132	154	23	242	261	110	126	8	174	133	42
Internal Link Dist (ft)		3497			1722			3309			6262	
Turn Bay Length (ft)	430		445	355		285	415		335	395		335
Base Capacity (vph)	262	1354	527	419	993	378	367	3191	993	328	3316	1194
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.13	0.21	0.02	0.29	0.46	0.31	0.15	0.00	0.61	0.16	0.05

Intersection Summary			
Area Type:	Other		
Cycle Length: 196			
Actuated Cycle Length: 196			
Offset: 20 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 49.1		Intersection LOS: D	
Intersection Capacity Utilization 45.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd



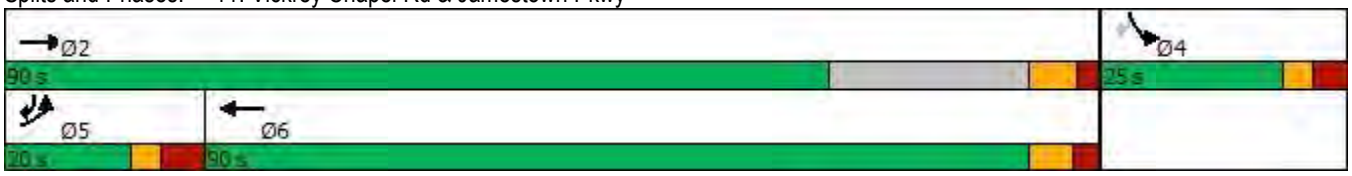


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	86	135	167	15	20	98
Future Volume (vph)	86	135	167	15	20	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	445			575	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	100				100	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	3539	1863	1583	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	3539	1863	1583	3433	1583
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		45	
Link Distance (ft)		638	755		3389	
Travel Time (s)		12.4	14.7		51.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	96	150	186	17	22	109
Shared Lane Traffic (%)						
Lane Group Flow (vph)	96	150	186	17	22	109
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		48	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Free	Prot	pm+ov
Protected Phases	5	2	6		4	5
Permitted Phases				Free		4
Detector Phase	5	2	6		4	5
Switch Phase						
Minimum Initial (s)	7.0	12.0	12.0		7.0	7.0
Minimum Split (s)	14.4	20.0	20.0		20.0	14.4
Total Split (s)	20.0	90.0	90.0		25.0	20.0
Total Split (%)	14.8%	66.7%	66.7%		18.5%	14.8%
Maximum Green (s)	12.6	82.8	82.9		18.3	12.6
Yellow Time (s)	3.0	4.8	4.3		3.0	3.0
All-Red Time (s)	4.4	2.4	2.8		3.7	4.4
Lost Time Adjust (s)	-2.4	-2.2	-2.1		-1.7	-2.4
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	6.0	6.0		2.0	2.0
Minimum Gap (s)	3.0	3.0	3.0		3.0	3.0
Time Before Reduce (s)	0.0	15.0	15.0		0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Time To Reduce (s)	0.0	30.0	30.0		0.0	0.0
Recall Mode	None	Min	Min		None	None
Act Effct Green (s)	9.7	36.1	16.9	39.2	9.0	12.0
Actuated g/C Ratio	0.25	0.92	0.43	1.00	0.23	0.31
v/c Ratio	0.11	0.05	0.23	0.01	0.03	0.23
Control Delay	12.2	1.6	9.7	0.0	12.9	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.2	1.6	9.7	0.0	12.9	9.6
LOS	B	A	A	A	B	A
Approach Delay		5.7	8.9		10.1	
Approach LOS		A	A		B	
Queue Length 50th (ft)	6	0	19	0	1	15
Queue Length 95th (ft)	25	14	79	0	9	34
Internal Link Dist (ft)		558	675		3309	
Turn Bay Length (ft)	445			575		
Base Capacity (vph)	1353	3539	1863	1583	1804	715
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.04	0.10	0.01	0.01	0.15

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 39.2			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.23			
Intersection Signal Delay: 7.8		Intersection LOS: A	
Intersection Capacity Utilization 34.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Vickrey Chapel Rd & Jamestown Pkwy

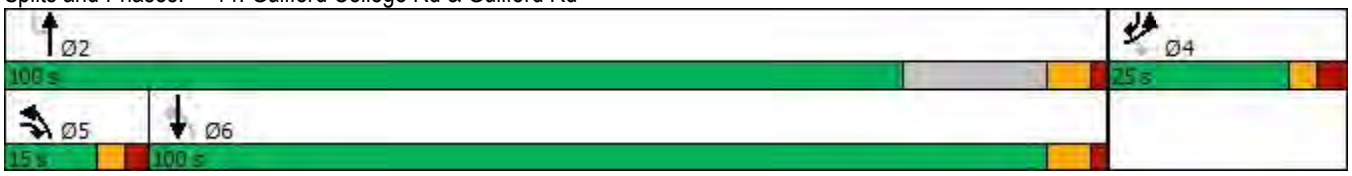


Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	554	73	146	302	1	307	656
Future Volume (vph)	554	73	146	302	1	307	656
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	195	135	140		125		330
Storage Lanes	1	1	1		1		1
Taper Length (ft)	100		100		100		
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	0.95	1.00
Frt		0.850					0.850
Flt Protected	0.950		0.950		0.950		
Satd. Flow (prot)	3433	1583	1770	3539	1770	3539	1583
Flt Permitted	0.950		0.547		0.549		
Satd. Flow (perm)	3433	1583	1019	3539	1023	3539	1583
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	35			45		45	
Link Distance (ft)	471			1464		1684	
Travel Time (s)	9.2			22.2		25.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	616	81	162	336	1	341	729
Shared Lane Traffic (%)							
Lane Group Flow (vph)	616	81	162	336	1	341	729
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right
Median Width(ft)	24			12		12	
Link Offset(ft)	0			0		0	
Crosswalk Width(ft)	16			16		16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15		9		9
Turn Type	Prot	pm+ov	D.P+P	NA	D.Pm	NA	pm+ov
Protected Phases	4	5	5	2		6	4
Permitted Phases		4	6		2		6
Detector Phase	4	5	5	2	2	6	4
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	12.0	7.0
Minimum Split (s)	20.0	14.0	14.0	20.0	20.0	41.5	20.0
Total Split (s)	25.0	15.0	15.0	100.0	100.0	100.0	25.0
Total Split (%)	17.9%	10.7%	10.7%	71.4%	71.4%	71.4%	17.9%
Maximum Green (s)	18.7	9.6	9.6	93.5	93.5	93.5	18.7
Yellow Time (s)	3.0	3.0	3.0	4.6	4.6	4.6	3.0
All-Red Time (s)	3.3	2.4	2.4	1.9	1.9	1.9	3.3
Lost Time Adjust (s)	-1.3	-0.4	-0.4	-1.5	-1.5	-1.5	-1.3
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead			Lag	
Lead-Lag Optimize?		Yes	Yes			Yes	
Vehicle Extension (s)	1.0	1.0	1.0	6.0	6.0	6.0	1.0
Recall Mode	None	None	None	Min	Min	Min	None
Walk Time (s)						7.0	

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Flash Dont Walk (s)						28.0	
Pedestrian Calls (#/hr)						0	
Act Effct Green (s)	19.9	32.6	21.2	26.2	26.2	13.5	38.4
Actuated g/C Ratio	0.35	0.58	0.38	0.47	0.47	0.24	0.68
v/c Ratio	0.51	0.09	0.33	0.20	0.00	0.40	0.67
Control Delay	16.1	5.5	11.1	9.1	8.0	19.6	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.1	5.5	11.1	9.1	8.0	19.6	9.2
LOS	B	A	B	A	A	B	A
Approach Delay	14.9			9.8		12.5	
Approach LOS	B			A		B	
Queue Length 50th (ft)	80	10	30	32	0	50	108
Queue Length 95th (ft)	125	25	59	53	2	84	223
Internal Link Dist (ft)	391			1384		1604	
Turn Bay Length (ft)	195	135	140		125		330
Base Capacity (vph)	1224	984	561	3539	1023	3539	1087
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.08	0.29	0.09	0.00	0.10	0.67

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 56.1			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 12.7		Intersection LOS: B	
Intersection Capacity Utilization 57.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 14: Guilford College Rd & Guilford Rd



2023 Background Traffic Volumes

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	137	288	4	4	19
Future Vol, veh/h	5	137	288	4	4	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	152	320	4	4	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	324	0	-	0	486	322
Stage 1	-	-	-	-	322	-
Stage 2	-	-	-	-	164	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1236	-	-	-	540	719
Stage 1	-	-	-	-	735	-
Stage 2	-	-	-	-	865	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1236	-	-	-	537	719
Mov Cap-2 Maneuver	-	-	-	-	537	-
Stage 1	-	-	-	-	731	-
Stage 2	-	-	-	-	865	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1236	-	-	-	679
HCM Lane V/C Ratio	0.004	-	-	-	0.038
HCM Control Delay (s)	7.9	0	-	-	10.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	141	265	4	9	26
Future Vol, veh/h	4	141	265	4	9	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	160	-	-	235	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	157	294	4	10	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	298	0	-	0	459	294
Stage 1	-	-	-	-	294	-
Stage 2	-	-	-	-	165	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1263	-	-	-	560	745
Stage 1	-	-	-	-	756	-
Stage 2	-	-	-	-	864	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1263	-	-	-	558	745
Mov Cap-2 Maneuver	-	-	-	-	558	-
Stage 1	-	-	-	-	754	-
Stage 2	-	-	-	-	864	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1263	-	-	-	686
HCM Lane V/C Ratio	0.004	-	-	-	0.057
HCM Control Delay (s)	7.9	-	-	-	10.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	141	239	4	26	29
Future Vol, veh/h	5	141	239	4	26	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	157	266	4	29	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	270	0	-	0	435	266
Stage 1	-	-	-	-	266	-
Stage 2	-	-	-	-	169	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1293	-	-	-	578	773
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	861	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1293	-	-	-	575	773
Mov Cap-2 Maneuver	-	-	-	-	575	-
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	861	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1293	-	-	-	665
HCM Lane V/C Ratio	0.004	-	-	-	0.092
HCM Control Delay (s)	7.8	-	-	-	11
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	163	219	4	12	26
Future Vol, veh/h	9	163	219	4	12	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	115	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	181	243	4	13	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	247	0	-	0	444	122
Stage 1	-	-	-	-	243	-
Stage 2	-	-	-	-	201	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1317	-	-	-	557	907
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	832	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1317	-	-	-	553	907
Mov Cap-2 Maneuver	-	-	-	-	553	-
Stage 1	-	-	-	-	769	-
Stage 2	-	-	-	-	832	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1317	-	-	-	754
HCM Lane V/C Ratio	0.008	-	-	-	0.056
HCM Control Delay (s)	7.8	-	-	-	10.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.2

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	0	473	4	4	311	4	4
Future Vol, veh/h	0	473	4	4	311	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	410	-	75	365	-	125	0
Veh in Median Storage, #	-	0	-	-	0	0	-
Grade, %	-	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	526	4	4	346	4	4

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	346	0	0	530	0	707	263
Stage 1	-	-	-	-	-	526	-
Stage 2	-	-	-	-	-	181	-
Critical Hdwy	6.44	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.52	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	866	-	-	1033	-	370	735
Stage 1	-	-	-	-	-	557	-
Stage 2	-	-	-	-	-	832	-
Platoon blocked, %		-	-		-		
Mov Cap-1 Maneuver	866	-	-	1033	-	369	735
Mov Cap-2 Maneuver	-	-	-	-	-	369	-
Stage 1	-	-	-	-	-	557	-
Stage 2	-	-	-	-	-	829	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT
Capacity (veh/h)	369	735	866	-	-	1033	-
HCM Lane V/C Ratio	0.012	0.006	-	-	-	0.004	-
HCM Control Delay (s)	14.9	9.9	0	-	-	8.5	-
HCM Lane LOS	B	A	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	12	27	15	635	2	838	10
Future Vol, veh/h	12	27	15	635	2	838	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	135	-	130	-	130
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	13	30	17	706	2	931	11

Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	1322	466	942	0	706	-	0
Stage 1	935	-	-	-	-	-	-
Stage 2	387	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	6.44	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	2.52	-	-
Pot Cap-1 Maneuver	148	543	724	-	512	-	-
Stage 1	342	-	-	-	-	-	-
Stage 2	656	-	-	-	-	-	-
Platoon blocked, %				-		-	-
Mov Cap-1 Maneuver	144	543	724	-	512	-	-
Mov Cap-2 Maneuver	144	-	-	-	-	-	-
Stage 1	334	-	-	-	-	-	-
Stage 2	653	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.4	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	724	-	293	512	-	-
HCM Lane V/C Ratio	0.023	-	0.148	0.004	-	-
HCM Control Delay (s)	10.1	-	19.4	12.1	-	-
HCM Lane LOS	B	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	0	-	-

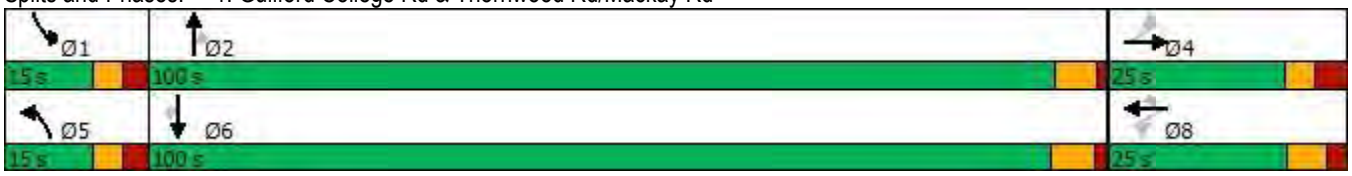
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	8	51	149	4	144	17	561	67	52	606	13
Future Volume (vph)	45	8	51	149	4	144	17	561	67	52	606	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	190		190	120		205	310		150
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.870				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1621	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.755			0.714			0.950			0.950		
Satd. Flow (perm)	1406	1621	0	1330	1863	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			40			45			45	
Link Distance (ft)		1208			556			1538			1743	
Travel Time (s)		32.9			9.5			23.3			26.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	50	9	57	166	4	160	19	623	74	58	673	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	66	0	166	4	160	19	623	74	58	673	14
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	13.6	13.6		13.5	13.5	13.5	12.8	17.7	17.7	12.8	18.1	18.1
Total Split (s)	25.0	25.0		25.0	25.0	25.0	15.0	100.0	100.0	15.0	100.0	100.0
Total Split (%)	17.9%	17.9%		17.9%	17.9%	17.9%	10.7%	71.4%	71.4%	10.7%	71.4%	71.4%
Maximum Green (s)	18.4	18.4		18.5	18.5	18.5	9.2	94.3	94.3	9.2	93.9	93.9
Yellow Time (s)	3.1	3.1		4.2	4.2	4.2	3.0	4.4	4.4	3.0	4.6	4.6
All-Red Time (s)	3.5	3.5		2.3	2.3	2.3	2.8	1.3	1.3	2.8	1.5	1.5
Lost Time Adjust (s)	-1.6	-1.6		-1.5	-1.5	-1.5	-0.8	-0.7	-0.7	-0.8	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	6.0	6.0	1.0	6.0	6.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0

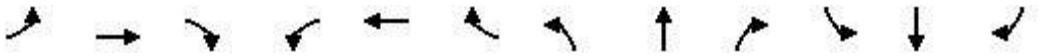
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	45.0	45.0	0.0	45.0	45.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	14.0	14.0		14.0	14.0	14.0	8.4	18.2	18.2	8.4	22.8	22.8
Actuated g/C Ratio	0.28	0.28		0.28	0.28	0.28	0.17	0.37	0.37	0.17	0.46	0.46
v/c Ratio	0.13	0.14		0.44	0.01	0.36	0.06	0.48	0.13	0.19	0.41	0.02
Control Delay	17.5	17.4		22.0	16.8	19.8	24.1	14.9	13.6	24.6	10.6	9.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	17.4		22.0	16.8	19.8	24.1	14.9	13.6	24.6	10.6	9.5
LOS	B	B		C	B	B	C	B	B	C	B	A
Approach Delay		17.5			20.9			15.0			11.7	
Approach LOS		B			C			B			B	
Queue Length 50th (ft)	12	16		45	1	43	6	86	17	17	55	2
Queue Length 95th (ft)	38	46		106	7	98	24	138	43	51	148	13
Internal Link Dist (ft)		1128			476			1458			1663	
Turn Bay Length (ft)	75			190		190	120		205	310		150
Base Capacity (vph)	609	702		576	807	686	383	3539	1583	383	3539	1583
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.09		0.29	0.00	0.23	0.05	0.18	0.05	0.15	0.19	0.01

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 49.5
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.48
Intersection Signal Delay: 14.9 Intersection LOS: B
Intersection Capacity Utilization 50.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: Guilford College Rd & Thornwood Rd/Mackay Rd





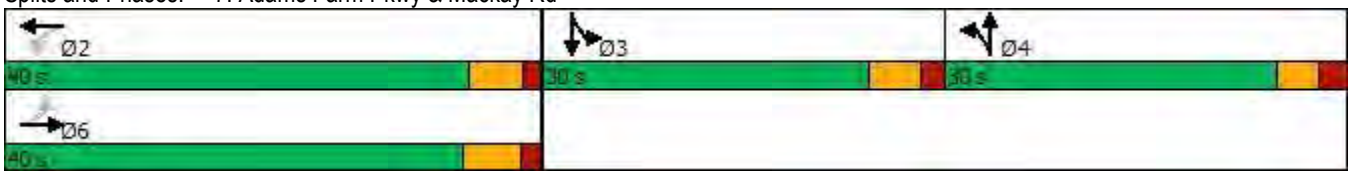
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	192	5	26	76	201	35	26	121	418	4	68
Future Volume (vph)	51	192	5	26	76	201	35	26	121	418	4	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	195		0	0		0	140		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.891			0.910			0.857	
Flt Protected	0.950			0.950				0.990		0.950		
Satd. Flow (prot)	1770	1855	0	1770	1660	0	0	1678	0	1770	1596	0
Flt Permitted	0.390			0.541				0.990		0.950		
Satd. Flow (perm)	726	1855	0	1008	1660	0	0	1678	0	1770	1596	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		1572			2792			867			1221	
Travel Time (s)		26.8			47.6			23.6			23.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	57	213	6	29	84	223	39	29	134	464	4	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	57	219	0	29	307	0	0	202	0	464	80	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		6			2		4	4		3	3	
Permitted Phases	6			2								
Detector Phase	6	6		2	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		26.3	26.3		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	34.1	34.1		34.5	34.5		24.7	24.7		24.3	24.3	
Yellow Time (s)	4.3	4.3		4.1	4.1		3.1	3.1		3.9	3.9	
All-Red Time (s)	1.6	1.6		1.4	1.4		2.2	2.2		1.8	1.8	
Lost Time Adjust (s)	-0.9	-0.9		-0.5	-0.5			-0.3		-0.7	-0.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)							7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)							14.0	14.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)	19.1	19.1		19.1	19.1			13.6		25.4	25.4	
Actuated g/C Ratio	0.26	0.26		0.26	0.26			0.19		0.35	0.35	
v/c Ratio	0.30	0.45		0.11	0.71			0.65		0.76	0.14	
Control Delay	27.4	26.5		22.5	35.1			38.8		33.6	20.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	27.4	26.5		22.5	35.1			38.8		33.6	20.8	
LOS	C	C		C	D			D		C	C	
Approach Delay		26.7			34.0			38.8			31.8	
Approach LOS		C			C			D			C	
Queue Length 50th (ft)	20	82		10	124			82		173	23	
Queue Length 95th (ft)	56	157		32	230			169		#446	71	
Internal Link Dist (ft)		1492			2712			787			1141	
Turn Bay Length (ft)	170			195						140		
Base Capacity (vph)	352	900		489	805			581		613	553	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.16	0.24		0.06	0.38			0.35		0.76	0.14	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 73.3			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 32.3		Intersection LOS: C	
Intersection Capacity Utilization 78.6%		ICU Level of Service D	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Adams Farm Pkwy & Mackay Rd

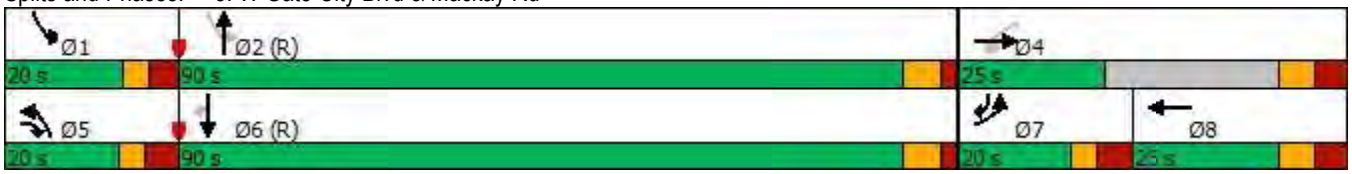


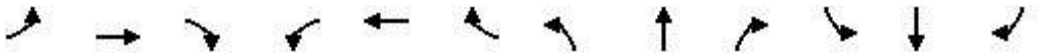
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	298	32	287	64	36	40	170	382	60	70	547	144
Future Volume (vph)	298	32	287	64	36	40	170	382	60	70	547	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		805	90		0	550		0	305		325
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Frt			0.850		0.921			0.980				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1716	0	3433	4984	0	1770	5085	1583
Flt Permitted	0.950			0.734			0.950			0.450		
Satd. Flow (perm)	3433	1863	1583	1367	1716	0	3433	4984	0	838	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		2792			1166			6342			1193	
Travel Time (s)		47.6			31.8			96.1			18.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	331	36	319	71	40	44	189	424	67	78	608	160
Shared Lane Traffic (%)												
Lane Group Flow (vph)	331	36	319	71	84	0	189	491	0	78	608	160
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA		Prot	NA		D.P+P	NA	pm+ov
Protected Phases	7	4	5		8		5	2		1	6	7
Permitted Phases			4	4						2		6
Detector Phase	7	4	5	4	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	14.1	50.1	14.0	50.1	54.1		14.0	29.5		14.0	35.5	14.1
Total Split (s)	20.0	25.0	20.0	25.0	25.0		20.0	90.0		20.0	90.0	20.0
Total Split (%)	12.9%	16.1%	12.9%	16.1%	16.1%		12.9%	58.1%		12.9%	58.1%	12.9%
Maximum Green (s)	12.9	16.9	13.1	16.9	16.9		13.1	83.5		13.6	83.5	12.9
Yellow Time (s)	3.0	4.1	3.0	4.1	4.1		3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	4.1	4.0	3.9	4.0	4.0		3.9	2.0		3.4	2.0	4.1
Lost Time Adjust (s)	-2.1	-3.1	-1.9	-3.1	-3.1		-1.9	-1.5		-1.4	-1.5	-2.1
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	6.0		2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		34.0		34.0	39.0			16.0			22.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	23.6	43.7	62.3	43.7	15.1		13.6	87.3		96.3	82.7	111.3
Actuated g/C Ratio	0.15	0.28	0.40	0.28	0.10		0.09	0.56		0.62	0.53	0.72
v/c Ratio	0.63	0.07	0.50	0.18	0.51		0.63	0.17		0.14	0.22	0.14
Control Delay	67.4	38.9	36.8	41.9	76.1		77.6	17.3		11.4	20.3	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	67.4	38.9	36.8	41.9	76.1		77.6	17.3		11.4	20.3	7.9
LOS	E	D	D	D	E		E	B		B	C	A
Approach Delay		51.7			60.4			34.1			17.1	
Approach LOS		D			E			C			B	
Queue Length 50th (ft)	164	27	240	55	82		96	84		27	116	47
Queue Length 95th (ft)	215	54	300	93	138		138	123		55	163	86
Internal Link Dist (ft)		2712			1086			6262			1113	
Turn Bay Length (ft)	470		805	90			550			305		325
Base Capacity (vph)	522	534	652	391	221		337	2856		637	2852	1136
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.63	0.07	0.49	0.18	0.38		0.56	0.17		0.12	0.21	0.14

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Offset: 20 (13%), Referenced to phase 2:NBSB and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 34.8		Intersection LOS: C	
Intersection Capacity Utilization 46.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: W Gate City Blvd & Mackay Rd



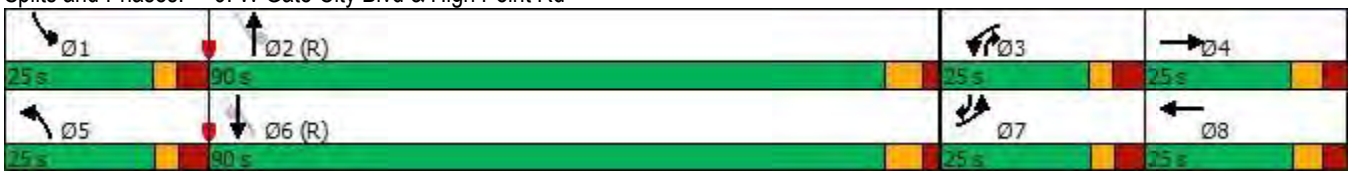


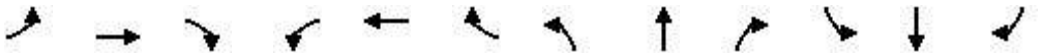
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	11	8	129	12	11	8	469	163	10	455	38
Future Volume (vph)	62	11	8	129	12	11	8	469	163	10	455	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	360		0	400		450	435		215
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.936			0.928				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1744	0	3433	1729	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.456			0.448		
Satd. Flow (perm)	3433	1744	0	3433	1729	0	849	5085	1583	835	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		746			1689			1193			1650	
Travel Time (s)		14.5			32.9			18.1			25.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	69	12	9	143	13	12	9	521	181	11	506	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	69	21	0	143	25	0	9	521	181	11	506	42
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases							6		2	2		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.7	42.0		13.9	13.9		13.7	18.9	13.9	13.8	18.9	13.7
Total Split (s)	25.0	25.0		25.0	25.0		25.0	90.0	25.0	25.0	90.0	25.0
Total Split (%)	15.2%	15.2%		15.2%	15.2%		15.2%	54.5%	15.2%	15.2%	54.5%	15.2%
Maximum Green (s)	18.3	18.0		18.1	18.1		18.3	83.1	18.1	18.2	83.1	18.3
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.7	3.2		3.9	3.1		3.7	2.2	3.9	3.8	2.2	3.7
Lost Time Adjust (s)	-1.7	-2.0		-1.9	-1.9		-1.7	-1.9	-1.9	-1.8	-1.9	-1.7
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Walk Time (s)		4.0										

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		31.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)	10.6	9.5		13.2	12.0		131.0	127.5	147.6	131.0	127.5	145.1
Actuated g/C Ratio	0.06	0.06		0.08	0.07		0.79	0.77	0.89	0.79	0.77	0.88
v/c Ratio	0.31	0.21		0.52	0.20		0.01	0.13	0.13	0.02	0.13	0.03
Control Delay	77.5	79.1		79.5	74.5		5.0	6.4	2.6	4.9	6.3	3.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.5	79.1		79.5	74.5		5.0	6.4	2.6	4.9	6.3	3.5
LOS	E	E		E	E		A	A	A	A	A	A
Approach Delay		77.9			78.7			5.4			6.1	
Approach LOS		E			E			A			A	
Queue Length 50th (ft)	37	22		77	26		2	46	19	2	44	5
Queue Length 95th (ft)	65	53		114	59		8	91	61	8	88	20
Internal Link Dist (ft)		666			1609			1113			1570	
Turn Bay Length (ft)	50			360			400		450	435		215
Base Capacity (vph)	416	211		416	209		795	3927	1446	786	3929	1446
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.10		0.34	0.12		0.01	0.13	0.13	0.01	0.13	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 165			
Actuated Cycle Length: 165			
Offset: 54 (33%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay: 18.0		Intersection LOS: B	
Intersection Capacity Utilization 34.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: W Gate City Blvd & High Point Rd



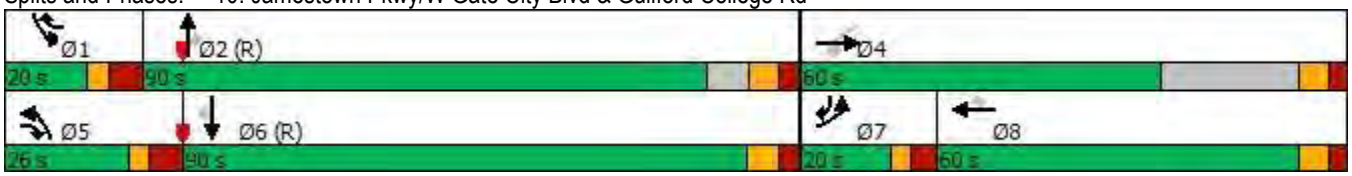


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	229	126	4	208	159	95	434	5	163	644	30
Future Volume (vph)	65	229	126	4	208	159	95	434	5	163	644	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430		445	355		285	415		335	395		335
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.461			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	859	3539	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		3577			1802			3389			6342	
Travel Time (s)		54.2			27.3			51.3			96.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	72	254	140	4	231	177	106	482	6	181	716	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	254	140	4	231	177	106	482	6	181	716	33
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	5		8	1	5	2		1	6	7
Permitted Phases			4	4		8			2			6
Detector Phase	7	4	5	4	8	1	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	7.0
Minimum Split (s)	14.0	25.3	26.0	25.3	20.0	14.9	26.0	25.5	25.5	14.9	25.7	14.0
Total Split (s)	20.0	60.0	26.0	60.0	60.0	20.0	26.0	90.0	90.0	20.0	90.0	20.0
Total Split (%)	10.2%	30.6%	13.3%	30.6%	30.6%	10.2%	13.3%	45.9%	45.9%	10.2%	45.9%	10.2%
Maximum Green (s)	13.2	52.7	18.0	52.7	52.7	12.1	18.0	82.5	82.5	12.1	82.3	13.2
Yellow Time (s)	3.0	4.5	3.0	4.5	4.5	3.0	3.0	4.4	4.4	3.0	4.6	3.0
All-Red Time (s)	3.8	2.8	5.0	2.8	2.8	4.9	5.0	3.1	3.1	4.9	3.1	3.8
Lost Time Adjust (s)	-1.8	-2.3	-3.0	-2.3	-2.3	-2.9	-3.0	-2.5	-2.5	-2.9	-2.7	-1.8
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	6.0	2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	0.0	30.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0		7.0				7.0	7.0		7.0	
Flash Dont Walk (s)		11.0		11.0				11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0		0				0	0		0	
Act Effct Green (s)	10.5	35.1	53.4	35.1	19.6	42.0	13.3	128.5	128.5	17.4	132.6	148.1
Actuated g/C Ratio	0.05	0.18	0.27	0.18	0.10	0.21	0.07	0.66	0.66	0.09	0.68	0.76
v/c Ratio	0.39	0.40	0.32	0.03	0.65	0.52	0.46	0.14	0.01	0.60	0.21	0.03
Control Delay	95.5	72.3	57.7	63.2	93.6	73.0	93.9	13.7	14.4	93.9	12.7	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.5	72.3	57.7	63.2	93.6	73.0	93.9	13.7	14.4	93.9	12.7	7.0
LOS	F	E	E	E	F	E	F	B	B	F	B	A
Approach Delay		71.5			84.5			28.0			28.3	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)	47	155	146	4	154	205	69	83	3	118	121	10
Queue Length 95th (ft)	78	195	202	17	201	280	105	119	11	161	167	24
Internal Link Dist (ft)		3497			1722			3309			6262	
Turn Bay Length (ft)	430		445	355		285	415		335	395		335
Base Capacity (vph)	262	1354	493	328	993	341	367	3333	1037	309	3439	1232
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.19	0.28	0.01	0.23	0.52	0.29	0.14	0.01	0.59	0.21	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 196			
Actuated Cycle Length: 196			
Offset: 20 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 46.2		Intersection LOS: D	
Intersection Capacity Utilization 47.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd



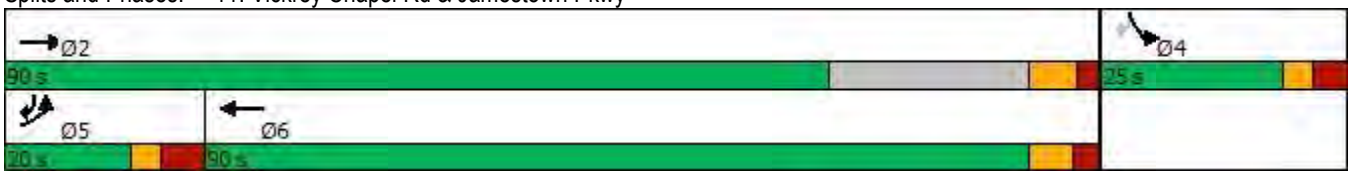


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	152	171	205	21	14	203
Future Volume (vph)	152	171	205	21	14	203
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	445			575	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	100				100	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	3539	1863	1583	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	3539	1863	1583	3433	1583
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		45	
Link Distance (ft)		638	755		3389	
Travel Time (s)		12.4	14.7		51.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	169	190	228	23	16	226
Shared Lane Traffic (%)						
Lane Group Flow (vph)	169	190	228	23	16	226
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		48	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Free	Prot	pm+ov
Protected Phases	5	2	6		4	5
Permitted Phases				Free		4
Detector Phase	5	2	6		4	5
Switch Phase						
Minimum Initial (s)	7.0	12.0	12.0		7.0	7.0
Minimum Split (s)	14.4	20.0	20.0		20.0	14.4
Total Split (s)	20.0	90.0	90.0		25.0	20.0
Total Split (%)	14.8%	66.7%	66.7%		18.5%	14.8%
Maximum Green (s)	12.6	82.8	82.9		18.3	12.6
Yellow Time (s)	3.0	4.8	4.3		3.0	3.0
All-Red Time (s)	4.4	2.4	2.8		3.7	4.4
Lost Time Adjust (s)	-2.4	-2.2	-2.1		-1.7	-2.4
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	6.0	6.0		2.0	2.0
Minimum Gap (s)	3.0	3.0	3.0		3.0	3.0
Time Before Reduce (s)	0.0	15.0	15.0		0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Time To Reduce (s)	0.0	30.0	30.0		0.0	0.0
Recall Mode	None	Min	Min		None	None
Act Effct Green (s)	10.5	34.3	14.4	37.2	8.9	12.6
Actuated g/C Ratio	0.28	0.92	0.39	1.00	0.24	0.34
v/c Ratio	0.17	0.06	0.32	0.01	0.02	0.42
Control Delay	12.0	1.5	11.0	0.0	13.4	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	1.5	11.0	0.0	13.4	11.6
LOS	B	A	B	A	B	B
Approach Delay		6.5	10.0		11.7	
Approach LOS		A	B		B	
Queue Length 50th (ft)	11	0	28	0	1	33
Queue Length 95th (ft)	40	17	99	0	8	66
Internal Link Dist (ft)		558	675		3309	
Turn Bay Length (ft)	445			575		
Base Capacity (vph)	1410	3539	1863	1583	1880	740
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.05	0.12	0.01	0.01	0.31

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 37.2			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.42			
Intersection Signal Delay: 9.0		Intersection LOS: A	
Intersection Capacity Utilization 35.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Vickrey Chapel Rd & Jamestown Pkwy



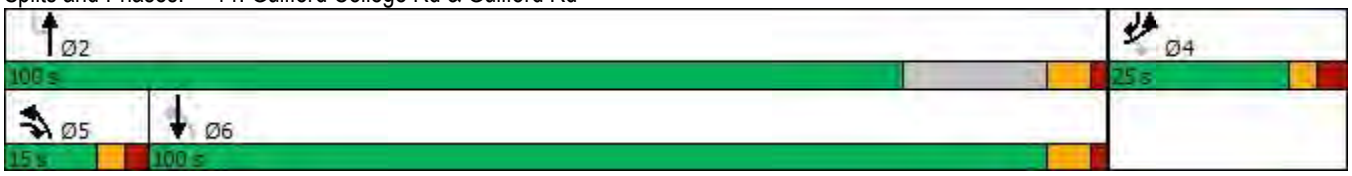


Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	483	109	57	254	3	364	522
Future Volume (vph)	483	109	57	254	3	364	522
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	195	135	140		125		330
Storage Lanes	1	1	1		1		1
Taper Length (ft)	100		100		100		
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	0.95	1.00
Frt		0.850					0.850
Flt Protected	0.950		0.950		0.950		
Satd. Flow (prot)	3433	1583	1770	3539	1770	3539	1583
Flt Permitted	0.950		0.500		0.579		
Satd. Flow (perm)	3433	1583	931	3539	1079	3539	1583
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	35			45		45	
Link Distance (ft)	471			1464		1684	
Travel Time (s)	9.2			22.2		25.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	537	121	63	282	3	404	580
Shared Lane Traffic (%)							
Lane Group Flow (vph)	537	121	63	282	3	404	580
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right
Median Width(ft)	24			12		12	
Link Offset(ft)	0			0		0	
Crosswalk Width(ft)	16			16		16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15		9		9
Turn Type	Prot	pm+ov	D.P+P	NA	D.Pm	NA	pm+ov
Protected Phases	4	5	5	2		6	4
Permitted Phases		4	6		2		6
Detector Phase	4	5	5	2	2	6	4
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	12.0	7.0
Minimum Split (s)	20.0	14.0	14.0	20.0	20.0	41.5	20.0
Total Split (s)	25.0	15.0	15.0	100.0	100.0	100.0	25.0
Total Split (%)	17.9%	10.7%	10.7%	71.4%	71.4%	71.4%	17.9%
Maximum Green (s)	18.7	9.6	9.6	93.5	93.5	93.5	18.7
Yellow Time (s)	3.0	3.0	3.0	4.6	4.6	4.6	3.0
All-Red Time (s)	3.3	2.4	2.4	1.9	1.9	1.9	3.3
Lost Time Adjust (s)	-1.3	-0.4	-0.4	-1.5	-1.5	-1.5	-1.3
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead			Lag	
Lead-Lag Optimize?		Yes	Yes			Yes	
Vehicle Extension (s)	1.0	1.0	1.0	6.0	6.0	6.0	1.0
Recall Mode	None	None	None	Min	Min	Min	None
Walk Time (s)						7.0	

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Flash Dont Walk (s)						28.0	
Pedestrian Calls (#/hr)						0	
Act Effct Green (s)	17.6	30.0	21.2	26.2	26.2	13.8	36.4
Actuated g/C Ratio	0.33	0.56	0.39	0.49	0.49	0.26	0.68
v/c Ratio	0.48	0.14	0.13	0.16	0.01	0.45	0.54
Control Delay	16.4	6.4	7.9	7.7	6.7	18.4	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.4	6.4	7.9	7.7	6.7	18.4	6.8
LOS	B	A	A	A	A	B	A
Approach Delay	14.6			7.8		11.6	
Approach LOS	B			A		B	
Queue Length 50th (ft)	68	16	10	23	1	55	73
Queue Length 95th (ft)	109	37	23	38	3	87	133
Internal Link Dist (ft)	391			1384		1604	
Turn Bay Length (ft)	195	135	140		125		330
Base Capacity (vph)	1277	960	567	3539	1079	3539	1141
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.13	0.11	0.08	0.00	0.11	0.51

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 53.8			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 11.9		Intersection LOS: B	
Intersection Capacity Utilization 46.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 14: Guilford College Rd & Guilford Rd



Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	321	229	5	4	11
Future Vol, veh/h	10	321	229	5	4	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	357	254	6	4	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	260	0	-	0	636	257
Stage 1	-	-	-	-	257	-
Stage 2	-	-	-	-	379	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1304	-	-	-	442	782
Stage 1	-	-	-	-	786	-
Stage 2	-	-	-	-	692	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1304	-	-	-	437	782
Mov Cap-2 Maneuver	-	-	-	-	437	-
Stage 1	-	-	-	-	777	-
Stage 2	-	-	-	-	692	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1304	-	-	-	646
HCM Lane V/C Ratio	0.009	-	-	-	0.026
HCM Control Delay (s)	7.8	0	-	-	10.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	311	232	12	8	8
Future Vol, veh/h	14	311	232	12	8	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	160	-	-	235	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	346	258	13	9	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	271	0	-	0	636	258
Stage 1	-	-	-	-	258	-
Stage 2	-	-	-	-	378	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1292	-	-	-	442	781
Stage 1	-	-	-	-	785	-
Stage 2	-	-	-	-	693	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1292	-	-	-	437	781
Mov Cap-2 Maneuver	-	-	-	-	437	-
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	693	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1292	-	-	-	560
HCM Lane V/C Ratio	0.012	-	-	-	0.032
HCM Control Delay (s)	7.8	-	-	-	11.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	23	292	229	25	11	8
Future Vol, veh/h	23	292	229	25	11	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	324	254	28	12	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	282	0	-	0	630	254
Stage 1	-	-	-	-	254	-
Stage 2	-	-	-	-	376	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1280	-	-	-	446	785
Stage 1	-	-	-	-	788	-
Stage 2	-	-	-	-	694	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1280	-	-	-	437	785
Mov Cap-2 Maneuver	-	-	-	-	437	-
Stage 1	-	-	-	-	772	-
Stage 2	-	-	-	-	694	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1280	-	-	-	537
HCM Lane V/C Ratio	0.02	-	-	-	0.039
HCM Control Delay (s)	7.9	-	-	-	12
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	18	288	245	35	10	11
Future Vol, veh/h	18	288	245	35	10	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	115	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	320	272	39	11	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	311	0	-	0	632	136
Stage 1	-	-	-	-	272	-
Stage 2	-	-	-	-	360	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1248	-	-	-	428	888
Stage 1	-	-	-	-	750	-
Stage 2	-	-	-	-	705	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1248	-	-	-	421	888
Mov Cap-2 Maneuver	-	-	-	-	421	-
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	705	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	11.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1248	-	-	-	581
HCM Lane V/C Ratio	0.016	-	-	-	0.04
HCM Control Delay (s)	7.9	-	-	-	11.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	0	404	4	4	475	4	4
Future Vol, veh/h	0	404	4	4	475	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	410	-	75	365	-	125	0
Veh in Median Storage, #	-	0	-	-	0	0	-
Grade, %	-	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	449	4	4	528	4	4

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	528	0	0	453	0	721	225
Stage 1	-	-	-	-	-	449	-
Stage 2	-	-	-	-	-	272	-
Critical Hdwy	6.44	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.52	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	664	-	-	1104	-	362	778
Stage 1	-	-	-	-	-	610	-
Stage 2	-	-	-	-	-	749	-
Platoon blocked, %		-	-		-		
Mov Cap-1 Maneuver	664	-	-	1104	-	361	778
Mov Cap-2 Maneuver	-	-	-	-	-	361	-
Stage 1	-	-	-	-	-	610	-
Stage 2	-	-	-	-	-	746	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT
Capacity (veh/h)	361	778	664	-	-	1104	-
HCM Lane V/C Ratio	0.012	0.006	-	-	-	0.004	-
HCM Control Delay (s)	15.1	9.7	0	-	-	8.3	-
HCM Lane LOS	C	A	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0	0	-	-	0	-

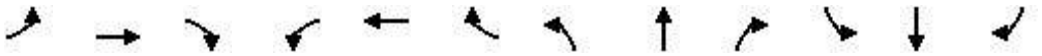
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	12	13	40	751	1	895	28
Future Vol, veh/h	12	13	40	751	1	895	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	135	-	130	-	130
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	13	14	44	834	1	994	31

Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	1501	497	1025	0	834	-	0
Stage 1	996	-	-	-	-	-	-
Stage 2	505	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	6.44	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	2.52	-	-
Pot Cap-1 Maneuver	113	519	673	-	424	-	-
Stage 1	318	-	-	-	-	-	-
Stage 2	571	-	-	-	-	-	-
Platoon blocked, %				-		-	-
Mov Cap-1 Maneuver	105	519	673	-	424	-	-
Mov Cap-2 Maneuver	105	-	-	-	-	-	-
Stage 1	297	-	-	-	-	-	-
Stage 2	570	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	28.8	0.5	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	673	-	179	424	-	-
HCM Lane V/C Ratio	0.066	-	0.155	0.003	-	-
HCM Control Delay (s)	10.7	-	28.8	13.5	-	-
HCM Lane LOS	B	-	D	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.5	0	-	-



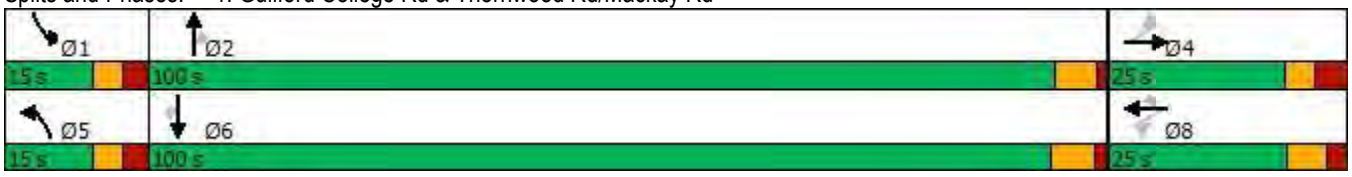
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	11	11	126	22	97	35	641	139	149	788	48
Future Volume (vph)	16	11	11	126	22	97	35	641	139	149	788	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	190		190	120		205	310		150
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.925				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1723	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.742			0.742			0.950			0.950		
Satd. Flow (perm)	1382	1723	0	1382	1863	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			40			45			45	
Link Distance (ft)		1208			556			1538			1743	
Travel Time (s)		32.9			9.5			23.3			26.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	18	12	12	140	24	108	39	712	154	166	876	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	24	0	140	24	108	39	712	154	166	876	53
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	13.6	13.6		13.5	13.5	13.5	12.8	17.7	17.7	12.8	18.1	18.1
Total Split (s)	25.0	25.0		25.0	25.0	25.0	15.0	100.0	100.0	15.0	100.0	100.0
Total Split (%)	17.9%	17.9%		17.9%	17.9%	17.9%	10.7%	71.4%	71.4%	10.7%	71.4%	71.4%
Maximum Green (s)	18.4	18.4		18.5	18.5	18.5	9.2	94.3	94.3	9.2	93.9	93.9
Yellow Time (s)	3.1	3.1		4.2	4.2	4.2	3.0	4.4	4.4	3.0	4.6	4.6
All-Red Time (s)	3.5	3.5		2.3	2.3	2.3	2.8	1.3	1.3	2.8	1.5	1.5
Lost Time Adjust (s)	-1.6	-1.6		-1.5	-1.5	-1.5	-0.8	-0.7	-0.7	-0.8	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	6.0	6.0	1.0	6.0	6.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0

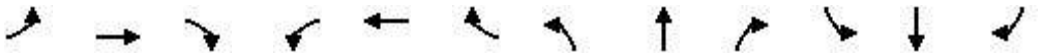
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	45.0	45.0	0.0	45.0	45.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	11.7	11.7		11.7	11.7	11.7	8.0	21.1	21.1	10.2	31.9	31.9
Actuated g/C Ratio	0.20	0.20		0.20	0.20	0.20	0.14	0.36	0.36	0.17	0.55	0.55
v/c Ratio	0.06	0.07		0.50	0.06	0.34	0.16	0.56	0.27	0.54	0.45	0.06
Control Delay	21.2	21.0		29.1	21.0	24.7	27.6	16.7	14.6	32.9	10.8	9.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	21.0		29.1	21.0	24.7	27.6	16.7	14.6	32.9	10.8	9.5
LOS	C	C		C	C	C	C	B	B	C	B	A
Approach Delay		21.1			26.6			16.8			14.0	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	5	7		44	7	33	12	99	36	54	66	6
Queue Length 95th (ft)	21	26		103	26	80	42	160	79	#146	193	31
Internal Link Dist (ft)		1128			476			1458			1663	
Turn Bay Length (ft)	75			190		190	120		205	310		150
Base Capacity (vph)	483	602		483	651	553	309	3539	1583	309	3539	1583
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.04		0.29	0.04	0.20	0.13	0.20	0.10	0.54	0.25	0.03

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 58.3
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 16.7 Intersection LOS: B
Intersection Capacity Utilization 53.8% ICU Level of Service A
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Guilford College Rd & Thornwood Rd/Mackay Rd





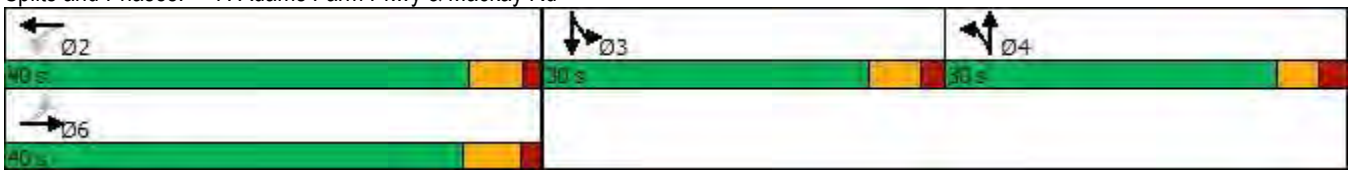
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	163	29	105	257	425	17	30	50	299	34	52
Future Volume (vph)	51	163	29	105	257	425	17	30	50	299	34	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	195		0	0		0	140		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.907			0.930			0.909	
Flt Protected	0.950			0.950				0.991		0.950		
Satd. Flow (prot)	1770	1820	0	1770	1690	0	0	1717	0	1770	1693	0
Flt Permitted	0.111			0.613				0.991		0.950		
Satd. Flow (perm)	207	1820	0	1142	1690	0	0	1717	0	1770	1693	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		1572			2792			867			1221	
Travel Time (s)		26.8			47.6			23.6			23.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	57	181	32	117	286	472	19	33	56	332	38	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	57	213	0	117	758	0	0	108	0	332	96	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		6			2		4	4		3	3	
Permitted Phases	6			2								
Detector Phase	6	6		2	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		26.3	26.3		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	34.1	34.1		34.5	34.5		24.7	24.7		24.3	24.3	
Yellow Time (s)	4.3	4.3		4.1	4.1		3.1	3.1		3.9	3.9	
All-Red Time (s)	1.6	1.6		1.4	1.4		2.2	2.2		1.8	1.8	
Lost Time Adjust (s)	-0.9	-0.9		-0.5	-0.5			-0.3		-0.7	-0.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)							7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)							14.0	14.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)	35.9	35.9		35.9	35.9			10.2		19.2	19.2	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.13		0.25	0.25	
v/c Ratio	0.59	0.25		0.22	0.97			0.48		0.75	0.23	
Control Delay	51.7	16.7		17.7	50.8			41.3		39.6	25.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	51.7	16.7		17.7	50.8			41.3		39.6	25.8	
LOS	D	B		B	D			D		D	C	
Approach Delay		24.1			46.4			41.3			36.5	
Approach LOS		C			D			D			D	
Queue Length 50th (ft)	21	66		36	~412			52		153	38	
Queue Length 95th (ft)	#97	135		85	#723			105		259	81	
Internal Link Dist (ft)		1492			2712			787			1141	
Turn Bay Length (ft)	170			195						140		
Base Capacity (vph)	96	845		530	784			569		587	561	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.59	0.25		0.22	0.97			0.19		0.57	0.17	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 77.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 40.0 Intersection LOS: D
Intersection Capacity Utilization 87.0% ICU Level of Service E
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Adams Farm Pkwy & Mackay Rd

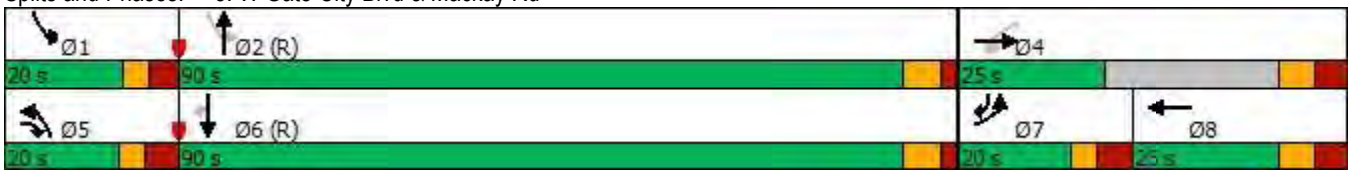


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	19	188	16	25	26	328	483	24	30	580	412
Future Volume (vph)	234	19	188	16	25	26	328	483	24	30	580	412
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		805	90		0	550		0	305		325
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Frt			0.850		0.924			0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1721	0	3433	5050	0	1770	5085	1583
Flt Permitted	0.950			0.744			0.950			0.404		
Satd. Flow (perm)	3433	1863	1583	1386	1721	0	3433	5050	0	753	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		2792			1166			6342			1193	
Travel Time (s)		47.6			31.8			96.1			18.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	260	21	209	18	28	29	364	537	27	33	644	458
Shared Lane Traffic (%)												
Lane Group Flow (vph)	260	21	209	18	57	0	364	564	0	33	644	458
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA		Prot	NA		D.P+P	NA	pm+ov
Protected Phases	7	4	5		8		5	2		1	6	7
Permitted Phases			4	4						2		6
Detector Phase	7	4	5	4	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	14.1	50.1	14.0	50.1	54.1		14.0	29.5		14.0	35.5	14.1
Total Split (s)	20.0	25.0	20.0	25.0	25.0		20.0	90.0		20.0	90.0	20.0
Total Split (%)	12.9%	16.1%	12.9%	16.1%	16.1%		12.9%	58.1%		12.9%	58.1%	12.9%
Maximum Green (s)	12.9	16.9	13.1	16.9	16.9		13.1	83.5		13.6	83.5	12.9
Yellow Time (s)	3.0	4.1	3.0	4.1	4.1		3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	4.1	4.0	3.9	4.0	4.0		3.9	2.0		3.4	2.0	4.1
Lost Time Adjust (s)	-2.1	-3.1	-1.9	-3.1	-3.1		-1.9	-1.5		-1.4	-1.5	-2.1
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	6.0		2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		34.0		34.0	39.0			16.0			22.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	36.9	51.8	83.6	51.8	12.9		26.8	82.4		89.2	61.4	103.3
Actuated g/C Ratio	0.24	0.33	0.54	0.33	0.08		0.17	0.53		0.58	0.40	0.67
v/c Ratio	0.32	0.03	0.25	0.04	0.40		0.61	0.21		0.07	0.32	0.43
Control Delay	48.5	28.6	18.1	28.6	74.8		64.4	22.5		17.5	35.4	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	48.5	28.6	18.1	28.6	74.8		64.4	22.5		17.5	35.4	14.7
LOS	D	C	B	C	E		E	C		B	D	B
Approach Delay		34.7			63.8			38.9			26.5	
Approach LOS		C			E			D			C	
Queue Length 50th (ft)	113	14	107	12	56		179	115		14	167	213
Queue Length 95th (ft)	141	29	118	27	103		233	173		38	240	325
Internal Link Dist (ft)		2712			1086			6262			1113	
Turn Bay Length (ft)	470		805	90			550			305		325
Base Capacity (vph)	816	652	853	485	222		593	2982		551	2788	1054
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.32	0.03	0.25	0.04	0.26		0.61	0.19		0.06	0.23	0.43

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Offset: 20 (13%), Referenced to phase 2:NBSB and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 33.5		Intersection LOS: C	
Intersection Capacity Utilization 53.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: W Gate City Blvd & Mackay Rd

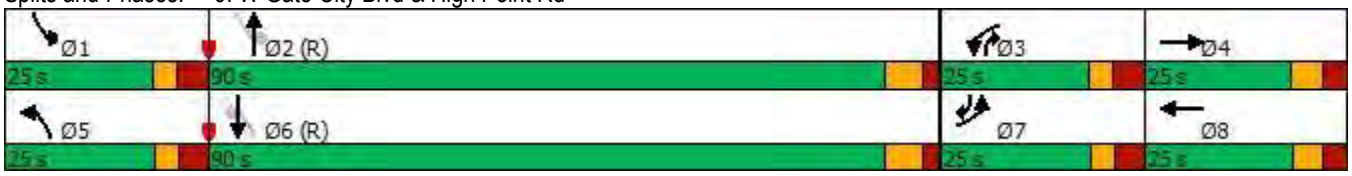


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	60	32	194	37	9	25	362	195	22	666	130
Future Volume (vph)	83	60	32	194	37	9	25	362	195	22	666	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	360		0	400		450	435		215
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.948			0.971				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1766	0	3433	1809	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.340			0.505		
Satd. Flow (perm)	3433	1766	0	3433	1809	0	633	5085	1583	941	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		746			1689			1193			1650	
Travel Time (s)		14.5			32.9			18.1			25.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	92	67	36	216	41	10	28	402	217	24	740	144
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	103	0	216	51	0	28	402	217	24	740	144
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases							6		2	2		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.7	42.0		13.9	13.9		13.7	18.9	13.9	13.8	18.9	13.7
Total Split (s)	25.0	25.0		25.0	25.0		25.0	90.0	25.0	25.0	90.0	25.0
Total Split (%)	15.2%	15.2%		15.2%	15.2%		15.2%	54.5%	15.2%	15.2%	54.5%	15.2%
Maximum Green (s)	18.3	18.0		18.1	18.1		18.3	83.1	18.1	18.2	83.1	18.3
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.7	3.2		3.9	3.1		3.7	2.2	3.9	3.8	2.2	3.7
Lost Time Adjust (s)	-1.7	-2.0		-1.9	-1.9		-1.7	-1.9	-1.9	-1.8	-1.9	-1.7
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Walk Time (s)		4.0										

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		31.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)	14.5	16.0		16.6	20.9		114.4	109.1	130.7	114.4	109.2	129.7
Actuated g/C Ratio	0.09	0.10		0.10	0.13		0.69	0.66	0.79	0.69	0.66	0.79
v/c Ratio	0.31	0.60		0.63	0.22		0.06	0.12	0.17	0.03	0.22	0.12
Control Delay	75.1	85.5		79.1	64.2		8.9	11.9	5.6	8.8	12.7	6.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.1	85.5		79.1	64.2		8.9	11.9	5.6	8.8	12.7	6.9
LOS	E	F		E	E		A	B	A	A	B	A
Approach Delay		80.6			76.3			9.6			11.7	
Approach LOS		F			E			A			B	
Queue Length 50th (ft)	50	109		117	50		8	61	59	7	121	44
Queue Length 95th (ft)	81	171		160	90		23	91	100	21	169	80
Internal Link Dist (ft)		666			1609			1113			1570	
Turn Bay Length (ft)	50			360			400		450	435		215
Base Capacity (vph)	448	217		419	254		588	3363	1288	770	3365	1311
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.47		0.52	0.20		0.05	0.12	0.17	0.03	0.22	0.11

Intersection Summary			
Area Type:	Other		
Cycle Length: 165			
Actuated Cycle Length: 165			
Offset: 54 (33%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 26.2		Intersection LOS: C	
Intersection Capacity Utilization 41.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: W Gate City Blvd & High Point Rd

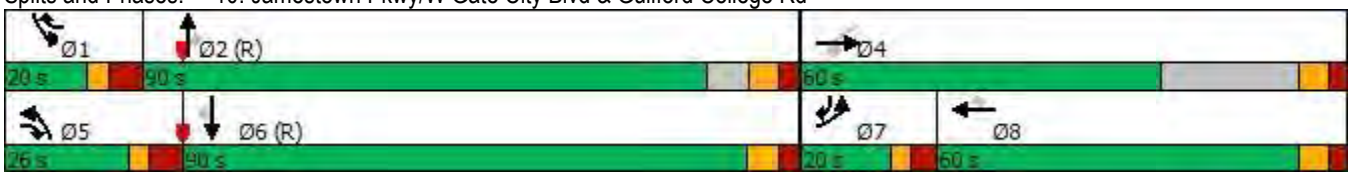


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	165	105	6	277	166	109	444	4	189	507	56
Future Volume (vph)	81	165	105	6	277	166	109	444	4	189	507	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430		445	355		285	415		335	395		335
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.577			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	1075	3539	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		3577			1802			3389			6342	
Travel Time (s)		54.2			27.3			51.3			96.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	90	183	117	7	308	184	121	493	4	210	563	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	90	183	117	7	308	184	121	493	4	210	563	62
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	5		8	1	5	2		1	6	7
Permitted Phases			4	4		8			2			6
Detector Phase	7	4	5	4	8	1	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	7.0
Minimum Split (s)	14.0	25.3	26.0	25.3	20.0	14.9	26.0	25.5	25.5	14.9	25.7	14.0
Total Split (s)	20.0	60.0	26.0	60.0	60.0	20.0	26.0	90.0	90.0	20.0	90.0	20.0
Total Split (%)	10.2%	30.6%	13.3%	30.6%	30.6%	10.2%	13.3%	45.9%	45.9%	10.2%	45.9%	10.2%
Maximum Green (s)	13.2	52.7	18.0	52.7	52.7	12.1	18.0	82.5	82.5	12.1	82.3	13.2
Yellow Time (s)	3.0	4.5	3.0	4.5	4.5	3.0	3.0	4.4	4.4	3.0	4.6	3.0
All-Red Time (s)	3.8	2.8	5.0	2.8	2.8	4.9	5.0	3.1	3.1	4.9	3.1	3.8
Lost Time Adjust (s)	-1.8	-2.3	-3.0	-2.3	-2.3	-2.9	-3.0	-2.5	-2.5	-2.9	-2.7	-1.8
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	6.0	2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	0.0	30.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0		7.0				7.0	7.0		7.0	
Flash Dont Walk (s)		11.0		11.0				11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0		0				0	0		0	
Act Effct Green (s)	11.4	40.5	59.7	40.5	24.1	48.5	14.2	121.1	121.1	19.4	126.3	142.7
Actuated g/C Ratio	0.06	0.21	0.30	0.21	0.12	0.25	0.07	0.62	0.62	0.10	0.64	0.73
v/c Ratio	0.45	0.25	0.24	0.03	0.71	0.47	0.49	0.16	0.00	0.62	0.17	0.05
Control Delay	96.1	64.8	50.8	58.7	91.5	65.9	93.7	16.9	18.0	92.6	14.9	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.1	64.8	50.8	58.7	91.5	65.9	93.7	16.9	18.0	92.6	14.9	8.7
LOS	F	E	D	E	F	E	F	B	B	F	B	A
Approach Delay		67.8			81.6			31.9			34.0	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)	59	105	115	7	204	205	78	95	2	136	102	21
Queue Length 95th (ft)	92	137	160	23	255	274	116	137	9	182	145	45
Internal Link Dist (ft)		3497			1722			3309			6262	
Turn Bay Length (ft)	430		445	355		285	415		335	395		335
Base Capacity (vph)	262	1354	537	411	993	391	367	3142	978	339	3276	1181
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.14	0.22	0.02	0.31	0.47	0.33	0.16	0.00	0.62	0.17	0.05

Intersection Summary			
Area Type:	Other		
Cycle Length: 196			
Actuated Cycle Length: 196			
Offset: 20 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 49.2		Intersection LOS: D	
Intersection Capacity Utilization 46.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd



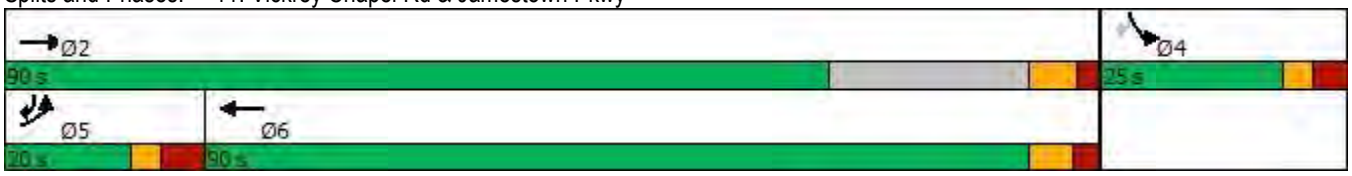


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	91	143	178	16	22	104
Future Volume (vph)	91	143	178	16	22	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	445			575	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	100				100	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	3539	1863	1583	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	3539	1863	1583	3433	1583
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		45	
Link Distance (ft)		638	755		3389	
Travel Time (s)		12.4	14.7		51.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	101	159	198	18	24	116
Shared Lane Traffic (%)						
Lane Group Flow (vph)	101	159	198	18	24	116
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		48	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Free	Prot	pm+ov
Protected Phases	5	2	6		4	5
Permitted Phases				Free		4
Detector Phase	5	2	6		4	5
Switch Phase						
Minimum Initial (s)	7.0	12.0	12.0		7.0	7.0
Minimum Split (s)	14.4	20.0	20.0		20.0	14.4
Total Split (s)	20.0	90.0	90.0		25.0	20.0
Total Split (%)	14.8%	66.7%	66.7%		18.5%	14.8%
Maximum Green (s)	12.6	82.8	82.9		18.3	12.6
Yellow Time (s)	3.0	4.8	4.3		3.0	3.0
All-Red Time (s)	4.4	2.4	2.8		3.7	4.4
Lost Time Adjust (s)	-2.4	-2.2	-2.1		-1.7	-2.4
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	6.0	6.0		2.0	2.0
Minimum Gap (s)	3.0	3.0	3.0		3.0	3.0
Time Before Reduce (s)	0.0	15.0	15.0		0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Time To Reduce (s)	0.0	30.0	30.0		0.0	0.0
Recall Mode	None	Min	Min		None	None
Act Effct Green (s)	9.6	35.4	16.4	38.5	8.9	11.9
Actuated g/C Ratio	0.25	0.92	0.43	1.00	0.23	0.31
v/c Ratio	0.12	0.05	0.25	0.01	0.03	0.24
Control Delay	12.2	1.6	9.9	0.0	12.9	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.2	1.6	9.9	0.0	12.9	9.7
LOS	B	A	A	A	B	A
Approach Delay		5.7	9.1		10.2	
Approach LOS		A	A		B	
Queue Length 50th (ft)	6	0	21	0	1	16
Queue Length 95th (ft)	26	15	84	0	10	36
Internal Link Dist (ft)		558	675		3309	
Turn Bay Length (ft)	445			575		
Base Capacity (vph)	1370	3539	1863	1583	1827	723
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.04	0.11	0.01	0.01	0.16

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 38.5			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.25			
Intersection Signal Delay: 7.9		Intersection LOS: A	
Intersection Capacity Utilization 34.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Vickrey Chapel Rd & Jamestown Pkwy



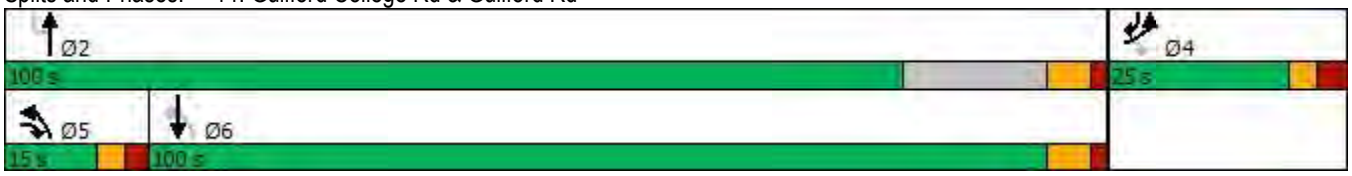


Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	588	78	155	320	1	326	696
Future Volume (vph)	588	78	155	320	1	326	696
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	195	135	140		125		330
Storage Lanes	1	1	1		1		1
Taper Length (ft)	100		100		100		
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	0.95	1.00
Frt		0.850					0.850
Flt Protected	0.950		0.950		0.950		
Satd. Flow (prot)	3433	1583	1770	3539	1770	3539	1583
Flt Permitted	0.950		0.533		0.539		
Satd. Flow (perm)	3433	1583	993	3539	1004	3539	1583
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	35			45		45	
Link Distance (ft)	471			1464		1684	
Travel Time (s)	9.2			22.2		25.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	653	87	172	356	1	362	773
Shared Lane Traffic (%)							
Lane Group Flow (vph)	653	87	172	356	1	362	773
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right
Median Width(ft)	24			12		12	
Link Offset(ft)	0			0		0	
Crosswalk Width(ft)	16			16		16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15		9		9
Turn Type	Prot	pm+ov	D.P+P	NA	D.Pm	NA	pm+ov
Protected Phases	4	5	5	2		6	4
Permitted Phases		4	6		2		6
Detector Phase	4	5	5	2	2	6	4
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	12.0	7.0
Minimum Split (s)	20.0	14.0	14.0	20.0	20.0	41.5	20.0
Total Split (s)	25.0	15.0	15.0	100.0	100.0	100.0	25.0
Total Split (%)	17.9%	10.7%	10.7%	71.4%	71.4%	71.4%	17.9%
Maximum Green (s)	18.7	9.6	9.6	93.5	93.5	93.5	18.7
Yellow Time (s)	3.0	3.0	3.0	4.6	4.6	4.6	3.0
All-Red Time (s)	3.3	2.4	2.4	1.9	1.9	1.9	3.3
Lost Time Adjust (s)	-1.3	-0.4	-0.4	-1.5	-1.5	-1.5	-1.3
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead			Lag	
Lead-Lag Optimize?		Yes	Yes			Yes	
Vehicle Extension (s)	1.0	1.0	1.0	6.0	6.0	6.0	1.0
Recall Mode	None	None	None	Min	Min	Min	None
Walk Time (s)						7.0	

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Flash Dont Walk (s)						28.0	
Pedestrian Calls (#/hr)						0	
Act Effct Green (s)	20.0	32.8	21.4	26.4	26.4	13.6	38.6
Actuated g/C Ratio	0.35	0.58	0.38	0.47	0.47	0.24	0.68
v/c Ratio	0.54	0.09	0.36	0.21	0.00	0.42	0.71
Control Delay	16.6	5.6	11.4	9.3	8.0	20.0	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.6	5.6	11.4	9.3	8.0	20.0	10.3
LOS	B	A	B	A	A	B	B
Approach Delay	15.3			10.0		13.4	
Approach LOS	B			A		B	
Queue Length 50th (ft)	86	11	32	34	0	53	120
Queue Length 95th (ft)	137	27	62	56	2	90	258
Internal Link Dist (ft)	391			1384		1604	
Turn Bay Length (ft)	195	135	140		125		330
Base Capacity (vph)	1217	982	553	3539	1004	3539	1084
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.09	0.31	0.10	0.00	0.10	0.71

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 56.4			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 13.2		Intersection LOS: B	
Intersection Capacity Utilization 60.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 14: Guilford College Rd & Guilford Rd



2025 Background Traffic Volumes

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	143	300	5	4	20
Future Vol, veh/h	6	143	300	5	4	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	159	333	6	4	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	339	0	-	0	509	336
Stage 1	-	-	-	-	336	-
Stage 2	-	-	-	-	173	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1220	-	-	-	524	706
Stage 1	-	-	-	-	724	-
Stage 2	-	-	-	-	857	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1220	-	-	-	521	706
Mov Cap-2 Maneuver	-	-	-	-	521	-
Stage 1	-	-	-	-	720	-
Stage 2	-	-	-	-	857	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1220	-	-	-	667
HCM Lane V/C Ratio	0.005	-	-	-	0.04
HCM Control Delay (s)	8	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	146	276	4	9	27
Future Vol, veh/h	4	146	276	4	9	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	160	-	-	235	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	162	307	4	10	30

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	311	0	-	0	477	307
Stage 1	-	-	-	-	307	-
Stage 2	-	-	-	-	170	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1249	-	-	-	547	733
Stage 1	-	-	-	-	746	-
Stage 2	-	-	-	-	860	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1249	-	-	-	545	733
Mov Cap-2 Maneuver	-	-	-	-	545	-
Stage 1	-	-	-	-	744	-
Stage 2	-	-	-	-	860	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1249	-	-	-	675
HCM Lane V/C Ratio	0.004	-	-	-	0.059
HCM Control Delay (s)	7.9	-	-	-	10.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	146	249	5	27	30
Future Vol, veh/h	6	146	249	5	27	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	162	277	6	30	33

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	283	0	-	0	453	277
Stage 1	-	-	-	-	277	-
Stage 2	-	-	-	-	176	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1279	-	-	-	565	762
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	855	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1279	-	-	-	562	762
Mov Cap-2 Maneuver	-	-	-	-	562	-
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	855	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1279	-	-	-	652
HCM Lane V/C Ratio	0.005	-	-	-	0.097
HCM Control Delay (s)	7.8	-	-	-	11.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	170	227	4	12	27
Future Vol, veh/h	9	170	227	4	12	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	115	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	189	252	4	13	30

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	256	0	-	0	461	126
Stage 1	-	-	-	-	252	-
Stage 2	-	-	-	-	209	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1307	-	-	-	544	901
Stage 1	-	-	-	-	767	-
Stage 2	-	-	-	-	825	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1307	-	-	-	540	901
Mov Cap-2 Maneuver	-	-	-	-	540	-
Stage 1	-	-	-	-	761	-
Stage 2	-	-	-	-	825	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1307	-	-	-	747
HCM Lane V/C Ratio	0.008	-	-	-	0.058
HCM Control Delay (s)	7.8	-	-	-	10.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.2

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	0	492	4	4	325	4	4
Future Vol, veh/h	0	492	4	4	325	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	410	-	75	365	-	125	0
Veh in Median Storage, #	-	0	-	-	0	0	-
Grade, %	-	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	547	4	4	361	4	4

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	361	0	0	551	0	736	274
Stage 1	-	-	-	-	-	547	-
Stage 2	-	-	-	-	-	189	-
Critical Hdwy	6.44	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.52	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	848	-	-	1015	-	354	724
Stage 1	-	-	-	-	-	544	-
Stage 2	-	-	-	-	-	824	-
Platoon blocked, %		-	-		-		
Mov Cap-1 Maneuver	848	-	-	1015	-	353	724
Mov Cap-2 Maneuver	-	-	-	-	-	353	-
Stage 1	-	-	-	-	-	544	-
Stage 2	-	-	-	-	-	821	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT
Capacity (veh/h)	353	724	848	-	-	1015	-
HCM Lane V/C Ratio	0.013	0.006	-	-	-	0.004	-
HCM Control Delay (s)	15.3	10	0	-	-	8.6	-
HCM Lane LOS	C	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	12	28	16	661	2	872	10
Future Vol, veh/h	12	28	16	661	2	872	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	135	-	130	-	130
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	13	31	18	734	2	969	11

Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	1376	485	980	0	734	-	0
Stage 1	973	-	-	-	-	-	-
Stage 2	403	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	6.44	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	2.52	-	-
Pot Cap-1 Maneuver	136	528	700	-	491	-	-
Stage 1	327	-	-	-	-	-	-
Stage 2	644	-	-	-	-	-	-
Platoon blocked, %				-		-	-
Mov Cap-1 Maneuver	132	528	700	-	491	-	-
Mov Cap-2 Maneuver	132	-	-	-	-	-	-
Stage 1	318	-	-	-	-	-	-
Stage 2	641	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.4	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	700	-	278	491	-	-
HCM Lane V/C Ratio	0.025	-	0.16	0.005	-	-
HCM Control Delay (s)	10.3	-	20.4	12.4	-	-
HCM Lane LOS	B	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	0	-	-

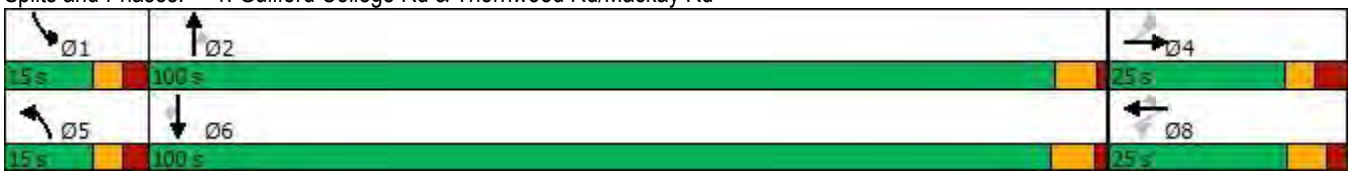
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	8	53	155	4	150	18	583	70	54	631	14
Future Volume (vph)	47	8	53	155	4	150	18	583	70	54	631	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	190		190	120		205	310		150
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.870				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1621	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.755			0.713			0.950			0.950		
Satd. Flow (perm)	1406	1621	0	1328	1863	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			40			45			45	
Link Distance (ft)		1208			556			1538			1743	
Travel Time (s)		32.9			9.5			23.3			26.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	52	9	59	172	4	167	20	648	78	60	701	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	68	0	172	4	167	20	648	78	60	701	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	13.6	13.6		13.5	13.5	13.5	12.8	17.7	17.7	12.8	18.1	18.1
Total Split (s)	25.0	25.0		25.0	25.0	25.0	15.0	100.0	100.0	15.0	100.0	100.0
Total Split (%)	17.9%	17.9%		17.9%	17.9%	17.9%	10.7%	71.4%	71.4%	10.7%	71.4%	71.4%
Maximum Green (s)	18.4	18.4		18.5	18.5	18.5	9.2	94.3	94.3	9.2	93.9	93.9
Yellow Time (s)	3.1	3.1		4.2	4.2	4.2	3.0	4.4	4.4	3.0	4.6	4.6
All-Red Time (s)	3.5	3.5		2.3	2.3	2.3	2.8	1.3	1.3	2.8	1.5	1.5
Lost Time Adjust (s)	-1.6	-1.6		-1.5	-1.5	-1.5	-0.8	-0.7	-0.7	-0.8	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	6.0	6.0	1.0	6.0	6.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0

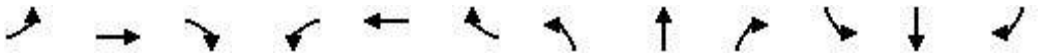
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	45.0	45.0	0.0	45.0	45.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	15.2	15.2		15.2	15.2	15.2	8.3	18.7	18.7	8.4	23.3	23.3
Actuated g/C Ratio	0.30	0.30		0.30	0.30	0.30	0.16	0.37	0.37	0.16	0.46	0.46
v/c Ratio	0.12	0.14		0.44	0.01	0.36	0.07	0.50	0.13	0.21	0.43	0.02
Control Delay	17.7	17.6		22.0	17.0	19.9	25.0	15.5	13.8	25.7	11.1	9.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.7	17.6		22.0	17.0	19.9	25.0	15.5	13.8	25.7	11.1	9.6
LOS	B	B		C	B	B	C	B	B	C	B	A
Approach Delay		17.7			20.9			15.6			12.2	
Approach LOS		B			C			B			B	
Queue Length 50th (ft)	13	17		48	1	45	6	93	18	18	62	2
Queue Length 95th (ft)	40	49		113	7	105	25	146	46	54	156	15
Internal Link Dist (ft)		1128			476			1458			1663	
Turn Bay Length (ft)	75			190		190	120		205	310		150
Base Capacity (vph)	586	676		554	777	660	369	3539	1583	369	3539	1583
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.10		0.31	0.01	0.25	0.05	0.18	0.05	0.16	0.20	0.01

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 51.1
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.50
Intersection Signal Delay: 15.3 Intersection LOS: B
Intersection Capacity Utilization 51.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: Guilford College Rd & Thornwood Rd/Mackay Rd





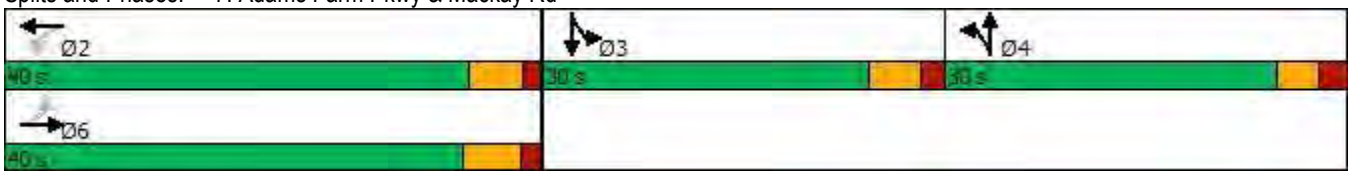
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	199	6	27	79	209	36	27	126	435	5	71
Future Volume (vph)	53	199	6	27	79	209	36	27	126	435	5	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	195		0	0		0	140		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.891			0.910			0.861	
Flt Protected	0.950			0.950				0.991		0.950		
Satd. Flow (prot)	1770	1853	0	1770	1660	0	0	1680	0	1770	1604	0
Flt Permitted	0.371			0.525				0.991		0.950		
Satd. Flow (perm)	691	1853	0	978	1660	0	0	1680	0	1770	1604	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		1572			2792			867			1221	
Travel Time (s)		26.8			47.6			23.6			23.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	59	221	7	30	88	232	40	30	140	483	6	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	228	0	30	320	0	0	210	0	483	85	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		6			2		4	4		3	3	
Permitted Phases	6			2								
Detector Phase	6	6		2	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		26.3	26.3		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	34.1	34.1		34.5	34.5		24.7	24.7		24.3	24.3	
Yellow Time (s)	4.3	4.3		4.1	4.1		3.1	3.1		3.9	3.9	
All-Red Time (s)	1.6	1.6		1.4	1.4		2.2	2.2		1.8	1.8	
Lost Time Adjust (s)	-0.9	-0.9		-0.5	-0.5			-0.3		-0.7	-0.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)							7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)							14.0	14.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)	19.7	19.7		19.7	19.7			14.1		25.5	25.5	
Actuated g/C Ratio	0.26	0.26		0.26	0.26			0.19		0.34	0.34	
v/c Ratio	0.32	0.47		0.12	0.73			0.66		0.80	0.16	
Control Delay	28.3	26.9		22.7	36.2			39.3		37.0	21.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	28.3	26.9		22.7	36.2			39.3		37.0	21.8	
LOS	C	C		C	D			D		D	C	
Approach Delay		27.2			35.0			39.3			34.7	
Approach LOS		C			D			D			C	
Queue Length 50th (ft)	21	86		10	132			87		189	26	
Queue Length 95th (ft)	59	165		33	244			178		#490	77	
Internal Link Dist (ft)		1492			2712			787			1141	
Turn Bay Length (ft)	170			195						140		
Base Capacity (vph)	330	886		467	793			574		604	547	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.18	0.26		0.06	0.40			0.37		0.80	0.16	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 74.5
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 33.9 Intersection LOS: C
Intersection Capacity Utilization 80.6% ICU Level of Service D
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Adams Farm Pkwy & Mackay Rd

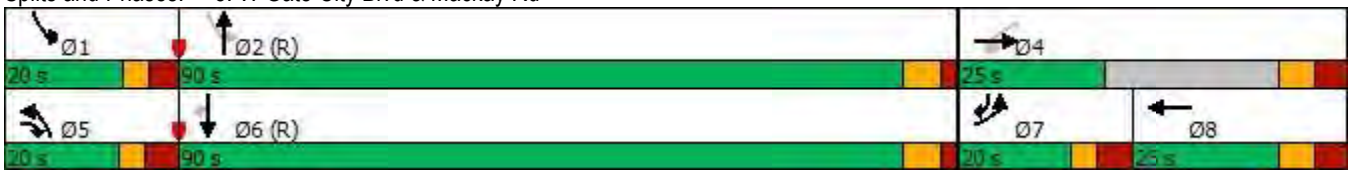


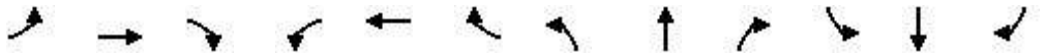
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	310	34	298	66	37	42	177	398	62	73	569	150
Future Volume (vph)	310	34	298	66	37	42	177	398	62	73	569	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		805	90		0	550		0	305		325
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Frt			0.850		0.920			0.980				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1714	0	3433	4984	0	1770	5085	1583
Flt Permitted	0.950			0.732			0.950			0.437		
Satd. Flow (perm)	3433	1863	1583	1364	1714	0	3433	4984	0	814	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		2792			1166			6342			1193	
Travel Time (s)		47.6			31.8			96.1			18.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	344	38	331	73	41	47	197	442	69	81	632	167
Shared Lane Traffic (%)												
Lane Group Flow (vph)	344	38	331	73	88	0	197	511	0	81	632	167
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA		Prot	NA		D.P+P	NA	pm+ov
Protected Phases	7	4	5		8		5	2		1	6	7
Permitted Phases			4	4						2		6
Detector Phase	7	4	5	4	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	14.1	50.1	14.0	50.1	54.1		14.0	29.5		14.0	35.5	14.1
Total Split (s)	20.0	25.0	20.0	25.0	25.0		20.0	90.0		20.0	90.0	20.0
Total Split (%)	12.9%	16.1%	12.9%	16.1%	16.1%		12.9%	58.1%		12.9%	58.1%	12.9%
Maximum Green (s)	12.9	16.9	13.1	16.9	16.9		13.1	83.5		13.6	83.5	12.9
Yellow Time (s)	3.0	4.1	3.0	4.1	4.1		3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	4.1	4.0	3.9	4.0	4.0		3.9	2.0		3.4	2.0	4.1
Lost Time Adjust (s)	-2.1	-3.1	-1.9	-3.1	-3.1		-1.9	-1.5		-1.4	-1.5	-2.1
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	6.0		2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		34.0		34.0	39.0			16.0			22.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	25.0	45.4	64.2	45.4	15.4		13.8	85.4		94.6	80.8	110.7
Actuated g/C Ratio	0.16	0.29	0.41	0.29	0.10		0.09	0.55		0.61	0.52	0.71
v/c Ratio	0.62	0.07	0.51	0.18	0.52		0.64	0.19		0.15	0.24	0.15
Control Delay	66.0	38.0	35.8	40.9	76.3		78.0	18.3		12.0	21.4	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	66.0	38.0	35.8	40.9	76.3		78.0	18.3		12.0	21.4	8.2
LOS	E	D	D	D	E		E	B		B	C	A
Approach Delay		50.5			60.2			34.9			18.0	
Approach LOS		D			E			C			B	
Queue Length 50th (ft)	170	28	247	56	86		101	90		29	125	50
Queue Length 95th (ft)	222	55	308	94	142		143	130		58	172	91
Internal Link Dist (ft)		2712			1086			6262			1113	
Turn Bay Length (ft)	470		805	90			550			305		325
Base Capacity (vph)	552	546	670	400	222		338	2816		614	2820	1130
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.62	0.07	0.49	0.18	0.40		0.58	0.18		0.13	0.22	0.15

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Offset: 20 (13%), Referenced to phase 2:NBSB and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 35.0		Intersection LOS: D	
Intersection Capacity Utilization 47.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: W Gate City Blvd & Mackay Rd



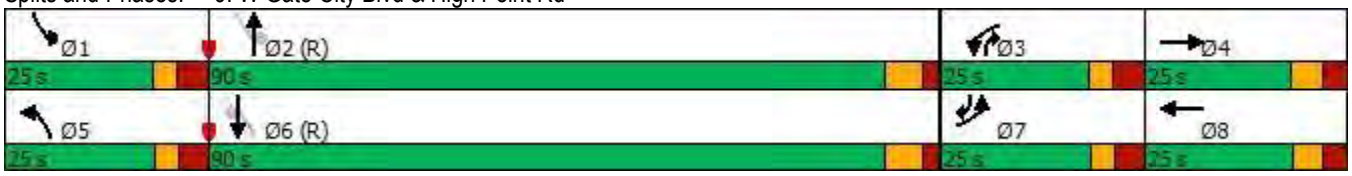


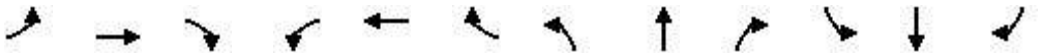
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	11	8	134	12	11	8	488	170	10	473	39
Future Volume (vph)	64	11	8	134	12	11	8	488	170	10	473	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	360		0	400		450	435		215
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.936			0.928				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1744	0	3433	1729	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.445			0.438		
Satd. Flow (perm)	3433	1744	0	3433	1729	0	829	5085	1583	816	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		746			1689			1193			1650	
Travel Time (s)		14.5			32.9			18.1			25.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	71	12	9	149	13	12	9	542	189	11	526	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	71	21	0	149	25	0	9	542	189	11	526	43
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases							6		2	2		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.7	42.0		13.9	13.9		13.7	18.9	13.9	13.8	18.9	13.7
Total Split (s)	25.0	25.0		25.0	25.0		25.0	90.0	25.0	25.0	90.0	25.0
Total Split (%)	15.2%	15.2%		15.2%	15.2%		15.2%	54.5%	15.2%	15.2%	54.5%	15.2%
Maximum Green (s)	18.3	18.0		18.1	18.1		18.3	83.1	18.1	18.2	83.1	18.3
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.7	3.2		3.9	3.1		3.7	2.2	3.9	3.8	2.2	3.7
Lost Time Adjust (s)	-1.7	-2.0		-1.9	-1.9		-1.7	-1.9	-1.9	-1.8	-1.9	-1.7
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Walk Time (s)		4.0										

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		31.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)	10.8	9.5		13.4	12.1		130.7	127.2	147.6	130.7	127.2	145.0
Actuated g/C Ratio	0.07	0.06		0.08	0.07		0.79	0.77	0.89	0.79	0.77	0.88
v/c Ratio	0.32	0.21		0.53	0.20		0.01	0.14	0.13	0.02	0.13	0.03
Control Delay	77.5	79.1		79.5	74.2		5.1	6.5	2.6	5.0	6.4	3.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.5	79.1		79.5	74.2		5.1	6.5	2.6	5.0	6.4	3.5
LOS	E	E		E	E		A	A	A	A	A	A
Approach Delay		77.8			78.7			5.5			6.2	
Approach LOS		E			E			A			A	
Queue Length 50th (ft)	38	22		80	26		2	48	19	2	46	5
Queue Length 95th (ft)	66	53		119	59		8	95	64	8	93	21
Internal Link Dist (ft)		666			1609			1113			1570	
Turn Bay Length (ft)	50			360			400		450	435		215
Base Capacity (vph)	416	211		416	209		780	3919	1444	771	3920	1445
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.10		0.36	0.12		0.01	0.14	0.13	0.01	0.13	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 165			
Actuated Cycle Length: 165			
Offset: 54 (33%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay: 18.0		Intersection LOS: B	
Intersection Capacity Utilization 34.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: W Gate City Blvd & High Point Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	239	131	4	216	166	99	452	6	170	670	32
Future Volume (vph)	68	239	131	4	216	166	99	452	6	170	670	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430		445	355		285	415		335	395		335
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.448			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	835	3539	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		3577			1802			3389			6342	
Travel Time (s)		54.2			27.3			51.3			96.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	76	266	146	4	240	184	110	502	7	189	744	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	266	146	4	240	184	110	502	7	189	744	36
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	5		8	1	5	2		1	6	7
Permitted Phases			4	4		8			2			6
Detector Phase	7	4	5	4	8	1	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	7.0
Minimum Split (s)	14.0	25.3	26.0	25.3	20.0	14.9	26.0	25.5	25.5	14.9	25.7	14.0
Total Split (s)	20.0	60.0	26.0	60.0	60.0	20.0	26.0	90.0	90.0	20.0	90.0	20.0
Total Split (%)	10.2%	30.6%	13.3%	30.6%	30.6%	10.2%	13.3%	45.9%	45.9%	10.2%	45.9%	10.2%
Maximum Green (s)	13.2	52.7	18.0	52.7	52.7	12.1	18.0	82.5	82.5	12.1	82.3	13.2
Yellow Time (s)	3.0	4.5	3.0	4.5	4.5	3.0	3.0	4.4	4.4	3.0	4.6	3.0
All-Red Time (s)	3.8	2.8	5.0	2.8	2.8	4.9	5.0	3.1	3.1	4.9	3.1	3.8
Lost Time Adjust (s)	-1.8	-2.3	-3.0	-2.3	-2.3	-2.9	-3.0	-2.5	-2.5	-2.9	-2.7	-1.8
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	6.0	2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	0.0	30.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0		7.0				7.0	7.0		7.0	
Flash Dont Walk (s)		11.0		11.0				11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0		0				0	0		0	
Act Effct Green (s)	10.7	35.8	54.3	35.8	20.1	42.9	13.5	127.3	127.3	17.8	131.7	147.4
Actuated g/C Ratio	0.05	0.18	0.28	0.18	0.10	0.22	0.07	0.65	0.65	0.09	0.67	0.75
v/c Ratio	0.41	0.41	0.33	0.03	0.66	0.53	0.47	0.15	0.01	0.61	0.22	0.03
Control Delay	95.6	72.0	57.3	62.5	93.4	72.5	93.9	14.2	14.8	93.8	13.1	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.6	72.0	57.3	62.5	93.4	72.5	93.9	14.2	14.8	93.8	13.1	7.2
LOS	F	E	E	E	F	E	F	B	B	F	B	A
Approach Delay		71.3			84.2			28.4			28.6	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)	50	162	152	4	160	213	71	88	3	123	128	11
Queue Length 95th (ft)	80	203	208	17	207	288	108	126	12	167	176	26
Internal Link Dist (ft)		3497			1722			3309			6262	
Turn Bay Length (ft)	430		445	355		285	415		335	395		335
Base Capacity (vph)	262	1354	499	319	993	348	367	3303	1028	316	3416	1225
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.20	0.29	0.01	0.24	0.53	0.30	0.15	0.01	0.60	0.22	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 196			
Actuated Cycle Length: 196			
Offset: 20 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 46.4		Intersection LOS: D	
Intersection Capacity Utilization 47.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd



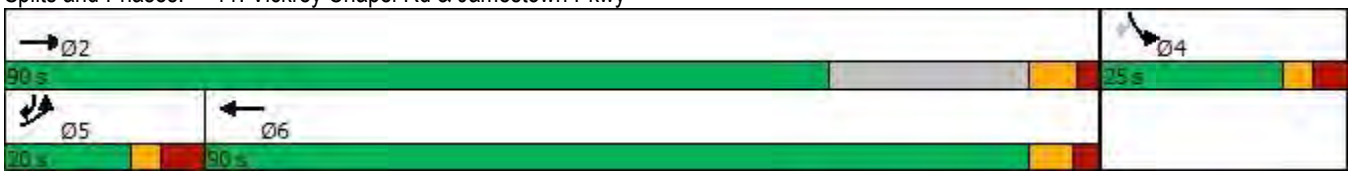


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	158	178	213	21	15	212
Future Volume (vph)	158	178	213	21	15	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	445			575	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	100				100	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	3539	1863	1583	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	3539	1863	1583	3433	1583
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		45	
Link Distance (ft)		638	755		3389	
Travel Time (s)		12.4	14.7		51.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	176	198	237	23	17	236
Shared Lane Traffic (%)						
Lane Group Flow (vph)	176	198	237	23	17	236
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		48	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Free	Prot	pm+ov
Protected Phases	5	2	6		4	5
Permitted Phases				Free		4
Detector Phase	5	2	6		4	5
Switch Phase						
Minimum Initial (s)	7.0	12.0	12.0		7.0	7.0
Minimum Split (s)	14.4	20.0	20.0		20.0	14.4
Total Split (s)	20.0	90.0	90.0		25.0	20.0
Total Split (%)	14.8%	66.7%	66.7%		18.5%	14.8%
Maximum Green (s)	12.6	82.8	82.9		18.3	12.6
Yellow Time (s)	3.0	4.8	4.3		3.0	3.0
All-Red Time (s)	4.4	2.4	2.8		3.7	4.4
Lost Time Adjust (s)	-2.4	-2.2	-2.1		-1.7	-2.4
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	6.0	6.0		2.0	2.0
Minimum Gap (s)	3.0	3.0	3.0		3.0	3.0
Time Before Reduce (s)	0.0	15.0	15.0		0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Time To Reduce (s)	0.0	30.0	30.0		0.0	0.0
Recall Mode	None	Min	Min		None	None
Act Effct Green (s)	10.7	34.5	14.4	37.4	8.9	12.8
Actuated g/C Ratio	0.29	0.92	0.39	1.00	0.24	0.34
v/c Ratio	0.18	0.06	0.33	0.01	0.02	0.44
Control Delay	12.1	1.5	11.2	0.0	13.5	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.1	1.5	11.2	0.0	13.5	11.8
LOS	B	A	B	A	B	B
Approach Delay		6.5	10.2		11.9	
Approach LOS		A	B		B	
Queue Length 50th (ft)	11	0	30	0	1	35
Queue Length 95th (ft)	41	18	103	0	8	70
Internal Link Dist (ft)		558	675		3309	
Turn Bay Length (ft)	445			575		
Base Capacity (vph)	1403	3539	1863	1583	1871	736
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.06	0.13	0.01	0.01	0.32

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 37.4			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.44			
Intersection Signal Delay: 9.1		Intersection LOS: A	
Intersection Capacity Utilization 35.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Vickrey Chapel Rd & Jamestown Pkwy



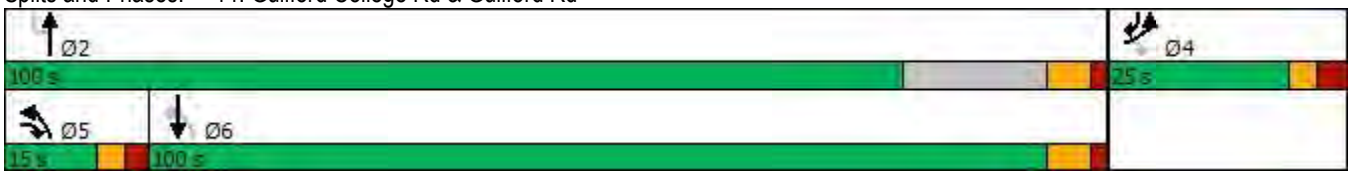


Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	502	114	60	265	3	378	543
Future Volume (vph)	502	114	60	265	3	378	543
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	195	135	140		125		330
Storage Lanes	1	1	1		1		1
Taper Length (ft)	100		100		100		
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	0.95	1.00
Frt		0.850					0.850
Flt Protected	0.950		0.950		0.950		
Satd. Flow (prot)	3433	1583	1770	3539	1770	3539	1583
Flt Permitted	0.950		0.479		0.572		
Satd. Flow (perm)	3433	1583	892	3539	1065	3539	1583
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	35			45		45	
Link Distance (ft)	471			1464		1684	
Travel Time (s)	9.2			22.2		25.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	558	127	67	294	3	420	603
Shared Lane Traffic (%)							
Lane Group Flow (vph)	558	127	67	294	3	420	603
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right
Median Width(ft)	24			12		12	
Link Offset(ft)	0			0		0	
Crosswalk Width(ft)	16			16		16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15		9		9
Turn Type	Prot	pm+ov	D.P+P	NA	D.Pm	NA	pm+ov
Protected Phases	4	5	5	2		6	4
Permitted Phases		4	6		2		6
Detector Phase	4	5	5	2	2	6	4
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	12.0	7.0
Minimum Split (s)	20.0	14.0	14.0	20.0	20.0	41.5	20.0
Total Split (s)	25.0	15.0	15.0	100.0	100.0	100.0	25.0
Total Split (%)	17.9%	10.7%	10.7%	71.4%	71.4%	71.4%	17.9%
Maximum Green (s)	18.7	9.6	9.6	93.5	93.5	93.5	18.7
Yellow Time (s)	3.0	3.0	3.0	4.6	4.6	4.6	3.0
All-Red Time (s)	3.3	2.4	2.4	1.9	1.9	1.9	3.3
Lost Time Adjust (s)	-1.3	-0.4	-0.4	-1.5	-1.5	-1.5	-1.3
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead			Lag	
Lead-Lag Optimize?		Yes	Yes			Yes	
Vehicle Extension (s)	1.0	1.0	1.0	6.0	6.0	6.0	1.0
Recall Mode	None	None	None	Min	Min	Min	None
Walk Time (s)						7.0	

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Flash Dont Walk (s)						28.0	
Pedestrian Calls (#/hr)						0	
Act Effct Green (s)	18.3	30.7	21.4	26.4	26.4	14.0	37.3
Actuated g/C Ratio	0.33	0.56	0.39	0.48	0.48	0.26	0.68
v/c Ratio	0.49	0.14	0.14	0.17	0.01	0.46	0.56
Control Delay	16.5	6.6	8.2	8.0	6.7	18.8	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.5	6.6	8.2	8.0	6.7	18.8	7.0
LOS	B	A	A	A	A	B	A
Approach Delay	14.7			8.1		11.8	
Approach LOS	B			A		B	
Queue Length 50th (ft)	71	17	11	26	1	60	77
Queue Length 95th (ft)	118	41	25	41	3	92	141
Internal Link Dist (ft)	391			1384		1604	
Turn Bay Length (ft)	195	135	140		125		330
Base Capacity (vph)	1255	963	552	3539	1065	3539	1129
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.13	0.12	0.08	0.00	0.12	0.53

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 54.7			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 12.1		Intersection LOS: B	
Intersection Capacity Utilization 47.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 14: Guilford College Rd & Guilford Rd



Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	334	239	6	4	11
Future Vol, veh/h	10	334	239	6	4	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	371	266	7	4	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	273	0	-	0	663	270
Stage 1	-	-	-	-	270	-
Stage 2	-	-	-	-	393	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1290	-	-	-	426	769
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	682	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1290	-	-	-	421	769
Mov Cap-2 Maneuver	-	-	-	-	421	-
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	682	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1290	-	-	-	630
HCM Lane V/C Ratio	0.009	-	-	-	0.026
HCM Control Delay (s)	7.8	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	323	241	12	8	8
Future Vol, veh/h	15	323	241	12	8	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	160	-	-	235	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	359	268	13	9	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	281	0	-	0	661	268
Stage 1	-	-	-	-	268	-
Stage 2	-	-	-	-	393	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1282	-	-	-	427	771
Stage 1	-	-	-	-	777	-
Stage 2	-	-	-	-	682	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1282	-	-	-	421	771
Mov Cap-2 Maneuver	-	-	-	-	421	-
Stage 1	-	-	-	-	767	-
Stage 2	-	-	-	-	682	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1282	-	-	-	545
HCM Lane V/C Ratio	0.013	-	-	-	0.033
HCM Control Delay (s)	7.8	-	-	-	11.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	24	304	239	26	11	8
Future Vol, veh/h	24	304	239	26	11	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	338	266	29	12	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	295	0	-	0	658	266
Stage 1	-	-	-	-	266	-
Stage 2	-	-	-	-	392	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1266	-	-	-	429	773
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	683	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1266	-	-	-	420	773
Mov Cap-2 Maneuver	-	-	-	-	420	-
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	683	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1266	-	-	-	520
HCM Lane V/C Ratio	0.021	-	-	-	0.041
HCM Control Delay (s)	7.9	-	-	-	12.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	300	255	36	10	11
Future Vol, veh/h	19	300	255	36	10	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	115	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	333	283	40	11	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	323	0	-	0	658	142
Stage 1	-	-	-	-	283	-
Stage 2	-	-	-	-	375	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1235	-	-	-	413	880
Stage 1	-	-	-	-	741	-
Stage 2	-	-	-	-	694	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1235	-	-	-	406	880
Mov Cap-2 Maneuver	-	-	-	-	406	-
Stage 1	-	-	-	-	728	-
Stage 2	-	-	-	-	694	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1235	-	-	-	566
HCM Lane V/C Ratio	0.017	-	-	-	0.041
HCM Control Delay (s)	8	-	-	-	11.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	0	420	4	4	494	4	4
Future Vol, veh/h	0	420	4	4	494	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	410	-	75	365	-	125	0
Veh in Median Storage, #	-	0	-	-	0	0	-
Grade, %	-	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	467	4	4	549	4	4

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	549	0	0	471	0	750	234
Stage 1	-	-	-	-	-	467	-
Stage 2	-	-	-	-	-	283	-
Critical Hdwy	6.44	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.52	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	644	-	-	1087	-	347	768
Stage 1	-	-	-	-	-	597	-
Stage 2	-	-	-	-	-	740	-
Platoon blocked, %		-	-		-		
Mov Cap-1 Maneuver	644	-	-	1087	-	346	768
Mov Cap-2 Maneuver	-	-	-	-	-	346	-
Stage 1	-	-	-	-	-	597	-
Stage 2	-	-	-	-	-	737	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT
Capacity (veh/h)	346	768	644	-	-	1087	-
HCM Lane V/C Ratio	0.013	0.006	-	-	-	0.004	-
HCM Control Delay (s)	15.5	9.7	0	-	-	8.3	-
HCM Lane LOS	C	A	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	12	14	41	782	1	931	29
Future Vol, veh/h	12	14	41	782	1	931	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	135	-	130	-	130
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	13	16	46	869	1	1034	32

Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	1563	517	1066	0	869	-	0
Stage 1	1036	-	-	-	-	-	-
Stage 2	527	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	6.44	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	2.52	-	-
Pot Cap-1 Maneuver	102	503	649	-	403	-	-
Stage 1	303	-	-	-	-	-	-
Stage 2	557	-	-	-	-	-	-
Platoon blocked, %				-		-	-
Mov Cap-1 Maneuver	95	503	649	-	403	-	-
Mov Cap-2 Maneuver	95	-	-	-	-	-	-
Stage 1	281	-	-	-	-	-	-
Stage 2	556	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	30.6	0.5	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	649	-	169	403	-	-
HCM Lane V/C Ratio	0.07	-	0.171	0.003	-	-
HCM Control Delay (s)	11	-	30.6	14	-	-
HCM Lane LOS	B	-	D	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.6	0	-	-

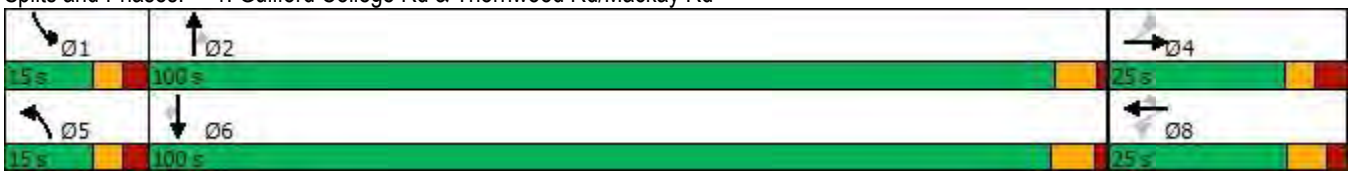
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	11	11	131	23	101	36	667	144	155	820	50
Future Volume (vph)	17	11	11	131	23	101	36	667	144	155	820	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	190		190	120		205	310		150
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.925				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1723	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.740			0.742			0.950			0.950		
Satd. Flow (perm)	1378	1723	0	1382	1863	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			40			45			45	
Link Distance (ft)		1208			556			1538			1743	
Travel Time (s)		32.9			9.5			23.3			26.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	19	12	12	146	26	112	40	741	160	172	911	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	24	0	146	26	112	40	741	160	172	911	56
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	13.6	13.6		13.5	13.5	13.5	12.8	17.7	17.7	12.8	18.1	18.1
Total Split (s)	25.0	25.0		25.0	25.0	25.0	15.0	100.0	100.0	15.0	100.0	100.0
Total Split (%)	17.9%	17.9%		17.9%	17.9%	17.9%	10.7%	71.4%	71.4%	10.7%	71.4%	71.4%
Maximum Green (s)	18.4	18.4		18.5	18.5	18.5	9.2	94.3	94.3	9.2	93.9	93.9
Yellow Time (s)	3.1	3.1		4.2	4.2	4.2	3.0	4.4	4.4	3.0	4.6	4.6
All-Red Time (s)	3.5	3.5		2.3	2.3	2.3	2.8	1.3	1.3	2.8	1.5	1.5
Lost Time Adjust (s)	-1.6	-1.6		-1.5	-1.5	-1.5	-0.8	-0.7	-0.7	-0.8	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	6.0	6.0	1.0	6.0	6.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0

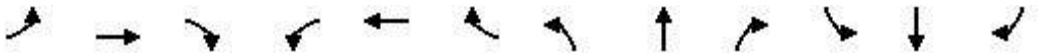
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	45.0	45.0	0.0	45.0	45.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	12.2	12.2		12.2	12.2	12.2	8.0	22.4	22.4	10.2	30.6	30.6
Actuated g/C Ratio	0.20	0.20		0.20	0.20	0.20	0.13	0.37	0.37	0.17	0.51	0.51
v/c Ratio	0.07	0.07		0.52	0.07	0.35	0.17	0.56	0.27	0.57	0.50	0.07
Control Delay	21.6	21.4		30.0	21.3	25.3	28.8	16.8	14.7	35.5	12.9	10.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.6	21.4		30.0	21.3	25.3	28.8	16.8	14.7	35.5	12.9	10.8
LOS	C	C		C	C	C	C	B	B	D	B	B
Approach Delay		21.5			27.3			17.0			16.2	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	6	7		49	8	36	13	106	38	60	129	12
Queue Length 95th (ft)	22	26		108	27	83	44	171	83	#160	206	33
Internal Link Dist (ft)		1128			476			1458			1663	
Turn Bay Length (ft)	75			190		190	120		205	310		150
Base Capacity (vph)	467	584		469	632	537	300	3539	1583	300	3539	1583
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.04		0.31	0.04	0.21	0.13	0.21	0.10	0.57	0.26	0.04

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 60.1
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 17.9 Intersection LOS: B
Intersection Capacity Utilization 54.9% ICU Level of Service A
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Guilford College Rd & Thornwood Rd/Mackay Rd





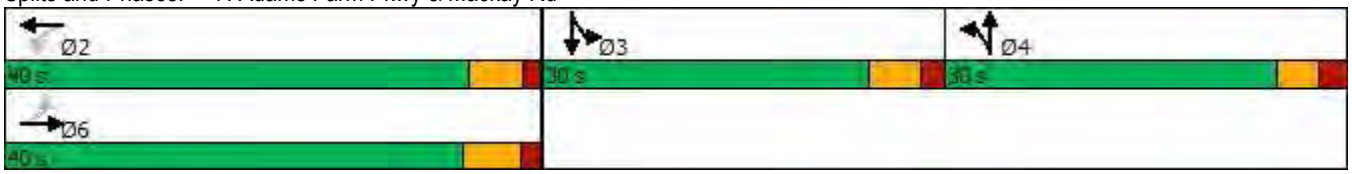
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	170	30	109	267	443	18	32	52	311	35	54
Future Volume (vph)	53	170	30	109	267	443	18	32	52	311	35	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	195		0	0		0	140		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.978			0.906			0.931			0.909	
Flt Protected	0.950			0.950				0.991		0.950		
Satd. Flow (prot)	1770	1822	0	1770	1688	0	0	1719	0	1770	1693	0
Flt Permitted	0.111			0.600				0.991		0.950		
Satd. Flow (perm)	207	1822	0	1118	1688	0	0	1719	0	1770	1693	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		1572			2792			867			1221	
Travel Time (s)		26.8			47.6			23.6			23.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	59	189	33	121	297	492	20	36	58	346	39	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	222	0	121	789	0	0	114	0	346	99	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		6			2		4	4		3	3	
Permitted Phases	6			2								
Detector Phase	6	6		2	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		26.3	26.3		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	34.1	34.1		34.5	34.5		24.7	24.7		24.3	24.3	
Yellow Time (s)	4.3	4.3		4.1	4.1		3.1	3.1		3.9	3.9	
All-Red Time (s)	1.6	1.6		1.4	1.4		2.2	2.2		1.8	1.8	
Lost Time Adjust (s)	-0.9	-0.9		-0.5	-0.5			-0.3		-0.7	-0.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)							7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)							14.0	14.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)	35.9	35.9		35.9	35.9			10.5		20.0	20.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.13		0.26	0.26	
v/c Ratio	0.63	0.27		0.24	1.02			0.50		0.77	0.23	
Control Delay	56.0	17.3		18.4	64.5			41.9		40.3	25.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	56.0	17.3		18.4	64.5			41.9		40.3	25.9	
LOS	E	B		B	E			D		D	C	
Approach Delay		25.4			58.4			41.9			37.1	
Approach LOS		C			E			D			D	
Queue Length 50th (ft)	23	72		38	~462			55		162	40	
Queue Length 95th (ft)	#101	141		89	#769			110		274	84	
Internal Link Dist (ft)		1492			2712			787			1141	
Turn Bay Length (ft)	170			195						140		
Base Capacity (vph)	94	835		512	773			562		579	554	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.63	0.27		0.24	1.02			0.20		0.60	0.18	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 78.4
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 46.6 Intersection LOS: D
Intersection Capacity Utilization 89.3% ICU Level of Service E
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Adams Farm Pkwy & Mackay Rd

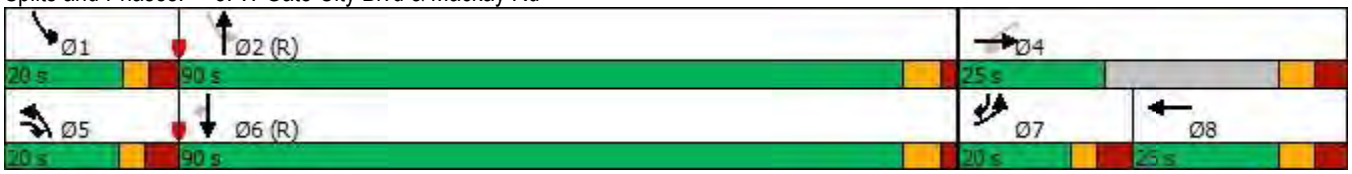


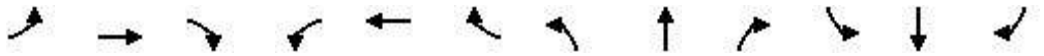
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	243	20	196	17	26	27	341	502	25	32	604	429
Future Volume (vph)	243	20	196	17	26	27	341	502	25	32	604	429
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		805	90		0	550		0	305		325
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Frt			0.850		0.924			0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1721	0	3433	5050	0	1770	5085	1583
Flt Permitted	0.950			0.743			0.950			0.390		
Satd. Flow (perm)	3433	1863	1583	1384	1721	0	3433	5050	0	726	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		2792			1166			6342			1193	
Travel Time (s)		47.6			31.8			96.1			18.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	270	22	218	19	29	30	379	558	28	36	671	477
Shared Lane Traffic (%)												
Lane Group Flow (vph)	270	22	218	19	59	0	379	586	0	36	671	477
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA		Prot	NA		D.P+P	NA	pm+ov
Protected Phases	7	4	5		8		5	2		1	6	7
Permitted Phases			4	4						2		6
Detector Phase	7	4	5	4	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	14.1	50.1	14.0	50.1	54.1		14.0	29.5		14.0	35.5	14.1
Total Split (s)	20.0	25.0	20.0	25.0	25.0		20.0	90.0		20.0	90.0	20.0
Total Split (%)	12.9%	16.1%	12.9%	16.1%	16.1%		12.9%	58.1%		12.9%	58.1%	12.9%
Maximum Green (s)	12.9	16.9	13.1	16.9	16.9		13.1	83.5		13.6	83.5	12.9
Yellow Time (s)	3.0	4.1	3.0	4.1	4.1		3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	4.1	4.0	3.9	4.0	4.0		3.9	2.0		3.4	2.0	4.1
Lost Time Adjust (s)	-2.1	-3.1	-1.9	-3.1	-3.1		-1.9	-1.5		-1.4	-1.5	-2.1
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	6.0		2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		34.0		34.0	39.0			16.0			22.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	38.6	53.7	87.1	53.7	13.1		28.4	80.4		87.3	57.9	101.6
Actuated g/C Ratio	0.25	0.35	0.56	0.35	0.08		0.18	0.52		0.56	0.37	0.66
v/c Ratio	0.32	0.03	0.25	0.04	0.41		0.60	0.22		0.08	0.35	0.46
Control Delay	47.1	27.2	16.6	27.2	74.9		63.0	23.9		18.7	38.1	15.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	47.1	27.2	16.6	27.2	74.9		63.0	23.9		18.7	38.1	15.9
LOS	D	C	B	C	E		E	C		B	D	B
Approach Delay		33.2			63.3			39.3			28.6	
Approach LOS		C			E			D			C	
Queue Length 50th (ft)	116	14	108	12	58		186	123		15	180	231
Queue Length 95th (ft)	141	29	112	27	106		241	188		42	260	349
Internal Link Dist (ft)		2712			1086			6262			1113	
Turn Bay Length (ft)	470		805	90			550			305		325
Base Capacity (vph)	855	672	889	499	222		628	2972		528	2788	1037
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.32	0.03	0.25	0.04	0.27		0.60	0.20		0.07	0.24	0.46

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Offset: 20 (13%), Referenced to phase 2:NBSB and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 34.2		Intersection LOS: C	
Intersection Capacity Utilization 54.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: W Gate City Blvd & Mackay Rd



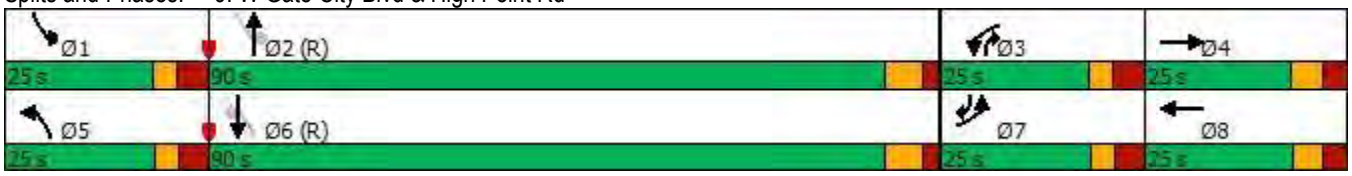


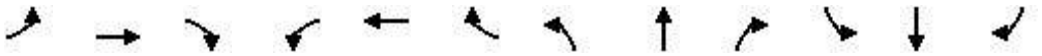
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	62	34	202	38	9	26	376	203	23	693	135
Future Volume (vph)	87	62	34	202	38	9	26	376	203	23	693	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	360		0	400		450	435		215
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.947			0.971				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1764	0	3433	1809	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.326			0.495		
Satd. Flow (perm)	3433	1764	0	3433	1809	0	607	5085	1583	922	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		746			1689			1193			1650	
Travel Time (s)		14.5			32.9			18.1			25.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	97	69	38	224	42	10	29	418	226	26	770	150
Shared Lane Traffic (%)												
Lane Group Flow (vph)	97	107	0	224	52	0	29	418	226	26	770	150
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases							6		2	2		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.7	42.0		13.9	13.9		13.7	18.9	13.9	13.8	18.9	13.7
Total Split (s)	25.0	25.0		25.0	25.0		25.0	90.0	25.0	25.0	90.0	25.0
Total Split (%)	15.2%	15.2%		15.2%	15.2%		15.2%	54.5%	15.2%	15.2%	54.5%	15.2%
Maximum Green (s)	18.3	18.0		18.1	18.1		18.3	83.1	18.1	18.2	83.1	18.3
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.7	3.2		3.9	3.1		3.7	2.2	3.9	3.8	2.2	3.7
Lost Time Adjust (s)	-1.7	-2.0		-1.9	-1.9		-1.7	-1.9	-1.9	-1.8	-1.9	-1.7
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Walk Time (s)		4.0										

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		31.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)	14.8	16.3		17.0	21.3		112.7	108.4	130.4	113.7	105.7	126.6
Actuated g/C Ratio	0.09	0.10		0.10	0.13		0.68	0.66	0.79	0.69	0.64	0.77
v/c Ratio	0.31	0.61		0.63	0.22		0.06	0.13	0.18	0.04	0.24	0.12
Control Delay	75.0	85.6		79.0	63.9		9.2	12.2	5.7	9.1	14.0	7.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.0	85.6		79.0	63.9		9.2	12.2	5.7	9.1	14.0	7.6
LOS	E	F		E	E		A	B	A	A	B	A
Approach Delay		80.6			76.2			9.9			12.8	
Approach LOS		F			E			A			B	
Queue Length 50th (ft)	53	113		121	51		9	65	63	8	129	46
Queue Length 95th (ft)	85	176		164	91		24	96	106	22	179	84
Internal Link Dist (ft)		666			1609			1113			1570	
Turn Bay Length (ft)	50			360			400		450	435		215
Base Capacity (vph)	450	217		421	258		570	3340	1282	754	3258	1279
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.49		0.53	0.20		0.05	0.13	0.18	0.03	0.24	0.12

Intersection Summary			
Area Type:	Other		
Cycle Length: 165			
Actuated Cycle Length: 165			
Offset: 54 (33%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 26.8		Intersection LOS: C	
Intersection Capacity Utilization 42.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: W Gate City Blvd & High Point Rd



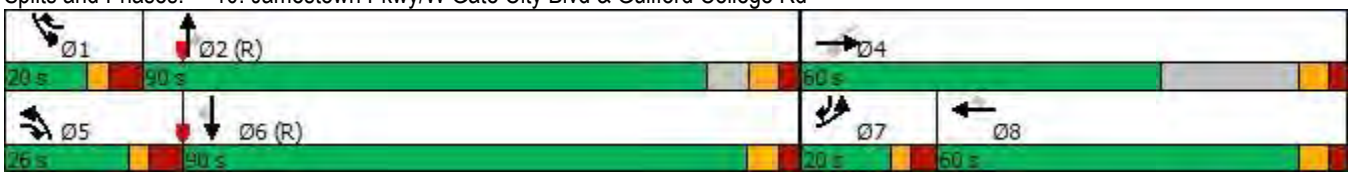


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	171	109	7	288	172	114	462	4	197	527	59
Future Volume (vph)	84	171	109	7	288	172	114	462	4	197	527	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430		445	355		285	415		335	395		335
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.570			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	1062	3539	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		3577			1802			3389			6342	
Travel Time (s)		54.2			27.3			51.3			96.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	93	190	121	8	320	191	127	513	4	219	586	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	93	190	121	8	320	191	127	513	4	219	586	66
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	5		8	1	5	2		1	6	7
Permitted Phases			4	4		8			2			6
Detector Phase	7	4	5	4	8	1	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	7.0
Minimum Split (s)	14.0	25.3	26.0	25.3	20.0	14.9	26.0	25.5	25.5	14.9	25.7	14.0
Total Split (s)	20.0	60.0	26.0	60.0	60.0	20.0	26.0	90.0	90.0	20.0	90.0	20.0
Total Split (%)	10.2%	30.6%	13.3%	30.6%	30.6%	10.2%	13.3%	45.9%	45.9%	10.2%	45.9%	10.2%
Maximum Green (s)	13.2	52.7	18.0	52.7	52.7	12.1	18.0	82.5	82.5	12.1	82.3	13.2
Yellow Time (s)	3.0	4.5	3.0	4.5	4.5	3.0	3.0	4.4	4.4	3.0	4.6	3.0
All-Red Time (s)	3.8	2.8	5.0	2.8	2.8	4.9	5.0	3.1	3.1	4.9	3.1	3.8
Lost Time Adjust (s)	-1.8	-2.3	-3.0	-2.3	-2.3	-2.9	-3.0	-2.5	-2.5	-2.9	-2.7	-1.8
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	6.0	2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	0.0	30.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0		7.0				7.0	7.0		7.0	
Flash Dont Walk (s)		11.0		11.0				11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0		0				0	0		0	
Act Effct Green (s)	11.6	41.4	60.9	41.4	24.8	49.8	14.5	119.7	119.7	20.0	125.1	141.7
Actuated g/C Ratio	0.06	0.21	0.31	0.21	0.13	0.25	0.07	0.61	0.61	0.10	0.64	0.72
v/c Ratio	0.46	0.25	0.25	0.04	0.72	0.48	0.50	0.17	0.00	0.63	0.18	0.06
Control Delay	96.1	64.2	50.0	58.1	91.2	65.1	93.7	17.6	18.8	92.3	15.5	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.1	64.2	50.0	58.1	91.2	65.1	93.7	17.6	18.8	92.3	15.5	9.0
LOS	F	E	D	E	F	E	F	B	B	F	B	A
Approach Delay		67.3			81.1			32.6			34.3	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)	60	109	118	8	212	212	82	101	2	142	109	23
Queue Length 95th (ft)	95	142	163	25	262	280	120	145	9	189	154	48
Internal Link Dist (ft)		3497			1722			3309			6262	
Turn Bay Length (ft)	430		445	355		285	415		335	395		335
Base Capacity (vph)	262	1354	543	406	993	402	367	3104	966	349	3245	1171
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.14	0.22	0.02	0.32	0.48	0.35	0.17	0.00	0.63	0.18	0.06

Intersection Summary			
Area Type:	Other		
Cycle Length: 196			
Actuated Cycle Length: 196			
Offset: 20 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 49.3		Intersection LOS: D	
Intersection Capacity Utilization 46.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd



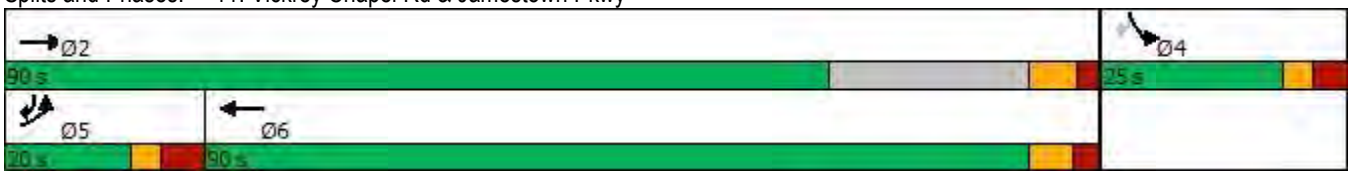


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	95	149	185	17	23	108
Future Volume (vph)	95	149	185	17	23	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	445			575	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	100				100	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	3539	1863	1583	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	3539	1863	1583	3433	1583
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		45	
Link Distance (ft)		638	755		3389	
Travel Time (s)		12.4	14.7		51.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	106	166	206	19	26	120
Shared Lane Traffic (%)						
Lane Group Flow (vph)	106	166	206	19	26	120
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		48	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Free	Prot	pm+ov
Protected Phases	5	2	6		4	5
Permitted Phases				Free		4
Detector Phase	5	2	6		4	5
Switch Phase						
Minimum Initial (s)	7.0	12.0	12.0		7.0	7.0
Minimum Split (s)	14.4	20.0	20.0		20.0	14.4
Total Split (s)	20.0	90.0	90.0		25.0	20.0
Total Split (%)	14.8%	66.7%	66.7%		18.5%	14.8%
Maximum Green (s)	12.6	82.8	82.9		18.3	12.6
Yellow Time (s)	3.0	4.8	4.3		3.0	3.0
All-Red Time (s)	4.4	2.4	2.8		3.7	4.4
Lost Time Adjust (s)	-2.4	-2.2	-2.1		-1.7	-2.4
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	6.0	6.0		2.0	2.0
Minimum Gap (s)	3.0	3.0	3.0		3.0	3.0
Time Before Reduce (s)	0.0	15.0	15.0		0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Time To Reduce (s)	0.0	30.0	30.0		0.0	0.0
Recall Mode	None	Min	Min		None	None
Act Effct Green (s)	9.6	35.1	16.0	38.1	8.9	11.8
Actuated g/C Ratio	0.25	0.92	0.42	1.00	0.23	0.31
v/c Ratio	0.12	0.05	0.26	0.01	0.03	0.24
Control Delay	12.2	1.6	10.0	0.0	12.9	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.2	1.6	10.0	0.0	12.9	9.8
LOS	B	A	B	A	B	A
Approach Delay		5.7	9.2		10.3	
Approach LOS		A	A		B	
Queue Length 50th (ft)	7	0	22	0	1	16
Queue Length 95th (ft)	27	16	87	0	10	37
Internal Link Dist (ft)		558	675		3309	
Turn Bay Length (ft)	445			575		
Base Capacity (vph)	1382	3539	1863	1583	1842	729
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.05	0.11	0.01	0.01	0.16

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 38.1			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.26			
Intersection Signal Delay: 8.0		Intersection LOS: A	
Intersection Capacity Utilization 34.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Vickrey Chapel Rd & Jamestown Pkwy

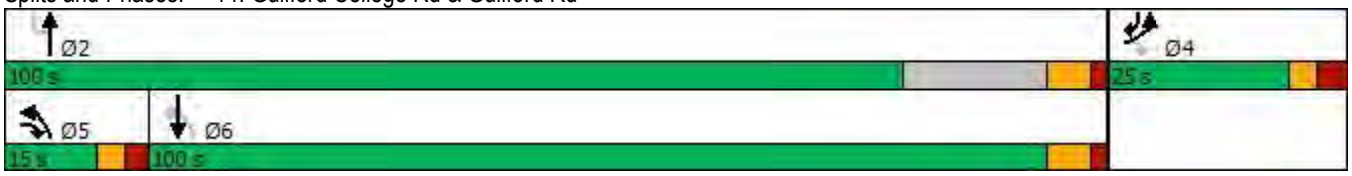


Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	612	81	161	333	1	339	724
Future Volume (vph)	612	81	161	333	1	339	724
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	195	135	140		125		330
Storage Lanes	1	1	1		1		1
Taper Length (ft)	100		100		100		
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	0.95	1.00
Frt		0.850					0.850
Flt Protected	0.950		0.950		0.950		
Satd. Flow (prot)	3433	1583	1770	3539	1770	3539	1583
Flt Permitted	0.950		0.515		0.532		
Satd. Flow (perm)	3433	1583	959	3539	991	3539	1583
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	35			45		45	
Link Distance (ft)	471			1464		1684	
Travel Time (s)	9.2			22.2		25.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	680	90	179	370	1	377	804
Shared Lane Traffic (%)							
Lane Group Flow (vph)	680	90	179	370	1	377	804
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right
Median Width(ft)	24			12		12	
Link Offset(ft)	0			0		0	
Crosswalk Width(ft)	16			16		16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15		9		9
Turn Type	Prot	pm+ov	D.P+P	NA	D.Pm	NA	pm+ov
Protected Phases	4	5	5	2		6	4
Permitted Phases		4	6		2		6
Detector Phase	4	5	5	2	2	6	4
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	12.0	7.0
Minimum Split (s)	20.0	14.0	14.0	20.0	20.0	41.5	20.0
Total Split (s)	25.0	15.0	15.0	100.0	100.0	100.0	25.0
Total Split (%)	17.9%	10.7%	10.7%	71.4%	71.4%	71.4%	17.9%
Maximum Green (s)	18.7	9.6	9.6	93.5	93.5	93.5	18.7
Yellow Time (s)	3.0	3.0	3.0	4.6	4.6	4.6	3.0
All-Red Time (s)	3.3	2.4	2.4	1.9	1.9	1.9	3.3
Lost Time Adjust (s)	-1.3	-0.4	-0.4	-1.5	-1.5	-1.5	-1.3
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead			Lag	
Lead-Lag Optimize?		Yes	Yes			Yes	
Vehicle Extension (s)	1.0	1.0	1.0	6.0	6.0	6.0	1.0
Recall Mode	None	None	None	Min	Min	Min	None
Walk Time (s)						7.0	

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Flash Dont Walk (s)						28.0	
Pedestrian Calls (#/hr)						0	
Act Effct Green (s)	20.0	32.9	21.6	26.6	26.6	13.7	38.7
Actuated g/C Ratio	0.35	0.58	0.38	0.47	0.47	0.24	0.68
v/c Ratio	0.56	0.10	0.38	0.22	0.00	0.44	0.74
Control Delay	17.1	5.7	11.6	9.3	8.0	20.2	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.1	5.7	11.6	9.3	8.0	20.2	11.5
LOS	B	A	B	A	A	C	B
Approach Delay	15.7			10.0		14.3	
Approach LOS	B			B		B	
Queue Length 50th (ft)	90	12	33	36	0	56	130
Queue Length 95th (ft)	145	28	64	57	2	93	290
Internal Link Dist (ft)	391			1384		1604	
Turn Bay Length (ft)	195	135	140		125		330
Base Capacity (vph)	1214	980	545	3539	991	3539	1082
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.09	0.33	0.10	0.00	0.11	0.74

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 56.6			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 13.8		Intersection LOS: B	
Intersection Capacity Utilization 62.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 14: Guilford College Rd & Guilford Rd



2027 Background Traffic Volumes

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	149	312	5	4	21
Future Vol, veh/h	6	149	312	5	4	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	166	347	6	4	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	353	0	-	0	530	350
Stage 1	-	-	-	-	350	-
Stage 2	-	-	-	-	180	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1206	-	-	-	510	693
Stage 1	-	-	-	-	713	-
Stage 2	-	-	-	-	851	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1206	-	-	-	507	693
Mov Cap-2 Maneuver	-	-	-	-	507	-
Stage 1	-	-	-	-	709	-
Stage 2	-	-	-	-	851	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1206	-	-	-	655
HCM Lane V/C Ratio	0.006	-	-	-	0.042
HCM Control Delay (s)	8	0	-	-	10.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	152	287	4	9	28
Future Vol, veh/h	4	152	287	4	9	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	160	-	-	235	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	169	319	4	10	31

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	323	0	-	0	496	319
Stage 1	-	-	-	-	319	-
Stage 2	-	-	-	-	177	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1237	-	-	-	533	722
Stage 1	-	-	-	-	737	-
Stage 2	-	-	-	-	854	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1237	-	-	-	531	722
Mov Cap-2 Maneuver	-	-	-	-	531	-
Stage 1	-	-	-	-	735	-
Stage 2	-	-	-	-	854	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1237	-	-	-	664
HCM Lane V/C Ratio	0.004	-	-	-	0.062
HCM Control Delay (s)	7.9	-	-	-	10.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	152	259	5	28	32
Future Vol, veh/h	6	152	259	5	28	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	169	288	6	31	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	294	0	-	0	471	288
Stage 1	-	-	-	-	288	-
Stage 2	-	-	-	-	183	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1268	-	-	-	551	751
Stage 1	-	-	-	-	761	-
Stage 2	-	-	-	-	848	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1268	-	-	-	548	751
Mov Cap-2 Maneuver	-	-	-	-	548	-
Stage 1	-	-	-	-	756	-
Stage 2	-	-	-	-	848	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1268	-	-	-	640
HCM Lane V/C Ratio	0.005	-	-	-	0.104
HCM Control Delay (s)	7.9	-	-	-	11.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	177	237	4	13	28
Future Vol, veh/h	9	177	237	4	13	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	115	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	197	263	4	14	31

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	267	0	-	0	480	132
Stage 1	-	-	-	-	263	-
Stage 2	-	-	-	-	217	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1295	-	-	-	530	894
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	818	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1295	-	-	-	526	894
Mov Cap-2 Maneuver	-	-	-	-	526	-
Stage 1	-	-	-	-	752	-
Stage 2	-	-	-	-	818	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1295	-	-	-	732
HCM Lane V/C Ratio	0.008	-	-	-	0.062
HCM Control Delay (s)	7.8	-	-	-	10.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.2

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	0	512	4	4	337	4	4
Future Vol, veh/h	0	512	4	4	337	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	410	-	75	365	-	125	0
Veh in Median Storage, #	-	0	-	-	0	0	-
Grade, %	-	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	569	4	4	374	4	4

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	374	0	0	573	0	764	285
Stage 1	-	-	-	-	-	569	-
Stage 2	-	-	-	-	-	195	-
Critical Hdwy	6.44	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.52	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	832	-	-	996	-	340	712
Stage 1	-	-	-	-	-	530	-
Stage 2	-	-	-	-	-	819	-
Platoon blocked, %		-	-		-		
Mov Cap-1 Maneuver	832	-	-	996	-	339	712
Mov Cap-2 Maneuver	-	-	-	-	-	339	-
Stage 1	-	-	-	-	-	530	-
Stage 2	-	-	-	-	-	816	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	13
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT
Capacity (veh/h)	339	712	832	-	-	996	-
HCM Lane V/C Ratio	0.013	0.006	-	-	-	0.004	-
HCM Control Delay (s)	15.8	10.1	0	-	-	8.6	-
HCM Lane LOS	C	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	13	29	17	688	2	907	11
Future Vol, veh/h	13	29	17	688	2	907	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	135	-	130	-	130
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	14	32	19	764	2	1008	12

Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	1432	504	1020	0	764	-	0
Stage 1	1012	-	-	-	-	-	-
Stage 2	420	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	6.44	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	2.52	-	-
Pot Cap-1 Maneuver	125	513	676	-	470	-	-
Stage 1	312	-	-	-	-	-	-
Stage 2	631	-	-	-	-	-	-
Platoon blocked, %				-		-	-
Mov Cap-1 Maneuver	121	513	676	-	470	-	-
Mov Cap-2 Maneuver	121	-	-	-	-	-	-
Stage 1	303	-	-	-	-	-	-
Stage 2	628	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.2	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	676	-	256	470	-	-
HCM Lane V/C Ratio	0.028	-	0.182	0.005	-	-
HCM Control Delay (s)	10.5	-	22.2	12.7	-	-
HCM Lane LOS	B	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	0	-	-

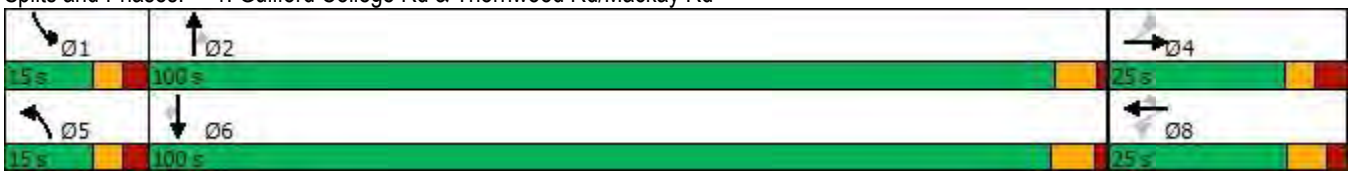
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	8	55	162	4	156	19	607	73	56	656	14
Future Volume (vph)	49	8	55	162	4	156	19	607	73	56	656	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	190		190	120		205	310		150
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.869				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1619	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.755			0.711			0.950			0.950		
Satd. Flow (perm)	1406	1619	0	1324	1863	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			40			45			45	
Link Distance (ft)		1208			556			1538			1743	
Travel Time (s)		32.9			9.5			23.3			26.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	54	9	61	180	4	173	21	674	81	62	729	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	70	0	180	4	173	21	674	81	62	729	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	13.6	13.6		13.5	13.5	13.5	12.8	17.7	17.7	12.8	18.1	18.1
Total Split (s)	25.0	25.0		25.0	25.0	25.0	15.0	100.0	100.0	15.0	100.0	100.0
Total Split (%)	17.9%	17.9%		17.9%	17.9%	17.9%	10.7%	71.4%	71.4%	10.7%	71.4%	71.4%
Maximum Green (s)	18.4	18.4		18.5	18.5	18.5	9.2	94.3	94.3	9.2	93.9	93.9
Yellow Time (s)	3.1	3.1		4.2	4.2	4.2	3.0	4.4	4.4	3.0	4.6	4.6
All-Red Time (s)	3.5	3.5		2.3	2.3	2.3	2.8	1.3	1.3	2.8	1.5	1.5
Lost Time Adjust (s)	-1.6	-1.6		-1.5	-1.5	-1.5	-0.8	-0.7	-0.7	-0.8	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	6.0	6.0	1.0	6.0	6.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0

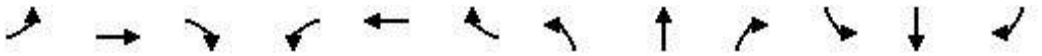
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	45.0	45.0	0.0	45.0	45.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	16.8	16.8		16.8	16.8	16.8	8.2	19.1	19.1	8.4	23.7	23.7
Actuated g/C Ratio	0.32	0.32		0.32	0.32	0.32	0.15	0.36	0.36	0.16	0.45	0.45
v/c Ratio	0.12	0.14		0.43	0.01	0.35	0.08	0.53	0.14	0.22	0.46	0.02
Control Delay	17.7	17.6		21.8	17.0	19.7	26.0	16.4	14.3	26.7	11.8	9.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.7	17.6		21.8	17.0	19.7	26.0	16.4	14.3	26.7	11.8	9.9
LOS	B	B		C	B	B	C	B	B	C	B	A
Approach Delay		17.6			20.7			16.4			12.9	
Approach LOS		B			C			B			B	
Queue Length 50th (ft)	14	18		52	1	48	7	102	20	20	69	2
Queue Length 95th (ft)	42	51		119	8	109	26	156	48	56	167	15
Internal Link Dist (ft)		1128			476			1458			1663	
Turn Bay Length (ft)	75			190		190	120		205	310		150
Base Capacity (vph)	559	644		527	742	630	352	3539	1583	352	3539	1583
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.11		0.34	0.01	0.27	0.06	0.19	0.05	0.18	0.21	0.01

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 53.1
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.53
Intersection Signal Delay: 15.9 Intersection LOS: B
Intersection Capacity Utilization 52.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: Guilford College Rd & Thornwood Rd/Mackay Rd





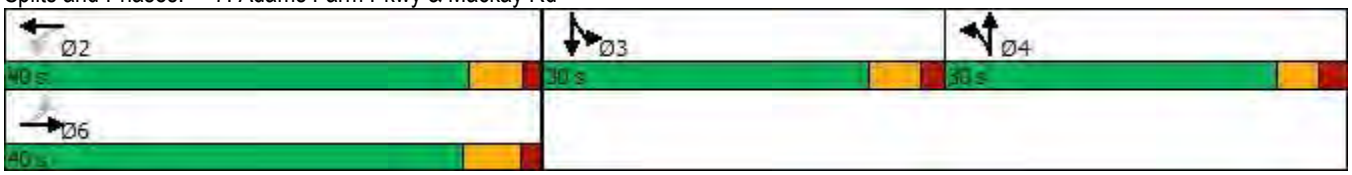
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	207	6	28	82	218	37	28	131	452	5	74
Future Volume (vph)	55	207	6	28	82	218	37	28	131	452	5	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	195		0	0		0	140		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.891			0.910			0.860	
Flt Protected	0.950			0.950				0.991		0.950		
Satd. Flow (prot)	1770	1855	0	1770	1660	0	0	1680	0	1770	1602	0
Flt Permitted	0.354			0.511				0.991		0.950		
Satd. Flow (perm)	659	1855	0	952	1660	0	0	1680	0	1770	1602	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		1572			2792			867			1221	
Travel Time (s)		26.8			47.6			23.6			23.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	61	230	7	31	91	242	41	31	146	502	6	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	61	237	0	31	333	0	0	218	0	502	88	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		6			2		4	4		3	3	
Permitted Phases	6			2								
Detector Phase	6	6		2	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		26.3	26.3		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	34.1	34.1		34.5	34.5		24.7	24.7		24.3	24.3	
Yellow Time (s)	4.3	4.3		4.1	4.1		3.1	3.1		3.9	3.9	
All-Red Time (s)	1.6	1.6		1.4	1.4		2.2	2.2		1.8	1.8	
Lost Time Adjust (s)	-0.9	-0.9		-0.5	-0.5			-0.3		-0.7	-0.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)							7.0	7.0				

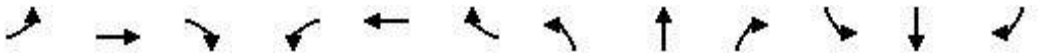
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)							14.0	14.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)	20.4	20.4		20.4	20.4			14.6		25.5	25.5	
Actuated g/C Ratio	0.27	0.27		0.27	0.27			0.19		0.34	0.34	
v/c Ratio	0.34	0.48		0.12	0.75			0.67		0.84	0.16	
Control Delay	29.2	27.1		22.9	37.0			40.2		41.5	22.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	29.2	27.1		22.9	37.0			40.2		41.5	22.7	
LOS	C	C		C	D			D		D	C	
Approach Delay		27.5			35.8			40.2			38.7	
Approach LOS		C			D			D			D	
Queue Length 50th (ft)	23	91		11	140			92		206	27	
Queue Length 95th (ft)	62	174		34	257			188		#534	82	
Internal Link Dist (ft)		1492			2712			787			1141	
Turn Bay Length (ft)	170			195						140		
Base Capacity (vph)	310	873		448	781			565		595	538	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.20	0.27		0.07	0.43			0.39		0.84	0.16	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 75.8
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 35.9 Intersection LOS: D
Intersection Capacity Utilization 82.7% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Adams Farm Pkwy & Mackay Rd



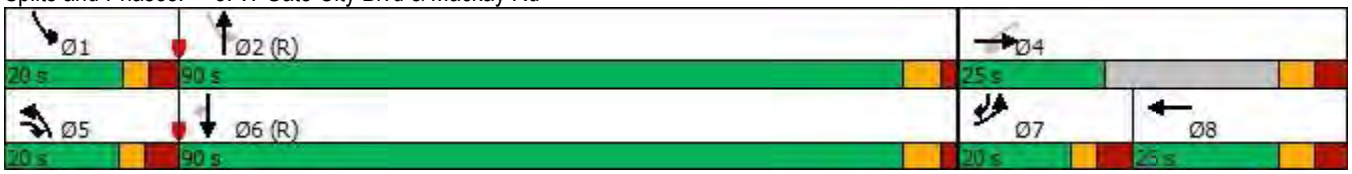


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	322	35	310	69	39	43	184	414	64	76	592	156
Future Volume (vph)	322	35	310	69	39	43	184	414	64	76	592	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		805	90		0	550		0	305		325
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Frt			0.850		0.921			0.980				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1716	0	3433	4984	0	1770	5085	1583
Flt Permitted	0.950			0.732			0.950			0.425		
Satd. Flow (perm)	3433	1863	1583	1364	1716	0	3433	4984	0	792	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		2792			1166			6342			1193	
Travel Time (s)		47.6			31.8			96.1			18.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	358	39	344	77	43	48	204	460	71	84	658	173
Shared Lane Traffic (%)												
Lane Group Flow (vph)	358	39	344	77	91	0	204	531	0	84	658	173
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA		Prot	NA		D.P+P	NA	pm+ov
Protected Phases	7	4	5		8		5	2		1	6	7
Permitted Phases			4	4						2		6
Detector Phase	7	4	5	4	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	14.1	50.1	14.0	50.1	54.1		14.0	29.5		14.0	35.5	14.1
Total Split (s)	20.0	25.0	20.0	25.0	25.0		20.0	90.0		20.0	90.0	20.0
Total Split (%)	12.9%	16.1%	12.9%	16.1%	16.1%		12.9%	58.1%		12.9%	58.1%	12.9%
Maximum Green (s)	12.9	16.9	13.1	16.9	16.9		13.1	83.5		13.6	83.5	12.9
Yellow Time (s)	3.0	4.1	3.0	4.1	4.1		3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	4.1	4.0	3.9	4.0	4.0		3.9	2.0		3.4	2.0	4.1
Lost Time Adjust (s)	-2.1	-3.1	-1.9	-3.1	-3.1		-1.9	-1.5		-1.4	-1.5	-2.1
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	6.0		2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		34.0		34.0	39.0			16.0			22.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	26.4	47.1	66.1	47.1	15.7		14.0	83.6		92.9	78.9	110.3
Actuated g/C Ratio	0.17	0.30	0.43	0.30	0.10		0.09	0.54		0.60	0.51	0.71
v/c Ratio	0.61	0.07	0.51	0.19	0.53		0.66	0.20		0.16	0.25	0.15
Control Delay	64.6	37.2	34.9	40.1	76.3		78.5	19.2		12.6	22.5	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	64.6	37.2	34.9	40.1	76.3		78.5	19.2		12.6	22.5	8.3
LOS	E	D	C	D	E		E	B		B	C	A
Approach Delay		49.4			59.7			35.7			18.9	
Approach LOS		D			E			D			B	
Queue Length 50th (ft)	176	28	255	58	89		104	96		31	133	53
Queue Length 95th (ft)	229	56	317	97	146		147	138		61	182	95
Internal Link Dist (ft)		2712			1086			6262			1113	
Turn Bay Length (ft)	470		805	90			550			305		325
Base Capacity (vph)	585	565	688	414	223		339	2773		593	2796	1126
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.61	0.07	0.50	0.19	0.41		0.60	0.19		0.14	0.24	0.15

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Offset: 20 (13%), Referenced to phase 2:NBSB and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 35.2		Intersection LOS: D	
Intersection Capacity Utilization 49.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: W Gate City Blvd & Mackay Rd

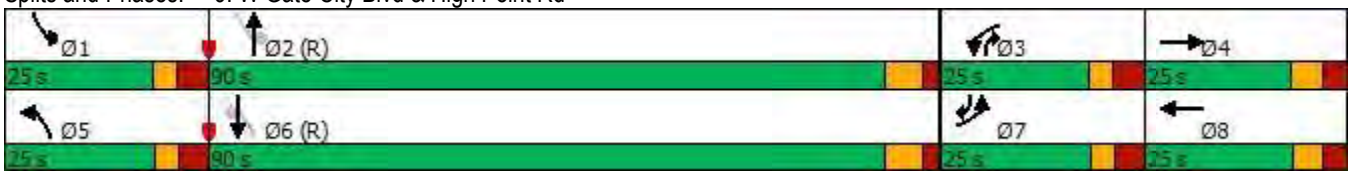


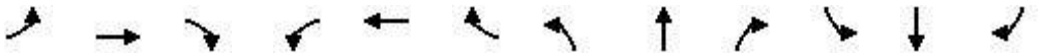
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	12	8	139	13	12	8	507	177	11	492	41
Future Volume (vph)	67	12	8	139	13	12	8	507	177	11	492	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	360		0	400		450	435		215
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.939			0.928				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1749	0	3433	1729	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.435			0.427		
Satd. Flow (perm)	3433	1749	0	3433	1729	0	810	5085	1583	795	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		746			1689			1193			1650	
Travel Time (s)		14.5			32.9			18.1			25.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	74	13	9	154	14	13	9	563	197	12	547	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	22	0	154	27	0	9	563	197	12	547	46
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases							6		2	2		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.7	42.0		13.9	13.9		13.7	18.9	13.9	13.8	18.9	13.7
Total Split (s)	25.0	25.0		25.0	25.0		25.0	90.0	25.0	25.0	90.0	25.0
Total Split (%)	15.2%	15.2%		15.2%	15.2%		15.2%	54.5%	15.2%	15.2%	54.5%	15.2%
Maximum Green (s)	18.3	18.0		18.1	18.1		18.3	83.1	18.1	18.2	83.1	18.3
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.7	3.2		3.9	3.1		3.7	2.2	3.9	3.8	2.2	3.7
Lost Time Adjust (s)	-1.7	-2.0		-1.9	-1.9		-1.7	-1.9	-1.9	-1.8	-1.9	-1.7
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Walk Time (s)		4.0										

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		31.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)	11.0	9.5		13.7	12.2		130.4	126.8	147.5	130.4	126.9	144.9
Actuated g/C Ratio	0.07	0.06		0.08	0.07		0.79	0.77	0.89	0.79	0.77	0.88
v/c Ratio	0.32	0.22		0.54	0.21		0.01	0.14	0.14	0.02	0.14	0.03
Control Delay	77.4	79.2		79.4	74.4		5.1	6.6	2.7	5.1	6.6	3.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.4	79.2		79.4	74.4		5.1	6.6	2.7	5.1	6.6	3.5
LOS	E	E		E	E		A	A	A	A	A	A
Approach Delay		77.8			78.7			5.6			6.3	
Approach LOS		E			E			A			A	
Queue Length 50th (ft)	40	23		84	28		2	50	21	3	49	6
Queue Length 95th (ft)	69	55		121	62		8	100	67	9	97	22
Internal Link Dist (ft)		666			1609			1113			1570	
Turn Bay Length (ft)	50			360			400		450	435		215
Base Capacity (vph)	416	212		416	209		766	3909	1442	755	3910	1442
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.10		0.37	0.13		0.01	0.14	0.14	0.02	0.14	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 165			
Actuated Cycle Length: 165			
Offset: 54 (33%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 18.0		Intersection LOS: B	
Intersection Capacity Utilization 35.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: W Gate City Blvd & High Point Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	248	136	4	225	172	103	470	6	177	697	33
Future Volume (vph)	70	248	136	4	225	172	103	470	6	177	697	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430		445	355		285	415		335	395		335
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.439			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	818	3539	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		3577			1802			3389			6342	
Travel Time (s)		54.2			27.3			51.3			96.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	78	276	151	4	250	191	114	522	7	197	774	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	78	276	151	4	250	191	114	522	7	197	774	37
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	5		8	1	5	2		1	6	7
Permitted Phases			4	4		8			2			6
Detector Phase	7	4	5	4	8	1	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	7.0
Minimum Split (s)	14.0	25.3	26.0	25.3	20.0	14.9	26.0	25.5	25.5	14.9	25.7	14.0
Total Split (s)	20.0	60.0	26.0	60.0	60.0	20.0	26.0	90.0	90.0	20.0	90.0	20.0
Total Split (%)	10.2%	30.6%	13.3%	30.6%	30.6%	10.2%	13.3%	45.9%	45.9%	10.2%	45.9%	10.2%
Maximum Green (s)	13.2	52.7	18.0	52.7	52.7	12.1	18.0	82.5	82.5	12.1	82.3	13.2
Yellow Time (s)	3.0	4.5	3.0	4.5	4.5	3.0	3.0	4.4	4.4	3.0	4.6	3.0
All-Red Time (s)	3.8	2.8	5.0	2.8	2.8	4.9	5.0	3.1	3.1	4.9	3.1	3.8
Lost Time Adjust (s)	-1.8	-2.3	-3.0	-2.3	-2.3	-2.9	-3.0	-2.5	-2.5	-2.9	-2.7	-1.8
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	6.0	2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	0.0	30.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0		7.0				7.0	7.0		7.0	
Flash Dont Walk (s)		11.0		11.0				11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0		0				0	0		0	
Act Effct Green (s)	10.8	36.5	55.2	36.5	20.7	44.1	13.7	126.1	126.1	18.4	130.8	146.6
Actuated g/C Ratio	0.06	0.19	0.28	0.19	0.11	0.22	0.07	0.64	0.64	0.09	0.67	0.75
v/c Ratio	0.41	0.42	0.34	0.03	0.67	0.54	0.48	0.16	0.01	0.61	0.23	0.03
Control Delay	95.7	71.6	56.8	62.0	93.2	71.9	94.0	14.8	15.3	93.5	13.6	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.7	71.6	56.8	62.0	93.2	71.9	94.0	14.8	15.3	93.5	13.6	7.4
LOS	F	E	E	E	F	E	F	B	B	F	B	A
Approach Delay		70.9			83.8			28.8			29.0	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)	51	167	156	4	166	220	74	94	3	128	136	11
Queue Length 95th (ft)	82	210	214	17	215	295	110	133	12	173	187	27
Internal Link Dist (ft)		3497			1722			3309			6262	
Turn Bay Length (ft)	430		445	355		285	415		335	395		335
Base Capacity (vph)	262	1354	505	313	993	357	367	3271	1018	324	3392	1217
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.20	0.30	0.01	0.25	0.54	0.31	0.16	0.01	0.61	0.23	0.03

Intersection Summary	
Area Type:	Other
Cycle Length: 196	
Actuated Cycle Length: 196	
Offset: 20 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 46.5	Intersection LOS: D
Intersection Capacity Utilization 48.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd



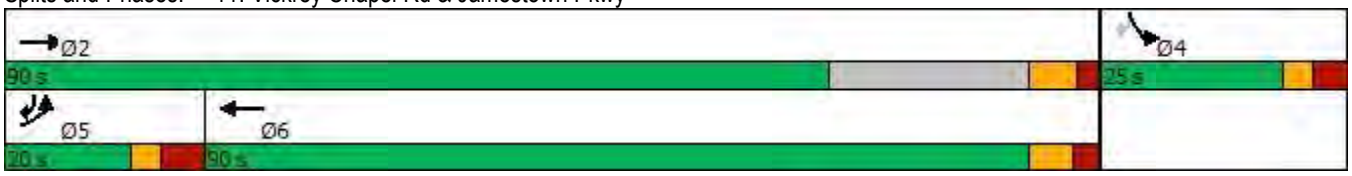


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	164	185	221	22	15	220
Future Volume (vph)	164	185	221	22	15	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	445			575	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	100				100	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	3539	1863	1583	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	3539	1863	1583	3433	1583
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		45	
Link Distance (ft)		638	755		3389	
Travel Time (s)		12.4	14.7		51.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	182	206	246	24	17	244
Shared Lane Traffic (%)						
Lane Group Flow (vph)	182	206	246	24	17	244
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		48	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Free	Prot	pm+ov
Protected Phases	5	2	6		4	5
Permitted Phases				Free		4
Detector Phase	5	2	6		4	5
Switch Phase						
Minimum Initial (s)	7.0	12.0	12.0		7.0	7.0
Minimum Split (s)	14.4	20.0	20.0		20.0	14.4
Total Split (s)	20.0	90.0	90.0		25.0	20.0
Total Split (%)	14.8%	66.7%	66.7%		18.5%	14.8%
Maximum Green (s)	12.6	82.8	82.9		18.3	12.6
Yellow Time (s)	3.0	4.8	4.3		3.0	3.0
All-Red Time (s)	4.4	2.4	2.8		3.7	4.4
Lost Time Adjust (s)	-2.4	-2.2	-2.1		-1.7	-2.4
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	6.0	6.0		2.0	2.0
Minimum Gap (s)	3.0	3.0	3.0		3.0	3.0
Time Before Reduce (s)	0.0	15.0	15.0		0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Time To Reduce (s)	0.0	30.0	30.0		0.0	0.0
Recall Mode	None	Min	Min		None	None
Act Effct Green (s)	10.9	34.8	14.5	37.7	8.9	13.0
Actuated g/C Ratio	0.29	0.92	0.38	1.00	0.24	0.34
v/c Ratio	0.18	0.06	0.34	0.02	0.02	0.45
Control Delay	12.1	1.5	11.4	0.0	13.6	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.1	1.5	11.4	0.0	13.6	12.0
LOS	B	A	B	A	B	B
Approach Delay		6.4	10.3		12.1	
Approach LOS		A	B		B	
Queue Length 50th (ft)	12	0	32	0	1	36
Queue Length 95th (ft)	43	18	108	0	8	74
Internal Link Dist (ft)		558	675		3309	
Turn Bay Length (ft)	445			575		
Base Capacity (vph)	1394	3539	1863	1583	1859	731
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.06	0.13	0.02	0.01	0.33

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 37.7			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.45			
Intersection Signal Delay: 9.2		Intersection LOS: A	
Intersection Capacity Utilization 35.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Vickrey Chapel Rd & Jamestown Pkwy



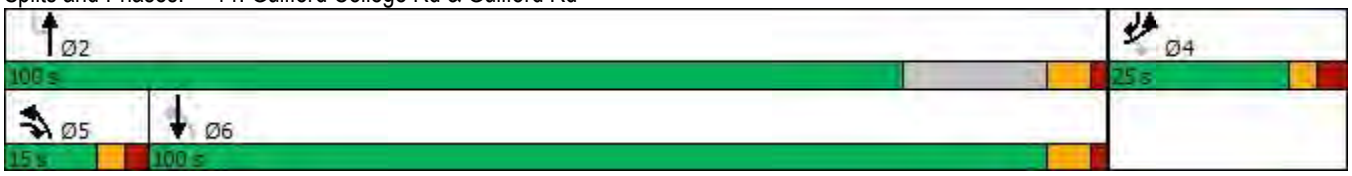


Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	523	118	62	275	4	394	565
Future Volume (vph)	523	118	62	275	4	394	565
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	195	135	140		125		330
Storage Lanes	1	1	1		1		1
Taper Length (ft)	100		100		100		
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	0.95	1.00
Frt		0.850					0.850
Flt Protected	0.950		0.950		0.950		
Satd. Flow (prot)	3433	1583	1770	3539	1770	3539	1583
Flt Permitted	0.950		0.457		0.565		
Satd. Flow (perm)	3433	1583	851	3539	1052	3539	1583
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	35			45		45	
Link Distance (ft)	471			1464		1684	
Travel Time (s)	9.2			22.2		25.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	581	131	69	306	4	438	628
Shared Lane Traffic (%)							
Lane Group Flow (vph)	581	131	69	306	4	438	628
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right
Median Width(ft)	24			12		12	
Link Offset(ft)	0			0		0	
Crosswalk Width(ft)	16			16		16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15		9		9
Turn Type	Prot	pm+ov	D.P+P	NA	D.Pm	NA	pm+ov
Protected Phases	4	5	5	2		6	4
Permitted Phases		4	6		2		6
Detector Phase	4	5	5	2	2	6	4
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	12.0	7.0
Minimum Split (s)	20.0	14.0	14.0	20.0	20.0	41.5	20.0
Total Split (s)	25.0	15.0	15.0	100.0	100.0	100.0	25.0
Total Split (%)	17.9%	10.7%	10.7%	71.4%	71.4%	71.4%	17.9%
Maximum Green (s)	18.7	9.6	9.6	93.5	93.5	93.5	18.7
Yellow Time (s)	3.0	3.0	3.0	4.6	4.6	4.6	3.0
All-Red Time (s)	3.3	2.4	2.4	1.9	1.9	1.9	3.3
Lost Time Adjust (s)	-1.3	-0.4	-0.4	-1.5	-1.5	-1.5	-1.3
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead			Lag	
Lead-Lag Optimize?		Yes	Yes			Yes	
Vehicle Extension (s)	1.0	1.0	1.0	6.0	6.0	6.0	1.0
Recall Mode	None	None	None	Min	Min	Min	None
Walk Time (s)						7.0	

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Flash Dont Walk (s)						28.0	
Pedestrian Calls (#/hr)						0	
Act Effct Green (s)	18.8	31.2	21.6	26.6	26.6	14.2	38.0
Actuated g/C Ratio	0.34	0.56	0.39	0.48	0.48	0.26	0.69
v/c Ratio	0.50	0.15	0.15	0.18	0.01	0.48	0.58
Control Delay	16.6	6.6	8.6	8.3	7.0	19.4	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.6	6.6	8.6	8.3	7.0	19.4	7.2
LOS	B	A	A	A	A	B	A
Approach Delay	14.8			8.4		12.2	
Approach LOS	B			A		B	
Queue Length 50th (ft)	74	17	12	28	1	65	83
Queue Length 95th (ft)	124	43	26	44	4	97	150
Internal Link Dist (ft)	391			1384		1604	
Turn Bay Length (ft)	195	135	140		125		330
Base Capacity (vph)	1238	966	537	3539	1052	3539	1118
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.14	0.13	0.09	0.00	0.12	0.56

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 55.4			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 12.4		Intersection LOS: B	
Intersection Capacity Utilization 49.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 14: Guilford College Rd & Guilford Rd



Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	348	248	6	4	12
Future Vol, veh/h	11	348	248	6	4	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	387	276	7	4	13

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	283	0	-	0	691	280
Stage 1	-	-	-	-	280	-
Stage 2	-	-	-	-	411	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1279	-	-	-	410	759
Stage 1	-	-	-	-	767	-
Stage 2	-	-	-	-	669	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1279	-	-	-	405	759
Mov Cap-2 Maneuver	-	-	-	-	405	-
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	669	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1279	-	-	-	623
HCM Lane V/C Ratio	0.01	-	-	-	0.029
HCM Control Delay (s)	7.8	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	336	251	13	8	8
Future Vol, veh/h	15	336	251	13	8	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	160	-	-	235	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	373	279	14	9	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	293	0	-	0	686	279
Stage 1	-	-	-	-	279	-
Stage 2	-	-	-	-	407	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1269	-	-	-	413	760
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	672	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1269	-	-	-	408	760
Mov Cap-2 Maneuver	-	-	-	-	408	-
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	672	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1269	-	-	-	531
HCM Lane V/C Ratio	0.013	-	-	-	0.033
HCM Control Delay (s)	7.9	-	-	-	12
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	25	316	248	27	12	8
Future Vol, veh/h	25	316	248	27	12	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	351	276	30	13	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	306	0	-	0	683	276
Stage 1	-	-	-	-	276	-
Stage 2	-	-	-	-	407	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1255	-	-	-	415	763
Stage 1	-	-	-	-	771	-
Stage 2	-	-	-	-	672	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1255	-	-	-	406	763
Mov Cap-2 Maneuver	-	-	-	-	406	-
Stage 1	-	-	-	-	754	-
Stage 2	-	-	-	-	672	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1255	-	-	-	499
HCM Lane V/C Ratio	0.022	-	-	-	0.045
HCM Control Delay (s)	7.9	-	-	-	12.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	312	265	37	11	12
Future Vol, veh/h	20	312	265	37	11	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	115	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	347	294	41	12	13

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	335	0	-	0	685	147
Stage 1	-	-	-	-	294	-
Stage 2	-	-	-	-	391	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1223	-	-	-	397	874
Stage 1	-	-	-	-	731	-
Stage 2	-	-	-	-	683	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1223	-	-	-	390	874
Mov Cap-2 Maneuver	-	-	-	-	390	-
Stage 1	-	-	-	-	718	-
Stage 2	-	-	-	-	683	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1223	-	-	-	548
HCM Lane V/C Ratio	0.018	-	-	-	0.047
HCM Control Delay (s)	8	-	-	-	11.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	0	437	4	4	515	4	4
Future Vol, veh/h	0	437	4	4	515	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	410	-	75	365	-	125	0
Veh in Median Storage, #	-	0	-	-	0	0	-
Grade, %	-	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	486	4	4	572	4	4

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	572	0	0	490	0	780	243
Stage 1	-	-	-	-	-	486	-
Stage 2	-	-	-	-	-	294	-
Critical Hdwy	6.44	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.52	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	623	-	-	1070	-	332	758
Stage 1	-	-	-	-	-	584	-
Stage 2	-	-	-	-	-	730	-
Platoon blocked, %		-	-		-		
Mov Cap-1 Maneuver	623	-	-	1070	-	331	758
Mov Cap-2 Maneuver	-	-	-	-	-	331	-
Stage 1	-	-	-	-	-	584	-
Stage 2	-	-	-	-	-	727	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT
Capacity (veh/h)	331	758	623	-	-	1070	-
HCM Lane V/C Ratio	0.013	0.006	-	-	-	0.004	-
HCM Control Delay (s)	16	9.8	0	-	-	8.4	-
HCM Lane LOS	C	A	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Vol, veh/h	13	14	43	813	1	969	30
Future Vol, veh/h	13	14	43	813	1	969	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	135	-	130	-	130
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	14	16	48	903	1	1077	33

Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	1627	539	1110	0	903	-	0
Stage 1	1079	-	-	-	-	-	-
Stage 2	548	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	6.44	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	2.52	-	-
Pot Cap-1 Maneuver	93	487	625	-	383	-	-
Stage 1	288	-	-	-	-	-	-
Stage 2	543	-	-	-	-	-	-
Platoon blocked, %				-		-	-
Mov Cap-1 Maneuver	86	487	625	-	383	-	-
Mov Cap-2 Maneuver	86	-	-	-	-	-	-
Stage 1	266	-	-	-	-	-	-
Stage 2	541	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	34.9	0.6	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	625	-	150	383	-	-
HCM Lane V/C Ratio	0.076	-	0.2	0.003	-	-
HCM Control Delay (s)	11.2	-	34.9	14.4	-	-
HCM Lane LOS	B	-	D	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.7	0	-	-

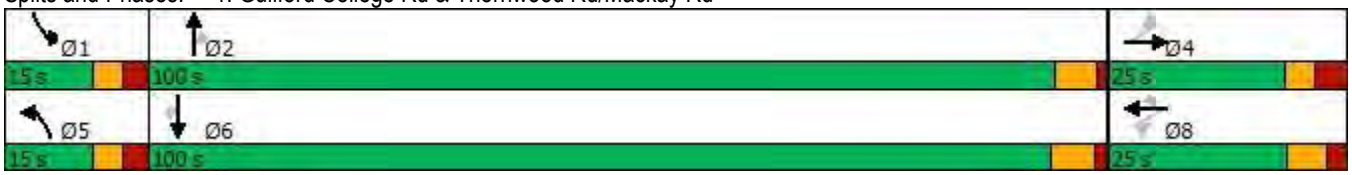
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	12	12	136	23	105	37	694	150	162	853	52
Future Volume (vph)	18	12	12	136	23	105	37	694	150	162	853	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	190		190	120		205	310		150
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.925				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1723	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.740			0.740			0.950			0.950		
Satd. Flow (perm)	1378	1723	0	1378	1863	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			40			45			45	
Link Distance (ft)		1208			556			1538			1743	
Travel Time (s)		32.9			9.5			23.3			26.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	20	13	13	151	26	117	41	771	167	180	948	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	26	0	151	26	117	41	771	167	180	948	58
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	13.6	13.6		13.5	13.5	13.5	12.8	17.7	17.7	12.8	18.1	18.1
Total Split (s)	25.0	25.0		25.0	25.0	25.0	15.0	100.0	100.0	15.0	100.0	100.0
Total Split (%)	17.9%	17.9%		17.9%	17.9%	17.9%	10.7%	71.4%	71.4%	10.7%	71.4%	71.4%
Maximum Green (s)	18.4	18.4		18.5	18.5	18.5	9.2	94.3	94.3	9.2	93.9	93.9
Yellow Time (s)	3.1	3.1		4.2	4.2	4.2	3.0	4.4	4.4	3.0	4.6	4.6
All-Red Time (s)	3.5	3.5		2.3	2.3	2.3	2.8	1.3	1.3	2.8	1.5	1.5
Lost Time Adjust (s)	-1.6	-1.6		-1.5	-1.5	-1.5	-0.8	-0.7	-0.7	-0.8	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	6.0	6.0	1.0	6.0	6.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0

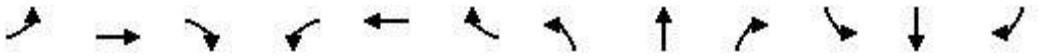
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	45.0	45.0	0.0	45.0	45.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	12.7	12.7		12.7	12.7	12.7	8.0	23.5	23.5	10.2	31.8	31.8
Actuated g/C Ratio	0.21	0.21		0.21	0.21	0.21	0.13	0.38	0.38	0.17	0.52	0.52
v/c Ratio	0.07	0.07		0.53	0.07	0.36	0.18	0.57	0.28	0.62	0.52	0.07
Control Delay	22.0	21.8		30.7	21.7	25.8	29.8	17.1	14.8	38.4	13.2	10.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	21.8		30.7	21.7	25.8	29.8	17.1	14.8	38.4	13.2	10.9
LOS	C	C		C	C	C	C	B	B	D	B	B
Approach Delay		21.9			27.9			17.2			16.9	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	6	8		52	8	38	14	114	41	65	139	12
Queue Length 95th (ft)	23	28		113	28	88	46	181	88	#175	220	34
Internal Link Dist (ft)		1128			476			1458			1663	
Turn Bay Length (ft)	75			190		190	120		205	310		150
Base Capacity (vph)	455	569		455	615	523	292	3539	1583	292	3539	1583
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.05		0.33	0.04	0.22	0.14	0.22	0.11	0.62	0.27	0.04

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 61.7
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 18.4 Intersection LOS: B
Intersection Capacity Utilization 56.1% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Guilford College Rd & Thornwood Rd/Mackay Rd





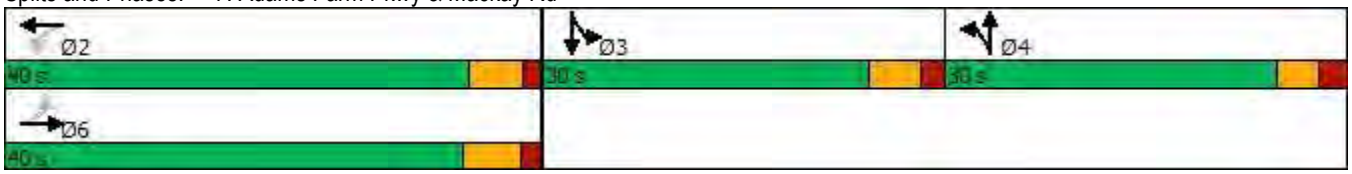
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	177	32	114	278	460	19	33	54	323	36	56
Future Volume (vph)	55	177	32	114	278	460	19	33	54	323	36	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	195		0	0		0	140		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.907			0.931			0.909	
Flt Protected	0.950			0.950				0.991		0.950		
Satd. Flow (prot)	1770	1820	0	1770	1690	0	0	1719	0	1770	1693	0
Flt Permitted	0.112			0.585				0.991		0.950		
Satd. Flow (perm)	209	1820	0	1090	1690	0	0	1719	0	1770	1693	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		1572			2792			867			1221	
Travel Time (s)		26.8			47.6			23.6			23.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	61	197	36	127	309	511	21	37	60	359	40	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	61	233	0	127	820	0	0	118	0	359	102	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		6			2		4	4		3	3	
Permitted Phases	6			2								
Detector Phase	6	6		2	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		26.3	26.3		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	34.1	34.1		34.5	34.5		24.7	24.7		24.3	24.3	
Yellow Time (s)	4.3	4.3		4.1	4.1		3.1	3.1		3.9	3.9	
All-Red Time (s)	1.6	1.6		1.4	1.4		2.2	2.2		1.8	1.8	
Lost Time Adjust (s)	-0.9	-0.9		-0.5	-0.5			-0.3		-0.7	-0.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)							7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)							14.0	14.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)	35.8	35.8		35.8	35.8			10.6		21.0	21.0	
Actuated g/C Ratio	0.45	0.45		0.45	0.45			0.13		0.26	0.26	
v/c Ratio	0.65	0.28		0.26	1.08			0.51		0.77	0.23	
Control Delay	59.0	17.8		18.9	82.2			42.4		40.3	25.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	59.0	17.8		18.9	82.2			42.4		40.3	25.9	
LOS	E	B		B	F			D		D	C	
Approach Delay		26.3			73.7			42.4			37.1	
Approach LOS		C			E			D			D	
Queue Length 50th (ft)	25	78		42	~509			59		170	41	
Queue Length 95th (ft)	#105	149		94	#811			113		#294	86	
Internal Link Dist (ft)		1492			2712			787			1141	
Turn Bay Length (ft)	170			195						140		
Base Capacity (vph)	94	819		490	761			553		569	544	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.65	0.28		0.26	1.08			0.21		0.63	0.19	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 79.4
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 54.8 Intersection LOS: D
Intersection Capacity Utilization 91.6% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Adams Farm Pkwy & Mackay Rd

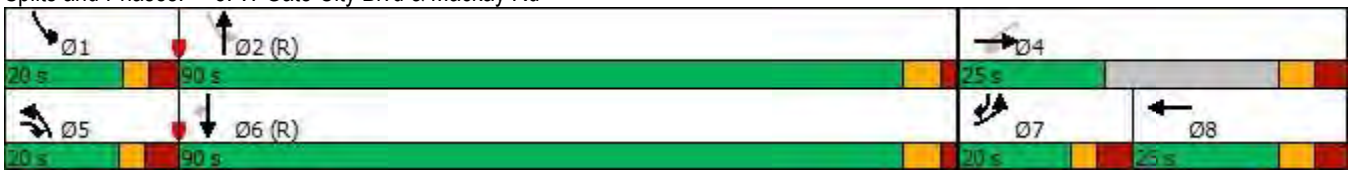


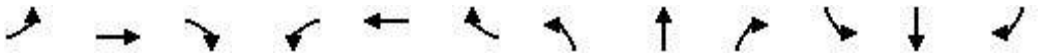
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	253	21	204	18	27	28	355	523	26	33	628	446
Future Volume (vph)	253	21	204	18	27	28	355	523	26	33	628	446
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		805	90		0	550		0	305		325
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Frt			0.850		0.924			0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1721	0	3433	5050	0	1770	5085	1583
Flt Permitted	0.950			0.742			0.950			0.377		
Satd. Flow (perm)	3433	1863	1583	1382	1721	0	3433	5050	0	702	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		2792			1166			6342			1193	
Travel Time (s)		47.6			31.8			96.1			18.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	281	23	227	20	30	31	394	581	29	37	698	496
Shared Lane Traffic (%)												
Lane Group Flow (vph)	281	23	227	20	61	0	394	610	0	37	698	496
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA		Prot	NA		D.P+P	NA	pm+ov
Protected Phases	7	4	5		8		5	2		1	6	7
Permitted Phases			4	4						2		6
Detector Phase	7	4	5	4	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	14.1	50.1	14.0	50.1	54.1		14.0	29.5		14.0	35.5	14.1
Total Split (s)	20.0	25.0	20.0	25.0	25.0		20.0	90.0		20.0	90.0	20.0
Total Split (%)	12.9%	16.1%	12.9%	16.1%	16.1%		12.9%	58.1%		12.9%	58.1%	12.9%
Maximum Green (s)	12.9	16.9	13.1	16.9	16.9		13.1	83.5		13.6	83.5	12.9
Yellow Time (s)	3.0	4.1	3.0	4.1	4.1		3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	4.1	4.0	3.9	4.0	4.0		3.9	2.0		3.4	2.0	4.1
Lost Time Adjust (s)	-2.1	-3.1	-1.9	-3.1	-3.1		-1.9	-1.5		-1.4	-1.5	-2.1
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	6.0		2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		34.0		34.0	39.0			16.0			22.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	39.8	55.1	90.0	55.1	13.3		29.9	79.0		85.9	55.0	99.9
Actuated g/C Ratio	0.26	0.36	0.58	0.36	0.09		0.19	0.51		0.55	0.35	0.64
v/c Ratio	0.32	0.03	0.25	0.04	0.41		0.60	0.24		0.08	0.39	0.49
Control Delay	46.3	26.4	15.4	26.4	75.0		61.8	24.9		19.5	40.5	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	46.3	26.4	15.4	26.4	75.0		61.8	24.9		19.5	40.5	17.1
LOS	D	C	B	C	E		E	C		B	D	B
Approach Delay		32.2			63.0			39.4			30.4	
Approach LOS		C			E			D			C	
Queue Length 50th (ft)	120	15	108	13	60		192	131		16	194	252
Queue Length 95th (ft)	145	29	110	27	109		249	200		44	277	375
Internal Link Dist (ft)		2712			1086			6262			1113	
Turn Bay Length (ft)	470		805	90			550			305		325
Base Capacity (vph)	881	686	918	509	222		661	2966		510	2788	1020
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.32	0.03	0.25	0.04	0.27		0.60	0.21		0.07	0.25	0.49

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Offset: 20 (13%), Referenced to phase 2:NBSB and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 34.8		Intersection LOS: C	
Intersection Capacity Utilization 56.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: W Gate City Blvd & Mackay Rd



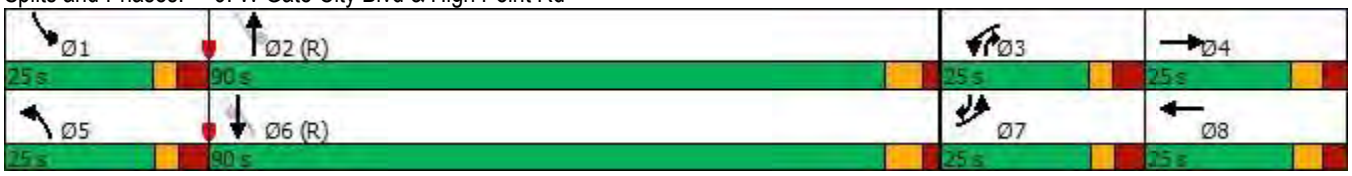


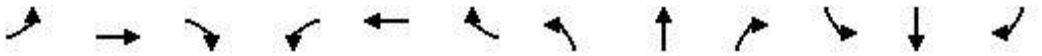
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	64	35	210	40	9	27	391	211	23	721	141
Future Volume (vph)	90	64	35	210	40	9	27	391	211	23	721	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	360		0	400		450	435		215
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.947			0.972				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1764	0	3433	1811	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.313			0.486		
Satd. Flow (perm)	3433	1764	0	3433	1811	0	583	5085	1583	905	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		746			1689			1193			1650	
Travel Time (s)		14.5			32.9			18.1			25.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	100	71	39	233	44	10	30	434	234	26	801	157
Shared Lane Traffic (%)												
Lane Group Flow (vph)	100	110	0	233	54	0	30	434	234	26	801	157
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases							6		2	2		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.7	42.0		13.9	13.9		13.7	18.9	13.9	13.8	18.9	13.7
Total Split (s)	25.0	25.0		25.0	25.0		25.0	90.0	25.0	25.0	90.0	25.0
Total Split (%)	15.2%	15.2%		15.2%	15.2%		15.2%	54.5%	15.2%	15.2%	54.5%	15.2%
Maximum Green (s)	18.3	18.0		18.1	18.1		18.3	83.1	18.1	18.2	83.1	18.3
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.7	3.2		3.9	3.1		3.7	2.2	3.9	3.8	2.2	3.7
Lost Time Adjust (s)	-1.7	-2.0		-1.9	-1.9		-1.7	-1.9	-1.9	-1.8	-1.9	-1.7
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Walk Time (s)		4.0										

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		31.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)	15.1	16.6		17.4	21.7		112.0	107.7	130.1	113.0	105.0	126.1
Actuated g/C Ratio	0.09	0.10		0.11	0.13		0.68	0.65	0.79	0.68	0.64	0.76
v/c Ratio	0.32	0.62		0.64	0.23		0.07	0.13	0.19	0.04	0.25	0.13
Control Delay	74.9	85.7		78.9	63.5		9.5	12.6	5.8	9.3	14.4	7.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.9	85.7		78.9	63.5		9.5	12.6	5.8	9.3	14.4	7.8
LOS	E	F		E	E		A	B	A	A	B	A
Approach Delay		80.5			76.0			10.2			13.2	
Approach LOS		F			E			B			B	
Queue Length 50th (ft)	54	116		126	53		9	68	66	8	137	49
Queue Length 95th (ft)	86	181		170	94		25	101	111	23	189	89
Internal Link Dist (ft)		666			1609			1113			1570	
Turn Bay Length (ft)	50			360			400		450	435		215
Base Capacity (vph)	453	218		423	262		553	3319	1276	741	3236	1274
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.50		0.55	0.21		0.05	0.13	0.18	0.04	0.25	0.12

Intersection Summary			
Area Type:	Other		
Cycle Length: 165			
Actuated Cycle Length: 165			
Offset: 54 (33%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 27.0		Intersection LOS: C	
Intersection Capacity Utilization 43.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: W Gate City Blvd & High Point Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	178	114	7	300	179	118	480	4	205	548	61
Future Volume (vph)	88	178	114	7	300	179	118	480	4	205	548	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430		445	355		285	415		335	395		335
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.561			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	1045	3539	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		3577			1802			3389			6342	
Travel Time (s)		54.2			27.3			51.3			96.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	98	198	127	8	333	199	131	533	4	228	609	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	198	127	8	333	199	131	533	4	228	609	68
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	5		8	1	5	2		1	6	7
Permitted Phases			4	4		8			2			6
Detector Phase	7	4	5	4	8	1	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	7.0
Minimum Split (s)	14.0	25.3	26.0	25.3	20.0	14.9	26.0	25.5	25.5	14.9	25.7	14.0
Total Split (s)	20.0	60.0	26.0	60.0	60.0	20.0	26.0	90.0	90.0	20.0	90.0	20.0
Total Split (%)	10.2%	30.6%	13.3%	30.6%	30.6%	10.2%	13.3%	45.9%	45.9%	10.2%	45.9%	10.2%
Maximum Green (s)	13.2	52.7	18.0	52.7	52.7	12.1	18.0	82.5	82.5	12.1	82.3	13.2
Yellow Time (s)	3.0	4.5	3.0	4.5	4.5	3.0	3.0	4.4	4.4	3.0	4.6	3.0
All-Red Time (s)	3.8	2.8	5.0	2.8	2.8	4.9	5.0	3.1	3.1	4.9	3.1	3.8
Lost Time Adjust (s)	-1.8	-2.3	-3.0	-2.3	-2.3	-2.9	-3.0	-2.5	-2.5	-2.9	-2.7	-1.8
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	6.0	2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	0.0	30.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0		7.0				7.0	7.0		7.0	
Flash Dont Walk (s)		11.0		11.0				11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0		0				0	0		0	
Act Effct Green (s)	11.8	42.3	62.0	42.3	25.5	51.2	14.8	118.0	118.0	20.7	124.0	140.8
Actuated g/C Ratio	0.06	0.22	0.32	0.22	0.13	0.26	0.08	0.60	0.60	0.11	0.63	0.72
v/c Ratio	0.48	0.26	0.25	0.04	0.72	0.48	0.51	0.17	0.00	0.63	0.19	0.06
Control Delay	96.4	63.6	49.4	57.4	91.0	64.3	93.7	18.4	19.2	91.7	16.0	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.4	63.6	49.4	57.4	91.0	64.3	93.7	18.4	19.2	91.7	16.0	9.3
LOS	F	E	D	E	F	E	F	B	B	F	B	A
Approach Delay		67.0			80.6			33.2			34.6	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)	64	113	123	8	221	219	85	109	2	147	116	24
Queue Length 95th (ft)	98	145	168	25	272	289	124	154	10	195	163	50
Internal Link Dist (ft)		3497			1722			3309			6262	
Turn Bay Length (ft)	430		445	355		285	415		335	395		335
Base Capacity (vph)	262	1354	551	399	993	413	367	3061	953	362	3216	1162
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.15	0.23	0.02	0.34	0.48	0.36	0.17	0.00	0.63	0.19	0.06

Intersection Summary			
Area Type:	Other		
Cycle Length: 196			
Actuated Cycle Length: 196			
Offset: 20 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 49.4		Intersection LOS: D	
Intersection Capacity Utilization 47.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd



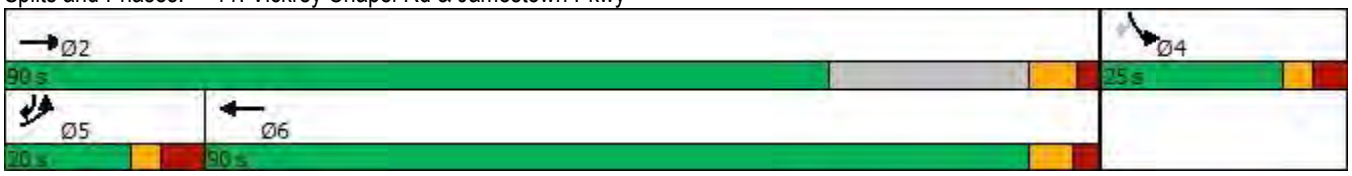


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	98	155	192	18	23	112
Future Volume (vph)	98	155	192	18	23	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	445			575	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	100				100	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	3539	1863	1583	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	3539	1863	1583	3433	1583
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		45	
Link Distance (ft)		638	755		3389	
Travel Time (s)		12.4	14.7		51.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	109	172	213	20	26	124
Shared Lane Traffic (%)						
Lane Group Flow (vph)	109	172	213	20	26	124
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		48	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Free	Prot	pm+ov
Protected Phases	5	2	6		4	5
Permitted Phases				Free		4
Detector Phase	5	2	6		4	5
Switch Phase						
Minimum Initial (s)	7.0	12.0	12.0		7.0	7.0
Minimum Split (s)	14.4	20.0	20.0		20.0	14.4
Total Split (s)	20.0	90.0	90.0		25.0	20.0
Total Split (%)	14.8%	66.7%	66.7%		18.5%	14.8%
Maximum Green (s)	12.6	82.8	82.9		18.3	12.6
Yellow Time (s)	3.0	4.8	4.3		3.0	3.0
All-Red Time (s)	4.4	2.4	2.8		3.7	4.4
Lost Time Adjust (s)	-2.4	-2.2	-2.1		-1.7	-2.4
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	6.0	6.0		2.0	2.0
Minimum Gap (s)	3.0	3.0	3.0		3.0	3.0
Time Before Reduce (s)	0.0	15.0	15.0		0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Time To Reduce (s)	0.0	30.0	30.0		0.0	0.0
Recall Mode	None	Min	Min		None	None
Act Effct Green (s)	9.6	34.7	15.7	37.7	8.9	11.8
Actuated g/C Ratio	0.25	0.92	0.42	1.00	0.24	0.31
v/c Ratio	0.12	0.05	0.27	0.01	0.03	0.25
Control Delay	12.2	1.6	10.1	0.0	12.9	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.2	1.6	10.1	0.0	12.9	9.8
LOS	B	A	B	A	B	A
Approach Delay		5.7	9.2		10.3	
Approach LOS		A	A		B	
Queue Length 50th (ft)	7	0	22	0	1	17
Queue Length 95th (ft)	28	16	90	0	10	39
Internal Link Dist (ft)		558	675		3309	
Turn Bay Length (ft)	445			575		
Base Capacity (vph)	1391	3539	1863	1583	1855	733
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.05	0.11	0.01	0.01	0.17

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 37.7			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.27			
Intersection Signal Delay: 8.0		Intersection LOS: A	
Intersection Capacity Utilization 34.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Vickrey Chapel Rd & Jamestown Pkwy





Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	636	84	168	347	1	353	753
Future Volume (vph)	636	84	168	347	1	353	753
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	195	135	140		125		330
Storage Lanes	1	1	1		1		1
Taper Length (ft)	100		100		100		
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	0.95	1.00
Frt		0.850					0.850
Flt Protected	0.950		0.950		0.950		
Satd. Flow (prot)	3433	1583	1770	3539	1770	3539	1583
Flt Permitted	0.950		0.498		0.523		
Satd. Flow (perm)	3433	1583	928	3539	974	3539	1583
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	35			45		45	
Link Distance (ft)	471			1464		1684	
Travel Time (s)	9.2			22.2		25.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	707	93	187	386	1	392	837
Shared Lane Traffic (%)							
Lane Group Flow (vph)	707	93	187	386	1	392	837
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right
Median Width(ft)	24			12		12	
Link Offset(ft)	0			0		0	
Crosswalk Width(ft)	16			16		16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15		9		9
Turn Type	Prot	pm+ov	D.P+P	NA	D.Pm	NA	pm+ov
Protected Phases	4	5	5	2		6	4
Permitted Phases		4	6		2		6
Detector Phase	4	5	5	2	2	6	4
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	12.0	7.0
Minimum Split (s)	20.0	14.0	14.0	20.0	20.0	41.5	20.0
Total Split (s)	25.0	15.0	15.0	100.0	100.0	100.0	25.0
Total Split (%)	17.9%	10.7%	10.7%	71.4%	71.4%	71.4%	17.9%
Maximum Green (s)	18.7	9.6	9.6	93.5	93.5	93.5	18.7
Yellow Time (s)	3.0	3.0	3.0	4.6	4.6	4.6	3.0
All-Red Time (s)	3.3	2.4	2.4	1.9	1.9	1.9	3.3
Lost Time Adjust (s)	-1.3	-0.4	-0.4	-1.5	-1.5	-1.5	-1.3
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead			Lag	
Lead-Lag Optimize?		Yes	Yes			Yes	
Vehicle Extension (s)	1.0	1.0	1.0	6.0	6.0	6.0	1.0
Recall Mode	None	None	None	Min	Min	Min	None
Walk Time (s)						7.0	

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Flash Dont Walk (s)						28.0	
Pedestrian Calls (#/hr)						0	
Act Effct Green (s)	20.0	32.9	21.7	26.7	26.7	13.8	38.8
Actuated g/C Ratio	0.35	0.58	0.38	0.47	0.47	0.24	0.68
v/c Ratio	0.58	0.10	0.40	0.23	0.00	0.46	0.77
Control Delay	17.6	5.7	11.8	9.3	8.0	20.4	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.6	5.7	11.8	9.3	8.0	20.4	13.0
LOS	B	A	B	A	A	C	B
Approach Delay	16.2			10.1		15.4	
Approach LOS	B			B		B	
Queue Length 50th (ft)	95	12	35	37	0	58	141
Queue Length 95th (ft)	154	29	67	60	2	97	#346
Internal Link Dist (ft)	391			1384		1604	
Turn Bay Length (ft)	195	135	140		125		330
Base Capacity (vph)	1211	977	537	3539	974	3539	1082
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.10	0.35	0.11	0.00	0.11	0.77

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 56.7
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 14.5 Intersection LOS: B
Intersection Capacity Utilization 64.3% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Guilford College Rd & Guilford Rd



2023 Phase 1 Build Traffic Volumes

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	175	345	4	4	19
Future Vol, veh/h	5	175	345	4	4	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	194	383	4	4	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	387	0	-	0	591	385
Stage 1	-	-	-	-	385	-
Stage 2	-	-	-	-	206	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1171	-	-	-	470	663
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	829	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1171	-	-	-	467	663
Mov Cap-2 Maneuver	-	-	-	-	467	-
Stage 1	-	-	-	-	684	-
Stage 2	-	-	-	-	829	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1171	-	-	-	618
HCM Lane V/C Ratio	0.005	-	-	-	0.041
HCM Control Delay (s)	8.1	0	-	-	11.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	175	4	4	304	4	18	4	16	9	4	26
Future Vol, veh/h	4	175	4	4	304	4	18	4	16	9	4	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	160	-	-	-	-	235	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	194	4	4	338	4	20	4	18	10	4	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	342	0	0	198	0	0	569	554	196	561	552	338
Stage 1	-	-	-	-	-	-	204	204	-	346	346	-
Stage 2	-	-	-	-	-	-	365	350	-	215	206	-
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	1217	-	-	1375	-	-	433	440	845	438	442	704
Stage 1	-	-	-	-	-	-	798	733	-	670	635	-
Stage 2	-	-	-	-	-	-	654	633	-	787	731	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1217	-	-	1375	-	-	410	437	845	423	439	704
Mov Cap-2 Maneuver	-	-	-	-	-	-	410	437	-	423	439	-
Stage 1	-	-	-	-	-	-	796	731	-	668	632	-
Stage 2	-	-	-	-	-	-	620	630	-	763	729	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	12.4	11.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	528	1217	-	-	1375	-	-	579
HCM Lane V/C Ratio	0.08	0.004	-	-	0.003	-	-	0.075
HCM Control Delay (s)	12.4	8	-	-	7.6	0	-	11.7
HCM Lane LOS	B	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	187	4	23	247	4	33	4	35	26	4	29
Future Vol, veh/h	5	187	4	23	247	4	33	4	35	26	4	29
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	100	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	208	4	26	274	4	37	4	39	29	4	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	278	0	0	212	0	0	568	552	210	570	550	274
Stage 1	-	-	-	-	-	-	222	222	-	326	326	-
Stage 2	-	-	-	-	-	-	346	330	-	244	224	-
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	1285	-	-	1358	-	-	434	442	830	432	443	765
Stage 1	-	-	-	-	-	-	780	720	-	687	648	-
Stage 2	-	-	-	-	-	-	670	646	-	760	718	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1285	-	-	1358	-	-	404	430	830	400	431	765
Mov Cap-2 Maneuver	-	-	-	-	-	-	404	430	-	400	431	-
Stage 1	-	-	-	-	-	-	776	716	-	684	633	-
Stage 2	-	-	-	-	-	-	623	631	-	717	714	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.6	12.8	12.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	541	1285	-	-	1358	-	-	526
HCM Lane V/C Ratio	0.148	0.004	-	-	0.019	-	-	0.125
HCM Control Delay (s)	12.8	7.8	-	-	7.7	0	-	12.8
HCM Lane LOS	B	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.4

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	244	250	4	12	26
Future Vol, veh/h	9	244	250	4	12	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	115	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	271	278	4	13	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	282	0	-	0	569	139
Stage 1	-	-	-	-	278	-
Stage 2	-	-	-	-	291	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1279	-	-	-	468	884
Stage 1	-	-	-	-	745	-
Stage 2	-	-	-	-	758	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1279	-	-	-	464	884
Mov Cap-2 Maneuver	-	-	-	-	464	-
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	758	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1279	-	-	-	687
HCM Lane V/C Ratio	0.008	-	-	-	0.061
HCM Control Delay (s)	7.8	-	-	-	10.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.2

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	0	522	4	4	329	4	4
Future Vol, veh/h	0	522	4	4	329	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	410	-	75	365	-	125	0
Veh in Median Storage, #	-	0	-	-	0	0	-
Grade, %	-	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	580	4	4	366	4	4

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	366	0	0	584	0	771	290
Stage 1	-	-	-	-	-	580	-
Stage 2	-	-	-	-	-	191	-
Critical Hdwy	6.44	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.52	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	841	-	-	987	-	337	707
Stage 1	-	-	-	-	-	523	-
Stage 2	-	-	-	-	-	822	-
Platoon blocked, %		-	-		-		
Mov Cap-1 Maneuver	841	-	-	987	-	336	707
Mov Cap-2 Maneuver	-	-	-	-	-	336	-
Stage 1	-	-	-	-	-	523	-
Stage 2	-	-	-	-	-	819	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	13
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT
Capacity (veh/h)	336	707	841	-	-	987	-
HCM Lane V/C Ratio	0.013	0.006	-	-	-	0.005	-
HCM Control Delay (s)	15.9	10.1	0	-	-	8.7	-
HCM Lane LOS	C	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	602	4	9	611	4	8
Future Vol, veh/h	602	4	9	611	4	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	669	4	10	679	4	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	673	0	1370	671
Stage 1	-	-	-	-	671	-
Stage 2	-	-	-	-	699	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	918	-	161	456
Stage 1	-	-	-	-	508	-
Stage 2	-	-	-	-	493	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	918	-	158	456
Mov Cap-2 Maneuver	-	-	-	-	158	-
Stage 1	-	-	-	-	508	-
Stage 2	-	-	-	-	485	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	18.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	280	-	-	918	-
HCM Lane V/C Ratio	0.048	-	-	0.011	-
HCM Control Delay (s)	18.5	-	-	9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	4	27	27	4	34	15	656	12	10	874	10
Future Vol, veh/h	12	4	27	27	4	34	15	656	12	10	874	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	135	-	-	130	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	4	30	30	4	38	17	729	13	11	971	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1394	1769	486	1280	1774	371	982	0	0	742	0	0
Stage 1	993	993	-	770	770	-	-	-	-	-	-	-
Stage 2	401	776	-	510	1004	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	101	83	527	123	82	626	699	-	-	861	-	-
Stage 1	263	322	-	359	408	-	-	-	-	-	-	-
Stage 2	597	406	-	514	318	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	88	80	527	108	79	626	699	-	-	861	-	-
Mov Cap-2 Maneuver	88	80	-	108	79	-	-	-	-	-	-	-
Stage 1	257	318	-	350	398	-	-	-	-	-	-	-
Stage 2	541	396	-	472	314	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	31.9	36.9	0.2	0.1
HCM LOS	D	E		

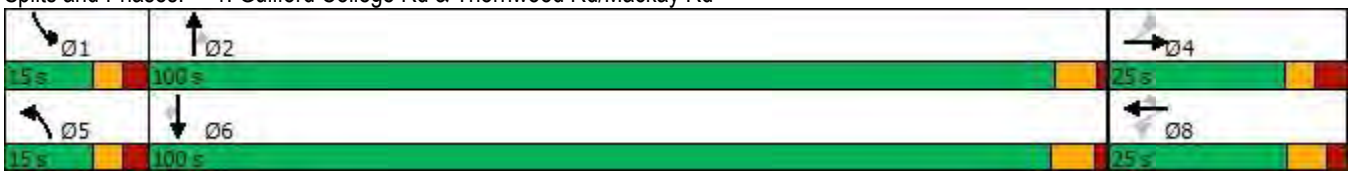
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	699	-	-	181	183	861	-	-
HCM Lane V/C Ratio	0.024	-	-	0.264	0.395	0.013	-	-
HCM Control Delay (s)	10.3	-	-	31.9	36.9	9.2	-	-
HCM Lane LOS	B	-	-	D	E	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1	1.7	0	-	-

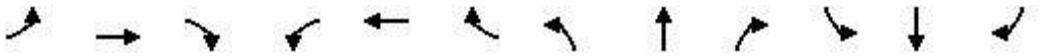
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	8	51	183	4	167	17	581	100	57	614	13
Future Volume (vph)	45	8	51	183	4	167	17	581	100	57	614	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	190		190	120		205	310		150
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.870				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1621	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.755			0.714			0.950			0.950		
Satd. Flow (perm)	1406	1621	0	1330	1863	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			40			45			45	
Link Distance (ft)		1208			505			1538			1743	
Travel Time (s)		32.9			8.6			23.3			26.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	50	9	57	203	4	186	19	646	111	63	682	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	66	0	203	4	186	19	646	111	63	682	14
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	13.6	13.6		13.5	13.5	13.5	12.8	17.7	17.7	12.8	18.1	18.1
Total Split (s)	25.0	25.0		25.0	25.0	25.0	15.0	100.0	100.0	15.0	100.0	100.0
Total Split (%)	17.9%	17.9%		17.9%	17.9%	17.9%	10.7%	71.4%	71.4%	10.7%	71.4%	71.4%
Maximum Green (s)	18.4	18.4		18.5	18.5	18.5	9.2	94.3	94.3	9.2	93.9	93.9
Yellow Time (s)	3.1	3.1		4.2	4.2	4.2	3.0	4.4	4.4	3.0	4.6	4.6
All-Red Time (s)	3.5	3.5		2.3	2.3	2.3	2.8	1.3	1.3	2.8	1.5	1.5
Lost Time Adjust (s)	-1.6	-1.6		-1.5	-1.5	-1.5	-0.8	-0.7	-0.7	-0.8	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	6.0	6.0	1.0	6.0	6.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	45.0	45.0	0.0	45.0	45.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	20.5	20.5		20.5	20.5	20.5	8.1	18.4	18.4	8.2	23.2	23.2
Actuated g/C Ratio	0.36	0.36		0.36	0.36	0.36	0.14	0.33	0.33	0.15	0.41	0.41
v/c Ratio	0.10	0.11		0.42	0.01	0.32	0.07	0.56	0.21	0.24	0.47	0.02
Control Delay	16.7	16.5		20.3	16.2	18.4	26.6	18.3	16.2	27.9	13.3	10.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.7	16.5		20.3	16.2	18.4	26.6	18.3	16.2	27.9	13.3	10.7
LOS	B	B		C	B	B	C	B	B	C	B	B
Approach Delay		16.6			19.4			18.2			14.5	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	13	17		58	1	51	6	105	30	21	73	2
Queue Length 95th (ft)	39	48		133	8	116	25	154	64	58	161	14
Internal Link Dist (ft)		1128			425			1458			1663	
Turn Bay Length (ft)	75			190		190	120		205	310		150
Base Capacity (vph)	517	596		489	685	582	325	3539	1583	325	3539	1583
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.11		0.42	0.01	0.32	0.06	0.18	0.07	0.19	0.19	0.01

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 56.2			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 16.9		Intersection LOS: B	
Intersection Capacity Utilization 52.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Guilford College Rd & Thornwood Rd/Mackay Rd





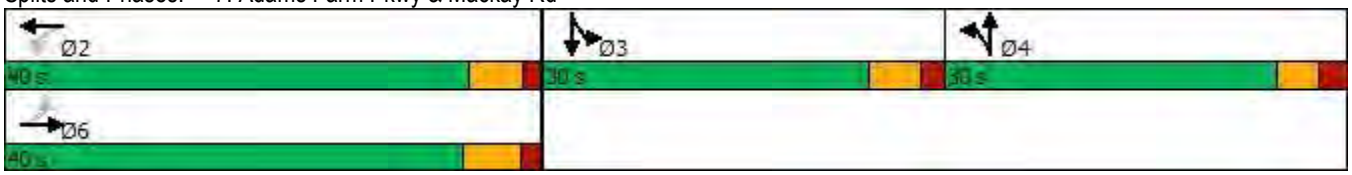
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	254	7	26	94	201	39	26	121	418	4	77
Future Volume (vph)	68	254	7	26	94	201	39	26	121	418	4	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	195		0	0		0	140		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.898			0.912			0.857	
Flt Protected	0.950			0.950				0.990		0.950		
Satd. Flow (prot)	1770	1855	0	1770	1673	0	0	1682	0	1770	1596	0
Flt Permitted	0.362			0.422				0.990		0.950		
Satd. Flow (perm)	674	1855	0	786	1673	0	0	1682	0	1770	1596	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		1572			2792			867			1221	
Travel Time (s)		26.8			47.6			23.6			23.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	76	282	8	29	104	223	43	29	134	464	4	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	290	0	29	327	0	0	206	0	464	90	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		6			2		4	4		3	3	
Permitted Phases	6			2								
Detector Phase	6	6		2	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		26.3	26.3		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	34.1	34.1		34.5	34.5		24.7	24.7		24.3	24.3	
Yellow Time (s)	4.3	4.3		4.1	4.1		3.1	3.1		3.9	3.9	
All-Red Time (s)	1.6	1.6		1.4	1.4		2.2	2.2		1.8	1.8	
Lost Time Adjust (s)	-0.9	-0.9		-0.5	-0.5			-0.3		-0.7	-0.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)							7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)							14.0	14.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)	19.8	19.8		19.8	19.8			13.9		25.5	25.5	
Actuated g/C Ratio	0.27	0.27		0.27	0.27			0.19		0.34	0.34	
v/c Ratio	0.42	0.59		0.14	0.74			0.66		0.77	0.16	
Control Delay	31.6	29.5		23.3	36.1			39.3		34.9	21.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	31.6	29.5		23.3	36.1			39.3		34.9	21.8	
LOS	C	C		C	D			D		C	C	
Approach Delay		30.0			35.1			39.3			32.8	
Approach LOS		C			D			D			C	
Queue Length 50th (ft)	28	114		10	135			85		179	27	
Queue Length 95th (ft)	74	210		33	248			176		#463	80	
Internal Link Dist (ft)		1492			2712			787			1141	
Turn Bay Length (ft)	170			195						140		
Base Capacity (vph)	322	888		376	801			575		605	546	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.24	0.33		0.08	0.41			0.36		0.77	0.16	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 74.4
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 33.6 Intersection LOS: C
Intersection Capacity Utilization 79.7% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Adams Farm Pkwy & Mackay Rd

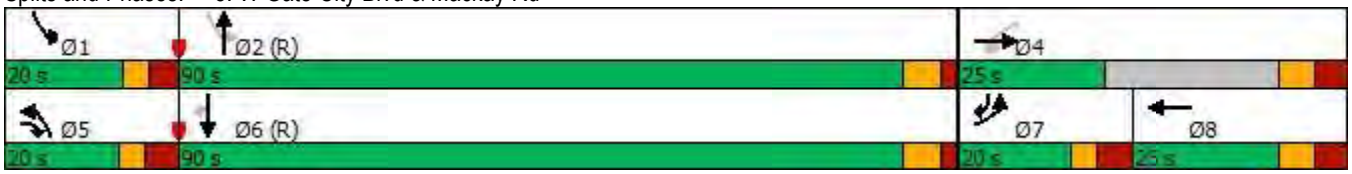


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	336	40	303	65	38	40	176	389	62	70	551	154
Future Volume (vph)	336	40	303	65	38	40	176	389	62	70	551	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		805	90		0	550		0	305		325
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Frt			0.850		0.923			0.979				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1719	0	3433	4979	0	1770	5085	1583
Flt Permitted	0.950			0.728			0.950			0.440		
Satd. Flow (perm)	3433	1863	1583	1356	1719	0	3433	4979	0	820	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		2792			1166			6342			1193	
Travel Time (s)		47.6			31.8			96.1			18.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	373	44	337	72	42	44	196	432	69	78	612	171
Shared Lane Traffic (%)												
Lane Group Flow (vph)	373	44	337	72	86	0	196	501	0	78	612	171
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA		Prot	NA		D.P+P	NA	pm+ov
Protected Phases	7	4	5		8		5	2		1	6	7
Permitted Phases			4	4						2		6
Detector Phase	7	4	5	4	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	14.1	50.1	14.0	50.1	54.1		14.0	29.5		14.0	35.5	14.1
Total Split (s)	20.0	25.0	20.0	25.0	25.0		20.0	90.0		20.0	90.0	20.0
Total Split (%)	12.9%	16.1%	12.9%	16.1%	16.1%		12.9%	58.1%		12.9%	58.1%	12.9%
Maximum Green (s)	12.9	16.9	13.1	16.9	16.9		13.1	83.5		13.6	83.5	12.9
Yellow Time (s)	3.0	4.1	3.0	4.1	4.1		3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	4.1	4.0	3.9	4.0	4.0		3.9	2.0		3.4	2.0	4.1
Lost Time Adjust (s)	-2.1	-3.1	-1.9	-3.1	-3.1		-1.9	-1.5		-1.4	-1.5	-2.1
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	6.0		2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		34.0		34.0	39.0			16.0			22.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	28.0	48.2	66.9	48.2	15.2		13.7	82.7		91.8	78.1	111.0
Actuated g/C Ratio	0.18	0.31	0.43	0.31	0.10		0.09	0.53		0.59	0.50	0.72
v/c Ratio	0.60	0.08	0.49	0.17	0.51		0.64	0.19		0.14	0.24	0.15
Control Delay	63.3	37.1	34.0	39.3	76.2		78.2	19.4		12.8	22.6	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	63.3	37.1	34.0	39.3	76.2		78.2	19.4		12.8	22.6	8.1
LOS	E	D	C	D	E		E	B		B	C	A
Approach Delay		48.7			59.4			36.0			18.8	
Approach LOS		D			E			D			B	
Queue Length 50th (ft)	182	32	247	54	84		100	91		29	123	51
Queue Length 95th (ft)	237	61	311	92	141		142	129		57	169	93
Internal Link Dist (ft)		2712			1086			6262			1113	
Turn Bay Length (ft)	470		805	90			550			305		325
Base Capacity (vph)	619	579	698	421	222		336	2742		603	2788	1134
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.60	0.08	0.48	0.17	0.39		0.58	0.18		0.13	0.22	0.15

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Offset: 20 (13%), Referenced to phase 2:NBSB and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 35.4		Intersection LOS: D	
Intersection Capacity Utilization 47.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: W Gate City Blvd & Mackay Rd

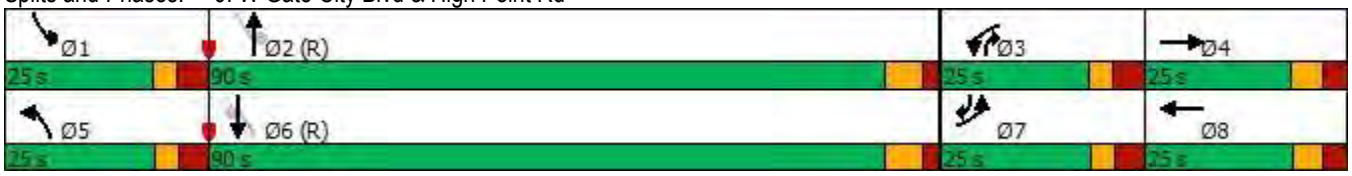


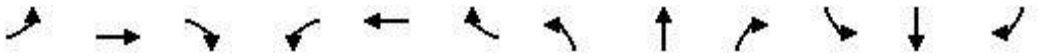
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	11	9	133	12	11	12	499	174	10	464	38
Future Volume (vph)	62	11	9	133	12	11	12	499	174	10	464	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	360		0	400		450	435		215
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.932			0.928				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1736	0	3433	1729	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.450			0.432		
Satd. Flow (perm)	3433	1736	0	3433	1729	0	838	5085	1583	805	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		746			1689			1193			1650	
Travel Time (s)		14.5			32.9			18.1			25.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	69	12	10	148	13	12	13	554	193	11	516	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	69	22	0	148	25	0	13	554	193	11	516	42
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases							6		2	2		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.7	42.0		13.9	13.9		13.7	18.9	13.9	13.8	18.9	13.7
Total Split (s)	25.0	25.0		25.0	25.0		25.0	90.0	25.0	25.0	90.0	25.0
Total Split (%)	15.2%	15.2%		15.2%	15.2%		15.2%	54.5%	15.2%	15.2%	54.5%	15.2%
Maximum Green (s)	18.3	18.0		18.1	18.1		18.3	83.1	18.1	18.2	83.1	18.3
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.7	3.2		3.9	3.1		3.7	2.2	3.9	3.8	2.2	3.7
Lost Time Adjust (s)	-1.7	-2.0		-1.9	-1.9		-1.7	-1.9	-1.9	-1.8	-1.9	-1.7
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Walk Time (s)		4.0										

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		31.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)	10.7	9.6		13.4	12.2		130.6	127.1	147.5	130.6	127.2	144.9
Actuated g/C Ratio	0.06	0.06		0.08	0.07		0.79	0.77	0.89	0.79	0.77	0.88
v/c Ratio	0.31	0.22		0.53	0.20		0.02	0.14	0.14	0.02	0.13	0.03
Control Delay	77.4	79.2		79.5	73.9		5.1	6.5	2.7	5.1	6.5	3.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.4	79.2		79.5	73.9		5.1	6.5	2.7	5.1	6.5	3.6
LOS	E	E		E	E		A	A	A	A	A	A
Approach Delay		77.9			78.7			5.5			6.2	
Approach LOS		E			E			A			A	
Queue Length 50th (ft)	37	23		80	26		3	49	20	2	45	5
Queue Length 95th (ft)	65	55		118	58		10	98	66	8	91	21
Internal Link Dist (ft)		666			1609			1113			1570	
Turn Bay Length (ft)	50			360			400		450	435		215
Base Capacity (vph)	416	210		416	209		786	3917	1444	763	3918	1444
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.10		0.36	0.12		0.02	0.14	0.13	0.01	0.13	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 165			
Actuated Cycle Length: 165			
Offset: 54 (33%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay: 17.8		Intersection LOS: B	
Intersection Capacity Utilization 34.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: W Gate City Blvd & High Point Rd



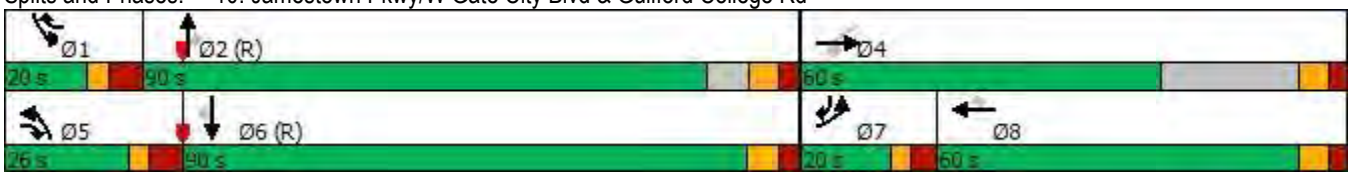


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	241	154	4	213	161	103	438	5	173	650	35
Future Volume (vph)	74	241	154	4	213	161	103	438	5	173	650	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430		445	355		285	415		335	395		335
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.446			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	831	3539	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		3577			1802			3389			6342	
Travel Time (s)		54.2			27.3			51.3			96.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	82	268	171	4	237	179	114	487	6	192	722	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	268	171	4	237	179	114	487	6	192	722	39
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	5		8	1	5	2		1	6	7
Permitted Phases			4	4		8			2			6
Detector Phase	7	4	5	4	8	1	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	7.0
Minimum Split (s)	14.0	25.3	26.0	25.3	20.0	14.9	26.0	25.5	25.5	14.9	25.7	14.0
Total Split (s)	20.0	60.0	26.0	60.0	60.0	20.0	26.0	90.0	90.0	20.0	90.0	20.0
Total Split (%)	10.2%	30.6%	13.3%	30.6%	30.6%	10.2%	13.3%	45.9%	45.9%	10.2%	45.9%	10.2%
Maximum Green (s)	13.2	52.7	18.0	52.7	52.7	12.1	18.0	82.5	82.5	12.1	82.3	13.2
Yellow Time (s)	3.0	4.5	3.0	4.5	4.5	3.0	3.0	4.4	4.4	3.0	4.6	3.0
All-Red Time (s)	3.8	2.8	5.0	2.8	2.8	4.9	5.0	3.1	3.1	4.9	3.1	3.8
Lost Time Adjust (s)	-1.8	-2.3	-3.0	-2.3	-2.3	-2.9	-3.0	-2.5	-2.5	-2.9	-2.7	-1.8
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	6.0	2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	0.0	30.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0		7.0				7.0	7.0		7.0	
Flash Dont Walk (s)		11.0		11.0				11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0		0				0	0		0	
Act Effct Green (s)	11.0	36.0	54.6	36.0	19.9	43.0	13.6	126.9	126.9	18.1	131.4	147.4
Actuated g/C Ratio	0.06	0.18	0.28	0.18	0.10	0.22	0.07	0.65	0.65	0.09	0.67	0.75
v/c Ratio	0.42	0.41	0.39	0.03	0.66	0.52	0.48	0.15	0.01	0.61	0.21	0.03
Control Delay	95.8	71.9	58.7	62.5	93.5	71.8	94.1	14.3	15.0	93.5	13.2	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.8	71.9	58.7	62.5	93.5	71.8	94.1	14.3	15.0	93.5	13.2	7.2
LOS	F	E	E	E	F	E	F	B	B	F	B	A
Approach Delay		71.3			84.0			29.3			29.1	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)	54	163	180	4	157	206	74	86	3	125	125	12
Queue Length 95th (ft)	86	204	242	17	205	280	110	123	11	170	172	28
Internal Link Dist (ft)		3497			1722			3309			6262	
Turn Bay Length (ft)	430		445	355		285	415		335	395		335
Base Capacity (vph)	262	1354	500	317	993	349	367	3292	1024	320	3408	1222
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.20	0.34	0.01	0.24	0.51	0.31	0.15	0.01	0.60	0.21	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 196			
Actuated Cycle Length: 196			
Offset: 20 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 47.2		Intersection LOS: D	
Intersection Capacity Utilization 47.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd



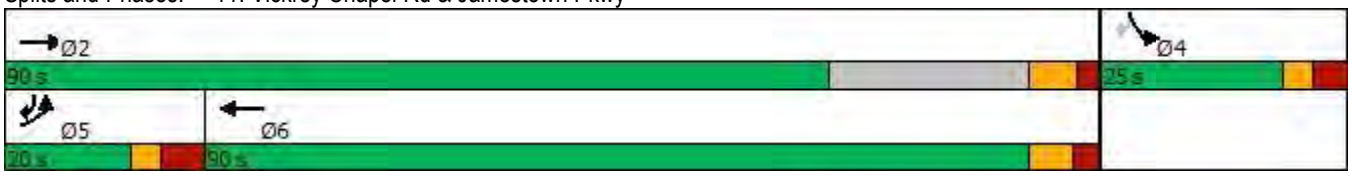


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	159	171	205	26	25	226
Future Volume (vph)	159	171	205	26	25	226
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	445			575	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	100				100	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	3539	1863	1583	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	3539	1863	1583	3433	1583
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		45	
Link Distance (ft)		638	755		3389	
Travel Time (s)		12.4	14.7		51.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	177	190	228	29	28	251
Shared Lane Traffic (%)						
Lane Group Flow (vph)	177	190	228	29	28	251
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		48	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Free	Prot	pm+ov
Protected Phases	5	2	6		4	5
Permitted Phases				Free		4
Detector Phase	5	2	6		4	5
Switch Phase						
Minimum Initial (s)	7.0	12.0	12.0		7.0	7.0
Minimum Split (s)	14.4	20.0	20.0		20.0	14.4
Total Split (s)	20.0	90.0	90.0		25.0	20.0
Total Split (%)	14.8%	66.7%	66.7%		18.5%	14.8%
Maximum Green (s)	12.6	82.8	82.9		18.3	12.6
Yellow Time (s)	3.0	4.8	4.3		3.0	3.0
All-Red Time (s)	4.4	2.4	2.8		3.7	4.4
Lost Time Adjust (s)	-2.4	-2.2	-2.1		-1.7	-2.4
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	6.0	6.0		2.0	2.0
Minimum Gap (s)	3.0	3.0	3.0		3.0	3.0
Time Before Reduce (s)	0.0	15.0	15.0		0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Time To Reduce (s)	0.0	30.0	30.0		0.0	0.0
Recall Mode	None	Min	Min		None	None
Act Effct Green (s)	10.3	34.1	14.4	37.0	8.9	12.4
Actuated g/C Ratio	0.28	0.92	0.39	1.00	0.24	0.34
v/c Ratio	0.19	0.06	0.31	0.02	0.03	0.47
Control Delay	12.2	1.5	10.9	0.0	13.2	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.2	1.5	10.9	0.0	13.2	12.5
LOS	B	A	B	A	B	B
Approach Delay		6.6	9.7		12.6	
Approach LOS		A	A		B	
Queue Length 50th (ft)	12	0	24	0	2	38
Queue Length 95th (ft)	41	17	100	0	11	74
Internal Link Dist (ft)		558	675		3309	
Turn Bay Length (ft)	445			575		
Base Capacity (vph)	1420	3539	1863	1583	1894	744
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.05	0.12	0.02	0.01	0.34

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 37			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay: 9.3		Intersection LOS: A	
Intersection Capacity Utilization 35.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Vickrey Chapel Rd & Jamestown Pkwy



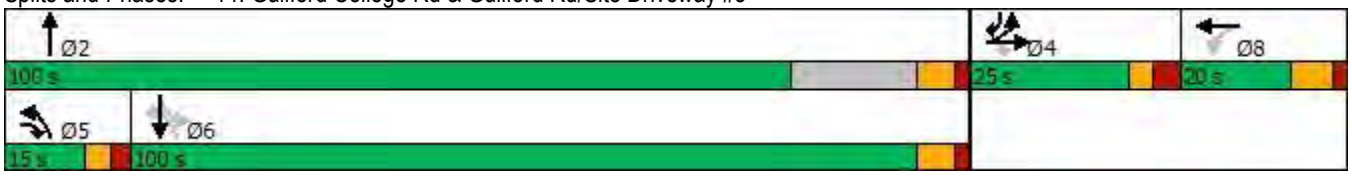
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	494	4	113	15	10	14	60	259	10	5	394	550
Future Volume (vph)	494	4	113	15	10	14	60	259	10	5	394	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	195		135	0		0	140		0	125		330
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.951			0.994				0.850
Flt Protected	0.950	0.953			0.981		0.950			0.950		
Satd. Flow (prot)	1681	1686	1583	0	1738	0	1770	3518	0	1770	3539	1583
Flt Permitted	0.950	0.953			0.749		0.397			0.569		
Satd. Flow (perm)	1681	1686	1583	0	1327	0	740	3518	0	1060	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			45			45			45	
Link Distance (ft)		471			717			1464			1684	
Travel Time (s)		9.2			10.9			22.2			25.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	549	4	126	17	11	16	67	288	11	6	438	611
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	274	279	126	0	44	0	67	299	0	6	438	611
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	pm+ov	Perm	NA		D.P+P	NA		Perm	NA	pm+ov
Protected Phases	4	4	5		8		5	2			6	4
Permitted Phases			4	8			6			6		6
Detector Phase	4	4	5	8	8		5	2		6	6	4
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		12.0	12.0	7.0
Minimum Split (s)	20.0	20.0	14.0	20.0	20.0		14.0	20.0		41.5	41.5	20.0
Total Split (s)	25.0	25.0	15.0	20.0	20.0		15.0	100.0		100.0	100.0	25.0
Total Split (%)	15.6%	15.6%	9.4%	12.5%	12.5%		9.4%	62.5%		62.5%	62.5%	15.6%
Maximum Green (s)	18.7	18.7	9.6	13.0	13.0		9.6	93.5		93.5	93.5	18.7
Yellow Time (s)	3.0	3.0	3.0	5.0	5.0		3.0	4.6		4.6	4.6	3.0
All-Red Time (s)	3.3	3.3	2.4	2.0	2.0		2.4	1.9		1.9	1.9	3.3
Lost Time Adjust (s)	-1.3	-2.0	-0.4		-2.0		-0.4	-1.5		-2.0	-1.5	-1.3
Total Lost Time (s)	5.0	4.3	5.0		5.0		5.0	5.0		4.5	5.0	5.0
Lead/Lag			Lead				Lead			Lag	Lag	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0	3.0	3.0		1.0	6.0		6.0	6.0	1.0
Recall Mode	None	None	None	None	None		None	Min		Min	Min	None
Walk Time (s)										7.0	7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)										28.0	28.0	
Pedestrian Calls (#/hr)										0	0	
Act Effct Green (s)	20.5	21.2	30.5		10.2		23.6	28.8		16.6	16.1	41.7
Actuated g/C Ratio	0.30	0.31	0.45		0.15		0.35	0.42		0.24	0.24	0.61
v/c Ratio	0.54	0.53	0.18		0.22		0.18	0.20		0.02	0.52	0.63
Control Delay	27.4	26.6	9.1		31.7		15.4	14.2		22.6	26.3	13.9
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	27.4	26.6	9.1		31.7		15.4	14.2		22.6	26.3	13.9
LOS	C	C	A		C		B	B		C	C	B
Approach Delay		23.7			31.7			14.4			19.1	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	111	112	19		18		19	46		2	93	181
Queue Length 95th (ft)	214	215	44		49		44	75		11	142	318
Internal Link Dist (ft)		391			637			1384			1604	
Turn Bay Length (ft)	195		135				140			125		330
Base Capacity (vph)	506	525	772		300		441	3518		1060	3539	970
Starvation Cap Reductn	0	0	0		0		0	0		0	0	0
Spillback Cap Reductn	0	0	0		0		0	0		0	0	0
Storage Cap Reductn	0	0	0		0		0	0		0	0	0
Reduced v/c Ratio	0.54	0.53	0.16		0.15		0.15	0.08		0.01	0.12	0.63

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 68
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 20.0 Intersection LOS: B
Intersection Capacity Utilization 58.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 14: Guilford College Rd & Guilford Rd/Site Driveway #3



Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	381	269	5	4	11
Future Vol, veh/h	10	381	269	5	4	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	423	299	6	4	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	305	0	-	0	747	302
Stage 1	-	-	-	-	302	-
Stage 2	-	-	-	-	445	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1256	-	-	-	381	738
Stage 1	-	-	-	-	750	-
Stage 2	-	-	-	-	646	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1256	-	-	-	377	738
Mov Cap-2 Maneuver	-	-	-	-	377	-
Stage 1	-	-	-	-	742	-
Stage 2	-	-	-	-	646	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1256	-	-	-	588
HCM Lane V/C Ratio	0.009	-	-	-	0.028
HCM Control Delay (s)	7.9	0	-	-	11.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	348	23	8	259	12	13	4	9	8	4	8
Future Vol, veh/h	14	348	23	8	259	12	13	4	9	8	4	8
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	160	-	-	-	-	235	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	387	26	9	288	13	14	4	10	9	4	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	301	0	0	413	0	0	751	751	400	745	751	288
Stage 1	-	-	-	-	-	-	432	432	-	306	306	-
Stage 2	-	-	-	-	-	-	319	319	-	439	445	-
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	1260	-	-	1146	-	-	327	340	650	330	340	751
Stage 1	-	-	-	-	-	-	602	582	-	704	662	-
Stage 2	-	-	-	-	-	-	693	653	-	597	575	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1260	-	-	1146	-	-	315	333	650	316	333	751
Mov Cap-2 Maneuver	-	-	-	-	-	-	315	333	-	316	333	-
Stage 1	-	-	-	-	-	-	594	574	-	695	656	-
Stage 2	-	-	-	-	-	-	674	647	-	576	568	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.2	15.1	14.1
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	387	1260	-	-	1146	-	-	417
HCM Lane V/C Ratio	0.075	0.012	-	-	0.008	-	-	0.053
HCM Control Delay (s)	15.1	7.9	-	-	8.2	0	-	14.1
HCM Lane LOS	C	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	322	16	70	247	25	17	4	28	11	4	8
Future Vol, veh/h	23	322	16	70	247	25	17	4	28	11	4	8
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	100	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	358	18	78	274	28	19	4	31	12	4	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	302	0	0	376	0	0	870	877	367	867	858	274
Stage 1	-	-	-	-	-	-	419	419	-	430	430	-
Stage 2	-	-	-	-	-	-	451	458	-	437	428	-
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	1259	-	-	1182	-	-	272	287	678	273	294	765
Stage 1	-	-	-	-	-	-	612	590	-	603	583	-
Stage 2	-	-	-	-	-	-	588	567	-	598	585	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1259	-	-	1182	-	-	245	259	678	238	265	765
Mov Cap-2 Maneuver	-	-	-	-	-	-	245	259	-	238	265	-
Stage 1	-	-	-	-	-	-	599	578	-	590	536	-
Stage 2	-	-	-	-	-	-	530	522	-	554	573	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1.7	15.8	17.2
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	388	1259	-	-	1182	-	-	320
HCM Lane V/C Ratio	0.14	0.02	-	-	0.066	-	-	0.08
HCM Control Delay (s)	15.8	7.9	-	-	8.3	0	-	17.2
HCM Lane LOS	C	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0.2	-	-	0.3

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	18	346	333	35	10	11
Future Vol, veh/h	18	346	333	35	10	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	115	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	384	370	39	11	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	409	0	-	0	794	185
Stage 1	-	-	-	-	370	-
Stage 2	-	-	-	-	424	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1148	-	-	-	341	826
Stage 1	-	-	-	-	670	-
Stage 2	-	-	-	-	659	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1148	-	-	-	335	826
Mov Cap-2 Maneuver	-	-	-	-	335	-
Stage 1	-	-	-	-	659	-
Stage 2	-	-	-	-	659	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	12.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1148	-	-	-	486
HCM Lane V/C Ratio	0.017	-	-	-	0.048
HCM Control Delay (s)	8.2	-	-	-	12.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.2

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	0	425	4	4	524	4	4
Future Vol, veh/h	0	425	4	4	524	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	410	-	75	365	-	125	0
Veh in Median Storage, #	-	0	-	-	0	0	-
Grade, %	-	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	472	4	4	582	4	4

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	582	0	0	476	0	771	236
Stage 1	-	-	-	-	-	472	-
Stage 2	-	-	-	-	-	299	-
Critical Hdwy	6.44	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.52	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	614	-	-	1082	-	337	766
Stage 1	-	-	-	-	-	594	-
Stage 2	-	-	-	-	-	726	-
Platoon blocked, %		-	-		-		
Mov Cap-1 Maneuver	614	-	-	1082	-	336	766
Mov Cap-2 Maneuver	-	-	-	-	-	336	-
Stage 1	-	-	-	-	-	594	-
Stage 2	-	-	-	-	-	723	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT
Capacity (veh/h)	336	766	614	-	-	1082	-
HCM Lane V/C Ratio	0.013	0.006	-	-	-	0.004	-
HCM Control Delay (s)	15.9	9.7	0	-	-	8.3	-
HCM Lane LOS	C	A	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0	0	-	-	0	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	4	13	15	4	26	40	770	28	21	926	28
Future Vol, veh/h	12	4	13	15	4	26	40	770	28	21	926	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	135	-	-	130	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	4	14	17	4	29	44	856	31	23	1029	31

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1593	2050	515	1523	2066	444	1060	0	0	887	0	0
Stage 1	1075	1075	-	960	960	-	-	-	-	-	-	-
Stage 2	518	975	-	563	1106	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	72	55	505	81	54	561	653	-	-	759	-	-
Stage 1	234	294	-	276	333	-	-	-	-	-	-	-
Stage 2	509	328	-	478	284	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	59	50	505	68	49	561	653	-	-	759	-	-
Mov Cap-2 Maneuver	59	50	-	68	49	-	-	-	-	-	-	-
Stage 1	218	285	-	258	311	-	-	-	-	-	-	-
Stage 2	444	306	-	443	275	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	62.1	49.6	0.5	0.2
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	653	-	-	94	129	759	-	-
HCM Lane V/C Ratio	0.068	-	-	0.343	0.388	0.031	-	-
HCM Control Delay (s)	10.9	-	-	62.1	49.6	9.9	-	-
HCM Lane LOS	B	-	-	F	E	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1.3	1.6	0.1	-	-

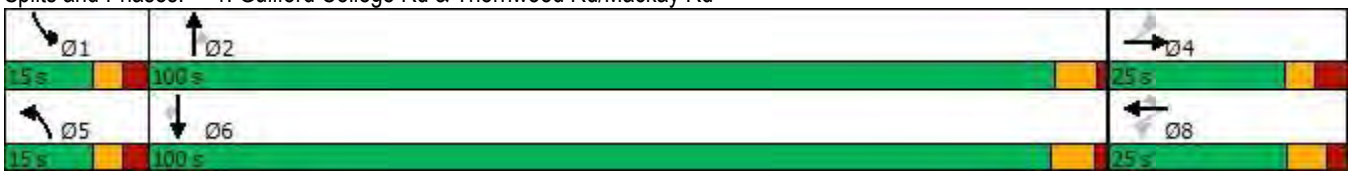
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	11	11	154	22	109	35	653	170	178	809	48
Future Volume (vph)	16	11	11	154	22	109	35	653	170	178	809	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	190		190	120		205	310		150
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.925				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1723	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.742			0.742			0.950			0.950		
Satd. Flow (perm)	1382	1723	0	1382	1863	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			40			45			45	
Link Distance (ft)		1208			505			1538			1743	
Travel Time (s)		32.9			8.6			23.3			26.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	18	12	12	171	24	121	39	726	189	198	899	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	24	0	171	24	121	39	726	189	198	899	53
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	13.6	13.6		13.5	13.5	13.5	12.8	17.7	17.7	12.8	18.1	18.1
Total Split (s)	25.0	25.0		25.0	25.0	25.0	15.0	100.0	100.0	15.0	100.0	100.0
Total Split (%)	17.9%	17.9%		17.9%	17.9%	17.9%	10.7%	71.4%	71.4%	10.7%	71.4%	71.4%
Maximum Green (s)	18.4	18.4		18.5	18.5	18.5	9.2	94.3	94.3	9.2	93.9	93.9
Yellow Time (s)	3.1	3.1		4.2	4.2	4.2	3.0	4.4	4.4	3.0	4.6	4.6
All-Red Time (s)	3.5	3.5		2.3	2.3	2.3	2.8	1.3	1.3	2.8	1.5	1.5
Lost Time Adjust (s)	-1.6	-1.6		-1.5	-1.5	-1.5	-0.8	-0.7	-0.7	-0.8	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	6.0	6.0	1.0	6.0	6.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0

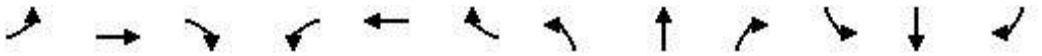
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	45.0	45.0	0.0	45.0	45.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	14.7	14.7		14.7	14.7	14.7	7.9	22.1	22.1	10.2	32.8	32.8
Actuated g/C Ratio	0.24	0.24		0.24	0.24	0.24	0.13	0.36	0.36	0.16	0.53	0.53
v/c Ratio	0.06	0.06		0.53	0.05	0.32	0.17	0.58	0.34	0.69	0.48	0.06
Control Delay	20.5	20.3		28.5	20.2	23.7	29.7	18.3	16.7	42.0	12.3	10.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.5	20.3		28.5	20.2	23.7	29.7	18.3	16.7	42.0	12.3	10.6
LOS	C	C		C	C	C	C	B	B	D	B	B
Approach Delay		20.4			26.0			18.5			17.3	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	5	7		56	7	37	13	114	51	72	84	7
Queue Length 95th (ft)	21	25		124	25	88	44	174	102	#196	213	33
Internal Link Dist (ft)		1128			425			1458			1663	
Turn Bay Length (ft)	75			190		190	120		205	310		150
Base Capacity (vph)	452	564		452	609	518	289	3539	1583	289	3539	1583
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.04		0.38	0.04	0.23	0.13	0.21	0.12	0.69	0.25	0.03

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 62.2
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 18.9 Intersection LOS: B
Intersection Capacity Utilization 55.9% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Guilford College Rd & Thornwood Rd/Mackay Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	200	34	105	318	425	24	30	50	299	34	72
Future Volume (vph)	67	200	34	105	318	425	24	30	50	299	34	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	195		0	0		0	140		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.978			0.914			0.935			0.898	
Flt Protected	0.950			0.950				0.988		0.950		
Satd. Flow (prot)	1770	1822	0	1770	1703	0	0	1721	0	1770	1673	0
Flt Permitted	0.112			0.560				0.988		0.950		
Satd. Flow (perm)	209	1822	0	1043	1703	0	0	1721	0	1770	1673	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		1572			2792			867			1221	
Travel Time (s)		26.8			47.6			23.6			23.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	74	222	38	117	353	472	27	33	56	332	38	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	260	0	117	825	0	0	116	0	332	118	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		6			2		4	4		3	3	
Permitted Phases	6			2								
Detector Phase	6	6		2	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		26.3	26.3		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	34.1	34.1		34.5	34.5		24.7	24.7		24.3	24.3	
Yellow Time (s)	4.3	4.3		4.1	4.1		3.1	3.1		3.9	3.9	
All-Red Time (s)	1.6	1.6		1.4	1.4		2.2	2.2		1.8	1.8	
Lost Time Adjust (s)	-0.9	-0.9		-0.5	-0.5			-0.3		-0.7	-0.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)							7.0	7.0				

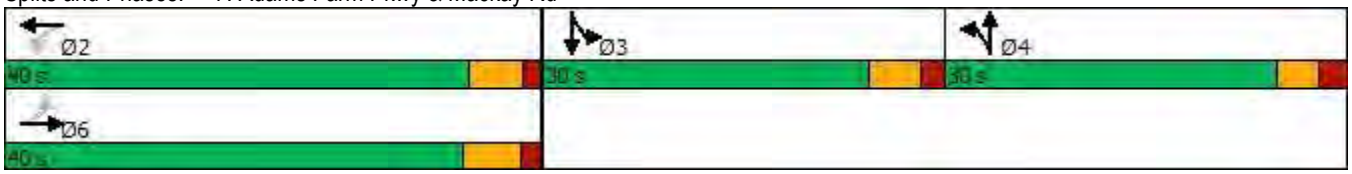
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)							14.0	14.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)	35.9	35.9		35.9	35.9			10.5		19.7	19.7	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.13		0.25	0.25	
v/c Ratio	0.77	0.31		0.24	1.05			0.50		0.74	0.28	
Control Delay	75.9	17.6		18.4	74.1			41.6		39.1	26.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	75.9	17.6		18.4	74.1			41.6		39.1	26.7	
LOS	E	B		B	E			D		D	C	
Approach Delay		30.5			67.2			41.6			35.9	
Approach LOS		C			E			D			D	
Queue Length 50th (ft)	32	84		36	~486			56		154	48	
Queue Length 95th (ft)	#128	166		88	#812			112		262	97	
Internal Link Dist (ft)		1492			2712			787			1141	
Turn Bay Length (ft)	170			195						140		
Base Capacity (vph)	96	836		479	782			564		580	548	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.77	0.31		0.24	1.05			0.21		0.57	0.22	

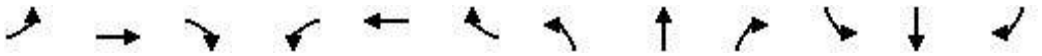
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 78.1			
Natural Cycle: 110			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay: 51.3		Intersection LOS: D	
Intersection Capacity Utilization 90.2%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Adams Farm Pkwy & Mackay Rd



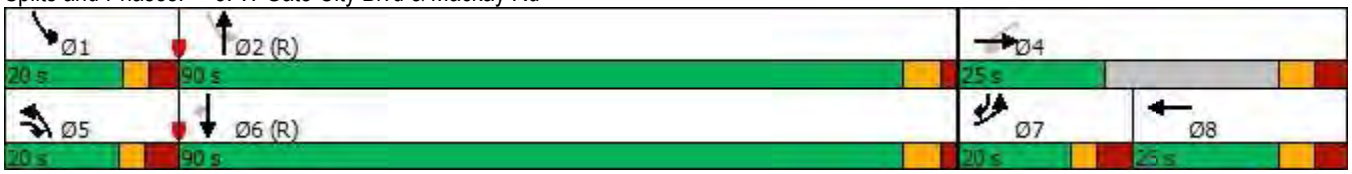


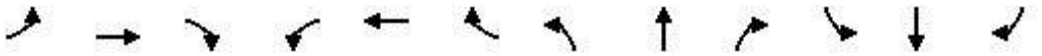
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	260	21	197	16	29	26	340	486	24	30	599	457
Future Volume (vph)	260	21	197	16	29	26	340	486	24	30	599	457
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		805	90		0	550		0	305		325
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Frt			0.850		0.929			0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1730	0	3433	5050	0	1770	5085	1583
Flt Permitted	0.950			0.742			0.950			0.396		
Satd. Flow (perm)	3433	1863	1583	1382	1730	0	3433	5050	0	738	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		2792			1166			6342			1193	
Travel Time (s)		47.6			31.8			96.1			18.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	289	23	219	18	32	29	378	540	27	33	666	508
Shared Lane Traffic (%)												
Lane Group Flow (vph)	289	23	219	18	61	0	378	567	0	33	666	508
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA		Prot	NA		D.P+P	NA	pm+ov
Protected Phases	7	4	5		8		5	2		1	6	7
Permitted Phases			4	4						2		6
Detector Phase	7	4	5	4	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	14.1	50.1	14.0	50.1	54.1		14.0	29.5		14.0	35.5	14.1
Total Split (s)	20.0	25.0	20.0	25.0	25.0		20.0	90.0		20.0	90.0	20.0
Total Split (%)	12.9%	16.1%	12.9%	16.1%	16.1%		12.9%	58.1%		12.9%	58.1%	12.9%
Maximum Green (s)	12.9	16.9	13.1	16.9	16.9		13.1	83.5		13.6	83.5	12.9
Yellow Time (s)	3.0	4.1	3.0	4.1	4.1		3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	4.1	4.0	3.9	4.0	4.0		3.9	2.0		3.4	2.0	4.1
Lost Time Adjust (s)	-2.1	-3.1	-1.9	-3.1	-3.1		-1.9	-1.5		-1.4	-1.5	-2.1
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	6.0		2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		34.0		34.0	39.0			16.0			22.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	42.5	57.7	91.0	57.7	13.2		28.2	76.4		83.3	54.0	101.6
Actuated g/C Ratio	0.27	0.37	0.59	0.37	0.09		0.18	0.49		0.54	0.35	0.66
v/c Ratio	0.31	0.03	0.24	0.04	0.41		0.61	0.23		0.07	0.38	0.49
Control Delay	44.2	24.9	14.7	24.7	74.9		63.2	26.2		20.8	41.2	16.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	44.2	24.9	14.7	24.7	74.9		63.2	26.2		20.8	41.2	16.5
LOS	D	C	B	C	E		E	C		C	D	B
Approach Delay		31.2			63.5			41.0			30.2	
Approach LOS		C			E			D			C	
Queue Length 50th (ft)	120	14	101	11	60		185	126		15	187	254
Queue Length 95th (ft)	145	29	103	25	109		241	189		41	267	381
Internal Link Dist (ft)		2712			1086			6262			1113	
Turn Bay Length (ft)	470		805	90			550			305		325
Base Capacity (vph)	941	712	929	528	223		624	2950		515	2788	1037
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.31	0.03	0.24	0.03	0.27		0.61	0.19		0.06	0.24	0.49

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Offset: 20 (13%), Referenced to phase 2:NBSB and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 35.1		Intersection LOS: D	
Intersection Capacity Utilization 56.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: W Gate City Blvd & Mackay Rd



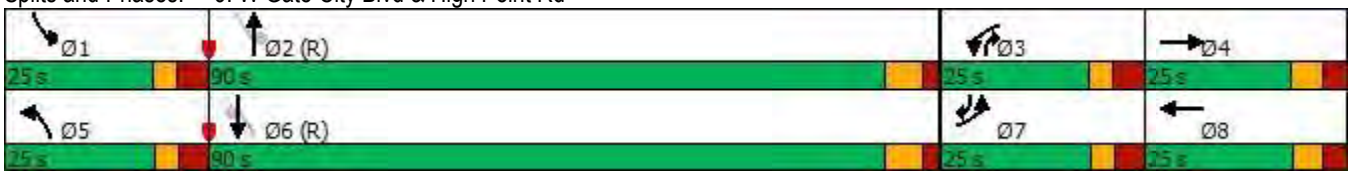


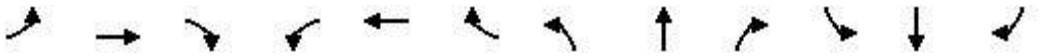
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	60	41	207	37	9	31	376	204	22	708	130
Future Volume (vph)	83	60	41	207	37	9	31	376	204	22	708	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	360		0	400		450	435		215
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.939			0.971				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1749	0	3433	1809	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.318			0.495		
Satd. Flow (perm)	3433	1749	0	3433	1809	0	592	5085	1583	922	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		746			1689			1193			1650	
Travel Time (s)		14.5			32.9			18.1			25.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	92	67	46	230	41	10	34	418	227	24	787	144
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	113	0	230	51	0	34	418	227	24	787	144
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases							6		2	2		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.7	42.0		13.9	13.9		13.7	18.9	13.9	13.8	18.9	13.7
Total Split (s)	25.0	25.0		25.0	25.0		25.0	90.0	25.0	25.0	90.0	25.0
Total Split (%)	15.2%	15.2%		15.2%	15.2%		15.2%	54.5%	15.2%	15.2%	54.5%	15.2%
Maximum Green (s)	18.3	18.0		18.1	18.1		18.3	83.1	18.1	18.2	83.1	18.3
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.7	3.2		3.9	3.1		3.7	2.2	3.9	3.8	2.2	3.7
Lost Time Adjust (s)	-1.7	-2.0		-1.9	-1.9		-1.7	-1.9	-1.9	-1.8	-1.9	-1.7
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Walk Time (s)		4.0										

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		31.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)	14.8	17.0		17.3	22.3		111.7	107.5	129.7	112.7	104.8	125.5
Actuated g/C Ratio	0.09	0.10		0.10	0.14		0.68	0.65	0.79	0.68	0.64	0.76
v/c Ratio	0.30	0.63		0.64	0.21		0.07	0.13	0.18	0.04	0.24	0.12
Control Delay	74.9	85.8		79.0	62.4		9.6	12.6	5.9	9.4	14.5	8.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.9	85.8		79.0	62.4		9.6	12.6	5.9	9.4	14.5	8.0
LOS	E	F		E	E		A	B	A	A	B	A
Approach Delay		80.9			76.0			10.2			13.4	
Approach LOS		F			E			B			B	
Queue Length 50th (ft)	50	119		125	49		10	66	64	7	135	46
Queue Length 95th (ft)	81	185		169	89		28	98	108	22	187	83
Internal Link Dist (ft)		666			1609			1113			1570	
Turn Bay Length (ft)	50			360			400		450	435		215
Base Capacity (vph)	453	218		423	268		557	3312	1273	749	3229	1272
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.52		0.54	0.19		0.06	0.13	0.18	0.03	0.24	0.11

Intersection Summary			
Area Type:	Other		
Cycle Length: 165			
Actuated Cycle Length: 165			
Offset: 54 (33%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 27.2		Intersection LOS: C	
Intersection Capacity Utilization 44.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: W Gate City Blvd & High Point Rd



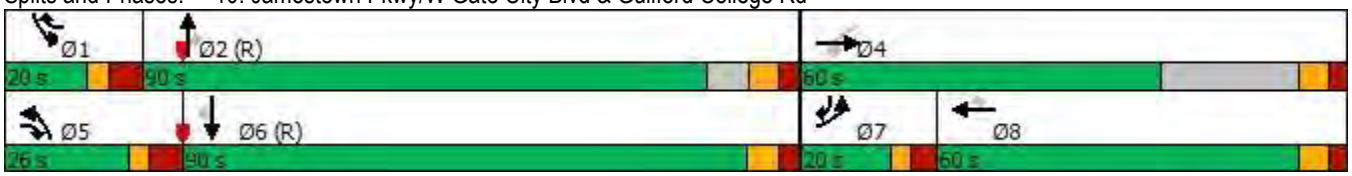


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	172	116	6	293	172	123	450	4	194	511	75
Future Volume (vph)	84	172	116	6	293	172	123	450	4	194	511	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430		445	355		285	415		335	395		335
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.569			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	1060	3539	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		3577			1802			3389			6342	
Travel Time (s)		54.2			27.3			51.3			96.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	93	191	129	7	326	191	137	500	4	216	568	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	93	191	129	7	326	191	137	500	4	216	568	83
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	5		8	1	5	2		1	6	7
Permitted Phases			4	4		8			2			6
Detector Phase	7	4	5	4	8	1	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	7.0
Minimum Split (s)	14.0	25.3	26.0	25.3	20.0	14.9	26.0	25.5	25.5	14.9	25.7	14.0
Total Split (s)	20.0	60.0	26.0	60.0	60.0	20.0	26.0	90.0	90.0	20.0	90.0	20.0
Total Split (%)	10.2%	30.6%	13.3%	30.6%	30.6%	10.2%	13.3%	45.9%	45.9%	10.2%	45.9%	10.2%
Maximum Green (s)	13.2	52.7	18.0	52.7	52.7	12.1	18.0	82.5	82.5	12.1	82.3	13.2
Yellow Time (s)	3.0	4.5	3.0	4.5	4.5	3.0	3.0	4.4	4.4	3.0	4.6	3.0
All-Red Time (s)	3.8	2.8	5.0	2.8	2.8	4.9	5.0	3.1	3.1	4.9	3.1	3.8
Lost Time Adjust (s)	-1.8	-2.3	-3.0	-2.3	-2.3	-2.9	-3.0	-2.5	-2.5	-2.9	-2.7	-1.8
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	6.0	2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	0.0	30.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0		7.0				7.0	7.0		7.0	
Flash Dont Walk (s)		11.0		11.0				11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0		0				0	0		0	
Act Effct Green (s)	11.6	41.7	61.8	41.7	25.1	49.9	15.1	119.5	119.5	19.8	124.2	140.8
Actuated g/C Ratio	0.06	0.21	0.32	0.21	0.13	0.25	0.08	0.61	0.61	0.10	0.63	0.72
v/c Ratio	0.46	0.25	0.26	0.03	0.72	0.47	0.52	0.16	0.00	0.62	0.18	0.07
Control Delay	96.1	63.9	49.8	57.5	91.1	64.9	93.7	17.6	18.8	92.5	15.8	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.1	63.9	49.8	57.5	91.1	64.9	93.7	17.6	18.8	92.5	15.8	9.3
LOS	F	E	D	E	F	E	F	B	B	F	B	A
Approach Delay		66.8			81.1			33.9			34.3	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)	60	109	125	7	216	211	89	99	2	140	106	30
Queue Length 95th (ft)	95	142	171	23	267	280	128	142	9	187	151	59
Internal Link Dist (ft)		3497			1722			3309			6262	
Turn Bay Length (ft)	430		445	355		285	415		335	395		335
Base Capacity (vph)	262	1354	547	405	993	403	367	3100	965	346	3222	1164
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.14	0.24	0.02	0.33	0.47	0.37	0.16	0.00	0.62	0.18	0.07

Intersection Summary			
Area Type:	Other		
Cycle Length: 196			
Actuated Cycle Length: 196			
Offset: 20 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 49.7		Intersection LOS: D	
Intersection Capacity Utilization 46.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd



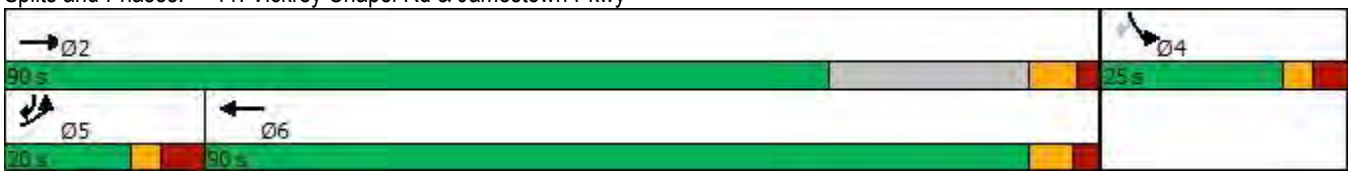


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	102	143	178	25	27	114
Future Volume (vph)	102	143	178	25	27	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	445			575	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	100				100	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	3539	1863	1583	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	3539	1863	1583	3433	1583
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		45	
Link Distance (ft)		638	755		3389	
Travel Time (s)		12.4	14.7		51.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	113	159	198	28	30	127
Shared Lane Traffic (%)						
Lane Group Flow (vph)	113	159	198	28	30	127
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		48	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Free	Prot	pm+ov
Protected Phases	5	2	6		4	5
Permitted Phases				Free		4
Detector Phase	5	2	6		4	5
Switch Phase						
Minimum Initial (s)	7.0	12.0	12.0		7.0	7.0
Minimum Split (s)	14.4	20.0	20.0		20.0	14.4
Total Split (s)	20.0	90.0	90.0		25.0	20.0
Total Split (%)	14.8%	66.7%	66.7%		18.5%	14.8%
Maximum Green (s)	12.6	82.8	82.9		18.3	12.6
Yellow Time (s)	3.0	4.8	4.3		3.0	3.0
All-Red Time (s)	4.4	2.4	2.8		3.7	4.4
Lost Time Adjust (s)	-2.4	-2.2	-2.1		-1.7	-2.4
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	6.0	6.0		2.0	2.0
Minimum Gap (s)	3.0	3.0	3.0		3.0	3.0
Time Before Reduce (s)	0.0	15.0	15.0		0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Time To Reduce (s)	0.0	30.0	30.0		0.0	0.0
Recall Mode	None	Min	Min		None	None
Act Effct Green (s)	9.6	34.4	15.5	37.4	8.9	11.7
Actuated g/C Ratio	0.26	0.92	0.41	1.00	0.24	0.31
v/c Ratio	0.13	0.05	0.26	0.02	0.04	0.26
Control Delay	12.2	1.6	10.0	0.0	12.8	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.2	1.6	10.0	0.0	12.8	9.9
LOS	B	A	B	A	B	A
Approach Delay		6.0	8.8		10.4	
Approach LOS		A	A		B	
Queue Length 50th (ft)	7	0	21	0	2	17
Queue Length 95th (ft)	29	15	84	0	11	39
Internal Link Dist (ft)		558	675		3309	
Turn Bay Length (ft)	445			575		
Base Capacity (vph)	1401	3539	1863	1583	1868	737
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.04	0.11	0.02	0.02	0.17

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 37.4			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.26			
Intersection Signal Delay: 8.0		Intersection LOS: A	
Intersection Capacity Utilization 34.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Vickrey Chapel Rd & Jamestown Pkwy



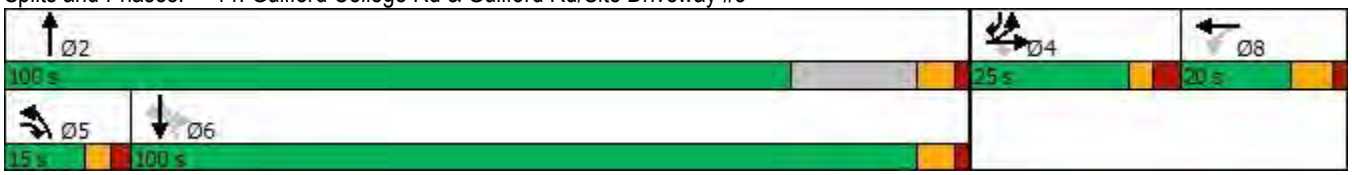
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	613	10	81	7	6	5	159	334	31	5	337	724
Future Volume (vph)	613	10	81	7	6	5	159	334	31	5	337	724
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	195		135	0		0	140		0	125		330
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.961			0.987				0.850
Flt Protected	0.950	0.954			0.981		0.950			0.950		
Satd. Flow (prot)	1681	1688	1583	0	1756	0	1770	3493	0	1770	3539	1583
Flt Permitted	0.950	0.954			0.837		0.475			0.514		
Satd. Flow (perm)	1681	1688	1583	0	1498	0	885	3493	0	957	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			45			45			45	
Link Distance (ft)		471			717			1464			1684	
Travel Time (s)		9.2			10.9			22.2			25.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	681	11	90	8	7	6	177	371	34	6	374	804
Shared Lane Traffic (%)	49%											
Lane Group Flow (vph)	347	345	90	0	21	0	177	405	0	6	374	804
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	pm+ov	Perm	NA		D.P+P	NA		Perm	NA	pm+ov
Protected Phases	4	4	5		8		5	2			6	4
Permitted Phases			4	8			6			6		6
Detector Phase	4	4	5	8	8		5	2		6	6	4
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		12.0	12.0	7.0
Minimum Split (s)	20.0	20.0	14.0	20.0	20.0		14.0	20.0		41.5	41.5	20.0
Total Split (s)	25.0	25.0	15.0	20.0	20.0		15.0	100.0		100.0	100.0	25.0
Total Split (%)	15.6%	15.6%	9.4%	12.5%	12.5%		9.4%	62.5%		62.5%	62.5%	15.6%
Maximum Green (s)	18.7	18.7	9.6	13.0	13.0		9.6	93.5		93.5	93.5	18.7
Yellow Time (s)	3.0	3.0	3.0	5.0	5.0		3.0	4.6		4.6	4.6	3.0
All-Red Time (s)	3.3	3.3	2.4	2.0	2.0		2.4	1.9		1.9	1.9	3.3
Lost Time Adjust (s)	-1.3	-2.0	-0.4		-2.0		-0.4	-1.5		-2.0	-1.5	-1.3
Total Lost Time (s)	5.0	4.3	5.0		5.0		5.0	5.0		4.5	5.0	5.0
Lead/Lag			Lead				Lead			Lag	Lag	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0	3.0	3.0		1.0	6.0		6.0	6.0	1.0
Recall Mode	None	None	None	None	None		None	Min		Min	Min	None
Walk Time (s)										7.0	7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)										28.0	28.0	
Pedestrian Calls (#/hr)										0	0	
Act Effct Green (s)	20.3	21.0	33.3		9.3		23.5	28.6		15.2	14.7	40.1
Actuated g/C Ratio	0.33	0.34	0.54		0.15		0.38	0.47		0.25	0.24	0.65
v/c Ratio	0.63	0.60	0.10		0.09		0.38	0.25		0.03	0.44	0.78
Control Delay	26.2	24.6	6.8		26.9		13.6	11.1		20.6	22.7	16.8
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	26.2	24.6	6.8		26.9		13.6	11.1		20.6	22.7	16.8
LOS	C	C	A		C		B	B		C	C	B
Approach Delay		23.2			26.9			11.9			18.7	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	100	96	12		6		33	40		2	57	146
Queue Length 95th (ft)	#305	#293	30		29		95	96		12	124	#590
Internal Link Dist (ft)		391			637			1384			1604	
Turn Bay Length (ft)	195		135				140			125		330
Base Capacity (vph)	555	577	895		371		504	3493		957	3539	1033
Starvation Cap Reductn	0	0	0		0		0	0		0	0	0
Spillback Cap Reductn	0	0	0		0		0	0		0	0	0
Storage Cap Reductn	0	0	0		0		0	0		0	0	0
Reduced v/c Ratio	0.63	0.60	0.10		0.06		0.35	0.12		0.01	0.11	0.78

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 61.4			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 18.6		Intersection LOS: B	
Intersection Capacity Utilization 72.0%		ICU Level of Service C	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Guilford College Rd & Guilford Rd/Site Driveway #3



2023 Phase 1 Build Traffic Volumes with Improvements

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	175	345	4	4	19
Future Vol, veh/h	5	175	345	4	4	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	194	383	4	4	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	387	0	-	0	591	385
Stage 1	-	-	-	-	385	-
Stage 2	-	-	-	-	206	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1171	-	-	-	470	663
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	829	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1171	-	-	-	467	663
Mov Cap-2 Maneuver	-	-	-	-	467	-
Stage 1	-	-	-	-	684	-
Stage 2	-	-	-	-	829	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1171	-	-	-	618
HCM Lane V/C Ratio	0.005	-	-	-	0.041
HCM Control Delay (s)	8.1	0	-	-	11.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	175	4	4	304	4	18	4	16	9	4	26
Future Vol, veh/h	4	175	4	4	304	4	18	4	16	9	4	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	160	-	50	50	-	235	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	194	4	4	338	4	20	4	18	10	4	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	342	0	0	198	0	0	567	552	194	561	552	338
Stage 1	-	-	-	-	-	-	202	202	-	346	346	-
Stage 2	-	-	-	-	-	-	365	350	-	215	206	-
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	1217	-	-	1375	-	-	434	442	847	438	442	704
Stage 1	-	-	-	-	-	-	800	734	-	670	635	-
Stage 2	-	-	-	-	-	-	654	633	-	787	731	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1217	-	-	1375	-	-	411	439	847	424	439	704
Mov Cap-2 Maneuver	-	-	-	-	-	-	411	439	-	424	439	-
Stage 1	-	-	-	-	-	-	798	732	-	668	633	-
Stage 2	-	-	-	-	-	-	621	631	-	763	729	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	12.1	11.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	416	847	1217	-	-	1375	-	-	580
HCM Lane V/C Ratio	0.059	0.021	0.004	-	-	0.003	-	-	0.075
HCM Control Delay (s)	14.2	9.3	8	-	-	7.6	-	-	11.7
HCM Lane LOS	B	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	187	4	23	247	4	33	4	35	26	4	29
Future Vol, veh/h	5	187	4	23	247	4	33	4	35	26	4	29
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	100	-	-	125	-	0	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	208	4	26	274	4	37	4	39	29	4	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	278	0	0	212	0	0	568	552	210	570	550	274
Stage 1	-	-	-	-	-	-	222	222	-	326	326	-
Stage 2	-	-	-	-	-	-	346	330	-	244	224	-
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	1285	-	-	1358	-	-	434	442	830	432	443	765
Stage 1	-	-	-	-	-	-	780	720	-	687	648	-
Stage 2	-	-	-	-	-	-	670	646	-	760	718	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1285	-	-	1358	-	-	405	431	830	401	432	765
Mov Cap-2 Maneuver	-	-	-	-	-	-	405	431	-	401	432	-
Stage 1	-	-	-	-	-	-	776	716	-	684	636	-
Stage 2	-	-	-	-	-	-	625	634	-	717	714	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.6	12.3	12.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	408	830	1285	-	-	1358	-	-	527
HCM Lane V/C Ratio	0.101	0.047	0.004	-	-	0.019	-	-	0.124
HCM Control Delay (s)	14.8	9.6	7.8	-	-	7.7	-	-	12.8
HCM Lane LOS	B	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0.1	0	-	-	0.1	-	-	0.4

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	244	250	4	12	26
Future Vol, veh/h	9	244	250	4	12	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	115	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	271	278	4	13	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	282	0	-	0	569	139
Stage 1	-	-	-	-	278	-
Stage 2	-	-	-	-	291	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1279	-	-	-	468	884
Stage 1	-	-	-	-	745	-
Stage 2	-	-	-	-	758	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1279	-	-	-	464	884
Mov Cap-2 Maneuver	-	-	-	-	464	-
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	758	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1279	-	-	-	687
HCM Lane V/C Ratio	0.008	-	-	-	0.061
HCM Control Delay (s)	7.8	-	-	-	10.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.2

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	0	522	4	4	329	4	4
Future Vol, veh/h	0	522	4	4	329	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	410	-	75	365	-	125	0
Veh in Median Storage, #	-	0	-	-	0	0	-
Grade, %	-	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	580	4	4	366	4	4

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	366	0	0	584	0	771	290
Stage 1	-	-	-	-	-	580	-
Stage 2	-	-	-	-	-	191	-
Critical Hdwy	6.44	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.52	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	841	-	-	987	-	337	707
Stage 1	-	-	-	-	-	523	-
Stage 2	-	-	-	-	-	822	-
Platoon blocked, %		-	-		-		
Mov Cap-1 Maneuver	841	-	-	987	-	336	707
Mov Cap-2 Maneuver	-	-	-	-	-	336	-
Stage 1	-	-	-	-	-	523	-
Stage 2	-	-	-	-	-	819	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	13
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT
Capacity (veh/h)	336	707	841	-	-	987	-
HCM Lane V/C Ratio	0.013	0.006	-	-	-	0.005	-
HCM Control Delay (s)	15.9	10.1	0	-	-	8.7	-
HCM Lane LOS	C	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	602	4	9	611	4	8
Future Vol, veh/h	602	4	9	611	4	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	669	4	10	679	4	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	673	0	1370	671
Stage 1	-	-	-	-	671	-
Stage 2	-	-	-	-	699	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	918	-	161	456
Stage 1	-	-	-	-	508	-
Stage 2	-	-	-	-	493	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	918	-	158	456
Mov Cap-2 Maneuver	-	-	-	-	158	-
Stage 1	-	-	-	-	508	-
Stage 2	-	-	-	-	485	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	18.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	280	-	-	918	-
HCM Lane V/C Ratio	0.048	-	-	0.011	-
HCM Control Delay (s)	18.5	-	-	9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	4	27	27	4	34	15	656	12	10	874	10
Future Vol, veh/h	12	4	27	27	4	34	15	656	12	10	874	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	135	-	50	130	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	4	30	30	4	38	17	729	13	11	971	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1394	1769	486	1273	1767	365	982	0	0	742	0	0
Stage 1	993	993	-	763	763	-	-	-	-	-	-	-
Stage 2	401	776	-	510	1004	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	101	83	527	124	83	632	699	-	-	861	-	-
Stage 1	263	322	-	363	411	-	-	-	-	-	-	-
Stage 2	597	406	-	514	318	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	88	80	527	109	80	632	699	-	-	861	-	-
Mov Cap-2 Maneuver	88	80	-	109	80	-	-	-	-	-	-	-
Stage 1	257	318	-	354	401	-	-	-	-	-	-	-
Stage 2	542	396	-	472	314	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	31.9	32.5	0.2	0.1
HCM LOS	D	D		

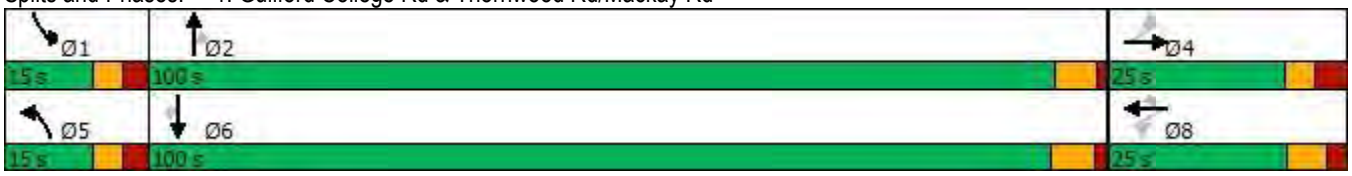
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	699	-	-	181	104	632	861	-	-
HCM Lane V/C Ratio	0.024	-	-	0.264	0.331	0.06	0.013	-	-
HCM Control Delay (s)	10.3	-	-	31.9	55.9	11.1	9.2	-	-
HCM Lane LOS	B	-	-	D	F	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1	1.3	0.2	0	-	-

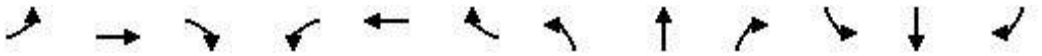
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	8	51	183	4	167	17	581	100	57	614	13
Future Volume (vph)	45	8	51	183	4	167	17	581	100	57	614	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	190		190	120		205	310		150
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.870				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1621	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.755			0.714			0.950			0.950		
Satd. Flow (perm)	1406	1621	0	1330	1863	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			40			45			45	
Link Distance (ft)		1208			505			1538			1743	
Travel Time (s)		32.9			8.6			23.3			26.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	50	9	57	203	4	186	19	646	111	63	682	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	66	0	203	4	186	19	646	111	63	682	14
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	13.6	13.6		13.5	13.5	13.5	12.8	17.7	17.7	12.8	18.1	18.1
Total Split (s)	25.0	25.0		25.0	25.0	25.0	15.0	100.0	100.0	15.0	100.0	100.0
Total Split (%)	17.9%	17.9%		17.9%	17.9%	17.9%	10.7%	71.4%	71.4%	10.7%	71.4%	71.4%
Maximum Green (s)	18.4	18.4		18.5	18.5	18.5	9.2	94.3	94.3	9.2	93.9	93.9
Yellow Time (s)	3.1	3.1		4.2	4.2	4.2	3.0	4.4	4.4	3.0	4.6	4.6
All-Red Time (s)	3.5	3.5		2.3	2.3	2.3	2.8	1.3	1.3	2.8	1.5	1.5
Lost Time Adjust (s)	-1.6	-1.6		-1.5	-1.5	-1.5	-0.8	-0.7	-0.7	-0.8	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	6.0	6.0	1.0	6.0	6.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	45.0	45.0	0.0	45.0	45.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	20.5	20.5		20.5	20.5	20.5	8.1	18.4	18.4	8.2	23.2	23.2
Actuated g/C Ratio	0.36	0.36		0.36	0.36	0.36	0.14	0.33	0.33	0.15	0.41	0.41
v/c Ratio	0.10	0.11		0.42	0.01	0.32	0.07	0.56	0.21	0.24	0.47	0.02
Control Delay	16.7	16.5		20.3	16.2	18.4	26.6	18.3	16.2	27.9	13.3	10.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.7	16.5		20.3	16.2	18.4	26.6	18.3	16.2	27.9	13.3	10.7
LOS	B	B		C	B	B	C	B	B	C	B	B
Approach Delay		16.6			19.4			18.2			14.5	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	13	17		58	1	51	6	105	30	21	73	2
Queue Length 95th (ft)	39	48		133	8	116	25	154	64	58	161	14
Internal Link Dist (ft)		1128			425			1458			1663	
Turn Bay Length (ft)	75			190		190	120		205	310		150
Base Capacity (vph)	517	596		489	685	582	325	3539	1583	325	3539	1583
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.11		0.42	0.01	0.32	0.06	0.18	0.07	0.19	0.19	0.01

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 56.2			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 16.9		Intersection LOS: B	
Intersection Capacity Utilization 52.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Guilford College Rd & Thornwood Rd/Mackay Rd





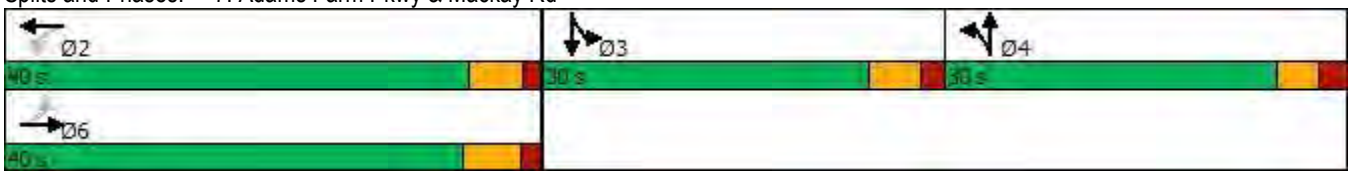
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	254	7	26	94	201	39	26	121	418	4	77
Future Volume (vph)	68	254	7	26	94	201	39	26	121	418	4	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	195		0	0		0	140		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.898			0.912			0.857	
Flt Protected	0.950			0.950				0.990		0.950		
Satd. Flow (prot)	1770	1855	0	1770	1673	0	0	1682	0	1770	1596	0
Flt Permitted	0.362			0.422				0.990		0.950		
Satd. Flow (perm)	674	1855	0	786	1673	0	0	1682	0	1770	1596	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		1572			2792			867			1221	
Travel Time (s)		26.8			47.6			23.6			23.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	76	282	8	29	104	223	43	29	134	464	4	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	290	0	29	327	0	0	206	0	464	90	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		6			2		4	4		3	3	
Permitted Phases	6			2								
Detector Phase	6	6		2	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		26.3	26.3		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	34.1	34.1		34.5	34.5		24.7	24.7		24.3	24.3	
Yellow Time (s)	4.3	4.3		4.1	4.1		3.1	3.1		3.9	3.9	
All-Red Time (s)	1.6	1.6		1.4	1.4		2.2	2.2		1.8	1.8	
Lost Time Adjust (s)	-0.9	-0.9		-0.5	-0.5			-0.3		-0.7	-0.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)							7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)							14.0	14.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)	19.8	19.8		19.8	19.8			13.9		25.5	25.5	
Actuated g/C Ratio	0.27	0.27		0.27	0.27			0.19		0.34	0.34	
v/c Ratio	0.42	0.59		0.14	0.74			0.66		0.77	0.16	
Control Delay	31.6	29.5		23.3	36.1			39.3		34.9	21.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	31.6	29.5		23.3	36.1			39.3		34.9	21.8	
LOS	C	C		C	D			D		C	C	
Approach Delay		30.0			35.1			39.3			32.8	
Approach LOS		C			D			D			C	
Queue Length 50th (ft)	28	114		10	135			85		179	27	
Queue Length 95th (ft)	74	210		33	248			176		#463	80	
Internal Link Dist (ft)		1492			2712			787			1141	
Turn Bay Length (ft)	170			195						140		
Base Capacity (vph)	322	888		376	801			575		605	546	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.24	0.33		0.08	0.41			0.36		0.77	0.16	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 74.4			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 33.6		Intersection LOS: C	
Intersection Capacity Utilization 79.7%		ICU Level of Service D	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Adams Farm Pkwy & Mackay Rd

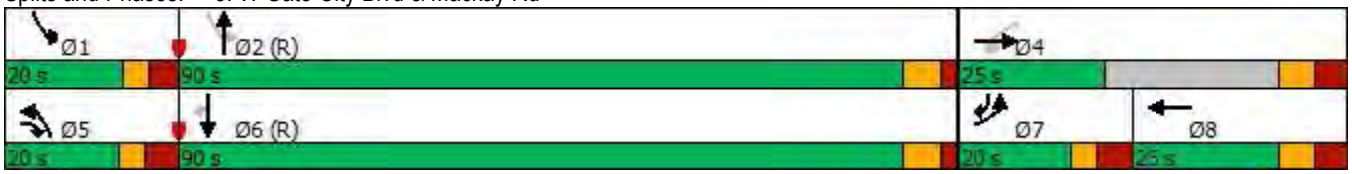


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	336	40	303	65	38	40	176	389	62	70	551	154
Future Volume (vph)	336	40	303	65	38	40	176	389	62	70	551	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		805	90		0	550		0	305		325
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Frt			0.850		0.923			0.979				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1719	0	3433	4979	0	1770	5085	1583
Flt Permitted	0.950			0.728			0.950			0.440		
Satd. Flow (perm)	3433	1863	1583	1356	1719	0	3433	4979	0	820	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		2792			1166			6342			1193	
Travel Time (s)		47.6			31.8			96.1			18.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	373	44	337	72	42	44	196	432	69	78	612	171
Shared Lane Traffic (%)												
Lane Group Flow (vph)	373	44	337	72	86	0	196	501	0	78	612	171
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA		Prot	NA		D.P+P	NA	pm+ov
Protected Phases	7	4	5		8		5	2		1	6	7
Permitted Phases			4	4						2		6
Detector Phase	7	4	5	4	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	14.1	50.1	14.0	50.1	54.1		14.0	29.5		14.0	35.5	14.1
Total Split (s)	20.0	25.0	20.0	25.0	25.0		20.0	90.0		20.0	90.0	20.0
Total Split (%)	12.9%	16.1%	12.9%	16.1%	16.1%		12.9%	58.1%		12.9%	58.1%	12.9%
Maximum Green (s)	12.9	16.9	13.1	16.9	16.9		13.1	83.5		13.6	83.5	12.9
Yellow Time (s)	3.0	4.1	3.0	4.1	4.1		3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	4.1	4.0	3.9	4.0	4.0		3.9	2.0		3.4	2.0	4.1
Lost Time Adjust (s)	-2.1	-3.1	-1.9	-3.1	-3.1		-1.9	-1.5		-1.4	-1.5	-2.1
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	6.0		2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		34.0		34.0	39.0			16.0			22.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	28.0	48.2	66.9	48.2	15.2		13.7	82.7		91.8	78.1	111.0
Actuated g/C Ratio	0.18	0.31	0.43	0.31	0.10		0.09	0.53		0.59	0.50	0.72
v/c Ratio	0.60	0.08	0.49	0.17	0.51		0.64	0.19		0.14	0.24	0.15
Control Delay	63.3	37.1	34.0	39.3	76.2		78.2	19.4		12.8	22.6	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	63.3	37.1	34.0	39.3	76.2		78.2	19.4		12.8	22.6	8.1
LOS	E	D	C	D	E		E	B		B	C	A
Approach Delay		48.7			59.4			36.0			18.8	
Approach LOS		D			E			D			B	
Queue Length 50th (ft)	182	32	247	54	84		100	91		29	123	51
Queue Length 95th (ft)	237	61	311	92	141		142	129		57	169	93
Internal Link Dist (ft)		2712			1086			6262			1113	
Turn Bay Length (ft)	470		805	90			550			305		325
Base Capacity (vph)	619	579	698	421	222		336	2742		603	2788	1134
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.60	0.08	0.48	0.17	0.39		0.58	0.18		0.13	0.22	0.15

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Offset: 20 (13%), Referenced to phase 2:NBSB and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 35.4		Intersection LOS: D	
Intersection Capacity Utilization 47.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: W Gate City Blvd & Mackay Rd

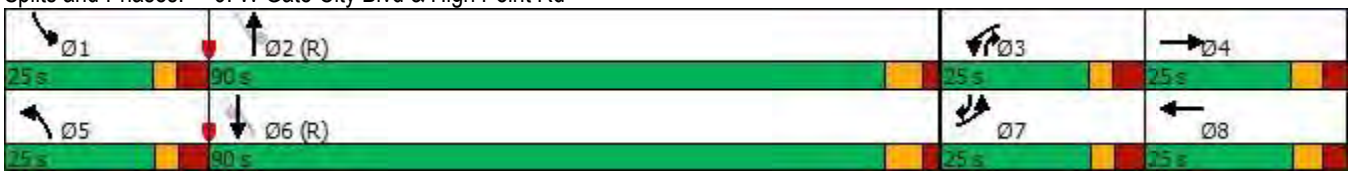


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	11	9	133	12	11	12	499	174	10	464	38
Future Volume (vph)	62	11	9	133	12	11	12	499	174	10	464	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	360		0	400		450	435		215
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.932			0.928				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1736	0	3433	1729	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.450			0.432		
Satd. Flow (perm)	3433	1736	0	3433	1729	0	838	5085	1583	805	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		746			1689			1193			1650	
Travel Time (s)		14.5			32.9			18.1			25.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	69	12	10	148	13	12	13	554	193	11	516	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	69	22	0	148	25	0	13	554	193	11	516	42
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases							6		2	2		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.7	42.0		13.9	13.9		13.7	18.9	13.9	13.8	18.9	13.7
Total Split (s)	25.0	25.0		25.0	25.0		25.0	90.0	25.0	25.0	90.0	25.0
Total Split (%)	15.2%	15.2%		15.2%	15.2%		15.2%	54.5%	15.2%	15.2%	54.5%	15.2%
Maximum Green (s)	18.3	18.0		18.1	18.1		18.3	83.1	18.1	18.2	83.1	18.3
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.7	3.2		3.9	3.1		3.7	2.2	3.9	3.8	2.2	3.7
Lost Time Adjust (s)	-1.7	-2.0		-1.9	-1.9		-1.7	-1.9	-1.9	-1.8	-1.9	-1.7
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Walk Time (s)		4.0										

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		31.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)	10.7	9.6		13.4	12.2		130.6	127.1	147.5	130.6	127.2	144.9
Actuated g/C Ratio	0.06	0.06		0.08	0.07		0.79	0.77	0.89	0.79	0.77	0.88
v/c Ratio	0.31	0.22		0.53	0.20		0.02	0.14	0.14	0.02	0.13	0.03
Control Delay	77.4	79.2		79.5	73.9		5.1	6.5	2.7	5.1	6.5	3.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.4	79.2		79.5	73.9		5.1	6.5	2.7	5.1	6.5	3.6
LOS	E	E		E	E		A	A	A	A	A	A
Approach Delay		77.9			78.7			5.5			6.2	
Approach LOS		E			E			A			A	
Queue Length 50th (ft)	37	23		80	26		3	49	20	2	45	5
Queue Length 95th (ft)	65	55		118	58		10	98	66	8	91	21
Internal Link Dist (ft)		666			1609			1113			1570	
Turn Bay Length (ft)	50			360			400		450	435		215
Base Capacity (vph)	416	210		416	209		786	3917	1444	763	3918	1444
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.10		0.36	0.12		0.02	0.14	0.13	0.01	0.13	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 165			
Actuated Cycle Length: 165			
Offset: 54 (33%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay: 17.8		Intersection LOS: B	
Intersection Capacity Utilization 34.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: W Gate City Blvd & High Point Rd

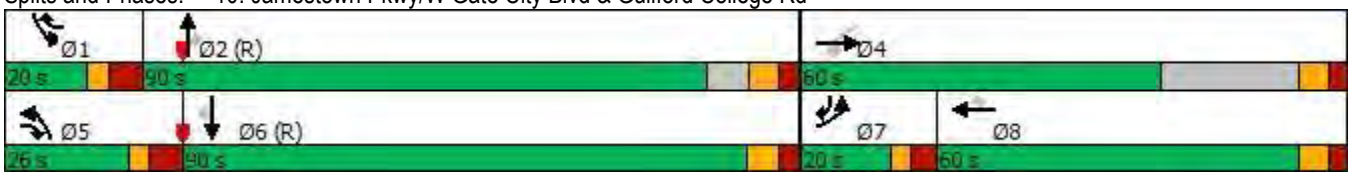


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	241	154	4	213	161	103	438	5	173	650	35
Future Volume (vph)	74	241	154	4	213	161	103	438	5	173	650	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430		445	355		285	415		335	395		335
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.446			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	831	3539	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		3577			1802			3389			6342	
Travel Time (s)		54.2			27.3			51.3			96.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	82	268	171	4	237	179	114	487	6	192	722	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	268	171	4	237	179	114	487	6	192	722	39
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	5		8	1	5	2		1	6	7
Permitted Phases			4	4		8			2			6
Detector Phase	7	4	5	4	8	1	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	7.0
Minimum Split (s)	14.0	25.3	26.0	25.3	20.0	14.9	26.0	25.5	25.5	14.9	25.7	14.0
Total Split (s)	20.0	60.0	26.0	60.0	60.0	20.0	26.0	90.0	90.0	20.0	90.0	20.0
Total Split (%)	10.2%	30.6%	13.3%	30.6%	30.6%	10.2%	13.3%	45.9%	45.9%	10.2%	45.9%	10.2%
Maximum Green (s)	13.2	52.7	18.0	52.7	52.7	12.1	18.0	82.5	82.5	12.1	82.3	13.2
Yellow Time (s)	3.0	4.5	3.0	4.5	4.5	3.0	3.0	4.4	4.4	3.0	4.6	3.0
All-Red Time (s)	3.8	2.8	5.0	2.8	2.8	4.9	5.0	3.1	3.1	4.9	3.1	3.8
Lost Time Adjust (s)	-1.8	-2.3	-3.0	-2.3	-2.3	-2.9	-3.0	-2.5	-2.5	-2.9	-2.7	-1.8
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	6.0	2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	0.0	30.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0		7.0				7.0	7.0		7.0	
Flash Dont Walk (s)		11.0		11.0				11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0		0				0	0		0	
Act Effct Green (s)	11.0	36.0	54.6	36.0	19.9	43.0	13.6	126.9	126.9	18.1	131.4	147.4
Actuated g/C Ratio	0.06	0.18	0.28	0.18	0.10	0.22	0.07	0.65	0.65	0.09	0.67	0.75
v/c Ratio	0.42	0.41	0.39	0.03	0.66	0.52	0.48	0.15	0.01	0.61	0.21	0.03
Control Delay	95.8	71.9	58.7	62.5	93.5	71.8	94.1	14.3	15.0	93.5	13.2	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.8	71.9	58.7	62.5	93.5	71.8	94.1	14.3	15.0	93.5	13.2	7.2
LOS	F	E	E	E	F	E	F	B	B	F	B	A
Approach Delay		71.3			84.0			29.3			29.1	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)	54	163	180	4	157	206	74	86	3	125	125	12
Queue Length 95th (ft)	86	204	242	17	205	280	110	123	11	170	172	28
Internal Link Dist (ft)		3497			1722			3309			6262	
Turn Bay Length (ft)	430		445	355		285	415		335	395		335
Base Capacity (vph)	262	1354	500	317	993	349	367	3292	1024	320	3408	1222
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.20	0.34	0.01	0.24	0.51	0.31	0.15	0.01	0.60	0.21	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 196			
Actuated Cycle Length: 196			
Offset: 20 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 47.2		Intersection LOS: D	
Intersection Capacity Utilization 47.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd



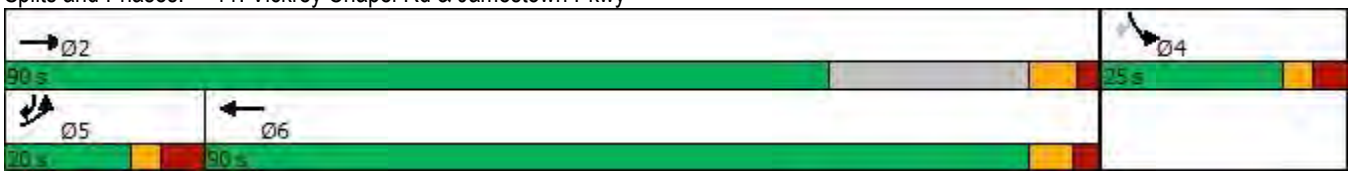


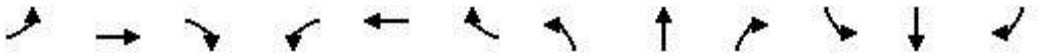
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	159	171	205	26	25	226
Future Volume (vph)	159	171	205	26	25	226
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	445			575	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	100				100	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	3539	1863	1583	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	3539	1863	1583	3433	1583
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		45	
Link Distance (ft)		638	755		3389	
Travel Time (s)		12.4	14.7		51.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	177	190	228	29	28	251
Shared Lane Traffic (%)						
Lane Group Flow (vph)	177	190	228	29	28	251
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		48	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Free	Prot	pm+ov
Protected Phases	5	2	6		4	5
Permitted Phases				Free		4
Detector Phase	5	2	6		4	5
Switch Phase						
Minimum Initial (s)	7.0	12.0	12.0		7.0	7.0
Minimum Split (s)	14.4	20.0	20.0		20.0	14.4
Total Split (s)	20.0	90.0	90.0		25.0	20.0
Total Split (%)	14.8%	66.7%	66.7%		18.5%	14.8%
Maximum Green (s)	12.6	82.8	82.9		18.3	12.6
Yellow Time (s)	3.0	4.8	4.3		3.0	3.0
All-Red Time (s)	4.4	2.4	2.8		3.7	4.4
Lost Time Adjust (s)	-2.4	-2.2	-2.1		-1.7	-2.4
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	6.0	6.0		2.0	2.0
Minimum Gap (s)	3.0	3.0	3.0		3.0	3.0
Time Before Reduce (s)	0.0	15.0	15.0		0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Time To Reduce (s)	0.0	30.0	30.0		0.0	0.0
Recall Mode	None	Min	Min		None	None
Act Effct Green (s)	10.3	34.1	14.4	37.0	8.9	12.4
Actuated g/C Ratio	0.28	0.92	0.39	1.00	0.24	0.34
v/c Ratio	0.19	0.06	0.31	0.02	0.03	0.47
Control Delay	12.2	1.5	10.9	0.0	13.2	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.2	1.5	10.9	0.0	13.2	12.5
LOS	B	A	B	A	B	B
Approach Delay		6.6	9.7		12.6	
Approach LOS		A	A		B	
Queue Length 50th (ft)	12	0	24	0	2	38
Queue Length 95th (ft)	41	17	100	0	11	74
Internal Link Dist (ft)		558	675		3309	
Turn Bay Length (ft)	445			575		
Base Capacity (vph)	1420	3539	1863	1583	1894	744
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.05	0.12	0.02	0.01	0.34

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 37			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay: 9.3		Intersection LOS: A	
Intersection Capacity Utilization 35.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Vickrey Chapel Rd & Jamestown Pkwy





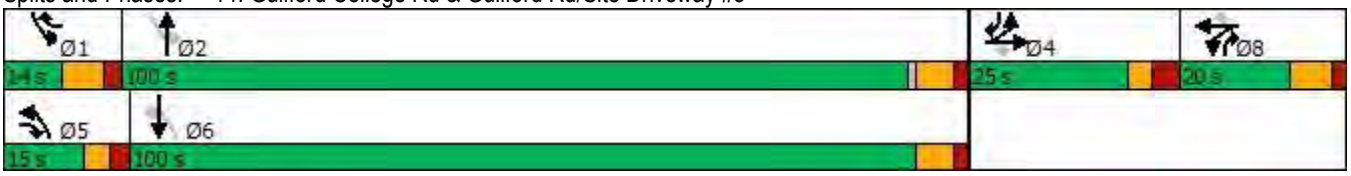
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	494	4	113	15	10	14	60	259	10	5	394	550
Future Volume (vph)	494	4	113	15	10	14	60	259	10	5	394	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	195		135	0		0	140		100	125		330
Storage Lanes	1		1	0		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950	0.953			0.971		0.950			0.950		
Satd. Flow (prot)	1681	1686	1583	0	1809	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950	0.953			0.971		0.422			0.575		
Satd. Flow (perm)	1681	1686	1583	0	1809	1583	786	3539	1583	1071	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			45			45			45	
Link Distance (ft)		471			717			1464			1684	
Travel Time (s)		9.2			10.9			22.2			25.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	549	4	126	17	11	16	67	288	11	6	438	611
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	274	279	126	0	28	16	67	288	11	6	438	611
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	4	4	5	8	8	1	5	2	8	1	6	4
Permitted Phases			4			8	6		2	2		6
Detector Phase	4	4	5	8	8	1	5	2	8	1	6	4
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	20.0	20.0	14.0	20.0	20.0	14.0	14.0	20.0	20.0	14.0	41.5	20.0
Total Split (s)	25.0	25.0	15.0	20.0	20.0	14.0	15.0	100.0	20.0	14.0	100.0	25.0
Total Split (%)	15.6%	15.6%	9.4%	12.5%	12.5%	8.8%	9.4%	62.5%	12.5%	8.8%	62.5%	15.6%
Maximum Green (s)	18.7	18.7	9.6	13.0	13.0	7.0	9.6	93.5	13.0	7.0	93.5	18.7
Yellow Time (s)	3.0	3.0	3.0	5.0	5.0	5.0	3.0	4.6	5.0	5.0	4.6	3.0
All-Red Time (s)	3.3	3.3	2.4	2.0	2.0	2.0	2.4	1.9	2.0	2.0	1.9	3.3
Lost Time Adjust (s)	-1.3	-2.0	-0.4		-2.0	-2.0	-0.4	-1.5	-2.0	-2.0	-1.5	-1.3
Total Lost Time (s)	5.0	4.3	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0	3.0	3.0	3.0	1.0	6.0	3.0	3.0	6.0	1.0
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min	None
Walk Time (s)											7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)											28.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)	20.4	21.1	30.3		9.3	16.9	23.2	23.3	29.3	26.5	15.7	41.1
Actuated g/C Ratio	0.31	0.32	0.45		0.14	0.25	0.35	0.35	0.44	0.40	0.24	0.62
v/c Ratio	0.53	0.52	0.17		0.11	0.04	0.17	0.23	0.02	0.01	0.53	0.63
Control Delay	26.2	25.4	8.6		29.9	18.2	14.7	19.8	8.2	13.6	25.9	13.2
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.2	25.4	8.6		29.9	18.2	14.7	19.8	8.2	13.6	25.9	13.2
LOS	C	C	A		C	B	B	B	A	B	C	B
Approach Delay		22.6			25.6			18.5			18.4	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	108	109	18		11	5	18	43	2	2	92	176
Queue Length 95th (ft)	204	205	43		35	19	42	94	7	9	137	296
Internal Link Dist (ft)		391			637			1384			1604	
Turn Bay Length (ft)	195		135				140		100	125		330
Base Capacity (vph)	514	533	783		414	402	455	3539	742	522	3539	977
Starvation Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.52	0.16		0.07	0.04	0.15	0.08	0.01	0.01	0.12	0.63

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 66.6
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 19.9 Intersection LOS: B
Intersection Capacity Utilization 58.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 14: Guilford College Rd & Guilford Rd/Site Driveway #3



Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	381	269	5	4	11
Future Vol, veh/h	10	381	269	5	4	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	423	299	6	4	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	305	0	-	0	747	302
Stage 1	-	-	-	-	302	-
Stage 2	-	-	-	-	445	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1256	-	-	-	381	738
Stage 1	-	-	-	-	750	-
Stage 2	-	-	-	-	646	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1256	-	-	-	377	738
Mov Cap-2 Maneuver	-	-	-	-	377	-
Stage 1	-	-	-	-	742	-
Stage 2	-	-	-	-	646	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1256	-	-	-	588
HCM Lane V/C Ratio	0.009	-	-	-	0.028
HCM Control Delay (s)	7.9	0	-	-	11.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	348	23	8	259	12	13	4	9	8	4	8
Future Vol, veh/h	14	348	23	8	259	12	13	4	9	8	4	8
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	160	-	50	50	-	235	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	387	26	9	288	13	14	4	10	9	4	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	301	0	0	413	0	0	738	738	387	745	751	288
Stage 1	-	-	-	-	-	-	419	419	-	306	306	-
Stage 2	-	-	-	-	-	-	319	319	-	439	445	-
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	1260	-	-	1146	-	-	334	346	661	330	340	751
Stage 1	-	-	-	-	-	-	612	590	-	704	662	-
Stage 2	-	-	-	-	-	-	693	653	-	597	575	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1260	-	-	1146	-	-	322	339	661	317	333	751
Mov Cap-2 Maneuver	-	-	-	-	-	-	322	339	-	317	333	-
Stage 1	-	-	-	-	-	-	604	582	-	695	657	-
Stage 2	-	-	-	-	-	-	675	648	-	576	568	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.2	14.6	14.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	326	661	1260	-	-	1146	-	-	418
HCM Lane V/C Ratio	0.058	0.015	0.012	-	-	0.008	-	-	0.053
HCM Control Delay (s)	16.7	10.5	7.9	-	-	8.2	-	-	14.1
HCM Lane LOS	C	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	322	16	70	247	25	17	4	28	11	4	8
Future Vol, veh/h	23	322	16	70	247	25	17	4	28	11	4	8
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	100	-	-	125	-	0	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	358	18	78	274	28	19	4	31	12	4	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	302	0	0	376	0	0	870	877	367	867	858	274
Stage 1	-	-	-	-	-	-	419	419	-	430	430	-
Stage 2	-	-	-	-	-	-	451	458	-	437	428	-
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	1259	-	-	1182	-	-	272	287	678	273	294	765
Stage 1	-	-	-	-	-	-	612	590	-	603	583	-
Stage 2	-	-	-	-	-	-	588	567	-	598	585	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1259	-	-	1182	-	-	248	262	678	240	269	765
Mov Cap-2 Maneuver	-	-	-	-	-	-	248	262	-	240	269	-
Stage 1	-	-	-	-	-	-	599	578	-	590	545	-
Stage 2	-	-	-	-	-	-	538	530	-	554	573	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1.7	15	17.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	251	678	1259	-	-	1182	-	-	323
HCM Lane V/C Ratio	0.093	0.046	0.02	-	-	0.066	-	-	0.079
HCM Control Delay (s)	20.8	10.6	7.9	-	-	8.3	-	-	17.1
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0.1	0.1	-	-	0.2	-	-	0.3

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	18	346	333	35	10	11
Future Vol, veh/h	18	346	333	35	10	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	115	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	384	370	39	11	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	409	0	-	0	794	185
Stage 1	-	-	-	-	370	-
Stage 2	-	-	-	-	424	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1148	-	-	-	341	826
Stage 1	-	-	-	-	670	-
Stage 2	-	-	-	-	659	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1148	-	-	-	335	826
Mov Cap-2 Maneuver	-	-	-	-	335	-
Stage 1	-	-	-	-	659	-
Stage 2	-	-	-	-	659	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	12.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1148	-	-	-	486
HCM Lane V/C Ratio	0.017	-	-	-	0.048
HCM Control Delay (s)	8.2	-	-	-	12.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.2

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	0	425	4	4	524	4	4
Future Vol, veh/h	0	425	4	4	524	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	410	-	75	365	-	125	0
Veh in Median Storage, #	-	0	-	-	0	0	-
Grade, %	-	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	472	4	4	582	4	4

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	582	0	0	476	0	771	236
Stage 1	-	-	-	-	-	472	-
Stage 2	-	-	-	-	-	299	-
Critical Hdwy	6.44	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.52	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	614	-	-	1082	-	337	766
Stage 1	-	-	-	-	-	594	-
Stage 2	-	-	-	-	-	726	-
Platoon blocked, %		-	-		-		
Mov Cap-1 Maneuver	614	-	-	1082	-	336	766
Mov Cap-2 Maneuver	-	-	-	-	-	336	-
Stage 1	-	-	-	-	-	594	-
Stage 2	-	-	-	-	-	723	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT
Capacity (veh/h)	336	766	614	-	-	1082	-
HCM Lane V/C Ratio	0.013	0.006	-	-	-	0.004	-
HCM Control Delay (s)	15.9	9.7	0	-	-	8.3	-
HCM Lane LOS	C	A	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0	0	-	-	0	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	4	13	15	4	26	40	770	28	21	926	28
Future Vol, veh/h	12	4	13	15	4	26	40	770	28	21	926	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	135	-	50	130	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	4	14	17	4	29	44	856	31	23	1029	31

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1593	2050	515	1507	2050	428	1060	0	0	887	0	0
Stage 1	1075	1075	-	944	944	-	-	-	-	-	-	-
Stage 2	518	975	-	563	1106	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	72	55	505	83	55	575	653	-	-	759	-	-
Stage 1	234	294	-	282	339	-	-	-	-	-	-	-
Stage 2	509	328	-	478	284	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	59	50	505	70	50	575	653	-	-	759	-	-
Mov Cap-2 Maneuver	59	50	-	70	50	-	-	-	-	-	-	-
Stage 1	218	285	-	263	316	-	-	-	-	-	-	-
Stage 2	445	306	-	443	275	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	62.1	42.6	0.5	0.2
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	653	-	-	94	65	575	759	-	-
HCM Lane V/C Ratio	0.068	-	-	0.343	0.325	0.05	0.031	-	-
HCM Control Delay (s)	10.9	-	-	62.1	85	11.6	9.9	-	-
HCM Lane LOS	B	-	-	F	F	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1.3	1.2	0.2	0.1	-	-

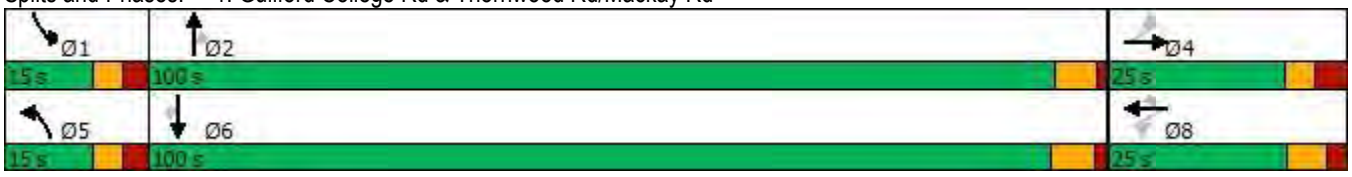
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	11	11	154	22	109	35	653	170	178	809	48
Future Volume (vph)	16	11	11	154	22	109	35	653	170	178	809	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	190		190	120		205	310		150
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.925				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1723	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.742			0.742			0.950			0.950		
Satd. Flow (perm)	1382	1723	0	1382	1863	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			40			45			45	
Link Distance (ft)		1208			505			1538			1743	
Travel Time (s)		32.9			8.6			23.3			26.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	18	12	12	171	24	121	39	726	189	198	899	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	24	0	171	24	121	39	726	189	198	899	53
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	13.6	13.6		13.5	13.5	13.5	12.8	17.7	17.7	12.8	18.1	18.1
Total Split (s)	25.0	25.0		25.0	25.0	25.0	15.0	100.0	100.0	15.0	100.0	100.0
Total Split (%)	17.9%	17.9%		17.9%	17.9%	17.9%	10.7%	71.4%	71.4%	10.7%	71.4%	71.4%
Maximum Green (s)	18.4	18.4		18.5	18.5	18.5	9.2	94.3	94.3	9.2	93.9	93.9
Yellow Time (s)	3.1	3.1		4.2	4.2	4.2	3.0	4.4	4.4	3.0	4.6	4.6
All-Red Time (s)	3.5	3.5		2.3	2.3	2.3	2.8	1.3	1.3	2.8	1.5	1.5
Lost Time Adjust (s)	-1.6	-1.6		-1.5	-1.5	-1.5	-0.8	-0.7	-0.7	-0.8	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	6.0	6.0	1.0	6.0	6.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	45.0	45.0	0.0	45.0	45.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	14.7	14.7		14.7	14.7	14.7	7.9	22.1	22.1	10.2	32.8	32.8
Actuated g/C Ratio	0.24	0.24		0.24	0.24	0.24	0.13	0.36	0.36	0.16	0.53	0.53
v/c Ratio	0.06	0.06		0.53	0.05	0.32	0.17	0.58	0.34	0.69	0.48	0.06
Control Delay	20.5	20.3		28.5	20.2	23.7	29.7	18.3	16.7	42.0	12.3	10.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.5	20.3		28.5	20.2	23.7	29.7	18.3	16.7	42.0	12.3	10.6
LOS	C	C		C	C	C	C	B	B	D	B	B
Approach Delay		20.4			26.0			18.5			17.3	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	5	7		56	7	37	13	114	51	72	84	7
Queue Length 95th (ft)	21	25		124	25	88	44	174	102	#196	213	33
Internal Link Dist (ft)		1128			425			1458			1663	
Turn Bay Length (ft)	75			190		190	120		205	310		150
Base Capacity (vph)	452	564		452	609	518	289	3539	1583	289	3539	1583
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.04		0.38	0.04	0.23	0.13	0.21	0.12	0.69	0.25	0.03

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 62.2
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 18.9 Intersection LOS: B
Intersection Capacity Utilization 55.9% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Guilford College Rd & Thornwood Rd/Mackay Rd



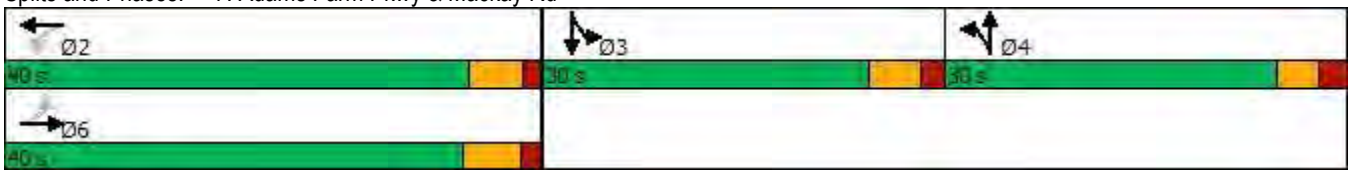
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	200	34	105	318	425	24	30	50	299	34	72
Future Volume (vph)	67	200	34	105	318	425	24	30	50	299	34	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	195		0	0		0	140		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.978			0.914			0.935			0.898	
Flt Protected	0.950			0.950				0.988		0.950		
Satd. Flow (prot)	1770	1822	0	1770	1703	0	0	1721	0	1770	1673	0
Flt Permitted	0.112			0.560				0.988		0.950		
Satd. Flow (perm)	209	1822	0	1043	1703	0	0	1721	0	1770	1673	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		1572			2792			867			1221	
Travel Time (s)		26.8			47.6			23.6			23.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	74	222	38	117	353	472	27	33	56	332	38	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	260	0	117	825	0	0	116	0	332	118	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		6			2		4	4		3	3	
Permitted Phases	6			2								
Detector Phase	6	6		2	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		26.3	26.3		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	34.1	34.1		34.5	34.5		24.7	24.7		24.3	24.3	
Yellow Time (s)	4.3	4.3		4.1	4.1		3.1	3.1		3.9	3.9	
All-Red Time (s)	1.6	1.6		1.4	1.4		2.2	2.2		1.8	1.8	
Lost Time Adjust (s)	-0.9	-0.9		-0.5	-0.5			-0.3		-0.7	-0.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)							7.0	7.0				

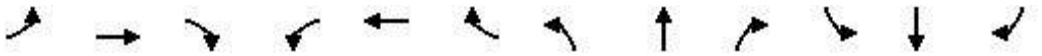
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)							14.0	14.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)	35.9	35.9		35.9	35.9			10.5		19.7	19.7	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.13		0.25	0.25	
v/c Ratio	0.77	0.31		0.24	1.05			0.50		0.74	0.28	
Control Delay	75.9	17.6		18.4	74.1			41.6		39.1	26.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	75.9	17.6		18.4	74.1			41.6		39.1	26.7	
LOS	E	B		B	E			D		D	C	
Approach Delay		30.5			67.2			41.6			35.9	
Approach LOS		C			E			D			D	
Queue Length 50th (ft)	32	84		36	~486			56		154	48	
Queue Length 95th (ft)	#128	166		88	#812			112		262	97	
Internal Link Dist (ft)		1492			2712			787			1141	
Turn Bay Length (ft)	170			195						140		
Base Capacity (vph)	96	836		479	782			564		580	548	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.77	0.31		0.24	1.05			0.21		0.57	0.22	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 78.1
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.05
Intersection Signal Delay: 51.3 Intersection LOS: D
Intersection Capacity Utilization 90.2% ICU Level of Service E
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Adams Farm Pkwy & Mackay Rd



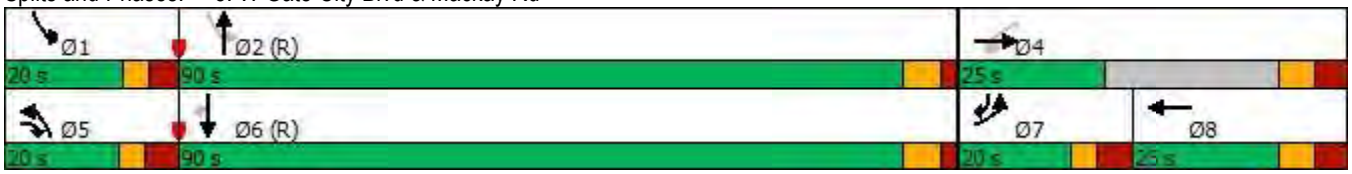


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	260	21	197	16	29	26	340	486	24	30	599	457
Future Volume (vph)	260	21	197	16	29	26	340	486	24	30	599	457
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		805	90		0	550		0	305		325
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Frt			0.850		0.929			0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1730	0	3433	5050	0	1770	5085	1583
Flt Permitted	0.950			0.742			0.950			0.396		
Satd. Flow (perm)	3433	1863	1583	1382	1730	0	3433	5050	0	738	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		2792			1166			6342			1193	
Travel Time (s)		47.6			31.8			96.1			18.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	289	23	219	18	32	29	378	540	27	33	666	508
Shared Lane Traffic (%)												
Lane Group Flow (vph)	289	23	219	18	61	0	378	567	0	33	666	508
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA		Prot	NA		D.P+P	NA	pm+ov
Protected Phases	7	4	5		8		5	2		1	6	7
Permitted Phases			4	4						2		6
Detector Phase	7	4	5	4	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	14.1	50.1	14.0	50.1	54.1		14.0	29.5		14.0	35.5	14.1
Total Split (s)	20.0	25.0	20.0	25.0	25.0		20.0	90.0		20.0	90.0	20.0
Total Split (%)	12.9%	16.1%	12.9%	16.1%	16.1%		12.9%	58.1%		12.9%	58.1%	12.9%
Maximum Green (s)	12.9	16.9	13.1	16.9	16.9		13.1	83.5		13.6	83.5	12.9
Yellow Time (s)	3.0	4.1	3.0	4.1	4.1		3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	4.1	4.0	3.9	4.0	4.0		3.9	2.0		3.4	2.0	4.1
Lost Time Adjust (s)	-2.1	-3.1	-1.9	-3.1	-3.1		-1.9	-1.5		-1.4	-1.5	-2.1
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	6.0		2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		34.0		34.0	39.0			16.0			22.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	42.5	57.7	91.0	57.7	13.2		28.2	76.4		83.3	54.0	101.6
Actuated g/C Ratio	0.27	0.37	0.59	0.37	0.09		0.18	0.49		0.54	0.35	0.66
v/c Ratio	0.31	0.03	0.24	0.04	0.41		0.61	0.23		0.07	0.38	0.49
Control Delay	44.2	24.9	14.7	24.7	74.9		63.2	26.2		20.8	41.2	16.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	44.2	24.9	14.7	24.7	74.9		63.2	26.2		20.8	41.2	16.5
LOS	D	C	B	C	E		E	C		C	D	B
Approach Delay		31.2			63.5			41.0			30.2	
Approach LOS		C			E			D			C	
Queue Length 50th (ft)	120	14	101	11	60		185	126		15	187	254
Queue Length 95th (ft)	145	29	103	25	109		241	189		41	267	381
Internal Link Dist (ft)		2712			1086			6262			1113	
Turn Bay Length (ft)	470		805	90			550			305		325
Base Capacity (vph)	941	712	929	528	223		624	2950		515	2788	1037
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.31	0.03	0.24	0.03	0.27		0.61	0.19		0.06	0.24	0.49

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Offset: 20 (13%), Referenced to phase 2:NBSB and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 35.1		Intersection LOS: D	
Intersection Capacity Utilization 56.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: W Gate City Blvd & Mackay Rd

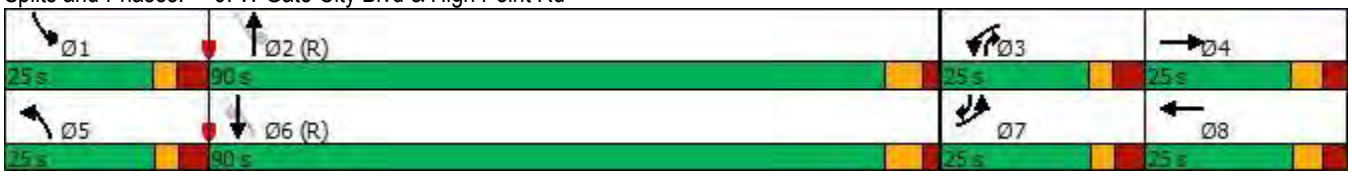


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	60	41	207	37	9	31	376	204	22	708	130
Future Volume (vph)	83	60	41	207	37	9	31	376	204	22	708	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	360		0	400		450	435		215
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.939			0.971				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1749	0	3433	1809	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.318			0.495		
Satd. Flow (perm)	3433	1749	0	3433	1809	0	592	5085	1583	922	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		746			1689			1193			1650	
Travel Time (s)		14.5			32.9			18.1			25.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	92	67	46	230	41	10	34	418	227	24	787	144
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	113	0	230	51	0	34	418	227	24	787	144
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases							6		2	2		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.7	42.0		13.9	13.9		13.7	18.9	13.9	13.8	18.9	13.7
Total Split (s)	25.0	25.0		25.0	25.0		25.0	90.0	25.0	25.0	90.0	25.0
Total Split (%)	15.2%	15.2%		15.2%	15.2%		15.2%	54.5%	15.2%	15.2%	54.5%	15.2%
Maximum Green (s)	18.3	18.0		18.1	18.1		18.3	83.1	18.1	18.2	83.1	18.3
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.7	3.2		3.9	3.1		3.7	2.2	3.9	3.8	2.2	3.7
Lost Time Adjust (s)	-1.7	-2.0		-1.9	-1.9		-1.7	-1.9	-1.9	-1.8	-1.9	-1.7
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Walk Time (s)		4.0										

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		31.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)	14.8	17.0		17.3	22.3		111.7	107.5	129.7	112.7	104.8	125.5
Actuated g/C Ratio	0.09	0.10		0.10	0.14		0.68	0.65	0.79	0.68	0.64	0.76
v/c Ratio	0.30	0.63		0.64	0.21		0.07	0.13	0.18	0.04	0.24	0.12
Control Delay	74.9	85.8		79.0	62.4		9.6	12.6	5.9	9.4	14.5	8.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.9	85.8		79.0	62.4		9.6	12.6	5.9	9.4	14.5	8.0
LOS	E	F		E	E		A	B	A	A	B	A
Approach Delay		80.9			76.0			10.2			13.4	
Approach LOS		F			E			B			B	
Queue Length 50th (ft)	50	119		125	49		10	66	64	7	135	46
Queue Length 95th (ft)	81	185		169	89		28	98	108	22	187	83
Internal Link Dist (ft)		666			1609			1113			1570	
Turn Bay Length (ft)	50			360			400		450	435		215
Base Capacity (vph)	453	218		423	268		557	3312	1273	749	3229	1272
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.52		0.54	0.19		0.06	0.13	0.18	0.03	0.24	0.11

Intersection Summary			
Area Type:	Other		
Cycle Length: 165			
Actuated Cycle Length: 165			
Offset: 54 (33%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 27.2		Intersection LOS: C	
Intersection Capacity Utilization 44.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: W Gate City Blvd & High Point Rd

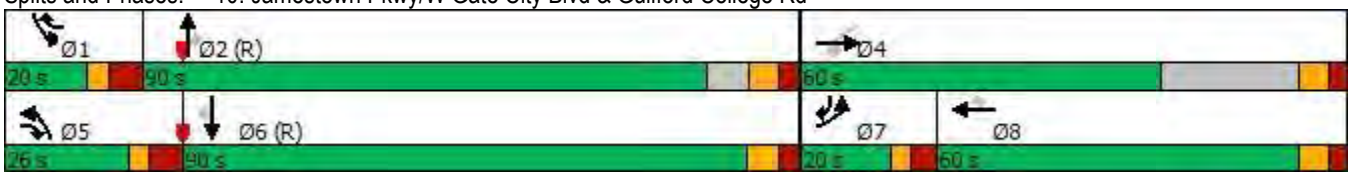


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	172	116	6	293	172	123	450	4	194	511	75
Future Volume (vph)	84	172	116	6	293	172	123	450	4	194	511	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430		445	355		285	415		335	395		335
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.569			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	1060	3539	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		3577			1802			3389			6342	
Travel Time (s)		54.2			27.3			51.3			96.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	93	191	129	7	326	191	137	500	4	216	568	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	93	191	129	7	326	191	137	500	4	216	568	83
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	5		8	1	5	2		1	6	7
Permitted Phases			4	4		8			2			6
Detector Phase	7	4	5	4	8	1	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	7.0
Minimum Split (s)	14.0	25.3	26.0	25.3	20.0	14.9	26.0	25.5	25.5	14.9	25.7	14.0
Total Split (s)	20.0	60.0	26.0	60.0	60.0	20.0	26.0	90.0	90.0	20.0	90.0	20.0
Total Split (%)	10.2%	30.6%	13.3%	30.6%	30.6%	10.2%	13.3%	45.9%	45.9%	10.2%	45.9%	10.2%
Maximum Green (s)	13.2	52.7	18.0	52.7	52.7	12.1	18.0	82.5	82.5	12.1	82.3	13.2
Yellow Time (s)	3.0	4.5	3.0	4.5	4.5	3.0	3.0	4.4	4.4	3.0	4.6	3.0
All-Red Time (s)	3.8	2.8	5.0	2.8	2.8	4.9	5.0	3.1	3.1	4.9	3.1	3.8
Lost Time Adjust (s)	-1.8	-2.3	-3.0	-2.3	-2.3	-2.9	-3.0	-2.5	-2.5	-2.9	-2.7	-1.8
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	6.0	2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	0.0	30.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0		7.0				7.0	7.0		7.0	
Flash Dont Walk (s)		11.0		11.0				11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0		0				0	0		0	
Act Effct Green (s)	11.6	41.7	61.8	41.7	25.1	49.9	15.1	119.5	119.5	19.8	124.2	140.8
Actuated g/C Ratio	0.06	0.21	0.32	0.21	0.13	0.25	0.08	0.61	0.61	0.10	0.63	0.72
v/c Ratio	0.46	0.25	0.26	0.03	0.72	0.47	0.52	0.16	0.00	0.62	0.18	0.07
Control Delay	96.1	63.9	49.8	57.5	91.1	64.9	93.7	17.6	18.8	92.5	15.8	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.1	63.9	49.8	57.5	91.1	64.9	93.7	17.6	18.8	92.5	15.8	9.3
LOS	F	E	D	E	F	E	F	B	B	F	B	A
Approach Delay		66.8			81.1			33.9			34.3	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)	60	109	125	7	216	211	89	99	2	140	106	30
Queue Length 95th (ft)	95	142	171	23	267	280	128	142	9	187	151	59
Internal Link Dist (ft)		3497			1722			3309			6262	
Turn Bay Length (ft)	430		445	355		285	415		335	395		335
Base Capacity (vph)	262	1354	547	405	993	403	367	3100	965	346	3222	1164
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.14	0.24	0.02	0.33	0.47	0.37	0.16	0.00	0.62	0.18	0.07

Intersection Summary			
Area Type:	Other		
Cycle Length: 196			
Actuated Cycle Length: 196			
Offset: 20 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 49.7		Intersection LOS: D	
Intersection Capacity Utilization 46.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd



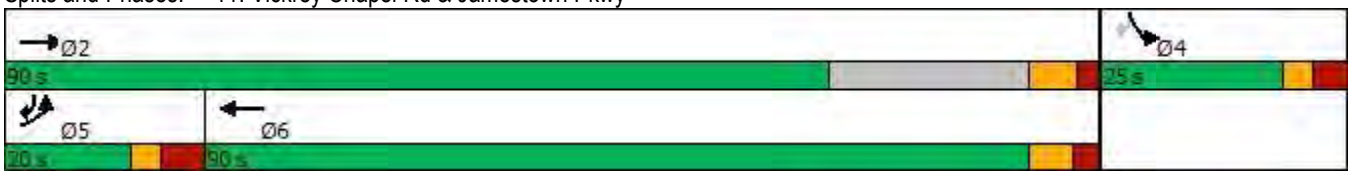


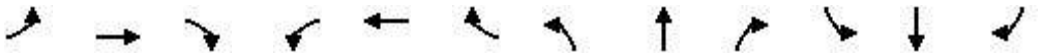
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	102	143	178	25	27	114
Future Volume (vph)	102	143	178	25	27	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	445			575	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	100				100	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	3539	1863	1583	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	3539	1863	1583	3433	1583
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		45	
Link Distance (ft)		638	755		3389	
Travel Time (s)		12.4	14.7		51.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	113	159	198	28	30	127
Shared Lane Traffic (%)						
Lane Group Flow (vph)	113	159	198	28	30	127
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		48	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Free	Prot	pm+ov
Protected Phases	5	2	6		4	5
Permitted Phases				Free		4
Detector Phase	5	2	6		4	5
Switch Phase						
Minimum Initial (s)	7.0	12.0	12.0		7.0	7.0
Minimum Split (s)	14.4	20.0	20.0		20.0	14.4
Total Split (s)	20.0	90.0	90.0		25.0	20.0
Total Split (%)	14.8%	66.7%	66.7%		18.5%	14.8%
Maximum Green (s)	12.6	82.8	82.9		18.3	12.6
Yellow Time (s)	3.0	4.8	4.3		3.0	3.0
All-Red Time (s)	4.4	2.4	2.8		3.7	4.4
Lost Time Adjust (s)	-2.4	-2.2	-2.1		-1.7	-2.4
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	6.0	6.0		2.0	2.0
Minimum Gap (s)	3.0	3.0	3.0		3.0	3.0
Time Before Reduce (s)	0.0	15.0	15.0		0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Time To Reduce (s)	0.0	30.0	30.0		0.0	0.0
Recall Mode	None	Min	Min		None	None
Act Effct Green (s)	9.6	34.4	15.5	37.4	8.9	11.7
Actuated g/C Ratio	0.26	0.92	0.41	1.00	0.24	0.31
v/c Ratio	0.13	0.05	0.26	0.02	0.04	0.26
Control Delay	12.2	1.6	10.0	0.0	12.8	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.2	1.6	10.0	0.0	12.8	9.9
LOS	B	A	B	A	B	A
Approach Delay		6.0	8.8		10.4	
Approach LOS		A	A		B	
Queue Length 50th (ft)	7	0	21	0	2	17
Queue Length 95th (ft)	29	15	84	0	11	39
Internal Link Dist (ft)		558	675		3309	
Turn Bay Length (ft)	445			575		
Base Capacity (vph)	1401	3539	1863	1583	1868	737
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.04	0.11	0.02	0.02	0.17

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 37.4			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.26			
Intersection Signal Delay: 8.0		Intersection LOS: A	
Intersection Capacity Utilization 34.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Vickrey Chapel Rd & Jamestown Pkwy





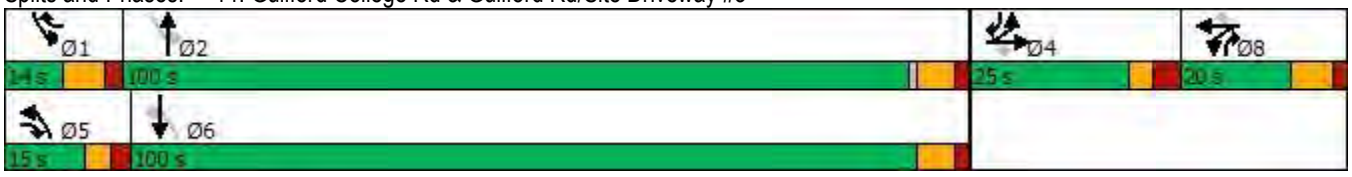
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	613	10	81	7	6	5	159	334	31	5	337	724
Future Volume (vph)	613	10	81	7	6	5	159	334	31	5	337	724
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	195		135	0		0	140		100	125		330
Storage Lanes	1		1	0		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950	0.954			0.974		0.950			0.950		
Satd. Flow (prot)	1681	1688	1583	0	1814	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950	0.954			0.974		0.482			0.511		
Satd. Flow (perm)	1681	1688	1583	0	1814	1583	898	3539	1583	952	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			45			45			45	
Link Distance (ft)		471			717			1464			1684	
Travel Time (s)		9.2			10.9			22.2			25.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	681	11	90	8	7	6	177	371	34	6	374	804
Shared Lane Traffic (%)	49%											
Lane Group Flow (vph)	347	345	90	0	15	6	177	371	34	6	374	804
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	4	4	5	8	8	1	5	2	8	1	6	4
Permitted Phases			4			8	6		2	2		6
Detector Phase	4	4	5	8	8	1	5	2	8	1	6	4
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	20.0	20.0	14.0	20.0	20.0	14.0	14.0	20.0	20.0	14.0	41.5	20.0
Total Split (s)	25.0	25.0	15.0	20.0	20.0	14.0	15.0	100.0	20.0	14.0	100.0	25.0
Total Split (%)	15.6%	15.6%	9.4%	12.5%	12.5%	8.8%	9.4%	62.5%	12.5%	8.8%	62.5%	15.6%
Maximum Green (s)	18.7	18.7	9.6	13.0	13.0	7.0	9.6	93.5	13.0	7.0	93.5	18.7
Yellow Time (s)	3.0	3.0	3.0	5.0	5.0	5.0	3.0	4.6	5.0	5.0	4.6	3.0
All-Red Time (s)	3.3	3.3	2.4	2.0	2.0	2.0	2.4	1.9	2.0	2.0	1.9	3.3
Lost Time Adjust (s)	-1.3	-2.0	-0.4		-2.0	-2.0	-0.4	-1.5	-2.0	-2.0	-1.5	-1.3
Total Lost Time (s)	5.0	4.3	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0	3.0	3.0	3.0	1.0	6.0	3.0	3.0	6.0	1.0
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min	None
Walk Time (s)											7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)											28.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)	20.4	21.1	31.5		9.2	16.8	23.4	26.0	32.7	27.6	14.6	40.1
Actuated g/C Ratio	0.31	0.32	0.47		0.14	0.25	0.35	0.39	0.49	0.41	0.22	0.60
v/c Ratio	0.68	0.65	0.12		0.06	0.02	0.41	0.27	0.04	0.01	0.48	0.84
Control Delay	31.1	29.2	7.5		29.9	18.2	17.0	17.2	7.7	13.2	26.5	24.5
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.1	29.2	7.5		29.9	18.2	17.0	17.2	7.7	13.2	26.5	24.5
LOS	C	C	A		C	B	B	B	A	B	C	C
Approach Delay		27.6			26.5			16.6			25.0	
Approach LOS		C			C			B			C	
Queue Length 50th (ft)	145	141	12		6	2	52	57	6	2	78	304
Queue Length 95th (ft)	#294	#284	29		23	10	94	118	16	8	121	#576
Internal Link Dist (ft)		391			637			1384			1604	
Turn Bay Length (ft)	195		135				140		100	125		330
Base Capacity (vph)	514	534	782		416	398	467	3539	802	506	3539	952
Starvation Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.65	0.12		0.04	0.02	0.38	0.10	0.04	0.01	0.11	0.84

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 66.6
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 23.9 Intersection LOS: C
Intersection Capacity Utilization 72.0% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Guilford College Rd & Guilford Rd/Site Driveway #3



2025 Phase 2 Build Traffic Volumes

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	216	5	5	429	5	9	4	14	4	4	20
Future Vol, veh/h	6	216	5	5	429	5	9	4	14	4	4	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	240	6	6	477	6	10	4	16	4	4	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	483	0	0	246	0	0	762	752	243	759	752	480
Stage 1	-	-	-	-	-	-	257	257	-	492	492	-
Stage 2	-	-	-	-	-	-	505	495	-	267	260	-
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	1080	-	-	1320	-	-	322	339	796	323	339	586
Stage 1	-	-	-	-	-	-	748	695	-	558	548	-
Stage 2	-	-	-	-	-	-	549	546	-	738	693	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1080	-	-	1320	-	-	303	334	796	310	334	586
Mov Cap-2 Maneuver	-	-	-	-	-	-	303	334	-	310	334	-
Stage 1	-	-	-	-	-	-	742	689	-	554	545	-
Stage 2	-	-	-	-	-	-	521	543	-	713	687	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	13.5	13.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	456	1080	-	-	1320	-	-	475
HCM Lane V/C Ratio	0.066	0.006	-	-	0.004	-	-	0.065
HCM Control Delay (s)	13.5	8.4	0	-	7.7	0	-	13.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	226	7	9	372	4	38	4	45	9	4	27
Future Vol, veh/h	4	226	7	9	372	4	38	4	45	9	4	27
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	160	-	50	50	-	235	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	251	8	10	413	4	42	4	50	10	4	30

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	417	0	0	259	0	0	711	696	251	723	700	413
Stage 1	-	-	-	-	-	-	259	259	-	433	433	-
Stage 2	-	-	-	-	-	-	452	437	-	290	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	1142	-	-	1306	-	-	348	365	788	342	363	639
Stage 1	-	-	-	-	-	-	746	694	-	601	582	-
Stage 2	-	-	-	-	-	-	587	579	-	718	688	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1142	-	-	1306	-	-	326	361	788	315	359	639
Mov Cap-2 Maneuver	-	-	-	-	-	-	326	361	-	315	359	-
Stage 1	-	-	-	-	-	-	743	691	-	599	577	-
Stage 2	-	-	-	-	-	-	551	574	-	666	685	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	13.7	13.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	329	788	1142	-	-	1306	-	-	488
HCM Lane V/C Ratio	0.142	0.063	0.004	-	-	0.008	-	-	0.091
HCM Control Delay (s)	17.7	9.9	8.2	-	-	7.8	-	-	13.1
HCM Lane LOS	C	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.5	0.2	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	258	13	40	304	5	50	4	70	27	4	30
Future Vol, veh/h	6	258	13	40	304	5	50	4	70	27	4	30
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	100	-	-	125	-	0	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	287	14	44	338	6	56	4	78	30	4	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	344	0	0	301	0	0	756	740	294	775	741	338
Stage 1	-	-	-	-	-	-	308	308	-	426	426	-
Stage 2	-	-	-	-	-	-	448	432	-	349	315	-
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	1215	-	-	1260	-	-	325	345	745	315	344	704
Stage 1	-	-	-	-	-	-	702	660	-	606	586	-
Stage 2	-	-	-	-	-	-	590	582	-	667	656	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1215	-	-	1260	-	-	297	331	745	271	330	704
Mov Cap-2 Maneuver	-	-	-	-	-	-	297	331	-	271	330	-
Stage 1	-	-	-	-	-	-	698	656	-	602	565	-
Stage 2	-	-	-	-	-	-	538	562	-	590	652	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.9	14.6	16
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	299	745	1215	-	-	1260	-	-	395
HCM Lane V/C Ratio	0.201	0.104	0.005	-	-	0.035	-	-	0.172
HCM Control Delay (s)	20	10.4	8	-	-	8	-	-	16
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.7	0.3	0	-	-	0.1	-	-	0.6

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	352	322	4	12	27
Future Vol, veh/h	9	352	322	4	12	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	115	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	391	358	4	13	30

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	362	0	-	0	769	179
Stage 1	-	-	-	-	358	-
Stage 2	-	-	-	-	411	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1195	-	-	-	353	834
Stage 1	-	-	-	-	679	-
Stage 2	-	-	-	-	668	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1195	-	-	-	350	834
Mov Cap-2 Maneuver	-	-	-	-	350	-
Stage 1	-	-	-	-	674	-
Stage 2	-	-	-	-	668	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1195	-	-	-	585
HCM Lane V/C Ratio	0.008	-	-	-	0.074
HCM Control Delay (s)	8	-	-	-	11.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.2

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	0	622	4	4	393	4	4
Future Vol, veh/h	0	622	4	4	393	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	410	-	75	365	-	125	0
Veh in Median Storage, #	-	0	-	-	0	0	-
Grade, %	-	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	691	4	4	437	4	4

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	437	0	0	695	0	918	346
Stage 1	-	-	-	-	-	691	-
Stage 2	-	-	-	-	-	227	-
Critical Hdwy	6.44	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.52	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	759	-	-	897	-	271	650
Stage 1	-	-	-	-	-	459	-
Stage 2	-	-	-	-	-	789	-
Platoon blocked, %		-	-		-		
Mov Cap-1 Maneuver	759	-	-	897	-	270	650
Mov Cap-2 Maneuver	-	-	-	-	-	270	-
Stage 1	-	-	-	-	-	459	-
Stage 2	-	-	-	-	-	786	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	14.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT
Capacity (veh/h)	270	650	759	-	-	897	-
HCM Lane V/C Ratio	0.016	0.007	-	-	-	0.005	-
HCM Control Delay (s)	18.6	10.6	0	-	-	9	-
HCM Lane LOS	C	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0	0	-	-	0	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	564	386	7	58	35
Future Vol, veh/h	5	564	386	7	58	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	627	429	8	64	39

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	437	0	-	0	759	219
Stage 1	-	-	-	-	433	-
Stage 2	-	-	-	-	326	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1119	-	-	-	343	785
Stage 1	-	-	-	-	621	-
Stage 2	-	-	-	-	704	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1119	-	-	-	340	785
Mov Cap-2 Maneuver	-	-	-	-	340	-
Stage 1	-	-	-	-	616	-
Stage 2	-	-	-	-	704	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	15.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1119	-	-	-	432
HCM Lane V/C Ratio	0.005	-	-	-	0.239
HCM Control Delay (s)	8.2	0	-	-	15.9
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.9

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	654	4	9	681	4	8
Future Vol, veh/h	654	4	9	681	4	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	727	4	10	757	4	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	731	0	1506	729
Stage 1	-	-	-	-	729	-
Stage 2	-	-	-	-	777	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	873	-	133	423
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	453	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	873	-	130	423
Mov Cap-2 Maneuver	-	-	-	-	130	-
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	444	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	20.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	242	-	-	873	-
HCM Lane V/C Ratio	0.055	-	-	0.011	-
HCM Control Delay (s)	20.7	-	-	9.2	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

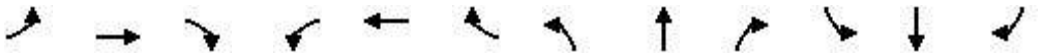
Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	4	28	36	4	39	16	744	17	14	983	10
Future Vol, veh/h	12	4	28	36	4	39	16	744	17	14	983	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	135	-	50	130	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	4	31	40	4	43	18	827	19	16	1092	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1576	2006	546	1443	1998	414	1103	0	0	846	0	0
Stage 1	1124	1124	-	863	863	-	-	-	-	-	-	-
Stage 2	452	882	-	580	1135	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	74	59	482	93	59	587	629	-	-	787	-	-
Stage 1	219	279	-	316	370	-	-	-	-	-	-	-
Stage 2	557	362	-	467	275	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	62	56	482	79	56	587	629	-	-	787	-	-
Mov Cap-2 Maneuver	62	56	-	79	56	-	-	-	-	-	-	-
Stage 1	213	273	-	307	359	-	-	-	-	-	-	-
Stage 2	495	352	-	421	270	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	45.6	58.6	0.2	0.1
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	629	-	-	136	76	587	787	-	-
HCM Lane V/C Ratio	0.028	-	-	0.359	0.585	0.074	0.02	-	-
HCM Control Delay (s)	10.9	-	-	45.6	104.5	11.6	9.7	-	-
HCM Lane LOS	B	-	-	E	F	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.5	2.6	0.2	0.1	-	-



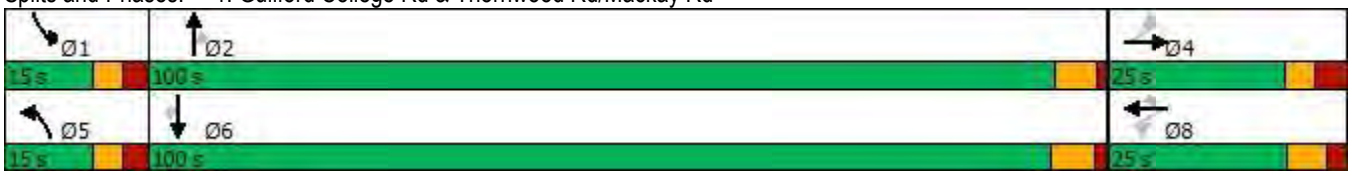
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	8	53	247	4	196	18	640	133	69	660	14
Future Volume (vph)	47	8	53	247	4	196	18	640	133	69	660	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	190		190	120		205	310		150
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.870				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1621	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.755			0.713			0.950			0.950		
Satd. Flow (perm)	1406	1621	0	1328	1863	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			40			45			45	
Link Distance (ft)		1208			505			1538			1743	
Travel Time (s)		32.9			8.6			23.3			26.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	52	9	59	274	4	218	20	711	148	77	733	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	68	0	274	4	218	20	711	148	77	733	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	13.6	13.6		13.5	13.5	13.5	12.8	17.7	17.7	12.8	18.1	18.1
Total Split (s)	25.0	25.0		25.0	25.0	25.0	15.0	100.0	100.0	15.0	100.0	100.0
Total Split (%)	17.9%	17.9%		17.9%	17.9%	17.9%	10.7%	71.4%	71.4%	10.7%	71.4%	71.4%
Maximum Green (s)	18.4	18.4		18.5	18.5	18.5	9.2	94.3	94.3	9.2	93.9	93.9
Yellow Time (s)	3.1	3.1		4.2	4.2	4.2	3.0	4.4	4.4	3.0	4.6	4.6
All-Red Time (s)	3.5	3.5		2.3	2.3	2.3	2.8	1.3	1.3	2.8	1.5	1.5
Lost Time Adjust (s)	-1.6	-1.6		-1.5	-1.5	-1.5	-0.8	-0.7	-0.7	-0.8	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	6.0	6.0	1.0	6.0	6.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0

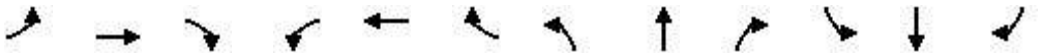
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	45.0	45.0	0.0	45.0	45.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	20.5	20.5		20.5	20.5	20.5	8.0	21.2	21.2	8.4	29.0	29.0
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33	0.13	0.34	0.34	0.14	0.47	0.47
v/c Ratio	0.11	0.13		0.62	0.01	0.42	0.09	0.59	0.27	0.32	0.44	0.02
Control Delay	18.8	18.8		29.1	18.0	22.2	28.8	19.5	17.2	31.3	12.3	10.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.8	18.8		29.1	18.0	22.2	28.8	19.5	17.2	31.3	12.3	10.1
LOS	B	B		C	B	C	C	B	B	C	B	B
Approach Delay		18.8			25.9			19.3			14.1	
Approach LOS		B			C			B			B	
Queue Length 50th (ft)	15	19		93	1	68	7	119	42	28	81	3
Queue Length 95th (ft)	43	53		#224	8	145	28	175	84	70	173	15
Internal Link Dist (ft)		1128			425			1458			1663	
Turn Bay Length (ft)	75			190		190	120		205	310		150
Base Capacity (vph)	465	537		439	617	524	293	3539	1583	293	3539	1583
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.13		0.62	0.01	0.42	0.07	0.20	0.09	0.26	0.21	0.01

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 62
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 18.8 Intersection LOS: B
Intersection Capacity Utilization 56.9% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Guilford College Rd & Thornwood Rd/Mackay Rd





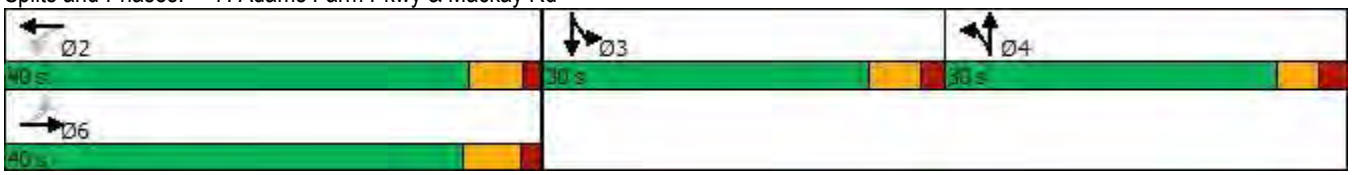
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	336	11	27	130	209	49	27	126	435	5	102
Future Volume (vph)	93	336	11	27	130	209	49	27	126	435	5	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	195		0	0		0	140		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.907			0.916			0.858	
Flt Protected	0.950			0.950				0.988		0.950		
Satd. Flow (prot)	1770	1853	0	1770	1690	0	0	1686	0	1770	1598	0
Flt Permitted	0.303			0.290				0.988		0.950		
Satd. Flow (perm)	564	1853	0	540	1690	0	0	1686	0	1770	1598	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		1572			2792			867			1221	
Travel Time (s)		26.8			47.6			23.6			23.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	103	373	12	30	144	232	54	30	140	483	6	113
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	385	0	30	376	0	0	224	0	483	119	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		6			2		4	4		3	3	
Permitted Phases	6			2								
Detector Phase	6	6		2	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		26.3	26.3		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	34.1	34.1		34.5	34.5		24.7	24.7		24.3	24.3	
Yellow Time (s)	4.3	4.3		4.1	4.1		3.1	3.1		3.9	3.9	
All-Red Time (s)	1.6	1.6		1.4	1.4		2.2	2.2		1.8	1.8	
Lost Time Adjust (s)	-0.9	-0.9		-0.5	-0.5			-0.3		-0.7	-0.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)							7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)							14.0	14.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)	22.3	22.3		22.3	22.3			15.2		25.6	25.6	
Actuated g/C Ratio	0.28	0.28		0.28	0.28			0.19		0.33	0.33	
v/c Ratio	0.64	0.73		0.20	0.78			0.69		0.84	0.23	
Control Delay	45.3	34.7		25.5	38.7			41.8		42.7	24.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	45.3	34.7		25.5	38.7			41.8		42.7	24.9	
LOS	D	C		C	D			D		D	C	
Approach Delay		36.9			37.7			41.8			39.2	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	43	165		11	164			99		208	40	
Queue Length 95th (ft)	111	294		36	297			200		#541	111	
Internal Link Dist (ft)		1492			2712			787			1141	
Turn Bay Length (ft)	170			195						140		
Base Capacity (vph)	257	846		246	772			550		577	521	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.40	0.46		0.12	0.49			0.41		0.84	0.23	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 78.5			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 38.5		Intersection LOS: D	
Intersection Capacity Utilization 84.0%		ICU Level of Service E	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Adams Farm Pkwy & Mackay Rd

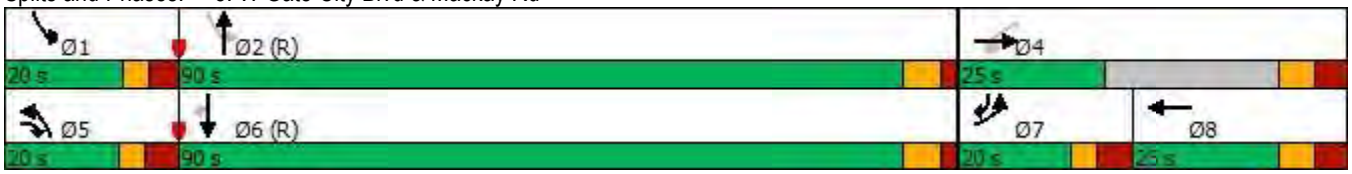


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	391	51	337	71	43	42	190	425	70	73	583	182
Future Volume (vph)	391	51	337	71	43	42	190	425	70	73	583	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		805	90		0	550		0	305		325
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Frt			0.850		0.926			0.979				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1725	0	3433	4979	0	1770	5085	1583
Flt Permitted	0.950			0.720			0.950			0.407		
Satd. Flow (perm)	3433	1863	1583	1341	1725	0	3433	4979	0	758	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		2792			1166			6342			1193	
Travel Time (s)		47.6			31.8			96.1			18.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	434	57	374	79	48	47	211	472	78	81	648	202
Shared Lane Traffic (%)												
Lane Group Flow (vph)	434	57	374	79	95	0	211	550	0	81	648	202
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA		Prot	NA		D.P+P	NA	pm+ov
Protected Phases	7	4	5		8		5	2		1	6	7
Permitted Phases			4	4						2		6
Detector Phase	7	4	5	4	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	14.1	50.1	14.0	50.1	54.1		14.0	29.5		14.0	35.5	14.1
Total Split (s)	20.0	25.0	20.0	25.0	25.0		20.0	90.0		20.0	90.0	20.0
Total Split (%)	12.9%	16.1%	12.9%	16.1%	16.1%		12.9%	58.1%		12.9%	58.1%	12.9%
Maximum Green (s)	12.9	16.9	13.1	16.9	16.9		13.1	83.5		13.6	83.5	12.9
Yellow Time (s)	3.0	4.1	3.0	4.1	4.1		3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	4.1	4.0	3.9	4.0	4.0		3.9	2.0		3.4	2.0	4.1
Lost Time Adjust (s)	-2.1	-3.1	-1.9	-3.1	-3.1		-1.9	-1.5		-1.4	-1.5	-2.1
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	6.0		2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		34.0		34.0	39.0			16.0			22.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	34.2	55.2	74.2	55.2	16.0		14.0	75.4		84.8	70.8	110.0
Actuated g/C Ratio	0.22	0.36	0.48	0.36	0.10		0.09	0.49		0.55	0.46	0.71
v/c Ratio	0.57	0.09	0.49	0.17	0.53		0.68	0.23		0.17	0.28	0.18
Control Delay	58.3	34.0	30.2	35.6	76.2		79.8	23.4		15.3	26.8	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	58.3	34.0	30.2	35.6	76.2		79.8	23.4		15.3	26.8	8.7
LOS	E	C	C	D	E		E	C		B	C	A
Approach Delay		44.5			57.8			39.0			21.9	
Approach LOS		D			E			D			C	
Queue Length 50th (ft)	209	39	263	56	93		108	110		33	142	63
Queue Length 95th (ft)	270	71	330	95	151		152	151		63	189	112
Internal Link Dist (ft)		2712			1086			6262			1113	
Turn Bay Length (ft)	470		805	90			550			305		325
Base Capacity (vph)	757	663	771	477	225		339	2730		535	2788	1123
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.57	0.09	0.49	0.17	0.42		0.62	0.20		0.15	0.23	0.18

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Offset: 20 (13%), Referenced to phase 2:NBSB and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 36.1		Intersection LOS: D	
Intersection Capacity Utilization 50.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: W Gate City Blvd & Mackay Rd

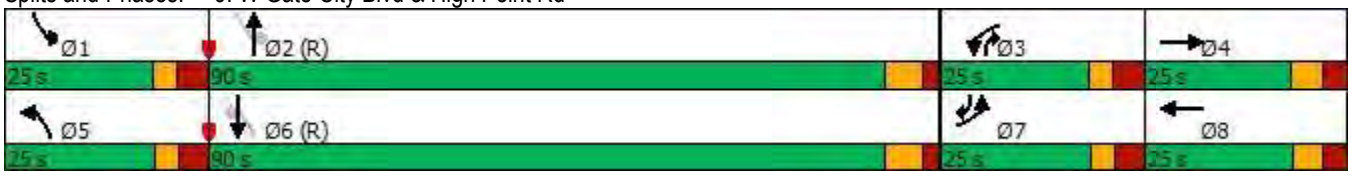


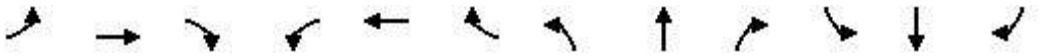
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	11	12	145	12	11	18	561	195	10	504	39
Future Volume (vph)	64	11	12	145	12	11	18	561	195	10	504	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	360		0	400		450	435		215
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.922			0.928				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1717	0	3433	1729	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.428			0.399		
Satd. Flow (perm)	3433	1717	0	3433	1729	0	797	5085	1583	743	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		746			1689			1193			1650	
Travel Time (s)		14.5			32.9			18.1			25.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	71	12	13	161	13	12	20	623	217	11	560	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	71	25	0	161	25	0	20	623	217	11	560	43
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases							6		2	2		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.7	42.0		13.9	13.9		13.7	18.9	13.9	13.8	18.9	13.7
Total Split (s)	25.0	25.0		25.0	25.0		25.0	90.0	25.0	25.0	90.0	25.0
Total Split (%)	15.2%	15.2%		15.2%	15.2%		15.2%	54.5%	15.2%	15.2%	54.5%	15.2%
Maximum Green (s)	18.3	18.0		18.1	18.1		18.3	83.1	18.1	18.2	83.1	18.3
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.7	3.2		3.9	3.1		3.7	2.2	3.9	3.8	2.2	3.7
Lost Time Adjust (s)	-1.7	-2.0		-1.9	-1.9		-1.7	-1.9	-1.9	-1.8	-1.9	-1.7
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Walk Time (s)		4.0										

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		31.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)	11.0	9.7		14.0	12.7		128.9	126.3	147.3	129.9	123.6	141.6
Actuated g/C Ratio	0.07	0.06		0.08	0.08		0.78	0.77	0.89	0.79	0.75	0.86
v/c Ratio	0.31	0.25		0.55	0.19		0.03	0.16	0.15	0.02	0.15	0.03
Control Delay	77.2	79.9		79.5	72.8		5.3	6.9	2.8	5.4	7.6	4.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.2	79.9		79.5	72.8		5.3	6.9	2.8	5.4	7.6	4.3
LOS	E	E		E	E		A	A	A	A	A	A
Approach Delay		77.9			78.6			5.8			7.3	
Approach LOS		E			E			A			A	
Queue Length 50th (ft)	38	26		87	26		4	57	23	2	73	10
Queue Length 95th (ft)	66	60		125	58		13	113	75	9	101	22
Internal Link Dist (ft)		666			1609			1113			1570	
Turn Bay Length (ft)	50			360			400		450	435		215
Base Capacity (vph)	416	208		416	209		754	3893	1438	718	3810	1412
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.12		0.39	0.12		0.03	0.16	0.15	0.02	0.15	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 165			
Actuated Cycle Length: 165			
Offset: 54 (33%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 18.0		Intersection LOS: B	
Intersection Capacity Utilization 36.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: W Gate City Blvd & High Point Rd



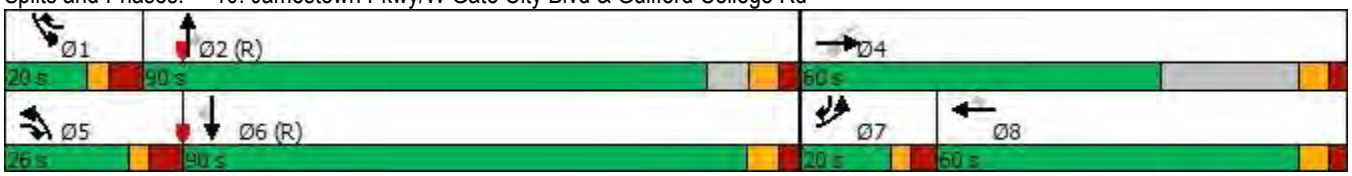


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	271	194	4	235	171	129	460	6	192	687	51
Future Volume (vph)	103	271	194	4	235	171	129	460	6	192	687	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430		445	355		285	415		335	395		335
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.420			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	782	3539	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		3577			1802			3389			6342	
Travel Time (s)		54.2			27.3			51.3			96.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	114	301	216	4	261	190	143	511	7	213	763	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	114	301	216	4	261	190	143	511	7	213	763	57
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	5		8	1	5	2		1	6	7
Permitted Phases			4	4		8			2			6
Detector Phase	7	4	5	4	8	1	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	7.0
Minimum Split (s)	14.0	25.3	26.0	25.3	20.0	14.9	26.0	25.5	25.5	14.9	25.7	14.0
Total Split (s)	20.0	60.0	26.0	60.0	60.0	20.0	26.0	90.0	90.0	20.0	90.0	20.0
Total Split (%)	10.2%	30.6%	13.3%	30.6%	30.6%	10.2%	13.3%	45.9%	45.9%	10.2%	45.9%	10.2%
Maximum Green (s)	13.2	52.7	18.0	52.7	52.7	12.1	18.0	82.5	82.5	12.1	82.3	13.2
Yellow Time (s)	3.0	4.5	3.0	4.5	4.5	3.0	3.0	4.4	4.4	3.0	4.6	3.0
All-Red Time (s)	3.8	2.8	5.0	2.8	2.8	4.9	5.0	3.1	3.1	4.9	3.1	3.8
Lost Time Adjust (s)	-1.8	-2.3	-3.0	-2.3	-2.3	-2.9	-3.0	-2.5	-2.5	-2.9	-2.7	-1.8
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	6.0	2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	0.0	30.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0		7.0				7.0	7.0		7.0	
Flash Dont Walk (s)		11.0		11.0				11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0		0				0	0		0	
Act Effct Green (s)	12.7	39.0	59.1	39.0	21.3	45.8	15.1	122.5	122.5	19.5	126.9	144.6
Actuated g/C Ratio	0.06	0.20	0.30	0.20	0.11	0.23	0.08	0.62	0.62	0.10	0.65	0.74
v/c Ratio	0.51	0.43	0.45	0.03	0.68	0.51	0.54	0.16	0.01	0.62	0.23	0.05
Control Delay	96.5	69.8	57.4	59.8	93.0	69.6	94.5	16.3	17.0	92.8	15.3	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.5	69.8	57.4	59.8	93.0	69.6	94.5	16.3	17.0	92.8	15.3	8.0
LOS	F	E	E	E	F	E	F	B	B	F	B	A
Approach Delay		70.4			82.9			33.3			30.8	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)	74	181	227	4	173	216	93	97	3	138	144	19
Queue Length 95th (ft)	111	222	292	16	223	290	133	138	13	185	197	39
Internal Link Dist (ft)		3497			1722			3309			6262	
Turn Bay Length (ft)	430		445	355		285	415		335	395		335
Base Capacity (vph)	266	1354	524	299	993	369	367	3177	989	341	3292	1187
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.22	0.41	0.01	0.26	0.51	0.39	0.16	0.01	0.62	0.23	0.05

Intersection Summary			
Area Type:	Other		
Cycle Length: 196			
Actuated Cycle Length: 196			
Offset: 20 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 48.9		Intersection LOS: D	
Intersection Capacity Utilization 49.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd



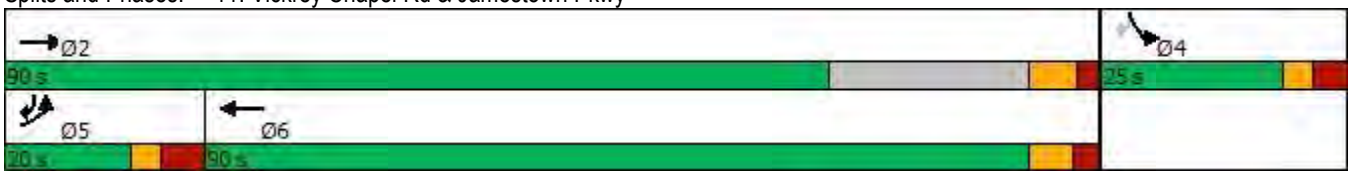


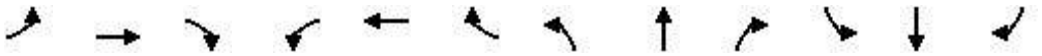
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	181	178	213	36	40	267
Future Volume (vph)	181	178	213	36	40	267
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	445			575	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	100				100	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	3539	1863	1583	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	3539	1863	1583	3433	1583
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		45	
Link Distance (ft)		638	755		3389	
Travel Time (s)		12.4	14.7		51.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	201	198	237	40	44	297
Shared Lane Traffic (%)						
Lane Group Flow (vph)	201	198	237	40	44	297
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		48	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Free	Prot	pm+ov
Protected Phases	5	2	6		4	5
Permitted Phases				Free		4
Detector Phase	5	2	6		4	5
Switch Phase						
Minimum Initial (s)	7.0	12.0	12.0		7.0	7.0
Minimum Split (s)	14.4	20.0	20.0		20.0	14.4
Total Split (s)	20.0	90.0	90.0		25.0	20.0
Total Split (%)	14.8%	66.7%	66.7%		18.5%	14.8%
Maximum Green (s)	12.6	82.8	82.9		18.3	12.6
Yellow Time (s)	3.0	4.8	4.3		3.0	3.0
All-Red Time (s)	4.4	2.4	2.8		3.7	4.4
Lost Time Adjust (s)	-2.4	-2.2	-2.1		-1.7	-2.4
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	6.0	6.0		2.0	2.0
Minimum Gap (s)	3.0	3.0	3.0		3.0	3.0
Time Before Reduce (s)	0.0	15.0	15.0		0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Time To Reduce (s)	0.0	30.0	30.0		0.0	0.0
Recall Mode	None	Min	Min		None	None
Act Effct Green (s)	10.4	33.7	14.6	39.8	9.0	14.9
Actuated g/C Ratio	0.26	0.85	0.37	1.00	0.23	0.37
v/c Ratio	0.22	0.07	0.35	0.03	0.06	0.50
Control Delay	14.2	2.5	13.1	0.0	15.4	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.2	2.5	13.1	0.0	15.4	12.1
LOS	B	A	B	A	B	B
Approach Delay		8.4	11.2		12.5	
Approach LOS		A	B		B	
Queue Length 50th (ft)	13	0	26	0	3	46
Queue Length 95th (ft)	46	18	105	0	15	89
Internal Link Dist (ft)		558	675		3309	
Turn Bay Length (ft)	445			575		
Base Capacity (vph)	1334	3539	1863	1583	1779	793
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.06	0.13	0.03	0.02	0.37

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 39.8			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay: 10.6		Intersection LOS: B	
Intersection Capacity Utilization 36.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Vickrey Chapel Rd & Jamestown Pkwy





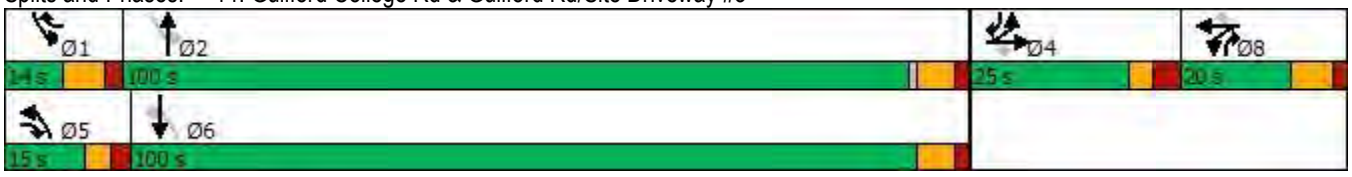
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	520	22	120	26	27	43	72	301	48	54	423	591
Future Volume (vph)	520	22	120	26	27	43	72	301	48	54	423	591
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	195		135	0		0	140		100	125		330
Storage Lanes	1		1	0		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950	0.956			0.976		0.950			0.950		
Satd. Flow (prot)	1681	1692	1583	0	1818	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950	0.956			0.976		0.373			0.520		
Satd. Flow (perm)	1681	1692	1583	0	1818	1583	695	3539	1583	969	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			45			45			45	
Link Distance (ft)		471			717			1464			1684	
Travel Time (s)		9.2			10.9			22.2			25.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	578	24	133	29	30	48	80	334	53	60	470	657
Shared Lane Traffic (%)	48%											
Lane Group Flow (vph)	301	301	133	0	59	48	80	334	53	60	470	657
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	4	4	5	8	8	1	5	2	8	1	6	4
Permitted Phases			4			8	6		2	2		6
Detector Phase	4	4	5	8	8	1	5	2	8	1	6	4
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	20.0	20.0	14.0	20.0	20.0	14.0	14.0	20.0	20.0	14.0	41.5	20.0
Total Split (s)	25.0	25.0	15.0	20.0	20.0	14.0	15.0	100.0	20.0	14.0	100.0	25.0
Total Split (%)	15.6%	15.6%	9.4%	12.5%	12.5%	8.8%	9.4%	62.5%	12.5%	8.8%	62.5%	15.6%
Maximum Green (s)	18.7	18.7	9.6	13.0	13.0	7.0	9.6	93.5	13.0	7.0	93.5	18.7
Yellow Time (s)	3.0	3.0	3.0	5.0	5.0	5.0	3.0	4.6	5.0	5.0	4.6	3.0
All-Red Time (s)	3.3	3.3	2.4	2.0	2.0	2.0	2.4	1.9	2.0	2.0	1.9	3.3
Lost Time Adjust (s)	-1.3	-2.0	-0.4		-2.0	-2.0	-0.4	-1.5	-2.0	-2.0	-1.5	-1.3
Total Lost Time (s)	5.0	4.3	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0	3.0	3.0	3.0	1.0	6.0	3.0	3.0	6.0	1.0
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min	None
Walk Time (s)											7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)											28.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)	20.3	21.0	29.2		10.1	20.8	24.4	18.8	26.6	25.7	16.8	42.2
Actuated g/C Ratio	0.28	0.29	0.41		0.14	0.29	0.34	0.26	0.37	0.36	0.23	0.59
v/c Ratio	0.63	0.61	0.21		0.23	0.10	0.23	0.36	0.09	0.13	0.57	0.70
Control Delay	32.0	30.3	9.7		32.1	19.1	16.3	25.7	8.9	15.2	28.0	16.9
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.0	30.3	9.7		32.1	19.1	16.3	25.7	8.9	15.2	28.0	16.9
LOS	C	C	A		C	B	B	C	A	B	C	B
Approach Delay		27.3			26.3			22.2			21.2	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	127	125	21		24	15	23	71	9	17	101	205
Queue Length 95th (ft)	#265	#245	48		61	41	50	112	22	40	153	363
Internal Link Dist (ft)		391			637			1384			1604	
Turn Bay Length (ft)	195		135				140		100	125		330
Base Capacity (vph)	477	497	702		387	459	414	3539	668	449	3539	932
Starvation Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.61	0.19		0.15	0.10	0.19	0.09	0.08	0.13	0.13	0.70

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 71.6
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 23.4 Intersection LOS: C
Intersection Capacity Utilization 60.8% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Guilford College Rd & Guilford Rd/Site Driveway #3



Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	10	443	24	9	336	6	6	4	6	4	4	11
Future Vol, veh/h	10	443	24	9	336	6	6	4	6	4	4	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	492	27	10	373	7	7	4	7	4	4	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	380	0	0	519	0	0	933	928	506	930	938	377
Stage 1	-	-	-	-	-	-	528	528	-	397	397	-
Stage 2	-	-	-	-	-	-	405	400	-	533	541	-
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	1178	-	-	1047	-	-	246	268	566	248	264	670
Stage 1	-	-	-	-	-	-	534	528	-	629	603	-
Stage 2	-	-	-	-	-	-	622	602	-	531	521	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1178	-	-	1047	-	-	234	261	566	237	257	670
Mov Cap-2 Maneuver	-	-	-	-	-	-	234	261	-	237	257	-
Stage 1	-	-	-	-	-	-	527	521	-	621	596	-
Stage 2	-	-	-	-	-	-	599	595	-	514	514	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	17.3	14.8
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	310	1178	-	-	1047	-	-	389
HCM Lane V/C Ratio	0.057	0.009	-	-	0.01	-	-	0.054
HCM Control Delay (s)	17.3	8.1	0	-	8.5	0	-	14.8
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	412	26	26	323	12	23	4	19	8	4	8
Future Vol, veh/h	15	412	26	26	323	12	23	4	19	8	4	8
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	160	-	50	50	-	235	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	458	29	29	359	13	26	4	21	9	4	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	372	0	0	487	0	0	922	922	458	936	938	359
Stage 1	-	-	-	-	-	-	492	492	-	417	417	-
Stage 2	-	-	-	-	-	-	430	430	-	519	521	-
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	1186	-	-	1076	-	-	251	270	603	245	264	685
Stage 1	-	-	-	-	-	-	558	548	-	613	591	-
Stage 2	-	-	-	-	-	-	603	583	-	540	532	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1186	-	-	1076	-	-	237	259	603	226	253	685
Mov Cap-2 Maneuver	-	-	-	-	-	-	237	259	-	226	253	-
Stage 1	-	-	-	-	-	-	550	540	-	604	575	-
Stage 2	-	-	-	-	-	-	575	567	-	509	525	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.6	17.6	17.2
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	240	603	1186	-	-	1076	-	-	318
HCM Lane V/C Ratio	0.125	0.035	0.014	-	-	0.027	-	-	0.07
HCM Control Delay (s)	22.1	11.2	8.1	-	-	8.4	-	-	17.2
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0.1	0	-	-	0.1	-	-	0.2

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	388	25	120	314	26	33	4	47	11	4	8
Future Vol, veh/h	24	388	25	120	314	26	33	4	47	11	4	8
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	100	-	-	125	-	0	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	431	28	133	349	29	37	4	52	12	4	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	378	0	0	459	0	0	1135	1143	445	1142	1128	349
Stage 1	-	-	-	-	-	-	499	499	-	615	615	-
Stage 2	-	-	-	-	-	-	636	644	-	527	513	-
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	1180	-	-	1102	-	-	179	200	613	177	204	694
Stage 1	-	-	-	-	-	-	554	544	-	479	482	-
Stage 2	-	-	-	-	-	-	466	468	-	535	536	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1180	-	-	1102	-	-	155	172	613	142	175	694
Mov Cap-2 Maneuver	-	-	-	-	-	-	155	172	-	142	175	-
Stage 1	-	-	-	-	-	-	541	531	-	468	424	-
Stage 2	-	-	-	-	-	-	400	411	-	474	524	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	2.3	22.2	24.9
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	157	613	1180	-	-	1102	-	-	206
HCM Lane V/C Ratio	0.262	0.085	0.023	-	-	0.121	-	-	0.124
HCM Control Delay (s)	35.9	11.4	8.1	-	-	8.7	-	-	24.9
HCM Lane LOS	E	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1	0.3	0.1	-	-	0.4	-	-	0.4

Intersection	
Int Delay, s/veh	0.2

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	0	494	4	4	620	4	4
Future Vol, veh/h	0	494	4	4	620	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	410	-	75	365	-	125	0
Veh in Median Storage, #	-	0	-	-	0	0	-
Grade, %	-	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	549	4	4	689	4	4

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	689	0	0	553	0	902	275
Stage 1	-	-	-	-	-	549	-
Stage 2	-	-	-	-	-	353	-
Critical Hdwy	6.44	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.52	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	525	-	-	1013	-	277	722
Stage 1	-	-	-	-	-	542	-
Stage 2	-	-	-	-	-	682	-
Platoon blocked, %		-	-		-		
Mov Cap-1 Maneuver	525	-	-	1013	-	276	722
Mov Cap-2 Maneuver	-	-	-	-	-	276	-
Stage 1	-	-	-	-	-	542	-
Stage 2	-	-	-	-	-	679	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT
Capacity (veh/h)	276	722	525	-	-	1013	-
HCM Lane V/C Ratio	0.016	0.006	-	-	-	0.004	-
HCM Control Delay (s)	18.3	10	0	-	-	8.6	-
HCM Lane LOS	C	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	463	596	24	31	12
Future Vol, veh/h	9	463	596	24	31	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	514	662	27	34	13

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	689	0	-	0	953	345
Stage 1	-	-	-	-	676	-
Stage 2	-	-	-	-	277	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	901	-	-	-	257	651
Stage 1	-	-	-	-	467	-
Stage 2	-	-	-	-	745	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	901	-	-	-	253	651
Mov Cap-2 Maneuver	-	-	-	-	253	-
Stage 1	-	-	-	-	460	-
Stage 2	-	-	-	-	745	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	19
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	901	-	-	-	305
HCM Lane V/C Ratio	0.011	-	-	-	0.157
HCM Control Delay (s)	9	0.1	-	-	19
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	769	4	13	955	4	7
Future Vol, veh/h	769	4	13	955	4	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	854	4	14	1061	4	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	858	0	1945	856
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	1089	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	783	-	71	357
Stage 1	-	-	-	-	416	-
Stage 2	-	-	-	-	323	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	783	-	68	357
Mov Cap-2 Maneuver	-	-	-	-	68	-
Stage 1	-	-	-	-	416	-
Stage 2	-	-	-	-	309	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	33.2
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	140	-	-	783	-
HCM Lane V/C Ratio	0.087	-	-	0.018	-
HCM Control Delay (s)	33.2	-	-	9.7	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	4	14	19	4	30	41	871	40	27	1051	29
Future Vol, veh/h	12	4	14	19	4	30	41	871	40	27	1051	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	135	-	50	130	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	4	16	21	4	33	46	968	44	30	1168	32

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1806	2332	584	1706	2320	484	1200	0	0	1012	0	0
Stage 1	1228	1228	-	1060	1060	-	-	-	-	-	-	-
Stage 2	578	1104	-	646	1260	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	50	36	455	59	37	529	577	-	-	681	-	-
Stage 1	189	249	-	239	299	-	-	-	-	-	-	-
Stage 2	468	285	-	427	240	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	38	32	455	46	33	529	577	-	-	681	-	-
Mov Cap-2 Maneuver	38	32	-	46	33	-	-	-	-	-	-	-
Stage 1	174	238	-	220	275	-	-	-	-	-	-	-
Stage 2	397	262	-	387	229	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	110.9	81.9	0.5	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	577	-	-	64	43	529	681	-	-
HCM Lane V/C Ratio	0.079	-	-	0.521	0.594	0.063	0.044	-	-
HCM Control Delay (s)	11.8	-	-	110.9	172.7	12.3	10.5	-	-
HCM Lane LOS	B	-	-	F	F	B	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-	2.1	2.2	0.2	0.1	-	-

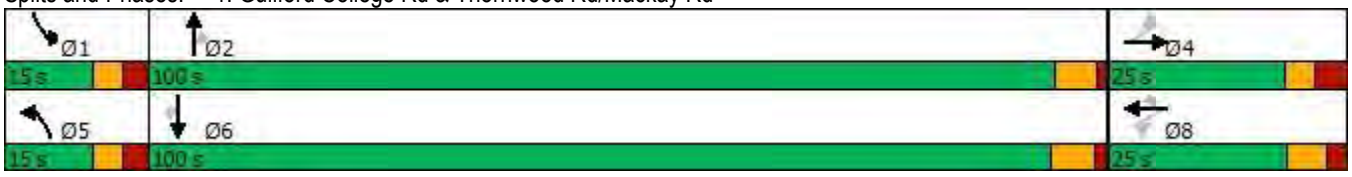
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	11	11	210	23	125	36	704	224	208	885	50
Future Volume (vph)	17	11	11	210	23	125	36	704	224	208	885	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	190		190	120		205	310		150
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.925				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1723	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.740			0.742			0.950			0.950		
Satd. Flow (perm)	1378	1723	0	1382	1863	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			40			45			45	
Link Distance (ft)		1208			505			1538			1743	
Travel Time (s)		32.9			8.6			23.3			26.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	19	12	12	233	26	139	40	782	249	231	983	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	24	0	233	26	139	40	782	249	231	983	56
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	13.6	13.6		13.5	13.5	13.5	12.8	17.7	17.7	12.8	18.1	18.1
Total Split (s)	25.0	25.0		25.0	25.0	25.0	15.0	100.0	100.0	15.0	100.0	100.0
Total Split (%)	17.9%	17.9%		17.9%	17.9%	17.9%	10.7%	71.4%	71.4%	10.7%	71.4%	71.4%
Maximum Green (s)	18.4	18.4		18.5	18.5	18.5	9.2	94.3	94.3	9.2	93.9	93.9
Yellow Time (s)	3.1	3.1		4.2	4.2	4.2	3.0	4.4	4.4	3.0	4.6	4.6
All-Red Time (s)	3.5	3.5		2.3	2.3	2.3	2.8	1.3	1.3	2.8	1.5	1.5
Lost Time Adjust (s)	-1.6	-1.6		-1.5	-1.5	-1.5	-0.8	-0.7	-0.7	-0.8	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	6.0	6.0	1.0	6.0	6.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0

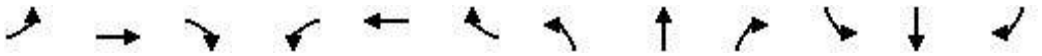
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	45.0	45.0	0.0	45.0	45.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	20.1	20.1		20.1	20.1	20.1	7.8	24.7	24.7	10.1	32.5	32.5
Actuated g/C Ratio	0.29	0.29		0.29	0.29	0.29	0.11	0.35	0.35	0.14	0.46	0.46
v/c Ratio	0.05	0.05		0.59	0.05	0.31	0.20	0.63	0.45	0.91	0.60	0.08
Control Delay	20.8	20.6		30.1	20.5	23.3	33.0	20.9	19.8	72.1	16.9	12.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.8	20.6		30.1	20.5	23.3	33.0	20.9	19.8	72.1	16.9	12.7
LOS	C	C		C	C	C	C	C	B	E	B	B
Approach Delay		20.7			27.1			21.1			26.7	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	6	8		87	8	47	16	143	80	101	183	15
Queue Length 95th (ft)	22	26		#178	28	102	46	195	137	#249	244	35
Internal Link Dist (ft)		1128			425			1458			1663	
Turn Bay Length (ft)	75			190		190	120		205	310		150
Base Capacity (vph)	395	495		397	535	454	254	3539	1583	254	3539	1583
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.05		0.59	0.05	0.31	0.16	0.22	0.16	0.91	0.28	0.04

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 70
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 24.5 Intersection LOS: C
Intersection Capacity Utilization 61.8% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Guilford College Rd & Thornwood Rd/Mackay Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	246	43	109	399	443	34	32	52	311	35	101
Future Volume (vph)	94	246	43	109	399	443	34	32	52	311	35	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	195		0	0		0	140		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.978			0.921			0.941			0.889	
Flt Protected	0.950			0.950				0.986		0.950		
Satd. Flow (prot)	1770	1822	0	1770	1716	0	0	1728	0	1770	1656	0
Flt Permitted	0.113			0.484				0.986		0.950		
Satd. Flow (perm)	210	1822	0	902	1716	0	0	1728	0	1770	1656	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		1572			2792			867			1221	
Travel Time (s)		26.8			47.6			23.6			23.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	104	273	48	121	443	492	38	36	58	346	39	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	321	0	121	935	0	0	132	0	346	151	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		6			2		4	4		3	3	
Permitted Phases	6			2								
Detector Phase	6	6		2	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		26.3	26.3		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	34.1	34.1		34.5	34.5		24.7	24.7		24.3	24.3	
Yellow Time (s)	4.3	4.3		4.1	4.1		3.1	3.1		3.9	3.9	
All-Red Time (s)	1.6	1.6		1.4	1.4		2.2	2.2		1.8	1.8	
Lost Time Adjust (s)	-0.9	-0.9		-0.5	-0.5			-0.3		-0.7	-0.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)							7.0	7.0				

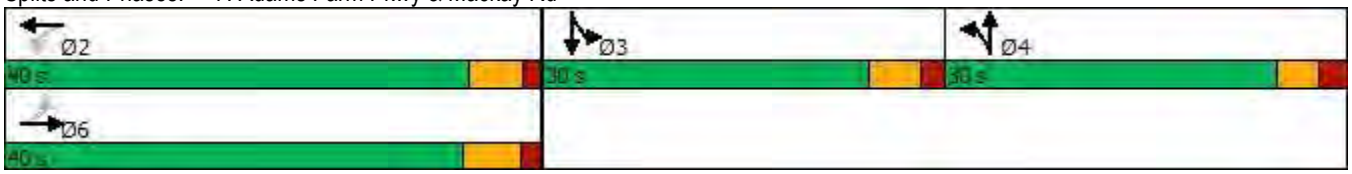
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)							14.0	14.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)	35.3	35.3		35.3	35.3			11.2		20.4	20.4	
Actuated g/C Ratio	0.43	0.43		0.43	0.43			0.14		0.25	0.25	
v/c Ratio	1.16	0.41		0.31	1.27			0.56		0.79	0.37	
Control Delay	175.1	19.8		20.6	156.2			43.6		42.7	28.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	175.1	19.8		20.6	156.2			43.6		42.7	28.5	
LOS	F	B		C	F			D		D	C	
Approach Delay		57.8			140.7			43.6			38.4	
Approach LOS		E			F			D			D	
Queue Length 50th (ft)	~65	113		41	~627			65		165	64	
Queue Length 95th (ft)	#179	211		97	#964			125		278	123	
Internal Link Dist (ft)		1492			2712			787			1141	
Turn Bay Length (ft)	170			195						140		
Base Capacity (vph)	90	784		388	738			531		543	508	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	1.16	0.41		0.31	1.27			0.25		0.64	0.30	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 82			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.27			
Intersection Signal Delay: 93.8		Intersection LOS: F	
Intersection Capacity Utilization 100.4%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Adams Farm Pkwy & Mackay Rd

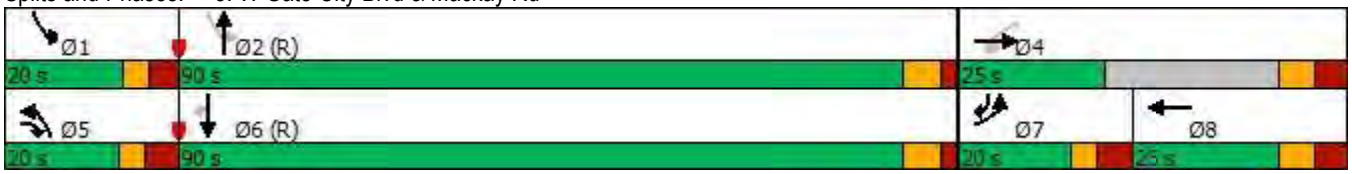


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	292	24	219	17	36	27	362	530	27	32	653	530
Future Volume (vph)	292	24	219	17	36	27	362	530	27	32	653	530
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		805	90		0	550		0	305		325
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Frt			0.850		0.936			0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1744	0	3433	5050	0	1770	5085	1583
Flt Permitted	0.950			0.740			0.950			0.358		
Satd. Flow (perm)	3433	1863	1583	1378	1744	0	3433	5050	0	667	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		2792			1166			6342			1193	
Travel Time (s)		47.6			31.8			96.1			18.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	324	27	243	19	40	30	402	589	30	36	726	589
Shared Lane Traffic (%)												
Lane Group Flow (vph)	324	27	243	19	70	0	402	619	0	36	726	589
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA		Prot	NA		D.P+P	NA	pm+ov
Protected Phases	7	4	5		8		5	2		1	6	7
Permitted Phases			4	4						2		6
Detector Phase	7	4	5	4	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	14.1	50.1	14.0	50.1	54.1		14.0	29.5		14.0	35.5	14.1
Total Split (s)	20.0	25.0	20.0	25.0	25.0		20.0	90.0		20.0	90.0	20.0
Total Split (%)	12.9%	16.1%	12.9%	16.1%	16.1%		12.9%	58.1%		12.9%	58.1%	12.9%
Maximum Green (s)	12.9	16.9	13.1	16.9	16.9		13.1	83.5		13.6	83.5	12.9
Yellow Time (s)	3.0	4.1	3.0	4.1	4.1		3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	4.1	4.0	3.9	4.0	4.0		3.9	2.0		3.4	2.0	4.1
Lost Time Adjust (s)	-2.1	-3.1	-1.9	-3.1	-3.1		-1.9	-1.5		-1.4	-1.5	-2.1
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	6.0		2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		34.0		34.0	39.0			16.0			22.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	47.9	66.8	102.6	66.8	13.9		30.8	67.2		74.2	42.4	95.3
Actuated g/C Ratio	0.31	0.43	0.66	0.43	0.09		0.20	0.43		0.48	0.27	0.61
v/c Ratio	0.31	0.03	0.23	0.03	0.45		0.59	0.28		0.09	0.52	0.61
Control Delay	40.5	21.6	10.4	21.4	75.3		61.0	31.4		24.2	50.8	21.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	40.5	21.6	10.4	21.4	75.3		61.0	31.4		24.2	50.8	21.7
LOS	D	C	B	C	E		E	C		C	D	C
Approach Delay		27.3			63.8			43.1			37.4	
Approach LOS		C			E			D			D	
Queue Length 50th (ft)	125	15	92	11	69		195	155		19	230	336
Queue Length 95th (ft)	161	31	106	25	119		253	211		45	301	498
Internal Link Dist (ft)		2712			1086			6262			1113	
Turn Bay Length (ft)	470		805	90			550			305		325
Base Capacity (vph)	1061	803	1047	594	225		681	2840		443	2788	973
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.31	0.03	0.23	0.03	0.31		0.59	0.22		0.08	0.26	0.61

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Offset: 20 (13%), Referenced to phase 2:NBSB and 6:SBT, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 38.1		Intersection LOS: D	
Intersection Capacity Utilization 61.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: W Gate City Blvd & Mackay Rd

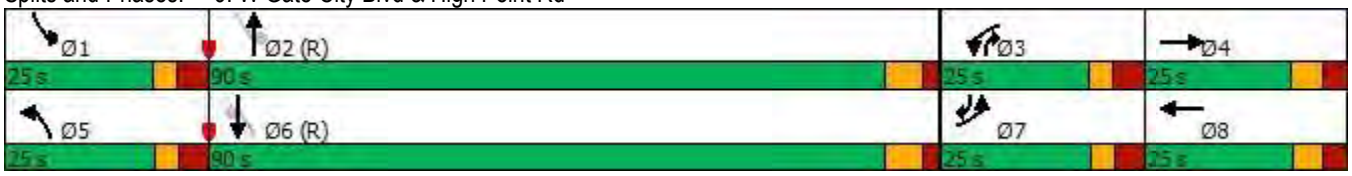


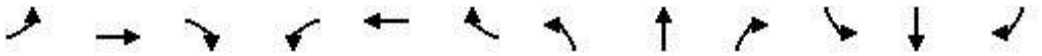
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	62	55	233	38	9	42	413	226	23	791	135
Future Volume (vph)	87	62	55	233	38	9	42	413	226	23	791	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	360		0	400		450	435		215
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.930			0.971				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1732	0	3433	1809	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.281			0.470		
Satd. Flow (perm)	3433	1732	0	3433	1809	0	523	5085	1583	875	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		746			1689			1193			1650	
Travel Time (s)		14.5			32.9			18.1			25.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	97	69	61	259	42	10	47	459	251	26	879	150
Shared Lane Traffic (%)												
Lane Group Flow (vph)	97	130	0	259	52	0	47	459	251	26	879	150
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases							6		2	2		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.7	42.0		13.9	13.9		13.7	18.9	13.9	13.8	18.9	13.7
Total Split (s)	25.0	25.0		25.0	25.0		25.0	90.0	25.0	25.0	90.0	25.0
Total Split (%)	15.2%	15.2%		15.2%	15.2%		15.2%	54.5%	15.2%	15.2%	54.5%	15.2%
Maximum Green (s)	18.3	18.0		18.1	18.1		18.3	83.1	18.1	18.2	83.1	18.3
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.7	3.2		3.9	3.1		3.7	2.2	3.9	3.8	2.2	3.7
Lost Time Adjust (s)	-1.7	-2.0		-1.9	-1.9		-1.7	-1.9	-1.9	-1.8	-1.9	-1.7
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Walk Time (s)		4.0										

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		31.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)	15.5	18.7		18.7	24.7		108.7	104.4	128.0	109.7	101.5	123.0
Actuated g/C Ratio	0.09	0.11		0.11	0.15		0.66	0.63	0.78	0.66	0.62	0.75
v/c Ratio	0.30	0.66		0.67	0.19		0.11	0.14	0.20	0.04	0.28	0.13
Control Delay	74.5	85.7		78.6	59.6		10.9	14.1	6.6	10.7	16.5	9.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.5	85.7		78.6	59.6		10.9	14.1	6.6	10.7	16.5	9.1
LOS	E	F		E	E		B	B	A	B	B	A
Approach Delay		81.0			75.4			11.4			15.3	
Approach LOS		F			E			B			B	
Queue Length 50th (ft)	53	137		140	49		16	77	76	9	162	51
Queue Length 95th (ft)	85	206		186	88		38	114	127	24	226	94
Internal Link Dist (ft)		666			1609			1113			1570	
Turn Bay Length (ft)	50			360			400		450	435		215
Base Capacity (vph)	463	222		431	294		508	3216	1248	705	3129	1245
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.59		0.60	0.18		0.09	0.14	0.20	0.04	0.28	0.12

Intersection Summary			
Area Type:	Other		
Cycle Length: 165			
Actuated Cycle Length: 165			
Offset: 54 (33%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 28.3		Intersection LOS: C	
Intersection Capacity Utilization 46.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: W Gate City Blvd & High Point Rd



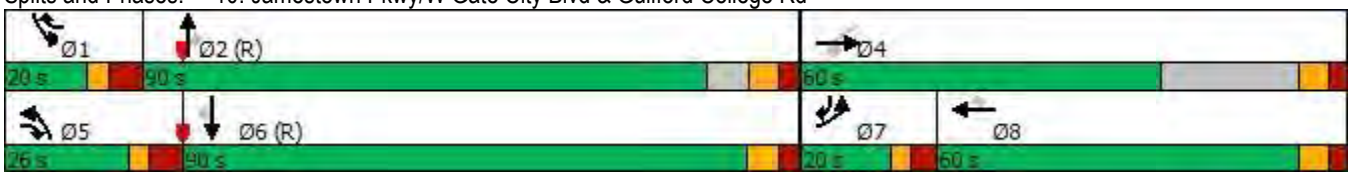


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	114	190	134	7	327	184	152	471	3	208	539	108
Future Volume (vph)	114	190	134	7	327	184	152	471	3	208	539	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430		445	355		285	415		335	395		335
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.554			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	1032	3539	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		3577			1802			3389			6342	
Travel Time (s)		54.2			27.3			51.3			96.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	127	211	149	8	363	204	169	523	3	231	599	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	127	211	149	8	363	204	169	523	3	231	599	120
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	5		8	1	5	2		1	6	7
Permitted Phases			4	4		8			2			6
Detector Phase	7	4	5	4	8	1	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	7.0
Minimum Split (s)	14.0	25.3	26.0	25.3	20.0	14.9	26.0	25.5	25.5	14.9	25.7	14.0
Total Split (s)	20.0	60.0	26.0	60.0	60.0	20.0	26.0	90.0	90.0	20.0	90.0	20.0
Total Split (%)	10.2%	30.6%	13.3%	30.6%	30.6%	10.2%	13.3%	45.9%	45.9%	10.2%	45.9%	10.2%
Maximum Green (s)	13.2	52.7	18.0	52.7	52.7	12.1	18.0	82.5	82.5	12.1	82.3	13.2
Yellow Time (s)	3.0	4.5	3.0	4.5	4.5	3.0	3.0	4.4	4.4	3.0	4.6	3.0
All-Red Time (s)	3.8	2.8	5.0	2.8	2.8	4.9	5.0	3.1	3.1	4.9	3.1	3.8
Lost Time Adjust (s)	-1.8	-2.3	-3.0	-2.3	-2.3	-2.9	-3.0	-2.5	-2.5	-2.9	-2.7	-1.8
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	6.0	2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	0.0	30.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0		7.0				7.0	7.0		7.0	
Flash Dont Walk (s)		11.0		11.0				11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0		0				0	0		0	
Act Effct Green (s)	13.4	45.8	67.6	45.8	27.4	53.3	16.9	114.3	114.3	20.9	118.4	136.8
Actuated g/C Ratio	0.07	0.23	0.34	0.23	0.14	0.27	0.09	0.58	0.58	0.11	0.60	0.70
v/c Ratio	0.54	0.26	0.27	0.03	0.73	0.47	0.57	0.18	0.00	0.63	0.20	0.11
Control Delay	96.6	60.8	46.1	54.3	89.7	62.4	93.6	20.2	21.3	91.6	18.6	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.6	60.8	46.1	54.3	89.7	62.4	93.6	20.2	21.3	91.6	18.6	11.0
LOS	F	E	D	D	F	E	F	C	C	F	B	B
Approach Delay		65.7			79.6			38.1			35.4	
Approach LOS		E			E			D			D	
Queue Length 50th (ft)	83	118	140	8	241	222	110	112	2	149	123	48
Queue Length 95th (ft)	121	150	185	24	292	293	153	158	9	197	174	88
Internal Link Dist (ft)		3497			1722			3309			6262	
Turn Bay Length (ft)	430		445	355		285	415		335	395		335
Base Capacity (vph)	269	1354	579	394	993	430	367	2965	923	366	3071	1120
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.16	0.26	0.02	0.37	0.47	0.46	0.18	0.00	0.63	0.20	0.11

Intersection Summary			
Area Type:	Other		
Cycle Length: 196			
Actuated Cycle Length: 196			
Offset: 20 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 50.9		Intersection LOS: D	
Intersection Capacity Utilization 47.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd



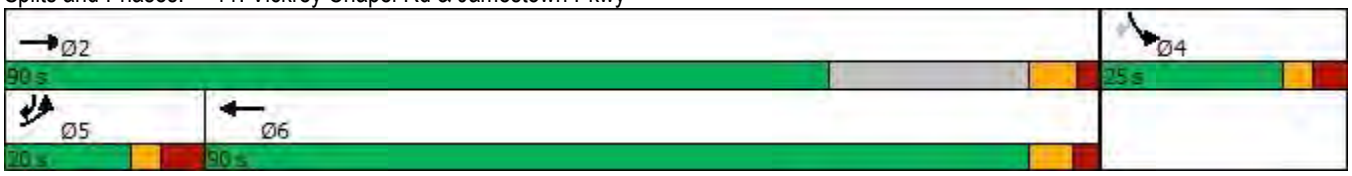


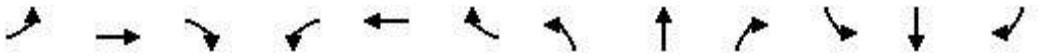
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	121	149	185	38	36	132
Future Volume (vph)	121	149	185	38	36	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	445			575	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	100				100	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	3539	1863	1583	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	3539	1863	1583	3433	1583
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		45	
Link Distance (ft)		638	755		3389	
Travel Time (s)		12.4	14.7		51.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	134	166	206	42	40	147
Shared Lane Traffic (%)						
Lane Group Flow (vph)	134	166	206	42	40	147
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		48	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Free	Prot	pm+ov
Protected Phases	5	2	6		4	5
Permitted Phases				Free		4
Detector Phase	5	2	6		4	5
Switch Phase						
Minimum Initial (s)	7.0	12.0	12.0		7.0	7.0
Minimum Split (s)	14.4	20.0	20.0		20.0	14.4
Total Split (s)	20.0	90.0	90.0		25.0	20.0
Total Split (%)	14.8%	66.7%	66.7%		18.5%	14.8%
Maximum Green (s)	12.6	82.8	82.9		18.3	12.6
Yellow Time (s)	3.0	4.8	4.3		3.0	3.0
All-Red Time (s)	4.4	2.4	2.8		3.7	4.4
Lost Time Adjust (s)	-2.4	-2.2	-2.1		-1.7	-2.4
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	6.0	6.0		2.0	2.0
Minimum Gap (s)	3.0	3.0	3.0		3.0	3.0
Time Before Reduce (s)	0.0	15.0	15.0		0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Time To Reduce (s)	0.0	30.0	30.0		0.0	0.0
Recall Mode	None	Min	Min		None	None
Act Effct Green (s)	9.7	32.8	14.5	39.0	8.9	14.2
Actuated g/C Ratio	0.25	0.84	0.37	1.00	0.23	0.36
v/c Ratio	0.16	0.06	0.30	0.03	0.05	0.25
Control Delay	14.2	2.7	12.3	0.0	14.8	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.2	2.7	12.3	0.0	14.8	9.0
LOS	B	A	B	A	B	A
Approach Delay		7.8	10.2		10.3	
Approach LOS		A	B		B	
Queue Length 50th (ft)	9	0	22	0	2	20
Queue Length 95th (ft)	33	16	88	0	14	44
Internal Link Dist (ft)		558	675		3309	
Turn Bay Length (ft)	445			575		
Base Capacity (vph)	1357	3539	1863	1583	1809	808
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.05	0.11	0.03	0.02	0.18

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 39			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.30			
Intersection Signal Delay: 9.3		Intersection LOS: A	
Intersection Capacity Utilization 34.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Vickrey Chapel Rd & Jamestown Pkwy





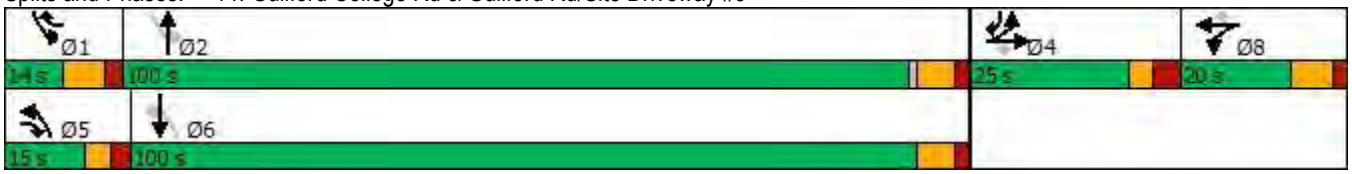
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	650	38	88	38	32	70	167	351	90	85	346	769
Future Volume (vph)	650	38	88	38	32	70	167	351	90	85	346	769
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	195		135	0		0	140		100	125		330
Storage Lanes	1		1	0		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950	0.957			0.974		0.950			0.950		
Satd. Flow (prot)	1681	1694	1583	0	1814	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950	0.957			0.974		0.440			0.441		
Satd. Flow (perm)	1681	1694	1583	0	1814	1583	820	3539	1583	821	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			45			45			45	
Link Distance (ft)		471			717			1464			1684	
Travel Time (s)		9.2			10.9			22.2			25.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	722	42	98	42	36	78	186	390	100	94	384	854
Shared Lane Traffic (%)	47%											
Lane Group Flow (vph)	383	381	98	0	78	78	186	390	100	94	384	854
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	D.P+P	NA	Perm	D.P+P	NA	pm+ov
Protected Phases	4	4	5	8	8	1	5	2		1	6	4
Permitted Phases			4			8	6		2	2		6
Detector Phase	4	4	5	8	8	1	5	2	2	1	6	4
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	7.0
Minimum Split (s)	20.0	20.0	14.0	20.0	20.0	14.0	14.0	20.0	20.0	14.0	41.5	20.0
Total Split (s)	25.0	25.0	15.0	20.0	20.0	14.0	15.0	100.0	100.0	14.0	100.0	25.0
Total Split (%)	15.6%	15.6%	9.4%	12.5%	12.5%	8.8%	9.4%	62.5%	62.5%	8.8%	62.5%	15.6%
Maximum Green (s)	18.7	18.7	9.6	13.0	13.0	7.0	9.6	93.5	93.5	7.0	93.5	18.7
Yellow Time (s)	3.0	3.0	3.0	5.0	5.0	5.0	3.0	4.6	4.6	5.0	4.6	3.0
All-Red Time (s)	3.3	3.3	2.4	2.0	2.0	2.0	2.4	1.9	1.9	2.0	1.9	3.3
Lost Time Adjust (s)	-1.3	-2.0	-0.4		-2.0	-2.0	-0.4	-1.5	-2.0	-2.0	-1.5	-1.3
Total Lost Time (s)	5.0	4.3	5.0		5.0	5.0	5.0	5.0	4.5	5.0	5.0	5.0
Lead/Lag			Lead			Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0	3.0	3.0	3.0	1.0	6.0	6.0	3.0	6.0	1.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	None
Walk Time (s)											7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)											28.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)	20.3	21.0	30.7		10.8	21.5	25.0	15.9	16.4	25.0	16.0	41.4
Actuated g/C Ratio	0.28	0.29	0.42		0.15	0.29	0.34	0.22	0.22	0.34	0.22	0.57
v/c Ratio	0.82	0.78	0.15		0.29	0.17	0.47	0.51	0.28	0.23	0.50	0.95
Control Delay	43.7	39.6	8.8		32.9	19.8	19.8	28.5	27.4	16.6	28.7	39.9
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.7	39.6	8.8		32.9	19.8	19.8	28.5	27.4	16.6	28.7	39.9
LOS	D	D	A		C	B	B	C	C	B	C	D
Approach Delay		37.9			26.3			25.9			35.0	
Approach LOS		D			C			C			D	
Queue Length 50th (ft)	175	171	13		33	25	57	85	39	27	85	~392
Queue Length 95th (ft)	#380	#367	34		75	60	106	132	83	58	132	#687
Internal Link Dist (ft)		391			637			1384			1604	
Turn Bay Length (ft)	195		135				140		100	125		330
Base Capacity (vph)	468	488	689		379	465	426	3539	1583	401	3539	898
Starvation Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.78	0.14		0.21	0.17	0.44	0.11	0.06	0.23	0.11	0.95

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 72.9
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 33.4 Intersection LOS: C
Intersection Capacity Utilization 75.2% ICU Level of Service D
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Guilford College Rd & Guilford Rd/Site Driveway #3



2025 Phase 2 Build Traffic Volumes with Improvements

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	216	5	5	429	5	9	4	14	4	4	20
Future Vol, veh/h	6	216	5	5	429	5	9	4	14	4	4	20
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	-	-	50	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	240	6	6	477	6	10	4	16	4	4	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	483	0	0	246	0	0	759	749	240	759	752	480
Stage 1	-	-	-	-	-	-	254	254	-	492	492	-
Stage 2	-	-	-	-	-	-	505	495	-	267	260	-
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	1080	-	-	1320	-	-	323	341	799	323	339	586
Stage 1	-	-	-	-	-	-	750	697	-	558	548	-
Stage 2	-	-	-	-	-	-	549	546	-	738	693	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1080	-	-	1320	-	-	304	336	799	310	334	586
Mov Cap-2 Maneuver	-	-	-	-	-	-	304	336	-	310	334	-
Stage 1	-	-	-	-	-	-	744	691	-	554	545	-
Stage 2	-	-	-	-	-	-	521	543	-	713	687	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	13.4	13.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	457	1080	-	-	1320	-	-	475
HCM Lane V/C Ratio	0.066	0.006	-	-	0.004	-	-	0.065
HCM Control Delay (s)	13.4	8.4	0	-	7.7	0	-	13.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	226	7	9	372	4	38	4	45	9	4	27
Future Vol, veh/h	4	226	7	9	372	4	38	4	45	9	4	27
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	160	-	50	50	-	235	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	251	8	10	413	4	42	4	50	10	4	30

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	417	0	0	259	0	0	711	696	251	723	700	413
Stage 1	-	-	-	-	-	-	259	259	-	433	433	-
Stage 2	-	-	-	-	-	-	452	437	-	290	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	1142	-	-	1306	-	-	348	365	788	342	363	639
Stage 1	-	-	-	-	-	-	746	694	-	601	582	-
Stage 2	-	-	-	-	-	-	587	579	-	718	688	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1142	-	-	1306	-	-	326	361	788	315	359	639
Mov Cap-2 Maneuver	-	-	-	-	-	-	326	361	-	315	359	-
Stage 1	-	-	-	-	-	-	743	691	-	599	577	-
Stage 2	-	-	-	-	-	-	551	574	-	666	685	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	13.7	13.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	329	788	1142	-	-	1306	-	-	488
HCM Lane V/C Ratio	0.142	0.063	0.004	-	-	0.008	-	-	0.091
HCM Control Delay (s)	17.7	9.9	8.2	-	-	7.8	-	-	13.1
HCM Lane LOS	C	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.5	0.2	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	258	13	40	304	5	50	4	70	27	4	30
Future Vol, veh/h	6	258	13	40	304	5	50	4	70	27	4	30
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	100	-	-	125	-	0	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	287	14	44	338	6	56	4	78	30	4	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	344	0	0	301	0	0	756	740	294	775	741	338
Stage 1	-	-	-	-	-	-	308	308	-	426	426	-
Stage 2	-	-	-	-	-	-	448	432	-	349	315	-
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	1215	-	-	1260	-	-	325	345	745	315	344	704
Stage 1	-	-	-	-	-	-	702	660	-	606	586	-
Stage 2	-	-	-	-	-	-	590	582	-	667	656	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1215	-	-	1260	-	-	297	331	745	271	330	704
Mov Cap-2 Maneuver	-	-	-	-	-	-	297	331	-	271	330	-
Stage 1	-	-	-	-	-	-	698	656	-	602	565	-
Stage 2	-	-	-	-	-	-	538	562	-	590	652	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.9	14.6	16
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	299	745	1215	-	-	1260	-	-	395
HCM Lane V/C Ratio	0.201	0.104	0.005	-	-	0.035	-	-	0.172
HCM Control Delay (s)	20	10.4	8	-	-	8	-	-	16
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.7	0.3	0	-	-	0.1	-	-	0.6

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	352	322	4	12	27
Future Vol, veh/h	9	352	322	4	12	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	115	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	391	358	4	13	30

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	362	0	-	0	769	179
Stage 1	-	-	-	-	358	-
Stage 2	-	-	-	-	411	-
Critical Hdwy	4.13	-	-	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.219	-	-	-	3.519	3.319
Pot Cap-1 Maneuver	1195	-	-	-	353	834
Stage 1	-	-	-	-	679	-
Stage 2	-	-	-	-	668	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1195	-	-	-	350	834
Mov Cap-2 Maneuver	-	-	-	-	350	-
Stage 1	-	-	-	-	674	-
Stage 2	-	-	-	-	668	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1195	-	-	-	585
HCM Lane V/C Ratio	0.008	-	-	-	0.074
HCM Control Delay (s)	8	-	-	-	11.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.2

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	0	622	4	4	393	4	4
Future Vol, veh/h	0	622	4	4	393	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	410	-	75	365	-	125	0
Veh in Median Storage, #	-	0	-	-	0	0	-
Grade, %	-	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	691	4	4	437	4	4

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	437	0	0	695	0	918	346
Stage 1	-	-	-	-	-	691	-
Stage 2	-	-	-	-	-	227	-
Critical Hdwy	6.44	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.52	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	759	-	-	897	-	271	650
Stage 1	-	-	-	-	-	459	-
Stage 2	-	-	-	-	-	789	-
Platoon blocked, %		-	-		-		
Mov Cap-1 Maneuver	759	-	-	897	-	270	650
Mov Cap-2 Maneuver	-	-	-	-	-	270	-
Stage 1	-	-	-	-	-	459	-
Stage 2	-	-	-	-	-	786	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	14.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT
Capacity (veh/h)	270	650	759	-	-	897	-
HCM Lane V/C Ratio	0.016	0.007	-	-	-	0.005	-
HCM Control Delay (s)	18.6	10.6	0	-	-	9	-
HCM Lane LOS	C	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0	0	-	-	0	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	564	386	7	58	35
Future Vol, veh/h	5	564	386	7	58	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	50	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	627	429	8	64	39

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	437	0	-	0	755	215
Stage 1	-	-	-	-	429	-
Stage 2	-	-	-	-	326	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1119	-	-	-	345	790
Stage 1	-	-	-	-	624	-
Stage 2	-	-	-	-	704	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1119	-	-	-	343	790
Mov Cap-2 Maneuver	-	-	-	-	343	-
Stage 1	-	-	-	-	621	-
Stage 2	-	-	-	-	704	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	14.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1119	-	-	-	343	790
HCM Lane V/C Ratio	0.005	-	-	-	0.188	0.049
HCM Control Delay (s)	8.2	-	-	-	17.9	9.8
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0	-	-	-	0.7	0.2

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	654	4	9	681	4	8
Future Vol, veh/h	654	4	9	681	4	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	727	4	10	757	4	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	731	0	1506	729
Stage 1	-	-	-	-	729	-
Stage 2	-	-	-	-	777	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	873	-	133	423
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	453	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	873	-	130	423
Mov Cap-2 Maneuver	-	-	-	-	130	-
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	444	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	20.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	242	-	-	873	-
HCM Lane V/C Ratio	0.055	-	-	0.011	-
HCM Control Delay (s)	20.7	-	-	9.2	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	4	28	36	4	39	16	744	17	14	983	10
Future Vol, veh/h	12	4	28	36	4	39	16	744	17	14	983	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	135	-	50	130	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	4	31	40	4	43	18	827	19	16	1092	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1576	2006	546	1443	1998	414	1103	0	0	846	0	0
Stage 1	1124	1124	-	863	863	-	-	-	-	-	-	-
Stage 2	452	882	-	580	1135	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	74	59	482	93	59	587	629	-	-	787	-	-
Stage 1	219	279	-	316	370	-	-	-	-	-	-	-
Stage 2	557	362	-	467	275	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	62	56	482	79	56	587	629	-	-	787	-	-
Mov Cap-2 Maneuver	62	56	-	79	56	-	-	-	-	-	-	-
Stage 1	213	273	-	307	359	-	-	-	-	-	-	-
Stage 2	495	352	-	421	270	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	45.6	58.6	0.2	0.1
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	629	-	-	136	76	587	787	-	-
HCM Lane V/C Ratio	0.028	-	-	0.359	0.585	0.074	0.02	-	-
HCM Control Delay (s)	10.9	-	-	45.6	104.5	11.6	9.7	-	-
HCM Lane LOS	B	-	-	E	F	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.5	2.6	0.2	0.1	-	-

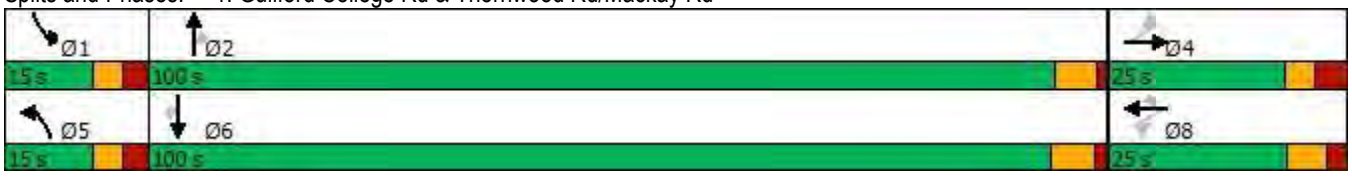
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	8	53	247	4	196	18	640	133	69	660	14
Future Volume (vph)	47	8	53	247	4	196	18	640	133	69	660	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	190		190	120		205	310		150
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.870				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1621	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.755			0.713			0.950			0.950		
Satd. Flow (perm)	1406	1621	0	1328	1863	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			40			45			45	
Link Distance (ft)		1208			505			1538			1743	
Travel Time (s)		32.9			8.6			23.3			26.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	52	9	59	274	4	218	20	711	148	77	733	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	68	0	274	4	218	20	711	148	77	733	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	13.6	13.6		13.5	13.5	13.5	12.8	17.7	17.7	12.8	18.1	18.1
Total Split (s)	25.0	25.0		25.0	25.0	25.0	15.0	100.0	100.0	15.0	100.0	100.0
Total Split (%)	17.9%	17.9%		17.9%	17.9%	17.9%	10.7%	71.4%	71.4%	10.7%	71.4%	71.4%
Maximum Green (s)	18.4	18.4		18.5	18.5	18.5	9.2	94.3	94.3	9.2	93.9	93.9
Yellow Time (s)	3.1	3.1		4.2	4.2	4.2	3.0	4.4	4.4	3.0	4.6	4.6
All-Red Time (s)	3.5	3.5		2.3	2.3	2.3	2.8	1.3	1.3	2.8	1.5	1.5
Lost Time Adjust (s)	-1.6	-1.6		-1.5	-1.5	-1.5	-0.8	-0.7	-0.7	-0.8	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	6.0	6.0	1.0	6.0	6.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0

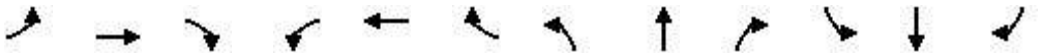
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	45.0	45.0	0.0	45.0	45.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	20.5	20.5		20.5	20.5	20.5	8.0	21.2	21.2	8.4	29.0	29.0
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33	0.13	0.34	0.34	0.14	0.47	0.47
v/c Ratio	0.11	0.13		0.62	0.01	0.42	0.09	0.59	0.27	0.32	0.44	0.02
Control Delay	18.8	18.8		29.1	18.0	22.2	28.8	19.5	17.2	31.3	12.3	10.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.8	18.8		29.1	18.0	22.2	28.8	19.5	17.2	31.3	12.3	10.1
LOS	B	B		C	B	C	C	B	B	C	B	B
Approach Delay		18.8			25.9			19.3			14.1	
Approach LOS		B			C			B			B	
Queue Length 50th (ft)	15	19		93	1	68	7	119	42	28	81	3
Queue Length 95th (ft)	43	53		#224	8	145	28	175	84	70	173	15
Internal Link Dist (ft)		1128			425			1458			1663	
Turn Bay Length (ft)	75			190		190	120		205	310		150
Base Capacity (vph)	465	537		439	617	524	293	3539	1583	293	3539	1583
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.13		0.62	0.01	0.42	0.07	0.20	0.09	0.26	0.21	0.01

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 62
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 18.8 Intersection LOS: B
Intersection Capacity Utilization 56.9% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Guilford College Rd & Thornwood Rd/Mackay Rd





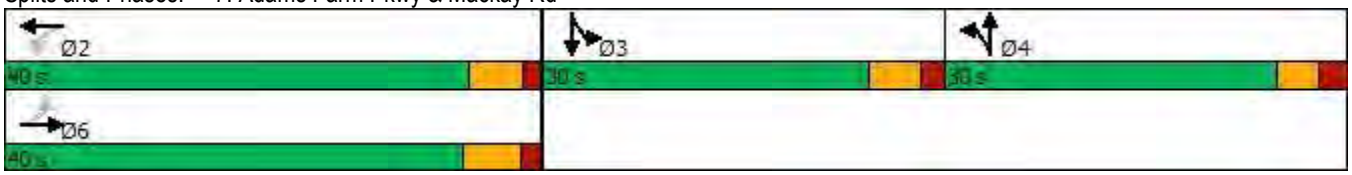
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	336	11	27	130	209	49	27	126	435	5	102
Future Volume (vph)	93	336	11	27	130	209	49	27	126	435	5	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	195		0	0		0	140		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.907			0.916			0.858	
Flt Protected	0.950			0.950				0.988		0.950		
Satd. Flow (prot)	1770	1853	0	1770	1690	0	0	1686	0	1770	1598	0
Flt Permitted	0.303			0.290				0.988		0.950		
Satd. Flow (perm)	564	1853	0	540	1690	0	0	1686	0	1770	1598	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		1572			2792			867			1221	
Travel Time (s)		26.8			47.6			23.6			23.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	103	373	12	30	144	232	54	30	140	483	6	113
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	385	0	30	376	0	0	224	0	483	119	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		6			2		4	4		3	3	
Permitted Phases	6			2								
Detector Phase	6	6		2	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		26.3	26.3		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	34.1	34.1		34.5	34.5		24.7	24.7		24.3	24.3	
Yellow Time (s)	4.3	4.3		4.1	4.1		3.1	3.1		3.9	3.9	
All-Red Time (s)	1.6	1.6		1.4	1.4		2.2	2.2		1.8	1.8	
Lost Time Adjust (s)	-0.9	-0.9		-0.5	-0.5			-0.3		-0.7	-0.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)							7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)							14.0	14.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)	22.3	22.3		22.3	22.3			15.2		25.6	25.6	
Actuated g/C Ratio	0.28	0.28		0.28	0.28			0.19		0.33	0.33	
v/c Ratio	0.64	0.73		0.20	0.78			0.69		0.84	0.23	
Control Delay	45.3	34.7		25.5	38.7			41.8		42.7	24.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	45.3	34.7		25.5	38.7			41.8		42.7	24.9	
LOS	D	C		C	D			D		D	C	
Approach Delay		36.9			37.7			41.8			39.2	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	43	165		11	164			99		208	40	
Queue Length 95th (ft)	111	294		36	297			200		#541	111	
Internal Link Dist (ft)		1492			2712			787			1141	
Turn Bay Length (ft)	170			195						140		
Base Capacity (vph)	257	846		246	772			550		577	521	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.40	0.46		0.12	0.49			0.41		0.84	0.23	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 78.5			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 38.5		Intersection LOS: D	
Intersection Capacity Utilization 84.0%		ICU Level of Service E	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Adams Farm Pkwy & Mackay Rd

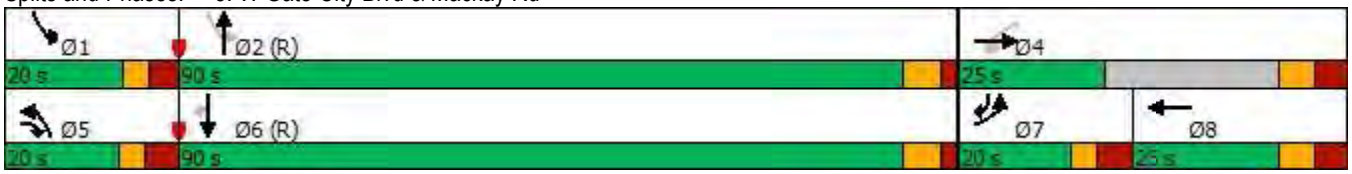


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	391	51	337	71	43	42	190	425	70	73	583	182
Future Volume (vph)	391	51	337	71	43	42	190	425	70	73	583	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		805	90		0	550		0	305		325
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Frt			0.850		0.926			0.979				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1725	0	3433	4979	0	1770	5085	1583
Flt Permitted	0.950			0.720			0.950			0.407		
Satd. Flow (perm)	3433	1863	1583	1341	1725	0	3433	4979	0	758	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		2792			1166			6342			1193	
Travel Time (s)		47.6			31.8			96.1			18.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	434	57	374	79	48	47	211	472	78	81	648	202
Shared Lane Traffic (%)												
Lane Group Flow (vph)	434	57	374	79	95	0	211	550	0	81	648	202
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA		Prot	NA		D.P+P	NA	pm+ov
Protected Phases	7	4	5		8		5	2		1	6	7
Permitted Phases			4	4						2		6
Detector Phase	7	4	5	4	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	14.1	50.1	14.0	50.1	54.1		14.0	29.5		14.0	35.5	14.1
Total Split (s)	20.0	25.0	20.0	25.0	25.0		20.0	90.0		20.0	90.0	20.0
Total Split (%)	12.9%	16.1%	12.9%	16.1%	16.1%		12.9%	58.1%		12.9%	58.1%	12.9%
Maximum Green (s)	12.9	16.9	13.1	16.9	16.9		13.1	83.5		13.6	83.5	12.9
Yellow Time (s)	3.0	4.1	3.0	4.1	4.1		3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	4.1	4.0	3.9	4.0	4.0		3.9	2.0		3.4	2.0	4.1
Lost Time Adjust (s)	-2.1	-3.1	-1.9	-3.1	-3.1		-1.9	-1.5		-1.4	-1.5	-2.1
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	6.0		2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		34.0		34.0	39.0			16.0			22.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	34.2	55.2	74.2	55.2	16.0		14.0	75.4		84.8	70.8	110.0
Actuated g/C Ratio	0.22	0.36	0.48	0.36	0.10		0.09	0.49		0.55	0.46	0.71
v/c Ratio	0.57	0.09	0.49	0.17	0.53		0.68	0.23		0.17	0.28	0.18
Control Delay	58.3	34.0	30.2	35.6	76.2		79.8	23.4		15.3	26.8	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	58.3	34.0	30.2	35.6	76.2		79.8	23.4		15.3	26.8	8.7
LOS	E	C	C	D	E		E	C		B	C	A
Approach Delay		44.5			57.8			39.0			21.9	
Approach LOS		D			E			D			C	
Queue Length 50th (ft)	209	39	263	56	93		108	110		33	142	63
Queue Length 95th (ft)	270	71	330	95	151		152	151		63	189	112
Internal Link Dist (ft)		2712			1086			6262			1113	
Turn Bay Length (ft)	470		805	90			550			305		325
Base Capacity (vph)	757	663	771	477	225		339	2730		535	2788	1123
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.57	0.09	0.49	0.17	0.42		0.62	0.20		0.15	0.23	0.18

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Offset: 20 (13%), Referenced to phase 2:NBSB and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 36.1		Intersection LOS: D	
Intersection Capacity Utilization 50.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: W Gate City Blvd & Mackay Rd

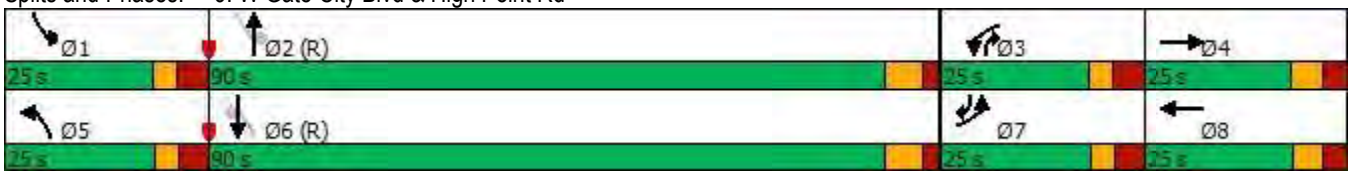


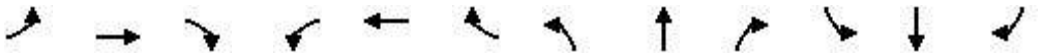
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	11	12	145	12	11	18	561	195	10	504	39
Future Volume (vph)	64	11	12	145	12	11	18	561	195	10	504	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	360		0	400		450	435		215
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.922			0.928				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1717	0	3433	1729	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.428			0.399		
Satd. Flow (perm)	3433	1717	0	3433	1729	0	797	5085	1583	743	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		746			1689			1193			1650	
Travel Time (s)		14.5			32.9			18.1			25.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	71	12	13	161	13	12	20	623	217	11	560	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	71	25	0	161	25	0	20	623	217	11	560	43
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases							6		2	2		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.7	42.0		13.9	13.9		13.7	18.9	13.9	13.8	18.9	13.7
Total Split (s)	25.0	25.0		25.0	25.0		25.0	90.0	25.0	25.0	90.0	25.0
Total Split (%)	15.2%	15.2%		15.2%	15.2%		15.2%	54.5%	15.2%	15.2%	54.5%	15.2%
Maximum Green (s)	18.3	18.0		18.1	18.1		18.3	83.1	18.1	18.2	83.1	18.3
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.7	3.2		3.9	3.1		3.7	2.2	3.9	3.8	2.2	3.7
Lost Time Adjust (s)	-1.7	-2.0		-1.9	-1.9		-1.7	-1.9	-1.9	-1.8	-1.9	-1.7
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Walk Time (s)		4.0										

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		31.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)	11.0	9.7		14.0	12.7		128.9	126.3	147.3	129.9	123.6	141.6
Actuated g/C Ratio	0.07	0.06		0.08	0.08		0.78	0.77	0.89	0.79	0.75	0.86
v/c Ratio	0.31	0.25		0.55	0.19		0.03	0.16	0.15	0.02	0.15	0.03
Control Delay	77.2	79.9		79.5	72.8		5.3	6.9	2.8	5.4	7.6	4.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.2	79.9		79.5	72.8		5.3	6.9	2.8	5.4	7.6	4.3
LOS	E	E		E	E		A	A	A	A	A	A
Approach Delay		77.9			78.6			5.8			7.3	
Approach LOS		E			E			A			A	
Queue Length 50th (ft)	38	26		87	26		4	57	23	2	73	10
Queue Length 95th (ft)	66	60		125	58		13	113	75	9	101	22
Internal Link Dist (ft)		666			1609			1113			1570	
Turn Bay Length (ft)	50			360			400		450	435		215
Base Capacity (vph)	416	208		416	209		754	3893	1438	718	3810	1412
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.12		0.39	0.12		0.03	0.16	0.15	0.02	0.15	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 165			
Actuated Cycle Length: 165			
Offset: 54 (33%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 18.0		Intersection LOS: B	
Intersection Capacity Utilization 36.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: W Gate City Blvd & High Point Rd



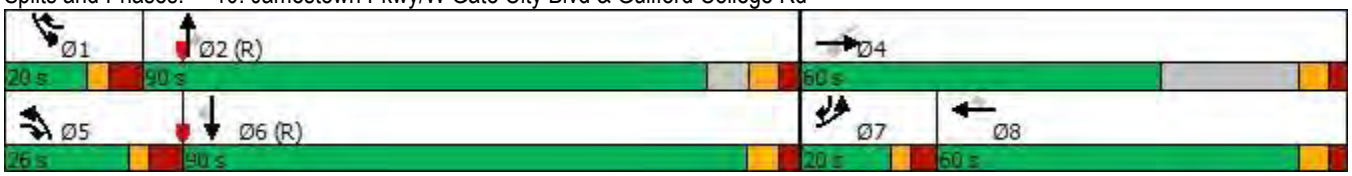


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	271	194	4	235	171	129	460	6	192	687	51
Future Volume (vph)	103	271	194	4	235	171	129	460	6	192	687	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430		445	355		285	415		335	395		335
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.420			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	782	3539	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		3577			1802			3389			6342	
Travel Time (s)		54.2			27.3			51.3			96.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	114	301	216	4	261	190	143	511	7	213	763	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	114	301	216	4	261	190	143	511	7	213	763	57
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	5		8	1	5	2		1	6	7
Permitted Phases			4	4		8			2			6
Detector Phase	7	4	5	4	8	1	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	7.0
Minimum Split (s)	14.0	25.3	26.0	25.3	20.0	14.9	26.0	25.5	25.5	14.9	25.7	14.0
Total Split (s)	20.0	60.0	26.0	60.0	60.0	20.0	26.0	90.0	90.0	20.0	90.0	20.0
Total Split (%)	10.2%	30.6%	13.3%	30.6%	30.6%	10.2%	13.3%	45.9%	45.9%	10.2%	45.9%	10.2%
Maximum Green (s)	13.2	52.7	18.0	52.7	52.7	12.1	18.0	82.5	82.5	12.1	82.3	13.2
Yellow Time (s)	3.0	4.5	3.0	4.5	4.5	3.0	3.0	4.4	4.4	3.0	4.6	3.0
All-Red Time (s)	3.8	2.8	5.0	2.8	2.8	4.9	5.0	3.1	3.1	4.9	3.1	3.8
Lost Time Adjust (s)	-1.8	-2.3	-3.0	-2.3	-2.3	-2.9	-3.0	-2.5	-2.5	-2.9	-2.7	-1.8
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	6.0	2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	0.0	30.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0		7.0				7.0	7.0		7.0	
Flash Dont Walk (s)		11.0		11.0				11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0		0				0	0		0	
Act Effct Green (s)	12.7	39.0	59.1	39.0	21.3	45.8	15.1	122.5	122.5	19.5	126.9	144.6
Actuated g/C Ratio	0.06	0.20	0.30	0.20	0.11	0.23	0.08	0.62	0.62	0.10	0.65	0.74
v/c Ratio	0.51	0.43	0.45	0.03	0.68	0.51	0.54	0.16	0.01	0.62	0.23	0.05
Control Delay	96.5	69.8	57.4	59.8	93.0	69.6	94.5	16.3	17.0	92.8	15.3	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.5	69.8	57.4	59.8	93.0	69.6	94.5	16.3	17.0	92.8	15.3	8.0
LOS	F	E	E	E	F	E	F	B	B	F	B	A
Approach Delay		70.4			82.9			33.3			30.8	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)	74	181	227	4	173	216	93	97	3	138	144	19
Queue Length 95th (ft)	111	222	292	16	223	290	133	138	13	185	197	39
Internal Link Dist (ft)		3497			1722			3309			6262	
Turn Bay Length (ft)	430		445	355		285	415		335	395		335
Base Capacity (vph)	266	1354	524	299	993	369	367	3177	989	341	3292	1187
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.22	0.41	0.01	0.26	0.51	0.39	0.16	0.01	0.62	0.23	0.05

Intersection Summary			
Area Type:	Other		
Cycle Length: 196			
Actuated Cycle Length: 196			
Offset: 20 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 48.9		Intersection LOS: D	
Intersection Capacity Utilization 49.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd



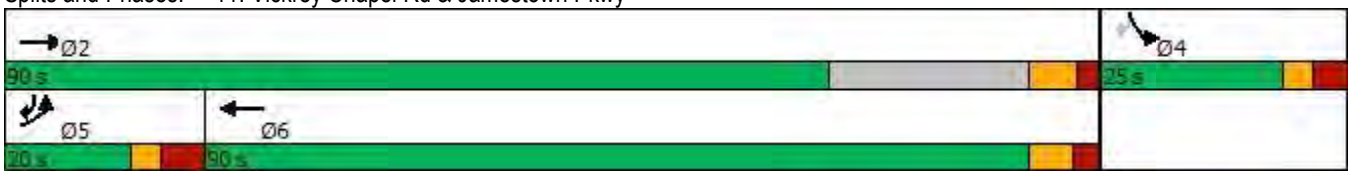


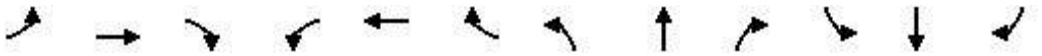
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	181	178	213	36	40	267
Future Volume (vph)	181	178	213	36	40	267
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	445			575	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	100				100	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	3539	1863	1583	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	3539	1863	1583	3433	1583
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		45	
Link Distance (ft)		638	755		3389	
Travel Time (s)		12.4	14.7		51.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	201	198	237	40	44	297
Shared Lane Traffic (%)						
Lane Group Flow (vph)	201	198	237	40	44	297
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		48	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Free	Prot	pm+ov
Protected Phases	5	2	6		4	5
Permitted Phases				Free		4
Detector Phase	5	2	6		4	5
Switch Phase						
Minimum Initial (s)	7.0	12.0	12.0		7.0	7.0
Minimum Split (s)	14.4	20.0	20.0		20.0	14.4
Total Split (s)	20.0	90.0	90.0		25.0	20.0
Total Split (%)	14.8%	66.7%	66.7%		18.5%	14.8%
Maximum Green (s)	12.6	82.8	82.9		18.3	12.6
Yellow Time (s)	3.0	4.8	4.3		3.0	3.0
All-Red Time (s)	4.4	2.4	2.8		3.7	4.4
Lost Time Adjust (s)	-2.4	-2.2	-2.1		-1.7	-2.4
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	6.0	6.0		2.0	2.0
Minimum Gap (s)	3.0	3.0	3.0		3.0	3.0
Time Before Reduce (s)	0.0	15.0	15.0		0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Time To Reduce (s)	0.0	30.0	30.0		0.0	0.0
Recall Mode	None	Min	Min		None	None
Act Effct Green (s)	10.4	33.7	14.6	39.8	9.0	14.9
Actuated g/C Ratio	0.26	0.85	0.37	1.00	0.23	0.37
v/c Ratio	0.22	0.07	0.35	0.03	0.06	0.50
Control Delay	14.2	2.5	13.1	0.0	15.4	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.2	2.5	13.1	0.0	15.4	12.1
LOS	B	A	B	A	B	B
Approach Delay		8.4	11.2		12.5	
Approach LOS		A	B		B	
Queue Length 50th (ft)	13	0	26	0	3	46
Queue Length 95th (ft)	46	18	105	0	15	89
Internal Link Dist (ft)		558	675		3309	
Turn Bay Length (ft)	445			575		
Base Capacity (vph)	1334	3539	1863	1583	1779	793
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.06	0.13	0.03	0.02	0.37

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 39.8			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay: 10.6		Intersection LOS: B	
Intersection Capacity Utilization 36.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Vickrey Chapel Rd & Jamestown Pkwy





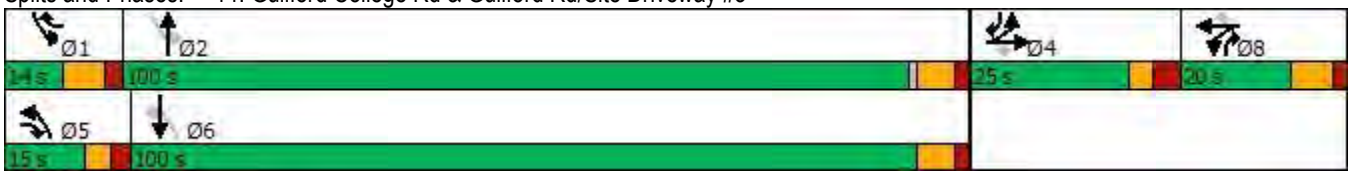
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	520	22	120	26	27	43	72	301	48	54	423	591
Future Volume (vph)	520	22	120	26	27	43	72	301	48	54	423	591
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	195		135	0		0	140		100	125		330
Storage Lanes	1		1	0		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950	0.956			0.976		0.950			0.950		
Satd. Flow (prot)	1681	1692	1583	0	1818	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950	0.956			0.976		0.373			0.520		
Satd. Flow (perm)	1681	1692	1583	0	1818	1583	695	3539	1583	969	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			45			45			45	
Link Distance (ft)		471			717			1464			1684	
Travel Time (s)		9.2			10.9			22.2			25.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	578	24	133	29	30	48	80	334	53	60	470	657
Shared Lane Traffic (%)	48%											
Lane Group Flow (vph)	301	301	133	0	59	48	80	334	53	60	470	657
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	4	4	5	8	8	1	5	2	8	1	6	4
Permitted Phases			4			8	6		2	2		6
Detector Phase	4	4	5	8	8	1	5	2	8	1	6	4
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	20.0	20.0	14.0	20.0	20.0	14.0	14.0	20.0	20.0	14.0	41.5	20.0
Total Split (s)	25.0	25.0	15.0	20.0	20.0	14.0	15.0	100.0	20.0	14.0	100.0	25.0
Total Split (%)	15.6%	15.6%	9.4%	12.5%	12.5%	8.8%	9.4%	62.5%	12.5%	8.8%	62.5%	15.6%
Maximum Green (s)	18.7	18.7	9.6	13.0	13.0	7.0	9.6	93.5	13.0	7.0	93.5	18.7
Yellow Time (s)	3.0	3.0	3.0	5.0	5.0	5.0	3.0	4.6	5.0	5.0	4.6	3.0
All-Red Time (s)	3.3	3.3	2.4	2.0	2.0	2.0	2.4	1.9	2.0	2.0	1.9	3.3
Lost Time Adjust (s)	-1.3	-2.0	-0.4		-2.0	-2.0	-0.4	-1.5	-2.0	-2.0	-1.5	-1.3
Total Lost Time (s)	5.0	4.3	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0	3.0	3.0	3.0	1.0	6.0	3.0	3.0	6.0	1.0
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min	None
Walk Time (s)											7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)											28.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)	20.3	21.0	29.2		10.1	20.8	24.4	18.8	26.6	25.7	16.8	42.2
Actuated g/C Ratio	0.28	0.29	0.41		0.14	0.29	0.34	0.26	0.37	0.36	0.23	0.59
v/c Ratio	0.63	0.61	0.21		0.23	0.10	0.23	0.36	0.09	0.13	0.57	0.70
Control Delay	32.0	30.3	9.7		32.1	19.1	16.3	25.7	8.9	15.2	28.0	16.9
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.0	30.3	9.7		32.1	19.1	16.3	25.7	8.9	15.2	28.0	16.9
LOS	C	C	A		C	B	B	C	A	B	C	B
Approach Delay		27.3			26.3			22.2			21.2	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	127	125	21		24	15	23	71	9	17	101	205
Queue Length 95th (ft)	#265	#245	48		61	41	50	112	22	40	153	363
Internal Link Dist (ft)		391			637			1384			1604	
Turn Bay Length (ft)	195		135				140		100	125		330
Base Capacity (vph)	477	497	702		387	459	414	3539	668	449	3539	932
Starvation Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.61	0.19		0.15	0.10	0.19	0.09	0.08	0.13	0.13	0.70

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 71.6
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 23.4 Intersection LOS: C
Intersection Capacity Utilization 60.8% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Guilford College Rd & Guilford Rd/Site Driveway #3



Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	443	24	9	336	6	6	4	6	4	4	11
Future Vol, veh/h	10	443	24	9	336	6	6	4	6	4	4	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	492	27	10	373	7	7	4	7	4	4	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	380	0	0	519	0	0	919	914	492	930	938	377
Stage 1	-	-	-	-	-	-	514	514	-	397	397	-
Stage 2	-	-	-	-	-	-	405	400	-	533	541	-
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	1178	-	-	1047	-	-	252	273	577	248	264	670
Stage 1	-	-	-	-	-	-	543	535	-	629	603	-
Stage 2	-	-	-	-	-	-	622	602	-	531	521	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1178	-	-	1047	-	-	239	266	577	237	257	670
Mov Cap-2 Maneuver	-	-	-	-	-	-	239	266	-	237	257	-
Stage 1	-	-	-	-	-	-	536	528	-	621	596	-
Stage 2	-	-	-	-	-	-	599	595	-	514	514	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	17	14.8
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	317	1178	-	-	1047	-	-	389
HCM Lane V/C Ratio	0.056	0.009	-	-	0.01	-	-	0.054
HCM Control Delay (s)	17	8.1	0	-	8.5	0	-	14.8
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	412	26	26	323	12	23	4	19	8	4	8
Future Vol, veh/h	15	412	26	26	323	12	23	4	19	8	4	8
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	160	-	50	50	-	235	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	458	29	29	359	13	26	4	21	9	4	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	372	0	0	487	0	0	922	922	458	936	938	359
Stage 1	-	-	-	-	-	-	492	492	-	417	417	-
Stage 2	-	-	-	-	-	-	430	430	-	519	521	-
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	1186	-	-	1076	-	-	251	270	603	245	264	685
Stage 1	-	-	-	-	-	-	558	548	-	613	591	-
Stage 2	-	-	-	-	-	-	603	583	-	540	532	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1186	-	-	1076	-	-	237	259	603	226	253	685
Mov Cap-2 Maneuver	-	-	-	-	-	-	237	259	-	226	253	-
Stage 1	-	-	-	-	-	-	550	540	-	604	575	-
Stage 2	-	-	-	-	-	-	575	567	-	509	525	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.6	17.6	17.2
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	240	603	1186	-	-	1076	-	-	318
HCM Lane V/C Ratio	0.125	0.035	0.014	-	-	0.027	-	-	0.07
HCM Control Delay (s)	22.1	11.2	8.1	-	-	8.4	-	-	17.2
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0.1	0	-	-	0.1	-	-	0.2

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	388	25	120	314	26	33	4	47	11	4	8
Future Vol, veh/h	24	388	25	120	314	26	33	4	47	11	4	8
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	100	-	-	125	-	0	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	431	28	133	349	29	37	4	52	12	4	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	378	0	0	459	0	0	1135	1143	445	1142	1128	349
Stage 1	-	-	-	-	-	-	499	499	-	615	615	-
Stage 2	-	-	-	-	-	-	636	644	-	527	513	-
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	1180	-	-	1102	-	-	179	200	613	177	204	694
Stage 1	-	-	-	-	-	-	554	544	-	479	482	-
Stage 2	-	-	-	-	-	-	466	468	-	535	536	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1180	-	-	1102	-	-	155	172	613	142	175	694
Mov Cap-2 Maneuver	-	-	-	-	-	-	155	172	-	142	175	-
Stage 1	-	-	-	-	-	-	541	531	-	468	424	-
Stage 2	-	-	-	-	-	-	400	411	-	474	524	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	2.3	22.2	24.9
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	157	613	1180	-	-	1102	-	-	206
HCM Lane V/C Ratio	0.262	0.085	0.023	-	-	0.121	-	-	0.124
HCM Control Delay (s)	35.9	11.4	8.1	-	-	8.7	-	-	24.9
HCM Lane LOS	E	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1	0.3	0.1	-	-	0.4	-	-	0.4

Intersection	
Int Delay, s/veh	0.2

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Vol, veh/h	0	494	4	4	620	4	4
Future Vol, veh/h	0	494	4	4	620	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	None	-	None
Storage Length	410	-	75	365	-	125	0
Veh in Median Storage, #	-	0	-	-	0	0	-
Grade, %	-	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	549	4	4	689	4	4

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	689	0	0	553	0	902	275
Stage 1	-	-	-	-	-	549	-
Stage 2	-	-	-	-	-	353	-
Critical Hdwy	6.44	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.52	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	525	-	-	1013	-	277	722
Stage 1	-	-	-	-	-	542	-
Stage 2	-	-	-	-	-	682	-
Platoon blocked, %		-	-		-		
Mov Cap-1 Maneuver	525	-	-	1013	-	276	722
Mov Cap-2 Maneuver	-	-	-	-	-	276	-
Stage 1	-	-	-	-	-	542	-
Stage 2	-	-	-	-	-	679	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT
Capacity (veh/h)	276	722	525	-	-	1013	-
HCM Lane V/C Ratio	0.016	0.006	-	-	-	0.004	-
HCM Control Delay (s)	18.3	10	0	-	-	8.6	-
HCM Lane LOS	C	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	463	596	24	31	12
Future Vol, veh/h	9	463	596	24	31	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	50	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	514	662	27	34	13

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	689	0	-	0	939	331
Stage 1	-	-	-	-	662	-
Stage 2	-	-	-	-	277	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	901	-	-	-	263	665
Stage 1	-	-	-	-	475	-
Stage 2	-	-	-	-	745	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	901	-	-	-	260	665
Mov Cap-2 Maneuver	-	-	-	-	260	-
Stage 1	-	-	-	-	470	-
Stage 2	-	-	-	-	745	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	18
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	901	-	-	-	260	665
HCM Lane V/C Ratio	0.011	-	-	-	0.132	0.02
HCM Control Delay (s)	9	-	-	-	20.9	10.5
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0.1

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	769	4	13	955	4	7
Future Vol, veh/h	769	4	13	955	4	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	854	4	14	1061	4	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	858	0	1945	856
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	1089	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	783	-	71	357
Stage 1	-	-	-	-	416	-
Stage 2	-	-	-	-	323	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	783	-	68	357
Mov Cap-2 Maneuver	-	-	-	-	68	-
Stage 1	-	-	-	-	416	-
Stage 2	-	-	-	-	309	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	33.2
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	140	-	-	783	-
HCM Lane V/C Ratio	0.087	-	-	0.018	-
HCM Control Delay (s)	33.2	-	-	9.7	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

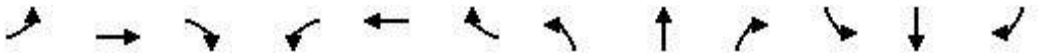
Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	4	14	19	4	30	41	871	40	27	1051	29
Future Vol, veh/h	12	4	14	19	4	30	41	871	40	27	1051	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	135	-	50	130	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	4	16	21	4	33	46	968	44	30	1168	32

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1806	2332	584	1706	2320	484	1200	0	0	1012	0	0
Stage 1	1228	1228	-	1060	1060	-	-	-	-	-	-	-
Stage 2	578	1104	-	646	1260	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	50	36	455	59	37	529	577	-	-	681	-	-
Stage 1	189	249	-	239	299	-	-	-	-	-	-	-
Stage 2	468	285	-	427	240	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	38	32	455	46	33	529	577	-	-	681	-	-
Mov Cap-2 Maneuver	38	32	-	46	33	-	-	-	-	-	-	-
Stage 1	174	238	-	220	275	-	-	-	-	-	-	-
Stage 2	397	262	-	387	229	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	110.9	81.9	0.5	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	577	-	-	64	43	529	681	-	-
HCM Lane V/C Ratio	0.079	-	-	0.521	0.594	0.063	0.044	-	-
HCM Control Delay (s)	11.8	-	-	110.9	172.7	12.3	10.5	-	-
HCM Lane LOS	B	-	-	F	F	B	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-	2.1	2.2	0.2	0.1	-	-



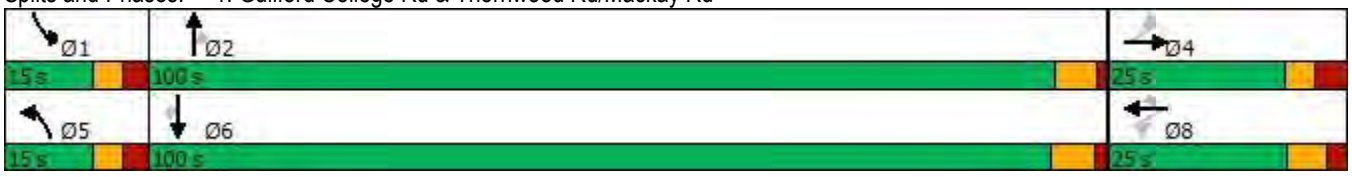
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	11	11	210	23	125	36	704	224	208	885	50
Future Volume (vph)	17	11	11	210	23	125	36	704	224	208	885	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	190		190	120		205	310		150
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.925				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1723	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.740			0.742			0.950			0.950		
Satd. Flow (perm)	1378	1723	0	1382	1863	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			40			45			45	
Link Distance (ft)		1208			505			1538			1743	
Travel Time (s)		32.9			8.6			23.3			26.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	19	12	12	233	26	139	40	782	249	231	983	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	24	0	233	26	139	40	782	249	231	983	56
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	13.6	13.6		13.5	13.5	13.5	12.8	17.7	17.7	12.8	18.1	18.1
Total Split (s)	25.0	25.0		25.0	25.0	25.0	15.0	100.0	100.0	15.0	100.0	100.0
Total Split (%)	17.9%	17.9%		17.9%	17.9%	17.9%	10.7%	71.4%	71.4%	10.7%	71.4%	71.4%
Maximum Green (s)	18.4	18.4		18.5	18.5	18.5	9.2	94.3	94.3	9.2	93.9	93.9
Yellow Time (s)	3.1	3.1		4.2	4.2	4.2	3.0	4.4	4.4	3.0	4.6	4.6
All-Red Time (s)	3.5	3.5		2.3	2.3	2.3	2.8	1.3	1.3	2.8	1.5	1.5
Lost Time Adjust (s)	-1.6	-1.6		-1.5	-1.5	-1.5	-0.8	-0.7	-0.7	-0.8	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	6.0	6.0	1.0	6.0	6.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0

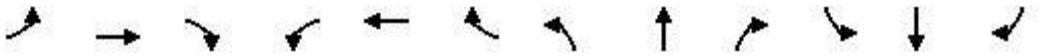
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	45.0	45.0	0.0	45.0	45.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	20.1	20.1		20.1	20.1	20.1	7.8	24.7	24.7	10.1	32.5	32.5
Actuated g/C Ratio	0.29	0.29		0.29	0.29	0.29	0.11	0.35	0.35	0.14	0.46	0.46
v/c Ratio	0.05	0.05		0.59	0.05	0.31	0.20	0.63	0.45	0.91	0.60	0.08
Control Delay	20.8	20.6		30.1	20.5	23.3	33.0	20.9	19.8	72.1	16.9	12.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.8	20.6		30.1	20.5	23.3	33.0	20.9	19.8	72.1	16.9	12.7
LOS	C	C		C	C	C	C	C	B	E	B	B
Approach Delay		20.7			27.1			21.1			26.7	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	6	8		87	8	47	16	143	80	101	183	15
Queue Length 95th (ft)	22	26		#178	28	102	46	195	137	#249	244	35
Internal Link Dist (ft)		1128			425			1458			1663	
Turn Bay Length (ft)	75			190		190	120		205	310		150
Base Capacity (vph)	395	495		397	535	454	254	3539	1583	254	3539	1583
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.05		0.59	0.05	0.31	0.16	0.22	0.16	0.91	0.28	0.04

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 70
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 24.5 Intersection LOS: C
Intersection Capacity Utilization 61.8% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Guilford College Rd & Thornwood Rd/Mackay Rd





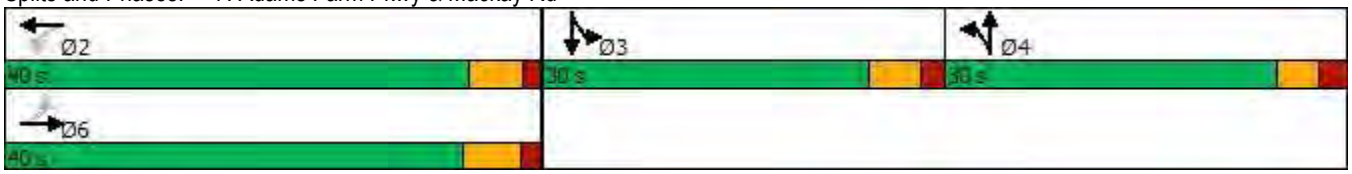
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	246	43	109	399	443	34	32	52	311	35	101
Future Volume (vph)	94	246	43	109	399	443	34	32	52	311	35	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	195		0	0		0	140		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.978			0.921			0.941			0.889	
Flt Protected	0.950			0.950				0.986		0.950		
Satd. Flow (prot)	1770	1822	0	1770	1716	0	0	1728	0	1770	1656	0
Flt Permitted	0.113			0.484				0.986		0.950		
Satd. Flow (perm)	210	1822	0	902	1716	0	0	1728	0	1770	1656	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		1572			2792			867			1221	
Travel Time (s)		26.8			47.6			23.6			23.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	104	273	48	121	443	492	38	36	58	346	39	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	321	0	121	935	0	0	132	0	346	151	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		6			2		4	4		3	3	
Permitted Phases	6			2								
Detector Phase	6	6		2	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		26.3	26.3		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	34.1	34.1		34.5	34.5		24.7	24.7		24.3	24.3	
Yellow Time (s)	4.3	4.3		4.1	4.1		3.1	3.1		3.9	3.9	
All-Red Time (s)	1.6	1.6		1.4	1.4		2.2	2.2		1.8	1.8	
Lost Time Adjust (s)	-0.9	-0.9		-0.5	-0.5			-0.3		-0.7	-0.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)							7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)							14.0	14.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)	35.3	35.3		35.3	35.3			11.2		20.4	20.4	
Actuated g/C Ratio	0.43	0.43		0.43	0.43			0.14		0.25	0.25	
v/c Ratio	1.16	0.41		0.31	1.27			0.56		0.79	0.37	
Control Delay	175.1	19.8		20.6	156.2			43.6		42.7	28.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	175.1	19.8		20.6	156.2			43.6		42.7	28.5	
LOS	F	B		C	F			D		D	C	
Approach Delay		57.8			140.7			43.6			38.4	
Approach LOS		E			F			D			D	
Queue Length 50th (ft)	~65	113		41	~627			65		165	64	
Queue Length 95th (ft)	#179	211		97	#964			125		278	123	
Internal Link Dist (ft)		1492			2712			787			1141	
Turn Bay Length (ft)	170			195						140		
Base Capacity (vph)	90	784		388	738			531		543	508	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	1.16	0.41		0.31	1.27			0.25		0.64	0.30	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 82
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.27
Intersection Signal Delay: 93.8 Intersection LOS: F
Intersection Capacity Utilization 100.4% ICU Level of Service G
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Adams Farm Pkwy & Mackay Rd

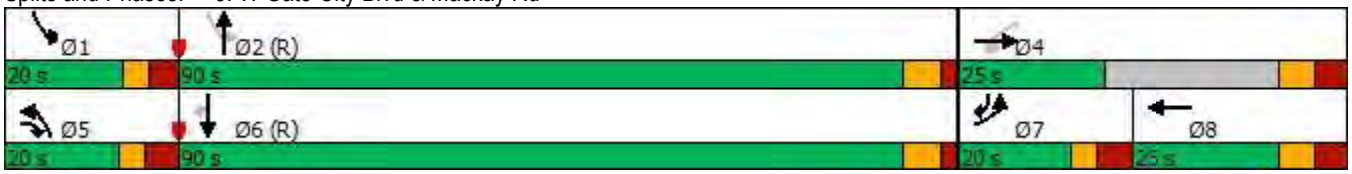


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	292	24	219	17	36	27	362	530	27	32	653	530
Future Volume (vph)	292	24	219	17	36	27	362	530	27	32	653	530
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		805	90		0	550		0	305		325
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Frt			0.850		0.936			0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1744	0	3433	5050	0	1770	5085	1583
Flt Permitted	0.950			0.740			0.950			0.358		
Satd. Flow (perm)	3433	1863	1583	1378	1744	0	3433	5050	0	667	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		2792			1166			6342			1193	
Travel Time (s)		47.6			31.8			96.1			18.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	324	27	243	19	40	30	402	589	30	36	726	589
Shared Lane Traffic (%)												
Lane Group Flow (vph)	324	27	243	19	70	0	402	619	0	36	726	589
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA		Prot	NA		D.P+P	NA	pm+ov
Protected Phases	7	4	5		8		5	2		1	6	7
Permitted Phases			4	4						2		6
Detector Phase	7	4	5	4	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	14.1	50.1	14.0	50.1	54.1		14.0	29.5		14.0	35.5	14.1
Total Split (s)	20.0	25.0	20.0	25.0	25.0		20.0	90.0		20.0	90.0	20.0
Total Split (%)	12.9%	16.1%	12.9%	16.1%	16.1%		12.9%	58.1%		12.9%	58.1%	12.9%
Maximum Green (s)	12.9	16.9	13.1	16.9	16.9		13.1	83.5		13.6	83.5	12.9
Yellow Time (s)	3.0	4.1	3.0	4.1	4.1		3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	4.1	4.0	3.9	4.0	4.0		3.9	2.0		3.4	2.0	4.1
Lost Time Adjust (s)	-2.1	-3.1	-1.9	-3.1	-3.1		-1.9	-1.5		-1.4	-1.5	-2.1
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	6.0		2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		34.0		34.0	39.0			16.0			22.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	47.9	66.8	102.6	66.8	13.9		30.8	67.2		74.2	42.4	95.3
Actuated g/C Ratio	0.31	0.43	0.66	0.43	0.09		0.20	0.43		0.48	0.27	0.61
v/c Ratio	0.31	0.03	0.23	0.03	0.45		0.59	0.28		0.09	0.52	0.61
Control Delay	40.5	21.6	10.4	21.4	75.3		61.0	31.4		24.2	50.8	21.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	40.5	21.6	10.4	21.4	75.3		61.0	31.4		24.2	50.8	21.7
LOS	D	C	B	C	E		E	C		C	D	C
Approach Delay		27.3			63.8			43.1			37.4	
Approach LOS		C			E			D			D	
Queue Length 50th (ft)	125	15	92	11	69		195	155		19	230	336
Queue Length 95th (ft)	161	31	106	25	119		253	211		45	301	498
Internal Link Dist (ft)		2712			1086			6262			1113	
Turn Bay Length (ft)	470		805	90			550			305		325
Base Capacity (vph)	1061	803	1047	594	225		681	2840		443	2788	973
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.31	0.03	0.23	0.03	0.31		0.59	0.22		0.08	0.26	0.61

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Offset: 20 (13%), Referenced to phase 2:NBSB and 6:SBT, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 38.1		Intersection LOS: D	
Intersection Capacity Utilization 61.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: W Gate City Blvd & Mackay Rd

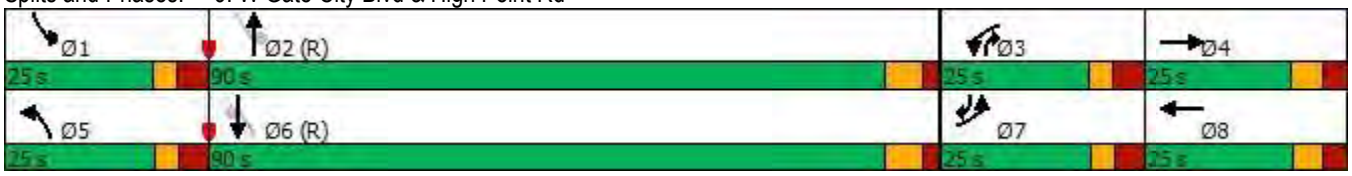


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	62	55	233	38	9	42	413	226	23	791	135
Future Volume (vph)	87	62	55	233	38	9	42	413	226	23	791	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	360		0	400		450	435		215
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.930			0.971				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1732	0	3433	1809	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.281			0.470		
Satd. Flow (perm)	3433	1732	0	3433	1809	0	523	5085	1583	875	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		746			1689			1193			1650	
Travel Time (s)		14.5			32.9			18.1			25.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	97	69	61	259	42	10	47	459	251	26	879	150
Shared Lane Traffic (%)												
Lane Group Flow (vph)	97	130	0	259	52	0	47	459	251	26	879	150
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases							6		2	2		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.7	42.0		13.9	13.9		13.7	18.9	13.9	13.8	18.9	13.7
Total Split (s)	25.0	25.0		25.0	25.0		25.0	90.0	25.0	25.0	90.0	25.0
Total Split (%)	15.2%	15.2%		15.2%	15.2%		15.2%	54.5%	15.2%	15.2%	54.5%	15.2%
Maximum Green (s)	18.3	18.0		18.1	18.1		18.3	83.1	18.1	18.2	83.1	18.3
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.7	3.2		3.9	3.1		3.7	2.2	3.9	3.8	2.2	3.7
Lost Time Adjust (s)	-1.7	-2.0		-1.9	-1.9		-1.7	-1.9	-1.9	-1.8	-1.9	-1.7
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Walk Time (s)		4.0										

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		31.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)	15.5	18.7		18.7	24.7		108.7	104.4	128.0	109.7	101.5	123.0
Actuated g/C Ratio	0.09	0.11		0.11	0.15		0.66	0.63	0.78	0.66	0.62	0.75
v/c Ratio	0.30	0.66		0.67	0.19		0.11	0.14	0.20	0.04	0.28	0.13
Control Delay	74.5	85.7		78.6	59.6		10.9	14.1	6.6	10.7	16.5	9.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.5	85.7		78.6	59.6		10.9	14.1	6.6	10.7	16.5	9.1
LOS	E	F		E	E		B	B	A	B	B	A
Approach Delay		81.0			75.4			11.4			15.3	
Approach LOS		F			E			B			B	
Queue Length 50th (ft)	53	137		140	49		16	77	76	9	162	51
Queue Length 95th (ft)	85	206		186	88		38	114	127	24	226	94
Internal Link Dist (ft)		666			1609			1113			1570	
Turn Bay Length (ft)	50			360			400		450	435		215
Base Capacity (vph)	463	222		431	294		508	3216	1248	705	3129	1245
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.59		0.60	0.18		0.09	0.14	0.20	0.04	0.28	0.12

Intersection Summary			
Area Type:	Other		
Cycle Length: 165			
Actuated Cycle Length: 165			
Offset: 54 (33%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 28.3		Intersection LOS: C	
Intersection Capacity Utilization 46.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: W Gate City Blvd & High Point Rd

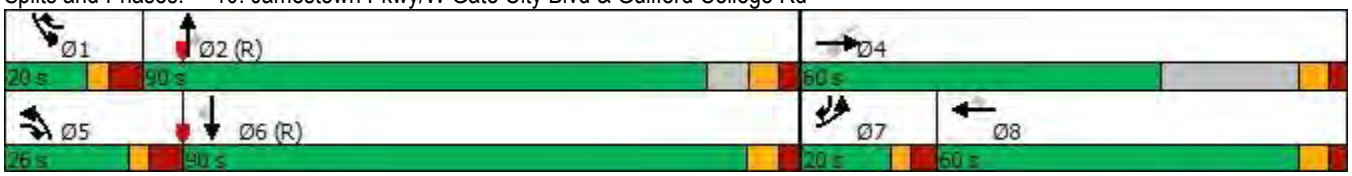


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	114	190	134	7	327	184	152	471	3	208	539	108
Future Volume (vph)	114	190	134	7	327	184	152	471	3	208	539	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430		445	355		285	415		335	395		335
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.554			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	1032	3539	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		3577			1802			3389			6342	
Travel Time (s)		54.2			27.3			51.3			96.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	127	211	149	8	363	204	169	523	3	231	599	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	127	211	149	8	363	204	169	523	3	231	599	120
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	5		8	1	5	2		1	6	7
Permitted Phases			4	4		8			2			6
Detector Phase	7	4	5	4	8	1	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	7.0
Minimum Split (s)	14.0	25.3	26.0	25.3	20.0	14.9	26.0	25.5	25.5	14.9	25.7	14.0
Total Split (s)	20.0	60.0	26.0	60.0	60.0	20.0	26.0	90.0	90.0	20.0	90.0	20.0
Total Split (%)	10.2%	30.6%	13.3%	30.6%	30.6%	10.2%	13.3%	45.9%	45.9%	10.2%	45.9%	10.2%
Maximum Green (s)	13.2	52.7	18.0	52.7	52.7	12.1	18.0	82.5	82.5	12.1	82.3	13.2
Yellow Time (s)	3.0	4.5	3.0	4.5	4.5	3.0	3.0	4.4	4.4	3.0	4.6	3.0
All-Red Time (s)	3.8	2.8	5.0	2.8	2.8	4.9	5.0	3.1	3.1	4.9	3.1	3.8
Lost Time Adjust (s)	-1.8	-2.3	-3.0	-2.3	-2.3	-2.9	-3.0	-2.5	-2.5	-2.9	-2.7	-1.8
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	6.0	2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	0.0	30.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0		7.0				7.0	7.0		7.0	
Flash Dont Walk (s)		11.0		11.0				11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0		0				0	0		0	
Act Effct Green (s)	13.4	45.8	67.6	45.8	27.4	53.3	16.9	114.3	114.3	20.9	118.4	136.8
Actuated g/C Ratio	0.07	0.23	0.34	0.23	0.14	0.27	0.09	0.58	0.58	0.11	0.60	0.70
v/c Ratio	0.54	0.26	0.27	0.03	0.73	0.47	0.57	0.18	0.00	0.63	0.20	0.11
Control Delay	96.6	60.8	46.1	54.3	89.7	62.4	93.6	20.2	21.3	91.6	18.6	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.6	60.8	46.1	54.3	89.7	62.4	93.6	20.2	21.3	91.6	18.6	11.0
LOS	F	E	D	D	F	E	F	C	C	F	B	B
Approach Delay		65.7			79.6			38.1			35.4	
Approach LOS		E			E			D			D	
Queue Length 50th (ft)	83	118	140	8	241	222	110	112	2	149	123	48
Queue Length 95th (ft)	121	150	185	24	292	293	153	158	9	197	174	88
Internal Link Dist (ft)		3497			1722			3309			6262	
Turn Bay Length (ft)	430		445	355		285	415		335	395		335
Base Capacity (vph)	269	1354	579	394	993	430	367	2965	923	366	3071	1120
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.16	0.26	0.02	0.37	0.47	0.46	0.18	0.00	0.63	0.20	0.11

Intersection Summary			
Area Type:	Other		
Cycle Length: 196			
Actuated Cycle Length: 196			
Offset: 20 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 50.9		Intersection LOS: D	
Intersection Capacity Utilization 47.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd



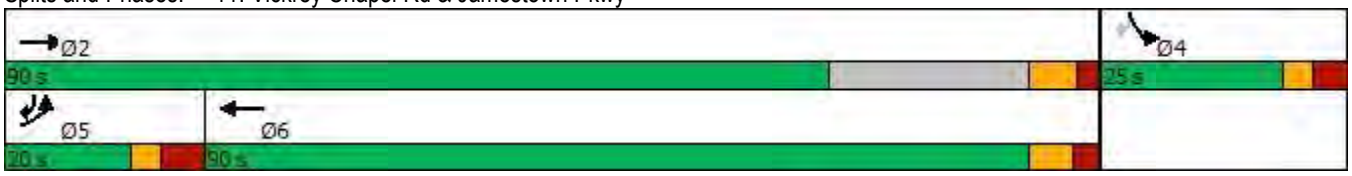


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	121	149	185	38	36	132
Future Volume (vph)	121	149	185	38	36	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	445			575	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	100				100	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	3539	1863	1583	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	3539	1863	1583	3433	1583
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		45	
Link Distance (ft)		638	755		3389	
Travel Time (s)		12.4	14.7		51.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	134	166	206	42	40	147
Shared Lane Traffic (%)						
Lane Group Flow (vph)	134	166	206	42	40	147
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		48	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Free	Prot	pm+ov
Protected Phases	5	2	6		4	5
Permitted Phases				Free		4
Detector Phase	5	2	6		4	5
Switch Phase						
Minimum Initial (s)	7.0	12.0	12.0		7.0	7.0
Minimum Split (s)	14.4	20.0	20.0		20.0	14.4
Total Split (s)	20.0	90.0	90.0		25.0	20.0
Total Split (%)	14.8%	66.7%	66.7%		18.5%	14.8%
Maximum Green (s)	12.6	82.8	82.9		18.3	12.6
Yellow Time (s)	3.0	4.8	4.3		3.0	3.0
All-Red Time (s)	4.4	2.4	2.8		3.7	4.4
Lost Time Adjust (s)	-2.4	-2.2	-2.1		-1.7	-2.4
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	6.0	6.0		2.0	2.0
Minimum Gap (s)	3.0	3.0	3.0		3.0	3.0
Time Before Reduce (s)	0.0	15.0	15.0		0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Time To Reduce (s)	0.0	30.0	30.0		0.0	0.0
Recall Mode	None	Min	Min		None	None
Act Effct Green (s)	9.7	32.8	14.5	39.0	8.9	14.2
Actuated g/C Ratio	0.25	0.84	0.37	1.00	0.23	0.36
v/c Ratio	0.16	0.06	0.30	0.03	0.05	0.25
Control Delay	14.2	2.7	12.3	0.0	14.8	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.2	2.7	12.3	0.0	14.8	9.0
LOS	B	A	B	A	B	A
Approach Delay		7.8	10.2		10.3	
Approach LOS		A	B		B	
Queue Length 50th (ft)	9	0	22	0	2	20
Queue Length 95th (ft)	33	16	88	0	14	44
Internal Link Dist (ft)		558	675		3309	
Turn Bay Length (ft)	445			575		
Base Capacity (vph)	1357	3539	1863	1583	1809	808
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.05	0.11	0.03	0.02	0.18

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 39			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.30			
Intersection Signal Delay: 9.3		Intersection LOS: A	
Intersection Capacity Utilization 34.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Vickrey Chapel Rd & Jamestown Pkwy



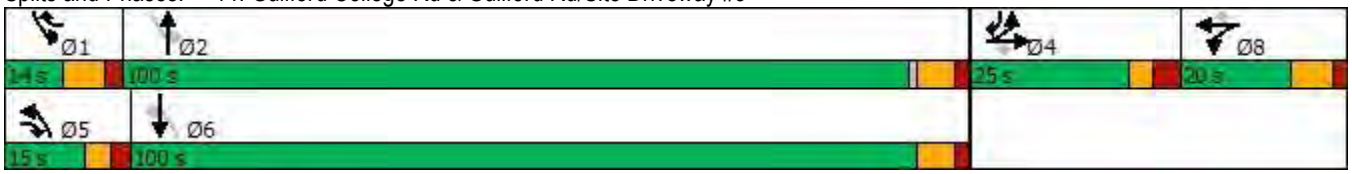
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	650	38	88	38	32	70	167	351	90	85	346	769
Future Volume (vph)	650	38	88	38	32	70	167	351	90	85	346	769
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	195		135	0		0	140		100	125		330
Storage Lanes	1		1	0		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950	0.957			0.974		0.950			0.950		
Satd. Flow (prot)	1681	1694	1583	0	1814	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950	0.957			0.974		0.440			0.441		
Satd. Flow (perm)	1681	1694	1583	0	1814	1583	820	3539	1583	821	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			45			45			45	
Link Distance (ft)		471			717			1464			1684	
Travel Time (s)		9.2			10.9			22.2			25.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	722	42	98	42	36	78	186	390	100	94	384	854
Shared Lane Traffic (%)	47%											
Lane Group Flow (vph)	383	381	98	0	78	78	186	390	100	94	384	854
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	D.P+P	NA	Perm	D.P+P	NA	pm+ov
Protected Phases	4	4	5	8	8	1	5	2		1	6	4
Permitted Phases			4			8	6		2	2		6
Detector Phase	4	4	5	8	8	1	5	2	2	1	6	4
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	7.0
Minimum Split (s)	20.0	20.0	14.0	20.0	20.0	14.0	14.0	20.0	20.0	14.0	41.5	20.0
Total Split (s)	25.0	25.0	15.0	20.0	20.0	14.0	15.0	100.0	100.0	14.0	100.0	25.0
Total Split (%)	15.6%	15.6%	9.4%	12.5%	12.5%	8.8%	9.4%	62.5%	62.5%	8.8%	62.5%	15.6%
Maximum Green (s)	18.7	18.7	9.6	13.0	13.0	7.0	9.6	93.5	93.5	7.0	93.5	18.7
Yellow Time (s)	3.0	3.0	3.0	5.0	5.0	5.0	3.0	4.6	4.6	5.0	4.6	3.0
All-Red Time (s)	3.3	3.3	2.4	2.0	2.0	2.0	2.4	1.9	1.9	2.0	1.9	3.3
Lost Time Adjust (s)	-1.3	-2.0	-0.4		-2.0	-2.0	-0.4	-1.5	-2.0	-2.0	-1.5	-1.3
Total Lost Time (s)	5.0	4.3	5.0		5.0	5.0	5.0	5.0	4.5	5.0	5.0	5.0
Lead/Lag			Lead			Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0	3.0	3.0	3.0	1.0	6.0	6.0	3.0	6.0	1.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	None
Walk Time (s)											7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)											28.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)	20.3	21.0	30.7		10.8	21.5	25.0	15.9	16.4	25.0	16.0	41.4
Actuated g/C Ratio	0.28	0.29	0.42		0.15	0.29	0.34	0.22	0.22	0.34	0.22	0.57
v/c Ratio	0.82	0.78	0.15		0.29	0.17	0.47	0.51	0.28	0.23	0.50	0.95
Control Delay	43.7	39.6	8.8		32.9	19.8	19.8	28.5	27.4	16.6	28.7	39.9
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.7	39.6	8.8		32.9	19.8	19.8	28.5	27.4	16.6	28.7	39.9
LOS	D	D	A		C	B	B	C	C	B	C	D
Approach Delay		37.9			26.3			25.9			35.0	
Approach LOS		D			C			C			D	
Queue Length 50th (ft)	175	171	13		33	25	57	85	39	27	85	~392
Queue Length 95th (ft)	#380	#367	34		75	60	106	132	83	58	132	#687
Internal Link Dist (ft)		391			637			1384			1604	
Turn Bay Length (ft)	195		135				140		100	125		330
Base Capacity (vph)	468	488	689		379	465	426	3539	1583	401	3539	898
Starvation Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.78	0.14		0.21	0.17	0.44	0.11	0.06	0.23	0.11	0.95

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 72.9
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 33.4 Intersection LOS: C
Intersection Capacity Utilization 75.2% ICU Level of Service D
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Guilford College Rd & Guilford Rd/Site Driveway #3



2027 Phase 3 Build Traffic Volumes

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	238	484	4	4	7
Future Vol, veh/h	4	238	484	4	4	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	264	538	4	4	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	542	0	-	0	812	540
Stage 1	-	-	-	-	540	-
Stage 2	-	-	-	-	272	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1027	-	-	-	348	542
Stage 1	-	-	-	-	584	-
Stage 2	-	-	-	-	774	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1027	-	-	-	346	542
Mov Cap-2 Maneuver	-	-	-	-	346	-
Stage 1	-	-	-	-	581	-
Stage 2	-	-	-	-	774	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1027	-	-	-	449
HCM Lane V/C Ratio	0.004	-	-	-	0.027
HCM Control Delay (s)	8.5	0	-	-	13.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	247	7	7	465	5	13	4	19	4	4	21
Future Vol, veh/h	6	247	7	7	465	5	13	4	19	4	4	21
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	-	-	50	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	274	8	8	517	6	14	4	21	4	4	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	523	0	0	282	0	0	838	827	274	841	832	520
Stage 1	-	-	-	-	-	-	288	288	-	536	536	-
Stage 2	-	-	-	-	-	-	550	539	-	305	296	-
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	1043	-	-	1280	-	-	286	307	765	284	305	556
Stage 1	-	-	-	-	-	-	720	674	-	529	523	-
Stage 2	-	-	-	-	-	-	519	522	-	705	668	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1043	-	-	1280	-	-	267	302	765	270	300	556
Mov Cap-2 Maneuver	-	-	-	-	-	-	267	302	-	270	300	-
Stage 1	-	-	-	-	-	-	714	669	-	525	518	-
Stage 2	-	-	-	-	-	-	489	517	-	676	663	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	14.6	13.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	415	1043	-	-	1280	-	-	440
HCM Lane V/C Ratio	0.096	0.006	-	-	0.006	-	-	0.073
HCM Control Delay (s)	14.6	8.5	0	-	7.8	0	-	13.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	260	9	15	400	4	47	4	59	9	4	28
Future Vol, veh/h	4	260	9	15	400	4	47	4	59	9	4	28
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	160	-	50	50	-	235	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	289	10	17	444	4	52	4	66	10	4	31

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	448	0	0	299	0	0	795	779	289	815	785	444
Stage 1	-	-	-	-	-	-	297	297	-	478	478	-
Stage 2	-	-	-	-	-	-	498	482	-	337	307	-
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	1112	-	-	1262	-	-	305	327	750	296	325	614
Stage 1	-	-	-	-	-	-	712	668	-	568	556	-
Stage 2	-	-	-	-	-	-	554	553	-	677	661	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1112	-	-	1262	-	-	283	321	750	264	319	614
Mov Cap-2 Maneuver	-	-	-	-	-	-	283	321	-	264	319	-
Stage 1	-	-	-	-	-	-	709	665	-	566	549	-
Stage 2	-	-	-	-	-	-	515	546	-	611	658	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.3	15.1	14
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	286	750	1112	-	-	1262	-	-	445
HCM Lane V/C Ratio	0.198	0.087	0.004	-	-	0.013	-	-	0.102
HCM Control Delay (s)	20.7	10.3	8.2	-	-	7.9	-	-	14
HCM Lane LOS	C	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.7	0.3	0	-	-	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	6	306	13	48	337	5	50	4	84	28	4	32
Future Vol, veh/h	6	306	13	48	337	5	50	4	84	28	4	32
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	100	-	-	125	-	0	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	340	14	53	374	6	56	4	93	31	4	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	380	0	0	354	0	0	864	847	347	890	848	374
Stage 1	-	-	-	-	-	-	361	361	-	480	480	-
Stage 2	-	-	-	-	-	-	503	486	-	410	368	-
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	1178	-	-	1205	-	-	274	299	696	264	298	672
Stage 1	-	-	-	-	-	-	657	626	-	567	554	-
Stage 2	-	-	-	-	-	-	551	551	-	619	621	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1178	-	-	1205	-	-	247	284	696	217	283	672
Mov Cap-2 Maneuver	-	-	-	-	-	-	247	284	-	217	283	-
Stage 1	-	-	-	-	-	-	653	622	-	564	530	-
Stage 2	-	-	-	-	-	-	495	527	-	529	617	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1	16.1	18.6
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	249	696	1178	-	-	1205	-	-	335
HCM Lane V/C Ratio	0.241	0.134	0.006	-	-	0.044	-	-	0.212
HCM Control Delay (s)	24	11	8.1	-	-	8.1	-	-	18.6
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.9	0.5	0	-	-	0.1	-	-	0.8

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	414	4	4	359	4	4	4	7	13	4	28
Future Vol, veh/h	9	414	4	4	359	4	4	4	7	13	4	28
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	0	-	-	-	-	115	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	460	4	4	399	4	4	4	8	14	4	31

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	403	0	0	464	0	0	692	893	462	895	891	200
Stage 1	-	-	-	-	-	-	482	482	-	407	407	-
Stage 2	-	-	-	-	-	-	210	411	-	488	484	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1154	-	-	1095	-	-	344	280	599	248	281	808
Stage 1	-	-	-	-	-	-	565	552	-	593	596	-
Stage 2	-	-	-	-	-	-	773	594	-	560	551	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1154	-	-	1095	-	-	323	276	599	239	277	808
Mov Cap-2 Maneuver	-	-	-	-	-	-	323	276	-	239	277	-
Stage 1	-	-	-	-	-	-	560	547	-	588	593	-
Stage 2	-	-	-	-	-	-	734	591	-	543	546	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	14.7	14.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	389	1154	-	-	1095	-	-	435
HCM Lane V/C Ratio	0.043	0.009	-	-	0.004	-	-	0.115
HCM Control Delay (s)	14.7	8.1	-	-	8.3	0	-	14.3
HCM Lane LOS	B	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	694	42	58	418	16	14	4	20	32	4	34
Future Vol, veh/h	6	694	42	58	418	16	14	4	20	32	4	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	410	-	75	365	-	-	125	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	771	47	64	464	18	16	4	22	36	4	38

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	482	0	0	818	0	0	1147	1395	386	1003	1433	241
Stage 1	-	-	-	-	-	-	785	785	-	601	601	-
Stage 2	-	-	-	-	-	-	362	610	-	402	832	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1077	-	-	806	-	-	154	140	612	196	133	760
Stage 1	-	-	-	-	-	-	352	402	-	454	488	-
Stage 2	-	-	-	-	-	-	629	483	-	596	382	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1077	-	-	806	-	-	133	128	612	172	122	760
Mov Cap-2 Maneuver	-	-	-	-	-	-	133	128	-	172	122	-
Stage 1	-	-	-	-	-	-	350	400	-	451	449	-
Stage 2	-	-	-	-	-	-	545	445	-	564	380	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1.2	23.4	24
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	132	612	1077	-	-	806	-	-	266
HCM Lane V/C Ratio	0.152	0.036	0.006	-	-	0.08	-	-	0.292
HCM Control Delay (s)	37.1	11.1	8.4	-	-	9.9	-	-	24
HCM Lane LOS	E	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.5	0.1	0	-	-	0.3	-	-	1.2

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	648	449	17	94	42
Future Vol, veh/h	6	648	449	17	94	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	50	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	720	499	19	104	47

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	518	0	-	0	873	250
Stage 1	-	-	-	-	499	-
Stage 2	-	-	-	-	374	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1044	-	-	-	289	750
Stage 1	-	-	-	-	575	-
Stage 2	-	-	-	-	666	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1044	-	-	-	287	750
Mov Cap-2 Maneuver	-	-	-	-	287	-
Stage 1	-	-	-	-	571	-
Stage 2	-	-	-	-	666	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	20.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1044	-	-	-	287	750
HCM Lane V/C Ratio	0.006	-	-	-	0.364	0.062
HCM Control Delay (s)	8.5	-	-	-	24.5	10.1
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	-	1.6	0.2

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	707	4	9	746	4	8
Future Vol, veh/h	707	4	9	746	4	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	786	4	10	829	4	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	790	0	1637	788
Stage 1	-	-	-	-	788	-
Stage 2	-	-	-	-	849	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	830	-	111	391
Stage 1	-	-	-	-	448	-
Stage 2	-	-	-	-	419	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	830	-	109	391
Mov Cap-2 Maneuver	-	-	-	-	109	-
Stage 1	-	-	-	-	448	-
Stage 2	-	-	-	-	410	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	23.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	210	-	-	830	-
HCM Lane V/C Ratio	0.063	-	-	0.012	-
HCM Control Delay (s)	23.3	-	-	9.4	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	4	29	41	4	41	17	831	19	15	1065	11
Future Vol, veh/h	13	4	29	41	4	41	17	831	19	15	1065	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	135	-	50	130	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	4	32	46	4	46	19	923	21	17	1183	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1719	2199	592	1589	2190	462	1195	0	0	944	0	0
Stage 1	1217	1217	-	961	961	-	-	-	-	-	-	-
Stage 2	502	982	-	628	1229	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	58	44	449	72	45	547	580	-	-	722	-	-
Stage 1	192	252	-	275	333	-	-	-	-	-	-	-
Stage 2	520	325	-	437	248	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	47	42	449	59	42	547	580	-	-	722	-	-
Mov Cap-2 Maneuver	47	42	-	59	42	-	-	-	-	-	-	-
Stage 1	186	246	-	266	322	-	-	-	-	-	-	-
Stage 2	455	314	-	389	242	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	68.2	110.9	0.2	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	580	-	-	105	57	547	722	-	-
HCM Lane V/C Ratio	0.033	-	-	0.487	0.877	0.083	0.023	-	-
HCM Control Delay (s)	11.4	-	-	68.2	200.8	12.2	10.1	-	-
HCM Lane LOS	B	-	-	F	F	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2.2	3.9	0.3	0.1	-	-

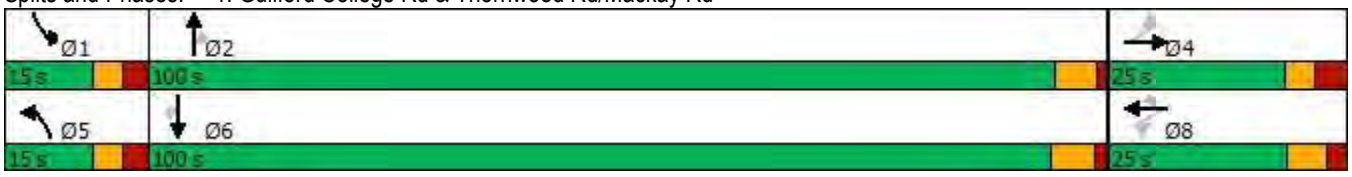
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	8	55	274	4	215	19	705	157	74	713	14
Future Volume (vph)	49	8	55	274	4	215	19	705	157	74	713	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	190		190	120		205	310		150
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.869				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1619	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.755			0.711			0.950			0.950		
Satd. Flow (perm)	1406	1619	0	1324	1863	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			40			45			45	
Link Distance (ft)		1208			505			1538			1743	
Travel Time (s)		32.9			8.6			23.3			26.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	54	9	61	304	4	239	21	783	174	82	792	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	70	0	304	4	239	21	783	174	82	792	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	13.6	13.6		13.5	13.5	13.5	12.8	17.7	17.7	12.8	18.1	18.1
Total Split (s)	25.0	25.0		25.0	25.0	25.0	15.0	100.0	100.0	15.0	100.0	100.0
Total Split (%)	17.9%	17.9%		17.9%	17.9%	17.9%	10.7%	71.4%	71.4%	10.7%	71.4%	71.4%
Maximum Green (s)	18.4	18.4		18.5	18.5	18.5	9.2	94.3	94.3	9.2	93.9	93.9
Yellow Time (s)	3.1	3.1		4.2	4.2	4.2	3.0	4.4	4.4	3.0	4.6	4.6
All-Red Time (s)	3.5	3.5		2.3	2.3	2.3	2.8	1.3	1.3	2.8	1.5	1.5
Lost Time Adjust (s)	-1.6	-1.6		-1.5	-1.5	-1.5	-0.8	-0.7	-0.7	-0.8	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	6.0	6.0	1.0	6.0	6.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0

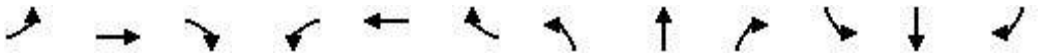
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	45.0	45.0	0.0	45.0	45.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	20.5	20.5		20.5	20.5	20.5	8.0	23.4	23.4	8.5	31.4	31.4
Actuated g/C Ratio	0.32	0.32		0.32	0.32	0.32	0.12	0.36	0.36	0.13	0.49	0.49
v/c Ratio	0.12	0.14		0.72	0.01	0.47	0.10	0.61	0.30	0.35	0.46	0.02
Control Delay	20.1	20.1		35.2	19.2	24.5	30.2	19.5	17.1	33.0	12.1	9.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.1	20.1		35.2	19.2	24.5	30.2	19.5	17.1	33.0	12.1	9.7
LOS	C	C		D	B	C	C	B	B	C	B	A
Approach Delay		20.1			30.4			19.3			14.0	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	16	20		110	1	78	8	135	50	31	89	3
Queue Length 95th (ft)	47	57		#276	8	168	30	195	97	76	187	15
Internal Link Dist (ft)		1128			425			1458			1663	
Turn Bay Length (ft)	75			190		190	120		205	310		150
Base Capacity (vph)	448	515		422	593	504	281	3539	1583	281	3539	1583
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.14		0.72	0.01	0.47	0.07	0.22	0.11	0.29	0.22	0.01

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 64.4
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 19.9 Intersection LOS: B
Intersection Capacity Utilization 59.9% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Guilford College Rd & Thornwood Rd/Mackay Rd





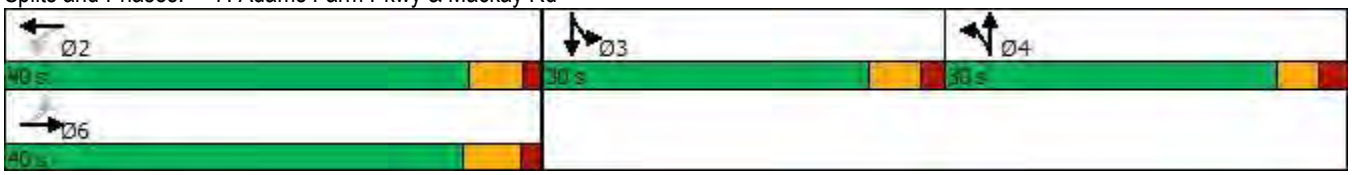
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	388	14	28	144	224	54	28	136	461	5	119
Future Volume (vph)	110	388	14	28	144	224	54	28	136	461	5	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	195		0	0		0	140		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.909			0.916			0.857	
Flt Protected	0.950			0.950				0.988		0.950		
Satd. Flow (prot)	1770	1853	0	1770	1693	0	0	1686	0	1770	1596	0
Flt Permitted	0.272			0.220				0.988		0.950		
Satd. Flow (perm)	507	1853	0	410	1693	0	0	1686	0	1770	1596	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		1572			2792			867			1221	
Travel Time (s)		26.8			47.6			23.6			23.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	122	431	16	31	160	249	60	31	151	512	6	132
Shared Lane Traffic (%)												
Lane Group Flow (vph)	122	447	0	31	409	0	0	242	0	512	138	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		6			2		4	4		3	3	
Permitted Phases	6			2								
Detector Phase	6	6		2	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		26.3	26.3		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	34.1	34.1		34.5	34.5		24.7	24.7		24.3	24.3	
Yellow Time (s)	4.3	4.3		4.1	4.1		3.1	3.1		3.9	3.9	
All-Red Time (s)	1.6	1.6		1.4	1.4		2.2	2.2		1.8	1.8	
Lost Time Adjust (s)	-0.9	-0.9		-0.5	-0.5			-0.3		-0.7	-0.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)							7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)							14.0	14.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)	24.5	24.5		24.5	24.5			16.4		25.6	25.6	
Actuated g/C Ratio	0.30	0.30		0.30	0.30			0.20		0.31	0.31	
v/c Ratio	0.81	0.81		0.25	0.81			0.72		0.93	0.28	
Control Delay	65.1	39.1		28.5	40.2			44.2		56.0	27.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	65.1	39.1		28.5	40.2			44.2		56.0	27.2	
LOS	E	D		C	D			D		E	C	
Approach Delay		44.6			39.4			44.2			49.9	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	56	207		12	189			116		252	53	
Queue Length 95th (ft)	#159	355		39	332			216		#588	128	
Internal Link Dist (ft)		1492			2712			787			1141	
Turn Bay Length (ft)	170			195						140		
Base Capacity (vph)	221	810		179	740			526		553	499	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.55	0.55		0.17	0.55			0.46		0.93	0.28	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 82
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 45.1 Intersection LOS: D
Intersection Capacity Utilization 88.0% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Adams Farm Pkwy & Mackay Rd

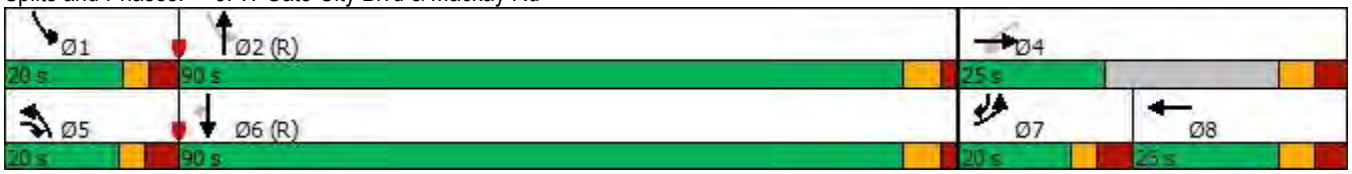


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	424	57	381	78	48	43	205	478	81	76	633	194
Future Volume (vph)	424	57	381	78	48	43	205	478	81	76	633	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		805	90		0	550		0	305		325
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Frt			0.850		0.929			0.978				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1730	0	3433	4973	0	1770	5085	1583
Flt Permitted	0.950			0.716			0.950			0.364		
Satd. Flow (perm)	3433	1863	1583	1334	1730	0	3433	4973	0	678	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		2792			1166			6342			1193	
Travel Time (s)		47.6			31.8			96.1			18.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	471	63	423	87	53	48	228	531	90	84	703	216
Shared Lane Traffic (%)												
Lane Group Flow (vph)	471	63	423	87	101	0	228	621	0	84	703	216
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA		Prot	NA		D.P+P	NA	pm+ov
Protected Phases	7	4	5		8		5	2		1	6	7
Permitted Phases			4	4						2		6
Detector Phase	7	4	5	4	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	14.1	50.1	14.0	50.1	54.1		14.0	29.5		14.0	35.5	14.1
Total Split (s)	20.0	25.0	20.0	25.0	25.0		20.0	90.0		20.0	90.0	20.0
Total Split (%)	12.9%	16.1%	12.9%	16.1%	16.1%		12.9%	58.1%		12.9%	58.1%	12.9%
Maximum Green (s)	12.9	16.9	13.1	16.9	16.9		13.1	83.5		13.6	83.5	12.9
Yellow Time (s)	3.0	4.1	3.0	4.1	4.1		3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	4.1	4.0	3.9	4.0	4.0		3.9	2.0		3.4	2.0	4.1
Lost Time Adjust (s)	-2.1	-3.1	-1.9	-3.1	-3.1		-1.9	-1.5		-1.4	-1.5	-2.1
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	6.0		2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		34.0		34.0	39.0			16.0			22.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	38.0	59.5	78.9	59.5	16.5		14.4	71.0		80.5	66.1	109.1
Actuated g/C Ratio	0.25	0.38	0.51	0.38	0.11		0.09	0.46		0.52	0.43	0.70
v/c Ratio	0.56	0.09	0.53	0.17	0.55		0.71	0.27		0.20	0.32	0.19
Control Delay	55.6	32.0	28.6	33.6	76.3		80.9	26.3		17.1	30.1	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	55.6	32.0	28.6	33.6	76.3		80.9	26.3		17.1	30.1	9.1
LOS	E	C	C	C	E		F	C		B	C	A
Approach Delay		42.1			56.6			41.0			24.5	
Approach LOS		D			E			D			C	
Queue Length 50th (ft)	224	42	297	60	99		118	132		37	163	69
Queue Length 95th (ft)	290	75	367	101	159		161	177		68	215	125
Internal Link Dist (ft)		2712			1086			6262			1113	
Turn Bay Length (ft)	470		805	90			550			305		325
Base Capacity (vph)	841	714	817	511	227		344	2727		477	2788	1113
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.56	0.09	0.52	0.17	0.44		0.66	0.23		0.18	0.25	0.19

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Offset: 20 (13%), Referenced to phase 2:NBSB and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 36.8		Intersection LOS: D	
Intersection Capacity Utilization 54.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: W Gate City Blvd & Mackay Rd

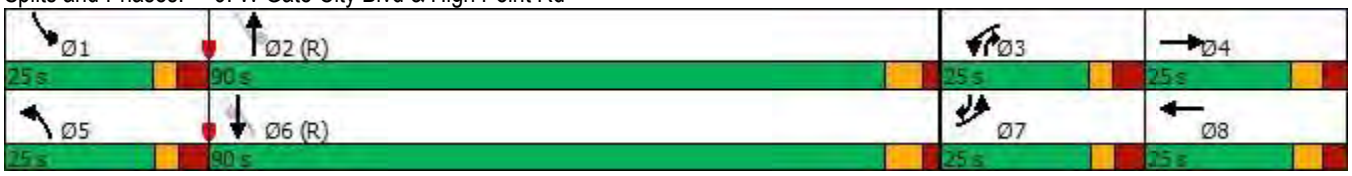


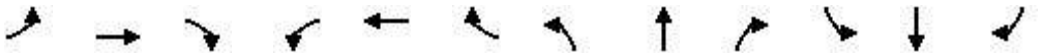
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	12	15	157	13	12	24	619	215	11	546	41
Future Volume (vph)	67	12	15	157	13	12	24	619	215	11	546	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	360		0	400		450	435		215
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.915			0.928				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1704	0	3433	1729	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.404			0.369		
Satd. Flow (perm)	3433	1704	0	3433	1729	0	753	5085	1583	687	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		746			1689			1193			1650	
Travel Time (s)		14.5			32.9			18.1			25.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	74	13	17	174	14	13	27	688	239	12	607	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	30	0	174	27	0	27	688	239	12	607	46
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases							6		2	2		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.7	42.0		13.9	13.9		13.7	18.9	13.9	13.8	18.9	13.7
Total Split (s)	25.0	25.0		25.0	25.0		25.0	90.0	25.0	25.0	90.0	25.0
Total Split (%)	15.2%	15.2%		15.2%	15.2%		15.2%	54.5%	15.2%	15.2%	54.5%	15.2%
Maximum Green (s)	18.3	18.0		18.1	18.1		18.3	83.1	18.1	18.2	83.1	18.3
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.7	3.2		3.9	3.1		3.7	2.2	3.9	3.8	2.2	3.7
Lost Time Adjust (s)	-1.7	-2.0		-1.9	-1.9		-1.7	-1.9	-1.9	-1.8	-1.9	-1.7
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Walk Time (s)		4.0										

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		31.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)	14.1	10.1		14.9	13.6		124.9	122.3	143.2	125.9	119.6	140.8
Actuated g/C Ratio	0.09	0.06		0.09	0.08		0.76	0.74	0.87	0.76	0.72	0.85
v/c Ratio	0.25	0.29		0.56	0.19		0.04	0.18	0.17	0.02	0.16	0.03
Control Delay	73.7	80.8		78.8	71.6		5.9	7.9	3.2	5.8	8.6	4.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.7	80.8		78.8	71.6		5.9	7.9	3.2	5.8	8.6	4.5
LOS	E	F		E	E		A	A	A	A	A	A
Approach Delay		75.8			77.9			6.6			8.3	
Approach LOS		E			E			A			A	
Queue Length 50th (ft)	40	32		93	27		6	68	26	3	83	11
Queue Length 95th (ft)	69	69		134	61		17	130	85	10	113	24
Internal Link Dist (ft)		666			1609			1113			1570	
Turn Bay Length (ft)	50			360			400		450	435		215
Base Capacity (vph)	446	206		416	209		706	3770	1405	663	3687	1403
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.15		0.42	0.13		0.04	0.18	0.17	0.02	0.16	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 165			
Actuated Cycle Length: 165			
Offset: 54 (33%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 18.4		Intersection LOS: B	
Intersection Capacity Utilization 39.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: W Gate City Blvd & High Point Rd



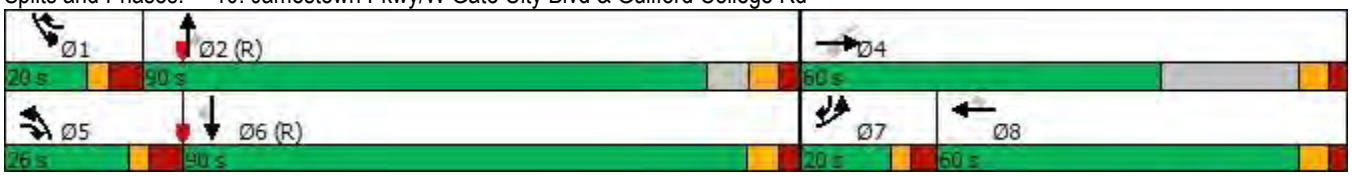


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	301	230	4	261	178	158	479	6	206	725	97
Future Volume (vph)	157	301	230	4	261	178	158	479	6	206	725	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430		445	355		285	415		335	395		335
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.408			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	760	3539	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		3577			1802			3389			6342	
Travel Time (s)		54.2			27.3			51.3			96.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	174	334	256	4	290	198	176	532	7	229	806	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	174	334	256	4	290	198	176	532	7	229	806	108
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	5		8	1	5	2		1	6	7
Permitted Phases			4	4		8			2			6
Detector Phase	7	4	5	4	8	1	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	7.0
Minimum Split (s)	14.0	25.3	26.0	25.3	20.0	14.9	26.0	25.5	25.5	14.9	25.7	14.0
Total Split (s)	20.0	60.0	26.0	60.0	60.0	20.0	26.0	90.0	90.0	20.0	90.0	20.0
Total Split (%)	10.2%	30.6%	13.3%	30.6%	30.6%	10.2%	13.3%	45.9%	45.9%	10.2%	45.9%	10.2%
Maximum Green (s)	13.2	52.7	18.0	52.7	52.7	12.1	18.0	82.5	82.5	12.1	82.3	13.2
Yellow Time (s)	3.0	4.5	3.0	4.5	4.5	3.0	3.0	4.4	4.4	3.0	4.6	3.0
All-Red Time (s)	3.8	2.8	5.0	2.8	2.8	4.9	5.0	3.1	3.1	4.9	3.1	3.8
Lost Time Adjust (s)	-1.8	-2.3	-3.0	-2.3	-2.3	-2.9	-3.0	-2.5	-2.5	-2.9	-2.7	-1.8
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	6.0	2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	0.0	30.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0		7.0				7.0	7.0		7.0	
Flash Dont Walk (s)		11.0		11.0				11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0		0				0	0		0	
Act Effct Green (s)	16.1	44.2	65.9	44.2	23.1	48.8	16.8	116.1	116.1	20.7	120.1	141.1
Actuated g/C Ratio	0.08	0.23	0.34	0.23	0.12	0.25	0.09	0.59	0.59	0.11	0.61	0.72
v/c Ratio	0.62	0.42	0.48	0.02	0.70	0.50	0.60	0.18	0.01	0.63	0.26	0.09
Control Delay	96.4	65.7	53.4	54.8	91.9	66.8	94.8	19.4	20.2	91.8	18.7	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.4	65.7	53.4	54.8	91.9	66.8	94.8	19.4	20.2	91.8	18.7	9.3
LOS	F	E	D	D	F	E	F	B	C	F	B	A
Approach Delay		68.6			81.5			38.0			32.4	
Approach LOS		E			F			D			C	
Queue Length 50th (ft)	113	196	264	4	193	222	114	112	4	148	169	39
Queue Length 95th (ft)	157	234	322	15	242	294	158	158	14	196	234	74
Internal Link Dist (ft)		3497			1722			3309			6262	
Turn Bay Length (ft)	430		445	355		285	415		335	395		335
Base Capacity (vph)	294	1354	566	290	993	394	367	3011	937	363	3114	1145
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.25	0.45	0.01	0.29	0.50	0.48	0.18	0.01	0.63	0.26	0.09

Intersection Summary			
Area Type:	Other		
Cycle Length: 196			
Actuated Cycle Length: 196			
Offset: 20 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 50.3		Intersection LOS: D	
Intersection Capacity Utilization 50.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd



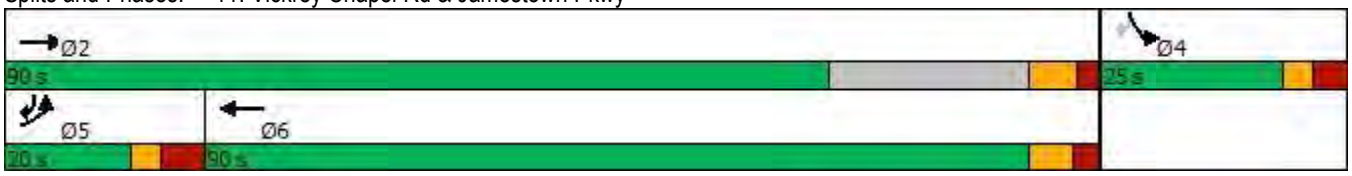


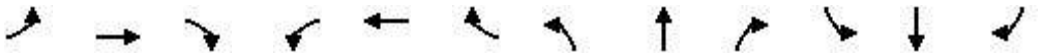
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	203	185	221	47	53	304
Future Volume (vph)	203	185	221	47	53	304
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	445			575	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	100				100	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	3539	1863	1583	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	3539	1863	1583	3433	1583
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		45	
Link Distance (ft)		638	755		3389	
Travel Time (s)		12.4	14.7		51.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	226	206	246	52	59	338
Shared Lane Traffic (%)						
Lane Group Flow (vph)	226	206	246	52	59	338
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		48	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Free	Prot	pm+ov
Protected Phases	5	2	6		4	5
Permitted Phases				Free		4
Detector Phase	5	2	6		4	5
Switch Phase						
Minimum Initial (s)	7.0	12.0	12.0		7.0	7.0
Minimum Split (s)	14.4	20.0	20.0		20.0	14.4
Total Split (s)	20.0	90.0	90.0		25.0	20.0
Total Split (%)	14.8%	66.7%	66.7%		18.5%	14.8%
Maximum Green (s)	12.6	82.8	82.9		18.3	12.6
Yellow Time (s)	3.0	4.8	4.3		3.0	3.0
All-Red Time (s)	4.4	2.4	2.8		3.7	4.4
Lost Time Adjust (s)	-2.4	-2.2	-2.1		-1.7	-2.4
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	6.0	6.0		2.0	2.0
Minimum Gap (s)	3.0	3.0	3.0		3.0	3.0
Time Before Reduce (s)	0.0	15.0	15.0		0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Time To Reduce (s)	0.0	30.0	30.0		0.0	0.0
Recall Mode	None	Min	Min		None	None
Act Effct Green (s)	10.9	33.2	14.7	43.1	9.0	18.1
Actuated g/C Ratio	0.25	0.77	0.34	1.00	0.21	0.42
v/c Ratio	0.26	0.08	0.39	0.03	0.08	0.51
Control Delay	15.7	3.3	15.2	0.0	17.0	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.7	3.3	15.2	0.0	17.0	11.6
LOS	B	A	B	A	B	B
Approach Delay		9.8	12.5		12.4	
Approach LOS		A	B		B	
Queue Length 50th (ft)	27	10	54	0	7	54
Queue Length 95th (ft)	51	18	111	0	20	107
Internal Link Dist (ft)		558	675		3309	
Turn Bay Length (ft)	445			575		
Base Capacity (vph)	1229	3539	1863	1583	1639	833
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.06	0.13	0.03	0.04	0.41

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 43.1			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 11.4		Intersection LOS: B	
Intersection Capacity Utilization 38.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Vickrey Chapel Rd & Jamestown Pkwy





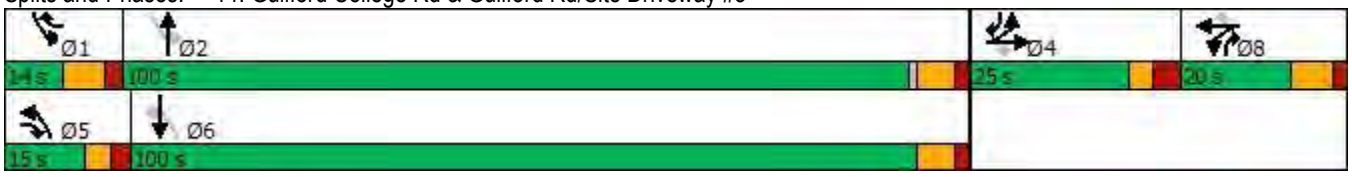
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	544	28	143	31	49	59	88	354	49	61	480	618
Future Volume (vph)	544	28	143	31	49	59	88	354	49	61	480	618
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	195		135	0		0	140		100	125		330
Storage Lanes	1		1	0		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950	0.957			0.981		0.950			0.950		
Satd. Flow (prot)	1681	1694	1583	0	1827	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950	0.957			0.981		0.313			0.454		
Satd. Flow (perm)	1681	1694	1583	0	1827	1583	583	3539	1583	846	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			45			45			45	
Link Distance (ft)		471			717			1464			1684	
Travel Time (s)		9.2			10.9			22.2			25.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	604	31	159	34	54	66	98	393	54	68	533	687
Shared Lane Traffic (%)	48%											
Lane Group Flow (vph)	314	321	159	0	88	66	98	393	54	68	533	687
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	4	4	5	8	8	1	5	2	8	1	6	4
Permitted Phases			4			8	6		2	2		6
Detector Phase	4	4	5	8	8	1	5	2	8	1	6	4
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	20.0	20.0	14.0	20.0	20.0	14.0	14.0	20.0	20.0	14.0	41.5	20.0
Total Split (s)	25.0	25.0	15.0	20.0	20.0	14.0	15.0	100.0	20.0	14.0	100.0	25.0
Total Split (%)	15.6%	15.6%	9.4%	12.5%	12.5%	8.8%	9.4%	62.5%	12.5%	8.8%	62.5%	15.6%
Maximum Green (s)	18.7	18.7	9.6	13.0	13.0	7.0	9.6	93.5	13.0	7.0	93.5	18.7
Yellow Time (s)	3.0	3.0	3.0	5.0	5.0	5.0	3.0	4.6	5.0	5.0	4.6	3.0
All-Red Time (s)	3.3	3.3	2.4	2.0	2.0	2.0	2.4	1.9	2.0	2.0	1.9	3.3
Lost Time Adjust (s)	-1.3	-2.0	-0.4		-2.0	-2.0	-0.4	-1.5	-2.0	-2.0	-1.5	-1.3
Total Lost Time (s)	5.0	4.3	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0	3.0	3.0	3.0	1.0	6.0	3.0	3.0	6.0	1.0
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min	None
Walk Time (s)											7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)											28.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)	20.1	20.8	27.9		11.2	25.3	26.2	20.3	32.6	27.4	18.5	43.7
Actuated g/C Ratio	0.26	0.27	0.36		0.14	0.33	0.34	0.26	0.42	0.35	0.24	0.56
v/c Ratio	0.72	0.71	0.28		0.33	0.13	0.31	0.43	0.08	0.17	0.63	0.77
Control Delay	39.2	37.5	11.3		34.8	20.5	17.7	26.7	8.4	15.7	30.3	20.9
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.2	37.5	11.3		34.8	20.5	17.7	26.7	8.4	15.7	30.3	20.9
LOS	D	D	B		C	C	B	C	A	B	C	C
Approach Delay		32.9			28.6			23.3			24.5	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	143	144	27		38	22	29	87	9	20	120	232
Queue Length 95th (ft)	#315	#314	62		86	55	61	133	21	46	181	428
Internal Link Dist (ft)		391			637			1384			1604	
Turn Bay Length (ft)	195		135				140		100	125		330
Base Capacity (vph)	435	454	614		354	515	368	3539	716	405	3539	889
Starvation Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.71	0.26		0.25	0.13	0.27	0.11	0.08	0.17	0.15	0.77

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 77.7
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 26.9 Intersection LOS: C
Intersection Capacity Utilization 62.4% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Guilford College Rd & Guilford Rd/Site Driveway #3



Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	490	390	5	4	4
Future Vol, veh/h	6	490	390	5	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	544	433	6	4	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	439	0	-	0	994	436
Stage 1	-	-	-	-	436	-
Stage 2	-	-	-	-	558	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1121	-	-	-	272	620
Stage 1	-	-	-	-	652	-
Stage 2	-	-	-	-	573	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1121	-	-	-	270	620
Mov Cap-2 Maneuver	-	-	-	-	270	-
Stage 1	-	-	-	-	646	-
Stage 2	-	-	-	-	573	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1121	-	-	-	376
HCM Lane V/C Ratio	0.006	-	-	-	0.024
HCM Control Delay (s)	8.2	0	-	-	14.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	488	29	18	370	6	9	4	20	4	4	12
Future Vol, veh/h	11	488	29	18	370	6	9	4	20	4	4	12
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	-	-	50	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	542	32	20	411	7	10	4	22	4	4	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	418	0	0	574	0	0	1029	1024	542	1050	1053	415
Stage 1	-	-	-	-	-	-	566	566	-	455	455	-
Stage 2	-	-	-	-	-	-	463	458	-	595	598	-
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	1141	-	-	999	-	-	212	235	540	205	226	637
Stage 1	-	-	-	-	-	-	509	507	-	585	569	-
Stage 2	-	-	-	-	-	-	579	567	-	491	491	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1141	-	-	999	-	-	198	225	540	187	217	637
Mov Cap-2 Maneuver	-	-	-	-	-	-	198	225	-	187	217	-
Stage 1	-	-	-	-	-	-	501	499	-	576	554	-
Stage 2	-	-	-	-	-	-	548	552	-	459	483	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.4	17.3	16.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	329	1141	-	-	999	-	-	341
HCM Lane V/C Ratio	0.111	0.011	-	-	0.02	-	-	0.065
HCM Control Delay (s)	17.3	8.2	0	-	8.7	0	-	16.3
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.2

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	465	31	39	363	13	27	4	26	8	4	8
Future Vol, veh/h	15	465	31	39	363	13	27	4	26	8	4	8
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	160	-	50	50	-	235	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	517	34	43	403	14	30	4	29	9	4	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	417	0	0	551	0	0	1054	1054	517	1074	1074	403
Stage 1	-	-	-	-	-	-	551	551	-	489	489	-
Stage 2	-	-	-	-	-	-	503	503	-	585	585	-
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	1142	-	-	1019	-	-	204	226	558	198	220	647
Stage 1	-	-	-	-	-	-	519	515	-	561	549	-
Stage 2	-	-	-	-	-	-	551	541	-	497	498	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1142	-	-	1019	-	-	189	213	558	177	208	647
Mov Cap-2 Maneuver	-	-	-	-	-	-	189	213	-	177	208	-
Stage 1	-	-	-	-	-	-	511	507	-	553	526	-
Stage 2	-	-	-	-	-	-	516	518	-	460	491	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.8	20.5	20.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	192	558	1142	-	-	1019	-	-	260
HCM Lane V/C Ratio	0.179	0.052	0.015	-	-	0.043	-	-	0.085
HCM Control Delay (s)	27.8	11.8	8.2	-	-	8.7	-	-	20.1
HCM Lane LOS	D	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.6	0.2	0	-	-	0.1	-	-	0.3

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	447	25	146	366	27	33	4	54	12	4	8
Future Vol, veh/h	25	447	25	146	366	27	33	4	54	12	4	8
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	100	-	-	125	-	0	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	497	28	162	407	30	37	4	60	13	4	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	437	0	0	525	0	0	1320	1328	511	1330	1312	407
Stage 1	-	-	-	-	-	-	567	567	-	731	731	-
Stage 2	-	-	-	-	-	-	753	761	-	599	581	-
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	1123	-	-	1042	-	-	134	155	563	132	159	644
Stage 1	-	-	-	-	-	-	508	507	-	413	427	-
Stage 2	-	-	-	-	-	-	402	414	-	488	500	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1123	-	-	1042	-	-	111	128	563	99	131	644
Mov Cap-2 Maneuver	-	-	-	-	-	-	111	128	-	99	131	-
Stage 1	-	-	-	-	-	-	495	494	-	403	361	-
Stage 2	-	-	-	-	-	-	331	350	-	421	488	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	2.5	29.2	35.1
HCM LOS			D	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	113	563	1123	-	-	1042	-	-	146
HCM Lane V/C Ratio	0.364	0.107	0.025	-	-	0.156	-	-	0.183
HCM Control Delay (s)	54	12.2	8.3	-	-	9.1	-	-	35.1
HCM Lane LOS	F	B	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	1.5	0.4	0.1	-	-	0.6	-	-	0.6

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	491	6	5	526	37	4	4	4	11	4	12
Future Vol, veh/h	20	491	6	5	526	37	4	4	4	11	4	12
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	0	-	-	-	-	115	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	546	7	6	584	41	4	4	4	12	4	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	625	0	0	553	0	0	900	1231	550	1194	1193	292
Stage 1	-	-	-	-	-	-	594	594	-	596	596	-
Stage 2	-	-	-	-	-	-	306	637	-	598	597	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	954	-	-	1015	-	-	246	177	534	152	186	705
Stage 1	-	-	-	-	-	-	490	492	-	458	491	-
Stage 2	-	-	-	-	-	-	679	470	-	488	490	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	954	-	-	1015	-	-	231	171	534	144	180	705
Mov Cap-2 Maneuver	-	-	-	-	-	-	231	171	-	144	180	-
Stage 1	-	-	-	-	-	-	479	481	-	447	487	-
Stage 2	-	-	-	-	-	-	654	466	-	468	479	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	20.3	22.7
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	249	954	-	-	1015	-	-	233
HCM Lane V/C Ratio	0.054	0.023	-	-	0.005	-	-	0.129
HCM Control Delay (s)	20.3	8.9	-	-	8.6	0	-	22.7
HCM Lane LOS	C	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	541	7	10	688	44	23	4	28	24	4	20
Future Vol, veh/h	31	541	7	10	688	44	23	4	28	24	4	20
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	410	-	75	365	-	-	125	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	601	8	11	764	49	26	4	31	27	4	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	813	0	0	609	0	0	1075	1504	301	1182	1488	407
Stage 1	-	-	-	-	-	-	669	669	-	811	811	-
Stage 2	-	-	-	-	-	-	406	835	-	371	677	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	810	-	-	966	-	-	174	120	695	145	123	593
Stage 1	-	-	-	-	-	-	413	454	-	339	391	-
Stage 2	-	-	-	-	-	-	593	381	-	622	450	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	810	-	-	966	-	-	156	114	695	129	116	593
Mov Cap-2 Maneuver	-	-	-	-	-	-	156	114	-	129	116	-
Stage 1	-	-	-	-	-	-	396	435	-	325	387	-
Stage 2	-	-	-	-	-	-	558	377	-	563	431	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.1	22.7	31.4
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	148	695	810	-	-	966	-	-	189
HCM Lane V/C Ratio	0.203	0.045	0.043	-	-	0.012	-	-	0.282
HCM Control Delay (s)	35.4	10.4	9.6	-	-	8.8	-	-	31.4
HCM Lane LOS	E	B	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.7	0.1	0.1	-	-	0	-	-	1.1

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	526	673	58	53	19
Future Vol, veh/h	17	526	673	58	53	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	50	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	19	584	748	64	59	21

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	812	0	-	0	1078	374			
Stage 1	-	-	-	-	748	-			
Stage 2	-	-	-	-	330	-			
Critical Hdwy	4.14	-	-	-	6.84	6.94			
Critical Hdwy Stg 1	-	-	-	-	5.84	-			
Critical Hdwy Stg 2	-	-	-	-	5.84	-			
Follow-up Hdwy	2.22	-	-	-	3.52	3.32			
Pot Cap-1 Maneuver	810	-	-	-	213	623			
Stage 1	-	-	-	-	429	-			
Stage 2	-	-	-	-	701	-			
Platoon blocked, %		-	-	-					
Mov Cap-1 Maneuver	810	-	-	-	208	623			
Mov Cap-2 Maneuver	-	-	-	-	208	-			
Stage 1	-	-	-	-	419	-			
Stage 2	-	-	-	-	701	-			

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	24.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	810	-	-	-	208	623
HCM Lane V/C Ratio	0.023	-	-	-	0.283	0.034
HCM Control Delay (s)	9.6	-	-	-	29	11
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.1	0.1

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	837	4	13	1036	4	7
Future Vol, veh/h	837	4	13	1036	4	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	930	4	14	1151	4	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	934	0	2111	932
Stage 1	-	-	-	-	932	-
Stage 2	-	-	-	-	1179	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	733	-	56	323
Stage 1	-	-	-	-	383	-
Stage 2	-	-	-	-	292	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	733	-	53	323
Mov Cap-2 Maneuver	-	-	-	-	53	-
Stage 1	-	-	-	-	383	-
Stage 2	-	-	-	-	277	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	40.7
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	113	-	-	733	-
HCM Lane V/C Ratio	0.108	-	-	0.02	-
HCM Control Delay (s)	40.7	-	-	10	0
HCM Lane LOS	E	-	-	B	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

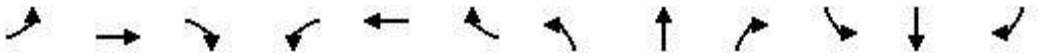
Intersection	
Int Delay, s/veh	9.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	4	14	27	4	37	43	954	53	37	1151	30
Future Vol, veh/h	13	4	14	27	4	37	43	954	53	37	1151	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	135	-	50	130	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	4	16	30	4	41	48	1060	59	41	1279	33

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1989	2576	640	1880	2550	530	1312	0	0	1119	0	0
Stage 1	1361	1361	-	1156	1156	-	-	-	-	-	-	-
Stage 2	628	1215	-	724	1394	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	36	25	418	44	26	493	523	-	-	620	-	-
Stage 1	156	215	-	209	269	-	-	-	-	-	-	-
Stage 2	437	252	-	383	207	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	25	21	418	31	22	493	523	-	-	620	-	-
Mov Cap-2 Maneuver	25	21	-	31	22	-	-	-	-	-	-	-
Stage 1	142	201	-	190	244	-	-	-	-	-	-	-
Stage 2	357	229	-	337	193	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	232.6	204.2	0.5	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	523	-	-	42	29	493	620	-	-
HCM Lane V/C Ratio	0.091	-	-	0.82	1.188	0.083	0.066	-	-
HCM Control Delay (s)	12.6	-	-	232.6$	432.4	13	11.2	-	-
HCM Lane LOS	B	-	-	F	F	B	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-	3.2	4	0.3	0.2	-	-



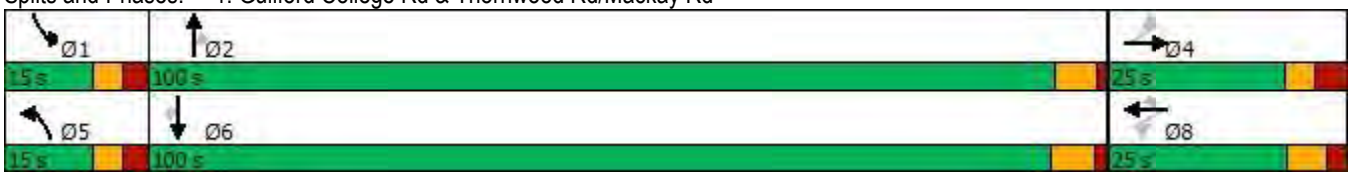
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	12	12	233	23	137	37	762	258	226	972	52
Future Volume (vph)	18	12	12	233	23	137	37	762	258	226	972	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	190		190	120		205	310		150
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.925				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1723	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.740			0.740			0.950			0.950		
Satd. Flow (perm)	1378	1723	0	1378	1863	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			40			45			45	
Link Distance (ft)		1208			505			1538			1743	
Travel Time (s)		32.9			8.6			23.3			26.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	20	13	13	259	26	152	41	847	287	251	1080	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	26	0	259	26	152	41	847	287	251	1080	58
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	13.6	13.6		13.5	13.5	13.5	12.8	17.7	17.7	12.8	18.1	18.1
Total Split (s)	25.0	25.0		25.0	25.0	25.0	15.0	100.0	100.0	15.0	100.0	100.0
Total Split (%)	17.9%	17.9%		17.9%	17.9%	17.9%	10.7%	71.4%	71.4%	10.7%	71.4%	71.4%
Maximum Green (s)	18.4	18.4		18.5	18.5	18.5	9.2	94.3	94.3	9.2	93.9	93.9
Yellow Time (s)	3.1	3.1		4.2	4.2	4.2	3.0	4.4	4.4	3.0	4.6	4.6
All-Red Time (s)	3.5	3.5		2.3	2.3	2.3	2.8	1.3	1.3	2.8	1.5	1.5
Lost Time Adjust (s)	-1.6	-1.6		-1.5	-1.5	-1.5	-0.8	-0.7	-0.7	-0.8	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	6.0	6.0	1.0	6.0	6.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0

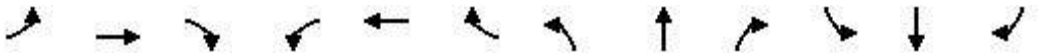
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	45.0	45.0	0.0	45.0	45.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	20.1	20.1		20.1	20.1	20.1	7.9	27.2	27.2	10.0	34.9	34.9
Actuated g/C Ratio	0.28	0.28		0.28	0.28	0.28	0.11	0.38	0.38	0.14	0.48	0.48
v/c Ratio	0.05	0.05		0.68	0.05	0.35	0.21	0.64	0.48	1.02	0.63	0.08
Control Delay	22.0	21.8		35.8	21.7	25.2	34.5	20.7	20.0	99.9	17.1	12.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	21.8		35.8	21.7	25.2	34.5	20.7	20.0	99.9	17.1	12.3
LOS	C	C		D	C	C	C	C	B	F	B	B
Approach Delay		21.9			31.3			21.0			31.9	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	7	9		105	9	55	17	158	95	~125	208	15
Queue Length 95th (ft)	24	29		#229	29	114	48	213	159	#284	277	36
Internal Link Dist (ft)		1128			425			1458			1663	
Turn Bay Length (ft)	75			190		190	120		205	310		150
Base Capacity (vph)	382	478		382	516	439	245	3539	1583	245	3539	1583
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.05		0.68	0.05	0.35	0.17	0.24	0.18	1.02	0.31	0.04

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 72.4
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 27.5 Intersection LOS: C
Intersection Capacity Utilization 65.7% ICU Level of Service C
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Guilford College Rd & Thornwood Rd/Mackay Rd





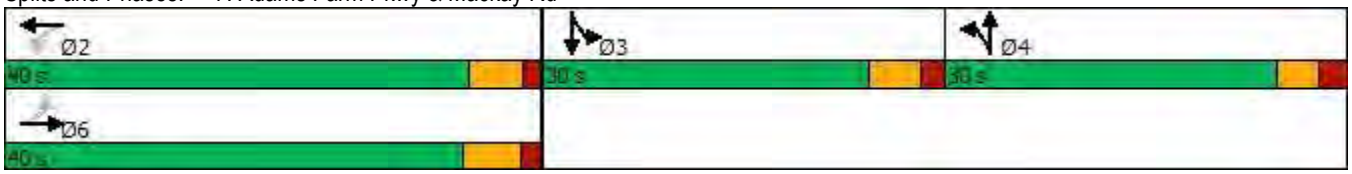
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	114	280	51	117	457	469	40	33	57	329	36	122
Future Volume (vph)	114	280	51	117	457	469	40	33	57	329	36	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	195		0	0		0	140		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.924			0.941			0.884	
Flt Protected	0.950			0.950				0.985		0.950		
Satd. Flow (prot)	1770	1820	0	1770	1721	0	0	1727	0	1770	1647	0
Flt Permitted	0.113			0.429				0.985		0.950		
Satd. Flow (perm)	210	1820	0	799	1721	0	0	1727	0	1770	1647	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		1572			2792			867			1221	
Travel Time (s)		26.8			47.6			23.6			23.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	127	311	57	130	508	521	44	37	63	366	40	136
Shared Lane Traffic (%)												
Lane Group Flow (vph)	127	368	0	130	1029	0	0	144	0	366	176	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		6			2		4	4		3	3	
Permitted Phases	6			2								
Detector Phase	6	6		2	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		26.3	26.3		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	34.1	34.1		34.5	34.5		24.7	24.7		24.3	24.3	
Yellow Time (s)	4.3	4.3		4.1	4.1		3.1	3.1		3.9	3.9	
All-Red Time (s)	1.6	1.6		1.4	1.4		2.2	2.2		1.8	1.8	
Lost Time Adjust (s)	-0.9	-0.9		-0.5	-0.5			-0.3		-0.7	-0.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)							7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)							14.0	14.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)	35.2	35.2		35.2	35.2			11.8		21.4	21.4	
Actuated g/C Ratio	0.42	0.42		0.42	0.42			0.14		0.26	0.26	
v/c Ratio	1.44	0.48		0.39	1.42			0.59		0.81	0.42	
Control Delay	279.4	21.7		23.3	220.5			44.7		44.7	29.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	279.4	21.7		23.3	220.5			44.7		44.7	29.7	
LOS	F	C		C	F			D		D	C	
Approach Delay		87.8			198.4			44.7			39.8	
Approach LOS		F			F			D			D	
Queue Length 50th (ft)	~95	142		48	~762			74		179	76	
Queue Length 95th (ft)	#178	251		109	#1097			134		#327	144	
Internal Link Dist (ft)		1492			2712			787			1141	
Turn Bay Length (ft)	170			195						140		
Base Capacity (vph)	88	768		337	726			520		533	496	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	1.44	0.48		0.39	1.42			0.28		0.69	0.35	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 83.5
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.44
Intersection Signal Delay: 128.8 Intersection LOS: F
Intersection Capacity Utilization 106.7% ICU Level of Service G
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Adams Farm Pkwy & Mackay Rd

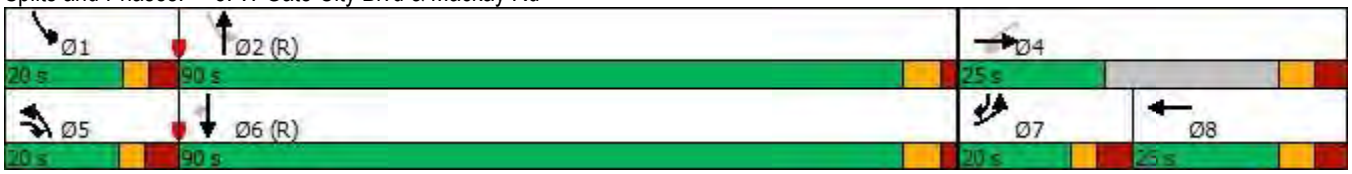


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	319	27	244	18	42	28	398	583	31	33	726	579
Future Volume (vph)	319	27	244	18	42	28	398	583	31	33	726	579
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		805	90		0	550		0	305		325
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Frt			0.850		0.940			0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1751	0	3433	5050	0	1770	5085	1583
Flt Permitted	0.950			0.738			0.950			0.327		
Satd. Flow (perm)	3433	1863	1583	1375	1751	0	3433	5050	0	609	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		2792			1166			6342			1193	
Travel Time (s)		47.6			31.8			96.1			18.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	354	30	271	20	47	31	442	648	34	37	807	643
Shared Lane Traffic (%)												
Lane Group Flow (vph)	354	30	271	20	78	0	442	682	0	37	807	643
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA		Prot	NA		D.P+P	NA	pm+ov
Protected Phases	7	4	5		8		5	2		1	6	7
Permitted Phases			4	4						2		6
Detector Phase	7	4	5	4	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	14.1	50.1	14.0	50.1	54.1		14.0	29.5		14.0	35.5	14.1
Total Split (s)	20.0	25.0	20.0	25.0	25.0		20.0	90.0		20.0	90.0	20.0
Total Split (%)	12.9%	16.1%	12.9%	16.1%	16.1%		12.9%	58.1%		12.9%	58.1%	12.9%
Maximum Green (s)	12.9	16.9	13.1	16.9	16.9		13.1	83.5		13.6	83.5	12.9
Yellow Time (s)	3.0	4.1	3.0	4.1	4.1		3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	4.1	4.0	3.9	4.0	4.0		3.9	2.0		3.4	2.0	4.1
Lost Time Adjust (s)	-2.1	-3.1	-1.9	-3.1	-3.1		-1.9	-1.5		-1.4	-1.5	-2.1
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	6.0		2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		34.0		34.0	39.0			16.0			22.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	47.0	66.5	106.4	66.5	14.5		34.9	67.6		74.5	38.6	90.6
Actuated g/C Ratio	0.30	0.43	0.69	0.43	0.09		0.23	0.44		0.48	0.25	0.58
v/c Ratio	0.34	0.04	0.25	0.03	0.48		0.57	0.31		0.10	0.64	0.70
Control Delay	42.3	22.7	9.5	22.7	75.6		57.8	31.2		23.2	55.3	27.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	42.3	22.7	9.5	22.7	75.6		57.8	31.2		23.2	55.3	27.4
LOS	D	C	A	C	E		E	C		C	E	C
Approach Delay		27.9			64.8			41.7			42.4	
Approach LOS		C			E			D			D	
Queue Length 50th (ft)	133	16	87	11	76		212	183		20	279	415
Queue Length 95th (ft)	190	37	133	28	130		273	216		42	324	609
Internal Link Dist (ft)		2712			1086			6262			1113	
Turn Bay Length (ft)	470		805	90			550			305		325
Base Capacity (vph)	1040	798	1086	589	225		773	2845		420	2788	924
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.34	0.04	0.25	0.03	0.35		0.57	0.24		0.09	0.29	0.70

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Offset: 20 (13%), Referenced to phase 2:NBSB and 6:SBT, Start of Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 40.0		Intersection LOS: D	
Intersection Capacity Utilization 65.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 8: W Gate City Blvd & Mackay Rd

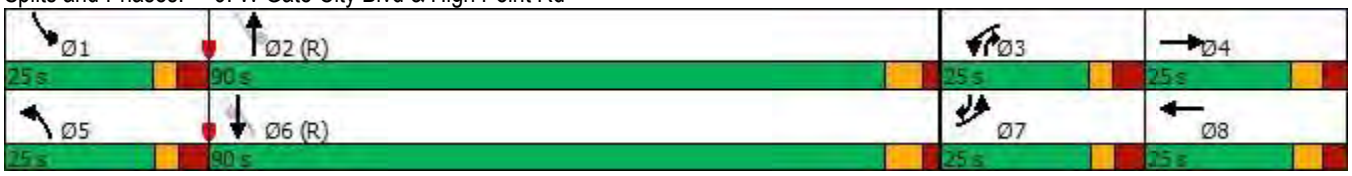


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	64	67	258	40	9	53	452	249	23	872	141
Future Volume (vph)	90	64	67	258	40	9	53	452	249	23	872	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	360		0	400		450	435		215
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.923			0.972				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1719	0	3433	1811	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.248			0.445		
Satd. Flow (perm)	3433	1719	0	3433	1811	0	462	5085	1583	829	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		746			1689			1193			1650	
Travel Time (s)		14.5			32.9			18.1			25.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	100	71	74	287	44	10	59	502	277	26	969	157
Shared Lane Traffic (%)												
Lane Group Flow (vph)	100	145	0	287	54	0	59	502	277	26	969	157
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases							6		2	2		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.7	42.0		13.9	13.9		13.7	18.9	13.9	13.8	18.9	13.7
Total Split (s)	25.0	25.0		25.0	25.0		25.0	90.0	25.0	25.0	90.0	25.0
Total Split (%)	15.2%	15.2%		15.2%	15.2%		15.2%	54.5%	15.2%	15.2%	54.5%	15.2%
Maximum Green (s)	18.3	18.0		18.1	18.1		18.3	83.1	18.1	18.2	83.1	18.3
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.7	3.2		3.9	3.1		3.7	2.2	3.9	3.8	2.2	3.7
Lost Time Adjust (s)	-1.7	-2.0		-1.9	-1.9		-1.7	-1.9	-1.9	-1.8	-1.9	-1.7
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Walk Time (s)		4.0										

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		31.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)	16.1	20.3		20.0	27.0		105.7	101.4	126.4	106.7	98.3	120.4
Actuated g/C Ratio	0.10	0.12		0.12	0.16		0.64	0.61	0.77	0.65	0.60	0.73
v/c Ratio	0.30	0.69		0.69	0.18		0.16	0.16	0.23	0.04	0.32	0.14
Control Delay	74.1	85.1		78.2	57.0		12.4	15.6	7.3	11.9	18.6	10.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.1	85.1		78.2	57.0		12.4	15.6	7.3	11.9	18.6	10.3
LOS	E	F		E	E		B	B	A	B	B	B
Approach Delay		80.6			74.9			12.6			17.3	
Approach LOS		F			E			B			B	
Queue Length 50th (ft)	54	153		155	50		21	89	89	9	192	57
Queue Length 95th (ft)	86	224		202	88		47	130	147	26	267	106
Internal Link Dist (ft)		666			1609			1113			1570	
Turn Bay Length (ft)	50			360			400		450	435		215
Base Capacity (vph)	473	230		444	321		465	3127	1225	664	3043	1219
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.63		0.65	0.17		0.13	0.16	0.23	0.04	0.32	0.13

Intersection Summary			
Area Type:	Other		
Cycle Length: 165			
Actuated Cycle Length: 165			
Offset: 54 (33%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 29.4		Intersection LOS: C	
Intersection Capacity Utilization 54.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: W Gate City Blvd & High Point Rd

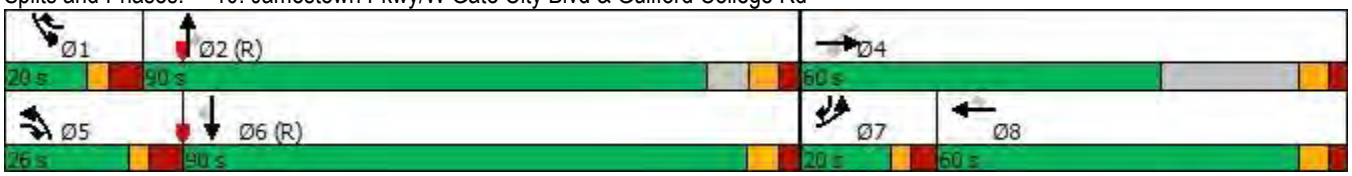


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	213	158	7	362	196	176	494	4	219	565	168
Future Volume (vph)	165	213	158	7	362	196	176	494	4	219	565	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430		445	355		285	415		335	395		335
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.537			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	1000	3539	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		3577			1802			3389			6342	
Travel Time (s)		54.2			27.3			51.3			96.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	183	237	176	8	402	218	196	549	4	243	628	187
Shared Lane Traffic (%)												
Lane Group Flow (vph)	183	237	176	8	402	218	196	549	4	243	628	187
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	5		8	1	5	2		1	6	7
Permitted Phases			4	4		8			2			6
Detector Phase	7	4	5	4	8	1	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	7.0
Minimum Split (s)	14.0	25.3	26.0	25.3	20.0	14.9	26.0	25.5	25.5	14.9	25.7	14.0
Total Split (s)	20.0	60.0	26.0	60.0	60.0	20.0	26.0	90.0	90.0	20.0	90.0	20.0
Total Split (%)	10.2%	30.6%	13.3%	30.6%	30.6%	10.2%	13.3%	45.9%	45.9%	10.2%	45.9%	10.2%
Maximum Green (s)	13.2	52.7	18.0	52.7	52.7	12.1	18.0	82.5	82.5	12.1	82.3	13.2
Yellow Time (s)	3.0	4.5	3.0	4.5	4.5	3.0	3.0	4.4	4.4	3.0	4.6	3.0
All-Red Time (s)	3.8	2.8	5.0	2.8	2.8	4.9	5.0	3.1	3.1	4.9	3.1	3.8
Lost Time Adjust (s)	-1.8	-2.3	-3.0	-2.3	-2.3	-2.9	-3.0	-2.5	-2.5	-2.9	-2.7	-1.8
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	6.0	2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	0.0	30.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0		7.0				7.0	7.0		7.0	
Flash Dont Walk (s)		11.0		11.0				11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0		0				0	0		0	
Act Effct Green (s)	16.6	51.5	74.9	51.5	29.9	56.8	18.4	107.6	107.6	21.9	111.1	132.7
Actuated g/C Ratio	0.08	0.26	0.38	0.26	0.15	0.29	0.09	0.55	0.55	0.11	0.57	0.68
v/c Ratio	0.63	0.26	0.29	0.03	0.75	0.47	0.61	0.20	0.00	0.63	0.22	0.17
Control Delay	96.4	56.6	41.8	49.4	87.9	59.9	93.2	23.8	24.8	90.7	22.4	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.4	56.6	41.8	49.4	87.9	59.9	93.2	23.8	24.8	90.7	22.4	13.1
LOS	F	E	D	D	F	E	F	C	C	F	C	B
Approach Delay		64.4			77.7			42.0			36.5	
Approach LOS		E			E			D			D	
Queue Length 50th (ft)	120	128	158	8	264	233	127	130	2	156	143	84
Queue Length 95th (ft)	163	158	198	23	317	304	172	180	11	207	203	146
Internal Link Dist (ft)		3497			1722			3309			6262	
Turn Bay Length (ft)	430		445	355		285	415		335	395		335
Base Capacity (vph)	299	1354	628	382	993	459	374	2790	868	384	2882	1076
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.18	0.28	0.02	0.40	0.47	0.52	0.20	0.00	0.63	0.22	0.17

Intersection Summary			
Area Type:	Other		
Cycle Length: 196			
Actuated Cycle Length: 196			
Offset: 20 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 51.9		Intersection LOS: D	
Intersection Capacity Utilization 49.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd



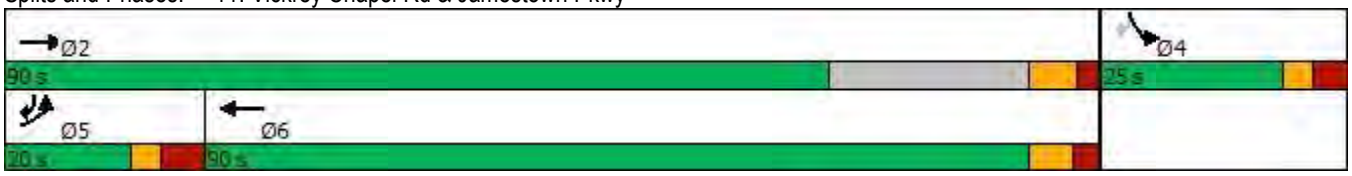


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	138	155	192	50	45	151
Future Volume (vph)	138	155	192	50	45	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	445			575	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	100				100	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	3539	1863	1583	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	3539	1863	1583	3433	1583
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		45	
Link Distance (ft)		638	755		3389	
Travel Time (s)		12.4	14.7		51.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	153	172	213	56	50	168
Shared Lane Traffic (%)						
Lane Group Flow (vph)	153	172	213	56	50	168
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		48	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Free	Prot	pm+ov
Protected Phases	5	2	6		4	5
Permitted Phases				Free		4
Detector Phase	5	2	6		4	5
Switch Phase						
Minimum Initial (s)	7.0	12.0	12.0		7.0	7.0
Minimum Split (s)	14.4	20.0	20.0		20.0	14.4
Total Split (s)	20.0	90.0	90.0		25.0	20.0
Total Split (%)	14.8%	66.7%	66.7%		18.5%	14.8%
Maximum Green (s)	12.6	82.8	82.9		18.3	12.6
Yellow Time (s)	3.0	4.8	4.3		3.0	3.0
All-Red Time (s)	4.4	2.4	2.8		3.7	4.4
Lost Time Adjust (s)	-2.4	-2.2	-2.1		-1.7	-2.4
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	6.0	6.0		2.0	2.0
Minimum Gap (s)	3.0	3.0	3.0		3.0	3.0
Time Before Reduce (s)	0.0	15.0	15.0		0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Time To Reduce (s)	0.0	30.0	30.0		0.0	0.0
Recall Mode	None	Min	Min		None	None
Act Effct Green (s)	9.8	33.0	14.5	39.1	9.0	14.3
Actuated g/C Ratio	0.25	0.84	0.37	1.00	0.23	0.37
v/c Ratio	0.18	0.06	0.31	0.04	0.06	0.29
Control Delay	14.3	2.6	12.5	0.0	14.9	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	2.6	12.5	0.0	14.9	9.4
LOS	B	A	B	A	B	A
Approach Delay		8.1	9.9		10.6	
Approach LOS		A	A		B	
Queue Length 50th (ft)	10	0	22	0	3	24
Queue Length 95th (ft)	37	16	92	0	17	50
Internal Link Dist (ft)		558	675		3309	
Turn Bay Length (ft)	445			575		
Base Capacity (vph)	1355	3539	1863	1583	1806	806
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.05	0.11	0.04	0.03	0.21

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 39.1			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.31			
Intersection Signal Delay: 9.4		Intersection LOS: A	
Intersection Capacity Utilization 34.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Vickrey Chapel Rd & Jamestown Pkwy



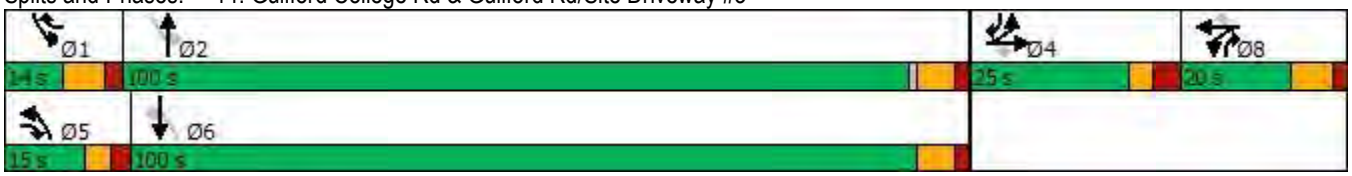
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	690	53	101	43	50	78	191	406	95	106	399	808
Future Volume (vph)	690	53	101	43	50	78	191	406	95	106	399	808
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	195		135	0		0	140		100	125		330
Storage Lanes	1		1	0		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950	0.959			0.977		0.950			0.950		
Satd. Flow (prot)	1681	1697	1583	0	1820	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950	0.959			0.977		0.365			0.372		
Satd. Flow (perm)	1681	1697	1583	0	1820	1583	680	3539	1583	693	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			45			45			45	
Link Distance (ft)		471			717			1464			1684	
Travel Time (s)		9.2			10.9			22.2			25.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	767	59	112	48	56	87	212	451	106	118	443	898
Shared Lane Traffic (%)	46%											
Lane Group Flow (vph)	414	412	112	0	104	87	212	451	106	118	443	898
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	4	4	5	8	8	1	5	2	8	1	6	4
Permitted Phases			4			8	6		2	2		6
Detector Phase	4	4	5	8	8	1	5	2	8	1	6	4
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	20.0	20.0	14.0	20.0	20.0	14.0	14.0	20.0	20.0	14.0	41.5	20.0
Total Split (s)	25.0	25.0	15.0	20.0	20.0	14.0	15.0	100.0	20.0	14.0	100.0	25.0
Total Split (%)	15.6%	15.6%	9.4%	12.5%	12.5%	8.8%	9.4%	62.5%	12.5%	8.8%	62.5%	15.6%
Maximum Green (s)	18.7	18.7	9.6	13.0	13.0	7.0	9.6	93.5	13.0	7.0	93.5	18.7
Yellow Time (s)	3.0	3.0	3.0	5.0	5.0	5.0	3.0	4.6	5.0	5.0	4.6	3.0
All-Red Time (s)	3.3	3.3	2.4	2.0	2.0	2.0	2.4	1.9	2.0	2.0	1.9	3.3
Lost Time Adjust (s)	-1.3	-2.0	-0.4		-2.0	-2.0	-0.4	-1.5	-2.0	-2.0	-1.5	-1.3
Total Lost Time (s)	5.0	4.3	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0	3.0	3.0	3.0	1.0	6.0	3.0	3.0	6.0	1.0
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min	None
Walk Time (s)											7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)											28.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)	20.1	20.8	29.4		11.8	25.8	26.0	16.9	28.7	26.0	16.6	41.8
Actuated g/C Ratio	0.26	0.27	0.38		0.15	0.33	0.33	0.22	0.37	0.33	0.21	0.54
v/c Ratio	0.96	0.91	0.19		0.38	0.17	0.59	0.59	0.18	0.33	0.59	1.06
Control Delay	65.8	56.2	9.7		34.7	20.2	24.2	30.8	9.3	18.3	31.4	68.9
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.8	56.2	9.7		34.7	20.2	24.2	30.8	9.3	18.3	31.4	68.9
LOS	E	E	A		C	C	C	C	A	B	C	E
Approach Delay		54.9			28.1			26.0			53.4	
Approach LOS		D			C			C			D	
Queue Length 50th (ft)	209	204	17		46	30	68	103	19	36	103	~493
Queue Length 95th (ft)	#444	#430	40		97	66	124	156	37	73	155	#764
Internal Link Dist (ft)		391			637			1384			1604	
Turn Bay Length (ft)	195		135				140		100	125		330
Base Capacity (vph)	433	452	612		351	524	373	3539	650	355	3539	848
Starvation Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.91	0.18		0.30	0.17	0.57	0.13	0.16	0.33	0.13	1.06

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 77.9
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 46.1 Intersection LOS: D
Intersection Capacity Utilization 78.9% ICU Level of Service D
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Guilford College Rd & Guilford Rd/Site Driveway #3



2027 Phase 3 Build Traffic Volumes with Improvements

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	238	484	4	4	7
Future Vol, veh/h	4	238	484	4	4	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	264	538	4	4	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	542	0	-	0	812	540
Stage 1	-	-	-	-	540	-
Stage 2	-	-	-	-	272	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1027	-	-	-	348	542
Stage 1	-	-	-	-	584	-
Stage 2	-	-	-	-	774	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1027	-	-	-	346	542
Mov Cap-2 Maneuver	-	-	-	-	346	-
Stage 1	-	-	-	-	581	-
Stage 2	-	-	-	-	774	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1027	-	-	-	449
HCM Lane V/C Ratio	0.004	-	-	-	0.027
HCM Control Delay (s)	8.5	0	-	-	13.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	247	7	7	465	5	13	4	19	4	4	21
Future Vol, veh/h	6	247	7	7	465	5	13	4	19	4	4	21
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	-	-	50	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	274	8	8	517	6	14	4	21	4	4	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	523	0	0	282	0	0	838	827	274	841	832	520
Stage 1	-	-	-	-	-	-	288	288	-	536	536	-
Stage 2	-	-	-	-	-	-	550	539	-	305	296	-
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	1043	-	-	1280	-	-	286	307	765	284	305	556
Stage 1	-	-	-	-	-	-	720	674	-	529	523	-
Stage 2	-	-	-	-	-	-	519	522	-	705	668	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1043	-	-	1280	-	-	267	302	765	270	300	556
Mov Cap-2 Maneuver	-	-	-	-	-	-	267	302	-	270	300	-
Stage 1	-	-	-	-	-	-	714	669	-	525	518	-
Stage 2	-	-	-	-	-	-	489	517	-	676	663	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	14.6	13.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	415	1043	-	-	1280	-	-	440
HCM Lane V/C Ratio	0.096	0.006	-	-	0.006	-	-	0.073
HCM Control Delay (s)	14.6	8.5	0	-	7.8	0	-	13.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	260	9	15	400	4	47	4	59	9	4	28
Future Vol, veh/h	4	260	9	15	400	4	47	4	59	9	4	28
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	160	-	50	50	-	235	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	289	10	17	444	4	52	4	66	10	4	31

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	448	0	0	299	0	0	795	779	289	815	785	444
Stage 1	-	-	-	-	-	-	297	297	-	478	478	-
Stage 2	-	-	-	-	-	-	498	482	-	337	307	-
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	1112	-	-	1262	-	-	305	327	750	296	325	614
Stage 1	-	-	-	-	-	-	712	668	-	568	556	-
Stage 2	-	-	-	-	-	-	554	553	-	677	661	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1112	-	-	1262	-	-	283	321	750	264	319	614
Mov Cap-2 Maneuver	-	-	-	-	-	-	283	321	-	264	319	-
Stage 1	-	-	-	-	-	-	709	665	-	566	549	-
Stage 2	-	-	-	-	-	-	515	546	-	611	658	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.3	15.1	14
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	286	750	1112	-	-	1262	-	-	445
HCM Lane V/C Ratio	0.198	0.087	0.004	-	-	0.013	-	-	0.102
HCM Control Delay (s)	20.7	10.3	8.2	-	-	7.9	-	-	14
HCM Lane LOS	C	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.7	0.3	0	-	-	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	6	306	13	48	337	5	50	4	84	28	4	32
Future Vol, veh/h	6	306	13	48	337	5	50	4	84	28	4	32
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	100	-	-	125	-	0	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	340	14	53	374	6	56	4	93	31	4	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	380	0	0	354	0	0	864	847	347	890	848	374
Stage 1	-	-	-	-	-	-	361	361	-	480	480	-
Stage 2	-	-	-	-	-	-	503	486	-	410	368	-
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	1178	-	-	1205	-	-	274	299	696	264	298	672
Stage 1	-	-	-	-	-	-	657	626	-	567	554	-
Stage 2	-	-	-	-	-	-	551	551	-	619	621	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1178	-	-	1205	-	-	247	284	696	217	283	672
Mov Cap-2 Maneuver	-	-	-	-	-	-	247	284	-	217	283	-
Stage 1	-	-	-	-	-	-	653	622	-	564	530	-
Stage 2	-	-	-	-	-	-	495	527	-	529	617	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1	16.1	18.6
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	249	696	1178	-	-	1205	-	-	335
HCM Lane V/C Ratio	0.241	0.134	0.006	-	-	0.044	-	-	0.212
HCM Control Delay (s)	24	11	8.1	-	-	8.1	-	-	18.6
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.9	0.5	0	-	-	0.1	-	-	0.8

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	414	4	4	359	4	4	4	7	13	4	28
Future Vol, veh/h	9	414	4	4	359	4	4	4	7	13	4	28
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	0	-	-	-	-	115	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	460	4	4	399	4	4	4	8	14	4	31

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	403	0	0	464	0	0	692	893	462	895	891	200
Stage 1	-	-	-	-	-	-	482	482	-	407	407	-
Stage 2	-	-	-	-	-	-	210	411	-	488	484	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1154	-	-	1095	-	-	344	280	599	248	281	808
Stage 1	-	-	-	-	-	-	565	552	-	593	596	-
Stage 2	-	-	-	-	-	-	773	594	-	560	551	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1154	-	-	1095	-	-	323	276	599	239	277	808
Mov Cap-2 Maneuver	-	-	-	-	-	-	323	276	-	239	277	-
Stage 1	-	-	-	-	-	-	560	547	-	588	593	-
Stage 2	-	-	-	-	-	-	734	591	-	543	546	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	14.7	14.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	389	1154	-	-	1095	-	-	435
HCM Lane V/C Ratio	0.043	0.009	-	-	0.004	-	-	0.115
HCM Control Delay (s)	14.7	8.1	-	-	8.3	0	-	14.3
HCM Lane LOS	B	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	694	42	58	418	16	14	4	20	32	4	34
Future Vol, veh/h	6	694	42	58	418	16	14	4	20	32	4	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	410	-	75	365	-	50	125	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	771	47	64	464	18	16	4	22	36	4	38

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	482	0	0	818	0	0	1147	1395	386	994	1424	232
Stage 1	-	-	-	-	-	-	785	785	-	592	592	-
Stage 2	-	-	-	-	-	-	362	610	-	402	832	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1077	-	-	806	-	-	154	140	612	199	135	770
Stage 1	-	-	-	-	-	-	352	402	-	460	492	-
Stage 2	-	-	-	-	-	-	629	483	-	596	382	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1077	-	-	806	-	-	133	128	612	175	124	770
Mov Cap-2 Maneuver	-	-	-	-	-	-	133	128	-	175	124	-
Stage 1	-	-	-	-	-	-	350	400	-	457	453	-
Stage 2	-	-	-	-	-	-	545	445	-	564	380	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1.2	23.4	21.9
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	132	612	1077	-	-	806	-	-	167	770
HCM Lane V/C Ratio	0.152	0.036	0.006	-	-	0.08	-	-	0.24	0.049
HCM Control Delay (s)	37.1	11.1	8.4	-	-	9.9	-	-	33.2	9.9
HCM Lane LOS	E	B	A	-	-	A	-	-	D	A
HCM 95th %tile Q(veh)	0.5	0.1	0	-	-	0.3	-	-	0.9	0.2

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	648	449	17	94	42
Future Vol, veh/h	6	648	449	17	94	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	50	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	720	499	19	104	47

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	518	0	-	0	873	250
Stage 1	-	-	-	-	499	-
Stage 2	-	-	-	-	374	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1044	-	-	-	289	750
Stage 1	-	-	-	-	575	-
Stage 2	-	-	-	-	666	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1044	-	-	-	287	750
Mov Cap-2 Maneuver	-	-	-	-	287	-
Stage 1	-	-	-	-	571	-
Stage 2	-	-	-	-	666	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	20.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1044	-	-	-	287	750
HCM Lane V/C Ratio	0.006	-	-	-	0.364	0.062
HCM Control Delay (s)	8.5	-	-	-	24.5	10.1
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	-	1.6	0.2

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	707	4	9	746	4	8
Future Vol, veh/h	707	4	9	746	4	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	786	4	10	829	4	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	790	0	1637	788
Stage 1	-	-	-	-	788	-
Stage 2	-	-	-	-	849	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	830	-	111	391
Stage 1	-	-	-	-	448	-
Stage 2	-	-	-	-	419	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	830	-	109	391
Mov Cap-2 Maneuver	-	-	-	-	109	-
Stage 1	-	-	-	-	448	-
Stage 2	-	-	-	-	410	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	23.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	210	-	-	830	-
HCM Lane V/C Ratio	0.063	-	-	0.012	-
HCM Control Delay (s)	23.3	-	-	9.4	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	4	29	41	4	41	17	831	19	15	1065	11
Future Vol, veh/h	13	4	29	41	4	41	17	831	19	15	1065	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	135	-	50	130	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	4	32	46	4	46	19	923	21	17	1183	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1719	2199	592	1589	2190	462	1195	0	0	944	0	0
Stage 1	1217	1217	-	961	961	-	-	-	-	-	-	-
Stage 2	502	982	-	628	1229	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	58	44	449	72	45	547	580	-	-	722	-	-
Stage 1	192	252	-	275	333	-	-	-	-	-	-	-
Stage 2	520	325	-	437	248	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	47	42	449	59	42	547	580	-	-	722	-	-
Mov Cap-2 Maneuver	47	42	-	59	42	-	-	-	-	-	-	-
Stage 1	186	246	-	266	322	-	-	-	-	-	-	-
Stage 2	455	314	-	389	242	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	68.2	110.9	0.2	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	580	-	-	105	57	547	722	-	-
HCM Lane V/C Ratio	0.033	-	-	0.487	0.877	0.083	0.023	-	-
HCM Control Delay (s)	11.4	-	-	68.2	200.8	12.2	10.1	-	-
HCM Lane LOS	B	-	-	F	F	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2.2	3.9	0.3	0.1	-	-

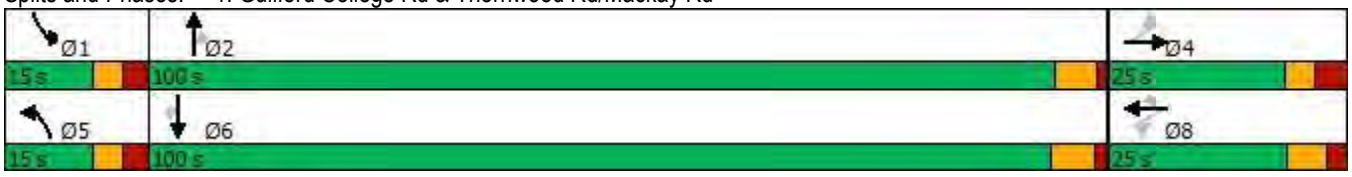
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	8	55	274	4	215	19	705	157	74	713	14
Future Volume (vph)	49	8	55	274	4	215	19	705	157	74	713	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	190		190	120		205	310		150
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.869				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1619	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.755			0.711			0.950			0.950		
Satd. Flow (perm)	1406	1619	0	1324	1863	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			40			45			45	
Link Distance (ft)		1208			505			1538			1743	
Travel Time (s)		32.9			8.6			23.3			26.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	54	9	61	304	4	239	21	783	174	82	792	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	70	0	304	4	239	21	783	174	82	792	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	13.6	13.6		13.5	13.5	13.5	12.8	17.7	17.7	12.8	18.1	18.1
Total Split (s)	25.0	25.0		25.0	25.0	25.0	15.0	100.0	100.0	15.0	100.0	100.0
Total Split (%)	17.9%	17.9%		17.9%	17.9%	17.9%	10.7%	71.4%	71.4%	10.7%	71.4%	71.4%
Maximum Green (s)	18.4	18.4		18.5	18.5	18.5	9.2	94.3	94.3	9.2	93.9	93.9
Yellow Time (s)	3.1	3.1		4.2	4.2	4.2	3.0	4.4	4.4	3.0	4.6	4.6
All-Red Time (s)	3.5	3.5		2.3	2.3	2.3	2.8	1.3	1.3	2.8	1.5	1.5
Lost Time Adjust (s)	-1.6	-1.6		-1.5	-1.5	-1.5	-0.8	-0.7	-0.7	-0.8	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	6.0	6.0	1.0	6.0	6.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0

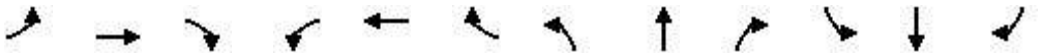
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	45.0	45.0	0.0	45.0	45.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	20.5	20.5		20.5	20.5	20.5	8.0	23.4	23.4	8.5	31.4	31.4
Actuated g/C Ratio	0.32	0.32		0.32	0.32	0.32	0.12	0.36	0.36	0.13	0.49	0.49
v/c Ratio	0.12	0.14		0.72	0.01	0.47	0.10	0.61	0.30	0.35	0.46	0.02
Control Delay	20.1	20.1		35.2	19.2	24.5	30.2	19.5	17.1	33.0	12.1	9.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.1	20.1		35.2	19.2	24.5	30.2	19.5	17.1	33.0	12.1	9.7
LOS	C	C		D	B	C	C	B	B	C	B	A
Approach Delay		20.1			30.4			19.3			14.0	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	16	20		110	1	78	8	135	50	31	89	3
Queue Length 95th (ft)	47	57		#276	8	168	30	195	97	76	187	15
Internal Link Dist (ft)		1128			425			1458			1663	
Turn Bay Length (ft)	75			190		190	120		205	310		150
Base Capacity (vph)	448	515		422	593	504	281	3539	1583	281	3539	1583
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.14		0.72	0.01	0.47	0.07	0.22	0.11	0.29	0.22	0.01

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 64.4
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 19.9 Intersection LOS: B
Intersection Capacity Utilization 59.9% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Guilford College Rd & Thornwood Rd/Mackay Rd





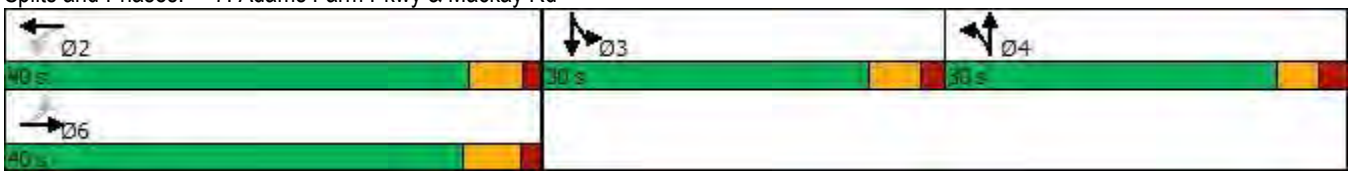
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	388	14	28	144	224	54	28	136	461	5	119
Future Volume (vph)	110	388	14	28	144	224	54	28	136	461	5	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	195		0	0		0	140		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.909			0.916			0.857	
Flt Protected	0.950			0.950				0.988		0.950		
Satd. Flow (prot)	1770	1853	0	1770	1693	0	0	1686	0	1770	1596	0
Flt Permitted	0.272			0.220				0.988		0.950		
Satd. Flow (perm)	507	1853	0	410	1693	0	0	1686	0	1770	1596	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		1572			2792			867			1221	
Travel Time (s)		26.8			47.6			23.6			23.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	122	431	16	31	160	249	60	31	151	512	6	132
Shared Lane Traffic (%)												
Lane Group Flow (vph)	122	447	0	31	409	0	0	242	0	512	138	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		6			2		4	4		3	3	
Permitted Phases	6			2								
Detector Phase	6	6		2	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		26.3	26.3		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	34.1	34.1		34.5	34.5		24.7	24.7		24.3	24.3	
Yellow Time (s)	4.3	4.3		4.1	4.1		3.1	3.1		3.9	3.9	
All-Red Time (s)	1.6	1.6		1.4	1.4		2.2	2.2		1.8	1.8	
Lost Time Adjust (s)	-0.9	-0.9		-0.5	-0.5			-0.3		-0.7	-0.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)							7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)							14.0	14.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)	24.5	24.5		24.5	24.5			16.4		25.6	25.6	
Actuated g/C Ratio	0.30	0.30		0.30	0.30			0.20		0.31	0.31	
v/c Ratio	0.81	0.81		0.25	0.81			0.72		0.93	0.28	
Control Delay	65.1	39.1		28.5	40.2			44.2		56.0	27.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	65.1	39.1		28.5	40.2			44.2		56.0	27.2	
LOS	E	D		C	D			D		E	C	
Approach Delay		44.6			39.4			44.2			49.9	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	56	207		12	189			116		252	53	
Queue Length 95th (ft)	#159	355		39	332			216		#588	128	
Internal Link Dist (ft)		1492			2712			787			1141	
Turn Bay Length (ft)	170			195						140		
Base Capacity (vph)	221	810		179	740			526		553	499	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.55	0.55		0.17	0.55			0.46		0.93	0.28	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 82
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 45.1 Intersection LOS: D
Intersection Capacity Utilization 88.0% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Adams Farm Pkwy & Mackay Rd

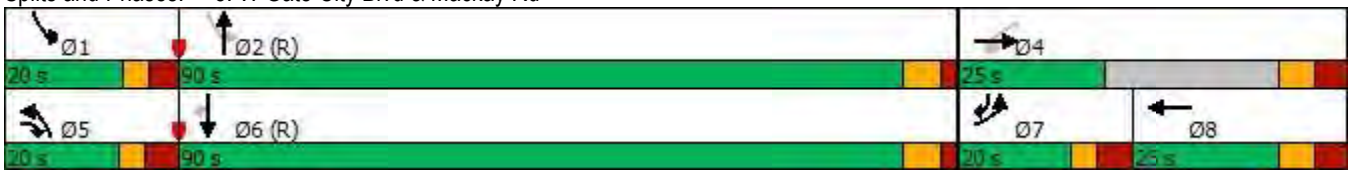


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	424	57	381	78	48	43	205	478	81	76	633	194
Future Volume (vph)	424	57	381	78	48	43	205	478	81	76	633	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		805	90		0	550		0	305		325
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Frt			0.850		0.929			0.978				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1730	0	3433	4973	0	1770	5085	1583
Flt Permitted	0.950			0.716			0.950			0.364		
Satd. Flow (perm)	3433	1863	1583	1334	1730	0	3433	4973	0	678	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		2792			1166			6342			1193	
Travel Time (s)		47.6			31.8			96.1			18.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	471	63	423	87	53	48	228	531	90	84	703	216
Shared Lane Traffic (%)												
Lane Group Flow (vph)	471	63	423	87	101	0	228	621	0	84	703	216
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA		Prot	NA		D.P+P	NA	pm+ov
Protected Phases	7	4	5		8		5	2		1	6	7
Permitted Phases			4	4						2		6
Detector Phase	7	4	5	4	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	14.1	50.1	14.0	50.1	54.1		14.0	29.5		14.0	35.5	14.1
Total Split (s)	20.0	25.0	20.0	25.0	25.0		20.0	90.0		20.0	90.0	20.0
Total Split (%)	12.9%	16.1%	12.9%	16.1%	16.1%		12.9%	58.1%		12.9%	58.1%	12.9%
Maximum Green (s)	12.9	16.9	13.1	16.9	16.9		13.1	83.5		13.6	83.5	12.9
Yellow Time (s)	3.0	4.1	3.0	4.1	4.1		3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	4.1	4.0	3.9	4.0	4.0		3.9	2.0		3.4	2.0	4.1
Lost Time Adjust (s)	-2.1	-3.1	-1.9	-3.1	-3.1		-1.9	-1.5		-1.4	-1.5	-2.1
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	6.0		2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		34.0		34.0	39.0			16.0			22.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	38.0	59.5	78.9	59.5	16.5		14.4	71.0		80.5	66.1	109.1
Actuated g/C Ratio	0.25	0.38	0.51	0.38	0.11		0.09	0.46		0.52	0.43	0.70
v/c Ratio	0.56	0.09	0.53	0.17	0.55		0.71	0.27		0.20	0.32	0.19
Control Delay	55.6	32.0	28.6	33.6	76.3		80.9	26.3		17.1	30.1	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	55.6	32.0	28.6	33.6	76.3		80.9	26.3		17.1	30.1	9.1
LOS	E	C	C	C	E		F	C		B	C	A
Approach Delay		42.1			56.6			41.0			24.5	
Approach LOS		D			E			D			C	
Queue Length 50th (ft)	224	42	297	60	99		118	132		37	163	69
Queue Length 95th (ft)	290	75	367	101	159		161	177		68	215	125
Internal Link Dist (ft)		2712			1086			6262			1113	
Turn Bay Length (ft)	470		805	90			550			305		325
Base Capacity (vph)	841	714	817	511	227		344	2727		477	2788	1113
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.56	0.09	0.52	0.17	0.44		0.66	0.23		0.18	0.25	0.19

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Offset: 20 (13%), Referenced to phase 2:NBSB and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 36.8		Intersection LOS: D	
Intersection Capacity Utilization 54.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: W Gate City Blvd & Mackay Rd

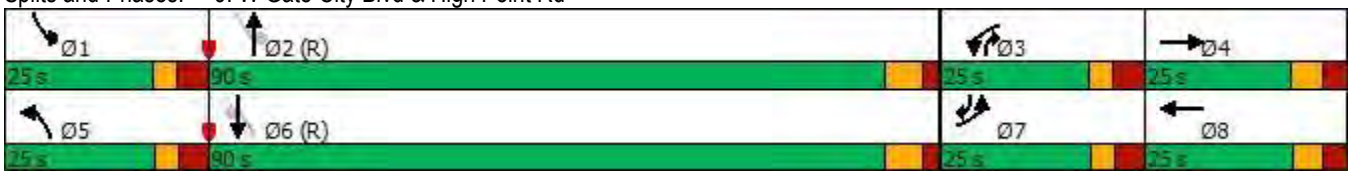


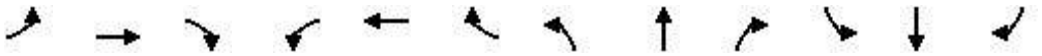
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	12	15	157	13	12	24	619	215	11	546	41
Future Volume (vph)	67	12	15	157	13	12	24	619	215	11	546	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	360		0	400		450	435		215
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.915			0.928				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1704	0	3433	1729	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.404			0.369		
Satd. Flow (perm)	3433	1704	0	3433	1729	0	753	5085	1583	687	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		746			1689			1193			1650	
Travel Time (s)		14.5			32.9			18.1			25.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	74	13	17	174	14	13	27	688	239	12	607	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	30	0	174	27	0	27	688	239	12	607	46
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases							6		2	2		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.7	42.0		13.9	13.9		13.7	18.9	13.9	13.8	18.9	13.7
Total Split (s)	25.0	25.0		25.0	25.0		25.0	90.0	25.0	25.0	90.0	25.0
Total Split (%)	15.2%	15.2%		15.2%	15.2%		15.2%	54.5%	15.2%	15.2%	54.5%	15.2%
Maximum Green (s)	18.3	18.0		18.1	18.1		18.3	83.1	18.1	18.2	83.1	18.3
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.7	3.2		3.9	3.1		3.7	2.2	3.9	3.8	2.2	3.7
Lost Time Adjust (s)	-1.7	-2.0		-1.9	-1.9		-1.7	-1.9	-1.9	-1.8	-1.9	-1.7
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Walk Time (s)		4.0										

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		31.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)	14.1	10.1		14.9	13.6		124.9	122.3	143.2	125.9	119.6	140.8
Actuated g/C Ratio	0.09	0.06		0.09	0.08		0.76	0.74	0.87	0.76	0.72	0.85
v/c Ratio	0.25	0.29		0.56	0.19		0.04	0.18	0.17	0.02	0.16	0.03
Control Delay	73.7	80.8		78.8	71.6		5.9	7.9	3.2	5.8	8.6	4.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.7	80.8		78.8	71.6		5.9	7.9	3.2	5.8	8.6	4.5
LOS	E	F		E	E		A	A	A	A	A	A
Approach Delay		75.8			77.9			6.6			8.3	
Approach LOS		E			E			A			A	
Queue Length 50th (ft)	40	32		93	27		6	68	26	3	83	11
Queue Length 95th (ft)	69	69		134	61		17	130	85	10	113	24
Internal Link Dist (ft)		666			1609			1113			1570	
Turn Bay Length (ft)	50			360			400		450	435		215
Base Capacity (vph)	446	206		416	209		706	3770	1405	663	3687	1403
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.15		0.42	0.13		0.04	0.18	0.17	0.02	0.16	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 165			
Actuated Cycle Length: 165			
Offset: 54 (33%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 18.4		Intersection LOS: B	
Intersection Capacity Utilization 39.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: W Gate City Blvd & High Point Rd



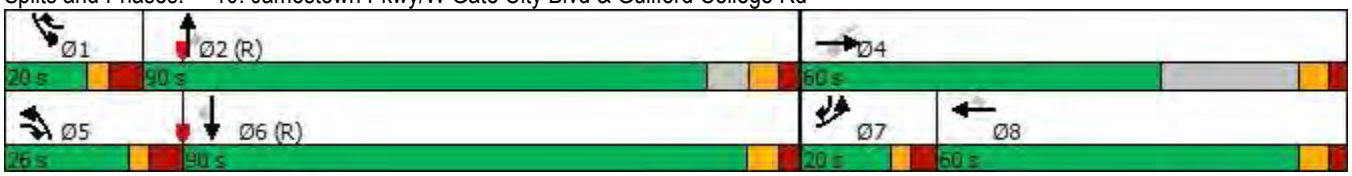


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	301	230	4	261	178	158	479	6	206	725	97
Future Volume (vph)	157	301	230	4	261	178	158	479	6	206	725	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430		445	355		285	415		335	395		335
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.408			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	760	3539	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		3577			1802			3389			6342	
Travel Time (s)		54.2			27.3			51.3			96.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	174	334	256	4	290	198	176	532	7	229	806	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	174	334	256	4	290	198	176	532	7	229	806	108
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	5		8	1	5	2		1	6	7
Permitted Phases			4	4		8			2			6
Detector Phase	7	4	5	4	8	1	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	7.0
Minimum Split (s)	14.0	25.3	26.0	25.3	20.0	14.9	26.0	25.5	25.5	14.9	25.7	14.0
Total Split (s)	20.0	60.0	26.0	60.0	60.0	20.0	26.0	90.0	90.0	20.0	90.0	20.0
Total Split (%)	10.2%	30.6%	13.3%	30.6%	30.6%	10.2%	13.3%	45.9%	45.9%	10.2%	45.9%	10.2%
Maximum Green (s)	13.2	52.7	18.0	52.7	52.7	12.1	18.0	82.5	82.5	12.1	82.3	13.2
Yellow Time (s)	3.0	4.5	3.0	4.5	4.5	3.0	3.0	4.4	4.4	3.0	4.6	3.0
All-Red Time (s)	3.8	2.8	5.0	2.8	2.8	4.9	5.0	3.1	3.1	4.9	3.1	3.8
Lost Time Adjust (s)	-1.8	-2.3	-3.0	-2.3	-2.3	-2.9	-3.0	-2.5	-2.5	-2.9	-2.7	-1.8
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	6.0	2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	0.0	30.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0		7.0				7.0	7.0		7.0	
Flash Dont Walk (s)		11.0		11.0				11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0		0				0	0		0	
Act Effct Green (s)	16.1	44.2	65.9	44.2	23.1	48.8	16.8	116.1	116.1	20.7	120.1	141.1
Actuated g/C Ratio	0.08	0.23	0.34	0.23	0.12	0.25	0.09	0.59	0.59	0.11	0.61	0.72
v/c Ratio	0.62	0.42	0.48	0.02	0.70	0.50	0.60	0.18	0.01	0.63	0.26	0.09
Control Delay	96.4	65.7	53.4	54.8	91.9	66.8	94.8	19.4	20.2	91.8	18.7	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.4	65.7	53.4	54.8	91.9	66.8	94.8	19.4	20.2	91.8	18.7	9.3
LOS	F	E	D	D	F	E	F	B	C	F	B	A
Approach Delay		68.6			81.5			38.0			32.4	
Approach LOS		E			F			D			C	
Queue Length 50th (ft)	113	196	264	4	193	222	114	112	4	148	169	39
Queue Length 95th (ft)	157	234	322	15	242	294	158	158	14	196	234	74
Internal Link Dist (ft)		3497			1722			3309			6262	
Turn Bay Length (ft)	430		445	355		285	415		335	395		335
Base Capacity (vph)	294	1354	566	290	993	394	367	3011	937	363	3114	1145
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.25	0.45	0.01	0.29	0.50	0.48	0.18	0.01	0.63	0.26	0.09

Intersection Summary			
Area Type:	Other		
Cycle Length: 196			
Actuated Cycle Length: 196			
Offset: 20 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 50.3		Intersection LOS: D	
Intersection Capacity Utilization 50.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd



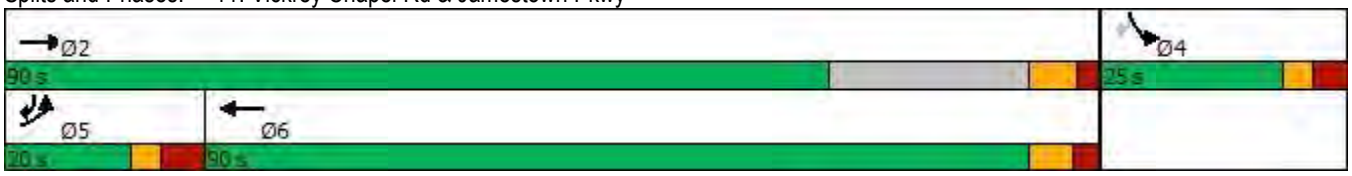


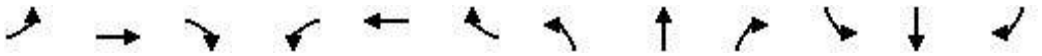
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	203	185	221	47	53	304
Future Volume (vph)	203	185	221	47	53	304
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	445			575	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	100				100	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	3539	1863	1583	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	3539	1863	1583	3433	1583
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		45	
Link Distance (ft)		638	755		3389	
Travel Time (s)		12.4	14.7		51.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	226	206	246	52	59	338
Shared Lane Traffic (%)						
Lane Group Flow (vph)	226	206	246	52	59	338
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		48	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Free	Prot	pm+ov
Protected Phases	5	2	6		4	5
Permitted Phases				Free		4
Detector Phase	5	2	6		4	5
Switch Phase						
Minimum Initial (s)	7.0	12.0	12.0		7.0	7.0
Minimum Split (s)	14.4	20.0	20.0		20.0	14.4
Total Split (s)	20.0	90.0	90.0		25.0	20.0
Total Split (%)	14.8%	66.7%	66.7%		18.5%	14.8%
Maximum Green (s)	12.6	82.8	82.9		18.3	12.6
Yellow Time (s)	3.0	4.8	4.3		3.0	3.0
All-Red Time (s)	4.4	2.4	2.8		3.7	4.4
Lost Time Adjust (s)	-2.4	-2.2	-2.1		-1.7	-2.4
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	6.0	6.0		2.0	2.0
Minimum Gap (s)	3.0	3.0	3.0		3.0	3.0
Time Before Reduce (s)	0.0	15.0	15.0		0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Time To Reduce (s)	0.0	30.0	30.0		0.0	0.0
Recall Mode	None	Min	Min		None	None
Act Effct Green (s)	10.9	33.2	14.7	43.1	9.0	18.1
Actuated g/C Ratio	0.25	0.77	0.34	1.00	0.21	0.42
v/c Ratio	0.26	0.08	0.39	0.03	0.08	0.51
Control Delay	15.7	3.3	15.2	0.0	17.0	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.7	3.3	15.2	0.0	17.0	11.6
LOS	B	A	B	A	B	B
Approach Delay		9.8	12.5		12.4	
Approach LOS		A	B		B	
Queue Length 50th (ft)	27	10	54	0	7	54
Queue Length 95th (ft)	51	18	111	0	20	107
Internal Link Dist (ft)		558	675		3309	
Turn Bay Length (ft)	445			575		
Base Capacity (vph)	1229	3539	1863	1583	1639	833
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.06	0.13	0.03	0.04	0.41

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 43.1			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 11.4		Intersection LOS: B	
Intersection Capacity Utilization 38.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Vickrey Chapel Rd & Jamestown Pkwy





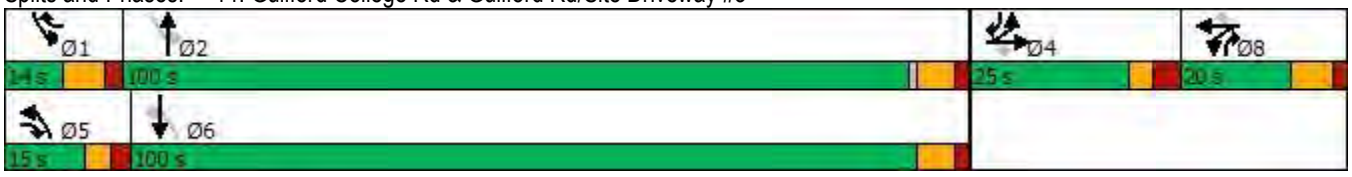
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	544	28	143	31	49	59	88	354	49	61	480	618
Future Volume (vph)	544	28	143	31	49	59	88	354	49	61	480	618
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	195		135	0		0	140		100	125		330
Storage Lanes	1		1	0		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950	0.957			0.981		0.950			0.950		
Satd. Flow (prot)	1681	1694	1583	0	1827	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950	0.957			0.981		0.313			0.454		
Satd. Flow (perm)	1681	1694	1583	0	1827	1583	583	3539	1583	846	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			45			45			45	
Link Distance (ft)		471			717			1464			1684	
Travel Time (s)		9.2			10.9			22.2			25.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	604	31	159	34	54	66	98	393	54	68	533	687
Shared Lane Traffic (%)	48%											
Lane Group Flow (vph)	314	321	159	0	88	66	98	393	54	68	533	687
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	4	4	5	8	8	1	5	2	8	1	6	4
Permitted Phases			4			8	6		2	2		6
Detector Phase	4	4	5	8	8	1	5	2	8	1	6	4
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	20.0	20.0	14.0	20.0	20.0	14.0	14.0	20.0	20.0	14.0	41.5	20.0
Total Split (s)	25.0	25.0	15.0	20.0	20.0	14.0	15.0	100.0	20.0	14.0	100.0	25.0
Total Split (%)	15.6%	15.6%	9.4%	12.5%	12.5%	8.8%	9.4%	62.5%	12.5%	8.8%	62.5%	15.6%
Maximum Green (s)	18.7	18.7	9.6	13.0	13.0	7.0	9.6	93.5	13.0	7.0	93.5	18.7
Yellow Time (s)	3.0	3.0	3.0	5.0	5.0	5.0	3.0	4.6	5.0	5.0	4.6	3.0
All-Red Time (s)	3.3	3.3	2.4	2.0	2.0	2.0	2.4	1.9	2.0	2.0	1.9	3.3
Lost Time Adjust (s)	-1.3	-2.0	-0.4		-2.0	-2.0	-0.4	-1.5	-2.0	-2.0	-1.5	-1.3
Total Lost Time (s)	5.0	4.3	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0	3.0	3.0	3.0	1.0	6.0	3.0	3.0	6.0	1.0
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min	None
Walk Time (s)											7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)											28.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)	20.1	20.8	27.9		11.2	25.3	26.2	20.3	32.6	27.4	18.5	43.7
Actuated g/C Ratio	0.26	0.27	0.36		0.14	0.33	0.34	0.26	0.42	0.35	0.24	0.56
v/c Ratio	0.72	0.71	0.28		0.33	0.13	0.31	0.43	0.08	0.17	0.63	0.77
Control Delay	39.2	37.5	11.3		34.8	20.5	17.7	26.7	8.4	15.7	30.3	20.9
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.2	37.5	11.3		34.8	20.5	17.7	26.7	8.4	15.7	30.3	20.9
LOS	D	D	B		C	C	B	C	A	B	C	C
Approach Delay		32.9			28.6			23.3			24.5	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	143	144	27		38	22	29	87	9	20	120	232
Queue Length 95th (ft)	#315	#314	62		86	55	61	133	21	46	181	428
Internal Link Dist (ft)		391			637			1384			1604	
Turn Bay Length (ft)	195		135				140		100	125		330
Base Capacity (vph)	435	454	614		354	515	368	3539	716	405	3539	889
Starvation Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.71	0.26		0.25	0.13	0.27	0.11	0.08	0.17	0.15	0.77

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 77.7
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 26.9 Intersection LOS: C
Intersection Capacity Utilization 62.4% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Guilford College Rd & Guilford Rd/Site Driveway #3



Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	490	390	5	4	4
Future Vol, veh/h	6	490	390	5	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	544	433	6	4	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	439	0	-	0	994	436
Stage 1	-	-	-	-	436	-
Stage 2	-	-	-	-	558	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1121	-	-	-	272	620
Stage 1	-	-	-	-	652	-
Stage 2	-	-	-	-	573	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1121	-	-	-	270	620
Mov Cap-2 Maneuver	-	-	-	-	270	-
Stage 1	-	-	-	-	646	-
Stage 2	-	-	-	-	573	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1121	-	-	-	376
HCM Lane V/C Ratio	0.006	-	-	-	0.024
HCM Control Delay (s)	8.2	0	-	-	14.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	488	29	18	370	6	9	4	20	4	4	12
Future Vol, veh/h	11	488	29	18	370	6	9	4	20	4	4	12
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	-	-	50	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	542	32	20	411	7	10	4	22	4	4	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	418	0	0	574	0	0	1029	1024	542	1050	1053	415
Stage 1	-	-	-	-	-	-	566	566	-	455	455	-
Stage 2	-	-	-	-	-	-	463	458	-	595	598	-
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	1141	-	-	999	-	-	212	235	540	205	226	637
Stage 1	-	-	-	-	-	-	509	507	-	585	569	-
Stage 2	-	-	-	-	-	-	579	567	-	491	491	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1141	-	-	999	-	-	198	225	540	187	217	637
Mov Cap-2 Maneuver	-	-	-	-	-	-	198	225	-	187	217	-
Stage 1	-	-	-	-	-	-	501	499	-	576	554	-
Stage 2	-	-	-	-	-	-	548	552	-	459	483	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.4	17.3	16.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	329	1141	-	-	999	-	-	341
HCM Lane V/C Ratio	0.111	0.011	-	-	0.02	-	-	0.065
HCM Control Delay (s)	17.3	8.2	0	-	8.7	0	-	16.3
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.2

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	465	31	39	363	13	27	4	26	8	4	8
Future Vol, veh/h	15	465	31	39	363	13	27	4	26	8	4	8
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	160	-	50	50	-	235	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	517	34	43	403	14	30	4	29	9	4	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	417	0	0	551	0	0	1054	1054	517	1074	1074	403
Stage 1	-	-	-	-	-	-	551	551	-	489	489	-
Stage 2	-	-	-	-	-	-	503	503	-	585	585	-
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	1142	-	-	1019	-	-	204	226	558	198	220	647
Stage 1	-	-	-	-	-	-	519	515	-	561	549	-
Stage 2	-	-	-	-	-	-	551	541	-	497	498	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1142	-	-	1019	-	-	189	213	558	177	208	647
Mov Cap-2 Maneuver	-	-	-	-	-	-	189	213	-	177	208	-
Stage 1	-	-	-	-	-	-	511	507	-	553	526	-
Stage 2	-	-	-	-	-	-	516	518	-	460	491	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.8	20.5	20.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	192	558	1142	-	-	1019	-	-	260
HCM Lane V/C Ratio	0.179	0.052	0.015	-	-	0.043	-	-	0.085
HCM Control Delay (s)	27.8	11.8	8.2	-	-	8.7	-	-	20.1
HCM Lane LOS	D	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.6	0.2	0	-	-	0.1	-	-	0.3

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	447	25	146	366	27	33	4	54	12	4	8
Future Vol, veh/h	25	447	25	146	366	27	33	4	54	12	4	8
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	100	-	-	125	-	0	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	497	28	162	407	30	37	4	60	13	4	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	437	0	0	525	0	0	1320	1328	511	1330	1312	407
Stage 1	-	-	-	-	-	-	567	567	-	731	731	-
Stage 2	-	-	-	-	-	-	753	761	-	599	581	-
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	1123	-	-	1042	-	-	134	155	563	132	159	644
Stage 1	-	-	-	-	-	-	508	507	-	413	427	-
Stage 2	-	-	-	-	-	-	402	414	-	488	500	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1123	-	-	1042	-	-	111	128	563	99	131	644
Mov Cap-2 Maneuver	-	-	-	-	-	-	111	128	-	99	131	-
Stage 1	-	-	-	-	-	-	495	494	-	403	361	-
Stage 2	-	-	-	-	-	-	331	350	-	421	488	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	2.5	29.2	35.1
HCM LOS			D	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	113	563	1123	-	-	1042	-	-	146
HCM Lane V/C Ratio	0.364	0.107	0.025	-	-	0.156	-	-	0.183
HCM Control Delay (s)	54	12.2	8.3	-	-	9.1	-	-	35.1
HCM Lane LOS	F	B	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	1.5	0.4	0.1	-	-	0.6	-	-	0.6

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	491	6	5	526	37	4	4	4	11	4	12
Future Vol, veh/h	20	491	6	5	526	37	4	4	4	11	4	12
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	0	-	-	-	-	115	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	546	7	6	584	41	4	4	4	12	4	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	625	0	0	553	0	0	900	1231	550	1194	1193	292
Stage 1	-	-	-	-	-	-	594	594	-	596	596	-
Stage 2	-	-	-	-	-	-	306	637	-	598	597	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	954	-	-	1015	-	-	246	177	534	152	186	705
Stage 1	-	-	-	-	-	-	490	492	-	458	491	-
Stage 2	-	-	-	-	-	-	679	470	-	488	490	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	954	-	-	1015	-	-	231	171	534	144	180	705
Mov Cap-2 Maneuver	-	-	-	-	-	-	231	171	-	144	180	-
Stage 1	-	-	-	-	-	-	479	481	-	447	487	-
Stage 2	-	-	-	-	-	-	654	466	-	468	479	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	20.3	22.7
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	249	954	-	-	1015	-	-	233
HCM Lane V/C Ratio	0.054	0.023	-	-	0.005	-	-	0.129
HCM Control Delay (s)	20.3	8.9	-	-	8.6	0	-	22.7
HCM Lane LOS	C	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	541	7	10	688	44	23	4	28	24	4	20
Future Vol, veh/h	31	541	7	10	688	44	23	4	28	24	4	20
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	410	-	75	365	-	50	125	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	601	8	11	764	49	26	4	31	27	4	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	813	0	0	609	0	0	1075	1504	301	1157	1463	382
Stage 1	-	-	-	-	-	-	669	669	-	786	786	-
Stage 2	-	-	-	-	-	-	406	835	-	371	677	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	810	-	-	966	-	-	174	120	695	151	127	616
Stage 1	-	-	-	-	-	-	413	454	-	351	401	-
Stage 2	-	-	-	-	-	-	593	381	-	622	450	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	810	-	-	966	-	-	156	114	695	134	120	616
Mov Cap-2 Maneuver	-	-	-	-	-	-	156	114	-	134	120	-
Stage 1	-	-	-	-	-	-	396	435	-	336	397	-
Stage 2	-	-	-	-	-	-	559	377	-	563	431	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.1	22.7	28.3
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	148	695	810	-	-	966	-	-	132	616
HCM Lane V/C Ratio	0.203	0.045	0.043	-	-	0.012	-	-	0.236	0.036
HCM Control Delay (s)	35.4	10.4	9.6	-	-	8.8	-	-	40.5	11.1
HCM Lane LOS	E	B	A	-	-	A	-	-	E	B
HCM 95th %tile Q(veh)	0.7	0.1	0.1	-	-	0	-	-	0.9	0.1

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	526	673	58	53	19
Future Vol, veh/h	17	526	673	58	53	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	50	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	19	584	748	64	59	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	812	0	-	0	1078	374
Stage 1	-	-	-	-	748	-
Stage 2	-	-	-	-	330	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	810	-	-	-	213	623
Stage 1	-	-	-	-	429	-
Stage 2	-	-	-	-	701	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	810	-	-	-	208	623
Mov Cap-2 Maneuver	-	-	-	-	208	-
Stage 1	-	-	-	-	419	-
Stage 2	-	-	-	-	701	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	24.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	810	-	-	-	208	623
HCM Lane V/C Ratio	0.023	-	-	-	0.283	0.034
HCM Control Delay (s)	9.6	-	-	-	29	11
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.1	0.1

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	837	4	13	1036	4	7
Future Vol, veh/h	837	4	13	1036	4	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	930	4	14	1151	4	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	934	0	2111	932
Stage 1	-	-	-	-	932	-
Stage 2	-	-	-	-	1179	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	733	-	56	323
Stage 1	-	-	-	-	383	-
Stage 2	-	-	-	-	292	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	733	-	53	323
Mov Cap-2 Maneuver	-	-	-	-	53	-
Stage 1	-	-	-	-	383	-
Stage 2	-	-	-	-	277	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	40.7
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	113	-	-	733	-
HCM Lane V/C Ratio	0.108	-	-	0.02	-
HCM Control Delay (s)	40.7	-	-	10	0
HCM Lane LOS	E	-	-	B	A
HCM 95th %tile Q(veh)	0.4	-	-	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	13	4	14	27	4	37	43	954	53	37	1151	30
Future Vol, veh/h	13	4	14	27	4	37	43	954	53	37	1151	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	135	-	50	130	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	4	16	30	4	41	48	1060	59	41	1279	33

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1989	2576	640	1880	2550	530	1312	0	0	1119	0	0
Stage 1	1361	1361	-	1156	1156	-	-	-	-	-	-	-
Stage 2	628	1215	-	724	1394	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	36	25	418	44	26	493	523	-	-	620	-	-
Stage 1	156	215	-	209	269	-	-	-	-	-	-	-
Stage 2	437	252	-	383	207	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	25	21	418	31	22	493	523	-	-	620	-	-
Mov Cap-2 Maneuver	25	21	-	31	22	-	-	-	-	-	-	-
Stage 1	142	201	-	190	244	-	-	-	-	-	-	-
Stage 2	357	229	-	337	193	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	232.6	204.2	0.5	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	523	-	-	42	29	493	620	-	-
HCM Lane V/C Ratio	0.091	-	-	0.82	1.188	0.083	0.066	-	-
HCM Control Delay (s)	12.6	-	-	232.6$	432.4	13	11.2	-	-
HCM Lane LOS	B	-	-	F	F	B	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-	3.2	4	0.3	0.2	-	-

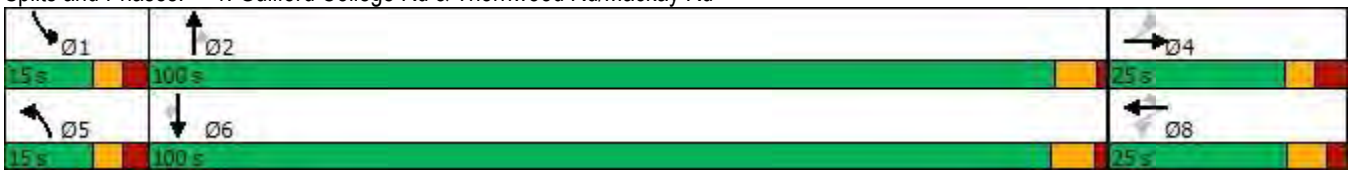
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	12	12	233	23	137	37	762	258	226	972	52
Future Volume (vph)	18	12	12	233	23	137	37	762	258	226	972	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	190		190	120		205	310		150
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.925				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1723	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.740			0.740			0.950			0.950		
Satd. Flow (perm)	1378	1723	0	1378	1863	1583	1770	3539	1583	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			40			45			45	
Link Distance (ft)		1208			505			1538			1743	
Travel Time (s)		32.9			8.6			23.3			26.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	20	13	13	259	26	152	41	847	287	251	1080	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	26	0	259	26	152	41	847	287	251	1080	58
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	13.6	13.6		13.5	13.5	13.5	12.8	17.7	17.7	12.8	18.1	18.1
Total Split (s)	25.0	25.0		25.0	25.0	25.0	15.0	100.0	100.0	15.0	100.0	100.0
Total Split (%)	17.9%	17.9%		17.9%	17.9%	17.9%	10.7%	71.4%	71.4%	10.7%	71.4%	71.4%
Maximum Green (s)	18.4	18.4		18.5	18.5	18.5	9.2	94.3	94.3	9.2	93.9	93.9
Yellow Time (s)	3.1	3.1		4.2	4.2	4.2	3.0	4.4	4.4	3.0	4.6	4.6
All-Red Time (s)	3.5	3.5		2.3	2.3	2.3	2.8	1.3	1.3	2.8	1.5	1.5
Lost Time Adjust (s)	-1.6	-1.6		-1.5	-1.5	-1.5	-0.8	-0.7	-0.7	-0.8	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	6.0	6.0	1.0	6.0	6.0
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	15.0

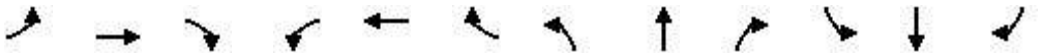
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	45.0	45.0	0.0	45.0	45.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	20.1	20.1		20.1	20.1	20.1	7.9	27.2	27.2	10.0	34.9	34.9
Actuated g/C Ratio	0.28	0.28		0.28	0.28	0.28	0.11	0.38	0.38	0.14	0.48	0.48
v/c Ratio	0.05	0.05		0.68	0.05	0.35	0.21	0.64	0.48	1.02	0.63	0.08
Control Delay	22.0	21.8		35.8	21.7	25.2	34.5	20.7	20.0	99.9	17.1	12.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	21.8		35.8	21.7	25.2	34.5	20.7	20.0	99.9	17.1	12.3
LOS	C	C		D	C	C	C	C	B	F	B	B
Approach Delay		21.9			31.3			21.0			31.9	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	7	9		105	9	55	17	158	95	~125	208	15
Queue Length 95th (ft)	24	29		#229	29	114	48	213	159	#284	277	36
Internal Link Dist (ft)		1128			425			1458			1663	
Turn Bay Length (ft)	75			190		190	120		205	310		150
Base Capacity (vph)	382	478		382	516	439	245	3539	1583	245	3539	1583
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.05		0.68	0.05	0.35	0.17	0.24	0.18	1.02	0.31	0.04

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 72.4
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 27.5 Intersection LOS: C
Intersection Capacity Utilization 65.7% ICU Level of Service C
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Guilford College Rd & Thornwood Rd/Mackay Rd





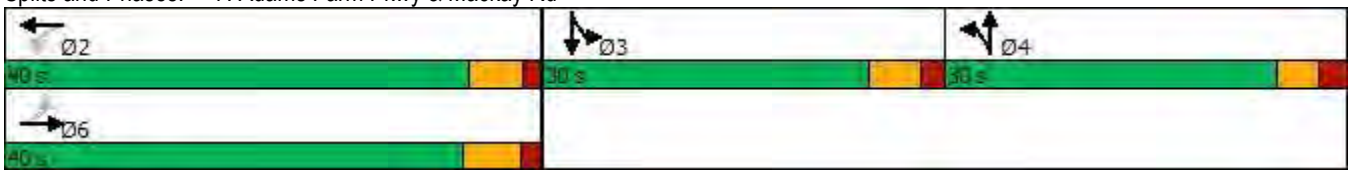
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	114	280	51	117	457	469	40	33	57	329	36	122
Future Volume (vph)	114	280	51	117	457	469	40	33	57	329	36	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	195		0	0		0	140		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.924			0.941			0.884	
Flt Protected	0.950			0.950				0.985		0.950		
Satd. Flow (prot)	1770	1820	0	1770	1721	0	0	1727	0	1770	1647	0
Flt Permitted	0.113			0.429				0.985		0.950		
Satd. Flow (perm)	210	1820	0	799	1721	0	0	1727	0	1770	1647	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		1572			2792			867			1221	
Travel Time (s)		26.8			47.6			23.6			23.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	127	311	57	130	508	521	44	37	63	366	40	136
Shared Lane Traffic (%)												
Lane Group Flow (vph)	127	368	0	130	1029	0	0	144	0	366	176	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		6			2		4	4		3	3	
Permitted Phases	6			2								
Detector Phase	6	6		2	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		26.3	26.3		20.0	20.0	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	34.1	34.1		34.5	34.5		24.7	24.7		24.3	24.3	
Yellow Time (s)	4.3	4.3		4.1	4.1		3.1	3.1		3.9	3.9	
All-Red Time (s)	1.6	1.6		1.4	1.4		2.2	2.2		1.8	1.8	
Lost Time Adjust (s)	-0.9	-0.9		-0.5	-0.5			-0.3		-0.7	-0.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)							7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)							14.0	14.0				
Pedestrian Calls (#/hr)							0	0				
Act Effct Green (s)	35.2	35.2		35.2	35.2			11.8		21.4	21.4	
Actuated g/C Ratio	0.42	0.42		0.42	0.42			0.14		0.26	0.26	
v/c Ratio	1.44	0.48		0.39	1.42			0.59		0.81	0.42	
Control Delay	279.4	21.7		23.3	220.5			44.7		44.7	29.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	279.4	21.7		23.3	220.5			44.7		44.7	29.7	
LOS	F	C		C	F			D		D	C	
Approach Delay		87.8			198.4			44.7			39.8	
Approach LOS		F			F			D			D	
Queue Length 50th (ft)	~95	142		48	~762			74		179	76	
Queue Length 95th (ft)	#178	251		109	#1097			134		#327	144	
Internal Link Dist (ft)		1492			2712			787			1141	
Turn Bay Length (ft)	170			195						140		
Base Capacity (vph)	88	768		337	726			520		533	496	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	1.44	0.48		0.39	1.42			0.28		0.69	0.35	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 83.5
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.44
Intersection Signal Delay: 128.8 Intersection LOS: F
Intersection Capacity Utilization 106.7% ICU Level of Service G
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Adams Farm Pkwy & Mackay Rd

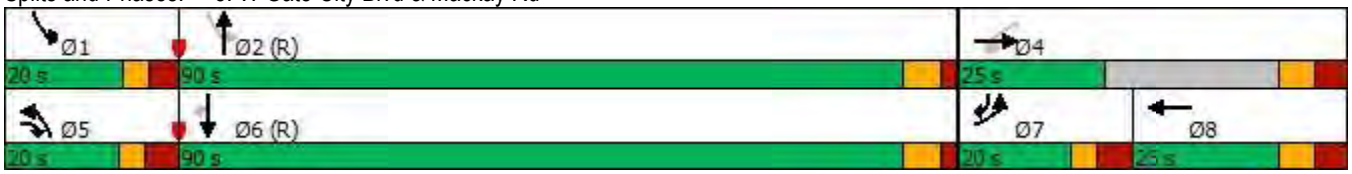


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	319	27	244	18	42	28	398	583	31	33	726	579
Future Volume (vph)	319	27	244	18	42	28	398	583	31	33	726	579
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	470		805	90		0	550		0	305		325
Storage Lanes	2		1	1		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.91	0.91	1.00	0.91	1.00
Frt			0.850		0.940			0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1751	0	3433	5050	0	1770	5085	1583
Flt Permitted	0.950			0.738			0.950			0.327		
Satd. Flow (perm)	3433	1863	1583	1375	1751	0	3433	5050	0	609	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			25			45			45	
Link Distance (ft)		2792			1166			6342			1193	
Travel Time (s)		47.6			31.8			96.1			18.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	354	30	271	20	47	31	442	648	34	37	807	643
Shared Lane Traffic (%)												
Lane Group Flow (vph)	354	30	271	20	78	0	442	682	0	37	807	643
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA		Prot	NA		D.P+P	NA	pm+ov
Protected Phases	7	4	5		8		5	2		1	6	7
Permitted Phases			4	4						2		6
Detector Phase	7	4	5	4	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	14.1	50.1	14.0	50.1	54.1		14.0	29.5		14.0	35.5	14.1
Total Split (s)	20.0	25.0	20.0	25.0	25.0		20.0	90.0		20.0	90.0	20.0
Total Split (%)	12.9%	16.1%	12.9%	16.1%	16.1%		12.9%	58.1%		12.9%	58.1%	12.9%
Maximum Green (s)	12.9	16.9	13.1	16.9	16.9		13.1	83.5		13.6	83.5	12.9
Yellow Time (s)	3.0	4.1	3.0	4.1	4.1		3.0	4.5		3.0	4.5	3.0
All-Red Time (s)	4.1	4.0	3.9	4.0	4.0		3.9	2.0		3.4	2.0	4.1
Lost Time Adjust (s)	-2.1	-3.1	-1.9	-3.1	-3.1		-1.9	-1.5		-1.4	-1.5	-2.1
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	6.0		2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Min		None	C-Min	None
Walk Time (s)		7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)		34.0		34.0	39.0			16.0			22.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	47.0	66.5	106.4	66.5	14.5		34.9	67.6		74.5	38.6	90.6
Actuated g/C Ratio	0.30	0.43	0.69	0.43	0.09		0.23	0.44		0.48	0.25	0.58
v/c Ratio	0.34	0.04	0.25	0.03	0.48		0.57	0.31		0.10	0.64	0.70
Control Delay	42.3	22.7	9.5	22.7	75.6		57.8	31.2		23.2	55.3	27.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	42.3	22.7	9.5	22.7	75.6		57.8	31.2		23.2	55.3	27.4
LOS	D	C	A	C	E		E	C		C	E	C
Approach Delay		27.9			64.8			41.7			42.4	
Approach LOS		C			E			D			D	
Queue Length 50th (ft)	133	16	87	11	76		212	183		20	279	415
Queue Length 95th (ft)	190	37	133	28	130		273	216		42	324	609
Internal Link Dist (ft)		2712			1086			6262			1113	
Turn Bay Length (ft)	470		805	90			550			305		325
Base Capacity (vph)	1040	798	1086	589	225		773	2845		420	2788	924
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.34	0.04	0.25	0.03	0.35		0.57	0.24		0.09	0.29	0.70

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Offset: 20 (13%), Referenced to phase 2:NBSB and 6:SBT, Start of Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 40.0		Intersection LOS: D	
Intersection Capacity Utilization 65.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 8: W Gate City Blvd & Mackay Rd

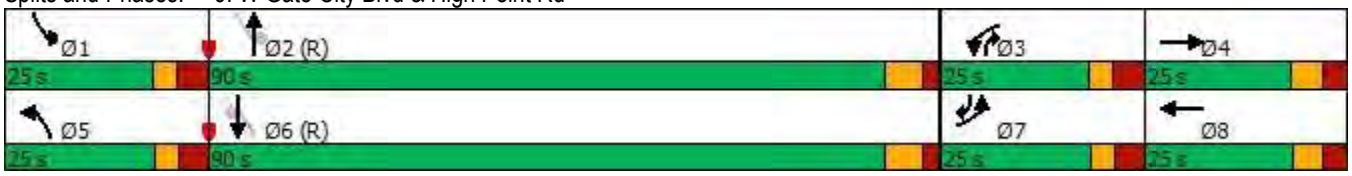


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	64	67	258	40	9	53	452	249	23	872	141
Future Volume (vph)	90	64	67	258	40	9	53	452	249	23	872	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	360		0	400		450	435		215
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.923			0.972				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1719	0	3433	1811	0	1770	5085	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.248			0.445		
Satd. Flow (perm)	3433	1719	0	3433	1811	0	462	5085	1583	829	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		746			1689			1193			1650	
Travel Time (s)		14.5			32.9			18.1			25.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	100	71	74	287	44	10	59	502	277	26	969	157
Shared Lane Traffic (%)												
Lane Group Flow (vph)	100	145	0	287	54	0	59	502	277	26	969	157
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA		D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases							6		2	2		6
Detector Phase	7	4		3	8		5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.7	42.0		13.9	13.9		13.7	18.9	13.9	13.8	18.9	13.7
Total Split (s)	25.0	25.0		25.0	25.0		25.0	90.0	25.0	25.0	90.0	25.0
Total Split (%)	15.2%	15.2%		15.2%	15.2%		15.2%	54.5%	15.2%	15.2%	54.5%	15.2%
Maximum Green (s)	18.3	18.0		18.1	18.1		18.3	83.1	18.1	18.2	83.1	18.3
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.7	3.2		3.9	3.1		3.7	2.2	3.9	3.8	2.2	3.7
Lost Time Adjust (s)	-1.7	-2.0		-1.9	-1.9		-1.7	-1.9	-1.9	-1.8	-1.9	-1.7
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None		None	None		None	C-Min	None	None	C-Min	None
Walk Time (s)		4.0										

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		31.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)	16.1	20.3		20.0	27.0		105.7	101.4	126.4	106.7	98.3	120.4
Actuated g/C Ratio	0.10	0.12		0.12	0.16		0.64	0.61	0.77	0.65	0.60	0.73
v/c Ratio	0.30	0.69		0.69	0.18		0.16	0.16	0.23	0.04	0.32	0.14
Control Delay	74.1	85.1		78.2	57.0		12.4	15.6	7.3	11.9	18.6	10.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.1	85.1		78.2	57.0		12.4	15.6	7.3	11.9	18.6	10.3
LOS	E	F		E	E		B	B	A	B	B	B
Approach Delay		80.6			74.9			12.6			17.3	
Approach LOS		F			E			B			B	
Queue Length 50th (ft)	54	153		155	50		21	89	89	9	192	57
Queue Length 95th (ft)	86	224		202	88		47	130	147	26	267	106
Internal Link Dist (ft)		666			1609			1113			1570	
Turn Bay Length (ft)	50			360			400		450	435		215
Base Capacity (vph)	473	230		444	321		465	3127	1225	664	3043	1219
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.63		0.65	0.17		0.13	0.16	0.23	0.04	0.32	0.13

Intersection Summary			
Area Type:	Other		
Cycle Length: 165			
Actuated Cycle Length: 165			
Offset: 54 (33%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 29.4		Intersection LOS: C	
Intersection Capacity Utilization 54.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 9: W Gate City Blvd & High Point Rd

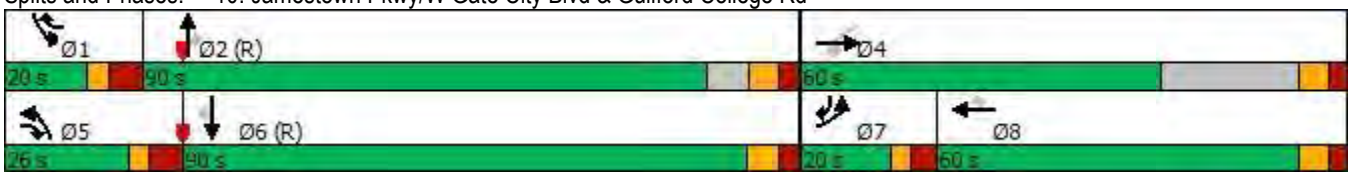


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	213	158	7	362	196	176	494	4	219	565	168
Future Volume (vph)	165	213	158	7	362	196	176	494	4	219	565	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430		445	355		285	415		335	395		335
Storage Lanes	2		1	1		1	2		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	3433	5085	1583	3433	5085	1583
Flt Permitted	0.950			0.537			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	1000	3539	1583	3433	5085	1583	3433	5085	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		3577			1802			3389			6342	
Travel Time (s)		54.2			27.3			51.3			96.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	183	237	176	8	402	218	196	549	4	243	628	187
Shared Lane Traffic (%)												
Lane Group Flow (vph)	183	237	176	8	402	218	196	549	4	243	628	187
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	D.Pm	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	5		8	1	5	2		1	6	7
Permitted Phases			4	4		8			2			6
Detector Phase	7	4	5	4	8	1	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	7.0
Minimum Split (s)	14.0	25.3	26.0	25.3	20.0	14.9	26.0	25.5	25.5	14.9	25.7	14.0
Total Split (s)	20.0	60.0	26.0	60.0	60.0	20.0	26.0	90.0	90.0	20.0	90.0	20.0
Total Split (%)	10.2%	30.6%	13.3%	30.6%	30.6%	10.2%	13.3%	45.9%	45.9%	10.2%	45.9%	10.2%
Maximum Green (s)	13.2	52.7	18.0	52.7	52.7	12.1	18.0	82.5	82.5	12.1	82.3	13.2
Yellow Time (s)	3.0	4.5	3.0	4.5	4.5	3.0	3.0	4.4	4.4	3.0	4.6	3.0
All-Red Time (s)	3.8	2.8	5.0	2.8	2.8	4.9	5.0	3.1	3.1	4.9	3.1	3.8
Lost Time Adjust (s)	-1.8	-2.3	-3.0	-2.3	-2.3	-2.9	-3.0	-2.5	-2.5	-2.9	-2.7	-1.8
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lead		Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	6.0	2.0	6.0	2.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	0.0	15.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	0.0	30.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0		7.0				7.0	7.0		7.0	
Flash Dont Walk (s)		11.0		11.0				11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0		0				0	0		0	
Act Effct Green (s)	16.6	51.5	74.9	51.5	29.9	56.8	18.4	107.6	107.6	21.9	111.1	132.7
Actuated g/C Ratio	0.08	0.26	0.38	0.26	0.15	0.29	0.09	0.55	0.55	0.11	0.57	0.68
v/c Ratio	0.63	0.26	0.29	0.03	0.75	0.47	0.61	0.20	0.00	0.63	0.22	0.17
Control Delay	96.4	56.6	41.8	49.4	87.9	59.9	93.2	23.8	24.8	90.7	22.4	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.4	56.6	41.8	49.4	87.9	59.9	93.2	23.8	24.8	90.7	22.4	13.1
LOS	F	E	D	D	F	E	F	C	C	F	C	B
Approach Delay		64.4			77.7			42.0			36.5	
Approach LOS		E			E			D			D	
Queue Length 50th (ft)	120	128	158	8	264	233	127	130	2	156	143	84
Queue Length 95th (ft)	163	158	198	23	317	304	172	180	11	207	203	146
Internal Link Dist (ft)		3497			1722			3309			6262	
Turn Bay Length (ft)	430		445	355		285	415		335	395		335
Base Capacity (vph)	299	1354	628	382	993	459	374	2790	868	384	2882	1076
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.18	0.28	0.02	0.40	0.47	0.52	0.20	0.00	0.63	0.22	0.17

Intersection Summary			
Area Type:	Other		
Cycle Length: 196			
Actuated Cycle Length: 196			
Offset: 20 (10%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 51.9		Intersection LOS: D	
Intersection Capacity Utilization 49.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Jamestown Pkwy/W Gate City Blvd & Guilford College Rd



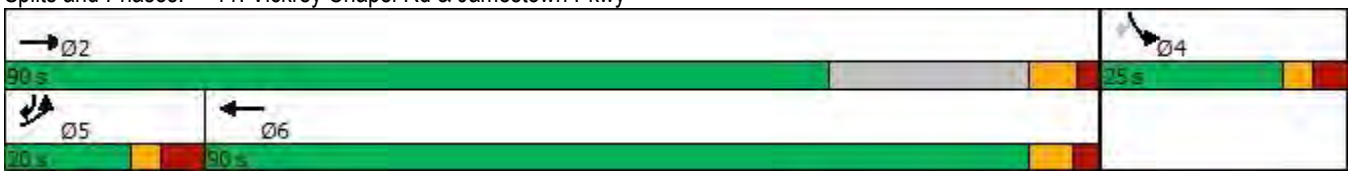


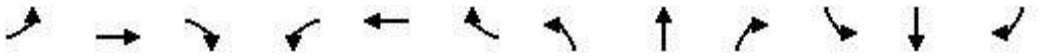
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	138	155	192	50	45	151
Future Volume (vph)	138	155	192	50	45	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	445			575	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	100				100	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	3539	1863	1583	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	3539	1863	1583	3433	1583
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		35	35		45	
Link Distance (ft)		638	755		3389	
Travel Time (s)		12.4	14.7		51.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	153	172	213	56	50	168
Shared Lane Traffic (%)						
Lane Group Flow (vph)	153	172	213	56	50	168
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		48	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Free	Prot	pm+ov
Protected Phases	5	2	6		4	5
Permitted Phases				Free		4
Detector Phase	5	2	6		4	5
Switch Phase						
Minimum Initial (s)	7.0	12.0	12.0		7.0	7.0
Minimum Split (s)	14.4	20.0	20.0		20.0	14.4
Total Split (s)	20.0	90.0	90.0		25.0	20.0
Total Split (%)	14.8%	66.7%	66.7%		18.5%	14.8%
Maximum Green (s)	12.6	82.8	82.9		18.3	12.6
Yellow Time (s)	3.0	4.8	4.3		3.0	3.0
All-Red Time (s)	4.4	2.4	2.8		3.7	4.4
Lost Time Adjust (s)	-2.4	-2.2	-2.1		-1.7	-2.4
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	6.0	6.0		2.0	2.0
Minimum Gap (s)	3.0	3.0	3.0		3.0	3.0
Time Before Reduce (s)	0.0	15.0	15.0		0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Time To Reduce (s)	0.0	30.0	30.0		0.0	0.0
Recall Mode	None	Min	Min		None	None
Act Effct Green (s)	9.8	33.0	14.5	39.1	9.0	14.3
Actuated g/C Ratio	0.25	0.84	0.37	1.00	0.23	0.37
v/c Ratio	0.18	0.06	0.31	0.04	0.06	0.29
Control Delay	14.3	2.6	12.5	0.0	14.9	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	2.6	12.5	0.0	14.9	9.4
LOS	B	A	B	A	B	A
Approach Delay		8.1	9.9		10.6	
Approach LOS		A	A		B	
Queue Length 50th (ft)	10	0	22	0	3	24
Queue Length 95th (ft)	37	16	92	0	17	50
Internal Link Dist (ft)		558	675		3309	
Turn Bay Length (ft)	445			575		
Base Capacity (vph)	1355	3539	1863	1583	1806	806
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.05	0.11	0.04	0.03	0.21

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 39.1			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.31			
Intersection Signal Delay: 9.4		Intersection LOS: A	
Intersection Capacity Utilization 34.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: Vickrey Chapel Rd & Jamestown Pkwy





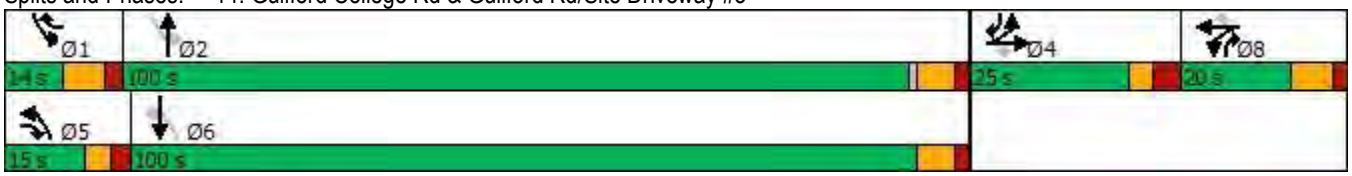
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	690	53	101	43	50	78	191	406	95	106	399	808
Future Volume (vph)	690	53	101	43	50	78	191	406	95	106	399	808
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	195		135	0		0	140		100	125		330
Storage Lanes	1		1	0		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950	0.959			0.977		0.950			0.950		
Satd. Flow (prot)	1681	1697	1583	0	1820	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950	0.959			0.977		0.365			0.372		
Satd. Flow (perm)	1681	1697	1583	0	1820	1583	680	3539	1583	693	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			45			45			45	
Link Distance (ft)		471			717			1464			1684	
Travel Time (s)		9.2			10.9			22.2			25.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	767	59	112	48	56	87	212	451	106	118	443	898
Shared Lane Traffic (%)	46%											
Lane Group Flow (vph)	414	412	112	0	104	87	212	451	106	118	443	898
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	4	4	5	8	8	1	5	2	8	1	6	4
Permitted Phases			4			8	6		2	2		6
Detector Phase	4	4	5	8	8	1	5	2	8	1	6	4
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	20.0	20.0	14.0	20.0	20.0	14.0	14.0	20.0	20.0	14.0	41.5	20.0
Total Split (s)	25.0	25.0	15.0	20.0	20.0	14.0	15.0	100.0	20.0	14.0	100.0	25.0
Total Split (%)	15.6%	15.6%	9.4%	12.5%	12.5%	8.8%	9.4%	62.5%	12.5%	8.8%	62.5%	15.6%
Maximum Green (s)	18.7	18.7	9.6	13.0	13.0	7.0	9.6	93.5	13.0	7.0	93.5	18.7
Yellow Time (s)	3.0	3.0	3.0	5.0	5.0	5.0	3.0	4.6	5.0	5.0	4.6	3.0
All-Red Time (s)	3.3	3.3	2.4	2.0	2.0	2.0	2.4	1.9	2.0	2.0	1.9	3.3
Lost Time Adjust (s)	-1.3	-2.0	-0.4		-2.0	-2.0	-0.4	-1.5	-2.0	-2.0	-1.5	-1.3
Total Lost Time (s)	5.0	4.3	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0	3.0	3.0	3.0	1.0	6.0	3.0	3.0	6.0	1.0
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min	None
Walk Time (s)											7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)											28.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)	20.1	20.8	29.4		11.8	25.8	26.0	16.9	28.7	26.0	16.6	41.8
Actuated g/C Ratio	0.26	0.27	0.38		0.15	0.33	0.33	0.22	0.37	0.33	0.21	0.54
v/c Ratio	0.96	0.91	0.19		0.38	0.17	0.59	0.59	0.18	0.33	0.59	1.06
Control Delay	65.8	56.2	9.7		34.7	20.2	24.2	30.8	9.3	18.3	31.4	68.9
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.8	56.2	9.7		34.7	20.2	24.2	30.8	9.3	18.3	31.4	68.9
LOS	E	E	A		C	C	C	C	A	B	C	E
Approach Delay		54.9			28.1			26.0			53.4	
Approach LOS		D			C			C			D	
Queue Length 50th (ft)	209	204	17		46	30	68	103	19	36	103	~493
Queue Length 95th (ft)	#444	#430	40		97	66	124	156	37	73	155	#764
Internal Link Dist (ft)		391			637			1384			1604	
Turn Bay Length (ft)	195		135				140		100	125		330
Base Capacity (vph)	433	452	612		351	524	373	3539	650	355	3539	848
Starvation Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.91	0.18		0.30	0.17	0.57	0.13	0.16	0.33	0.13	1.06

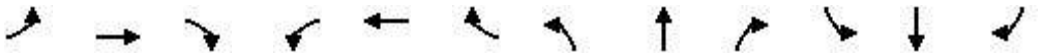
Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 77.9
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 46.1 Intersection LOS: D
Intersection Capacity Utilization 78.9% ICU Level of Service D
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Guilford College Rd & Guilford Rd/Site Driveway #3



2040 Horizon Year Background Traffic Volumes

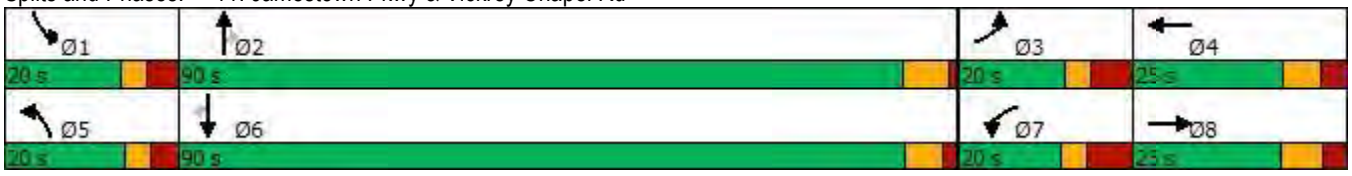


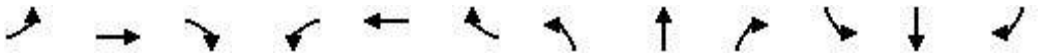
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	248	61	210	189	101	48	1022	219	132	1280	57
Future Volume (vph)	57	248	61	210	189	101	48	1022	219	132	1280	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			3%			-1%			1%	
Storage Length (ft)	445		0	250		575	400		0	250		0
Storage Lanes	2		0	2		1	1		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	0.95	0.97	1.00	1.00	1.00	0.91	1.00	0.97	0.91	1.00
Frt		0.970				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3485	3485	0	3382	1835	1560	1778	5111	1591	3416	5060	1575
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3485	3485	0	3382	1835	1560	1778	5111	1591	3416	5060	1575
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			55			45	
Link Distance (ft)		638			755			975			3389	
Travel Time (s)		9.7			11.4			12.1			51.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	63	276	68	233	210	112	53	1136	243	147	1422	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	344	0	233	210	112	53	1136	243	147	1422	63
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.98	0.98	0.98	1.02	1.02	1.02	0.99	0.99	0.99	1.01	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases						Free			2			6
Detector Phase	3	8		7	4		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	14.7	20.0		15.2	20.0		14.4	20.0	20.0	14.0	20.1	20.1
Total Split (s)	20.0	25.0		20.0	25.0		20.0	90.0	90.0	20.0	90.0	90.0
Total Split (%)	12.9%	16.1%		12.9%	16.1%		12.9%	58.1%	58.1%	12.9%	58.1%	58.1%
Maximum Green (s)	12.3	17.2		11.8	17.4		13.9	83.5	83.5	13.3	83.7	83.7
Yellow Time (s)	3.0	4.8		3.0	4.3		3.0	5.3	5.3	3.0	4.4	4.4
All-Red Time (s)	4.7	3.0		5.2	3.3		3.1	1.2	1.2	3.7	1.9	1.9
Lost Time Adjust (s)	-2.4	-2.2		-2.0	-2.1		-2.0	-2.0	-2.0	-1.7	-2.0	-2.4
Total Lost Time (s)	5.3	5.6		6.2	5.5		4.1	4.5	4.5	5.0	4.3	3.9
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	6.0	2.0	6.0	6.0
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	6.0	6.0	2.0	6.0	6.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0	15.0	0.0	15.0	15.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	30.0	30.0	0.0	30.0	30.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Act Effct Green (s)	10.2	17.3		13.2	25.6	116.7	10.9	52.3	52.3	11.6	57.9	58.3
Actuated g/C Ratio	0.09	0.15		0.11	0.22	1.00	0.09	0.45	0.45	0.10	0.50	0.50
v/c Ratio	0.21	0.67		0.61	0.52	0.07	0.32	0.50	0.34	0.43	0.57	0.08
Control Delay	58.7	57.0		60.6	52.1	0.1	61.8	22.9	21.8	58.2	22.0	16.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.7	57.0		60.6	52.1	0.1	61.8	22.9	21.8	58.2	22.0	16.9
LOS	E	E		E	D	A	E	C	C	E	C	B
Approach Delay		57.3			45.2			24.2			25.1	
Approach LOS		E			D			C			C	
Queue Length 50th (ft)	23	130		88	145	0	39	219	117	55	284	26
Queue Length 95th (ft)	55	230		#170	#311	0	95	272	185	108	353	53
Internal Link Dist (ft)		558			675			895			3309	
Turn Bay Length (ft)	445			250		575	400			250		
Base Capacity (vph)	458	604		417	403	1560	252	3844	1196	458	3812	1190
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.57		0.56	0.52	0.07	0.21	0.30	0.20	0.32	0.37	0.05

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 116.7			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 30.8		Intersection LOS: C	
Intersection Capacity Utilization 62.3%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 11: Jamestown Pkwy & Vickrey Chapel Rd



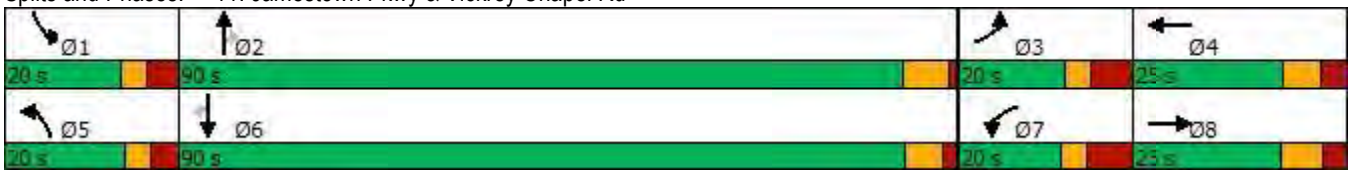


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	189	50	222	248	129	62	1281	212	99	1021	57
Future Volume (vph)	57	189	50	222	248	129	62	1281	212	99	1021	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			3%			-1%			1%	
Storage Length (ft)	445		0	250		575	400		0	250		0
Storage Lanes	2		0	2		1	1		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	0.95	0.97	1.00	1.00	1.00	0.91	1.00	0.97	0.91	1.00
Frt		0.968				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3485	3477	0	3382	1835	1560	1778	5111	1591	3416	5060	1575
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3485	3477	0	3382	1835	1560	1778	5111	1591	3416	5060	1575
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			55			45	
Link Distance (ft)		638			755			975			3389	
Travel Time (s)		9.7			11.4			12.1			51.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	63	210	56	247	276	143	69	1423	236	110	1134	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	266	0	247	276	143	69	1423	236	110	1134	63
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.98	0.98	0.98	1.02	1.02	1.02	0.99	0.99	0.99	1.01	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases						Free			2			6
Detector Phase	3	8		7	4		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	14.7	20.0		15.2	20.0		14.4	20.0	20.0	14.0	20.1	20.1
Total Split (s)	20.0	25.0		20.0	25.0		20.0	90.0	90.0	20.0	90.0	90.0
Total Split (%)	12.9%	16.1%		12.9%	16.1%		12.9%	58.1%	58.1%	12.9%	58.1%	58.1%
Maximum Green (s)	12.3	17.2		11.8	17.4		13.9	83.5	83.5	13.3	83.7	83.7
Yellow Time (s)	3.0	4.8		3.0	4.3		3.0	5.3	5.3	3.0	4.4	4.4
All-Red Time (s)	4.7	3.0		5.2	3.3		3.1	1.2	1.2	3.7	1.9	1.9
Lost Time Adjust (s)	-2.4	-2.2		-2.0	-2.1		-2.0	-2.0	-2.0	-1.7	-2.0	-2.4
Total Lost Time (s)	5.3	5.6		6.2	5.5		4.1	4.5	4.5	5.0	4.3	3.9
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	6.0	2.0	6.0	6.0
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	6.0	6.0	2.0	6.0	6.0

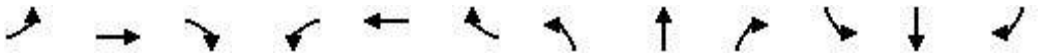
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0	15.0	0.0	15.0	15.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	30.0	30.0	0.0	30.0	30.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Act Effct Green (s)	10.2	15.8		13.5	24.1	120.6	11.7	58.7	58.7	10.6	62.2	62.7
Actuated g/C Ratio	0.08	0.13		0.11	0.20	1.00	0.10	0.49	0.49	0.09	0.52	0.52
v/c Ratio	0.21	0.59		0.65	0.75	0.09	0.40	0.57	0.31	0.37	0.43	0.08
Control Delay	60.4	57.9		63.4	63.6	0.1	64.3	22.6	19.5	60.3	19.5	16.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.4	57.9		63.4	63.6	0.1	64.3	22.6	19.5	60.3	19.5	16.6
LOS	E	E		E	E	A	E	C	B	E	B	B
Approach Delay		58.4			49.9			23.8			22.8	
Approach LOS		E			D			C			C	
Queue Length 50th (ft)	23	102		94	207	0	51	276	106	41	204	25
Queue Length 95th (ft)	56	186		#196	#485	0	120	353	175	88	270	53
Internal Link Dist (ft)		558			675			895			3309	
Turn Bay Length (ft)	445			250		575	400			250		
Base Capacity (vph)	439	578		400	366	1560	242	3747	1166	439	3718	1162
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.46		0.62	0.75	0.09	0.29	0.38	0.20	0.25	0.31	0.05

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 120.6			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 30.6		Intersection LOS: C	
Intersection Capacity Utilization 66.4%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 11: Jamestown Pkwy & Vickrey Chapel Rd



2040 Horizon Year Build Traffic Volumes

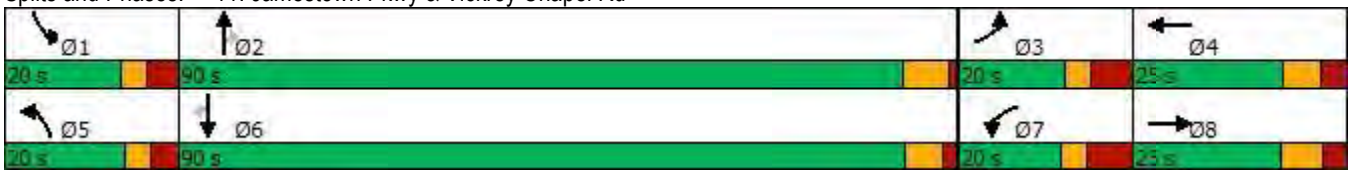


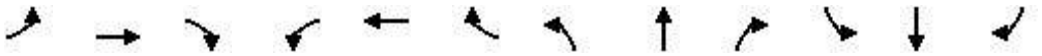
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	248	61	210	189	126	48	1022	219	170	1280	141
Future Volume (vph)	96	248	61	210	189	126	48	1022	219	170	1280	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			3%			-1%			1%	
Storage Length (ft)	445		0	250		575	400		0	250		0
Storage Lanes	2		0	2		1	1		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	0.95	0.97	1.00	1.00	1.00	0.91	1.00	0.97	0.91	1.00
Frt		0.970				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3485	3485	0	3382	1835	1560	1778	5111	1591	3416	5060	1575
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3485	3485	0	3382	1835	1560	1778	5111	1591	3416	5060	1575
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			55			45	
Link Distance (ft)		638			755			975			3389	
Travel Time (s)		9.7			11.4			12.1			51.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	107	276	68	233	210	140	53	1136	243	189	1422	157
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	344	0	233	210	140	53	1136	243	189	1422	157
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.98	0.98	0.98	1.02	1.02	1.02	0.99	0.99	0.99	1.01	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases						Free			2			6
Detector Phase	3	8		7	4		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	14.7	20.0		15.2	20.0		14.4	20.0	20.0	14.0	20.1	20.1
Total Split (s)	20.0	25.0		20.0	25.0		20.0	90.0	90.0	20.0	90.0	90.0
Total Split (%)	12.9%	16.1%		12.9%	16.1%		12.9%	58.1%	58.1%	12.9%	58.1%	58.1%
Maximum Green (s)	12.3	17.2		11.8	17.4		13.9	83.5	83.5	13.3	83.7	83.7
Yellow Time (s)	3.0	4.8		3.0	4.3		3.0	5.3	5.3	3.0	4.4	4.4
All-Red Time (s)	4.7	3.0		5.2	3.3		3.1	1.2	1.2	3.7	1.9	1.9
Lost Time Adjust (s)	-2.4	-2.2		-2.0	-2.1		-2.0	-2.0	-2.0	-1.7	-2.0	-2.4
Total Lost Time (s)	5.3	5.6		6.2	5.5		4.1	4.5	4.5	5.0	4.3	3.9
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	6.0	2.0	6.0	6.0
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	6.0	6.0	2.0	6.0	6.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0	15.0	0.0	15.0	15.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	30.0	30.0	0.0	30.0	30.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Act Effct Green (s)	11.4	17.7		13.3	20.7	121.2	11.1	55.2	55.2	12.7	61.8	62.2
Actuated g/C Ratio	0.09	0.15		0.11	0.17	1.00	0.09	0.46	0.46	0.10	0.51	0.51
v/c Ratio	0.33	0.68		0.63	0.67	0.09	0.33	0.49	0.34	0.53	0.55	0.19
Control Delay	60.2	59.8		63.9	62.5	0.1	64.8	23.0	21.8	61.6	21.4	17.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.2	59.8		63.9	62.5	0.1	64.8	23.0	21.8	61.6	21.4	17.5
LOS	E	E		E	E	A	E	C	C	E	C	B
Approach Delay		59.9			48.1			24.3			25.4	
Approach LOS		E			D			C			C	
Queue Length 50th (ft)	42	137		93	155	0	41	227	122	74	288	69
Queue Length 95th (ft)	85	#240		#179	#363	0	98	271	184	138	353	116
Internal Link Dist (ft)		558			675			895			3309	
Turn Bay Length (ft)	445			250		575	400			250		
Base Capacity (vph)	443	584		403	334	1560	244	3728	1160	443	3697	1155
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.59		0.58	0.63	0.09	0.22	0.30	0.21	0.43	0.38	0.14

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 121.2			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 31.8		Intersection LOS: C	
Intersection Capacity Utilization 62.3%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 11: Jamestown Pkwy & Vickrey Chapel Rd



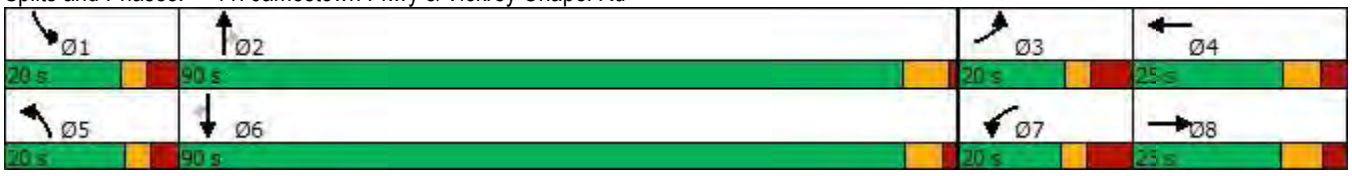


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	189	50	222	248	161	62	1281	212	121	1021	96
Future Volume (vph)	97	189	50	222	248	161	62	1281	212	121	1021	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			3%			-1%			1%	
Storage Length (ft)	445		0	250		575	400		0	250		0
Storage Lanes	2		0	2		1	1		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	0.95	0.97	1.00	1.00	1.00	0.91	1.00	0.97	0.91	1.00
Frt		0.968				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3485	3477	0	3382	1835	1560	1778	5111	1591	3416	5060	1575
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3485	3477	0	3382	1835	1560	1778	5111	1591	3416	5060	1575
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			55			45	
Link Distance (ft)		638			755			975			3389	
Travel Time (s)		9.7			11.4			12.1			51.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	108	210	56	247	276	179	69	1423	236	134	1134	107
Shared Lane Traffic (%)												
Lane Group Flow (vph)	108	266	0	247	276	179	69	1423	236	134	1134	107
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.98	0.98	0.98	1.02	1.02	1.02	0.99	0.99	0.99	1.01	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases						Free			2			6
Detector Phase	3	8		7	4		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	14.7	20.0		15.2	20.0		14.4	20.0	20.0	14.0	20.1	20.1
Total Split (s)	20.0	25.0		20.0	25.0		20.0	90.0	90.0	20.0	90.0	90.0
Total Split (%)	12.9%	16.1%		12.9%	16.1%		12.9%	58.1%	58.1%	12.9%	58.1%	58.1%
Maximum Green (s)	12.3	17.2		11.8	17.4		13.9	83.5	83.5	13.3	83.7	83.7
Yellow Time (s)	3.0	4.8		3.0	4.3		3.0	5.3	5.3	3.0	4.4	4.4
All-Red Time (s)	4.7	3.0		5.2	3.3		3.1	1.2	1.2	3.7	1.9	1.9
Lost Time Adjust (s)	-2.4	-2.2		-2.0	-2.1		-2.0	-2.0	-2.0	-1.7	-2.0	-2.4
Total Lost Time (s)	5.3	5.6		6.2	5.5		4.1	4.5	4.5	5.0	4.3	3.9
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	6.0	6.0	2.0	6.0	6.0
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	6.0	6.0	2.0	6.0	6.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0	15.0	0.0	15.0	15.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	30.0	30.0	0.0	30.0	30.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Act Effct Green (s)	11.2	17.2		13.5	20.5	122.8	11.7	58.9	58.9	11.3	63.0	63.4
Actuated g/C Ratio	0.09	0.14		0.11	0.17	1.00	0.10	0.48	0.48	0.09	0.51	0.52
v/c Ratio	0.34	0.55		0.66	0.90	0.11	0.41	0.58	0.31	0.43	0.44	0.13
Control Delay	59.9	57.2		64.7	83.7	0.1	65.2	23.5	20.2	61.0	19.7	16.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.9	57.2		64.7	83.7	0.1	65.2	23.5	20.2	61.0	19.7	16.8
LOS	E	E		E	F	A	E	C	C	E	B	B
Approach Delay		58.0			55.7			24.7			23.5	
Approach LOS		E			E			C			C	
Queue Length 50th (ft)	41	103		95	213	0	51	280	108	51	205	44
Queue Length 95th (ft)	86	187		#199	#524	0	121	359	178	103	270	83
Internal Link Dist (ft)		558			675			895			3309	
Turn Bay Length (ft)	445			250		575	400			250		
Base Capacity (vph)	429	564		390	306	1560	236	3658	1138	429	3630	1135
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.47		0.63	0.90	0.11	0.29	0.39	0.21	0.31	0.31	0.09

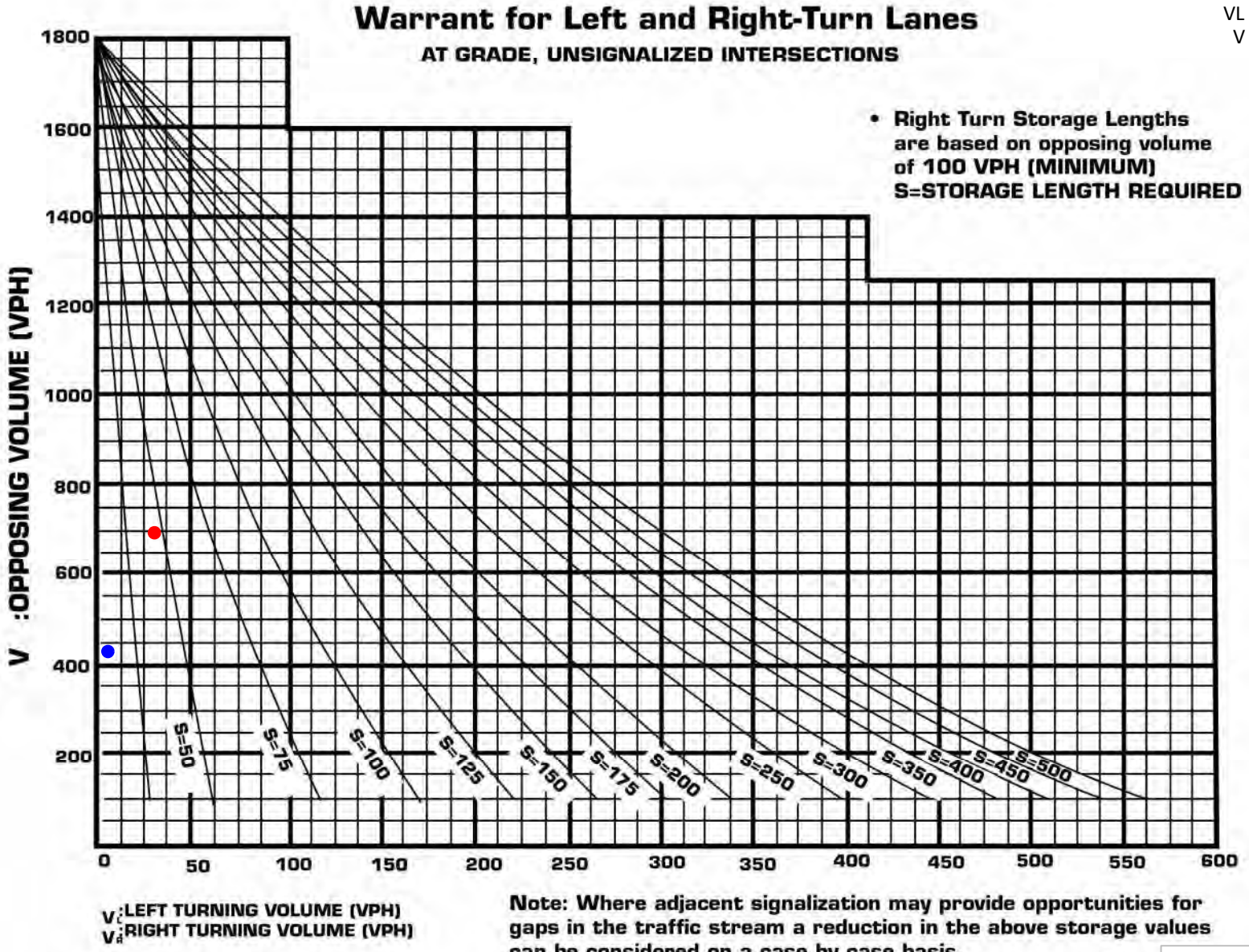
Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 122.8			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 32.5		Intersection LOS: C	
Intersection Capacity Utilization 66.4%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 11: Jamestown Pkwy & Vickrey Chapel Rd



Appendix E – NCDOT Nomographs

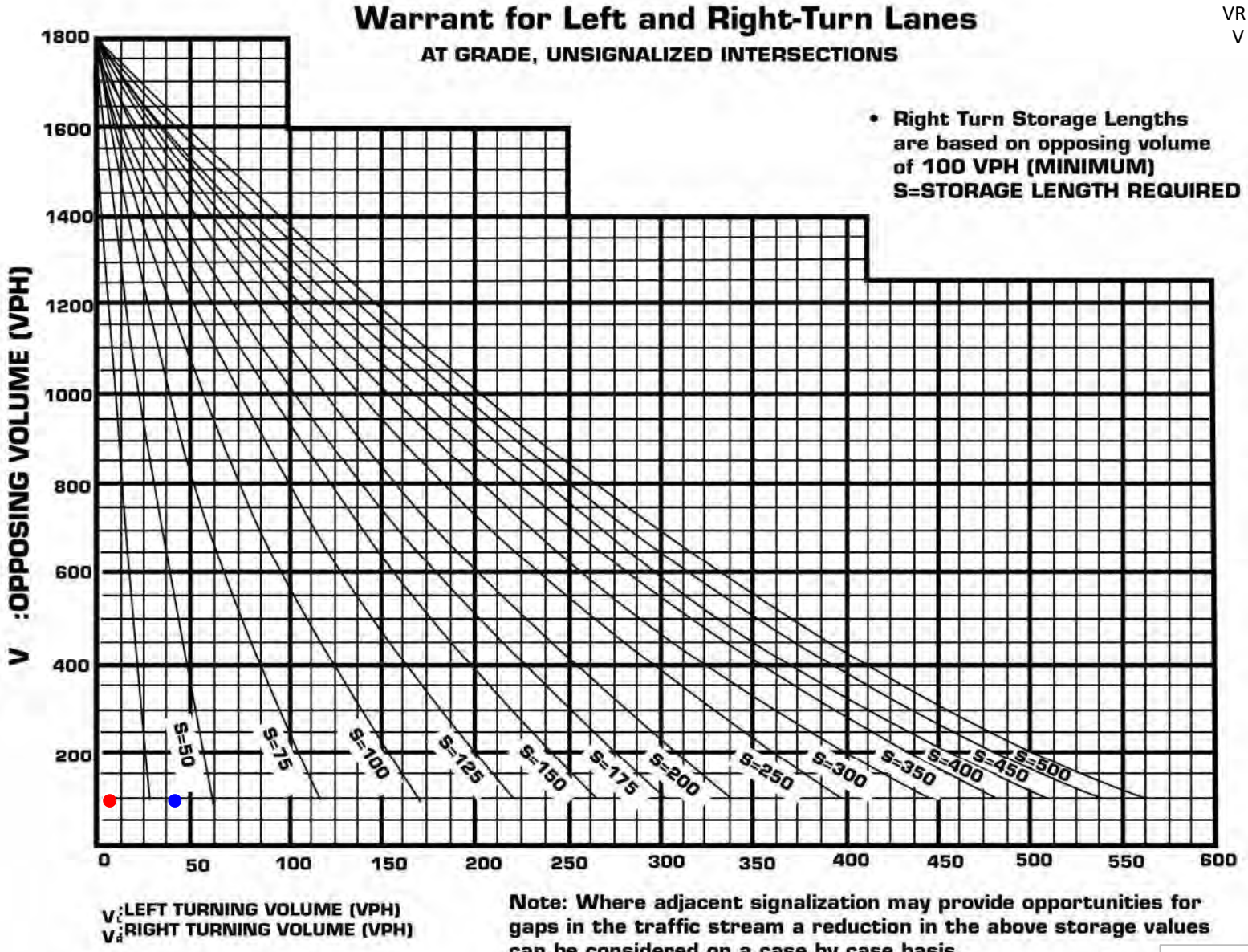
AM Peak Hour
VL = 6
V = 434
PM Peak Hour
VL = 31
V = 698



Guilford College Road / Site Driveway #1 / James Square Drive
Eastbound Left-Turn
2027 AM and PM Peak Hours

LEGEND
● = AM Peak
● = PM Peak

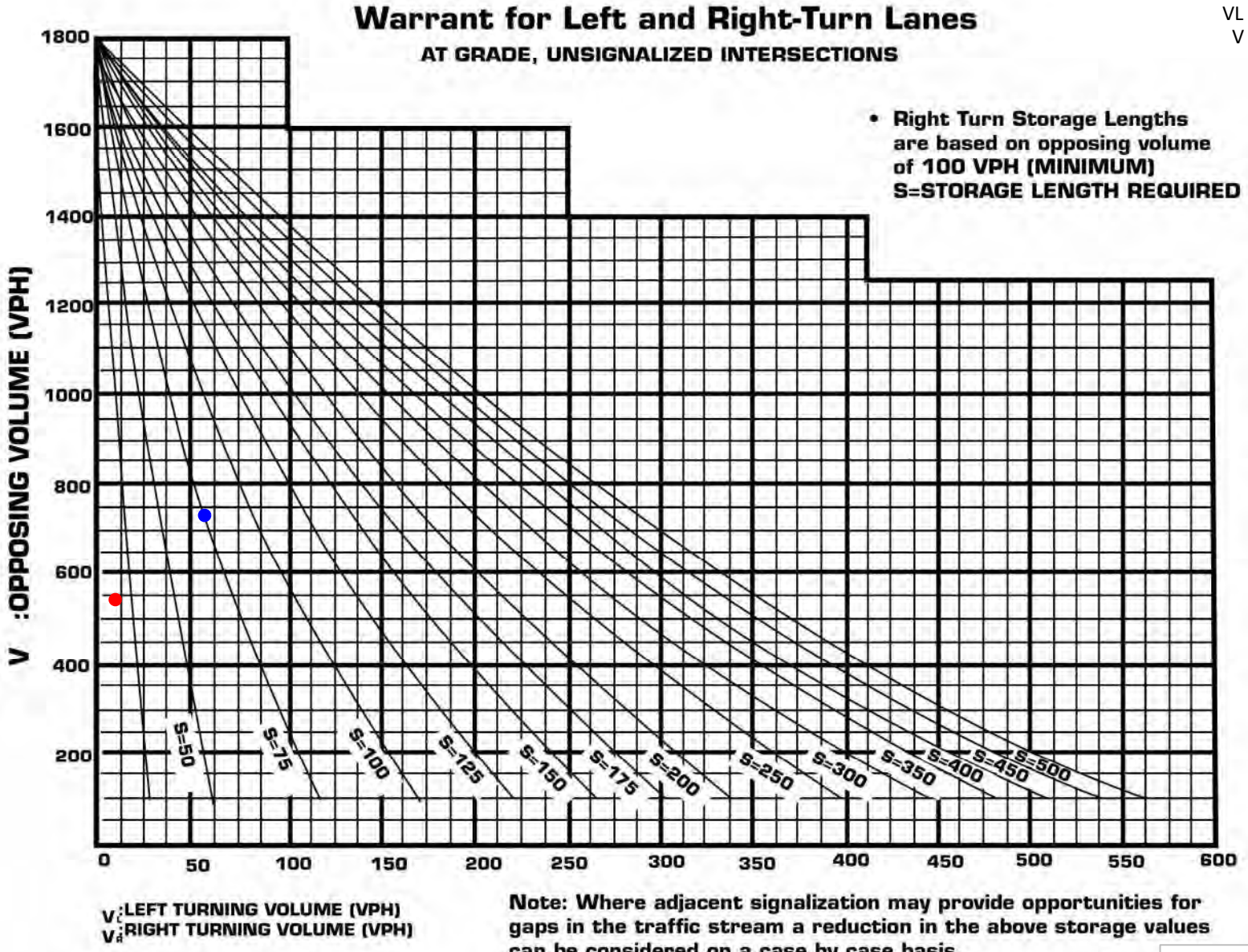
AM Peak Hour
VR = 42
V = 100
PM Peak Hour
VR = 7
V = 100



Guilford College Road / Site Driveway #1 / Jamestown Square Drive
Eastbound Right-Turn
2027 AM and PM Peak Hours

LEGEND
● = AM Peak
● = PM Peak

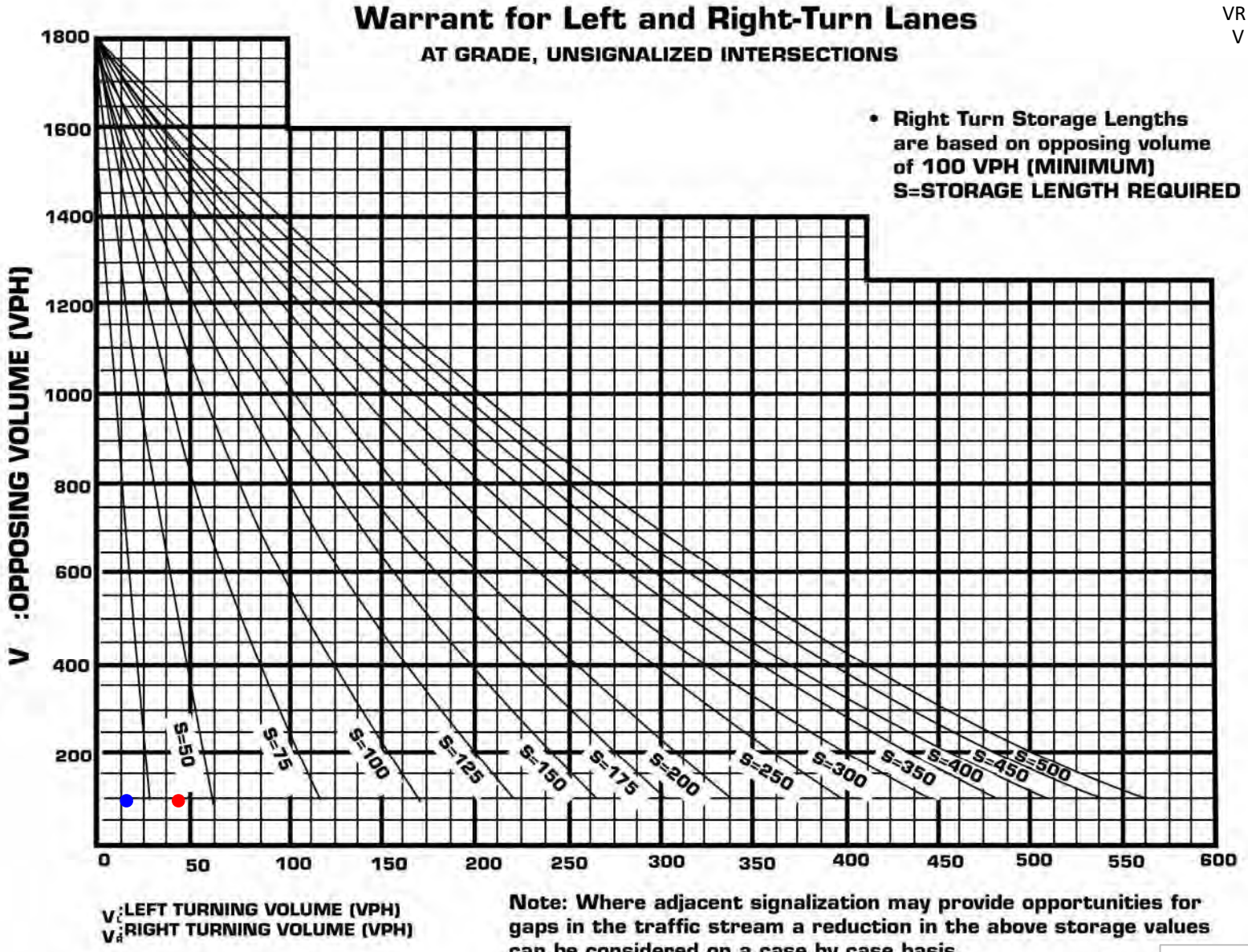
AM Peak Hour
VL = 58
V = 736
PM Peak Hour
VL = 10
V = 548



Guilford College Road / Site Driveway #1 / Jamestown Square Drive
Westbound Left-Turn
2027 AM and PM Peak Hours

LEGEND
● = AM Peak
● = PM Peak

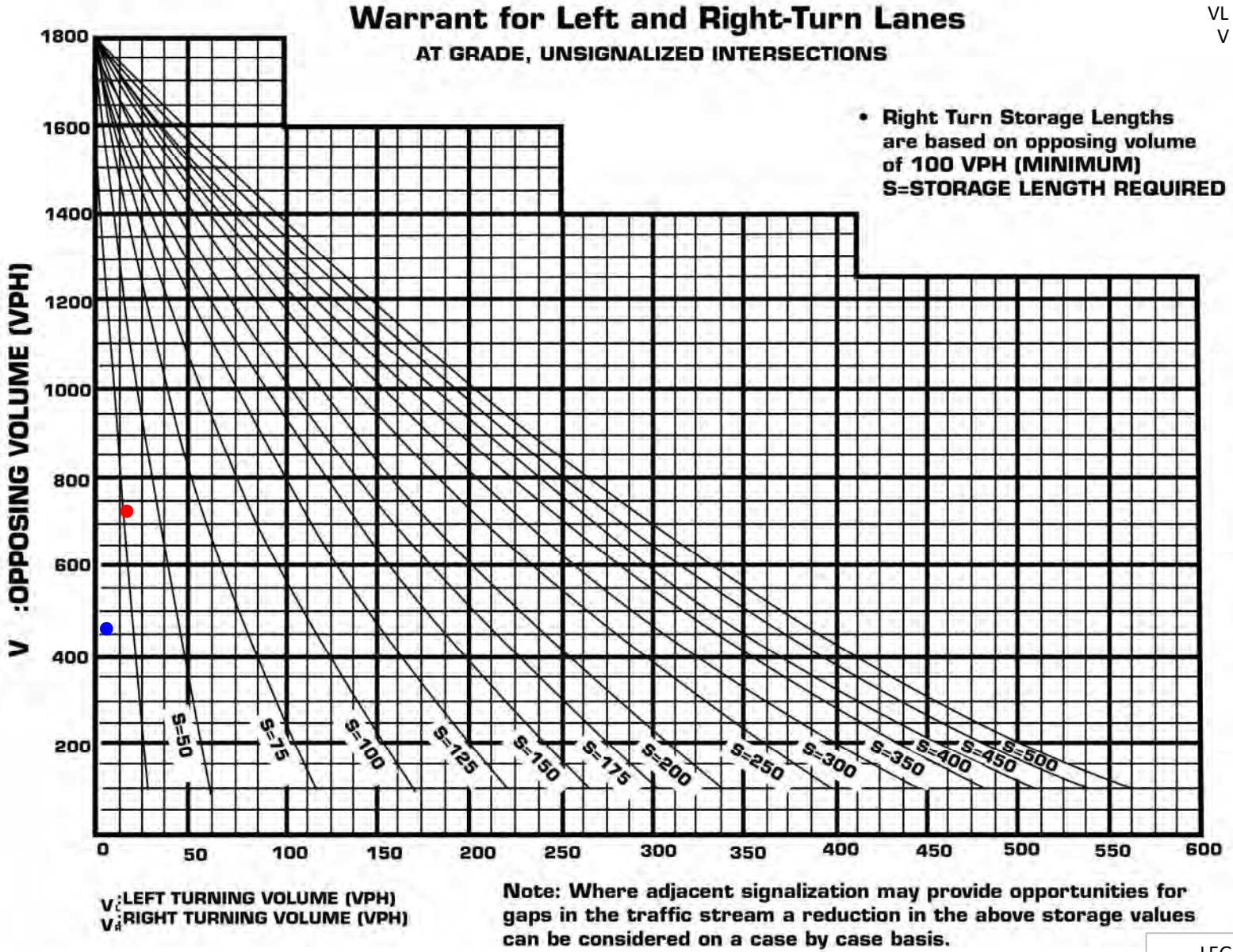
AM Peak Hour
VR = 16
V = 100
PM Peak Hour
VR = 44
V = 100



Guilford College Road / Site Driveway #1 / James Square Drive
Westbound Right-Turn
2027 AM and PM Peak Hours

LEGEND
● = AM Peak
● = PM Peak

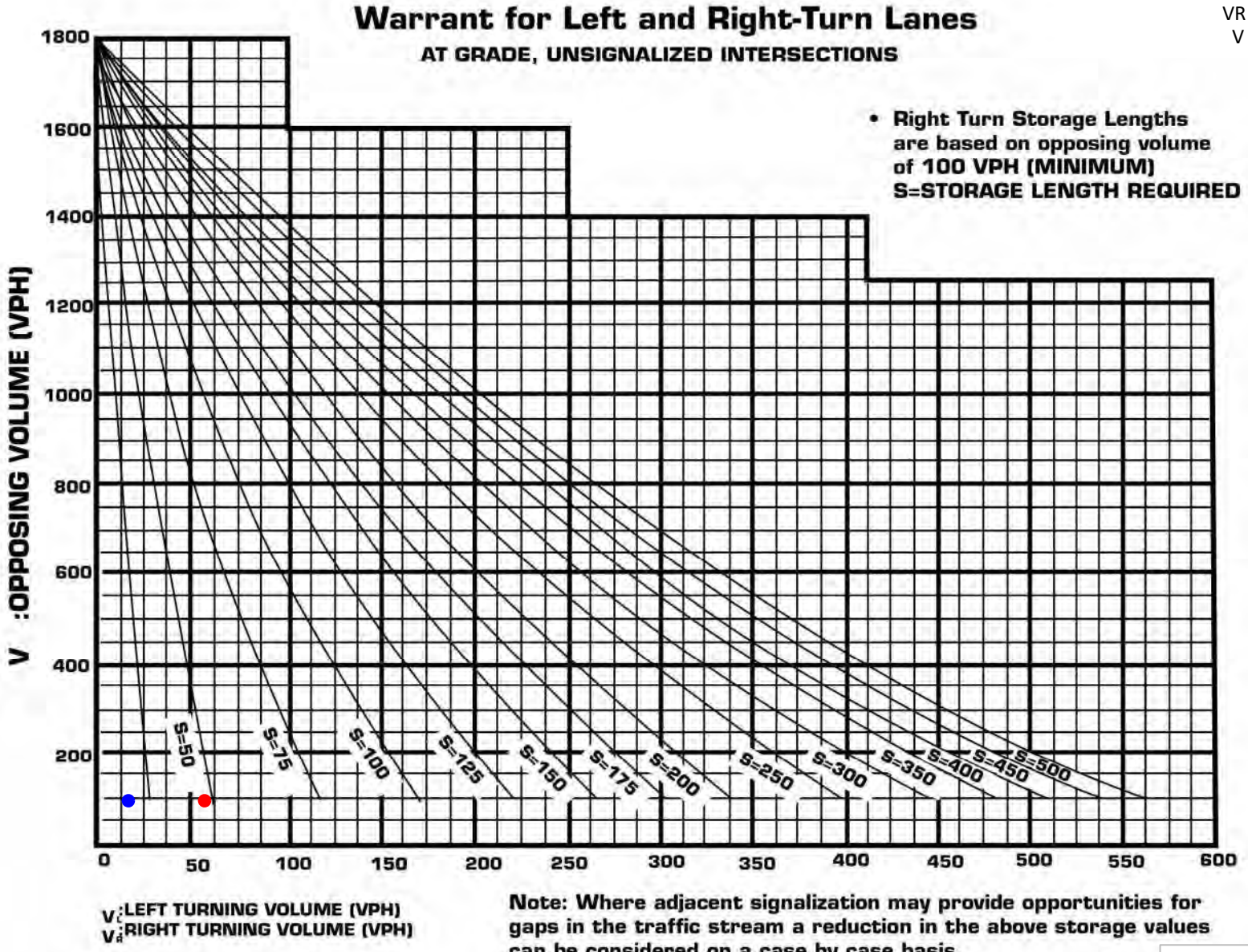
AM Peak Hour
VL = 6
V = 466
PM Peak Hour
VL = 17
V = 731



Guilford College Road / Site Driveway #2
Eastbound Left-Turn
2027 AM and PM Peak Hours

LEGEND
● = AM Peak
● = PM Peak

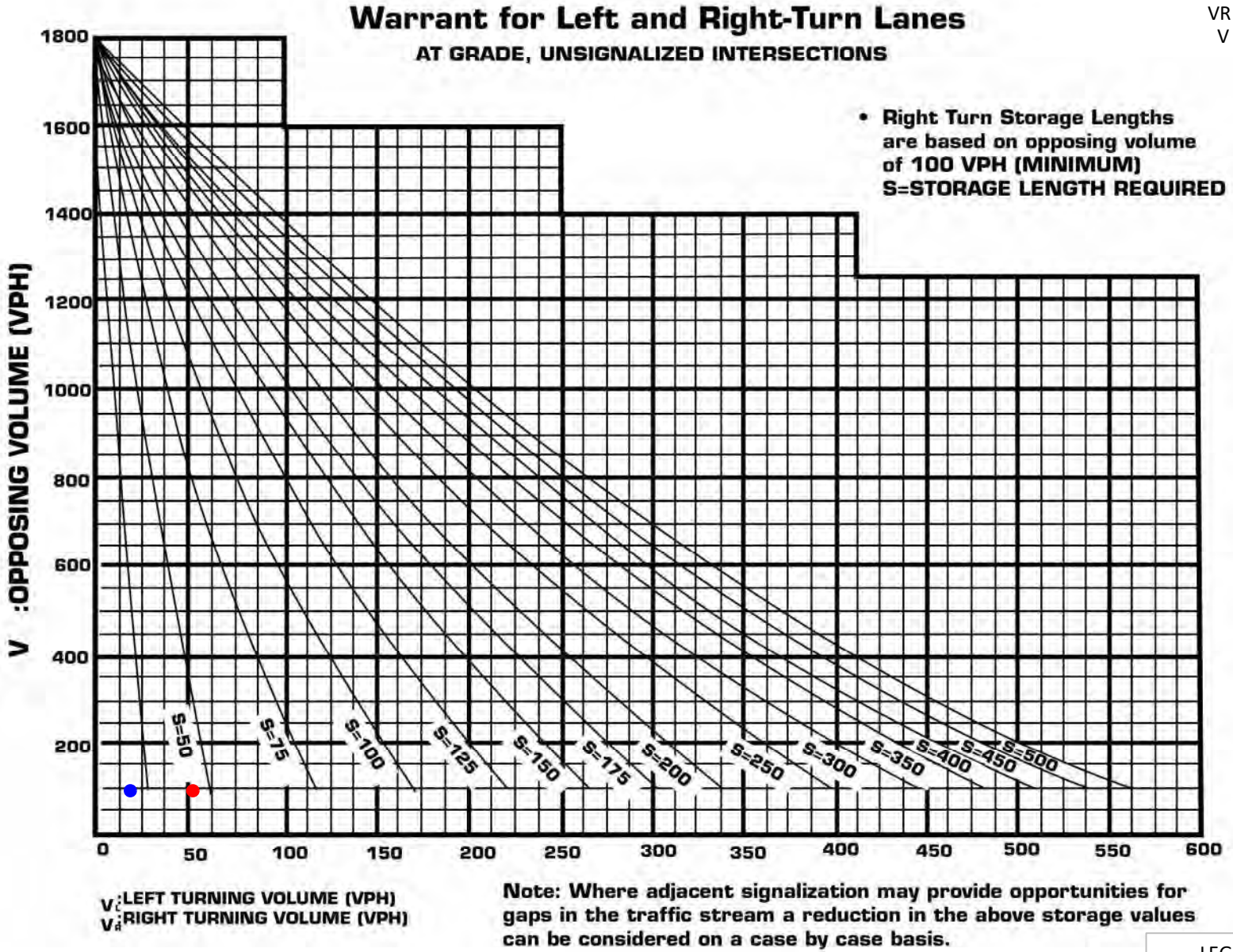
AM Peak Hour
VR = 17
V = 100
PM Peak Hour
VR = 58
V = 100



Guilford College Road / Site Driveway #2
Westbound Right-Turn
2027 AM and PM Peak Hours

LEGEND
● = AM Peak
● = PM Peak

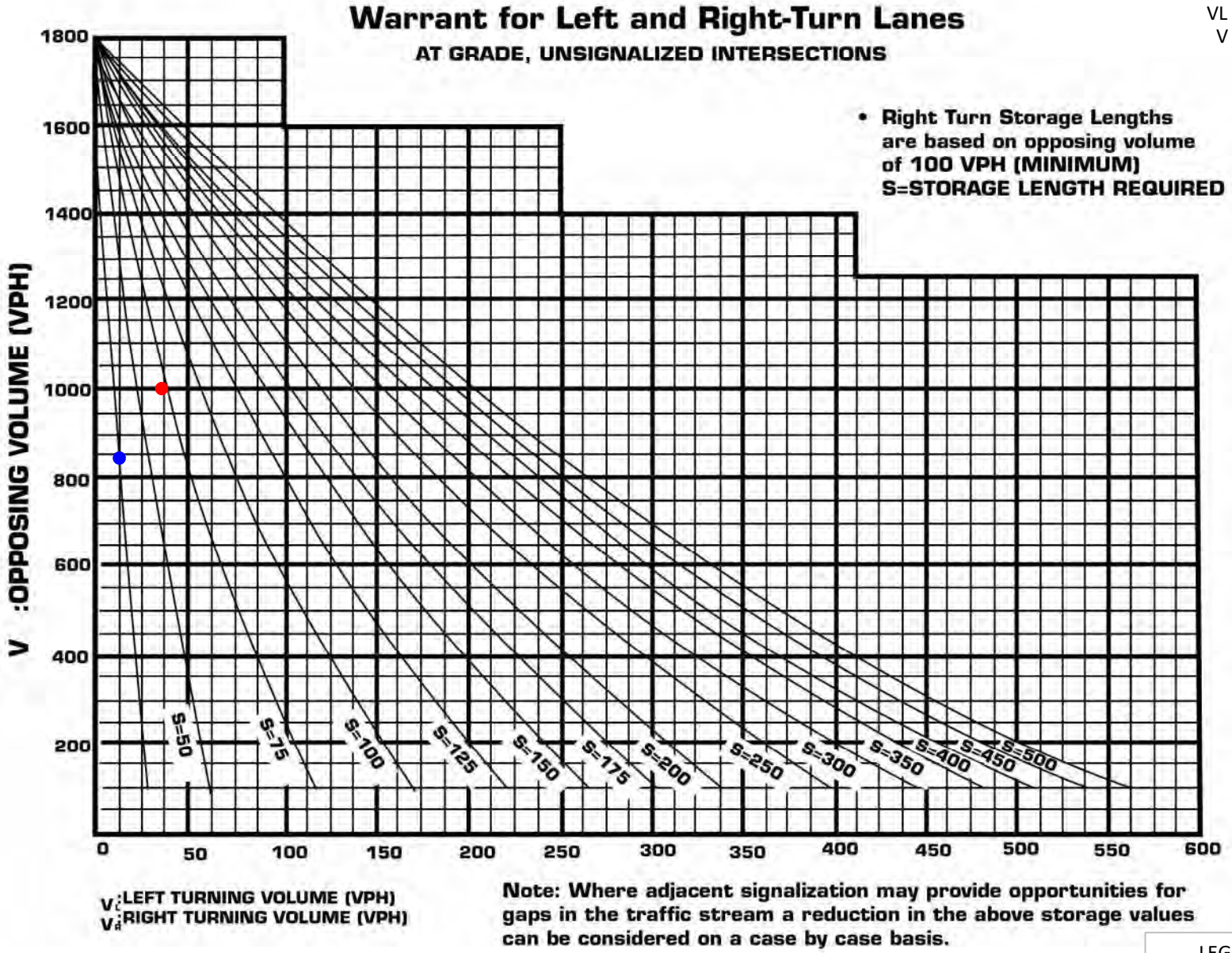
AM Peak Hour
VR = 19
V = 100
PM Peak Hour
VR = 53
V = 100



Guilford College Road / Site Driveway #5
Northbound Right-Turn
2027 AM and PM Peak Hours

LEGEND
● = AM Peak
● = PM Peak

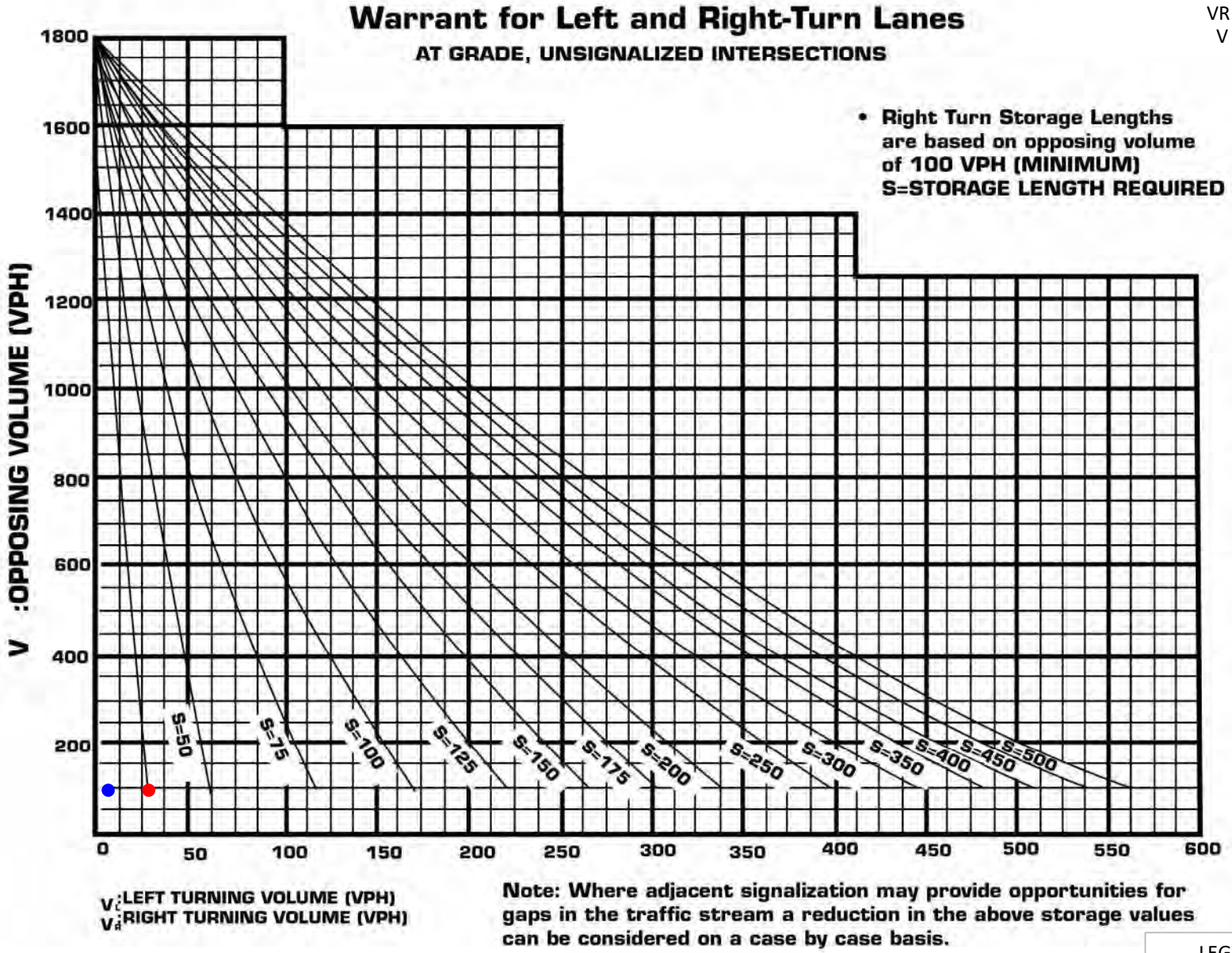
AM Peak Hour
VL = 13
V = 850
PM Peak Hour
VL = 36
V = 1007



LEGEND
● = AM Peak
● = PM Peak

Guilford College Road / Site Driveway #5
Southbound Left-Turn
2027 AM and PM Peak Hours

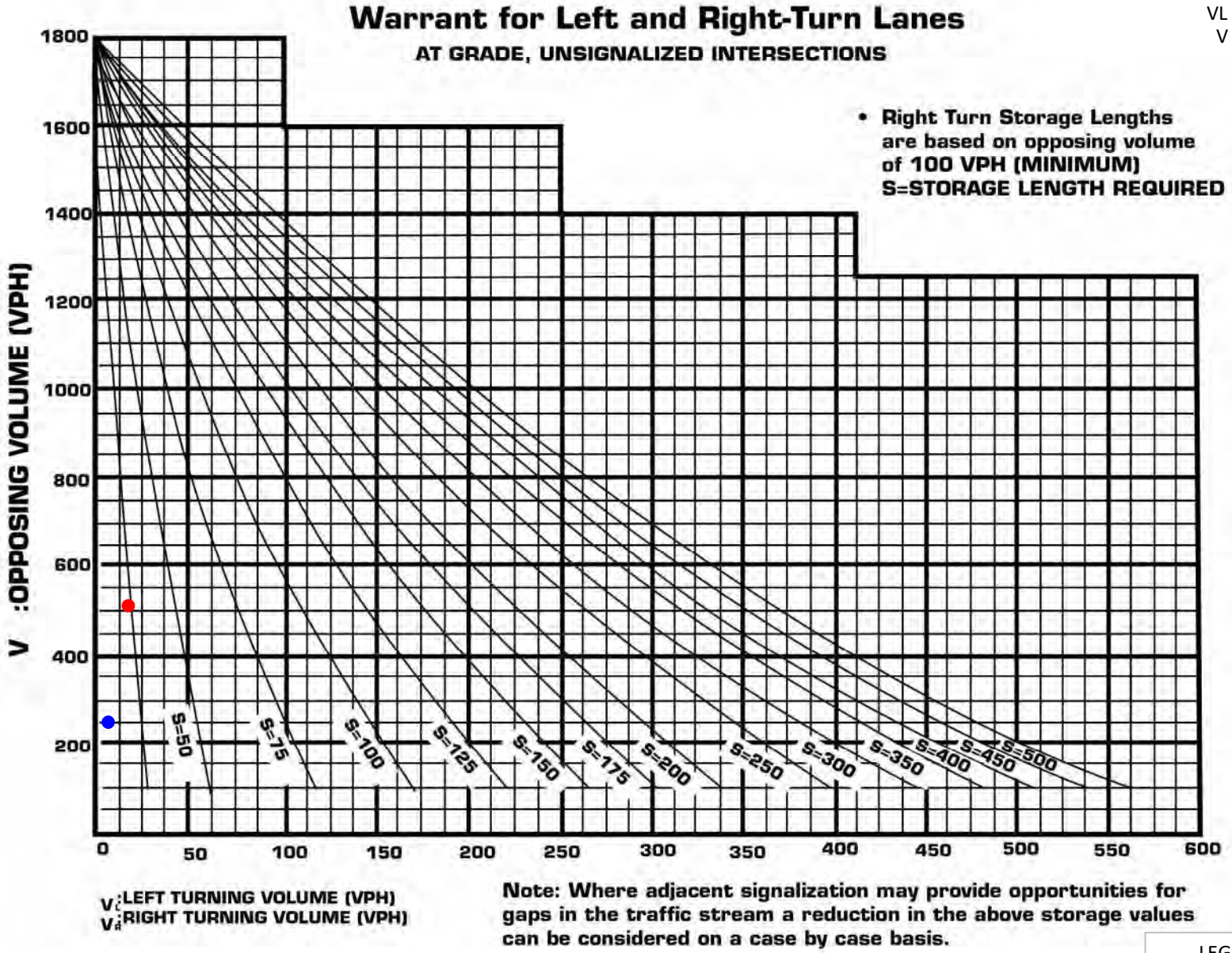
AM Peak Hour
VR = 7
V = 100
PM Peak Hour
VR = 29
V = 100



Mackay Road / Site Driveway #7
Eastbound Right-Turn
2027 AM and PM Peak Hours

LEGEND
● = AM Peak
● = PM Peak

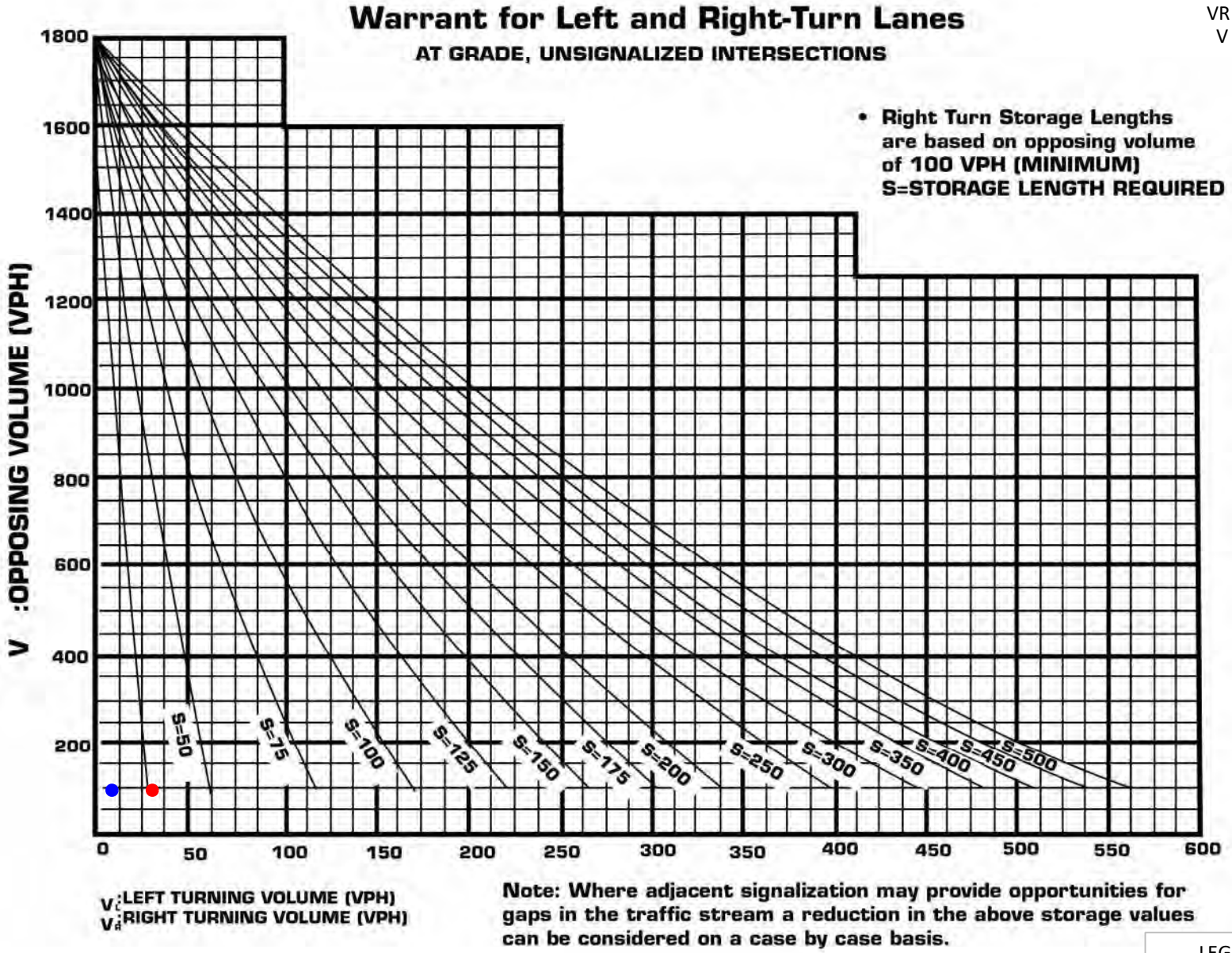
AM Peak Hour
VL = 7
V = 254
PM Peak Hour
VL = 18
V = 517



Mackay Road / Site Driveway #7
Westbound Left-Turn
2027 AM and PM Peak Hours

LEGEND
● = AM Peak
● = PM Peak

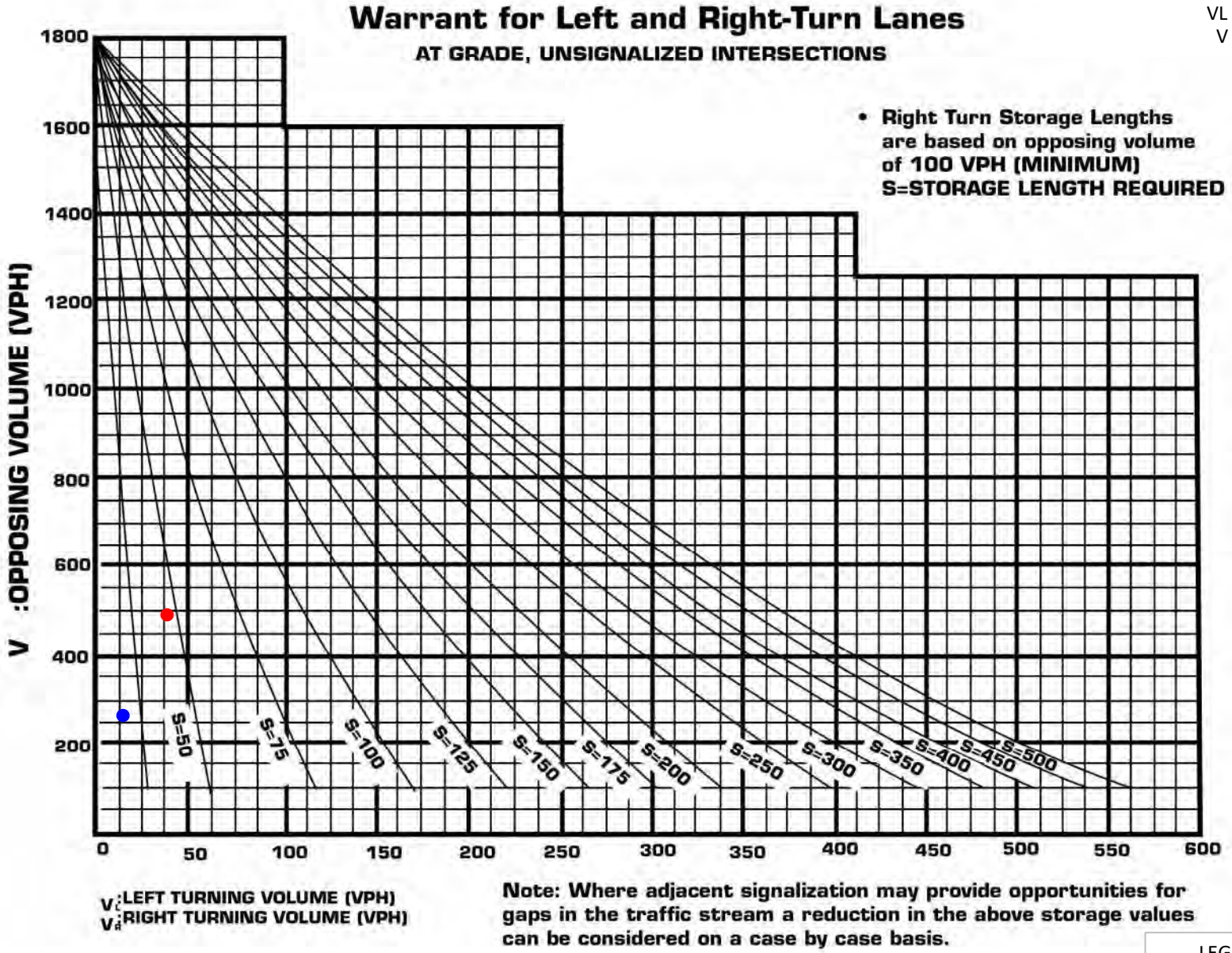
AM Peak Hour
VR = 9
V = 100
PM Peak Hour
VR = 31
V = 100



Mackay Road / Site Driveway #8
Eastbound Right-Turn
2027 AM and PM Peak Hours

LEGEND
● = AM Peak
● = PM Peak

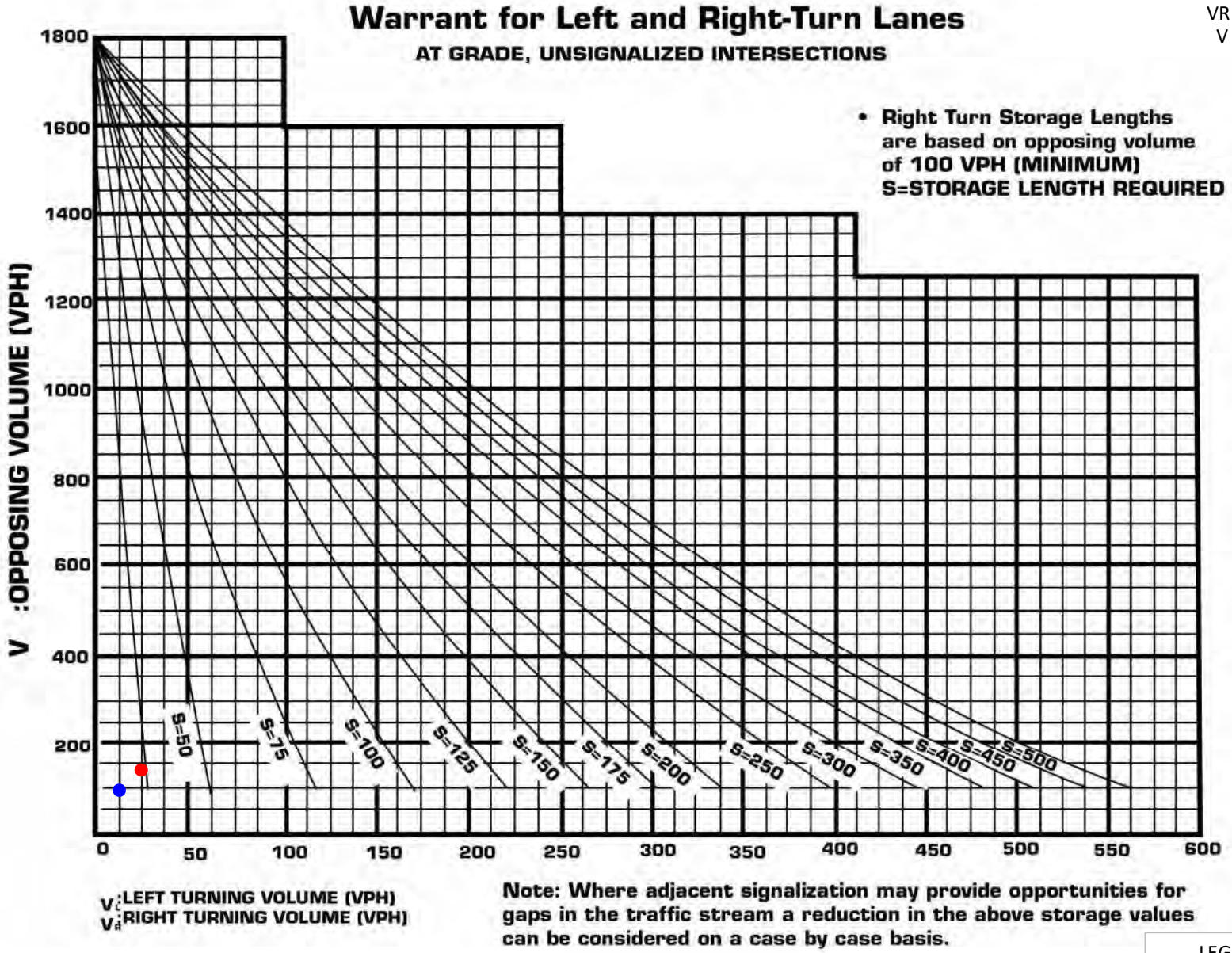
AM Peak Hour
VL = 15
V = 269
PM Peak Hour
VL = 39
V = 496



Mackay Road / Site Driveway #8
Westbound Left-Turn
2027 AM and PM Peak Hours

LEGEND
● = AM Peak
● = PM Peak

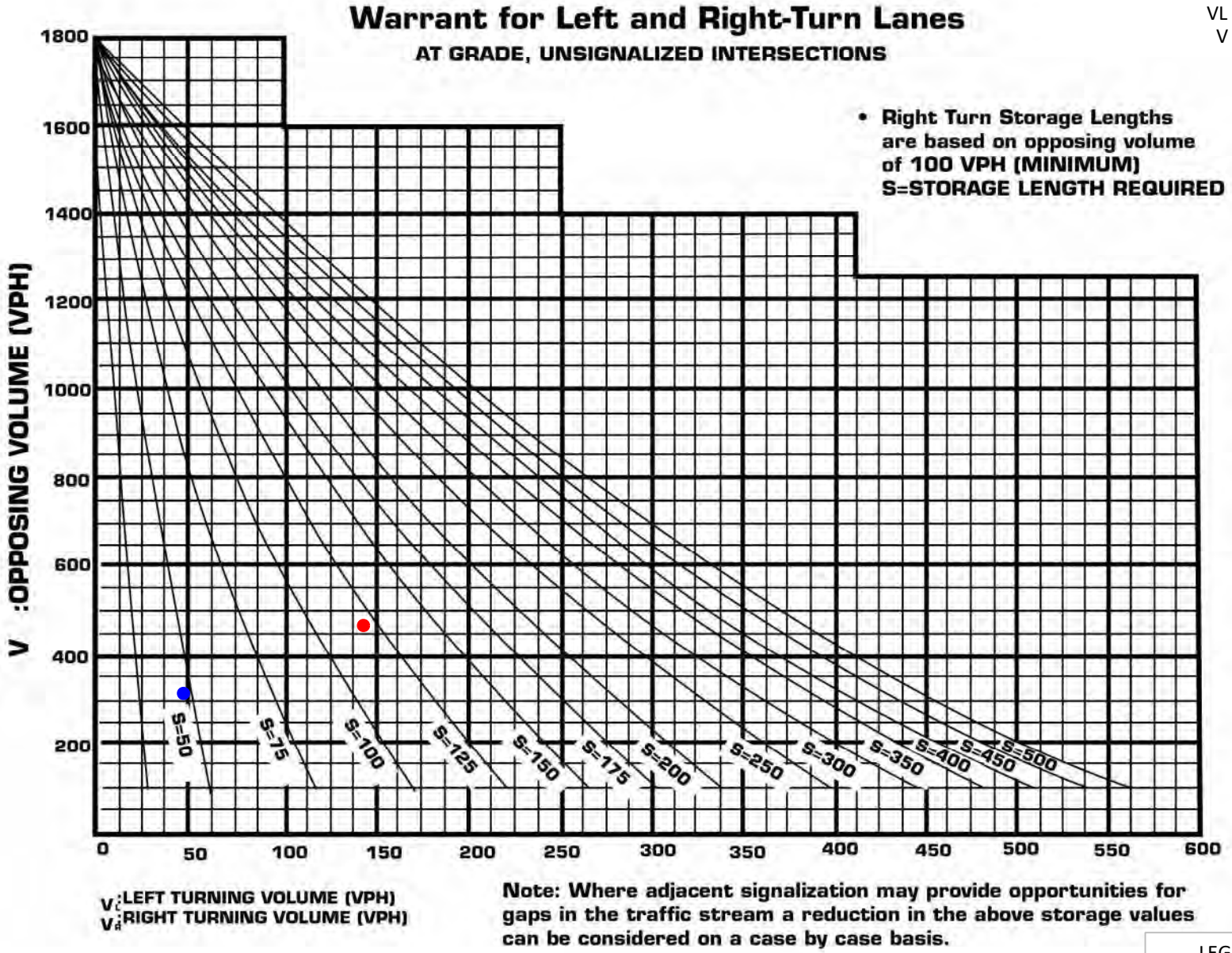
AM Peak Hour
VR = 13
V = 100
PM Peak Hour
VR = 25
V = 146



Mackay Road / Site Driveway #9
Eastbound Right-Turn
2027 AM and PM Peak Hours

LEGEND
● = AM Peak
● = PM Peak

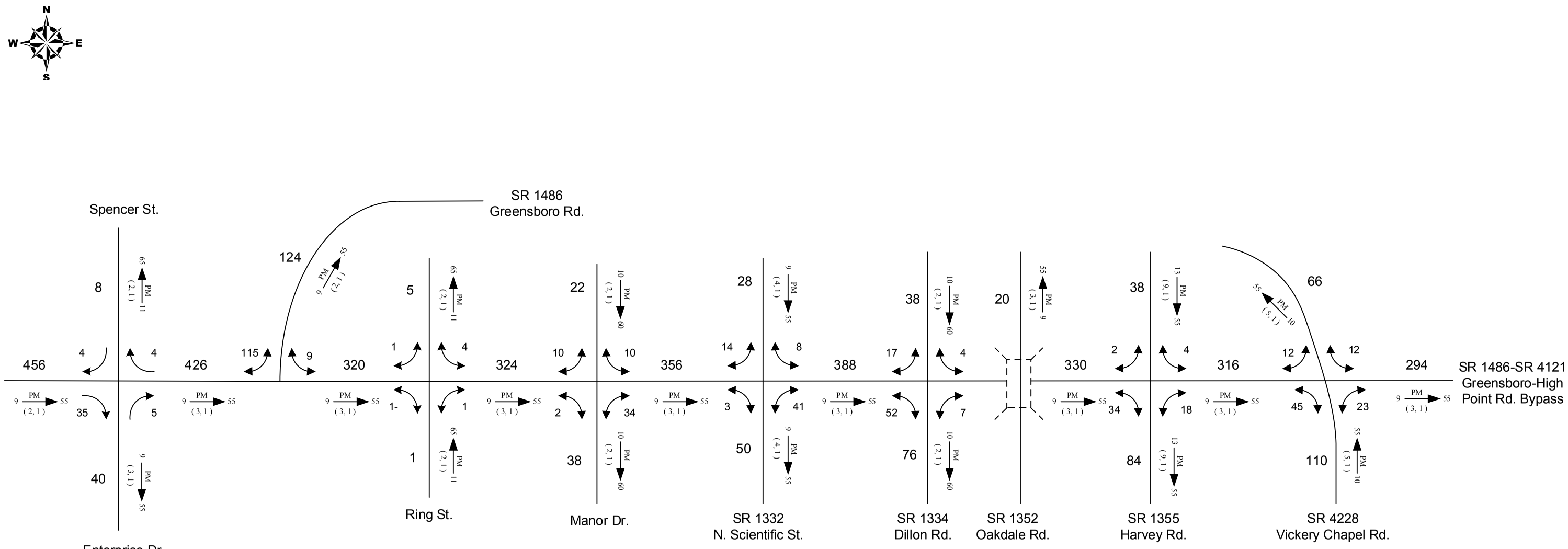
AM Peak Hour
VL = 48
V = 319
PM Peak Hour
VL = 146
V = 472

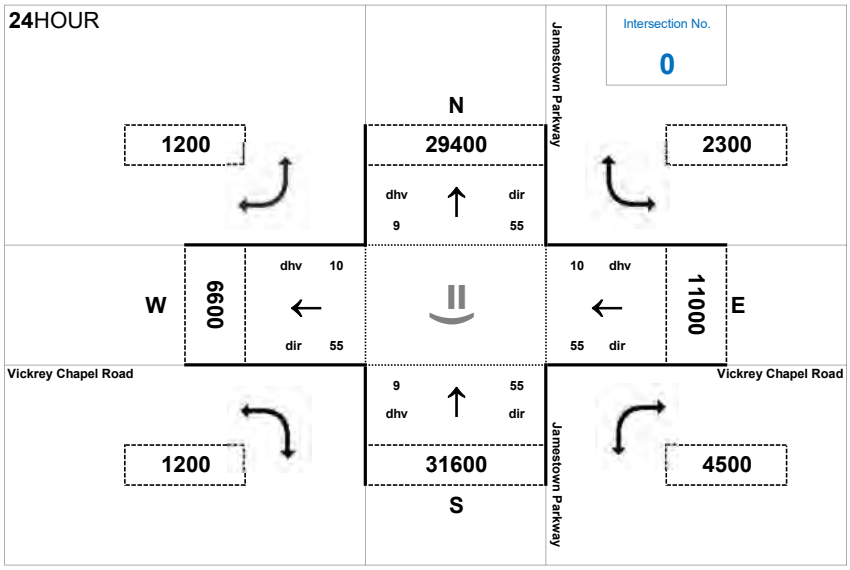


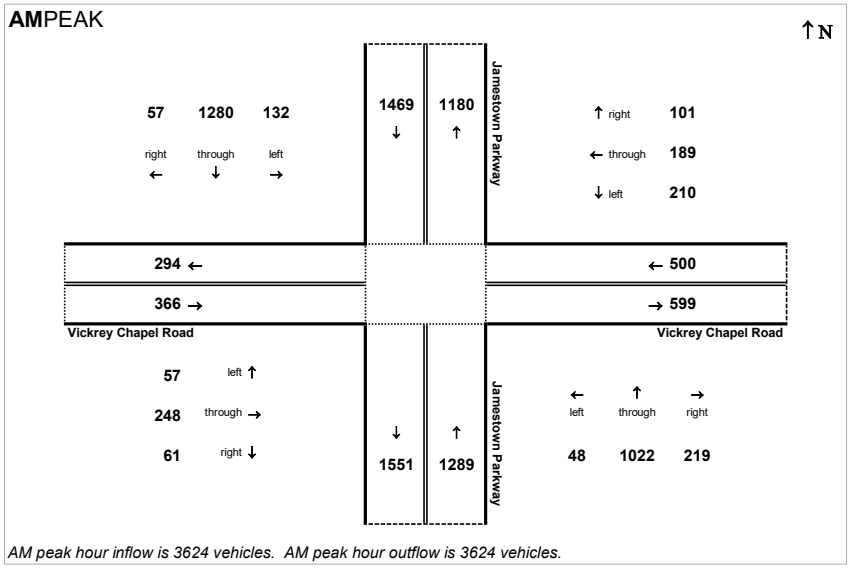
Mackay Road / Site Driveway #9
Westbound Left-Turn
2027 AM and PM Peak Hours

LEGEND
● = AM Peak
● = PM Peak

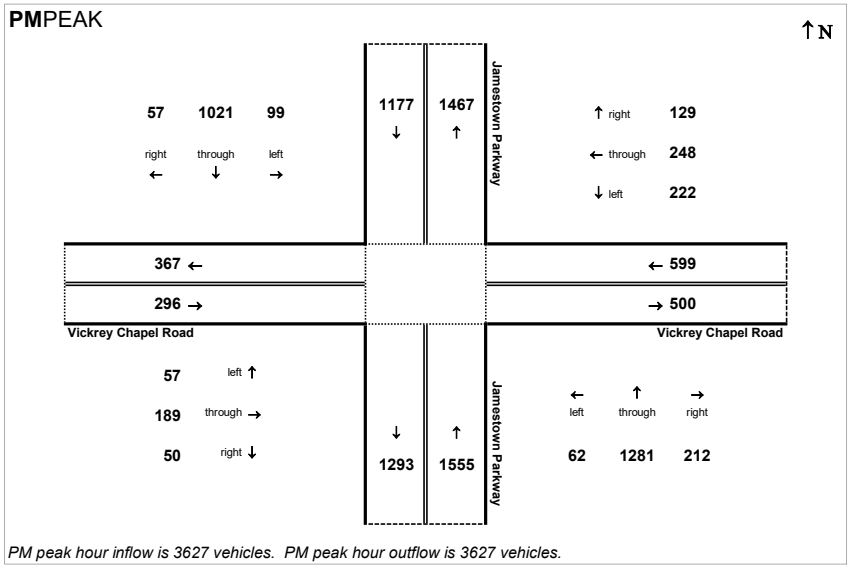
Appendix F – U-2412A Public Improvements


N
W
E
S
Spencer St.
SR 1486
Greensboro Rd.
Enterprise Dr.
Ring St.
Manor Dr.
SR 1332
N. Scientific St.
SR 1334
Dillon Rd.
SR 1352
Oakdale Rd.
SR 1355
Harvey Rd.
SR 4228
Vickery Chapel Rd.
SR 1486-SR 4121
Greensboro-High
Point Rd. Bypass
456
426
320
324
356
388
330
316
294
8
40
35
5
124
115
9
5
1
1
22
38
2
34
28
50
3
41
38
76
52
7
20
38
84
34
18
66
110
45
23
12
12
4
4
4





AM peak hour inflow is 3624 vehicles. AM peak hour outflow is 3624 vehicles.



PM peak hour inflow is 3627 vehicles. PM peak hour outflow is 3627 vehicles.

Peak Hour Volume Breakouts Report:
Jamestown Parkway (Greensboro-High Point Road. Bypass) / Vickrey Chapel Road

Traffic Forecast Release Date:
July-16

Traffic Data Year:
1/1/2040

Project:
U-2412A 2040 Build