Bethel Green

Traffic Impact Analysis

Garner, North Carolina

November 2023

Prepared for:

Foxfield Land Partners

TIMMONS GROUP
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EXECUTIVE SUMMARY

This report presents the proposed Bethel Green traffic impact analysis (TIA) findings. The proposed residential development will be located south side of New Bethel Church Road, west of Hebron Church Road, in Garner, NC (see Figure ES-1). The proposed development will be constructed in one phase and consist of 333 single-family homes.

Access to the proposed site will be provided via two (2) connections (both constructed by the Oak Manor Development). Internal connections will be provided between the Oak Manor and Bethel Green Developments. Squirrel Oaks Lane will connect to New Bethel Church Road approximately 220-feet (C/L to C/L) east of Magnolia Lane. Site Access 1 (RIRO) will connect to New Bethel Church Road approximately 905-feet (C/L to C/L) east of Squirrel Oaks Lane. (see Figure ES-2).

Per the NCDOT guidelines, analyses were completed for the following scenarios:

- 2023 Existing traffic volumes;
- 2026 Background traffic volumes; and
- 2026 Build traffic volumes (Background + site trips);

The study limits include the following nine (9) intersections:

- NC-50 (Benson Road) / SR 2703 (New Bethel Church Road);
- SR 2706 (Clifford Road) / Gunderson Lane / SR 2703 (New Bethel Church Road);
- Squirrel Oaks Lane / Acorn Grove Road / SR 2703 (New Bethel Church Road);
- Site Access 1 / SR 2703 (New Bethel Church Road);
- SR 2703 (New Bethel Church Road) / SR 2547 (Hebron Church Road) / SR 2704 (Wrenn Road);
- SR 2706 (Clifford Road) / SR 2707 (Bryan Road) / Potomac River Street;
- SR 2709 (Ackerman Road) / SR 2547 (Hebron Church Road);
- SR 2547 / 2700 (White Oak Road) / SR 2547 (Hebron Church Road); and
- SR 2812 (Timber Drive East) / SR 2547 (White Oak Road).

The site-generated trips shown in Table ES-1 are based on trip generation information provided in the 11th Edition of the Institute of Transportation Engineer's (ITE's) Trip Generation Manual and the anticipated development size. The trip generation was calculated using the proposed number of residential units as the independent variable and the provided equations (per NCDOT standards).

AM peak hour trips totaled 56 incoming and 167 outgoing where PM trips totaled 194 incoming and 114 outgoing. Average daily traffic (ADT) volumes totaled 3,052 VPD.

Table ES-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	333 Units	56	167	223	194	114	308	3,052

SOURCE: Institute of Transportation Engineers' Trip Generation Manual 11th Edition (2023)

Study area intersections were analyzed using SYNCHRO Version 11.1 and SIDRA Version 9.1 based on Highway Capacity Manual (HCM) methodologies. Synchro provides six letter grades of Levels of Service (LOS) ranging from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. LOS D is considered to be an acceptable level of service

per NCDOT standards and guidelines. Detailed analysis results for each study area intersection are described within the traffic impact analysis report.

Conclusion and Recommendations:

The following improvements (see Figure ES-3) are recommended in conjunction with the proposed development's construction:

- New Bethel Church Road / Site Access 1
    - 50-foot eastbound right-turn lane (with appropriate taper)

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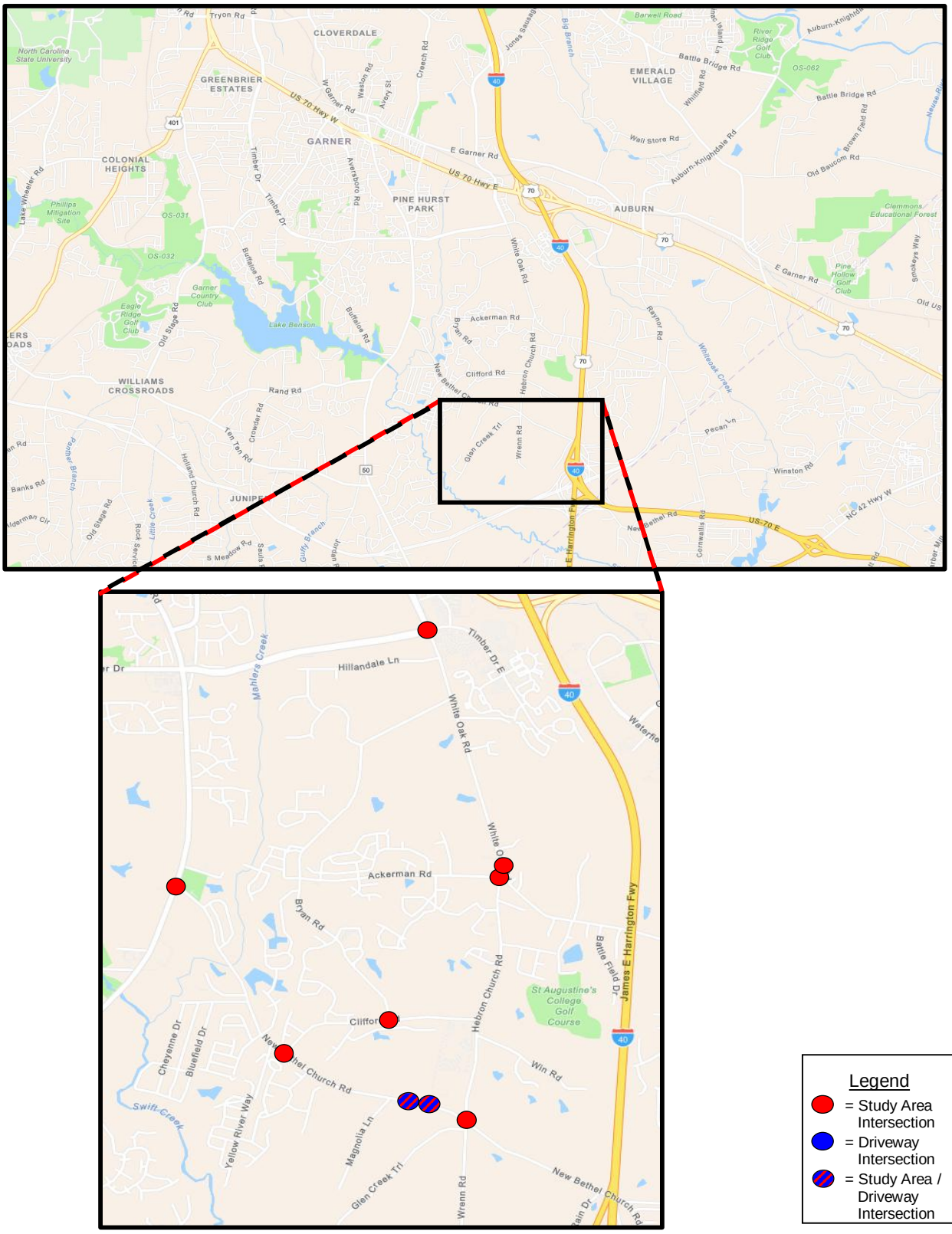

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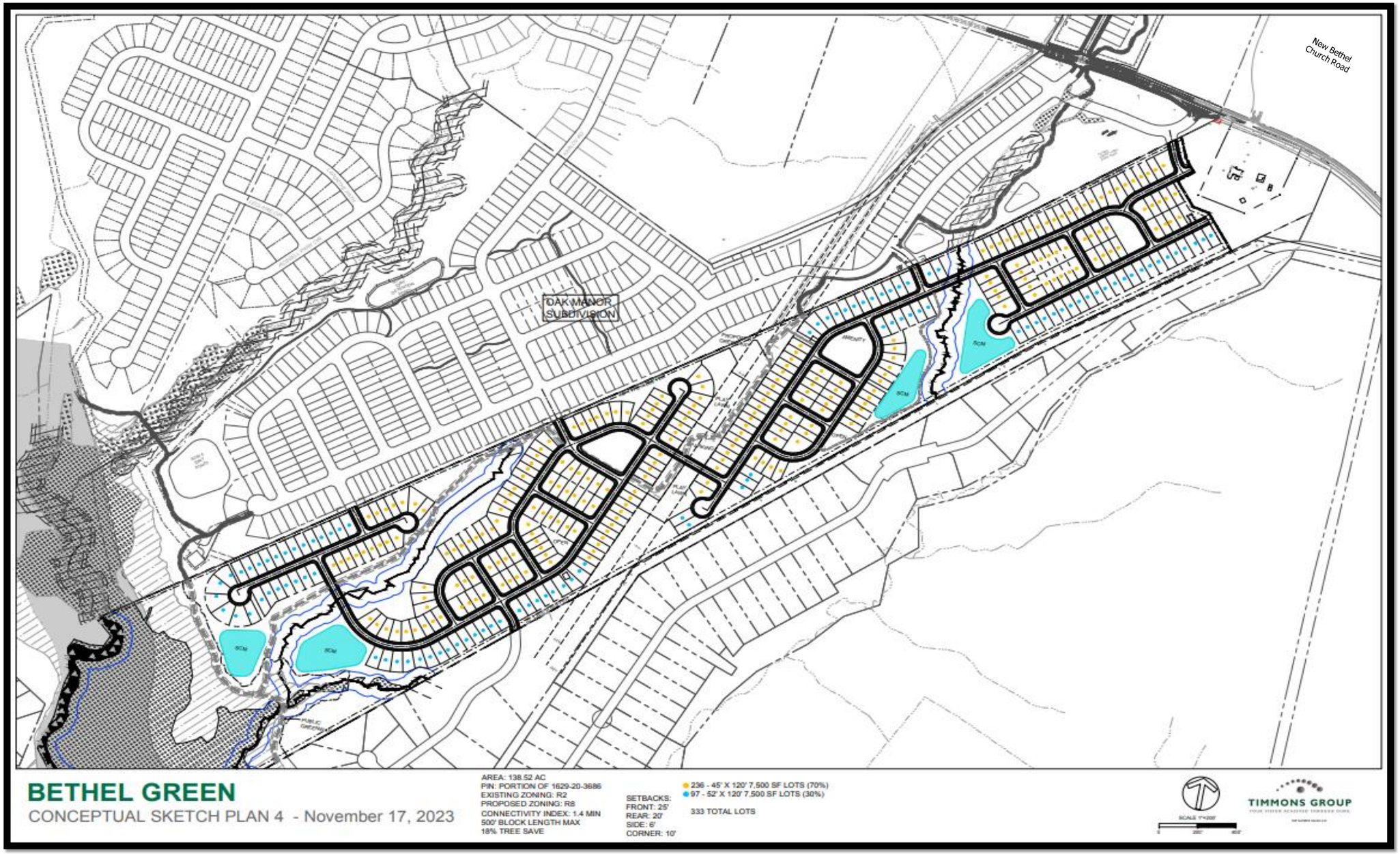
Bethel Green
Traffic Impact Analysis
Site Location Map

ES-1



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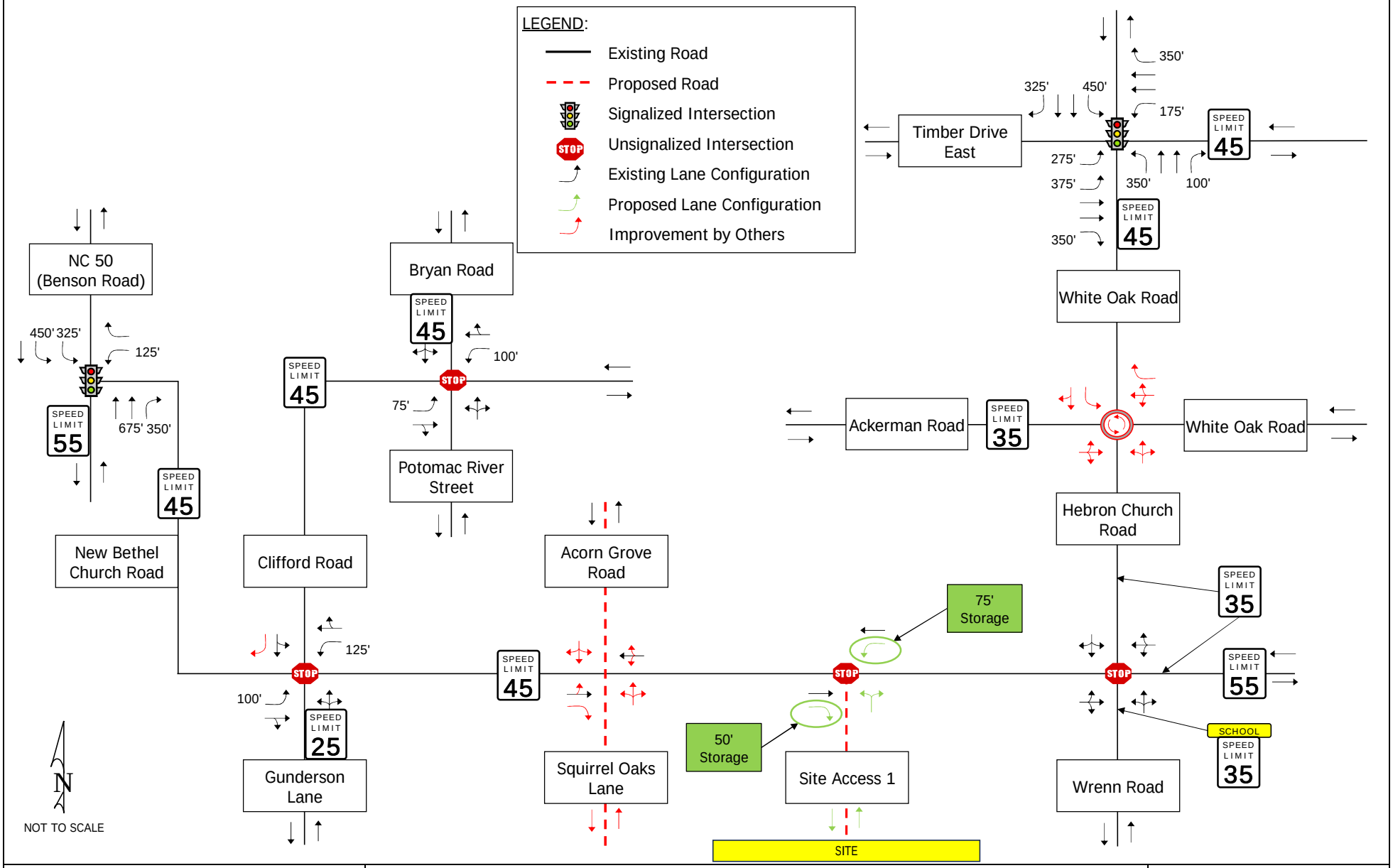
TIMMONS GROUP YOUR VISION ACHIEVED THROUGH OURS.	Bethel Green Traffic Impact Analysis Site Plan	ES-2



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Bethel Green
Traffic Impact Analysis
2026 Future Lane Configuration

ES-3

1 INTRODUCTION

This report presents the proposed Bethel Green Traffic Impact Analysis (TIA) findings. The development will be located south of New Bethel Church Road, west of Hebron Church Road, in Garner, NC (see Figure 1-1). The proposed development will be constructed in one phase and consist of the following:

- 333 Single-Family Housing Units

Development construction is proposed to be completed by 2026.

Analyses were completed for the following scenarios:

- 2023 Existing traffic volumes;
- 2026 Background traffic volumes;
- 2026 Build (Background + site trips) traffic volumes;

The TIA's purpose is to verify that the existing geometry provided within the study area is sufficient to accommodate the projected traffic volumes, and to determine what, if any, improvements are necessary at the proposed site driveway connections.

The following steps were taken to determine the project's potential traffic impacts:

1. Data Collection – AM (7:00 – 9:00) and PM (4:00 – 6:00) peak hour turning movement counts were collected in September 2023 at the following intersections:

    - NC-50 (Benson Road) / SR-2703 (New Bethel Church Road) – Signalized;
    - SR-2706 (Clifford Road) / Gunderson Lane / SR-2703 (New Bethel Church Road) – Unsignalized;
    - SR-2703 (New Bethel Church Road) / SR-2547 (Hebron Church Road) / SR-2704 (Wrenn Road) – Unsignalized;
    - SR-2706 (Clifford Road) / SR-2707 (Bryan Road) / Potomac River Street – Unsignalized;
    - SR-2709 (Ackerman Road) / SR-2547 (Hebron Church Road) – Unsignalized;
    - SR-2547 / 2700 (White Oak Road) / SR-2547 (Hebron Church Road) – Signalized; and
    - SR-2812 (Timber Drive East) / SR-2547 (White Oak Road).

2. Trip Generation/Future Traffic – Traffic generated by the proposed development was estimated using the 11th Edition of the Institute of Transportation Engineers' *Trip Generation Manual*. The proposed development trip generation was calculated following the NCDOT trip generation standards and practices. Projected traffic volumes were calculated using a 4% ambient growth rate. Per the scoping information (see Appendix A), there are five (5) approved developments within the project study area (Cambria Development, Magnolia Park, Oak Manor, Ridgemoor, and Townes at Ridgemoor), per direction received from the Town of Garner.

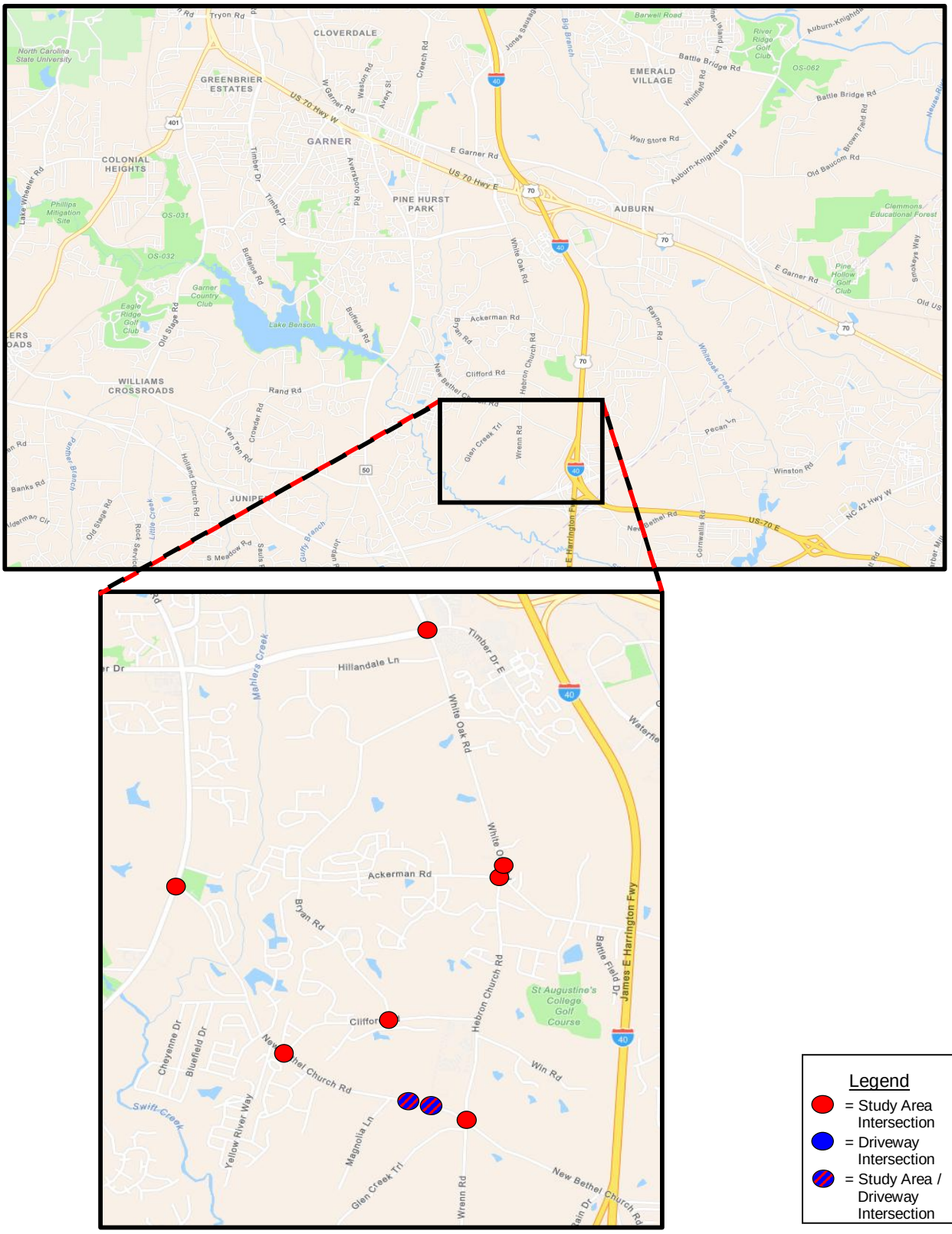
3. Trip Distribution and Projections – The site-generated trip distribution was based on the existing area traffic distribution and Engineering judgement. It was assumed, for purposes of analysis, that projected trips would follow similar patterns as existing traffic.

4. Traffic Capacity Analysis – Level of service analyses were performed using SYNCHRO Version 11.1 for the following intersections:

    - NC-50 (Benson Road) / SR-2703 (New Bethel Church Road);
    - SR-2706 (Clifford Road) / Gunderson Lane / SR-2703 (New Bethel Church Road);
    - Squirrel Oaks Lane / Acorn Grove Road / SR-2703 (New Bethel Church Road);

- Site Access 1 / SR-2703 (New Bethel Church Road);
- SR-2703 (New Bethel Church Road) / SR-2547 (Hebron Church Road) / SR-2704 (Wrenn Road);
- SR-2706 (Clifford Road) / SR-2707 (Bryan Road) / Potomac River Street;
- SR-2709 (Ackerman Road) / SR-2547 (Hebron Church Road);
- SR-2547 / 2700 (White Oak Road) / SR-2547 (Hebron Church Road); and
- SR-2812 (Timber Drive East) / SR-2547 (White Oak Road).

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



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Bethel Green
Traffic Impact Analysis
Site Location Map

Figure 1-1

2 EXISTING INFORMATION

The proposed development will be located south of New Bethel Church Road, west of Hebron Church Road, in Garner, NC, as shown in Figure 1-1.

2.1 STUDY LIMITS

Access to the proposed site will be provided via two (2) connections:

- Squirrel Oaks Lane (full access) will be constructed as part of the Oak Manor Development (adjacent to the subject development). Internal connections will be provided between the Oak Manor and Bethel Green Developments. Squirrel Oaks Lane will connect to New Bethel Church Road approximately 220-feet (C/L to C/L) east of Magnolia Lane.
- Site Access 1 (right-in/right-out (RIRO)) will also be constructed as part of the Oak Manor Development. Site Access 1 will connect to New Bethel Church Road approximately 905-feet (C/L to C/L) east of Squirrel Oaks Lane.

Site accesses are shown graphically in Figure 1-1 and the preliminary site layout in Figure 2-1 (all figures are located at the end of their respective chapter).

The study limits include the following nine (9) intersections:

- NC-50 (Benson Road) / SR-2703 (New Bethel Church Road);
- SR-2706 (Clifford Road) / Gunderson Lane / SR-2703 (New Bethel Church Road);
- Squirrel Oaks Lane / Acorn Grove Road / SR-2703 (New Bethel Church Road);
- Site Access 1 / SR-2703 (New Bethel Church Road);
- SR-2703 (New Bethel Church Road) / SR-2547 (Hebron Church Road) / SR-2704 (Wrenn Road);
- SR-2706 (Clifford Road) / SR-2707 (Bryan Road) / Potomac River Street;
- SR-2709 (Ackerman Road) / SR-2547 (Hebron Church Road);
- SR-2547 / 2700 (White Oak Road) / SR-2547 (Hebron Church Road); and
- SR-2812 (Timber Drive East) / SR-2547 (White Oak Road).

2.2 EXISTING ROADWAYS

NC-50 (Benson Road) is a two-lane facility that connects Benson to Garner. The facility, classified as a minor arterial, travels approximately north-south and has a posted 55-mph speed limit. Per 2021 NCDOT Average Annual Daily Traffic (AADT) maps, NC-50 (Benson Road) carries 24,500 vehicles per day (VPD) south of New Bethel Church Road.

SR-2703 (New Bethel Church Road) is a two-lane facility that runs approximately northwest-southeast in the project study area. The facility, classified as a local road, has a posted 45-mph speed limit and primarily serves residential developments. New Bethel Church Road stretches from NC-50 (Benson Road) to east of I-40. Per 2015 NCDOT AADT maps, New Bethel Church Road carries 2,600 VPD, east of Benson Road.

SR-2706 (Clifford Road) is a two-lane facility that stretches between New Bethel Church Road and Hebron Church Road. The facility, classified as a local road, runs northeast-southwest and has a posted 45-mph speed limit and a 2015 AADT of 1,100 VPD. Along its length, Clifford Road services several residential and agricultural developments.

Gunderson Lane is a two-lane facility that connects to New Bethel Church Road and primarily serves residential developments. The facility, classified as a local road, travels north-south within the study area and has a posted 25-mph speed limit. No existing AADT data is available for this facility.

SR-2707 (Bryan Road) is a two-lane facility that travels north-south within the study area. Bryan Road, classified as a local road, stretches from White Oak Road to Clifford Road and has a posted 45-mph speed limit. Per 2015 NCDOT AADT maps, Bryan Road carries 1,300 VPD north of Ackerman Road.

Potomac River Street is a two-lane facility that connects to Clifford Road (opposite Bryan Road) and primarily serves residential developments. The facility, classified as a local road, travels north-south within the study area and has a posted 25-mph speed limit. No AADT data is available for this facility.

SR-2704 (Wrenn Road) is a two-lane facility that stretches from New Bethel Church Road southward for approximately 4,000-feet. The facility, classified as a local road, runs north-south and has a posted 45-mph speed limit. Along its length, Wrenn Road services several residential and agricultural developments. No AADT data is available for this facility.

SR-2547 (Hebron Church Road) is a two-lane facility that runs approximately north-south in the project study area. The facility, classified as a local road, has a posted 45-mph speed limit and primarily serves residential developments. Hebron Church Road stretches from White Oak Road to New Bethel Church Road. Per 2015 NCDOT AADT maps, Hebron Church Road carries 2,400 VPD.

SR-2700 (White Oak Road) is a north-south facility with a varying cross-section. Near Timber Drive East, White Oak Road is a four-lane facility. Near Hebron Church Road, White Oak Road is a two-lane facility. White Oak Road, classified as a major collector, has a posted 45-mph speed limit and stretches from US-70 southward to the Johnston County line where it changes names to Cornwallis Road. In the project study area, the facility services primarily residential and agricultural land uses. Per 2021 NCDOT AADT maps, White Oak Road carries 31,000 VPD north of Timber Drive East.

SR-2709 (Ackerman Road) is a two-lane facility that stretches between Bryan Road and Hebron Church Road. The facility, classified as a local road, runs approximately east-west and has a posted 35-mph speed limit. Along its length, Ackerman Road services several residential developments. Per 2015 NCDOT AADT maps, Ackerman Road carries 1,700 VPD west of Hebron Church Road.

SR-2812 (Timber Drive East) is a four-lane divided facility that runs approximately east-west in the project study area. The facility has a posted 45-mph speed limit and runs from Raleigh to the White Oak Shopping Center Development. Timber Drive East is classified as a minor arterial west of White Oak Road, and a local road, east of White Oak Road. Per 2021 NCDOT AADT maps, Timber East Drive carries 20,000 VPD west of White Oak Road.

Note: All roadways classified per the NCDOT Functional Class Map.

2.3 EXISTING INTERSECTIONS

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

NC-50 (Benson Road) / New Bethel Church Road is a three-phase signalized intersection with a protected southbound left-turn phase. The northbound approach includes two through lanes and an exclusive right-turn lane. The southbound approach includes dual southbound left-turn lanes and a single through lane. The westbound approach includes exclusive left and right-turn lanes.

Clifford Road / Gunderson Lane / New Bethel Church Road is an unsignalized intersection with the Gunderson Lane and Clifford Road approaches encountering the stopped condition. The north and southbound approaches include a single shared left / through / right-turn lane. The east and westbound approaches include an exclusive left-turn lane and a shared through / right-turn lane.

New Bethel Church Road / Hebron Church Road / Wrenn Road is an unsignalized intersection with the north and southbound approaches encountering the stopped condition. All four intersection approaches include a single shared left / through / right-turn lane.

Clifford Road / Bryan Road / Potomac River Street is an unsignalized intersection with the Bryan Road and Potomac River Street approaches encountering the stopped condition. The north and southbound approaches include a single shared left / through / right-turn lane. The east and westbound approaches include an exclusive left-turn lane and a shared through / right-turn lane.

Ackerman Road / Hebron Church Road is an unsignalized intersection with the eastbound Ackerman Road approach encountering the stopped condition. The northbound approach includes a shared through / left-turn lane and an exclusive through lane. The southbound approach includes a shared through / right-turn lane. The eastbound approach includes a shared left-turn / right-turn lane.

White Oak Road / Hebron Church Road is a three-phase signalized intersection with a protected / permitted northbound left-turn phase. The northbound approach includes an exclusive left-turn lane and a single through lane. The southbound approach includes a shared through / right-turn lane. The eastbound approach includes exclusive left-turn and right-turn lanes.

White Oak Road / Timber Drive East is an eight-phase signalized intersection with protected / permitted north and southbound left-turn phases and protected only east and westbound left-turn phases. The north, south, and westbound approaches include an exclusive left-turn lane, two through lanes, and an exclusive right-turn lane. The westbound approach includes dual left-turn lanes, two through lanes, and an exclusive right-turn lane.

2.4 TRAFFIC VOLUMES

Timmons Group calculated peak hour volumes at the study area intersections using the collected AM (7:00 a.m. – 9:00 a.m.) and PM (4:00 p.m. – 6:00 p.m.) peak period turning movements counts undertaken in September 2023. Collected traffic count data is summarized in Figure 2-3. The complete traffic count data is found in Appendix B.

2.5 CAPACITY ANALYSIS

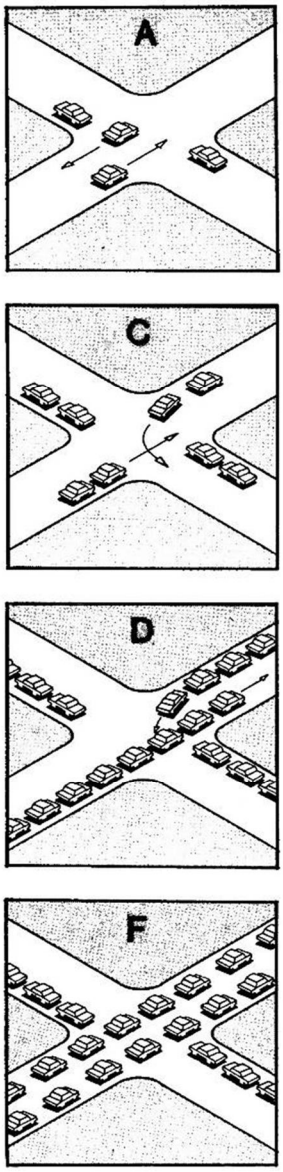
Using field observations, aerial photography, and traffic count data, traffic operations were analyzed during 2023 (existing) and 2026 (without / with the proposed development site trips).

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:

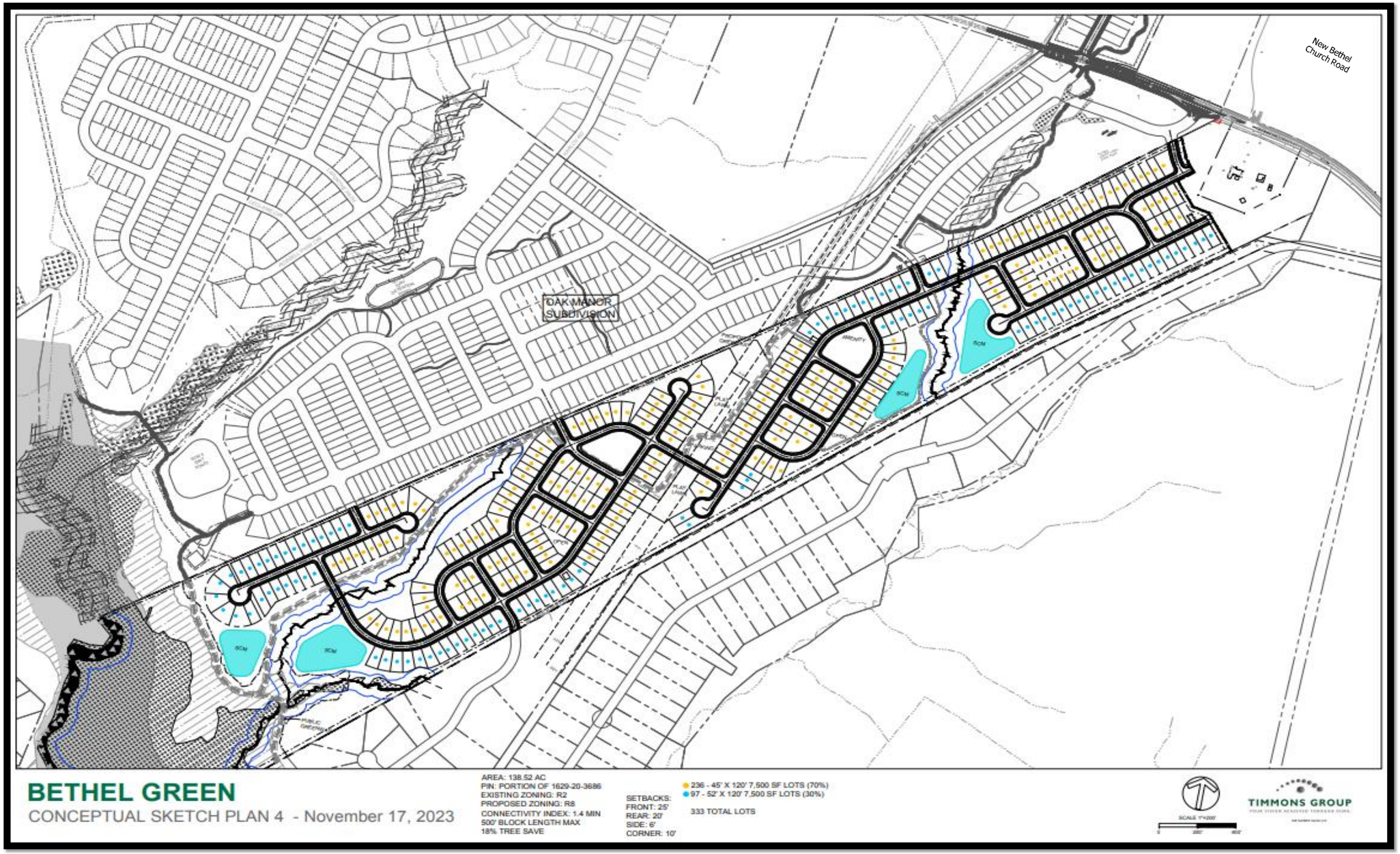
Table 2-2: Signalized and Unsignalized Intersection Level of Service Criteria

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 11.1. Synchro is based on Highway Capacity Manual (HCM) methodologies with the following assumptions:

- Existing grades;
- 12-foot lane widths;
- No parking activity, bus stops, or pedestrians;
- Peak hour factor (PHF) of 0.90;
- Heavy vehicle percentages 2%;
- Minimum 4 vehicles per hour (VPH) for all allowed permissible movements; and
- Existing traffic signal plan signal data for existing conditions (see Appendix C); and
- Optimized signal timings for future (Background and Build) conditions.



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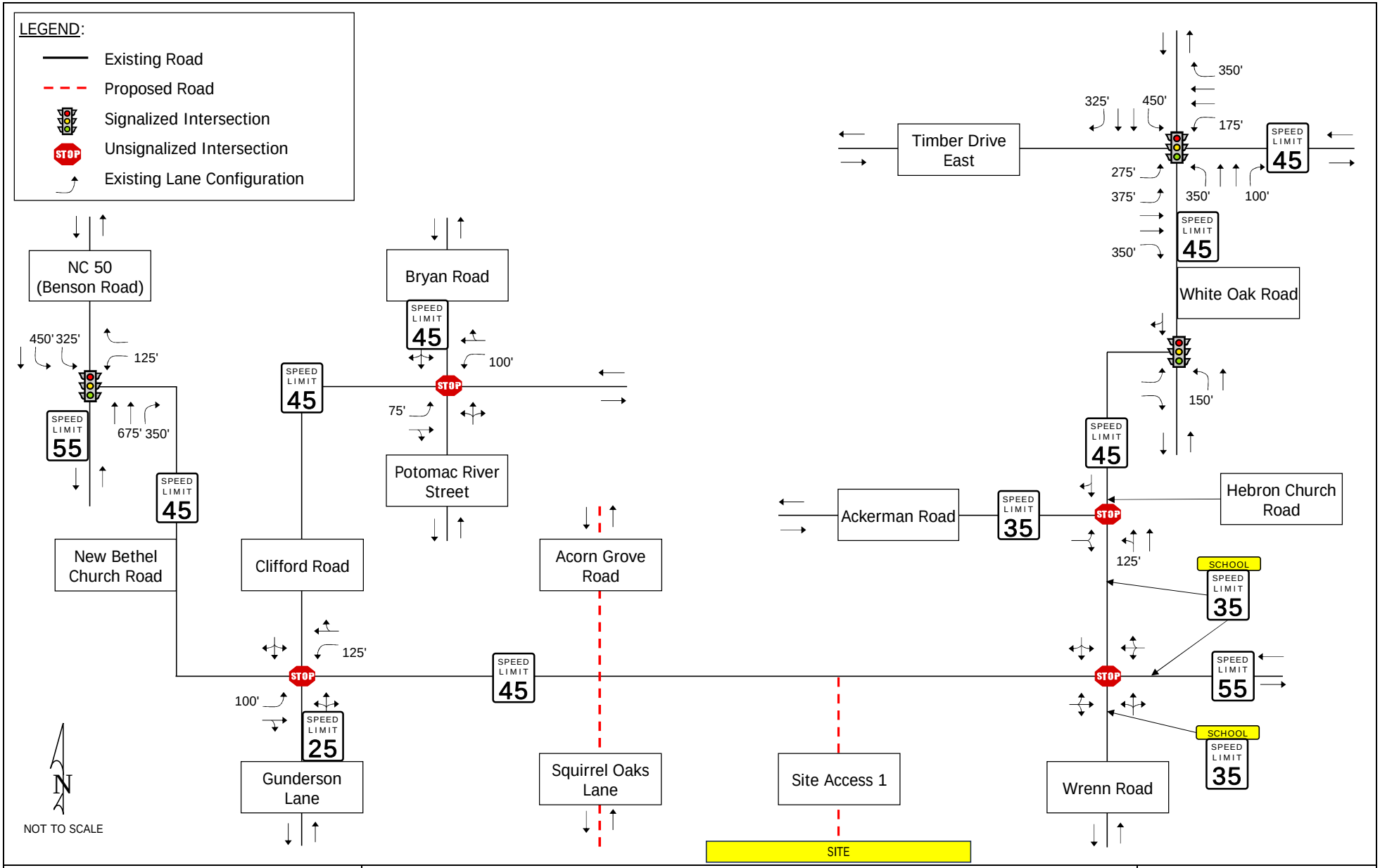
TIMMONS GROUP YOUR VISION ACHIEVED THROUGH OURS.	Bethel Green Traffic Impact Analysis Site Plan	Figure 2-1



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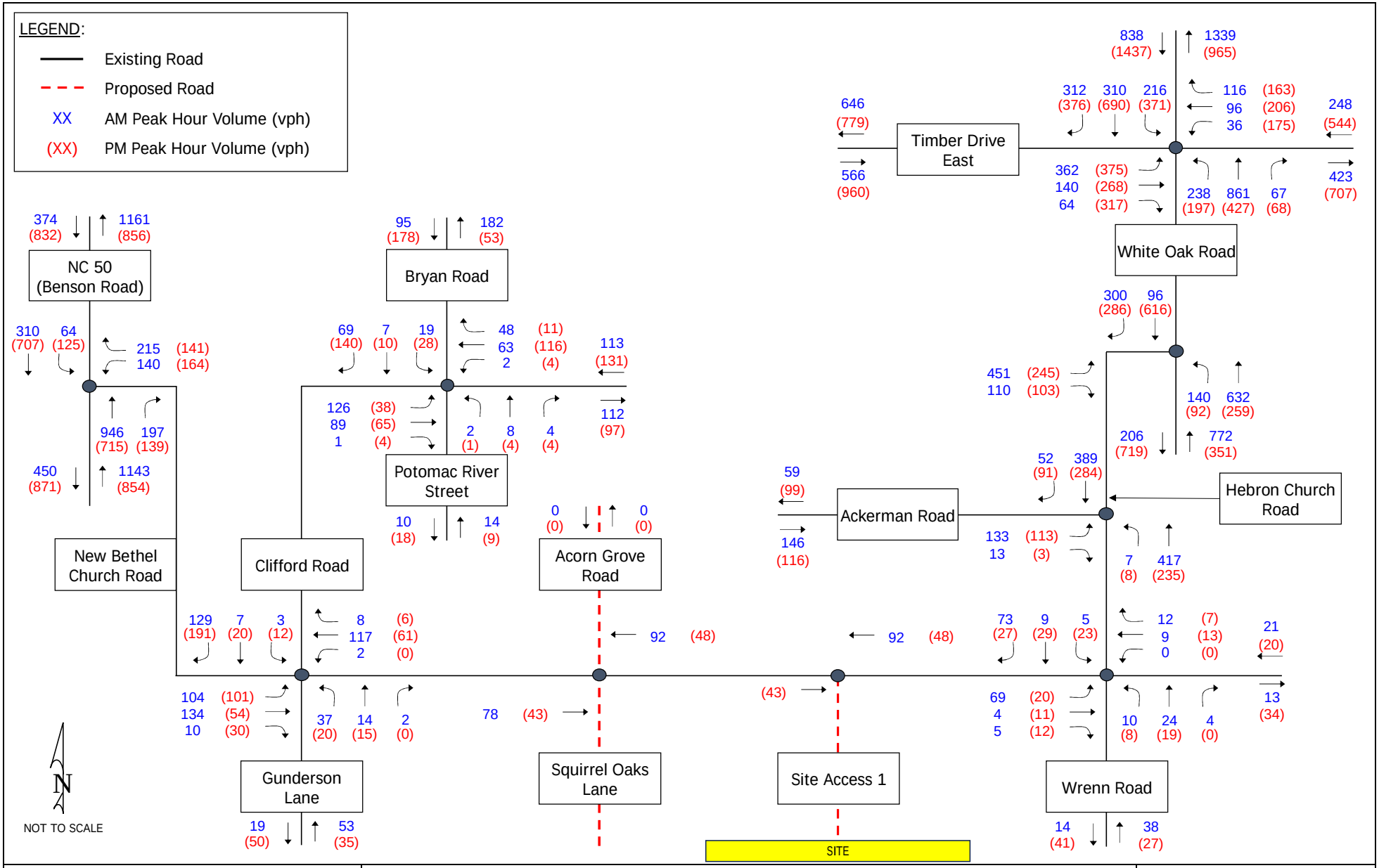
Bethel Green
Traffic Impact Analysis
2023 Existing Lane Configuration

Figure 2-2



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Bethel Green
Traffic Impact Analysis
2023 Existing Traffic Volumes

Figure 2-3

3 EXISTING AND BACKGROUND CONDITIONS AND ANALYSIS

3.1 2023 EXISTING ANALYSES

Table 3-1 summarizes the 2023 Existing intersection LOS and delay, based on existing geometry (see Figure 2-2) and 2023 Existing traffic volumes (Figure 2-3). The corresponding SYNCHRO output is included in Appendix D.

The signalized intersection of NC-50 (Benson Road) / New Bethel Church Road is currently operating at an overall LOS B during both 2023 Existing AM and PM peak hours. All intersection approaches are currently operating at a LOS C or better during both peak hours.

All Clifford Road / Gunderson Lane / New Bethel Church Road unsignalized intersection approaches are currently operating at a LOS C or better during both 2023 Existing AM and PM peak hours.

All New Bethel Church Road / Hebron Church Road / Wrenn Road unsignalized intersection approaches are currently operating at a LOS B or better during both 2023 Existing AM and PM peak hours.

All Clifford Road / Bryan Road / Potomac River Street unsignalized intersection approaches are currently operating at a LOS B or better during both 2023 Existing AM and PM peak hours.

All Ackerman Road / Hebron Church Road unsignalized intersection approaches are currently operating at a LOS C or better during both 2023 Existing AM and PM peak hours.

The eastbound White Oak Road / Hebron Church Road intersection approach is currently operating unacceptably at LOS E during the 2023 Existing PM peak hour. All other intersection approaches are currently operating at a LOS D or better during both peak hours.

The Timber Drive East / White Oak Road signalized intersection is currently operating at an overall LOS C during both 2023 Existing AM and PM peak hours. All intersection approaches are currently operating at a LOS D or better during both peak hours.

Table 3-1: Intersection Level of Service and Delay Summary
2023 Existing Traffic Volumes

Intersection	Movement and Approach	AM PEAK HOUR		PM PEAK HOUR	
		Delay [1] (sec/veh)	LOS [1]	Delay [1] (sec/veh)	LOS [1]
1: NC 50 & New Bethel Church Rd	WB Approach	23.8	C	20.7	C
	NB Approach	15.0	B	16.5	B
	SB Approach	9.3	A	14.0	B
	Overall	15.6	B	16.1	B
2: Gunderson Ln/Clifford Rd & New Bethel Church Rd	EB Approach	3.2	A	4.1	A
	WB Approach	0.2	A	0.4	A
	NB Approach	17.2	C	14.4	B
	SB Approach	10.3	B	10.8	B
5: Wrenn Rd/Hebron Church Rd & New Bethel Church Rd	EB Approach	6.5	A	3.4	A
	WB Approach	1.2	A	1.2	A
	NB Approach	10.6	B	9.6	A
	SB Approach	9.1	A	9.5	A
6: Potomac River St/Bryan Rd & Clifford Rd	EB Approach	4.4	A	2.7	A
	WB Approach	0.3	A	0.2	A
	NB Approach	12.9	B	11.0	B
	SB Approach	10.8	B	10.7	B
7: Hebron Church Rd & Ackerman Rd	EB Approach	20.5	C	14.6	B
	NB Approach	0.1	A	0.3	A
	SB Approach	0.0	A	0.0	A
8: White Oak Rd & Hebron Church Rd	EB Approach	30.8	C	*57.7*	*E*
	NB Approach	17.7	B	8.5	A
	SB Approach	34.8	C	36.0	D
	Overall	25.9	C	34.7	C
9: White Oak Rd & Timber Drive East	EB Approach	52.3	D	47.4	D
	WB Approach	46.7	D	44.7	D
	NB Approach	27.0	C	25.8	C
	SB Approach	17.0	B	27.2	C
	Overall	30.8	C	34.9	C

[1] *Overall intersection LOS and delay not reported for TWSC intersections.*

3.2 2026 BACKGROUND TRAFFIC VOLUMES

Per the scoping information (see Appendix A), there is one public improvement project within the project study area (U-6225). The adjacent Ackerman Road / Hebron Church Rd and White Oak Road / Hebron Church Road intersections will be combined and converted into a multi-lane roundabout (see Appendix E). This improvement was included in all future year 2026 analyses.

There are five (5) approved developments within the study area that will add site traffic to the study area network. Listed below are the approved developments and site trip distribution assumptions. Approved development information is located in Appendix F.

- Cambria Development
    - Previously called Walters Buffaloe Assemblage
    - 2021 TIA completed by VHB Engineering
    - Northeast New Bethel Church Rd / Wrenn Rd / Hebron Church Rd intersection quadrant
    - Assumed to be fully constructed by 2026
    - Land use: 280 single-family detached houses / 115 multifamily houses
    - Assumed 213 occupied units (54% occupied) per Town of Garner
    - Trip distribution based on the Walters Buffaloe Assemblage TIA
    - No assumed off-site intersection improvements

- Magnolia Park
    - Previously called New Bethel
    - 2018 TIA (New Bethel) completed by Timmons Group
    - Located south of New Bethel Church Road, west of Gunderson Lane
    - Assumed to be fully constructed by 2023
    - Land use: 285 single-family detached houses / 347 townhouses
    - Assumed 91 occupied units (14.4% occupied) per Town of Garner
    - Trip distribution based on the New Bethel TIA
    - No assumed off-site intersection improvements

- Oak Manor
    - Previously called Bethel
    - 2019 (Bethel) TIA completed by Timmons Group
    - Located south of New Bethel Church Road, east of Magnolia Lane
    - Assumed to be fully constructed by 2026
    - Land use: 580 single-family detached houses / 165 townhouses
    - Assumed 102 occupied units (13.7% occupied) per Town of Garner
    - Trip distribution based on the Bethel TIA
    - Assumed off-site intersection improvements:
        - New Bethel Church Rd / Clifford Rd intersection – monitor for signal
        - 100-foot southbound right-turn lane at New Bethel Church Rd / Clifford Rd
        - 200-foot southbound right-turn lane at White Oak Ln / Hebron Church Rd
        - 50-foot eastbound right-turn at New Bethel Church Rd / Squirrel Oaks Ln

- Ridgemoor
    - Previously called White Oak Farms & Country Walk
    - 2017 TIA (White Oak Farms) completed by Timmons Group
    - Southwest Hebron Church Rd / Ackerman Rd intersection quadrant
    - Assumed to be fully constructed by 2022
    - Land use: 214 single-family detached houses / 126 townhouses
    - Assumed 306 occupied units (92.7% occupied) per Town of Garner
    - Trip distribution based on the White Oak Farms TIA
    - Assumed off-site intersection improvements:
        - 50-foot southbound right-turn at White Oak Rd / Hebron Church Rd intersection

- Townes at Ridgemoor
    - No TIA completed
    - Located west side of Hebron Church Rd, north of Clifford Rd
    - Land use: 70 multi-family houses
    - Assumed 100% occupied per Town of Garner
    - No assumed off-site intersection improvements

2026 Ambient traffic volumes (see Figure 3-1) were calculated using an ambient 4% growth rate for three (3) years. This growth rate was agreed to by the Town of Garner and NCDOT (see scoping document – Appendix A).

Projected and distributed approved development site trips (see Appendix F) are shown in Figure 3-2. Approved development trips were added to ambient traffic volumes to determine 2026 Background traffic volumes (Figure 3-3).

3.3 2026 BACKGROUND ANALYSIS

Table 3-2 summarizes the 2026 Background intersection LOS and delay based on existing geometry (see Figure 2-2) and 2026 Background traffic volumes (see Figure 3-3). Table 3-3 summarizes the LOS, delay, and volume to capacity (V/C) ratios based on the U-6225 improvements and 2026 Background traffic volumes (see Figure 3-3). The corresponding SYNCHRO and SIDRA outputs are included in Appendix D.

The signalized intersection of NC-50 (Benson Road) / New Bethel Church Road is projected to operate at an overall LOS C during both 2026 Background AM and PM peak hours. All intersection approaches are projected to operate at a LOS D or better during both peak hours.

The northbound Clifford Road / Gunderson Lane / New Bethel Church Road unsignalized intersection approach is projected to operate unacceptably during both 2026 Background peak hours. All other intersection approaches are projected to operate at a LOS C or better during both peak hours.

All Squirrel Oaks Lane / Acorn Grove Road / New Bethel Church Road unsignalized intersection approaches are projected to operate at a LOS B or better during both 2026 Background AM and PM peak hours.

All New Bethel Church Road / Hebron Church Road / Wrenn Road unsignalized intersection approaches are projected to operate at a LOS B or better during both 2026 Background AM and PM peak hours.

All Clifford Road / Bryan Road / Potomac River Street unsignalized intersection approaches are projected to operate at a LOS C or better during both 2026 Background AM and PM peak hours.

The Ackerman Road / White Oak Road / Hebron Church Road roundabout is projected to operate at an overall LOS A and B during the 2026 Background AM and PM peak hours, respectively. All approaches are projected to operate at a LOS C or better (maximum 0.735 V/C ratio) during both peak hours.

The Timber Drive East / White Oak Road signalized intersection is projected to operate at an overall LOS D during both 2026 Background AM and PM peak hours. All intersection approaches are projected to operate at a LOS D or better during both peak hours.

Table 3-2: Intersection Level of Service and Delay Summary
2026 Background Traffic Volumes

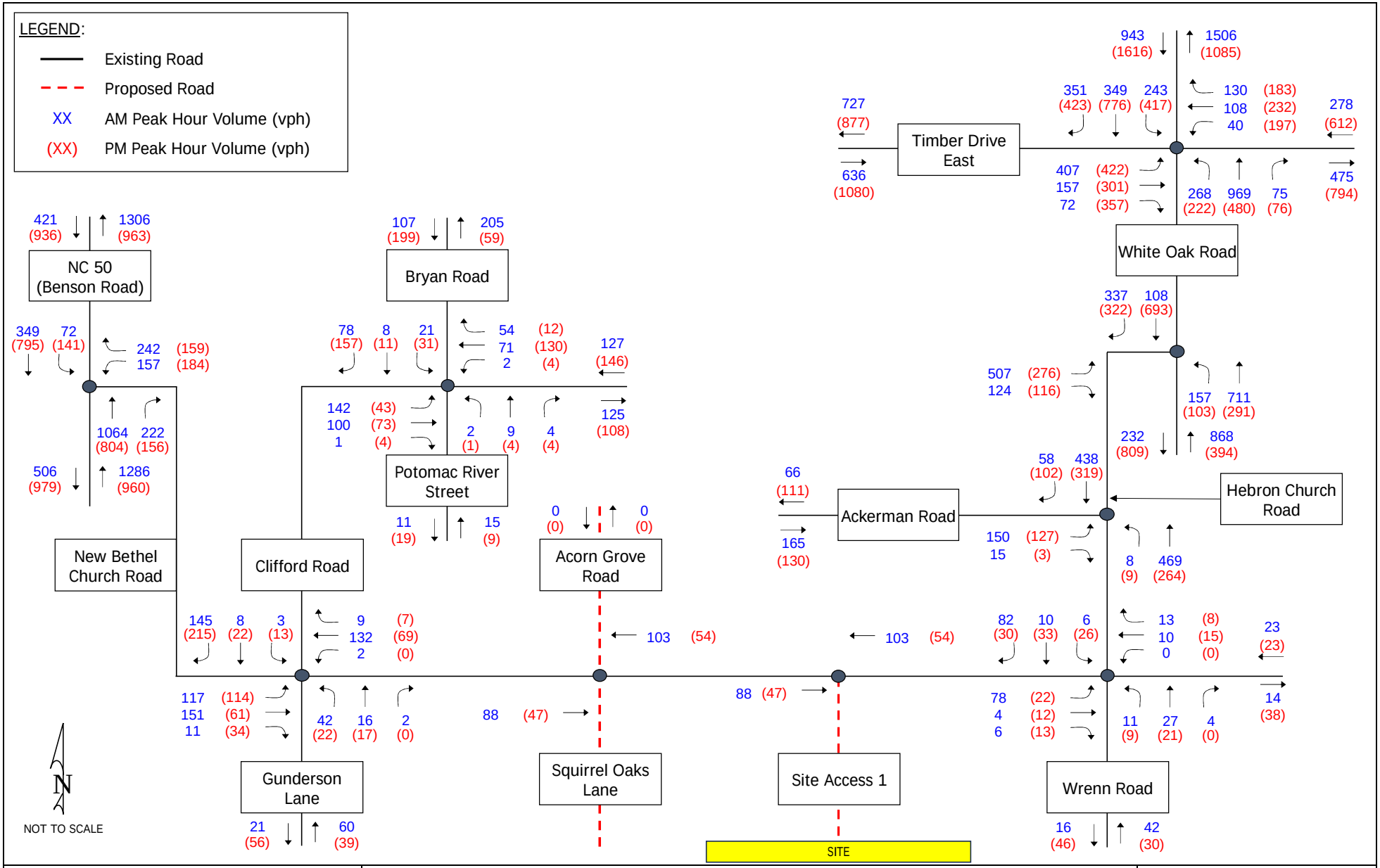
Intersection	Movement and Approach	AM PEAK HOUR		PM PEAK HOUR	
		Delay [1] (sec/veh)	LOS [1]	Delay [1] (sec/veh)	LOS [1]
1: NC 50 & New Bethel Church Rd	WB Approach	35.7	D	29.6	C
	NB Approach	27.1	C	27.1	C
	SB Approach	11.9	B	25.3	C
	Overall	27.1	C	26.9	C
2: Gunderson Ln/Clifford Rd & New Bethel Church Rd	EB Approach	3.0	A	2.7	A
	WB Approach	0.1	A	0.2	A
	NB Approach	*114.7*	*F*	*96.9*	*F*
	SB Approach	13.1	B	15.6	C
3: Squirrel Oaks Ln/Acorn Grove Rd & New Bethel Church Rd	EB Approach	0.5	A	1.2	A
	WB Approach	1.1	A	3.6	A
	NB Approach	12.4	B	12.8	B
	SB Approach	9.9	A	10.2	B
5: Wrenn Rd/Hebron Church Rd & New Bethel Church Rd	EB Approach	6.7	A	4.2	A
	WB Approach	0.4	A	0.5	A
	NB Approach	13.8	B	11.5	B
	SB Approach	10.2	B	11.0	B
6: Potomac River St/Bryan Rd & Clifford Rd	EB Approach	4.0	A	1.9	A
	WB Approach	0.2	A	0.1	A
	NB Approach	15.7	C	13.0	B
	SB Approach	12.7	B	12.7	B
9: White Oak Rd & Timber Drive East	EB Approach	51.2	D	52.0	D
	WB Approach	45.7	D	52.3	D
	NB Approach	32.2	C	34.0	C
	SB Approach	28.6	C	31.8	C
	Overall	35.9	D	40.5	D

[1] *Overall intersection LOS and delay not reported for TWSC intersections.*

Table 3-3: Intersection Level of Service, Delay, and V/C Ratio Summary
2026 Background Traffic Volumes

Intersection and Type of Control	Movement and Approach	AM PEAK HOUR			PM PEAK HOUR		
		Delay [1] (sec/veh)	LOS [1]	V/C	Delay [1] (sec/veh)	LOS [1]	V/C
78: Ackerman Rd, White Oak Rd & Hebron Church Rd	EB Approach	7.6	A	0.251	16.4	C	0.378
	WB Approach	3.5	A	0.440	2.1	A	0.190
	NB Approach	15.0	C	0.728	23.8	C	0.735
	SB Approach	6.3	A	0.371	10.2	B	0.657
	Overall	8.0	A	0.728	11.4	B	0.735

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



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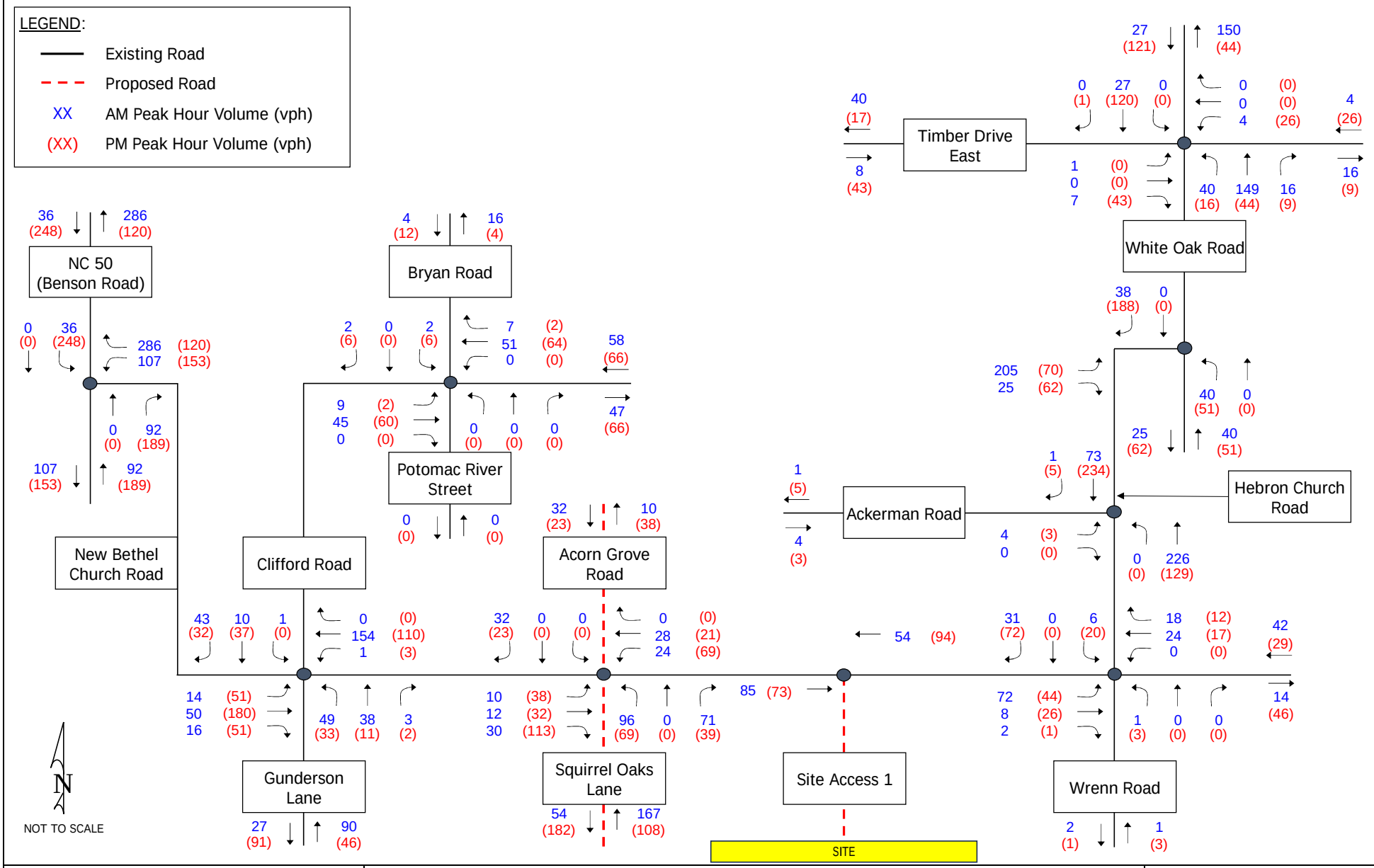
Bethel Green
Traffic Impact Analysis
2026 Ambient Traffic Volumes

Figure 3-1



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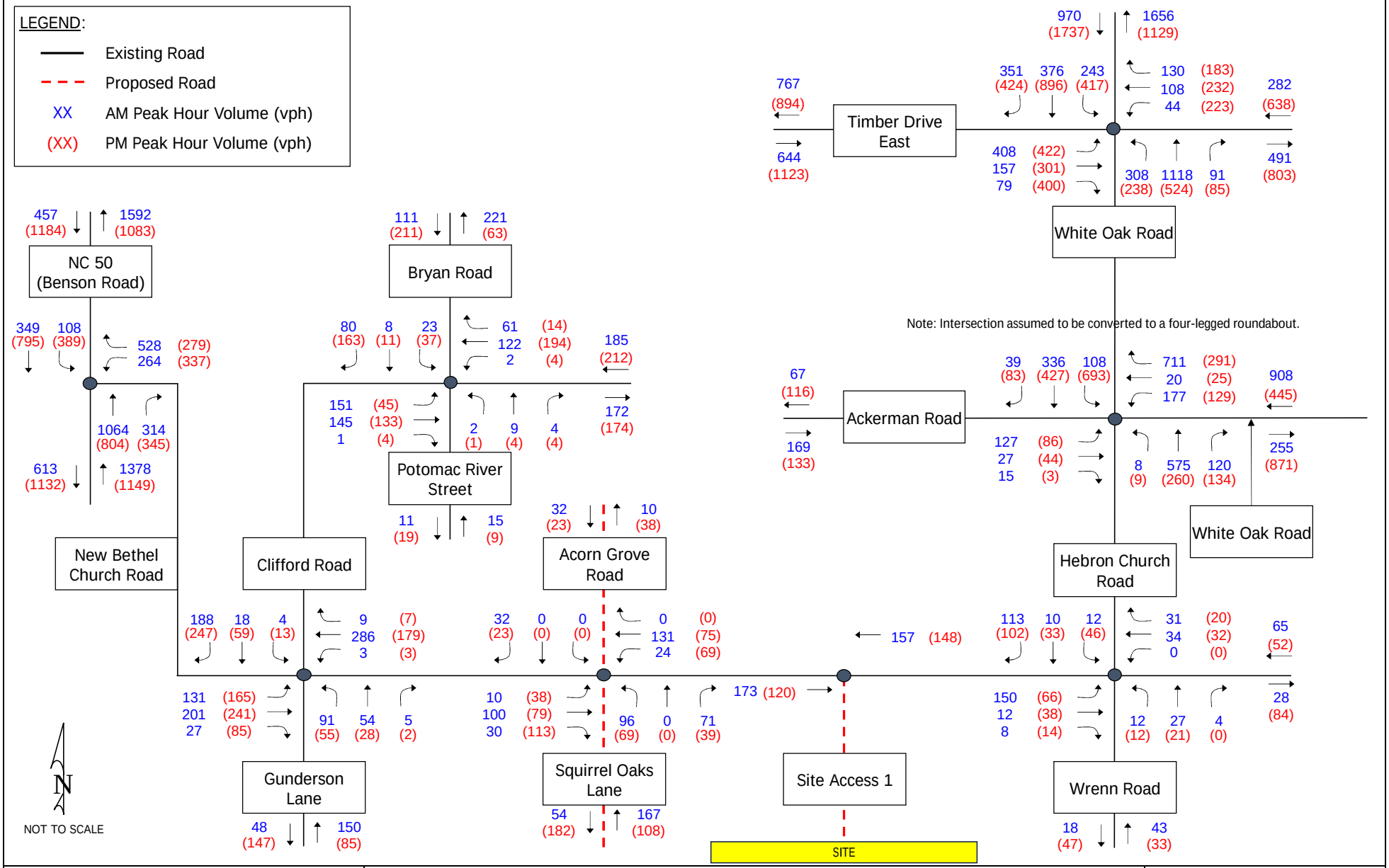
Bethel Green
Traffic Impact Analysis
Approved Development Traffic Volumes

Figure 3-2



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Bethel Green
Traffic Impact Analysis
2026 Background Traffic Volumes

Figure 3-3

4 SITE TRIP GENERATION AND DISTRIBUTION

Proposed development site trips 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 Table 4-1 are based on trip generation information provided in the 11th Edition of the Institute of Transportation Engineer's (ITE's) *Trip Generation Manual* and the projected residential development land use. The trip generation was calculated using the proposed number of housing units as the independent variable and the provided equation (per NCDOT standards).

Table 4-1: 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	333 Units	56	167	223	194	114	308	3,052

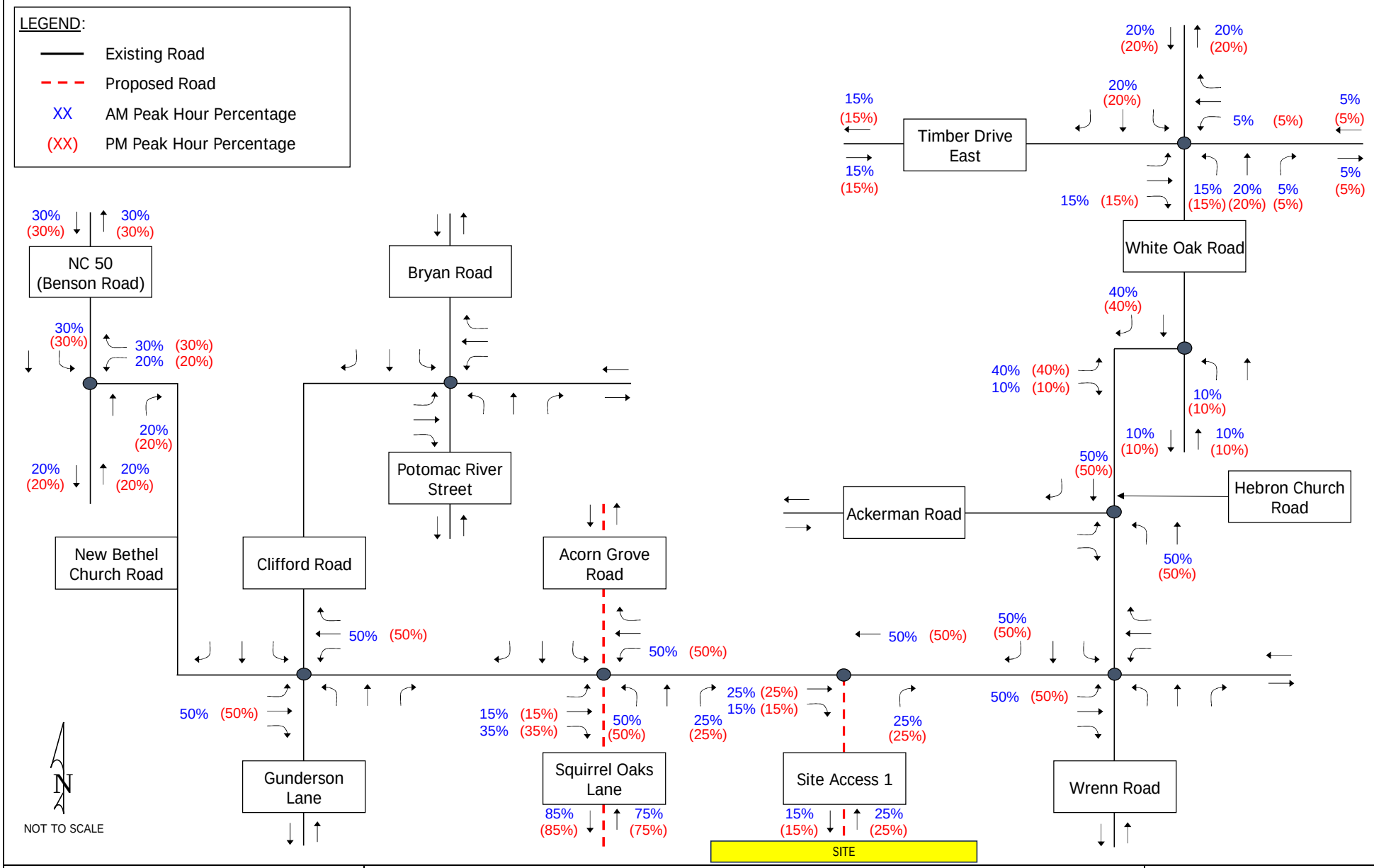
SOURCE: Institute of Transportation Engineers' *Trip Generation Manual* 11th Edition (2023)

AM peak hour trips totaled 56 incoming and 167 outgoing where PM trips totaled 194 incoming and 114 outgoing. Average daily traffic (ADT) volumes totaled 3,052 VPD. No reduction in trips were included due to internal capture or pass-by trips.

4.2 TRIP DISTRIBUTION

The directional traffic patterns, or trip distribution, was determined using the existing AM and PM peak hour traffic volumes and Engineering judgement. Total trips into and out of the study area using NC 50, Timber Drive East, and White Oak Road form the basis for the percentage distribution. The percentages were routed, via shortest path, to and from the proposed development. The distribution percentages were then applied to the generated trips to project 2026 Build traffic volumes.

Trip distribution percentages and volumes are shown in Figures 4-1 and 4-2, respectively.



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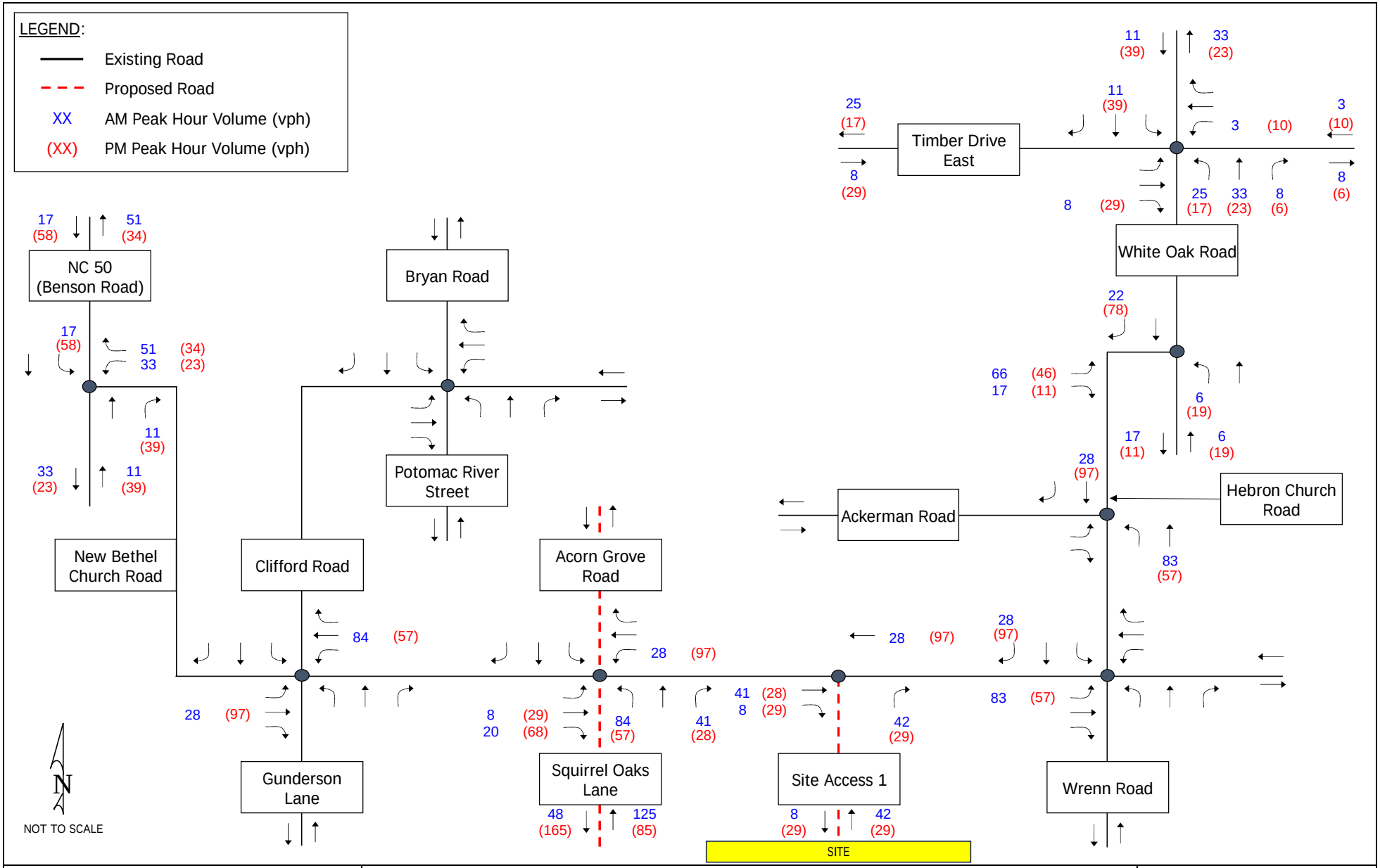
Bethel Green
Traffic Impact Analysis
Trip Distribution Percentages

Figure 4-1



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Bethel Green
Traffic Impact Analysis
Trip Distribution Volumes

Figure 4-2

5 BUILD CONDITION AND ANALYSIS

To complete the Build analyses (including the proposed development), the projected site trips were added to the Background traffic volumes. The projected volumes, along with the existing intersection geometry (and U-6225 improvements), were used to complete the capacity analyses.

5.1 2026 BUILD TRAFFIC VOLUMES

The 2026 Background traffic volumes (Figure 3-3) were added to the total projected site trips (Figure 4-2) to generate the 2026 Build traffic volumes (Background + site) (Figure 5-1).

To summarize, the 2026 Build traffic volumes (see Figure 5-1) contain the following:

- 2023 traffic volumes grown exponentially for three (3) years at a 4% ambient growth rate (Figure 3-1);
- Total approved development site trips generated (see Figure 3-2); and
- Total subject development site trips generated (see Figure 4-2).

5.2 2026 BUILD ANALYSIS

Table 5-1 summarizes the 2026 Build intersection LOS and delay based on existing geometry (see Figure 2-2) and 2026 Build traffic volumes (see Figure 5-1). Table 5-2 summarizes the LOS, delay, and V/C ratios based on the U-6225 improvements and 2026 Build traffic volumes (see Figure 5-1). The corresponding SYNCHRO and SIDRA outputs are included in Appendix D.

The signalized intersection of NC-50 (Benson Road) / New Bethel Church Road is projected to operate at an overall LOS C during both 2026 Build AM and PM peak hours. All intersection approaches are projected to operate at a LOS D or better during both peak hours. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the proposed development's construction.

The northbound Clifford Road / Gunderson Lane / New Bethel Church Road unsignalized intersection approach is projected to operate unacceptably at LOS F during both 2026 Build peak hours. All other intersection approaches are projected to operate at a LOS C or better during both peak hours. Based on projected volumes and area development peaking characteristics, MUTCD's 4-hour and 8-hour volume warrants (typically required by the NCDOT for warranting signalization) will likely not be met. Construction of a northbound left-turn lane was also considered; however, this does not mitigate the northbound approach. Therefore, no improvements are recommended at this intersection due to development construction.

All Squirrel Oaks Lane / Acorn Grove Road / New Bethel Church Road unsignalized intersection approaches are projected to operate at a LOS C or better during both 2026 Build AM and PM peak hours. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the proposed development's construction.

All Site Access 1 / New Bethel Church Road unsignalized intersection approaches are projected to operate at a LOS A during both 2026 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)"*

Including the proposed development site traffic, the 2026 AADT along New Bethel Church Road is projected to exceed 4,000 VPD. Because of this, turn lanes were considered at Site Access 1. Per the NCDOT Nomograph (see Appendix G) and projected 2026 Build peak hour volumes, a 50-foot eastbound right-turn lane (with appropriate taper) is recommended. As shown in Table 5-3, following the turn-lane construction, all unsignalized intersection approaches are projected to operate acceptably during both peak hours.

All New Bethel Church Road / Hebron Church Road / Wrenn Road unsignalized intersection approaches are projected to operate at a LOS C or better during both 2026 Build AM and PM peak hours. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the proposed development's construction.

All Clifford Road / Bryan Road / Potomac River Street unsignalized intersection approaches are projected to operate at a LOS C or better during both 2026 Build AM and PM peak hours. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the proposed development's construction.

The Ackerman Road / White Oak Road / Hebron Church Road roundabout is projected to operate at an overall LOS A and B during the 2026 Build AM and PM peak hours, respectively. All approaches are projected to operate at a LOS D or better (maximum 0.837 V/C ratio) during both peak hours. Because all intersection approaches are projected to operate acceptably, no improvements are recommended due to the proposed development's construction.

The Timber Drive East / White Oak Road signalized intersection is projected to operate at an overall LOS D during both 2026 Build AM and PM peak hours. The eastbound approach is projected to operate unacceptably during the PM peak hour. All other intersection approaches are projected to operate at a LOS D or better during both peak hours. The intersection is assumed to be fully built-out with each intersection approach including (at minimum) a left-turn lane, two through lanes and a right-turn lane. Additionally, the eastbound approach V/C ratio is projected to exceed 1.0 (0.89 – PM peak hour). Finally, the proposed development is only projected to contribute 2.5% and 2.8% of the total AM and PM peak hour traffic, respectively. Therefore, no improvements are recommended at this intersection due to proposed development's construction.

Table 5-1: Intersection Level of Service and Delay Summary
2026 Build Traffic Volumes

Intersection	Movement and Approach	AM PEAK HOUR		PM PEAK HOUR	
		Delay [1] (sec/veh)	LOS [1]	Delay [1] (sec/veh)	LOS [1]
1: NC 50 & New Bethel Church Rd	WB Approach	41.0	D	31.1	C
	NB Approach	28.8	C	29.6	C
	SB Approach	12.7	B	27.8	C
	Overall	29.9	C	29.2	C
2: Gunderson Ln/Clifford Rd & New Bethel Church Rd	EB Approach	2.9	A	2.3	A
	WB Approach	0.1	A	0.1	A
	NB Approach	*217.1*	*F*	*222.9*	*F*
	SB Approach	14.7	B	19.1	C
3: Squirrel Oaks Ln/Acorn Grove Rd & New Bethel Church Rd	EB Approach	0.4	A	0.9	A
	WB Approach	2.1	A	5.7	A
	NB Approach	18.0	C	24.8	C
	SB Approach	10.2	B	12.1	B
4: Site Access 1 & New Bethel Church Rd	EB Approach	0.0	A	0.0	A
	WB Approach	0.0	A	0.0	A
	NB Approach	9.8	A	9.3	A
5: Wrenn Rd/Hebron Church Rd & New Bethel Church Rd	EB Approach	7.2	A	5.3	A
	WB Approach	0.4	A	0.5	A
	NB Approach	17.8	C	13.9	B
	SB Approach	10.9	B	12.5	B
6: Potomac River St/Bryan Rd & Clifford Rd	EB Approach	4.0	A	1.9	A
	WB Approach	0.2	A	0.1	A
	NB Approach	15.7	C	13.0	B
	SB Approach	12.7	B	12.7	B
9: White Oak Rd & Timber Drive East	EB Approach	52.9	D	*58.8*	*E*
	WB Approach	46.1	D	52.5	D
	NB Approach	32.1	C	40.8	D
	SB Approach	29.2	C	34.7	C
	Overall	36.3	D	44.7	D

[1] *Overall intersection LOS and delay not reported for TWSC intersections.*

Table 5-2: Intersection Level of Service, Delay, and V/C Ratio Summary
2026 Build Traffic Volumes

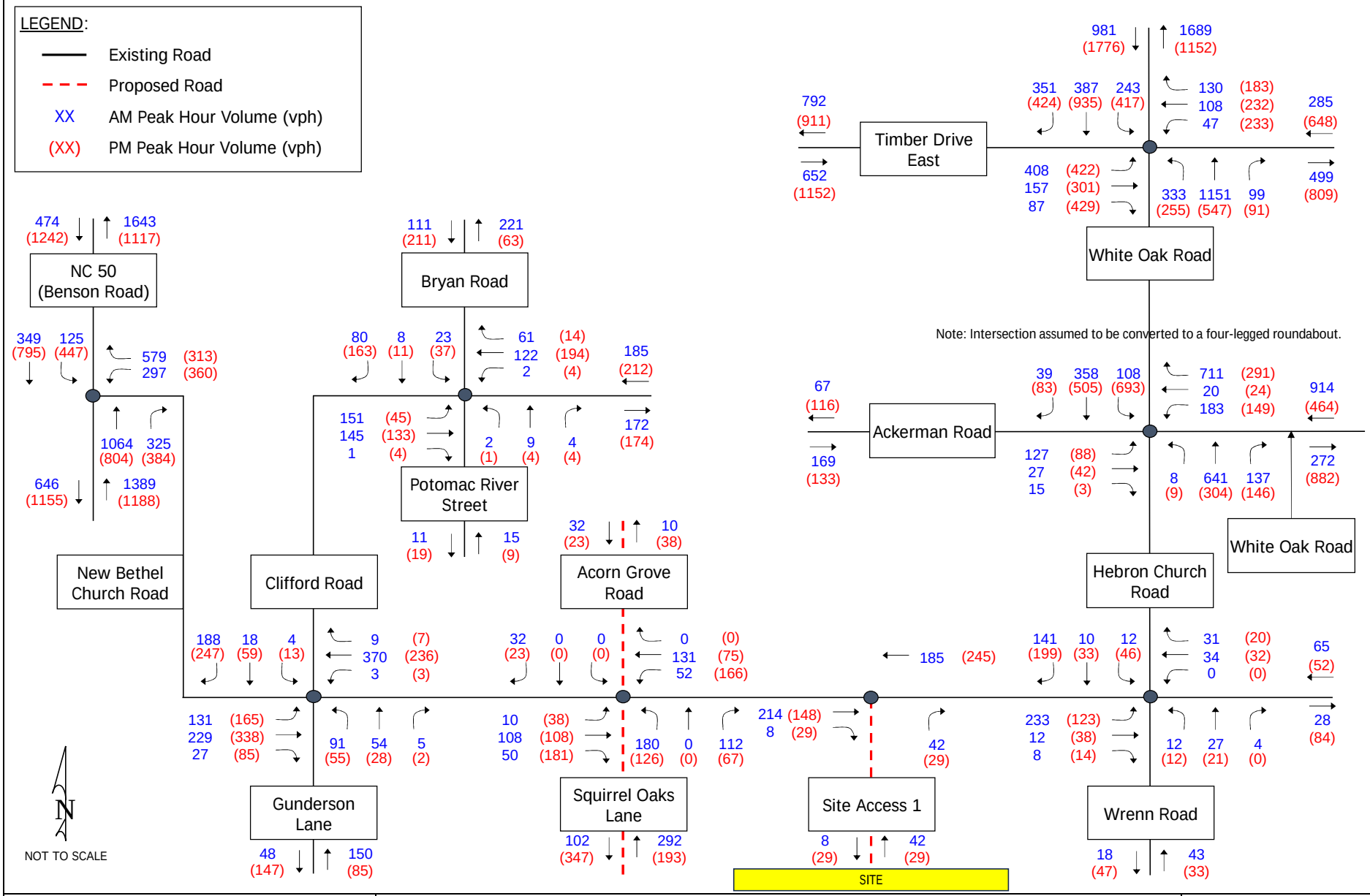
Intersection and Type of Control	Movement and Approach	AM PEAK HOUR			PM PEAK HOUR		
		Delay [1] (sec/veh)	LOS [1]	V/C	Delay [1] (sec/veh)	LOS [1]	V/C
78: Ackerman Rd, White Oak Rd & Hebron Church Rd	EB Approach	7.9	A	0.258	19.2	C	0.419
	WB Approach	3.6	A	0.451	2.3	A	0.211
	NB Approach	19.4	C	0.814	32.5	D	0.837
	SB Approach	6.6	A	0.396	11.1	B	0.670
	Overall	9.8	A	0.814	14.0	B	0.837

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

Table 5-3: Intersection Level of Service and Delay Summary
2026 Build Plus Improvements Traffic Volumes

Intersection	Movement and Approach	AM PEAK HOUR		PM PEAK HOUR	
		Delay [1] (sec/veh)	LOS [1]	Delay [1] (sec/veh)	LOS [1]
4: Site Access 1 & New Bethel Church Rd	EB Approach	0.0	A	0.0	A
	WB Approach	0.0	A	0.0	A
	NB Approach	9.8	A	9.2	A

[1] *Overall intersection LOS and delay not reported for TWSC intersections.*



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Bethel Green
Traffic Impact Analysis
2026 Build Traffic Volumes

Figure 5-1

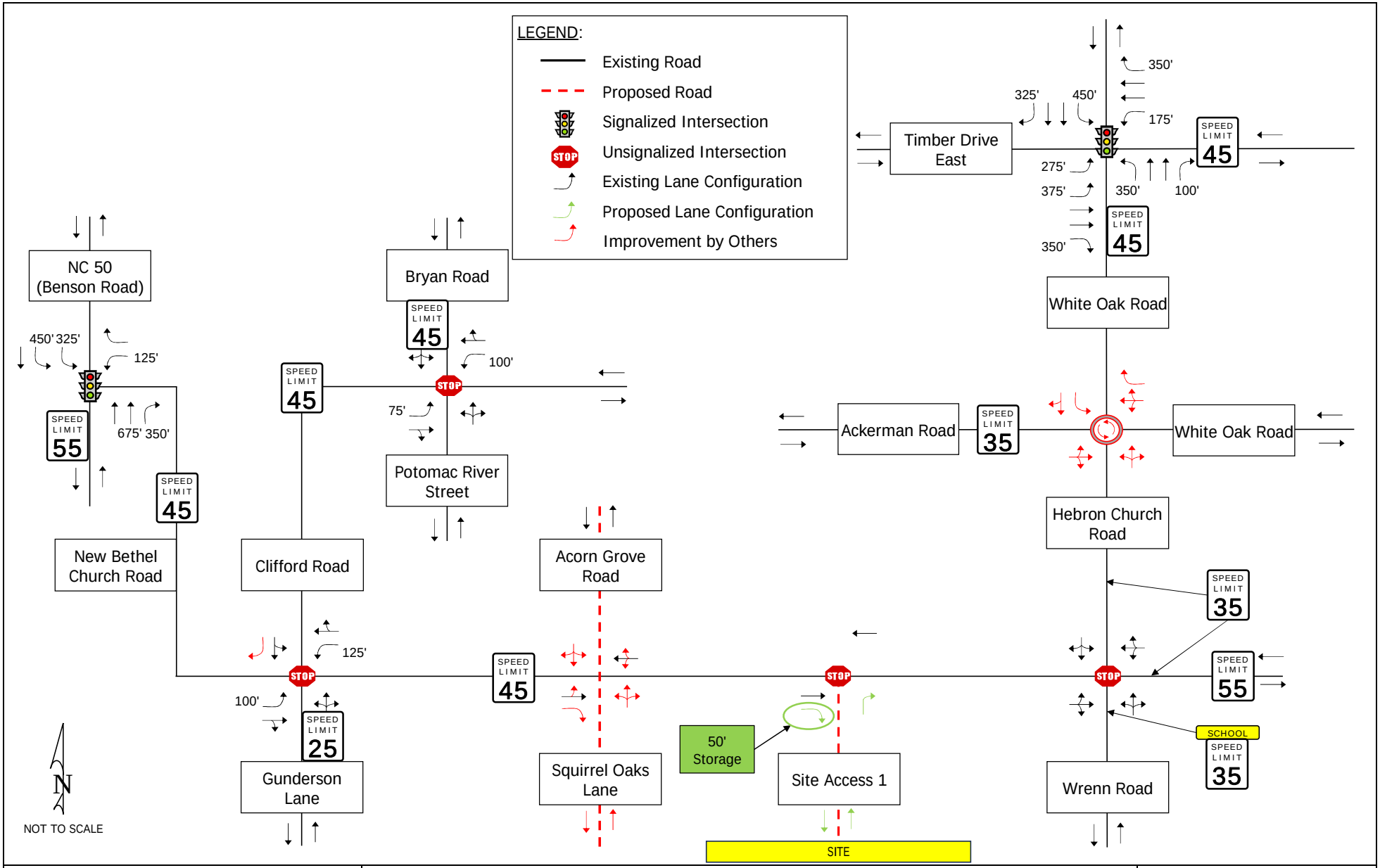
6 CONCLUSIONS AND RECOMMENDATIONS

Capacity analyses were performed for the following scenarios:

- 2023 Existing
- 2026 Background (existing + ambient growth)
- 2026 Build (Background + site trips)

In closing, the following improvements (see Figure 6-1) are recommended in conjunction with the proposed development's construction:

- New Bethel Church Road / Site Access 1
    - 50-foot eastbound right-turn lane (with appropriate taper)



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Bethel Green
Traffic Impact Analysis
2026 Future Lane Configuration

Figure 6-1

Appendix A – Scoping Information

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Bethel Green Meeting Minutes (8/23/23)

Attendees:

Daniel Collins	NCDOT	dwcollins@ncdot.gov
Matthew Nolfo	NCDOT	mjnolfo@ncdot.gov
Clarence Bunting	NCDOT	cbunting@ncdot.gov
Leah Harrison	Town of Garner	lharrison@garnernc.gov
Jeff Triezenberg	Town of Garner	jtriezenberg@garnernc.gov
Ashley Harris	Town of Garner	aharris@garnernc.gov
Beth Blackmon	Timmons Group	beth.blackmon@timmons.com
Elizabeth Ange	Timmons Group	elizabeth.ange@timmons.com
Hunter Mullins	Timmons Group	hunter.mullins@timmons.com

Items Discussed:

- Timmons Group (TG) met with NCDOT and the Town of Garner (Town) to discuss the Bethel Green TIA scope.
- The proposed development will include 370 single-family lots.
- The proposed development will be located off New Bethel Church Road, west of Hebron Church Road.
- The project will pay towards NC-50 improvements (fee to be determined – based on site traffic impact percentage).
- The project will pay into the Developers Agreement for the White Oak Road / Hebron Church Road improvements (fee to be determined – based on site traffic impact percentage).
- The New Bethel Church Road speed limit is currently unposted (55-mph).
    - The speed limit will likely be reduced to 45-mph.
    - NCDOT to confirm whether future year conditions should be analyzed as 55-mph or 45-mph.
- NCDOT pointed out potential issues with site distance at the Site Access.
    - TG will confirm adequate site distance.
- The TIA will follow the scope of services below:
    - Study area intersections:
        - New Bethel Church Road / Clifford Road
        - New Bethel Church Road / Site Access
        - New Bethel Church Road / Hebron Church Road / Wrenn Road
        - Clifford Road / Bryan Road
        - NC-50 / New Bethel Church Road
        - Hebron Church Road / White Oak Road / Ackerman Road
        - Timber Drive East / White Oak Road
    - 2026 Build-Out year
    - Typical peak hour analyses:
        - 7:00 a.m. – 9:00 a.m. // 4:00 p.m. – 6:00 p.m.
        - Counts conducted after school is in session (9/12/23 or later)
    - 4% ambient growth rate
    - Approved area developments to be provided by Town
    - The intersection of Hebron Church Road / White Oak Road / Ackerman Road will be analyzed as a roundabout in all future year analyses.
        - Developer to determine whether or not a northbound slip lane should be included in traffic analyses
- TG to provide project meeting minutes.
- TG to provide scoping Memorandum of Understanding (MOU) following the Town providing approved area developments.

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TEL 919.866.4952 FAX 919.859.5663
www.timmons.com
Site Development | Residential | Infrastructure | Technology

Appendix B – Traffic Counts

TRAFFIC DATA COLLECTION

File Name : Garner(Clifford and Bryan)
Site Code :
Start Date : 9/12/2023
Page No : 1

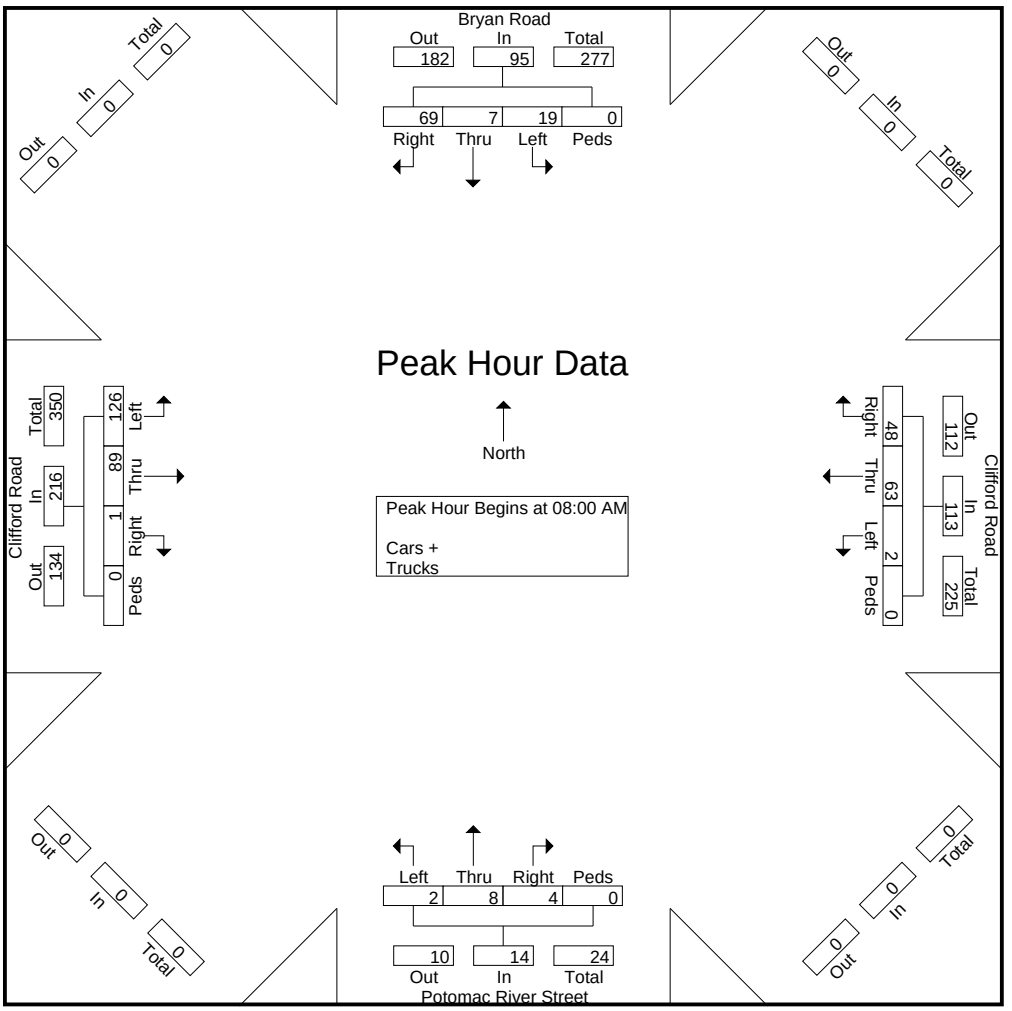
Groups Printed- Cars + - Trucks

	Bryan Road Southbound					Clifford Road Westbound					Potomac River Street Northbound					Clifford 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	11	0	10	0	21	5	12	1	0	18	4	1	0	0	5	1	36	9	0	46	90
07:15 AM	6	0	5	0	11	8	25	0	1	34	0	2	1	3	6	0	11	6	0	17	68
07:30 AM	12	0	1	0	13	7	22	0	0	29	4	0	3	4	11	0	18	21	0	39	92
07:45 AM	7	0	1	0	8	1	16	1	0	18	4	1	0	0	5	0	14	11	0	25	56
Total	36	0	17	0	53	21	75	2	1	99	12	4	4	7	27	1	79	47	0	127	306
08:00 AM	8	0	0	0	8	3	15	0	0	18	3	0	0	0	3	0	26	21	0	47	76
08:15 AM	6	0	4	0	10	9	17	1	0	27	1	1	0	0	2	0	23	22	0	45	84
08:30 AM	2	1	1	0	4	18	14	1	0	33	0	4	1	0	5	1	25	41	0	67	109
08:45 AM	53	6	14	0	73	18	17	0	0	35	0	3	1	0	4	0	15	42	0	57	169
Total	69	7	19	0	95	48	63	2	0	113	4	8	2	0	14	1	89	126	0	216	438
Grand Total	105	7	36	0	148	69	138	4	1	212	16	12	6	7	41	2	168	173	0	343	744
Apprch %	70.9	4.7	24.3	0		32.5	65.1	1.9	0.5		39	29.3	14.6	17.1		0.6	49	50.4	0		
Total %	14.1	0.9	4.8	0	19.9	9.3	18.5	0.5	0.1	28.5	2.2	1.6	0.8	0.9	5.5	0.3	22.6	23.3	0	46.1	
Cars +	104	7	34	0	145	68	124	4	1	197	16	12	6	7	41	2	162	172	0	336	719
% Cars +	99	100	94.4	0	98	98.6	89.9	100	100	92.9	100	100	100	100	100	100	96.4	99.4	0	98	96.6
Trucks	1	0	2	0	3	1	14	0	0	15	0	0	0	0	0	0	6	1	0	7	25
% Trucks	1	0	5.6	0	2	1.4	10.1	0	0	7.1	0	0	0	0	0	0	3.6	0.6	0	2	3.4

TRAFFIC DATA COLLECTION

File Name : Garner(Clifford and Bryan)
Site Code :
Start Date : 9/12/2023
Page No : 2

	Bryan Road Southbound					Clifford Road Westbound					Potomac River Street Northbound					Clifford 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 08:00 AM																					
08:00 AM	8	0	0	0	8	3	15	0	0	18	**3**	0	0	0	3	0	**26**	21	0	47	76
08:15 AM	6	0	4	0	10	9	**17**	**1**	0	27	1	1	0	0	2	0	23	22	0	45	84
08:30 AM	2	1	1	0	4	**18**	14	1	0	33	0	**4**	**1**	0	**5**	**1**	25	41	0	**67**	109
08:45 AM	**53**	**6**	**14**	0	**73**	18	17	0	0	**35**	0	3	1	0	4	0	15	**42**	0	57	**169**
Total Volume	69	7	19	0	95	48	63	2	0	113	4	8	2	0	14	1	89	126	0	216	438
% App. Total	72.6	7.4	20	0		42.5	55.8	1.8	0		28.6	57.1	14.3	0		0.5	41.2	58.3	0		
PHF	.325	.292	.339	.000	.325	.667	.926	.500	.000	.807	.333	.500	.500	.000	.700	.250	.856	.750	.000	.806	.648



TRAFFIC DATA COLLECTION

File Name : Garner(Clifford and Bryan)
Site Code :
Start Date : 9/12/2023
Page No : 1

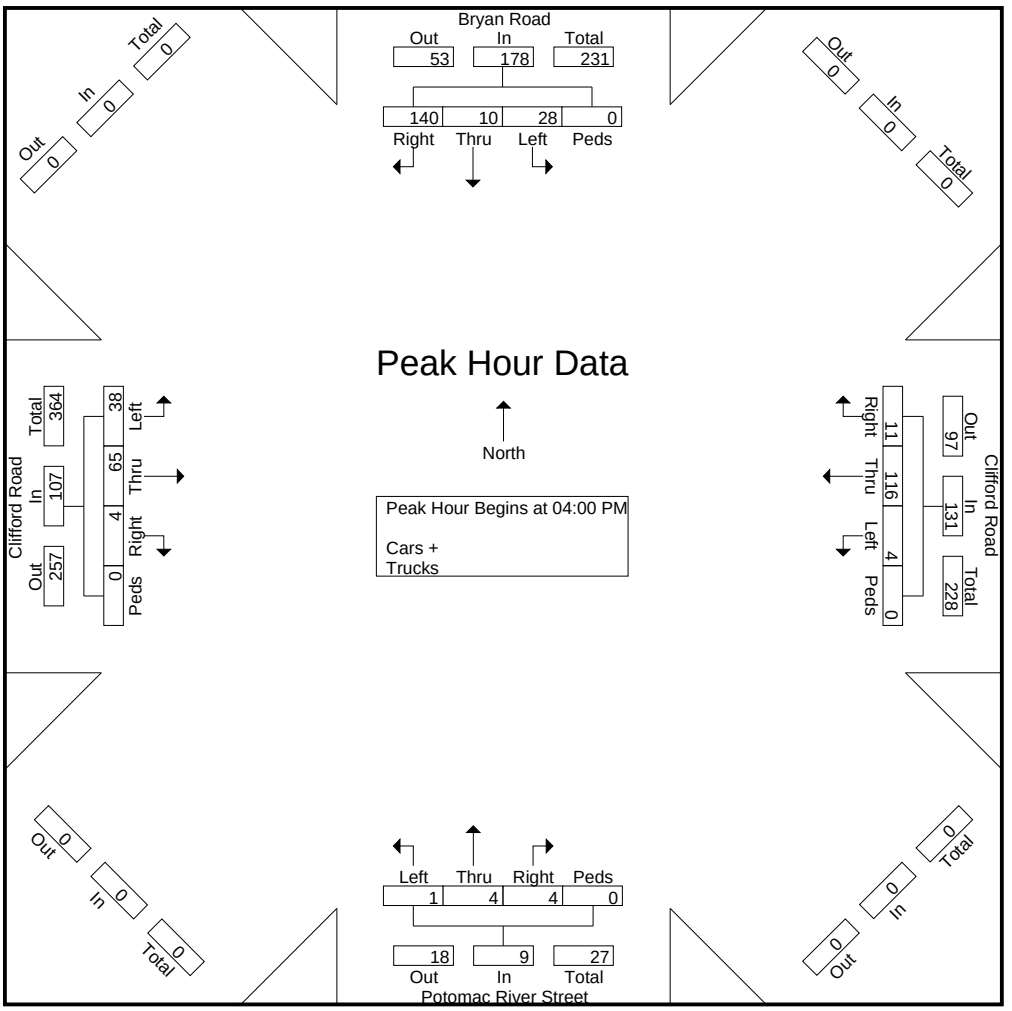
Groups Printed- Cars + - Trucks

	Bryan Road Southbound					Clifford Road Westbound					Potomac River Street Northbound					Clifford 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
04:00 PM	60	8	16	0	84	1	31	0	0	32	3	3	0	0	6	0	11	20	0	31	153
04:15 PM	37	1	6	0	44	2	28	1	0	31	0	1	0	0	1	1	21	9	0	31	107
04:30 PM	21	1	3	0	25	6	31	1	0	38	1	0	0	0	1	2	18	5	0	25	89
04:45 PM	22	0	3	0	25	2	26	2	0	30	0	0	1	0	1	1	15	4	0	20	76
Total	140	10	28	0	178	11	116	4	0	131	4	4	1	0	9	4	65	38	0	107	425
05:00 PM	23	2	6	0	31	2	26	2	0	30	1	2	1	0	4	0	17	13	0	30	95
05:15 PM	26	2	2	0	30	4	28	0	0	32	1	1	0	0	2	0	18	6	0	24	88
05:30 PM	24	1	7	0	32	2	30	1	0	33	2	1	2	0	5	0	23	10	0	33	103
05:45 PM	20	1	0	0	21	3	24	0	0	27	0	0	1	1	2	0	20	7	0	27	77
Total	93	6	15	0	114	11	108	3	0	122	4	4	4	1	13	0	78	36	0	114	363
Grand Total	233	16	43	0	292	22	224	7	0	253	8	8	5	1	22	4	143	74	0	221	788
Apprch %	79.8	5.5	14.7	0		8.7	88.5	2.8	0		36.4	36.4	22.7	4.5		1.8	64.7	33.5	0		
Total %	29.6	2	5.5	0	37.1	2.8	28.4	0.9	0	32.1	1	1	0.6	0.1	2.8	0.5	18.1	9.4	0	28	
Cars +	223	16	42	0	281	21	218	7	0	246	8	8	5	1	22	4	130	72	0	206	755
% Cars +	95.7	100	97.7	0	96.2	95.5	97.3	100	0	97.2	100	100	100	100	100	100	90.9	97.3	0	93.2	95.8
Trucks	10	0	1	0	11	1	6	0	0	7	0	0	0	0	0	0	13	2	0	15	33
% Trucks	4.3	0	2.3	0	3.8	4.5	2.7	0	0	2.8	0	0	0	0	0	0	9.1	2.7	0	6.8	4.2

TRAFFIC DATA COLLECTION

File Name : Garner(Clifford and Bryan)
Site Code :
Start Date : 9/12/2023
Page No : 2

	Bryan Road Southbound					Clifford Road Westbound					Potomac River Street Northbound					Clifford 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 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	**60**	**8**	**16**	0	**84**	1	**31**	0	0	32	**3**	**3**	0	0	**6**	0	11	**20**	0	**31**	**153**
04:15 PM	37	1	6	0	44	2	28	1	0	31	0	1	0	0	1	1	**21**	9	0	31	107
04:30 PM	21	1	3	0	25	**6**	31	1	0	**38**	1	0	0	0	1	**2**	18	5	0	25	89
04:45 PM	22	0	3	0	25	2	26	**2**	0	30	0	0	**1**	0	1	1	15	4	0	20	76
Total Volume	140	10	28	0	178	11	116	4	0	131	4	4	1	0	9	4	65	38	0	107	425
% App. Total	78.7	5.6	15.7	0		8.4	88.5	3.1	0		44.4	44.4	11.1	0		3.7	60.7	35.5	0		
PHF	.583	.313	.438	.000	.530	.458	.935	.500	.000	.862	.333	.333	.250	.000	.375	.500	.774	.475	.000	.863	.694



TRAFFIC DATA COLLECTION

File Name : Garner(Hebron Church Rd and Ackerman Rd)
Site Code :
Start Date : 9/12/2023
Page No : 1

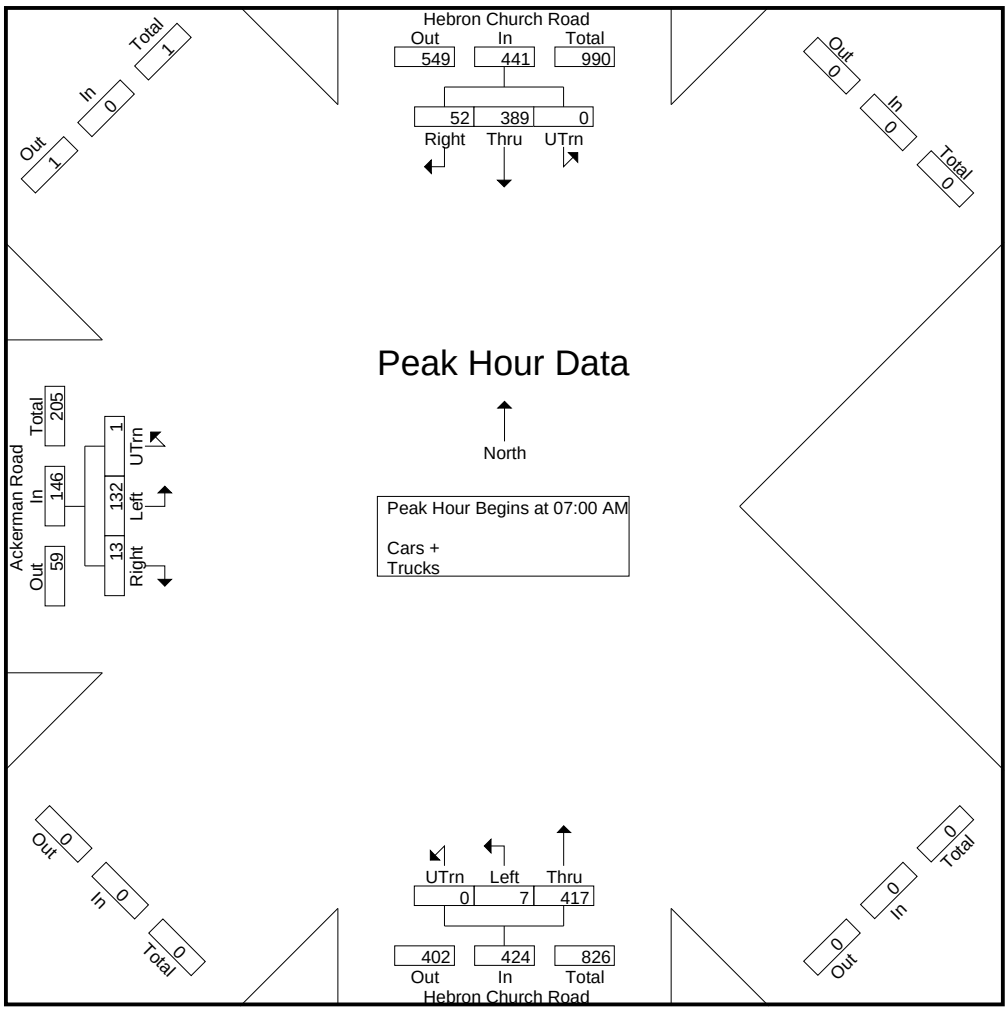
Groups Printed- Cars + - Trucks

	Hebron Church Road Southbound				Hebron Church Road Northbound				Ackerman Road Eastbound				
Start Time	Right	Thru	UTrn	App. Total	Thru	Left	UTrn	App. Total	Right	Left	UTrn	App. Total	Int. Total
07:00 AM	9	178	0	187	110	4	0	114	6	19	1	26	327
07:15 AM	16	112	0	128	139	2	0	141	1	33	0	34	303
07:30 AM	16	47	0	63	109	0	0	109	4	35	0	39	211
07:45 AM	11	52	0	63	59	1	0	60	2	45	0	47	170
Total	52	389	0	441	417	7	0	424	13	132	1	146	1011
08:00 AM	21	54	0	75	73	0	0	73	2	22	0	24	172
08:15 AM	24	59	0	83	62	0	0	62	0	38	0	38	183
08:30 AM	25	45	0	70	42	4	0	46	3	22	0	25	141
08:45 AM	17	33	0	50	48	1	0	49	0	32	0	32	131
Total	87	191	0	278	225	5	0	230	5	114	0	119	627
Grand Total	139	580	0	719	642	12	0	654	18	246	1	265	1638
Apprch %	19.3	80.7	0		98.2	1.8	0		6.8	92.8	0.4		
Total %	8.5	35.4	0	43.9	39.2	0.7	0	39.9	1.1	15	0.1	16.2	
Cars +	130	556	0	686	620	11	0	631	15	239	1	255	1572
% Cars +	93.5	95.9	0	95.4	96.6	91.7	0	96.5	83.3	97.2	100	96.2	96
Trucks	9	24	0	33	22	1	0	23	3	7	0	10	66
% Trucks	6.5	4.1	0	4.6	3.4	8.3	0	3.5	16.7	2.8	0	3.8	4

TRAFFIC DATA COLLECTION

File Name : Garner(Hebron Church Rd and Ackerman Rd)
Site Code :
Start Date : 9/12/2023
Page No : 2

	Hebron Church Road Southbound				Hebron Church Road Northbound				Ackerman 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 07:00 AM													
07:00 AM	9	**178**	0	**187**	110	**4**	0	114	**6**	19	**1**	26	**327**
07:15 AM	**16**	112	0	128	**139**	2	0	**141**	1	33	0	34	303
07:30 AM	16	47	0	63	109	0	0	109	4	35	0	39	211
07:45 AM	11	52	0	63	59	1	0	60	2	**45**	0	**47**	170
Total Volume	52	389	0	441	417	7	0	424	13	132	1	146	1011
% App. Total	11.8	88.2	0		98.3	1.7	0		8.9	90.4	0.7		
PHF	.813	.546	.000	.590	.750	.438	.000	.752	.542	.733	.250	.777	.773



TRAFFIC DATA COLLECTION

File Name : Garner(Hebron Church Rd and Ackerman Rd)
Site Code :
Start Date : 9/12/2023
Page No : 1

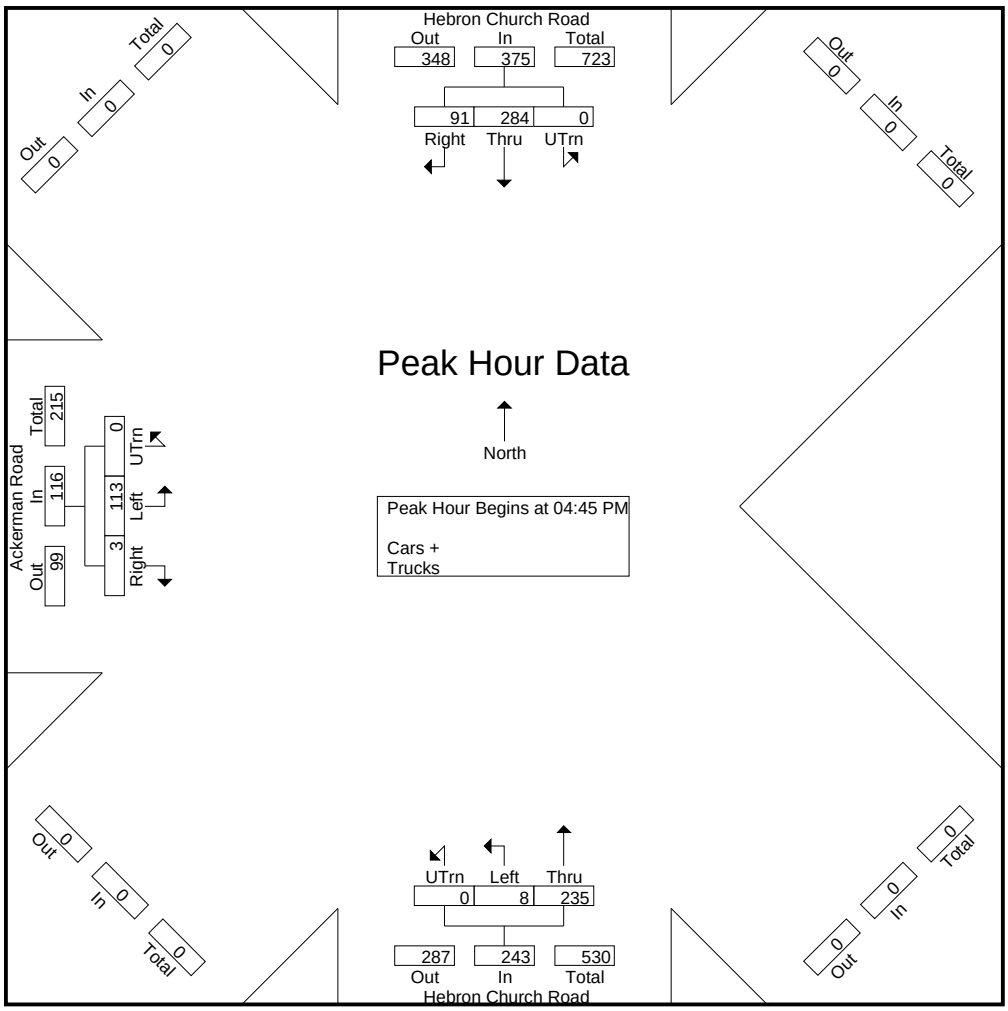
Groups Printed- Cars + - Trucks

	Hebron Church Road Southbound				Hebron Church Road Northbound				Ackerman Road Eastbound				
Start Time	Right	Thru	UTrn	App. Total	Thru	Left	UTrn	App. Total	Right	Left	UTrn	App. Total	Int. Total
04:00 PM	17	59	0	76	36	4	0	40	2	37	0	39	155
04:15 PM	35	65	0	100	38	2	0	40	4	30	0	34	174
04:30 PM	14	71	0	85	60	2	0	62	1	23	0	24	171
04:45 PM	19	70	0	89	70	2	0	72	0	31	0	31	192
Total	85	265	0	350	204	10	0	214	7	121	0	128	692
05:00 PM	20	75	0	95	58	3	0	61	1	28	0	29	185
05:15 PM	28	74	0	102	48	0	0	48	1	31	0	32	182
05:30 PM	24	65	0	89	59	3	0	62	1	23	0	24	175
05:45 PM	36	90	0	126	44	1	0	45	0	21	0	21	192
Total	108	304	0	412	209	7	0	216	3	103	0	106	734
Grand Total	193	569	0	762	413	17	0	430	10	224	0	234	1426
Apprch %	25.3	74.7	0		96	4	0		4.3	95.7	0		
Total %	13.5	39.9	0	53.4	29	1.2	0	30.2	0.7	15.7	0	16.4	
Cars +	188	550	0	738	403	14	0	417	8	220	0	228	1383
% Cars +	97.4	96.7	0	96.9	97.6	82.4	0	97	80	98.2	0	97.4	97
Trucks	5	19	0	24	10	3	0	13	2	4	0	6	43
% Trucks	2.6	3.3	0	3.1	2.4	17.6	0	3	20	1.8	0	2.6	3

TRAFFIC DATA COLLECTION

File Name : Garner(Hebron Church Rd and Ackerman Rd)
Site Code :
Start Date : 9/12/2023
Page No : 2

	Hebron Church Road Southbound				Hebron Church Road Northbound				Ackerman 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 04:45 PM													
04:45 PM	19	70	0	89	**70**	2	0	**72**	0	**31**	0	31	**192**
05:00 PM	20	**75**	0	95	58	**3**	0	61	**1**	28	0	29	185
05:15 PM	**28**	74	0	**102**	48	0	0	48	1	31	0	**32**	182
05:30 PM	24	65	0	89	59	3	0	62	1	23	0	24	175
Total Volume	91	284	0	375	235	8	0	243	3	113	0	116	734
% App. Total	24.3	75.7	0		96.7	3.3	0		2.6	97.4	0		
PHF	.813	.947	.000	.919	.839	.667	.000	.844	.750	.911	.000	.906	.956



TRAFFIC DATA COLLECTION

File Name : Garner(Hebron Church Rd and White Oak Rd)
Site Code :
Start Date : 9/12/2023
Page No : 1

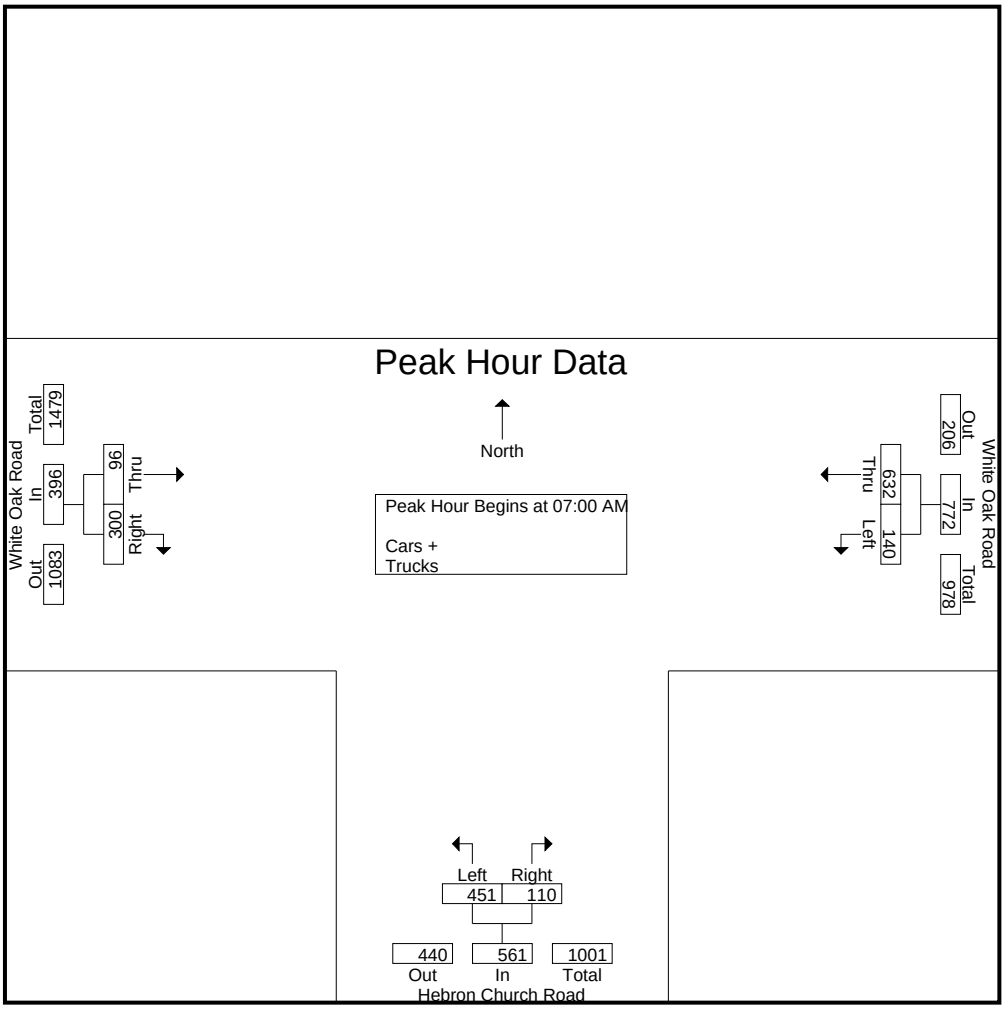
Groups Printed- Cars + - Trucks

	White Oak Road Westbound			Hebron Church Road Northbound			White Oak Road Eastbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
07:00 AM	161	59	220	30	96	126	132	13	145	491
07:15 AM	151	37	188	34	142	176	86	24	110	474
07:30 AM	147	21	168	28	125	153	43	26	69	390
07:45 AM	173	23	196	18	88	106	39	33	72	374
Total	632	140	772	110	451	561	300	96	396	1729
08:00 AM	141	22	163	23	74	97	56	29	85	345
08:15 AM	112	27	139	22	80	102	55	32	87	328
08:30 AM	117	29	146	12	52	64	41	38	79	289
08:45 AM	105	24	129	26	53	79	26	34	60	268
Total	475	102	577	83	259	342	178	133	311	1230
Grand Total	1107	242	1349	193	710	903	478	229	707	2959
Apprch %	82.1	17.9		21.4	78.6		67.6	32.4		
Total %	37.4	8.2	45.6	6.5	24	30.5	16.2	7.7	23.9	
Cars +	1090	228	1318	184	690	874	459	222	681	2873
% Cars +	98.5	94.2	97.7	95.3	97.2	96.8	96	96.9	96.3	97.1
Trucks	17	14	31	9	20	29	19	7	26	86
% Trucks	1.5	5.8	2.3	4.7	2.8	3.2	4	3.1	3.7	2.9

TRAFFIC DATA COLLECTION

File Name : Garner(Hebron Church Rd and White Oak Rd)
Site Code :
Start Date : 9/12/2023
Page No : 2

	White Oak Road Westbound			Hebron Church Road Northbound			White Oak Road Eastbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	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 07:00 AM										
07:00 AM	161	**59**	**220**	30	96	126	**132**	13	**145**	**491**
07:15 AM	151	37	188	**34**	**142**	**176**	86	24	110	474
07:30 AM	147	21	168	28	125	153	43	26	69	390
07:45 AM	**173**	23	196	18	88	106	39	**33**	72	374
Total Volume	632	140	772	110	451	561	300	96	396	1729
% App. Total	81.9	18.1		19.6	80.4		75.8	24.2		
PHF	.913	.593	.877	.809	.794	.797	.568	.727	.683	.880



TRAFFIC DATA COLLECTION

File Name : Garner(Hebron Church Rd and White Oak Rd)
Site Code :
Start Date : 9/12/2023
Page No : 1

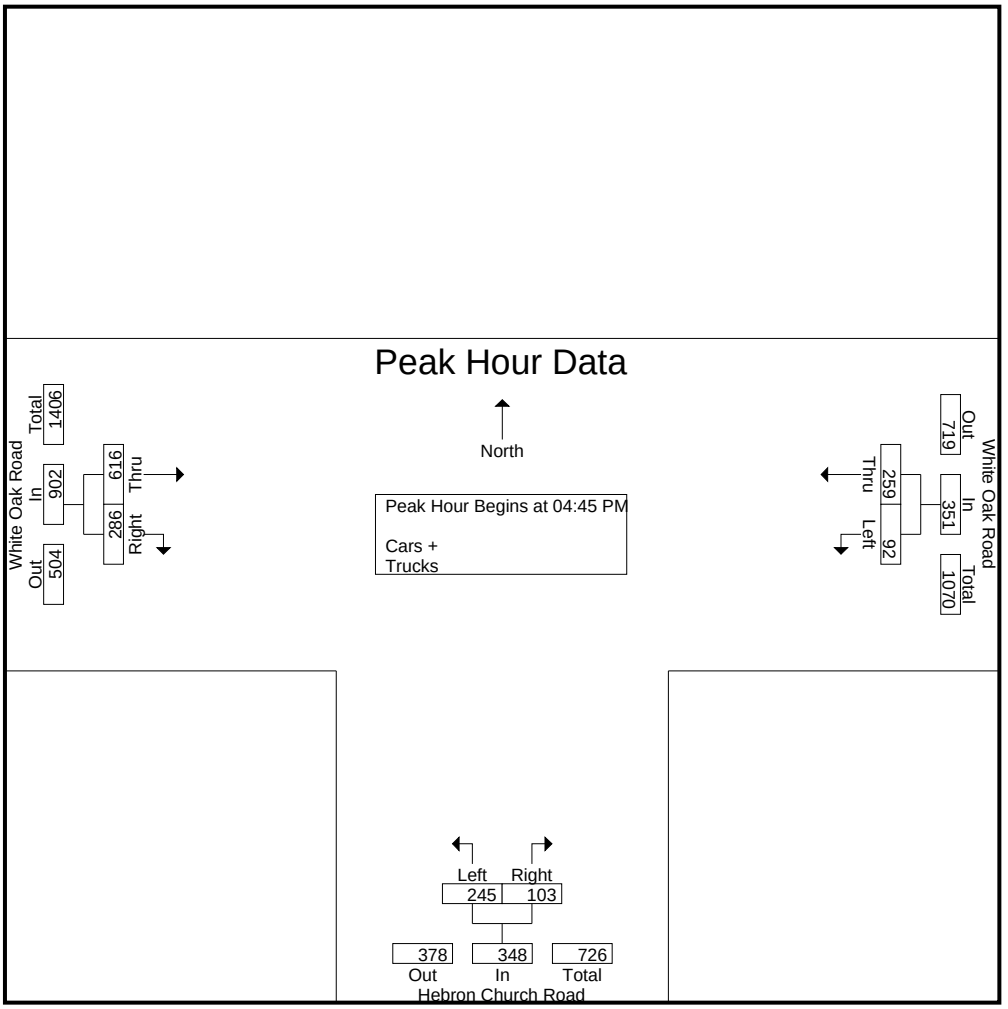
Groups Printed- Cars + - Trucks

	White Oak Road Westbound			Hebron Church Road Northbound			White Oak Road Eastbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
04:00 PM	49	17	66	30	46	76	58	139	197	339
04:15 PM	53	31	84	23	42	65	68	154	222	371
04:30 PM	54	16	70	36	54	90	69	143	212	372
04:45 PM	73	20	93	28	71	99	71	141	212	404
Total	229	84	313	117	213	330	266	577	843	1486
05:00 PM	71	26	97	27	60	87	68	173	241	425
05:15 PM	51	27	78	21	59	80	77	156	233	391
05:30 PM	64	19	83	27	55	82	70	146	216	381
05:45 PM	80	24	104	16	45	61	102	132	234	399
Total	266	96	362	91	219	310	317	607	924	1596
Grand Total	495	180	675	208	432	640	583	1184	1767	3082
Apprch %	73.3	26.7		32.5	67.5		33	67		
Total %	16.1	5.8	21.9	6.7	14	20.8	18.9	38.4	57.3	
Cars +	493	171	664	201	425	626	569	1174	1743	3033
% Cars +	99.6	95	98.4	96.6	98.4	97.8	97.6	99.2	98.6	98.4
Trucks	2	9	11	7	7	14	14	10	24	49
% Trucks	0.4	5	1.6	3.4	1.6	2.2	2.4	0.8	1.4	1.6

TRAFFIC DATA COLLECTION

File Name : Garner(Hebron Church Rd and White Oak Rd)
Site Code :
Start Date : 9/12/2023
Page No : 2

	White Oak Road Westbound			Hebron Church Road Northbound			White Oak Road Eastbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	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 04:45 PM										
04:45 PM	**73**	20	93	**28**	**71**	**99**	71	141	212	404
05:00 PM	71	26	**97**	27	60	87	68	**173**	**241**	**425**
05:15 PM	51	**27**	78	21	59	80	**77**	156	233	391
05:30 PM	64	19	83	27	55	82	70	146	216	381
Total Volume	259	92	351	103	245	348	286	616	902	1601
% App. Total	73.8	26.2		29.6	70.4		31.7	68.3		
PHF	.887	.852	.905	.920	.863	.879	.929	.890	.936	.942



File Name : Garner(NC 50 and New Bethel Church Rd).
Site Code :
Start Date : 9/12/2023
Page No : 1

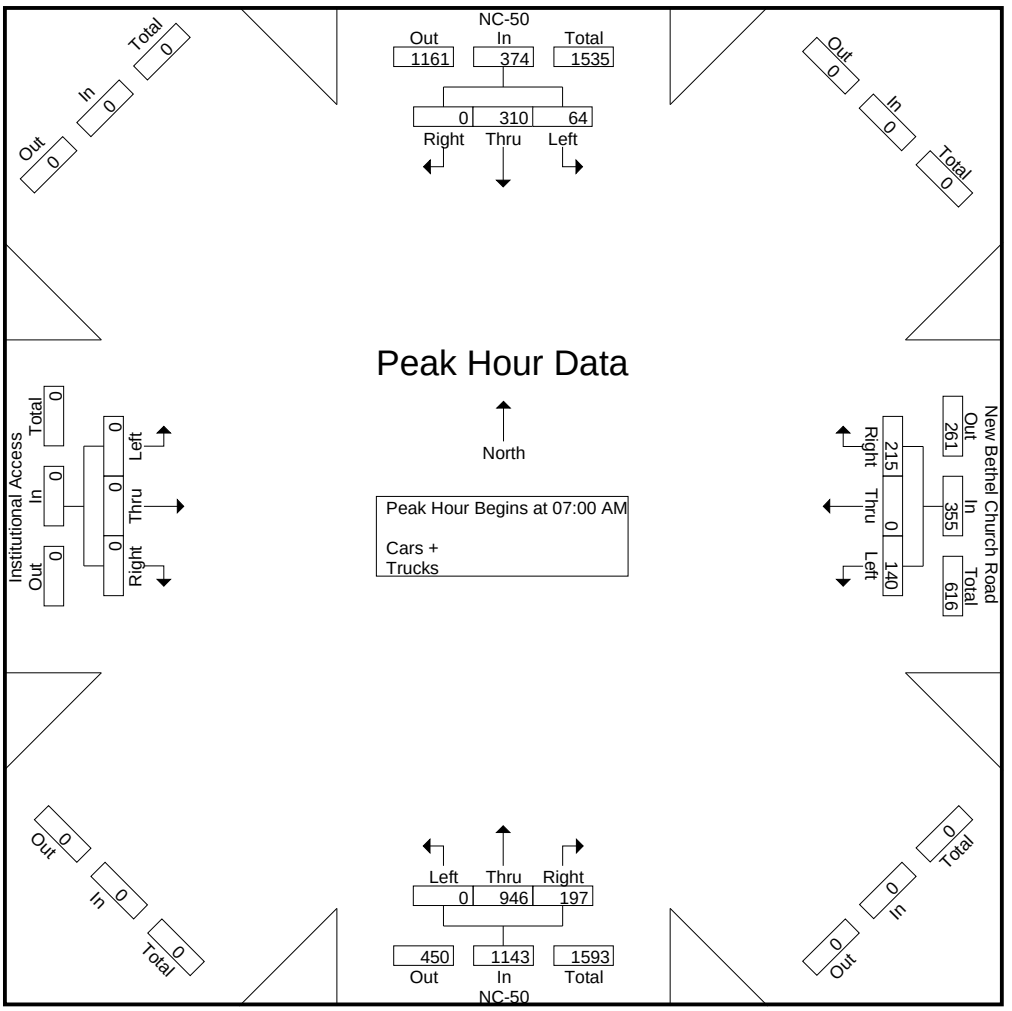
Groups Printed- Cars + - Trucks

	NC-50 Southbound				New Bethel Church Road Westbound				NC-50 Northbound				Institutional Access 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
07:00 AM	0	69	14	83	61	0	35	96	84	209	0	293	0	0	0	0	472
07:15 AM	0	81	21	102	57	0	45	102	48	233	0	281	0	0	0	0	485
07:30 AM	0	66	10	76	58	0	34	92	36	250	0	286	0	0	0	0	454
07:45 AM	0	94	19	113	39	0	26	65	29	254	0	283	0	0	0	0	461
Total	0	310	64	374	215	0	140	355	197	946	0	1143	0	0	0	0	1872
08:00 AM	0	87	25	112	38	0	27	65	29	229	0	258	0	0	0	0	435
08:15 AM	0	105	26	131	36	0	23	59	32	180	0	212	0	0	0	0	402
08:30 AM	0	112	20	132	24	0	18	42	45	182	0	227	0	0	0	0	401
08:45 AM	0	120	21	141	43	0	39	82	23	235	0	258	0	0	0	0	481
Total	0	424	92	516	141	0	107	248	129	826	0	955	0	0	0	0	1719
Grand Total	0	734	156	890	356	0	247	603	326	1772	0	2098	0	0	0	0	3591
Apprch %	0	82.5	17.5		59	0	41		15.5	84.5	0		0	0	0		
Total %	0	20.4	4.3	24.8	9.9	0	6.9	16.8	9.1	49.3	0	58.4	0	0	0	0	
Cars +	0	689	146	835	348	0	231	579	319	1733	0	2052	0	0	0	0	3466
% Cars +	0	93.9	93.6	93.8	97.8	0	93.5	96	97.9	97.8	0	97.8	0	0	0	0	96.5
Trucks	0	45	10	55	8	0	16	24	7	39	0	46	0	0	0	0	125
% Trucks	0	6.1	6.4	6.2	2.2	0	6.5	4	2.1	2.2	0	2.2	0	0	0	0	3.5

TRAFFIC DATA COLLECTION

File Name : Garner(NC 50 and New Bethel Church Rd).
Site Code :
Start Date : 9/12/2023
Page No : 2

	NC-50 Southbound				New Bethel Church Road Westbound				NC-50 Northbound				Institutional Access 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 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	69	14	83	**61**	0	35	96	**84**	209	0	**293**	0	0	0	0	472
07:15 AM	0	81	**21**	102	57	0	**45**	**102**	48	233	0	281	0	0	0	0	**485**
07:30 AM	0	66	10	76	58	0	34	92	36	250	0	286	0	0	0	0	454
07:45 AM	0	**94**	19	**113**	39	0	26	65	29	**254**	0	283	0	0	0	0	461
Total Volume	0	310	64	374	215	0	140	355	197	946	0	1143	0	0	0	0	1872
% App. Total	0	82.9	17.1		60.6	0	39.4		17.2	82.8	0		0	0	0		
PHF	.000	.824	.762	.827	.881	.000	.778	.870	.586	.931	.000	.975	.000	.000	.000	.000	.965



File Name : Garner(NC 50 and New Bethel Church Rd).
Site Code :
Start Date : 9/12/2023
Page No : 1

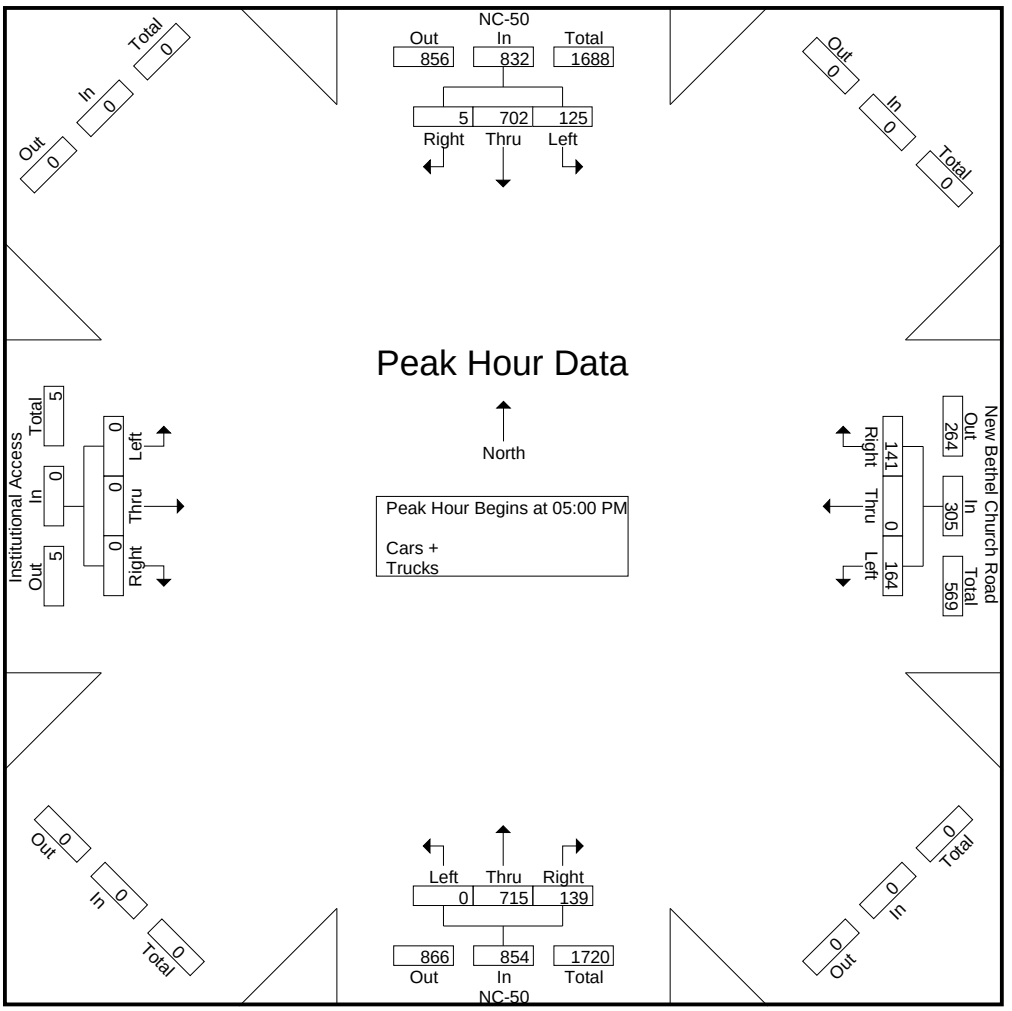
Groups Printed- Cars + - Trucks

	NC-50 Southbound				New Bethel Church Road Westbound				NC-50 Northbound				Institutional Access 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	1	197	33	231	30	0	48	78	30	156	0	186	0	0	0	0	495
04:15 PM	1	198	44	243	35	0	53	88	23	134	0	157	0	0	0	0	488
04:30 PM	0	211	27	238	35	0	43	78	29	123	0	152	0	0	0	0	468
04:45 PM	2	209	26	237	25	0	50	75	25	138	0	163	0	0	0	0	475
Total	4	815	130	949	125	0	194	319	107	551	0	658	0	0	0	0	1926
05:00 PM	2	179	29	210	32	0	44	76	27	168	0	195	0	0	0	0	481
05:15 PM	2	155	24	181	35	0	42	77	47	190	0	237	0	0	0	0	495
05:30 PM	1	192	37	230	31	0	38	69	35	179	0	214	0	0	0	0	513
05:45 PM	0	176	35	211	43	0	40	83	30	178	0	208	0	0	0	0	502
Total	5	702	125	832	141	0	164	305	139	715	0	854	0	0	0	0	1991
Grand Total	9	1517	255	1781	266	0	358	624	246	1266	0	1512	0	0	0	0	3917
Apprch %	0.5	85.2	14.3		42.6	0	57.4		16.3	83.7	0		0	0	0		
Total %	0.2	38.7	6.5	45.5	6.8	0	9.1	15.9	6.3	32.3	0	38.6	0	0	0	0	
Cars +	9	1497	253	1759	260	0	348	608	235	1241	0	1476	0	0	0	0	3843
% Cars +	100	98.7	99.2	98.8	97.7	0	97.2	97.4	95.5	98	0	97.6	0	0	0	0	98.1
Trucks	0	20	2	22	6	0	10	16	11	25	0	36	0	0	0	0	74
% Trucks	0	1.3	0.8	1.2	2.3	0	2.8	2.6	4.5	2	0	2.4	0	0	0	0	1.9

TRAFFIC DATA COLLECTION

File Name : Garner(NC 50 and New Bethel Church Rd).
Site Code :
Start Date : 9/12/2023
Page No : 2

	NC-50 Southbound				New Bethel Church Road Westbound				NC-50 Northbound				Institutional Access 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	**2**	179	29	210	32	0	**44**	76	27	168	0	195	0	0	0	0	481
05:15 PM	2	155	24	181	35	0	42	77	**47**	**190**	0	**237**	0	0	0	0	495
05:30 PM	1	**192**	**37**	**230**	31	0	38	69	35	179	0	214	0	0	0	0	**513**
05:45 PM	0	176	35	211	**43**	0	40	**83**	30	178	0	208	0	0	0	0	502
Total Volume	5	702	125	832	141	0	164	305	139	715	0	854	0	0	0	0	1991
% App. Total	0.6	84.4	15		46.2	0	53.8		16.3	83.7	0		0	0	0		
PHF	.625	.914	.845	.904	.820	.000	.932	.919	.739	.941	.000	.901	.000	.000	.000	.000	.970



TRAFFIC DATA COLLECTION

File Name : Garner(New Bethel and Clifford)
Site Code :
Start Date : 9/12/2023
Page No : 1

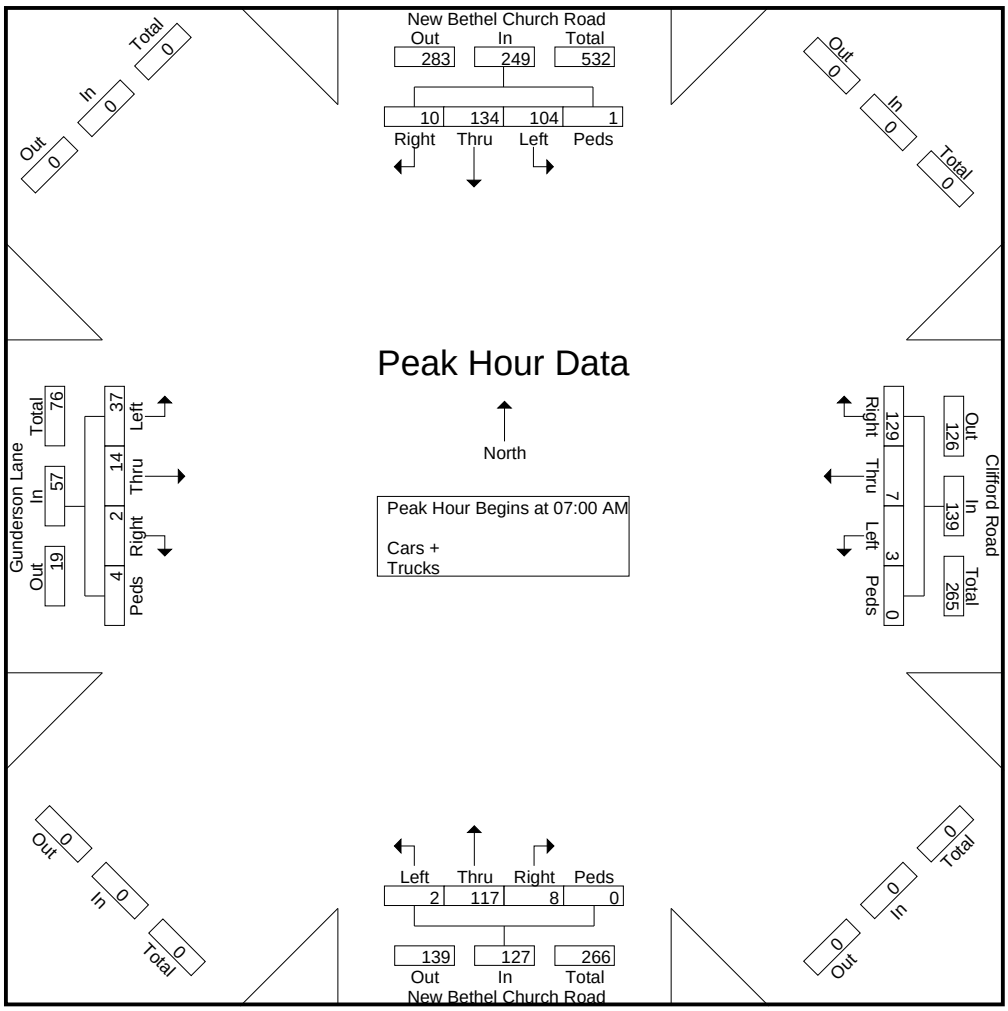
Groups Printed- Cars + - Trucks

	New Bethel Church Road Southbound					Clifford Road Westbound					New Bethel Church Road Northbound					Gunderson Lane 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	2	72	33	0	107	29	0	1	0	30	2	38	0	0	40	1	5	11	0	17	194
07:15 AM	2	47	16	1	66	30	1	0	0	31	1	42	1	0	44	1	1	7	2	11	152
07:30 AM	2	9	30	0	41	41	3	1	0	45	3	24	0	0	27	0	4	11	1	16	129
07:45 AM	4	6	25	0	35	29	3	1	0	33	2	13	1	0	16	0	4	8	1	13	97
Total	10	134	104	1	249	129	7	3	0	139	8	117	2	0	127	2	14	37	4	57	572
08:00 AM	7	12	36	0	55	25	5	0	0	30	3	10	0	0	13	0	6	9	0	15	113
08:15 AM	2	13	31	0	46	27	2	0	0	29	0	10	1	0	11	0	6	12	2	20	106
08:30 AM	0	12	50	0	62	17	2	0	0	19	3	15	0	0	18	0	11	7	0	18	117
08:45 AM	1	5	34	0	40	54	7	5	0	66	5	10	1	0	16	0	6	4	1	11	133
Total	10	42	151	0	203	123	16	5	0	144	11	45	2	0	58	0	29	32	3	64	469
Grand Total	20	176	255	1	452	252	23	8	0	283	19	162	4	0	185	2	43	69	7	121	1041
Apprch %	4.4	38.9	56.4	0.2		89	8.1	2.8	0		10.3	87.6	2.2	0		1.7	35.5	57	5.8		
Total %	1.9	16.9	24.5	0.1	43.4	24.2	2.2	0.8	0	27.2	1.8	15.6	0.4	0	17.8	0.2	4.1	6.6	0.7	11.6	
Cars +	18	174	249	1	442	242	18	8	0	268	19	159	4	0	182	2	40	64	7	113	1005
% Cars +	90	98.9	97.6	100	97.8	96	78.3	100	0	94.7	100	98.1	100	0	98.4	100	93	92.8	100	93.4	96.5
Trucks	2	2	6	0	10	10	5	0	0	15	0	3	0	0	3	0	3	5	0	8	36
% Trucks	10	1.1	2.4	0	2.2	4	21.7	0	0	5.3	0	1.9	0	0	1.6	0	7	7.2	0	6.6	3.5

TRAFFIC DATA COLLECTION

File Name : Garner(New Bethel and Clifford)
Site Code :
Start Date : 9/12/2023
Page No : 2

	New Bethel Church Road Southbound					Clifford Road Westbound					New Bethel Church Road Northbound					Gunderson Lane 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 07:00 AM																					
07:00 AM	2	**72**	**33**	0	**107**	29	0	**1**	0	30	2	38	0	0	40	**1**	**5**	**11**	0	**17**	**194**
07:15 AM	2	47	16	**1**	66	30	1	0	0	31	1	**42**	**1**	0	**44**	1	1	7	**2**	11	152
07:30 AM	2	9	30	0	41	**41**	**3**	1	0	**45**	**3**	24	0	0	27	0	4	11	1	16	129
07:45 AM	**4**	6	25	0	35	29	3	1	0	33	2	13	1	0	16	0	4	8	1	13	97
Total Volume	10	134	104	1	249	129	7	3	0	139	8	117	2	0	127	2	14	37	4	57	572
% App. Total	4	53.8	41.8	0.4		92.8	5	2.2	0		6.3	92.1	1.6	0		3.5	24.6	64.9	7		
PHF	.625	.465	.788	.250	.582	.787	.583	.750	.000	.772	.667	.696	.500	.000	.722	.500	.700	.841	.500	.838	.737



TRAFFIC DATA COLLECTION

File Name : Garner(New Bethel and Clifford)
Site Code :
Start Date : 9/12/2023
Page No : 1

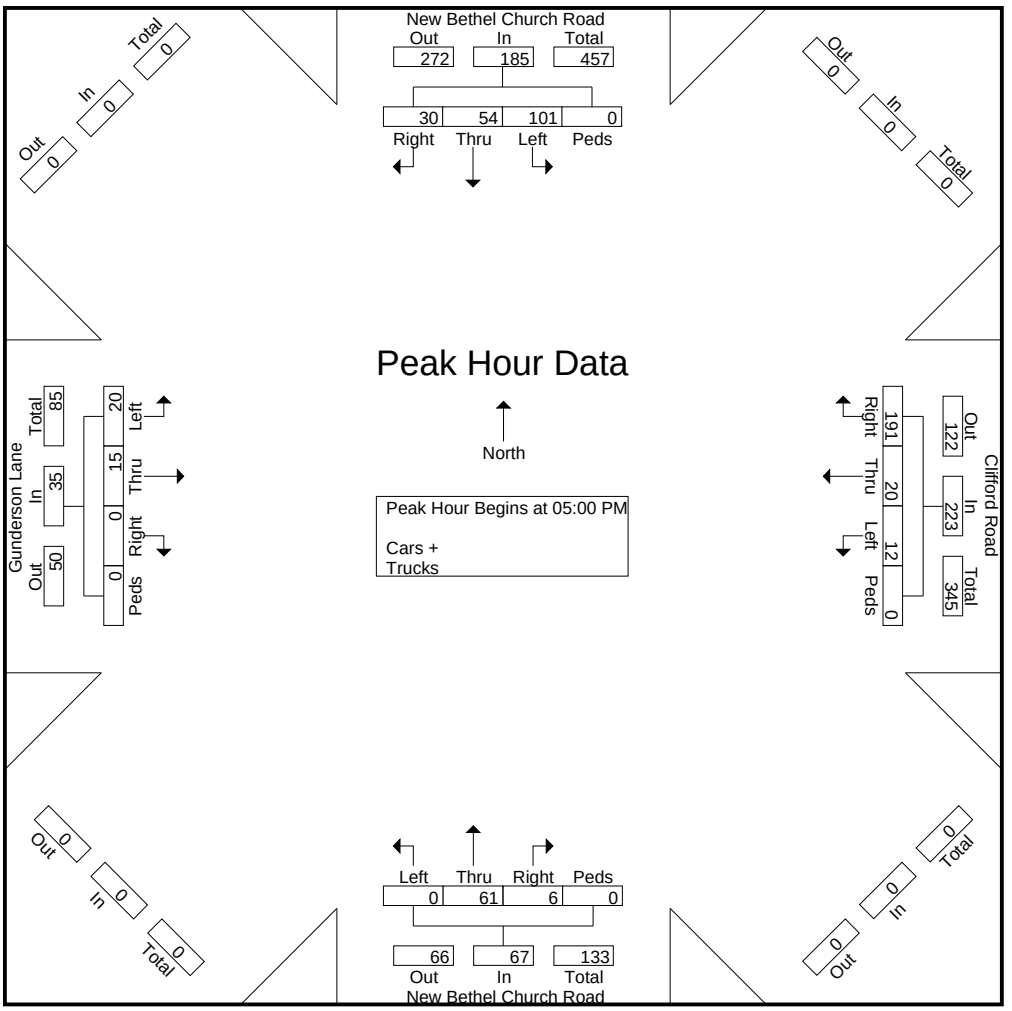
Groups Printed- Cars + - Trucks

	New Bethel Church Road Southbound					Clifford Road Westbound					New Bethel Church Road Northbound					Gunderson Lane 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
04:00 PM	5	11	30	0	46	67	9	6	0	82	1	10	0	0	11	0	5	3	0	8	147
04:15 PM	7	13	34	1	55	51	14	1	0	66	1	16	0	0	17	1	1	4	1	7	145
04:30 PM	6	7	23	1	37	40	9	1	0	50	0	16	0	0	16	0	3	3	1	7	110
04:45 PM	6	10	19	0	35	37	3	6	0	46	2	18	0	0	20	0	2	1	0	3	104
Total	24	41	106	2	173	195	35	14	0	244	4	60	0	0	64	1	11	11	2	25	506
05:00 PM	2	13	26	0	41	49	6	4	0	59	1	18	0	0	19	0	5	6	0	11	130
05:15 PM	9	7	20	0	36	51	4	2	0	57	2	18	0	0	20	0	3	7	0	10	123
05:30 PM	8	21	33	0	62	50	6	3	0	59	2	11	0	0	13	0	4	3	0	7	141
05:45 PM	11	13	22	0	46	41	4	3	0	48	1	14	0	0	15	0	3	4	0	7	116
Total	30	54	101	0	185	191	20	12	0	223	6	61	0	0	67	0	15	20	0	35	510
Grand Total	54	95	207	2	358	386	55	26	0	467	10	121	0	0	131	1	26	31	2	60	1016
Apprch %	15.1	26.5	57.8	0.6		82.7	11.8	5.6	0		7.6	92.4	0	0		1.7	43.3	51.7	3.3		
Total %	5.3	9.4	20.4	0.2	35.2	38	5.4	2.6	0	46	1	11.9	0	0	12.9	0.1	2.6	3.1	0.2	5.9	
Cars +	52	95	196	2	345	374	52	26	0	452	10	119	0	0	129	1	24	29	2	56	982
% Cars +	96.3	100	94.7	100	96.4	96.9	94.5	100	0	96.8	100	98.3	0	0	98.5	100	92.3	93.5	100	93.3	96.7
Trucks	2	0	11	0	13	12	3	0	0	15	0	2	0	0	2	0	2	2	0	4	34
% Trucks	3.7	0	5.3	0	3.6	3.1	5.5	0	0	3.2	0	1.7	0	0	1.5	0	7.7	6.5	0	6.7	3.3

TRAFFIC DATA COLLECTION

File Name : Garner(New Bethel and Clifford)
Site Code :
Start Date : 9/12/2023
Page No : 2

	New Bethel Church Road Southbound					Clifford Road Westbound					New Bethel Church Road Northbound					Gunderson Lane 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 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	13	26	0	41	49	**6**	**4**	0	**59**	1	**18**	0	0	19	0	**5**	6	0	**11**	130
05:15 PM	9	7	20	0	36	**51**	4	2	0	57	**2**	18	0	0	**20**	0	3	**7**	0	10	123
05:30 PM	8	**21**	**33**	0	**62**	50	6	3	0	59	2	11	0	0	13	0	4	3	0	7	**141**
05:45 PM	**11**	13	22	0	46	41	4	3	0	48	1	14	0	0	15	0	3	4	0	7	116
Total Volume	30	54	101	0	185	191	20	12	0	223	6	61	0	0	67	0	15	20	0	35	510
% App. Total	16.2	29.2	54.6	0		85.7	9	5.4	0		9	91	0	0		0	42.9	57.1	0		
PHF	.682	.643	.765	.000	.746	.936	.833	.750	.000	.945	.750	.847	.000	.000	.838	.000	.750	.714	.000	.795	.904



TRAFFIC DATA COLLECTION

File Name : Garner(New Bethel and Hebron)
Site Code :
Start Date : 9/12/2023
Page No : 1

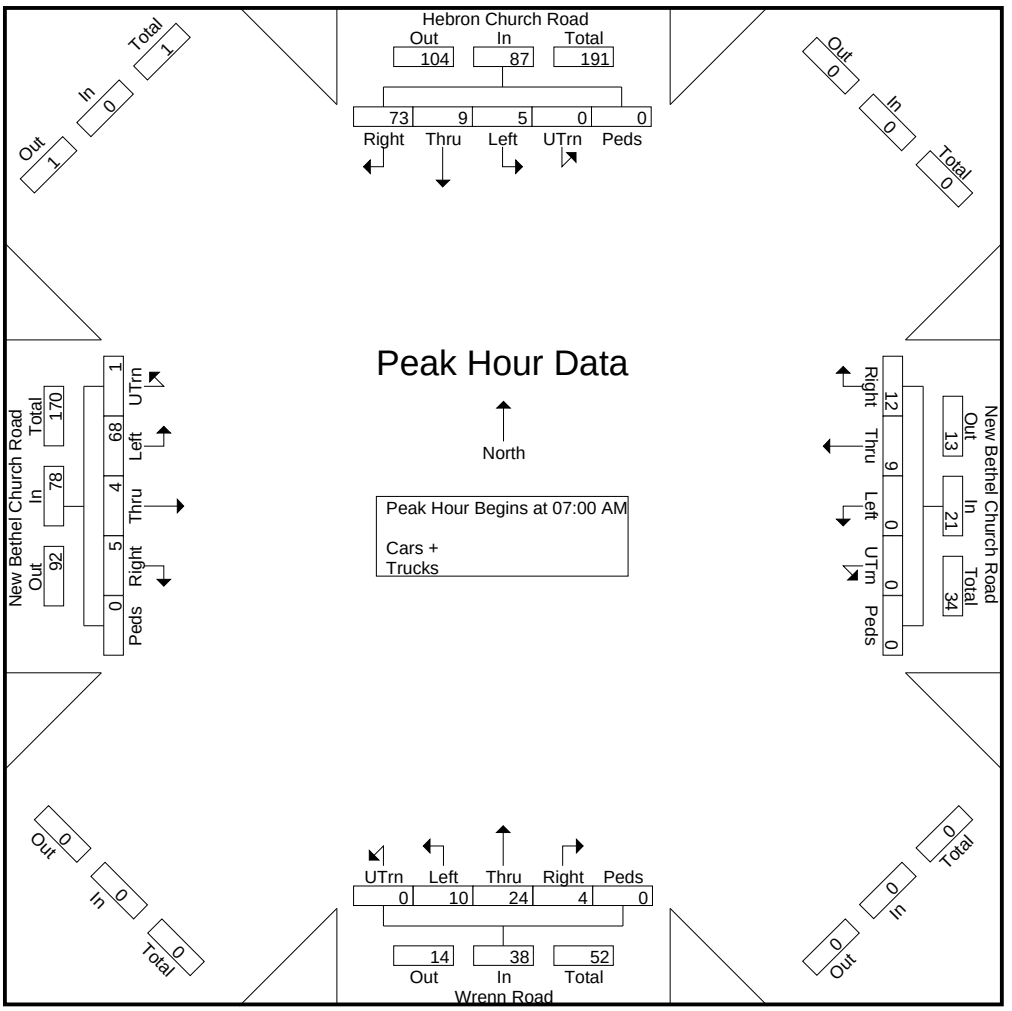
Groups Printed- Cars + - Trucks

	Hebron Church Road Southbound						New Bethel Church Road Westbound						Wrenn Road Northbound						New Bethel Church 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
07:00 AM	19	3	0	0	0	22	2	3	0	0	0	5	3	8	4	0	0	15	2	1	33	1	0	37	79
07:15 AM	32	2	1	0	0	35	4	1	0	0	0	5	1	7	2	0	0	10	1	3	29	0	0	33	83
07:30 AM	14	1	4	0	0	19	2	3	0	0	0	5	0	2	1	0	0	3	0	0	3	0	0	3	30
07:45 AM	8	3	0	0	0	11	4	2	0	0	0	6	0	7	3	0	0	10	2	0	3	0	0	5	32
Total	73	9	5	0	0	87	12	9	0	0	0	21	4	24	10	0	0	38	5	4	68	1	0	78	224
08:00 AM	3	4	1	0	0	8	5	1	0	0	0	6	1	3	3	0	1	8	2	3	3	0	0	8	30
08:15 AM	6	7	2	0	0	15	5	1	0	1	0	7	0	8	0	0	0	8	2	1	8	0	0	11	41
08:30 AM	4	4	1	0	0	9	3	2	0	0	1	6	0	5	8	0	0	13	1	0	4	0	0	5	33
08:45 AM	2	3	2	0	0	7	2	0	0	0	0	2	0	5	3	0	0	8	1	1	2	0	0	4	21
Total	15	18	6	0	0	39	15	4	0	1	1	21	1	21	14	0	1	37	6	5	17	0	0	28	125
Grand Total	88	27	11	0	0	126	27	13	0	1	1	42	5	45	24	0	1	75	11	9	85	1	0	106	349
Apprch %	69.8	21.4	8.7	0	0		64.3	31	0	2.4	2.4		6.7	60	32	0	1.3		10.4	8.5	80.2	0.9	0		
Total %	25.2	7.7	3.2	0	0	36.1	7.7	3.7	0	0.3	0.3	12	1.4	12.9	6.9	0	0.3	21.5	3.2	2.6	24.4	0.3	0	30.4	
Cars +	81	25	9	0	0	115	22	13	0	1	1	37	2	45	24	0	1	72	10	9	80	1	0	100	324
% Cars +	92	92.6	81.8	0	0	91.3	81.5	100	0	100	100	88.1	40	100	100	0	100	96	90.9	100	94.1	100	0	94.3	92.8
Trucks	7	2	2	0	0	11	5	0	0	0	0	5	3	0	0	0	0	3	1	0	5	0	0	6	25
% Trucks	8	7.4	18.2	0	0	8.7	18.5	0	0	0	0	11.9	60	0	0	0	0	4	9.1	0	5.9	0	0	5.7	7.2

TRAFFIC DATA COLLECTION

File Name : Garner(New Bethel and Hebron)
Site Code :
Start Date : 9/12/2023
Page No : 2

	Hebron Church Road Southbound						New Bethel Church Road Westbound						Wrenn Road Northbound						New Bethel Church 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 07:00 AM to 08:45 AM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 07:00 AM																									
07:00 AM	19	**3**	0	0	0	22	2	**3**	0	0	0	5	**3**	**8**	**4**	0	0	**15**	**2**	1	**33**	**1**	0	**37**	79
07:15 AM	**32**	2	1	0	0	**35**	**4**	1	0	0	0	5	1	7	2	0	0	10	1	**3**	29	0	0	33	**83**
07:30 AM	14	1	**4**	0	0	19	2	3	0	0	0	5	0	2	1	0	0	3	0	0	3	0	0	3	30
07:45 AM	8	3	0	0	0	11	4	2	0	0	0	**6**	0	7	3	0	0	10	2	0	3	0	0	5	32
Total Volume	73	9	5	0	0	87	12	9	0	0	0	21	4	24	10	0	0	38	5	4	68	1	0	78	224
% App. Total	83.9	10.3	5.7	0	0		57.1	42.9	0	0	0		10.5	63.2	26.3	0	0		6.4	5.1	87.2	1.3	0		
PHF	.570	.750	.313	.000	.000	.621	.750	.750	.000	.000	.000	.875	.333	.750	.625	.000	.000	.633	.625	.333	.515	.250	.000	.527	.675



TRAFFIC DATA COLLECTION

File Name : Garner(New Bethel and Hebron)
Site Code :
Start Date : 9/12/2023
Page No : 1

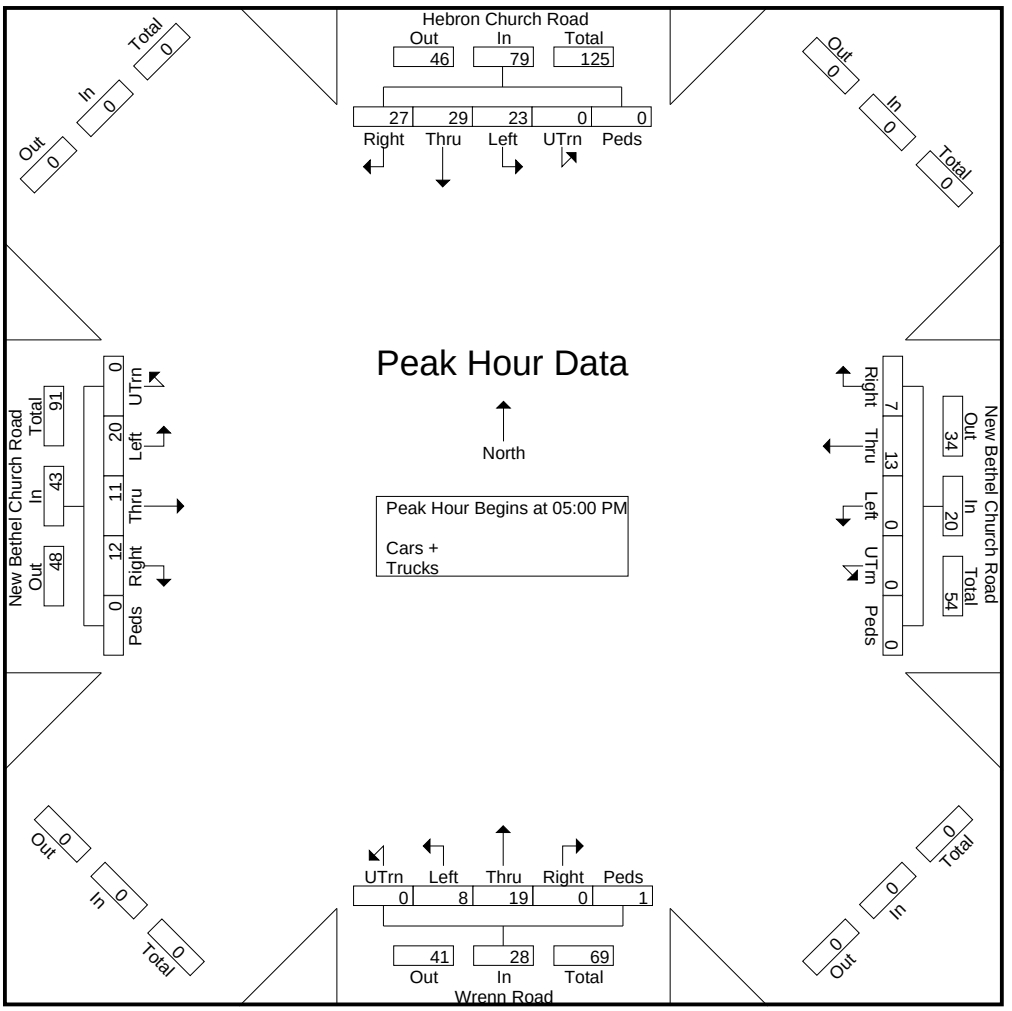
Groups Printed- Cars + - Trucks

	Hebron Church Road Southbound						New Bethel Church Road Westbound						Wrenn Road Northbound						New Bethel Church 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	6	7	5	0	0	18	1	0	0	0	0	1	1	2	2	0	0	5	2	3	4	0	0	9	33
04:15 PM	5	5	0	0	0	10	3	5	0	0	0	8	0	1	1	0	0	2	3	1	8	0	0	12	32
04:30 PM	7	5	3	1	0	16	2	0	1	0	0	3	0	3	4	0	0	7	1	1	2	0	0	4	30
04:45 PM	3	4	4	0	0	11	4	1	0	0	0	5	0	2	2	0	0	4	1	1	6	0	0	8	28
Total	21	21	12	1	0	55	10	6	1	0	0	17	1	8	9	0	0	18	7	6	20	0	0	33	123
05:00 PM	5	9	6	0	0	20	3	7	0	0	0	10	0	4	2	0	0	6	2	1	5	0	0	8	44
05:15 PM	5	7	4	0	0	16	2	2	0	0	0	4	0	8	1	0	0	9	2	3	1	0	0	6	35
05:30 PM	5	5	4	0	0	14	0	1	0	0	0	1	0	3	4	0	0	7	5	4	7	0	0	16	38
05:45 PM	12	8	9	0	0	29	2	3	0	0	0	5	0	4	1	0	1	6	3	3	7	0	0	13	53
Total	27	29	23	0	0	79	7	13	0	0	0	20	0	19	8	0	1	28	12	11	20	0	0	43	170
Grand Total	48	50	35	1	0	134	17	19	1	0	0	37	1	27	17	0	1	46	19	17	40	0	0	76	293
Apprch %	35.8	37.3	26.1	0.7	0		45.9	51.4	2.7	0	0		2.2	58.7	37	0	2.2		25	22.4	52.6	0	0		
Total %	16.4	17.1	11.9	0.3	0	45.7	5.8	6.5	0.3	0	0	12.6	0.3	9.2	5.8	0	0.3	15.7	6.5	5.8	13.7	0	0	25.9	
Cars +	45	49	33	1	0	128	15	18	0	0	0	33	0	27	16	0	1	44	19	17	37	0	0	73	278
% Cars +	93.8	98	94.3	100	0	95.5	88.2	94.7	0	0	0	89.2	0	100	94.1	0	100	95.7	100	100	92.5	0	0	96.1	94.9
Trucks	3	1	2	0	0	6	2	1	1	0	0	4	1	0	1	0	0	2	0	0	3	0	0	3	15
% Trucks	6.2	2	5.7	0	0	4.5	11.8	5.3	100	0	0	10.8	100	0	5.9	0	0	4.3	0	0	7.5	0	0	3.9	5.1

TRAFFIC DATA COLLECTION

File Name : Garner(New Bethel and Hebron)
Site Code :
Start Date : 9/12/2023
Page No : 2

	Hebron Church Road Southbound						New Bethel Church Road Westbound						Wrenn Road Northbound						New Bethel Church 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	5	**9**	6	0	0	20	**3**	**7**	0	0	0	**10**	0	4	2	0	0	6	2	1	5	0	0	8	44
05:15 PM	5	7	4	0	0	16	2	2	0	0	0	4	0	**8**	1	0	0	**9**	2	3	1	0	0	6	35
05:30 PM	5	5	4	0	0	14	0	1	0	0	0	1	0	3	**4**	0	0	7	**5**	**4**	**7**	0	0	**16**	38
05:45 PM	**12**	8	**9**	0	0	**29**	2	3	0	0	0	5	0	4	1	0	**1**	6	3	3	7	0	0	13	**53**
Total Volume	27	29	23	0	0	79	7	13	0	0	0	20	0	19	8	0	1	28	12	11	20	0	0	43	170
% App. Total	34.2	36.7	29.1	0	0		35	65	0	0	0		0	67.9	28.6	0	3.6		27.9	25.6	46.5	0	0		
PHF	.563	.806	.639	.000	.000	.681	.583	.464	.000	.000	.000	.500	.000	.594	.500	.000	.250	.778	.600	.688	.714	.000	.000	.672	.802



TRAFFIC DATA COLLECTION

File Name : Garner(White Oak Rd and Timber Drive)
Site Code :
Start Date : 9/12/2023
Page No : 1

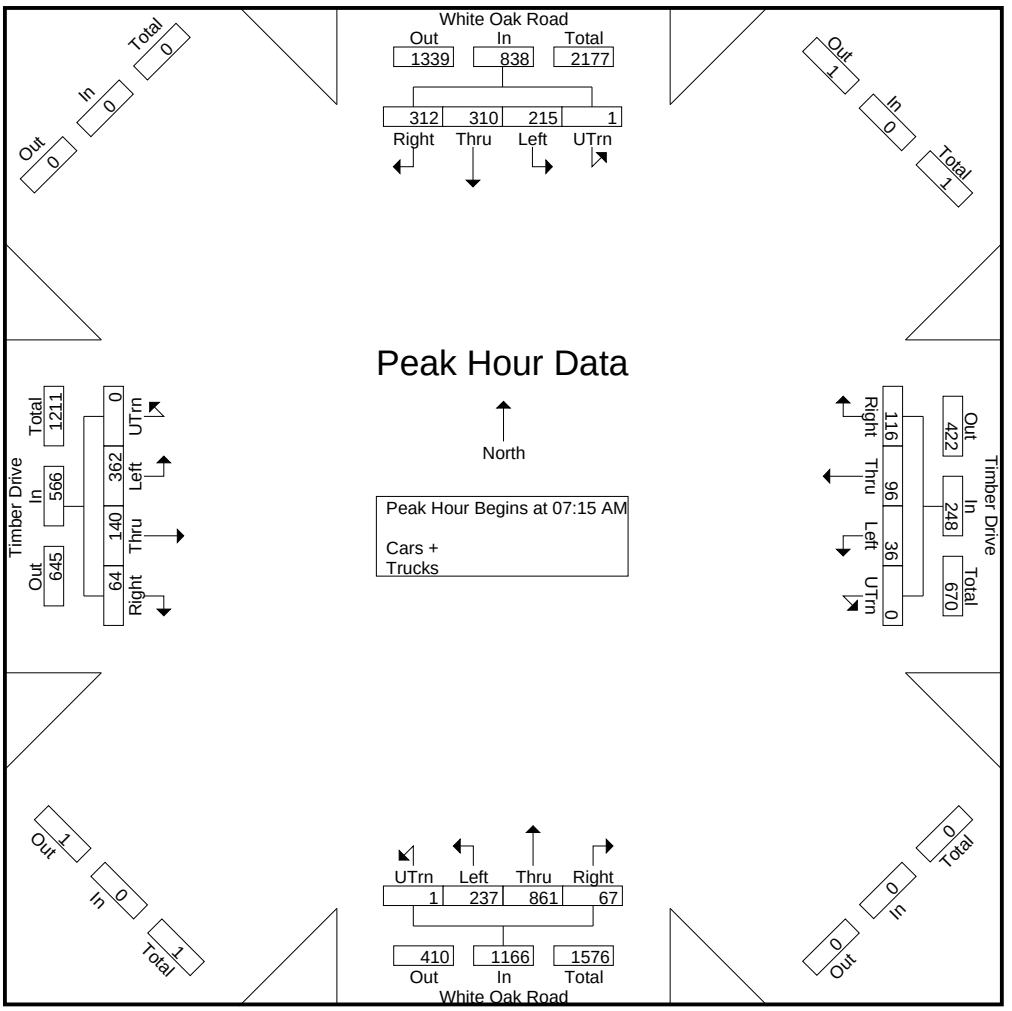
Groups Printed- Cars + - Trucks

	White Oak Road Southbound					Timber Drive Westbound					White Oak Road Northbound					Timber Drive 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	48	119	15	0	182	26	16	22	0	64	9	241	66	0	316	16	14	86	0	116	678
07:15 AM	67	86	29	0	182	32	32	9	0	73	13	220	56	1	290	14	26	102	0	142	687
07:30 AM	74	66	58	1	199	31	16	6	0	53	19	262	69	0	350	13	40	98	0	151	753
07:45 AM	89	68	59	0	216	20	23	11	0	54	16	185	63	0	264	15	35	83	0	133	667
Total	278	339	161	1	779	109	87	48	0	244	57	908	254	1	1220	58	115	369	0	542	2785
08:00 AM	82	90	69	0	241	33	25	10	0	68	19	194	49	0	262	22	39	79	0	140	711
08:15 AM	72	70	43	0	185	29	26	11	0	66	12	158	52	0	222	22	35	67	0	124	597
08:30 AM	75	76	59	0	210	34	32	7	1	74	15	146	53	0	214	20	30	79	0	129	627
08:45 AM	74	58	57	0	189	38	33	9	0	80	17	128	51	0	196	20	34	95	0	149	614
Total	303	294	228	0	825	134	116	37	1	288	63	626	205	0	894	84	138	320	0	542	2549
Grand Total	581	633	389	1	1604	243	203	85	1	532	120	1534	459	1	2114	142	253	689	0	1084	5334
Apprch %	36.2	39.5	24.3	0.1		45.7	38.2	16	0.2		5.7	72.6	21.7	0		13.1	23.3	63.6	0		
Total %	10.9	11.9	7.3	0	30.1	4.6	3.8	1.6	0	10	2.2	28.8	8.6	0	39.6	2.7	4.7	12.9	0	20.3	
Cars +	545	606	381	1	1533	235	200	83	1	519	116	1502	452	1	2071	141	248	649	0	1038	5161
% Cars +	93.8	95.7	97.9	100	95.6	96.7	98.5	97.6	100	97.6	96.7	97.9	98.5	100	98	99.3	98	94.2	0	95.8	96.8
Trucks	36	27	8	0	71	8	3	2	0	13	4	32	7	0	43	1	5	40	0	46	173
% Trucks	6.2	4.3	2.1	0	4.4	3.3	1.5	2.4	0	2.4	3.3	2.1	1.5	0	2	0.7	2	5.8	0	4.2	3.2

TRAFFIC DATA COLLECTION

File Name : Garner(White Oak Rd and Timber Drive)
Site Code :
Start Date : 9/12/2023
Page No : 2

	White Oak Road Southbound					Timber Drive Westbound					White Oak Road Northbound					Timber Drive 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	67	86	29	0	182	32	**32**	9	0	**73**	13	220	56	**1**	290	14	26	**102**	0	142	687
07:30 AM	74	66	58	**1**	199	31	16	6	0	53	**19**	**262**	**69**	0	**350**	13	**40**	98	0	**151**	**753**
07:45 AM	**89**	68	59	0	216	20	23	**11**	0	54	16	185	63	0	264	15	35	83	0	133	667
08:00 AM	82	**90**	**69**	0	**241**	**33**	25	10	0	68	19	194	49	0	262	**22**	39	79	0	140	711
Total Volume	312	310	215	1	838	116	96	36	0	248	67	861	237	1	1166	64	140	362	0	566	2818
% App. Total	37.2	37	25.7	0.1		46.8	38.7	14.5	0		5.7	73.8	20.3	0.1		11.3	24.7	64	0		
PHF	.876	.861	.779	.250	.869	.879	.750	.818	.000	.849	.882	.822	.859	.250	.833	.727	.875	.887	.000	.937	.936



TRAFFIC DATA COLLECTION

File Name : Garner(White Oak Rd and Timber Drive)
Site Code :
Start Date : 9/12/2023
Page No : 1

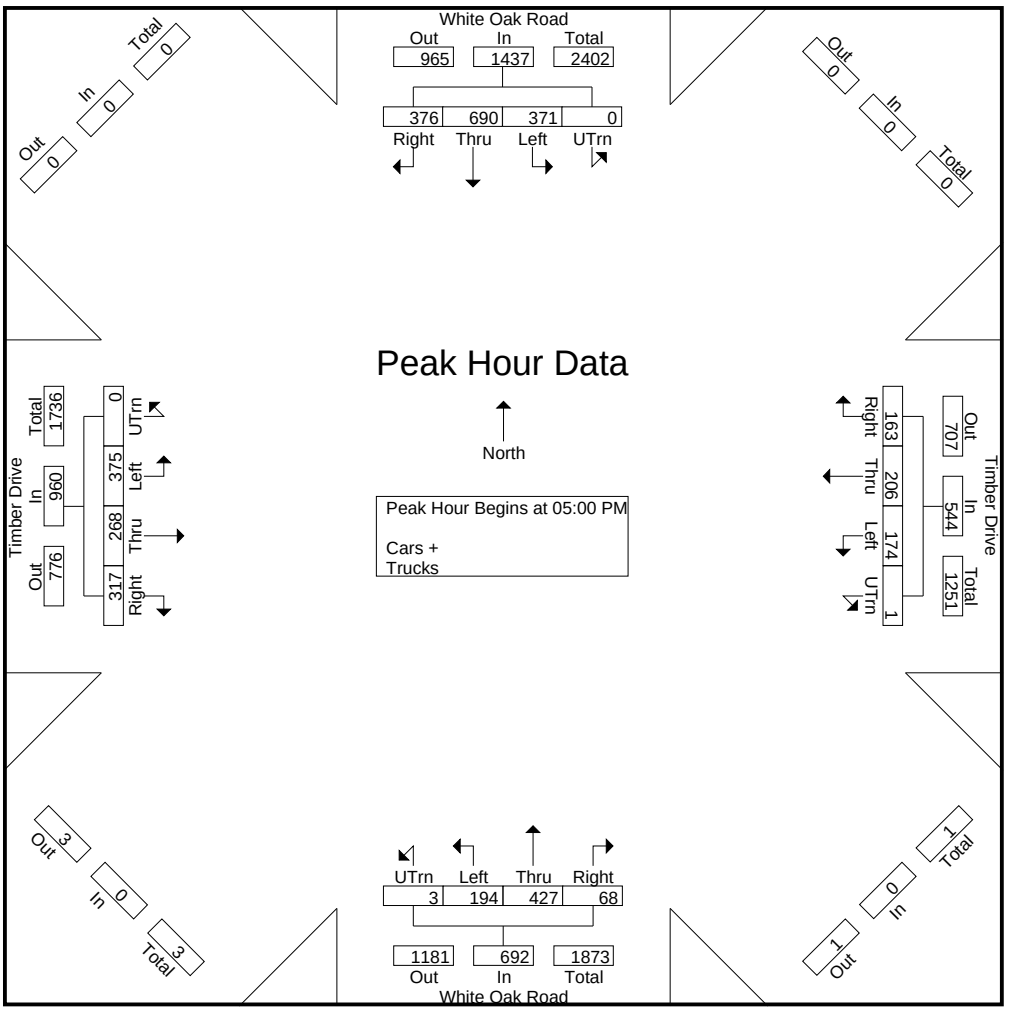
Groups Printed- Cars + - Trucks

	White Oak Road Southbound					Timber Drive Westbound					White Oak Road Northbound					Timber Drive 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	97	148	84	0	329	48	68	45	3	164	15	74	50	0	139	69	48	91	0	208	840
04:15 PM	85	180	93	2	360	38	64	35	1	138	18	93	46	0	157	77	80	68	0	225	880
04:30 PM	108	164	90	0	362	41	66	42	0	149	14	95	47	0	156	80	56	90	0	226	893
04:45 PM	70	165	92	0	327	46	60	37	1	144	12	124	52	2	190	84	57	81	0	222	883
Total	360	657	359	2	1378	173	258	159	5	595	59	386	195	2	642	310	241	330	0	881	3496
05:00 PM	98	171	86	0	355	50	66	52	0	168	17	112	49	0	178	71	70	90	0	231	932
05:15 PM	89	167	94	0	350	39	33	42	0	114	20	109	45	1	175	81	62	82	0	225	864
05:30 PM	102	174	91	0	367	40	49	40	1	130	15	94	48	2	159	82	66	95	0	243	899
05:45 PM	87	178	100	0	365	34	58	40	0	132	16	112	52	0	180	83	70	108	0	261	938
Total	376	690	371	0	1437	163	206	174	1	544	68	427	194	3	692	317	268	375	0	960	3633
Grand Total	736	1347	730	2	2815	336	464	333	6	1139	127	813	389	5	1334	627	509	705	0	1841	7129
Apprch %	26.1	47.9	25.9	0.1		29.5	40.7	29.2	0.5		9.5	60.9	29.2	0.4		34.1	27.6	38.3	0		
Total %	10.3	18.9	10.2	0	39.5	4.7	6.5	4.7	0.1	16	1.8	11.4	5.5	0.1	18.7	8.8	7.1	9.9	0	25.8	
Cars +	725	1330	726	2	2783	333	463	331	6	1133	127	799	389	5	1320	620	508	693	0	1821	7057
% Cars +	98.5	98.7	99.5	100	98.9	99.1	99.8	99.4	100	99.5	100	98.3	100	100	99	98.9	99.8	98.3	0	98.9	99
Trucks	11	17	4	0	32	3	1	2	0	6	0	14	0	0	14	7	1	12	0	20	72
% Trucks	1.5	1.3	0.5	0	1.1	0.9	0.2	0.6	0	0.5	0	1.7	0	0	1	1.1	0.2	1.7	0	1.1	1

TRAFFIC DATA COLLECTION

File Name : Garner(White Oak Rd and Timber Drive)
Site Code :
Start Date : 9/12/2023
Page No : 2

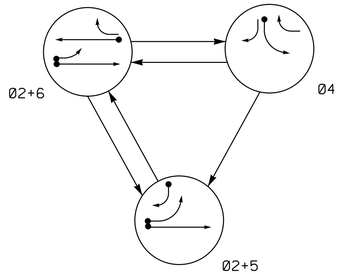
	White Oak Road Southbound					Timber Drive Westbound					White Oak Road Northbound					Timber Drive Eastbound					
Start Time	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Right	Thru	Left	UTrn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	98	171	86	0	355	**50**	**66**	**52**	0	**168**	17	**112**	49	0	178	71	**70**	90	0	231	932
05:15 PM	89	167	94	0	350	39	33	42	0	114	**20**	109	45	1	175	81	62	82	0	225	864
05:30 PM	**102**	174	91	0	**367**	40	49	40	**1**	130	15	94	48	**2**	159	82	66	95	0	243	899
05:45 PM	87	**178**	**100**	0	365	34	58	40	0	132	16	112	**52**	0	**180**	**83**	70	**108**	0	**261**	**938**
Total Volume	376	690	371	0	1437	163	206	174	1	544	68	427	194	3	692	317	268	375	0	960	3633
% App. Total	26.2	48	25.8	0		30	37.9	32	0.2		9.8	61.7	28	0.4		33	27.9	39.1	0		
PHF	.922	.969	.928	.000	.979	.815	.780	.837	.250	.810	.850	.953	.933	.375	.961	.955	.957	.868	.000	.920	.968



Appendix C – Traffic Signals

PROJECT REFERENCE NO.	SHEET NO.
36249.3842	Sig-1

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

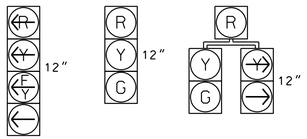
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE Ø2+5	PHASE Ø2+6	PHASE Ø4	FLASH
21,22,23	G	G	R	Y
41,42	R	R	G	R
43	R/→	R	G	R
51	←	F/Y	→R	→Y
61	R	G	R	Y
62	R	G	R/→	Y

SIGNAL FACE I.D.

All Heads L.E.D.



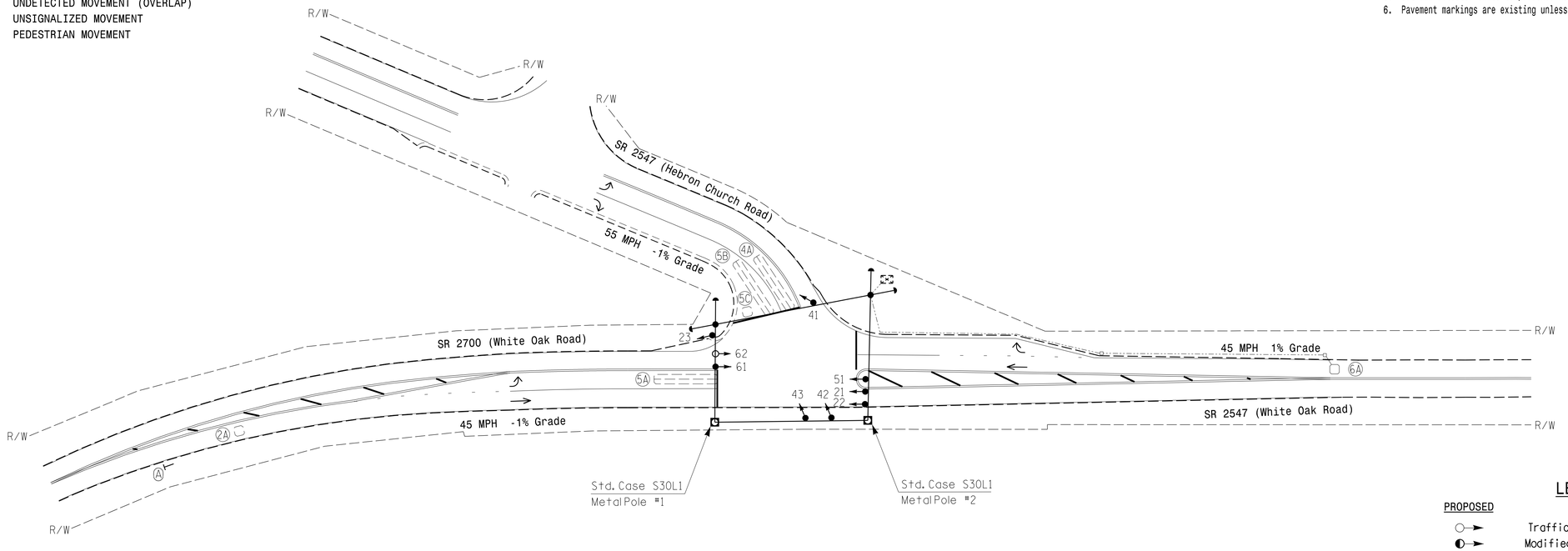
OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

INDUCTIVE LOOPS					DETECTOR PROGRAMMING						
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
2A	6X6	300	5	-	2	Y	Y	-	-	-	-	-
4A	6X40	0	2-4-2	-	4	Y	Y	-	-	3	-	-
5A	6X40	0	2-4-2	-	5	Y	Y	-	-	15	-	-
					2	Y	Y	Y	-	3	-	-
5B	6X40	0	2-4-2	-	5	Y	Y	-	-	10	-	-
5C	6X6	0	5	-	5	Y	Y	-	-	10	-	-
6A	6X6	300	5	Y	6	Y	Y	-	-	-	-	-

3 Phase
Fully Actuated
Isolated

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2018, "Standard Specifications for Roads and Structures" dated January 2018 and all applicable sections of the latest verson of the generic Project Special Provisions. The PSP can be accessed at the following website: https://connect.ncdot.gov/resources/safety/pages/its-and-signals.aspx
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 5 may be lagged.
4. Reposition existing signal head numbered 61.
5. Set all detector units to presence mode.
6. Pavement markings are existing unless otherwise shown.

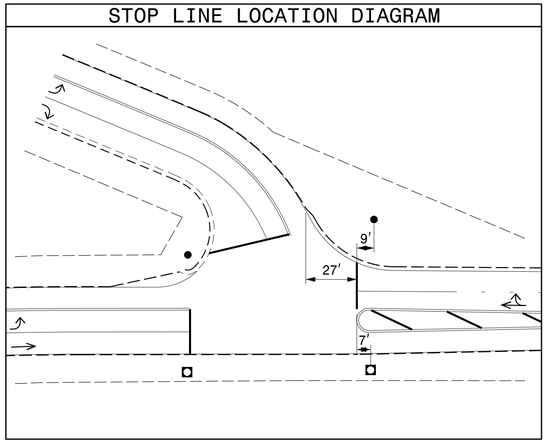


OASIS 2070 TIMING CHART

FEATURE	PHASE 2	PHASE 4	PHASE 5	PHASE 6
Min Green 1 *	12	7	7	12
Extension 1 *	6.0	2.0	2.0	6.0
Max Green 1 *	90	30	15	90
Yellow Clearance	4.6	3.0	3.0	4.6
Red Clearance	1.3	2.3	2.3	1.3
Walk 1 *	-	-	-	-
Don't Walk 1	-	-	-	-
Seconds Per Actuation *	2.5	-	-	2.5
Max Variable Initial *	34	-	-	34
Time Before Reduction *	15	-	-	15
Time To Reduce *	40	-	-	40
Minimum Gap	3.2	-	-	3.2
Recall Mode	MIN RECALL	-	-	MIN RECALL
Vehicle Call Memory	YELLOW	-	-	YELLOW
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.

STOP LINE LOCATION DIAGRAM



NC Dept of Transportation
Division of Highways

Final Drawing Date: 2/15/2018

DocuSigned by:
Robert J. Bush
Signature: 2/15/2018

ITS & Signals Unit

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	■
(A)	Signal Ahead (W3-3)	(A)

Signal Upgrade

Prepared in the offices of:
RAMEY KEMP & ASSOCIATES, INC.
Transportation Engineers
5808 Farrington Place, Suite 100
Raleigh, North Carolina 27609
919-872-5115 Tel, 919-878-8416 Fax,
www.rameykemp.com

Prepared for:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy.Garner,NC 27529

SR 2547/2700 (White Oak Road)
at
SR 2547 (Hebron Church Road)

Division 5 Wake County Garner

PLAN DATE: February 2018 REVIEWED BY: WJ Hamilton
PREPARED BY: TS Popelka RKA PROJ. NO: 17165.01 (040)

SCALE 0 40' 1"=40'

REVISIONS	INIT.	DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 32396 ENGINEER WILLIAM J. HAMILTON

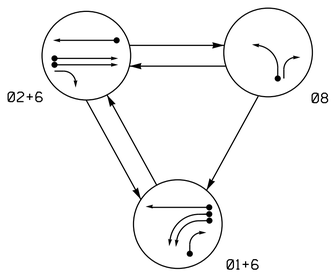
DocuSigned by:
William J. Hamilton 2/14/2018
SIGNATURE DATE

SIG. INVENTORY NO. 05-1377

PROJECT REFERENCE NO.	SHEET NO.
MAXTIME	Sig. 1

3 Phase
Fully Actuated
Timber Drive (Garner System B) CLS
System No.: D05-11_Garner

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

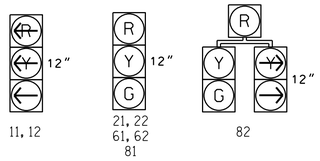
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE Ø1+6	Ø2+6	Ø8	FLASH
11, 12	~~←~~	~~R~~	~~R~~	~~R~~
21, 22	R	G	R	Y
61, 62	G	G	R	Y
81	R	R	G	R
82	R/←	R	G	R

SIGNAL FACE I.D.

All Heads L.E.D.

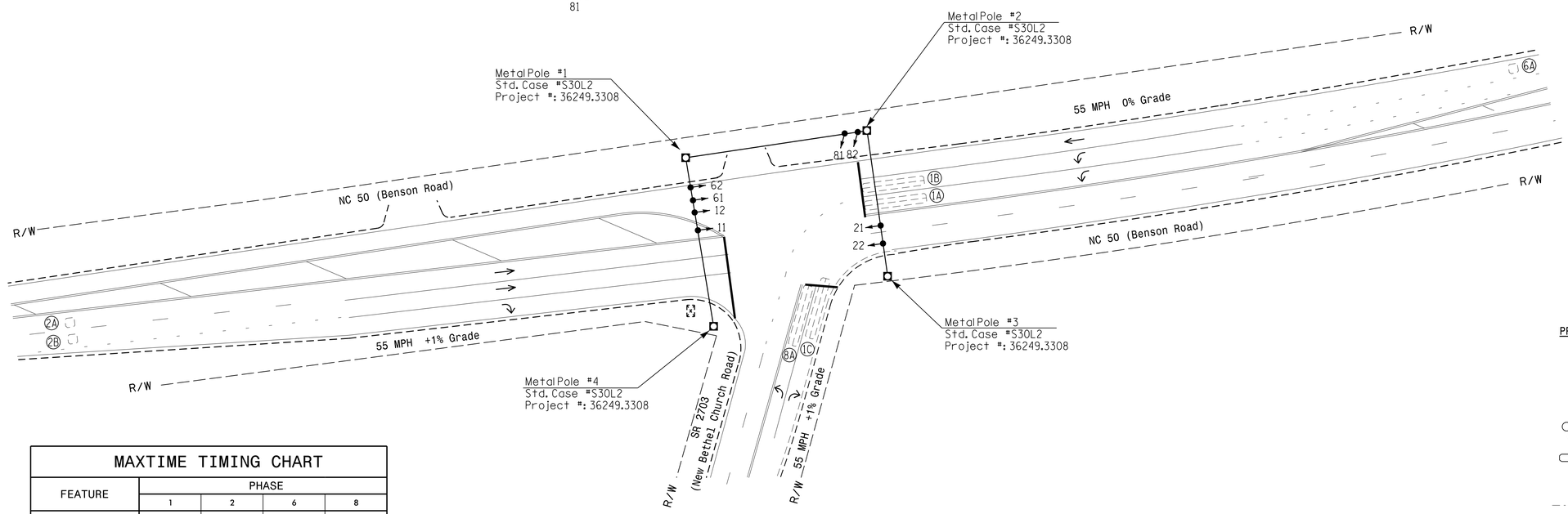


MAXTIME DETECTOR INSTALLATION CHART

DETECTOR					PROGRAMMING						
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN	NEW CARD
1A	6X40	0	2-4-2	-	1	-	-	X	-	X	-	-
1B	6X40	0	2-4-2	-	1	-	-	X	-	X	-	-
1C	6X40	+5	2-4-2	-	1	15	-	X	-	X	-	-
2A	6X6	420	EXISTING	-	2	-	-	X	X	X	-	-
2B	6X6	420	EXISTING	-	2	-	-	X	X	X	-	-
6A	6X6	420	EXISTING	-	6	-	-	X	X	X	-	-
8A	6X40	0	2-4-2	-	8	3	-	X	-	X	-	-

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. Enable Backup Protect for phase 6 to allow the controller to clear from phase 2+6 to phase 1+6 by progressing through an all red display.
4. Set all detector units to presence mode.
5. Pavement markings are existing.
6. Install new controller and conflict monitor in existing cabinet.
7. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.



MAXTIME TIMING CHART

FEATURE	PHASE 1	2	6	8
Walk *	–	–	–	–
Ped Clear *	–	–	–	–
Min Green	7	14	14	7
Passage *	2.0	6.0	6.0	2.0
Max 1 *	15	90	90	30
Yellow Change	3.0	5.1	5.2	3.0
Red Clear	3.2	1.1	1.2	2.9
Red Revert	2.0	2.0	5.0	2.0
Added Initial *	–	1.5	2.5	–
Maximum Initial *	–	46	46	–
Time Before Reduction *	–	15	15	–
Time To Reduce *	–	40	40	–
Minimum Gap	–	3.4	3.4	–
Advance Walk	–	–	–	–
Non Lock Detector	X	–	–	X
Vehicle Recall	–	MIN RECALL	MIN RECALL	–
Dual Entry	–	–	–	–

* 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	→
◎	Metal Strain Pole	◘

Signal Upgrade

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

NC 50 (Benson Road) at SR 2703 (New Bethel Church Road)

Division 5 Wake County Garner

PLAN DATE:	July 2023	REVIEWED BY:	C. Baek
PREPARED BY:	C.E. Carter	REVIEWED BY:	

REVISIONS	INIT.	DATE

SCALE 0 40 1"=40'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 034282 ENGINEER CHANGSEOK BAEK

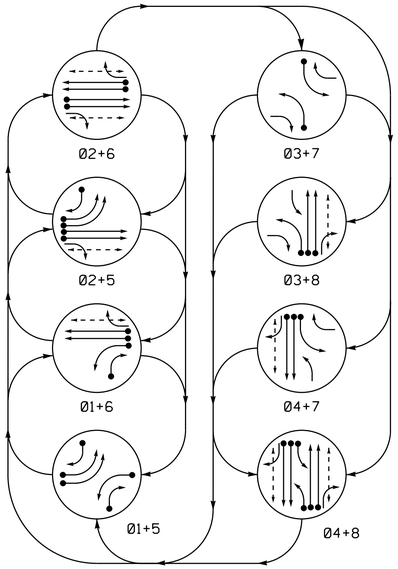
DocuSigned by: Changsek Baek 09/15/2023
SIGNATURE DATE

SIG. INVENTORY NO. 05-1656

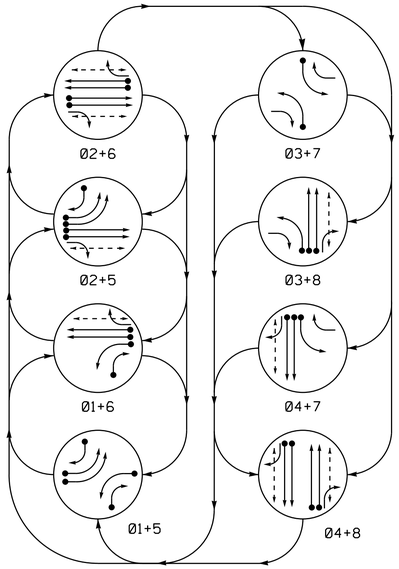
15-SEP-2023 09:19
\\NCDOT\ESD\Groups-TECC\ITS&SIU\ITS Signals\Signal Design Section\Central Region\Div 5\D05-1656\D051656_sig_dsn_20230915.dgn
cbaek

PROJECT REFERENCE NO.	SHEET NO.
MAXTIME	Sig. 1

DEFAULT PHASING DIAGRAM



ALTERNATE PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

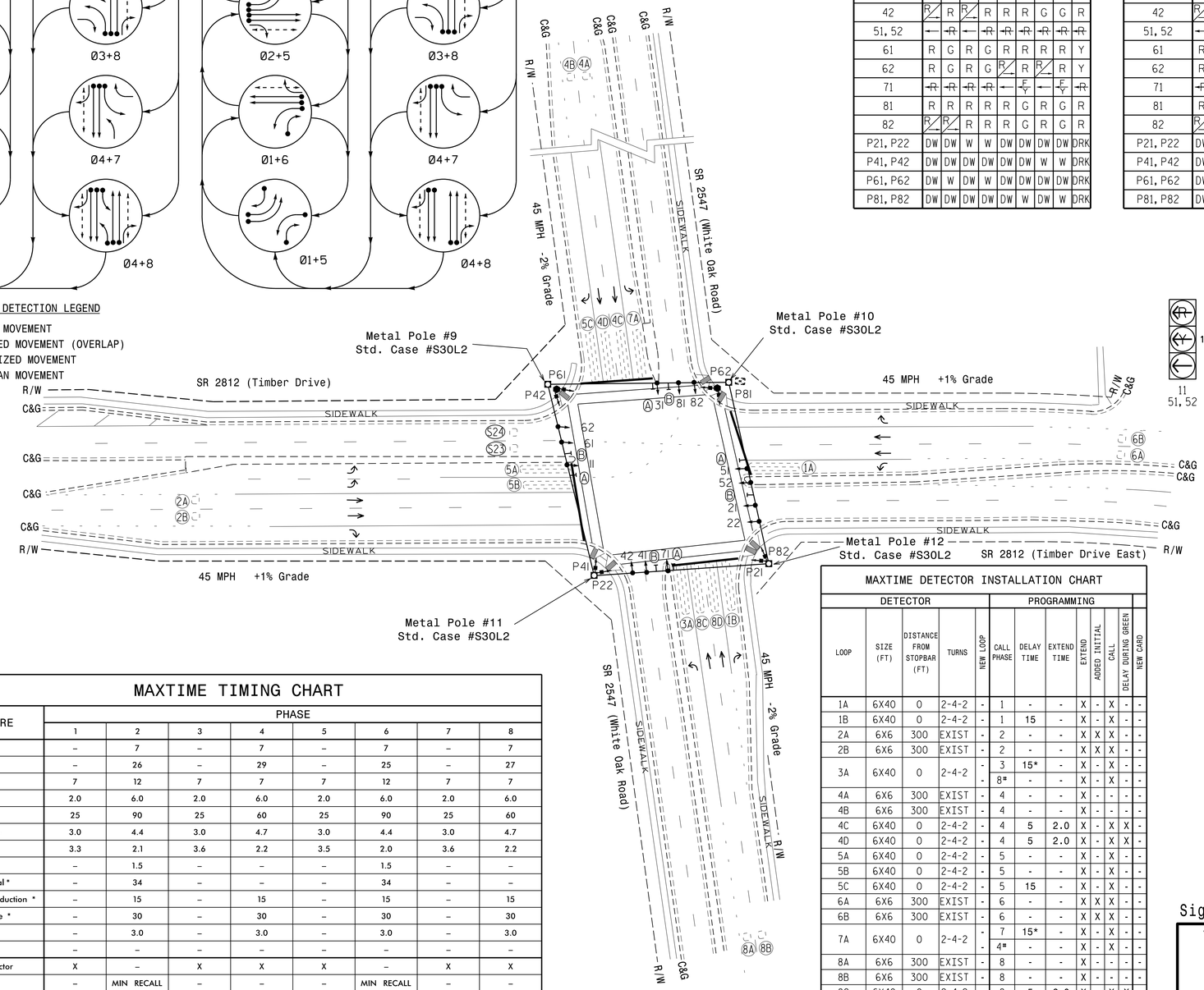
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

DEFAULT TABLE OF OPERATION

SIGNAL FACE	PHASE 01+5	01+6	02+5	02+6	03+7	03+8	04+7	04+8	FLASH
11	↚	↚	R̸	R̸	R̸	R̸	R̸	R̸	R̸
21	R	R	G	G	R	R	R	Y	
22	R	R	G	G	R↛	R↛	R	Y	
31	R̸	R̸	R̸	R̸	↚	↚	F̸Y	F̸Y	R̸
41	R	R	R	R	R	G	G	R	
42	R↛	R	R↛	R	R	G	G	R	
51, 52	↚	R̸	↚	R̸	R̸	R̸	R̸	R̸	R̸
61	R	G	R	G	R	R	R	Y	
62	R	G	R	G	R↛	R	R↛	Y	
71	R̸	R̸	R̸	R̸	↚	F̸Y	↚	F̸Y	R̸
81	R	R	R	R	G	R	G	R	
82	R↛	R↛	R	R	G	R	G	R	
P21, P22	DW	DW	W	W	DW	DW	DW	DRK	
P41, P42	DW	DW	DW	DW	DW	DW	W	DRK	
P61, P62	DW	W	DW	W	DW	DW	DW	DRK	
P81, P82	DW	DW	DW	DW	W	DW	W	DRK	

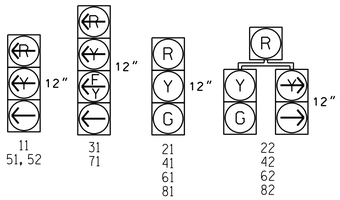
ALTERNATE TABLE OF OPERATION

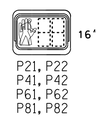
SIGNAL FACE	PHASE 01+5	01+6	02+5	02+6	03+7	03+8	04+7	04+8	FLASH
11	↚	↚	R̸	R̸	R̸	R̸	R̸	R̸	R̸
21	R	R	G	G	R	R	R	Y	
22	R	R	G	G	R↛	R↛	R	Y	
31	R̸	R̸	R̸	R̸	↚	↚	R̸	R̸	R̸
41	R	R	R	R	R	G	G	R	
42	R↛	R	R↛	R	R	G	G	R	
51, 52	↚	R̸	↚	R̸	R̸	R̸	R̸	R̸	R̸
61	R	G	R	G	R	R	R	Y	
62	R	G	R	G	R↛	R	R↛	Y	
71	R̸	R̸	R̸	R̸	↚	R̸	↚	R̸	R̸
81	R	R	R	R	G	R	G	R	
82	R↛	R↛	R	R	G	R	G	R	
P21, P22	DW	DW	W	W	DW	DW	DW	DRK	
P41, P42	DW	DW	DW	DW	DW	DW	W	DRK	
P61, P62	DW	W	DW	W	DW	DW	DW	DRK	
P81, P82	DW	DW	DW	DW	DW	W	DW	DRK	



SIGNAL FACE I.D.

All Heads L.E.D.





MAXTIME TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6	7	8
Walk *	–	7	–	7	–	7	–	7
Ped Clear *	–	26	–	29	–	25	–	27
Min Green	7	12	7	7	7	12	7	7
Passage *	2.0	6.0	2.0	6.0	2.0	6.0	2.0	6.0
Max 1 *	25	90	25	60	25	90	25	60
Yellow Change	3.0	4.4	3.0	4.7	3.0	4.4	3.0	4.7
Red Clear	3.3	2.1	3.6	2.2	3.5	2.0	3.6	2.2
Added Initial *	–	1.5	–	–	–	1.5	–	–
Maximum Initial *	–	34	–	–	–	34	–	–
Time Before Reduction *	–	15	–	15	–	15	–	15
Time To Reduce *	–	30	–	30	–	30	–	30
Minimum Gap	–	3.0	–	3.0	–	3.0	–	3.0
Advance Walk	–	–	–	–	–	–	–	–
Non Lock Detector	X	–	X	X	X	–	X	X
Vehicle Recall	–	MIN RECALL	–	–	–	MIN RECALL	–	–
Dual Entry	–	–	–	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.

MAXTIME DETECTOR INSTALLATION CHART

DETECTOR LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PROGRAMMING CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN	NEW CARD
1A	6X40	0	2-4-2	-	1	-	-	X	-	X	-	-
1B	6X40	0	2-4-2	-	1	15	-	X	-	X	-	-
2A	6X6	300	EXIST	-	2	-	-	X	X	X	-	-
2B	6X6	300	EXIST	-	2	-	-	X	X	X	-	-
3A	6X40	0	2-4-2	-	3	15*	-	X	-	X	-	-
				-	8#	-	-	X	-	X	-	-
4A	6X6	300	EXIST	-	4	-	-	X	-	-	-	-
4B	6X6	300	EXIST	-	4	-	-	X	-	-	-	-
4C	6X40	0	2-4-2	-	4	5	2.0	X	-	X	X	-
4D	6X40	0	2-4-2	-	4	5	2.0	X	-	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	6X6	300	EXIST	-	6	-	-	X	X	X	-	-
6B	6X6	300	EXIST	-	6	-	-	X	X	X	-	-
7A	6X40	0	2-4-2	-	7	15*	-	X	-	X	-	-
				-	4#	-	-	X	-	X	-	-
8A	6X6	300	EXIST	-	8	-	-	X	-	-	-	-
8B	6X6	300	EXIST	-	8	-	-	X	-	-	-	-
8C	6X40	0	2-4-2	-	8	5	2.0	X	-	X	X	-
8D	6X40	0	2-4-2	-	8	5	2.0	X	-	X	X	-
S23	6X6	+180	EXIST	-	-	-	-	-	-	-	-	-
S24	6X6	+180	EXIST	-	-	-	-	-	-	-	-	-

* Disable delay during Alternate Phasing operation.
\# Disable phase call for loop during Alternate Phasing operation.

8 Phase
Fully Actuated
System Name : US 70 (Garner System A)
System Number : D05-10_Garner

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 phase 5 may be lagged.
4. Phase 3 and/or phase 7 may be lagged.
5. Set all detector units to presence mode.
6. Install new controller and conflict monitor in existing cabinet.
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. Pavement markings are existing.
10. The Division Traffic Engineer will determine the hours of use for each phasing plan.
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	Wheelchair Ramp	
◎	Metal Strain Pole	◘
Ⓐ	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	Ⓐ

Signal Upgrade

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

SR 2547 (White Oak Road)
at
SR 2812 (Timber Drive)

Division 5 Wake County Garner

PLAN DATE: August 2023 REVIEWED BY: C. Baek
PREPARED BY: I.O. Umozurike REVIEWED BY:

SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 034282 ENGINEER CHANGSEOK BAEK
DocuSigned by: Changseok Baek 08/22/2023
SIGNATURE DATE

SIG. INVENTORY NO. 05-2256

Appendix D – Synchro & SIDRA Output

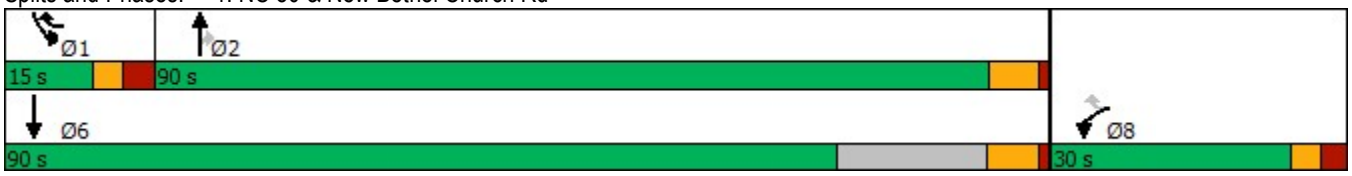
2023 Existing Traffic Volumes

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	140	215	946	197	64	310
Future Volume (vph)	140	215	946	197	64	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%		1%			0%
Storage Length (ft)	125	0		350	388	
Storage Lanes	1	1		1	2	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1761	1575	3522	1575	3433	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1761	1575	3522	1575	3433	1863
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	45		55			55
Link Distance (ft)	2102		1035			1131
Travel Time (s)	31.8		12.8			14.0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	156	239	1051	219	71	344
Shared Lane Traffic (%)						
Lane Group Flow (vph)	156	239	1051	219	71	344
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	14.0	14.0	7.0	14.0
Minimum Split (s)	22.5	13.2	22.5	22.5	13.2	22.5
Total Split (s)	30.0	15.0	90.0	90.0	15.0	90.0
Total Split (%)	22.2%	11.1%	66.7%	66.7%	11.1%	66.7%
Maximum Green (s)	24.1	8.8	83.8	83.8	8.8	83.6
Yellow Time (s)	3.0	3.0	5.1	5.1	3.0	5.2
All-Red Time (s)	2.9	3.2	1.1	1.1	3.2	1.2
Lost Time Adjust (s)	-0.9	-1.2	-1.2	-1.2	-1.2	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	6.0	6.0	2.0	6.0
Minimum Gap (s)	2.0	2.0	3.4	3.4	2.0	3.4

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Time Before Reduce (s)	0.0	0.0	15.0	15.0	0.0	15.0
Time To Reduce (s)	0.0	0.0	40.0	40.0	0.0	40.0
Recall Mode	None	None	Min	Min	None	Min
Act Effct Green (s)	11.3	24.8	30.3	30.3	8.5	43.8
Actuated g/C Ratio	0.17	0.38	0.46	0.46	0.13	0.67
v/c Ratio	0.51	0.40	0.64	0.30	0.16	0.28
Control Delay	32.3	18.3	15.6	12.4	29.3	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.3	18.3	15.6	12.4	29.3	5.2
LOS	C	B	B	B	C	A
Approach Delay	23.8		15.0			9.3
Approach LOS	C		B			A
Queue Length 50th (ft)	57	68	154	50	13	44
Queue Length 95th (ft)	123	143	246	104	35	94
Internal Link Dist (ft)	2022		955			1051
Turn Bay Length (ft)	125			350	388	
Base Capacity (vph)	686	640	3522	1575	535	1863
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	0.23	0.37	0.30	0.14	0.13	0.18

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 65.3			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 15.6		Intersection LOS: B	
Intersection Capacity Utilization 47.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: NC 50 & New Bethel Church Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	134	10	4	117	8	37	14	4	4	7	129
Future Volume (vph)	104	134	10	4	117	8	37	14	4	4	7	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		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		0.990			0.990			0.991			0.875	
Flt Protected	0.950			0.950				0.967			0.999	
Satd. Flow (prot)	1770	1844	0	1770	1844	0	0	1785	0	0	1628	0
Flt Permitted	0.950			0.950				0.967			0.999	
Satd. Flow (perm)	1770	1844	0	1770	1844	0	0	1785	0	0	1628	0
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1878			3368			1024			3156	
Travel Time (s)		28.5			51.0			15.5			47.8	
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)	116	149	11	4	130	9	41	16	4	4	8	143
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	160	0	4	139	0	0	61	0	0	155	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												
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.6%		ICU Level of Service A	
Analysis Period (min) 15			

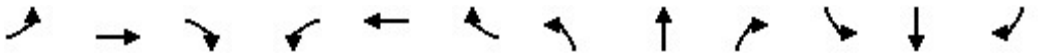
Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	104	134	10	4	117	8	37	14	4	4	7	129
Future Vol, veh/h	104	134	10	4	117	8	37	14	4	4	7	129
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	-	-	-	-	-	-	-	-
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	116	149	11	4	130	9	41	16	4	4	8	143

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	139	0	0	160	0	0	605	534	155	540	535	135
Stage 1	-	-	-	-	-	-	387	387	-	143	143	-
Stage 2	-	-	-	-	-	-	218	147	-	397	392	-
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	1445	-	-	1419	-	-	410	452	891	453	452	914
Stage 1	-	-	-	-	-	-	637	610	-	860	779	-
Stage 2	-	-	-	-	-	-	784	775	-	629	606	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1445	-	-	1419	-	-	319	414	891	410	414	914
Mov Cap-2 Maneuver	-	-	-	-	-	-	319	414	-	410	414	-
Stage 1	-	-	-	-	-	-	586	561	-	791	777	-
Stage 2	-	-	-	-	-	-	653	773	-	560	558	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.2	0.2	17.2	10.3
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	356	1445	-	-	1419	-	-	834
HCM Lane V/C Ratio	0.172	0.08	-	-	0.003	-	-	0.187
HCM Control Delay (s)	17.2	7.7	-	-	7.5	-	-	10.3
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.6	0.3	-	-	0	-	-	0.7



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	4	5	4	9	12	10	24	4	5	9	73
Future Volume (vph)	69	4	5	4	9	12	10	24	4	5	9	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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		0.991			0.935			0.987			0.887	
Flt Protected		0.958			0.993			0.987			0.997	
Satd. Flow (prot)	0	1768	0	0	1729	0	0	1815	0	0	1647	0
Flt Permitted		0.958			0.993			0.987			0.997	
Satd. Flow (perm)	0	1768	0	0	1729	0	0	1815	0	0	1647	0
Link Speed (mph)		45			35			35			35	
Link Distance (ft)		1056			1092			1069			2966	
Travel Time (s)		16.0			21.3			20.8			57.8	
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)	77	4	6	4	10	13	11	27	4	6	10	81
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	87	0	0	27	0	0	42	0	0	97	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)		0			0			0			0	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.2%		ICU Level of Service A	
Analysis Period (min) 15			

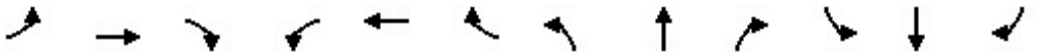
Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	69	4	5	4	9	12	10	24	4	5	9	73
Future Vol, veh/h	69	4	5	4	9	12	10	24	4	5	9	73
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	77	4	6	4	10	13	11	27	4	6	10	81

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	23	0	0	10	0	0	231	192	7	202	189	17
Stage 1	-	-	-	-	-	-	161	161	-	25	25	-
Stage 2	-	-	-	-	-	-	70	31	-	177	164	-
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	1592	-	-	1610	-	-	724	703	1075	756	706	1062
Stage 1	-	-	-	-	-	-	841	765	-	993	874	-
Stage 2	-	-	-	-	-	-	940	869	-	825	762	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1592	-	-	1610	-	-	635	666	1075	701	669	1062
Mov Cap-2 Maneuver	-	-	-	-	-	-	635	666	-	701	669	-
Stage 1	-	-	-	-	-	-	800	728	-	944	871	-
Stage 2	-	-	-	-	-	-	856	866	-	753	725	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	6.5	1.2	10.6	9.1
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	685	1592	-	-	1610	-	-	974
HCM Lane V/C Ratio	0.062	0.048	-	-	0.003	-	-	0.099
HCM Control Delay (s)	10.6	7.4	0	-	7.2	0	-	9.1
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0	-	-	0.3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	89	4	4	63	48	4	8	4	19	7	69
Future Volume (vph)	126	89	4	4	63	48	4	8	4	19	7	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		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		0.994			0.935			0.968			0.902	
Flt Protected	0.950			0.950				0.988			0.990	
Satd. Flow (prot)	1770	1852	0	1770	1742	0	0	1781	0	0	1663	0
Flt Permitted	0.950			0.950				0.988			0.990	
Satd. Flow (perm)	1770	1852	0	1770	1742	0	0	1781	0	0	1663	0
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		3156			1067			519			1112	
Travel Time (s)		47.8			16.2			14.2			16.8	
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)	140	99	4	4	70	53	4	9	4	21	8	77
Shared Lane Traffic (%)												
Lane Group Flow (vph)	140	103	0	4	123	0	0	17	0	0	106	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			0			0	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	126	89	4	4	63	48	4	8	4	19	7	69
Future Vol, veh/h	126	89	4	4	63	48	4	8	4	19	7	69
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	75	-	-	100	-	-	-	-	-	-	-	-
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	140	99	4	4	70	53	4	9	4	21	8	77

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	123	0	0	103	0	0	528	512	101	493	488	97
Stage 1	-	-	-	-	-	-	381	381	-	105	105	-
Stage 2	-	-	-	-	-	-	147	131	-	388	383	-
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	1464	-	-	1489	-	-	461	465	954	486	480	959
Stage 1	-	-	-	-	-	-	641	613	-	901	808	-
Stage 2	-	-	-	-	-	-	856	788	-	636	612	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1464	-	-	1489	-	-	387	419	954	440	432	959
Mov Cap-2 Maneuver	-	-	-	-	-	-	387	419	-	440	432	-
Stage 1	-	-	-	-	-	-	579	554	-	815	806	-
Stage 2	-	-	-	-	-	-	778	786	-	563	553	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.4	0.3	12.9	10.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	476	1464	-	-	1489	-	-	723
HCM Lane V/C Ratio	0.037	0.096	-	-	0.003	-	-	0.146
HCM Control Delay (s)	12.9	7.7	-	-	7.4	-	-	10.8
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.3	-	-	0	-	-	0.5

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	133	13	7	417	389	52
Future Volume (vph)	133	13	7	417	389	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt	0.988				0.984	
Flt Protected	0.956			0.999		
Satd. Flow (prot)	1759	0	0	3536	1833	0
Flt Permitted	0.956			0.999		
Satd. Flow (perm)	1759	0	0	3536	1833	0
Link Speed (mph)	35			45	45	
Link Distance (ft)	1072			4230	230	
Travel Time (s)	20.9			64.1	3.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	148	14	8	463	432	58
Shared Lane Traffic (%)						
Lane Group Flow (vph)	162	0	0	471	490	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
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
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.5%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	133	13	7	417	389	52
Future Vol, veh/h	133	13	7	417	389	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	125	-	-	-
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	148	14	8	463	432	58

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	709	461	490	0	-	0
Stage 1	461	-	-	-	-	-
Stage 2	248	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	384	600	1071	-	-	-
Stage 1	634	-	-	-	-	-
Stage 2	771	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	380	600	1071	-	-	-
Mov Cap-2 Maneuver	380	-	-	-	-	-
Stage 1	628	-	-	-	-	-
Stage 2	771	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.5	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1071	-	393	-	-
HCM Lane V/C Ratio	0.007	-	0.413	-	-
HCM Control Delay (s)	8.4	0	20.5	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	2	-	-

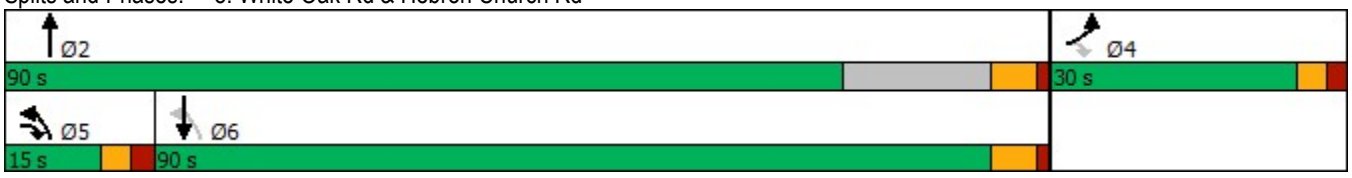
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	451	110	140	632	96	300
Future Volume (vph)	451	110	140	632	96	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-1%			-1%	1%	
Storage Length (ft)	0	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.898	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1778	1591	1778	1872	1664	0
Flt Permitted	0.950		0.273			
Satd. Flow (perm)	1778	1591	511	1872	1664	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	45			45	45	
Link Distance (ft)	230			1159	5917	
Travel Time (s)	3.5			17.6	89.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	501	122	156	702	107	333
Shared Lane Traffic (%)						
Lane Group Flow (vph)	501	122	156	702	440	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	1.01	1.01
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	pm+ov	D.P+P	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	6			
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	
Minimum Split (s)	20.0	12.3	12.3	20.0	20.0	
Total Split (s)	30.0	15.0	15.0	90.0	90.0	
Total Split (%)	22.2%	11.1%	11.1%	66.7%	66.7%	
Maximum Green (s)	24.7	9.7	9.7	84.1	84.1	
Yellow Time (s)	3.0	3.0	3.0	4.6	4.6	
All-Red Time (s)	2.3	2.3	2.3	1.3	1.3	
Lost Time Adjust (s)	-0.3	-0.3	-0.3	-0.9	-0.9	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0	6.0	6.0	
Minimum Gap (s)	2.0	2.0	2.0	3.2	3.2	

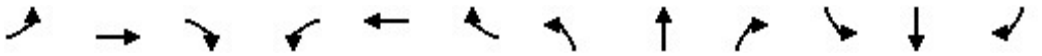
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Time Before Reduce (s)	0.0	0.0	0.0	15.0	15.0	
Time To Reduce (s)	0.0	0.0	0.0	40.0	40.0	
Recall Mode	None	None	None	Min	Min	
Act Effct Green (s)	25.2	38.6	31.9	37.0	23.6	
Actuated g/C Ratio	0.35	0.53	0.44	0.51	0.33	
v/c Ratio	0.81	0.14	0.42	0.73	0.81	
Control Delay	35.7	10.6	12.8	18.8	34.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	35.7	10.6	12.8	18.8	34.8	
LOS	D	B	B	B	C	
Approach Delay	30.8			17.7	34.8	
Approach LOS	C			B	C	
Queue Length 50th (ft)	196	25	34	226	175	
Queue Length 95th (ft)	#443	65	62	342	286	
Internal Link Dist (ft)	150			1079	5837	
Turn Bay Length (ft)			150			
Base Capacity (vph)	620	888	415	1872	1664	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.81	0.14	0.38	0.38	0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 72.3			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 25.9		Intersection LOS: C	
Intersection Capacity Utilization 68.8%		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: 8: White Oak Rd & Hebron Church Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	362	140	64	36	96	116	238	861	67	216	310	312
Future Volume (vph)	362	140	64	36	96	116	238	861	67	216	310	312
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			1%			-2%			-2%	
Storage Length (ft)	325		350	175		350	350		100	450		325
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	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			0.950			0.950			0.950		
Satd. Flow (prot)	3416	3522	1575	1761	3522	1575	1787	3575	1599	1787	3575	1599
Flt Permitted	0.950			0.950			0.520			0.161		
Satd. Flow (perm)	3416	3522	1575	1761	3522	1575	978	3575	1599	303	3575	1599
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1074			1200			1233			1054	
Travel Time (s)		16.3			18.2			18.7			16.0	
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)	402	156	71	40	107	129	264	957	74	240	344	347
Shared Lane Traffic (%)												
Lane Group Flow (vph)	402	156	71	40	107	129	264	957	74	240	344	347
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	1.01	1.01	1.01	1.01	1.01	1.01	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6	4		8	8		4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0	7.0	7.0	12.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.6	42.9	13.6	13.3	40.9	13.6	13.6	40.9	13.3	13.6	42.9	13.6
Total Split (s)	25.0	90.0	25.0	25.0	90.0	25.0	25.0	60.0	25.0	25.0	60.0	25.0
Total Split (%)	12.5%	45.0%	12.5%	12.5%	45.0%	12.5%	12.5%	30.0%	12.5%	12.5%	30.0%	12.5%
Maximum Green (s)	18.5	83.5	18.4	18.7	83.6	18.4	18.4	53.1	18.7	18.4	53.1	18.5
Yellow Time (s)	3.0	4.4	3.0	3.0	4.4	3.0	3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.5	2.1	3.6	3.3	2.0	3.6	3.6	2.2	3.3	3.6	2.2	3.5
Lost Time Adjust (s)	-1.5	-1.5	-1.6	-1.3	-1.4	-1.6	-1.6	-1.9	-1.3	-1.6	-1.9	-1.5
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	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	6.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Minimum Gap (s)	2.0	3.0	2.0	2.0	3.0	2.0	2.0	3.0	2.0	2.0	3.0	2.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0
Time To Reduce (s)	0.0	30.0	0.0	0.0	30.0	0.0	0.0	30.0	0.0	0.0	30.0	0.0
Recall Mode	None	Min	None	None	Min	None	None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		26.0			25.0			27.0			29.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	20.0	24.3	43.8	9.1	13.4	38.4	71.4	51.4	65.6	71.4	57.0	82.0
Actuated g/C Ratio	0.16	0.19	0.35	0.07	0.11	0.31	0.57	0.41	0.53	0.57	0.46	0.66
v/c Ratio	0.73	0.23	0.13	0.31	0.28	0.27	0.40	0.65	0.09	0.58	0.21	0.33
Control Delay	59.4	44.5	29.0	62.6	54.4	35.4	13.1	31.8	14.7	20.1	21.1	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	0.0
Total Delay	59.4	44.5	29.0	62.6	54.4	35.4	13.1	31.8	14.7	20.1	21.1	10.7
LOS	E	D	C	E	D	D	B	C	B	C	C	B
Approach Delay		52.3			46.7			27.0			17.0	
Approach LOS		D			D			C			B	
Queue Length 50th (ft)	164	57	40	32	43	80	91	322	29	82	86	113
Queue Length 95th (ft)	224	93	76	70	74	137	135	393	52	154	124	180
Internal Link Dist (ft)		994			1120			1153			974	
Turn Bay Length (ft)	325		350	175		350	350		100	450		325
Base Capacity (vph)	547	2399	622	282	2399	484	722	1575	978	411	1644	1050
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	0.73	0.07	0.11	0.14	0.04	0.27	0.37	0.61	0.08	0.58	0.21	0.33

Intersection Summary			
Area Type:	Other		
Cycle Length: 200			
Actuated Cycle Length: 124.9			
Natural Cycle: 115			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 30.8		Intersection LOS: C	
Intersection Capacity Utilization 72.8%		ICU Level of Service C	
Analysis Period (min) 15			

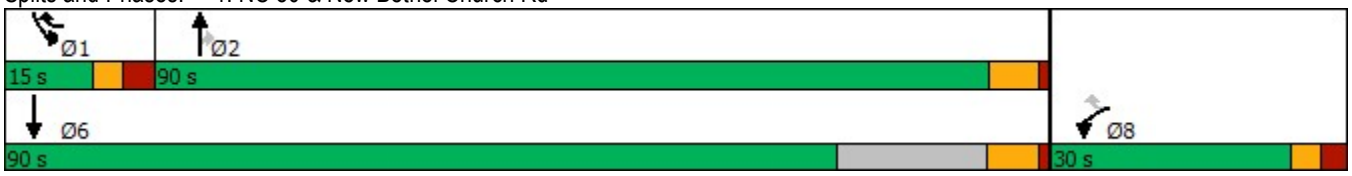
Splits and Phases: 9: White Oak Rd & Timber Drive East

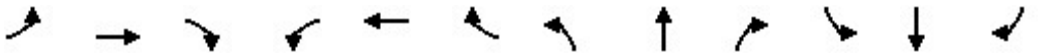
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	164	141	715	139	125	707
Future Volume (vph)	164	141	715	139	125	707
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%		1%			0%
Storage Length (ft)	125	0		350	388	
Storage Lanes	1	1		1	2	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1761	1575	3522	1575	3433	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1761	1575	3522	1575	3433	1863
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	45		55			55
Link Distance (ft)	2102		1035			1131
Travel Time (s)	31.8		12.8			14.0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	182	157	794	154	139	786
Shared Lane Traffic (%)						
Lane Group Flow (vph)	182	157	794	154	139	786
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	14.0	14.0	7.0	14.0
Minimum Split (s)	22.5	13.2	22.5	22.5	13.2	22.5
Total Split (s)	30.0	15.0	90.0	90.0	15.0	90.0
Total Split (%)	22.2%	11.1%	66.7%	66.7%	11.1%	66.7%
Maximum Green (s)	24.1	8.8	83.8	83.8	8.8	83.6
Yellow Time (s)	3.0	3.0	5.1	5.1	3.0	5.2
All-Red Time (s)	2.9	3.2	1.1	1.1	3.2	1.2
Lost Time Adjust (s)	-0.9	-1.2	-1.2	-1.2	-1.2	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	6.0	6.0	2.0	6.0
Minimum Gap (s)	2.0	2.0	3.4	3.4	2.0	3.4

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Time Before Reduce (s)	0.0	0.0	15.0	15.0	0.0	15.0
Time To Reduce (s)	0.0	0.0	40.0	40.0	0.0	40.0
Recall Mode	None	None	Min	Min	None	Min
Act Effct Green (s)	12.5	26.8	23.4	23.4	9.1	37.6
Actuated g/C Ratio	0.21	0.44	0.39	0.39	0.15	0.62
v/c Ratio	0.50	0.22	0.58	0.25	0.27	0.68
Control Delay	27.7	12.7	16.9	14.4	27.5	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.7	12.7	16.9	14.4	27.5	11.7
LOS	C	B	B	B	C	B
Approach Delay	20.7		16.5			14.0
Approach LOS	C		B			B
Queue Length 50th (ft)	57	33	111	35	23	153
Queue Length 95th (ft)	131	83	196	85	57	345
Internal Link Dist (ft)	2022		955			1051
Turn Bay Length (ft)	125			350	388	
Base Capacity (vph)	751	729	3522	1575	585	1863
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	0.24	0.22	0.23	0.10	0.24	0.42

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 60.5			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 16.1		Intersection LOS: B	
Intersection Capacity Utilization 54.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: NC 50 & New Bethel Church Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	54	30	4	61	6	20	15	4	12	20	191
Future Volume (vph)	101	54	30	4	61	6	20	15	4	12	20	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		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		0.947			0.986			0.987			0.884	
Flt Protected	0.950			0.950				0.975			0.997	
Satd. Flow (prot)	1770	1764	0	1770	1837	0	0	1793	0	0	1642	0
Flt Permitted	0.950			0.950				0.975			0.997	
Satd. Flow (perm)	1770	1764	0	1770	1837	0	0	1793	0	0	1642	0
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1878			3368			1024			3156	
Travel Time (s)		28.5			51.0			15.5			47.8	
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)	112	60	33	4	68	7	22	17	4	13	22	212
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	93	0	4	75	0	0	43	0	0	247	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												
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.4%		ICU Level of Service A	
Analysis Period (min) 15			

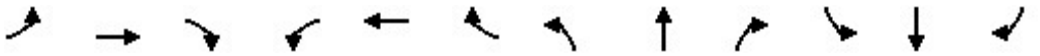
Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	101	54	30	4	61	6	20	15	4	12	20	191
Future Vol, veh/h	101	54	30	4	61	6	20	15	4	12	20	191
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	-	-	-	-	-	-	-	-
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	112	60	33	4	68	7	22	17	4	13	22	212

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	75	0	0	93	0	0	498	384	77	391	397	72
Stage 1	-	-	-	-	-	-	301	301	-	80	80	-
Stage 2	-	-	-	-	-	-	197	83	-	311	317	-
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	1524	-	-	1501	-	-	483	550	984	568	540	990
Stage 1	-	-	-	-	-	-	708	665	-	929	828	-
Stage 2	-	-	-	-	-	-	805	826	-	699	654	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1524	-	-	1501	-	-	345	508	984	519	499	990
Mov Cap-2 Maneuver	-	-	-	-	-	-	345	508	-	519	499	-
Stage 1	-	-	-	-	-	-	656	616	-	861	826	-
Stage 2	-	-	-	-	-	-	614	824	-	627	606	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.1	0.4	14.4	10.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	426	1524	-	-	1501	-	-	871
HCM Lane V/C Ratio	0.102	0.074	-	-	0.003	-	-	0.284
HCM Control Delay (s)	14.4	7.5	-	-	7.4	-	-	10.8
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0.2	-	-	0	-	-	1.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	11	12	4	13	7	8	19	4	23	29	27
Future Volume (vph)	20	11	12	4	13	7	8	19	4	23	29	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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		0.963			0.958			0.984			0.954	
Flt Protected		0.977			0.992			0.987			0.985	
Satd. Flow (prot)	0	1753	0	0	1770	0	0	1809	0	0	1750	0
Flt Permitted		0.977			0.992			0.987			0.985	
Satd. Flow (perm)	0	1753	0	0	1770	0	0	1809	0	0	1750	0
Link Speed (mph)		45			35			35			35	
Link Distance (ft)		1056			1092			1069			2966	
Travel Time (s)		16.0			21.3			20.8			57.8	
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)	22	12	13	4	14	8	9	21	4	26	32	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	47	0	0	26	0	0	34	0	0	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)		0			0			0			0	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.4%		ICU Level of Service A	
Analysis Period (min) 15			

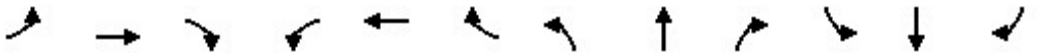
Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	20	11	12	4	13	7	8	19	4	23	29	27
Future Vol, veh/h	20	11	12	4	13	7	8	19	4	23	29	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	-	-	-	-	-	-	-	-	-	-	-	-
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	12	13	4	14	8	9	21	4	26	32	30

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	22	0	0	25	0	0	120	93	19	101	95	18
Stage 1	-	-	-	-	-	-	63	63	-	26	26	-
Stage 2	-	-	-	-	-	-	57	30	-	75	69	-
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	1593	-	-	1589	-	-	855	797	1059	880	795	1061
Stage 1	-	-	-	-	-	-	948	842	-	992	874	-
Stage 2	-	-	-	-	-	-	955	870	-	934	837	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1593	-	-	1589	-	-	794	783	1059	847	781	1061
Mov Cap-2 Maneuver	-	-	-	-	-	-	794	783	-	847	781	-
Stage 1	-	-	-	-	-	-	935	830	-	978	871	-
Stage 2	-	-	-	-	-	-	891	867	-	894	825	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.4	1.2	9.6	9.5
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	813	1593	-	-	1589	-	-	880
HCM Lane V/C Ratio	0.042	0.014	-	-	0.003	-	-	0.1
HCM Control Delay (s)	9.6	7.3	0	-	7.3	0	-	9.5
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	65	4	4	116	11	4	4	4	28	10	140
Future Volume (vph)	38	65	4	4	116	11	4	4	4	28	10	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		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		0.992			0.987			0.955			0.894	
Flt Protected	0.950			0.950				0.984			0.992	
Satd. Flow (prot)	1770	1848	0	1770	1839	0	0	1750	0	0	1652	0
Flt Permitted	0.950			0.950				0.984			0.992	
Satd. Flow (perm)	1770	1848	0	1770	1839	0	0	1750	0	0	1652	0
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		3156			1067			519			1112	
Travel Time (s)		47.8			16.2			14.2			16.8	
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)	42	72	4	4	129	12	4	4	4	31	11	156
Shared Lane Traffic (%)												
Lane Group Flow (vph)	42	76	0	4	141	0	0	12	0	0	198	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			0			0	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	65	4	4	116	11	4	4	4	28	10	140
Future Vol, veh/h	38	65	4	4	116	11	4	4	4	28	10	140
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	75	-	-	100	-	-	-	-	-	-	-	-
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	42	72	4	4	129	12	4	4	4	31	11	156

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	141	0	0	76	0	0	385	307	74	305	303	135
Stage 1	-	-	-	-	-	-	158	158	-	143	143	-
Stage 2	-	-	-	-	-	-	227	149	-	162	160	-
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	1442	-	-	1523	-	-	573	607	988	647	610	914
Stage 1	-	-	-	-	-	-	844	767	-	860	779	-
Stage 2	-	-	-	-	-	-	776	774	-	840	766	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1442	-	-	1523	-	-	457	588	988	625	590	914
Mov Cap-2 Maneuver	-	-	-	-	-	-	457	588	-	625	590	-
Stage 1	-	-	-	-	-	-	820	745	-	835	777	-
Stage 2	-	-	-	-	-	-	633	772	-	807	744	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.7	0.2	11	10.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	612	1442	-	-	1523	-	-	828
HCM Lane V/C Ratio	0.022	0.029	-	-	0.003	-	-	0.239
HCM Control Delay (s)	11	7.6	-	-	7.4	-	-	10.7
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.9

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	113	4	8	235	284	91
Future Volume (vph)	113	4	8	235	284	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt	0.996				0.967	
Flt Protected	0.954			0.998		
Satd. Flow (prot)	1770	0	0	3532	1801	0
Flt Permitted	0.954			0.998		
Satd. Flow (perm)	1770	0	0	3532	1801	0
Link Speed (mph)	35			45	45	
Link Distance (ft)	1072			4230	230	
Travel Time (s)	20.9			64.1	3.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	126	4	9	261	316	101
Shared Lane Traffic (%)						
Lane Group Flow (vph)	130	0	0	270	417	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
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
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	113	4	8	235	284	91
Future Vol, veh/h	113	4	8	235	284	91
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	125	-	-	-
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	126	4	9	261	316	101

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	516	367	417	0	-	0
Stage 1	367	-	-	-	-	-
Stage 2	149	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	504	677	1140	-	-	-
Stage 1	700	-	-	-	-	-
Stage 2	864	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	499	677	1140	-	-	-
Mov Cap-2 Maneuver	499	-	-	-	-	-
Stage 1	694	-	-	-	-	-
Stage 2	864	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.6	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1140	-	504	-	-
HCM Lane V/C Ratio	0.008	-	0.258	-	-
HCM Control Delay (s)	8.2	0	14.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	1	-	-

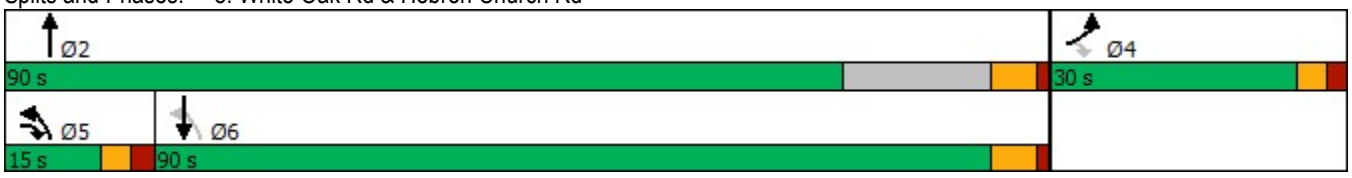
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	245	103	92	259	616	286
Future Volume (vph)	245	103	92	259	616	286
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-1%			-1%	1%	
Storage Length (ft)	0	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.957	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1778	1591	1778	1872	1774	0
Flt Permitted	0.950		0.080			
Satd. Flow (perm)	1778	1591	150	1872	1774	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	45			45	45	
Link Distance (ft)	230			1159	5917	
Travel Time (s)	3.5			17.6	89.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	272	114	102	288	684	318
Shared Lane Traffic (%)						
Lane Group Flow (vph)	272	114	102	288	1002	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	1.01	1.01
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	pm+ov	D.P+P	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	6			
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	12.0	12.0	
Minimum Split (s)	20.0	12.3	12.3	20.0	20.0	
Total Split (s)	30.0	15.0	15.0	90.0	90.0	
Total Split (%)	22.2%	11.1%	11.1%	66.7%	66.7%	
Maximum Green (s)	24.7	9.7	9.7	84.1	84.1	
Yellow Time (s)	3.0	3.0	3.0	4.6	4.6	
All-Red Time (s)	2.3	2.3	2.3	1.3	1.3	
Lost Time Adjust (s)	-0.3	-0.3	-0.3	-0.9	-0.9	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0	6.0	6.0	
Minimum Gap (s)	2.0	2.0	2.0	3.2	3.2	

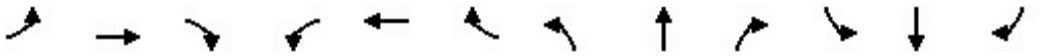
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Time Before Reduce (s)	0.0	0.0	0.0	15.0	15.0	
Time To Reduce (s)	0.0	0.0	0.0	40.0	40.0	
Recall Mode	None	None	None	Min	Min	
Act Effct Green (s)	21.4	34.5	77.3	82.5	69.4	
Actuated g/C Ratio	0.19	0.30	0.68	0.72	0.61	
v/c Ratio	0.82	0.24	0.48	0.21	0.93	
Control Delay	67.1	35.3	16.4	5.8	36.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	67.1	35.3	16.4	5.8	36.0	
LOS	E	D	B	A	D	
Approach Delay	57.7			8.5	36.0	
Approach LOS	E			A	D	
Queue Length 50th (ft)	206	68	22	68	658	
Queue Length 95th (ft)	#371	129	57	99	#1049	
Internal Link Dist (ft)	150			1079	5837	
Turn Bay Length (ft)			150			
Base Capacity (vph)	404	514	252	1606	1346	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.67	0.22	0.40	0.18	0.74	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 114.3			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 34.7		Intersection LOS: C	
Intersection Capacity Utilization 81.8%		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: 8: White Oak Rd & Hebron Church Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	375	268	317	175	206	163	197	427	68	371	690	376
Future Volume (vph)	375	268	317	175	206	163	197	427	68	371	690	376
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			1%			-2%			-2%	
Storage Length (ft)	325		350	175		350	350		100	450		325
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	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			0.950			0.950			0.950		
Satd. Flow (prot)	3416	3522	1575	1761	3522	1575	1787	3575	1599	1787	3575	1599
Flt Permitted	0.950			0.950			0.209			0.382		
Satd. Flow (perm)	3416	3522	1575	1761	3522	1575	393	3575	1599	719	3575	1599
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1074			1200			1233			1054	
Travel Time (s)		16.3			18.2			18.7			16.0	
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)	417	298	352	194	229	181	219	474	76	412	767	418
Shared Lane Traffic (%)												
Lane Group Flow (vph)	417	298	352	194	229	181	219	474	76	412	767	418
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	1.01	1.01	1.01	1.01	1.01	1.01	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6	4		8	8		4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0	7.0	7.0	12.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.6	42.9	13.6	13.3	40.9	13.6	13.6	40.9	13.3	13.6	42.9	13.6
Total Split (s)	25.0	90.0	25.0	25.0	90.0	25.0	25.0	60.0	25.0	25.0	60.0	25.0
Total Split (%)	12.5%	45.0%	12.5%	12.5%	45.0%	12.5%	12.5%	30.0%	12.5%	12.5%	30.0%	12.5%
Maximum Green (s)	18.5	83.5	18.4	18.7	83.6	18.4	18.4	53.1	18.7	18.4	53.1	18.5
Yellow Time (s)	3.0	4.4	3.0	3.0	4.4	3.0	3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.5	2.1	3.6	3.3	2.0	3.6	3.6	2.2	3.3	3.6	2.2	3.5
Lost Time Adjust (s)	-1.5	-1.5	-1.6	-1.3	-1.4	-1.6	-1.6	-1.9	-1.3	-1.6	-1.9	-1.5
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	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	6.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Minimum Gap (s)	2.0	3.0	2.0	2.0	3.0	2.0	2.0	3.0	2.0	2.0	3.0	2.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0
Time To Reduce (s)	0.0	30.0	0.0	0.0	30.0	0.0	0.0	30.0	0.0	0.0	30.0	0.0
Recall Mode	None	Min	None	None	Min	None	None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		26.0			25.0			27.0			29.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	20.2	16.5	38.8	20.2	16.5	41.7	56.5	36.3	61.5	56.5	39.2	64.4
Actuated g/C Ratio	0.18	0.15	0.34	0.18	0.15	0.37	0.50	0.32	0.54	0.50	0.35	0.57
v/c Ratio	0.69	0.58	0.65	0.62	0.45	0.31	0.54	0.41	0.09	0.75	0.62	0.46
Control Delay	51.9	51.2	38.8	55.0	48.4	28.9	19.0	31.0	12.8	25.9	33.6	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	0.0
Total Delay	51.9	51.2	38.8	55.0	48.4	28.9	19.0	31.0	12.8	25.9	33.6	16.8
LOS	D	D	D	D	D	C	B	C	B	C	C	B
Approach Delay		47.4			44.7			25.8			27.2	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	147	107	212	132	81	93	79	140	25	169	244	171
Queue Length 95th (ft)	#237	170	355	#256	134	174	130	194	51	258	330	277
Internal Link Dist (ft)		994			1120			1153			974	
Turn Bay Length (ft)	325		350	175		350	350		100	450		325
Base Capacity (vph)	607	2663	579	313	2663	579	452	1749	867	548	1749	909
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	0.69	0.11	0.61	0.62	0.09	0.31	0.48	0.27	0.09	0.75	0.44	0.46

Intersection Summary

Area Type: Other
Cycle Length: 200
Actuated Cycle Length: 113.3
Natural Cycle: 125
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 34.9 Intersection LOS: C
Intersection Capacity Utilization 69.7% 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: 9: White Oak Rd & Timber Drive East

2026 Background Traffic Volumes

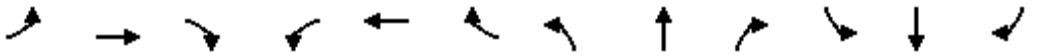
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	264	528	1064	314	108	349
Future Volume (vph)	264	528	1064	314	108	349
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%		1%			0%
Storage Length (ft)	125	0		350	388	
Storage Lanes	1	1		1	2	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1761	1575	3522	1575	3433	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1761	1575	3522	1575	3433	1863
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	45		55			55
Link Distance (ft)	2102		1035			1131
Travel Time (s)	31.8		12.8			14.0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	293	587	1182	349	120	388
Shared Lane Traffic (%)						
Lane Group Flow (vph)	293	587	1182	349	120	388
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	14.0	14.0	7.0	14.0
Minimum Split (s)	22.5	13.2	22.5	22.5	13.2	22.5
Total Split (s)	24.1	25.0	40.9	40.9	25.0	65.9
Total Split (%)	26.8%	27.8%	45.4%	45.4%	27.8%	73.2%
Maximum Green (s)	18.2	18.8	34.7	34.7	18.8	59.5
Yellow Time (s)	3.0	3.0	5.1	5.1	3.0	5.2
All-Red Time (s)	2.9	3.2	1.1	1.1	3.2	1.2
Lost Time Adjust (s)	-0.9	-1.2	-1.2	-1.2	-1.2	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	6.0	6.0	2.0	6.0
Minimum Gap (s)	2.0	2.0	3.4	3.4	2.0	3.4

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Time Before Reduce (s)	0.0	0.0	15.0	15.0	0.0	15.0
Time To Reduce (s)	0.0	0.0	40.0	40.0	0.0	40.0
Recall Mode	None	None	Min	Min	None	Min
Act Effct Green (s)	16.9	37.9	33.3	33.3	15.8	54.2
Actuated g/C Ratio	0.21	0.47	0.41	0.41	0.19	0.67
v/c Ratio	0.80	0.80	0.82	0.54	0.18	0.31
Control Delay	50.0	28.5	28.3	23.4	28.9	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.0	28.5	28.3	23.4	28.9	6.6
LOS	D	C	C	C	C	A
Approach Delay	35.7		27.1			11.9
Approach LOS	D		C			B
Queue Length 50th (ft)	157	260	308	148	28	79
Queue Length 95th (ft)	#283	402	402	237	51	120
Internal Link Dist (ft)	2022		955			1051
Turn Bay Length (ft)	125			350	388	
Base Capacity (vph)	422	822	1589	710	862	1426
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	0.69	0.71	0.74	0.49	0.14	0.27

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 81.4			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 27.1		Intersection LOS: C	
Intersection Capacity Utilization 70.4%		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: 1: NC 50 & New Bethel Church Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	201	27	4	286	9	91	54	5	4	18	188
Future Volume (vph)	131	201	27	4	286	9	91	54	5	4	18	188
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	125		0	0		0	0		100
Storage Lanes	1		0	1		0	0		0	0		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	1.00	1.00	1.00	1.00	1.00
Frt		0.982			0.995			0.995				0.850
Flt Protected	0.950			0.950				0.971			0.992	
Satd. Flow (prot)	1770	1829	0	1770	1853	0	0	1800	0	0	1848	1583
Flt Permitted	0.950			0.950				0.971			0.992	
Satd. Flow (perm)	1770	1829	0	1770	1853	0	0	1800	0	0	1848	1583
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		1878			3368			1024			3156	
Travel Time (s)		28.5			51.0			27.9			47.8	
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)	146	223	30	4	318	10	101	60	6	4	20	209
Shared Lane Traffic (%)												
Lane Group Flow (vph)	146	253	0	4	328	0	0	167	0	0	24	209
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 47.7%		ICU Level of Service A	
Analysis Period (min) 15			

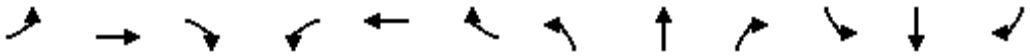
Intersection	
Int Delay, s/veh	20.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	131	201	27	4	286	9	91	54	5	4	18	188
Future Vol, veh/h	131	201	27	4	286	9	91	54	5	4	18	188
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	-	-	-	-	-	-	-	100
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	146	223	30	4	318	10	101	60	6	4	20	209

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	328	0	0	253	0	0	976	866	238	894	876	323
Stage 1	-	-	-	-	-	-	530	530	-	331	331	-
Stage 2	-	-	-	-	-	-	446	336	-	563	545	-
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	1232	-	-	1312	-	-	230	291	801	262	287	718
Stage 1	-	-	-	-	-	-	533	527	-	682	645	-
Stage 2	-	-	-	-	-	-	591	642	-	511	519	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1232	-	-	1312	-	-	139	255	801	194	252	718
Mov Cap-2 Maneuver	-	-	-	-	-	-	139	255	-	194	252	-
Stage 1	-	-	-	-	-	-	470	464	-	601	643	-
Stage 2	-	-	-	-	-	-	405	640	-	389	457	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3	0.1	114.7	13.1
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	172	1232	-	-	1312	-	-	239	718
HCM Lane V/C Ratio	0.969	0.118	-	-	0.003	-	-	0.102	0.291
HCM Control Delay (s)	114.7	8.3	-	-	7.8	-	-	21.8	12.1
HCM Lane LOS	F	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	7.6	0.4	-	-	0	-	-	0.3	1.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	100	30	24	131	4	96	4	71	4	4	32
Future Volume (vph)	10	100	30	24	131	4	96	4	71	4	4	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		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			0.850		0.997			0.944			0.890	
Flt Protected		0.996			0.992			0.973			0.995	
Satd. Flow (prot)	0	1855	1583	0	1842	0	0	1711	0	0	1650	0
Flt Permitted		0.996			0.992			0.973			0.995	
Satd. Flow (perm)	0	1855	1583	0	1842	0	0	1711	0	0	1650	0
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		3368			906			1265			1109	
Travel Time (s)		51.0			13.7			28.8			25.2	
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)	11	111	33	27	146	4	107	4	79	4	4	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	122	33	0	177	0	0	190	0	0	44	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			0			0	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.3%		ICU Level of Service A	
Analysis Period (min) 15			

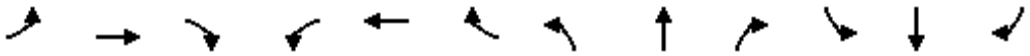
Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	100	30	24	131	4	96	4	71	4	4	32
Future Vol, veh/h	10	100	30	24	131	4	96	4	71	4	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	-	-	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	111	33	27	146	4	107	4	79	4	4	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	150	0	0	144	0	0	355	337	111	393	368	148
Stage 1	-	-	-	-	-	-	133	133	-	202	202	-
Stage 2	-	-	-	-	-	-	222	204	-	191	166	-
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	1431	-	-	1438	-	-	600	584	942	566	561	899
Stage 1	-	-	-	-	-	-	870	786	-	800	734	-
Stage 2	-	-	-	-	-	-	780	733	-	811	761	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1431	-	-	1438	-	-	560	568	942	504	545	899
Mov Cap-2 Maneuver	-	-	-	-	-	-	560	568	-	504	545	-
Stage 1	-	-	-	-	-	-	863	780	-	794	719	-
Stage 2	-	-	-	-	-	-	730	718	-	733	755	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1.1	12.4	9.9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	674	1431	-	-	1438	-	-	786
HCM Lane V/C Ratio	0.282	0.008	-	-	0.019	-	-	0.057
HCM Control Delay (s)	12.4	7.5	0	-	7.6	0	-	9.9
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	1.2	0	-	-	0.1	-	-	0.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	12	8	4	34	31	12	27	4	12	10	113
Future Volume (vph)	150	12	8	4	34	31	12	27	4	12	10	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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		0.994			0.940			0.989			0.887	
Flt Protected		0.958			0.997			0.986			0.996	
Satd. Flow (prot)	0	1774	0	0	1746	0	0	1816	0	0	1646	0
Flt Permitted		0.958			0.997			0.986			0.996	
Satd. Flow (perm)	0	1774	0	0	1746	0	0	1816	0	0	1646	0
Link Speed (mph)		45			35			35			35	
Link Distance (ft)		1056			1092			1069			2966	
Travel Time (s)		16.0			21.3			20.8			57.8	
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)	167	13	9	4	38	34	13	30	4	13	11	126
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	189	0	0	76	0	0	47	0	0	150	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)		0			0			0			0	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.5%		ICU Level of Service A	
Analysis Period (min) 15			

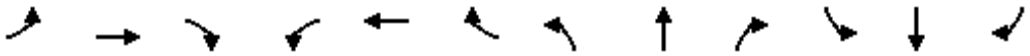
Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	150	12	8	4	34	31	12	27	4	12	10	113
Future Vol, veh/h	150	12	8	4	34	31	12	27	4	12	10	113
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	167	13	9	4	38	34	13	30	4	13	11	126

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	72	0	0	22	0	0	484	432	18	432	419	55
Stage 1	-	-	-	-	-	-	352	352	-	63	63	-
Stage 2	-	-	-	-	-	-	132	80	-	369	356	-
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	1528	-	-	1593	-	-	493	516	1061	534	525	1012
Stage 1	-	-	-	-	-	-	665	632	-	948	842	-
Stage 2	-	-	-	-	-	-	871	828	-	651	629	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1528	-	-	1593	-	-	387	457	1061	461	465	1012
Mov Cap-2 Maneuver	-	-	-	-	-	-	387	457	-	461	465	-
Stage 1	-	-	-	-	-	-	591	562	-	843	839	-
Stage 2	-	-	-	-	-	-	751	826	-	546	559	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	6.7	0.4	13.8	10.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	458	1528	-	-	1593	-	-	848
HCM Lane V/C Ratio	0.104	0.109	-	-	0.003	-	-	0.177
HCM Control Delay (s)	13.8	7.6	0	-	7.3	0	-	10.2
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0.4	-	-	0	-	-	0.6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	151	145	4	4	122	61	4	9	4	23	8	80
Future Volume (vph)	151	145	4	4	122	61	4	9	4	23	8	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		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			0.950			0.970			0.903	
Flt Protected	0.950			0.950				0.989			0.990	
Satd. Flow (prot)	1770	1855	0	1770	1770	0	0	1787	0	0	1665	0
Flt Permitted	0.950			0.950				0.989			0.990	
Satd. Flow (perm)	1770	1855	0	1770	1770	0	0	1787	0	0	1665	0
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		3156			1067			519			1112	
Travel Time (s)		47.8			16.2			14.2			16.8	
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)	168	161	4	4	136	68	4	10	4	26	9	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	168	165	0	4	204	0	0	18	0	0	124	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			0			0	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.0%		ICU Level of Service A	
Analysis Period (min) 15			

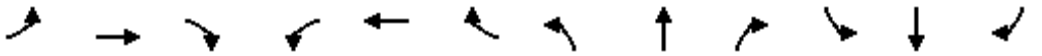
Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	151	145	4	4	122	61	4	9	4	23	8	80
Future Vol, veh/h	151	145	4	4	122	61	4	9	4	23	8	80
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	75	-	-	100	-	-	-	-	-	-	-	-
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	168	161	4	4	136	68	4	10	4	26	9	89

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	204	0	0	165	0	0	726	711	163	684	679	170
Stage 1	-	-	-	-	-	-	499	499	-	178	178	-
Stage 2	-	-	-	-	-	-	227	212	-	506	501	-
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	1368	-	-	1413	-	-	340	358	882	363	374	874
Stage 1	-	-	-	-	-	-	554	544	-	824	752	-
Stage 2	-	-	-	-	-	-	776	727	-	549	543	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1368	-	-	1413	-	-	271	313	882	319	327	874
Mov Cap-2 Maneuver	-	-	-	-	-	-	271	313	-	319	327	-
Stage 1	-	-	-	-	-	-	486	477	-	723	750	-
Stage 2	-	-	-	-	-	-	687	725	-	469	476	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4	0.2	15.7	12.7
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	354	1368	-	-	1413	-	-	590
HCM Lane V/C Ratio	0.053	0.123	-	-	0.003	-	-	0.209
HCM Control Delay (s)	15.7	8	-	-	7.6	-	-	12.7
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0.4	-	-	0	-	-	0.8



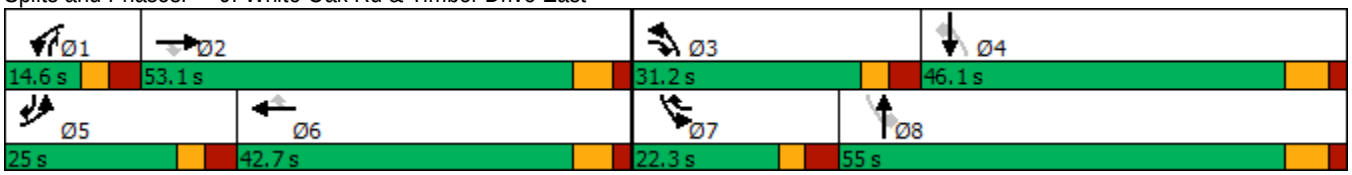
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	408	157	79	44	108	130	308	1118	91	243	376	351
Future Volume (vph)	408	157	79	44	108	130	308	1118	91	243	376	351
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			1%			-2%			-2%	
Storage Length (ft)	325		350	175		350	350		100	450		325
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	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			0.950			0.950			0.950		
Satd. Flow (prot)	3416	3522	1575	1761	3522	1575	1787	3575	1599	1787	3575	1599
Flt Permitted	0.950			0.950			0.457			0.080		
Satd. Flow (perm)	3416	3522	1575	1761	3522	1575	860	3575	1599	151	3575	1599
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1074			1200			1233			1054	
Travel Time (s)		16.3			18.2			18.7			16.0	
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)	453	174	88	49	120	144	342	1242	101	270	418	390
Shared Lane Traffic (%)												
Lane Group Flow (vph)	453	174	88	49	120	144	342	1242	101	270	418	390
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	1.01	1.01	1.01	1.01	1.01	1.01	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6	4		8	8		4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0	7.0	7.0	12.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.6	42.9	13.6	13.3	40.9	13.6	13.6	40.9	13.3	13.6	42.9	13.6
Total Split (s)	25.0	53.1	31.2	14.6	42.7	22.3	31.2	55.0	14.6	22.3	46.1	25.0
Total Split (%)	17.2%	36.6%	21.5%	10.1%	29.4%	15.4%	21.5%	37.9%	10.1%	15.4%	31.8%	17.2%
Maximum Green (s)	18.5	46.6	24.6	8.3	36.3	15.7	24.6	48.1	8.3	15.7	39.2	18.5
Yellow Time (s)	3.0	4.4	3.0	3.0	4.4	3.0	3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.5	2.1	3.6	3.3	2.0	3.6	3.6	2.2	3.3	3.6	2.2	3.5
Lost Time Adjust (s)	-1.5	-1.5	-1.6	-1.3	-1.4	-1.6	-1.6	-1.9	-1.3	-1.6	-1.9	-1.5
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	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	6.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Minimum Gap (s)	2.0	3.0	2.0	2.0	3.0	2.0	2.0	3.0	2.0	2.0	3.0	2.0

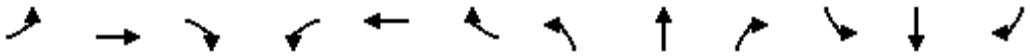
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0
Time To Reduce (s)	0.0	30.0	0.0	0.0	30.0	0.0	0.0	30.0	0.0	0.0	30.0	0.0
Recall Mode	None	Min	None	None	Min	None	None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		26.0			25.0			27.0			29.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	20.0	24.4	47.1	9.0	13.4	35.7	67.3	50.0	64.0	67.3	49.6	74.6
Actuated g/C Ratio	0.17	0.20	0.39	0.07	0.11	0.30	0.56	0.41	0.53	0.56	0.41	0.62
v/c Ratio	0.80	0.24	0.14	0.37	0.31	0.31	0.56	0.84	0.12	0.85	0.28	0.39
Control Delay	60.2	41.6	23.6	61.6	51.7	35.2	16.0	38.1	14.6	55.8	25.0	13.7
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	60.2	41.6	23.6	61.6	51.7	35.2	16.0	38.1	14.6	55.8	25.0	13.7
LOS	E	D	C	E	D	D	B	D	B	E	C	B
Approach Delay		51.2			45.7			32.2			28.6	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	176	60	44	37	45	87	125	450	38	153	112	143
Queue Length 95th (ft)	#248	94	75	78	76	146	181	545	67	#300	163	235
Internal Link Dist (ft)		994			1120			1153			974	
Turn Bay Length (ft)	325		350	175		350	350		100	450		325
Base Capacity (vph)	566	1403	725	140	1100	465	714	1480	855	318	1469	988
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	0.80	0.12	0.12	0.35	0.11	0.31	0.48	0.84	0.12	0.85	0.28	0.39

Intersection Summary

Area Type: Other
Cycle Length: 145
Actuated Cycle Length: 120.7
Natural Cycle: 145
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
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: 9: White Oak Rd & Timber Drive East





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	27	15	177	20	711	8	575	120	108	336	39
Future Volume (vph)	127	27	15	177	20	711	8	575	120	108	336	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-1%			-1%			1%	
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		0.988			0.894			0.977			0.989	
Flt Protected		0.964			0.990			0.999			0.989	
Satd. Flow (prot)	0	1774	0	0	1657	0	0	1827	0	0	1813	0
Flt Permitted		0.964			0.990			0.999			0.989	
Satd. Flow (perm)	0	1774	0	0	1657	0	0	1827	0	0	1813	0
Link Speed (mph)		35			45			45			45	
Link Distance (ft)		1279			1059			4336			6001	
Travel Time (s)		24.9			16.0			65.7			90.9	
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)	141	30	17	197	22	790	9	639	133	120	373	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	188	0	0	1009	0	0	781	0	0	536	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)		0			0			0			0	
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	0.99	0.99	0.99	0.99	0.99	0.99	1.01	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Roundabout			
Intersection Capacity Utilization 126.7%		ICU Level of Service H	
Analysis Period (min) 15			

MOVEMENT SUMMARY

Site: 78 [2026 Background AM Peak Hour - White Oak Roundabout (Site Folder: Bethel Green)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

White Oak Road / Ackerman Road / Hebron Church Road
Site Category: Future Conditions 1
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed mph
South: Hebron Church Road															
3	L2	All MCs	9	2.0	9	2.0	0.728	15.0	LOS C	11.8	298.6	0.78	0.74	1.33	30.7
8	T1	All MCs	639	2.0	639	2.0	0.728	15.0	LOS C	11.8	298.6	0.78	0.74	1.33	31.3
18	R2	All MCs	133	2.0	133	2.0	0.728	15.0	LOS C	11.8	298.6	0.78	0.74	1.33	31.1
Approach			781	2.0	781	2.0	0.728	15.0	LOS C	11.8	298.6	0.78	0.74	1.33	31.3
East: White Oak Road															
1	L2	All MCs	197	2.0	197	2.0	0.440	11.9	LOS B	2.2	56.4	0.71	0.72	0.94	30.6
6	T1	All MCs	22	2.0	22	2.0	0.440	11.9	LOS B	2.2	56.4	0.71	0.72	0.94	31.1
16	R2	All MCs	790	2.0	790	2.0	0.440	1.2	LOS A	2.2	56.4	0.06	0.06	0.08	38.5
Approach			1009	2.0	1009	2.0	0.440	3.5	LOS A	2.2	56.4	0.20	0.21	0.27	36.4
North: White Oak Road															
7	L2	All MCs	120	2.0	120	2.0	0.107	4.1	LOS A	0.4	10.9	0.35	0.21	0.35	33.2
4	T1	All MCs	372	2.0	372	2.0	0.371	6.9	LOS A	1.9	49.3	0.45	0.27	0.45	35.3
14	R2	All MCs	43	2.0	43	2.0	0.371	6.9	LOS A	1.9	49.3	0.45	0.27	0.45	34.9
Approach			536	2.0	536	2.0	0.371	6.3	LOS A	1.9	49.3	0.43	0.26	0.43	34.7
West: Ackerman Road															
5	L2	All MCs	141	2.0	141	2.0	0.251	7.6	LOS A	0.9	23.9	0.59	0.52	0.59	32.2
2	T1	All MCs	30	2.0	30	2.0	0.251	7.6	LOS A	0.9	23.9	0.59	0.52	0.59	32.8
12	R2	All MCs	17	2.0	17	2.0	0.251	7.6	LOS A	0.9	23.9	0.59	0.52	0.59	32.6
Approach			188	2.0	188	2.0	0.251	7.6	LOS A	0.9	23.9	0.59	0.52	0.59	32.3
All Vehicles			2513	2.0	2513	2.0	0.728	8.0	LOS A	11.8	298.6	0.46	0.41	0.66	34.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

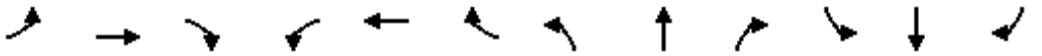
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	337	279	804	345	389	795
Future Volume (vph)	337	279	804	345	389	795
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%		1%			0%
Storage Length (ft)	125	0		350	388	
Storage Lanes	1	1		1	2	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1761	1575	3522	1575	3433	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1761	1575	3522	1575	3433	1863
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	45		55			55
Link Distance (ft)	2102		1035			1131
Travel Time (s)	31.8		12.8			14.0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	374	310	893	383	432	883
Shared Lane Traffic (%)						
Lane Group Flow (vph)	374	310	893	383	432	883
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	14.0	14.0	7.0	14.0
Minimum Split (s)	22.5	13.2	22.5	22.5	13.2	22.5
Total Split (s)	31.0	21.0	38.0	38.0	21.0	59.0
Total Split (%)	34.4%	23.3%	42.2%	42.2%	23.3%	65.6%
Maximum Green (s)	25.1	14.8	31.8	31.8	14.8	52.6
Yellow Time (s)	3.0	3.0	5.1	5.1	3.0	5.2
All-Red Time (s)	2.9	3.2	1.1	1.1	3.2	1.2
Lost Time Adjust (s)	-0.9	-1.2	-1.2	-1.2	-1.2	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	6.0	6.0	2.0	6.0
Minimum Gap (s)	2.0	2.0	3.4	3.4	2.0	3.4

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Time Before Reduce (s)	0.0	0.0	15.0	15.0	0.0	15.0
Time To Reduce (s)	0.0	0.0	40.0	40.0	0.0	40.0
Recall Mode	None	None	Min	Min	None	Min
Act Effct Green (s)	21.2	40.7	28.8	28.8	14.4	48.3
Actuated g/C Ratio	0.27	0.51	0.36	0.36	0.18	0.61
v/c Ratio	0.80	0.39	0.70	0.67	0.70	0.78
Control Delay	42.4	14.1	26.0	29.5	38.8	18.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.4	14.1	26.0	29.5	38.8	18.7
LOS	D	B	C	C	D	B
Approach Delay	29.6		27.1			25.3
Approach LOS	C		C			C
Queue Length 50th (ft)	186	95	211	170	112	319
Queue Length 95th (ft)	#303	159	292	281	171	528
Internal Link Dist (ft)	2022		955			1051
Turn Bay Length (ft)	125			350	388	
Base Capacity (vph)	589	844	1497	669	707	1295
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	0.63	0.37	0.60	0.57	0.61	0.68

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 79.8			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 26.9		Intersection LOS: C	
Intersection Capacity Utilization 68.8%		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: 1: NC 50 & New Bethel Church Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	241	85	4	179	7	55	28	4	13	59	247
Future Volume (vph)	165	241	85	4	179	7	55	28	4	13	59	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	125		0	0		0	0		100
Storage Lanes	1		0	1		0	0		0	0		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	1.00	1.00	1.00	1.00	1.00
Frt		0.961			0.994			0.994				0.850
Flt Protected	0.950			0.950				0.969			0.991	
Satd. Flow (prot)	1770	1790	0	1770	1852	0	0	1794	0	0	1846	1583
Flt Permitted	0.950			0.950				0.969			0.991	
Satd. Flow (perm)	1770	1790	0	1770	1852	0	0	1794	0	0	1846	1583
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		1878			3368			1024			3156	
Travel Time (s)		28.5			51.0			27.9			47.8	
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)	183	268	94	4	199	8	61	31	4	14	66	274
Shared Lane Traffic (%)												
Lane Group Flow (vph)	183	362	0	4	207	0	0	96	0	0	80	274
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.6%		ICU Level of Service A	
Analysis Period (min) 15			

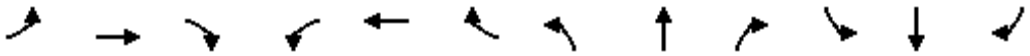
Intersection	
Int Delay, s/veh	13.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	165	241	85	4	179	7	55	28	4	13	59	247
Future Vol, veh/h	165	241	85	4	179	7	55	28	4	13	59	247
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	-	-	-	-	-	-	-	100
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	183	268	94	4	199	8	61	31	4	14	66	274

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	207	0	0	362	0	0	1062	896	315	910	939	203
Stage 1	-	-	-	-	-	-	681	681	-	211	211	-
Stage 2	-	-	-	-	-	-	381	215	-	699	728	-
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	1364	-	-	1197	-	-	201	280	725	255	264	838
Stage 1	-	-	-	-	-	-	440	450	-	791	728	-
Stage 2	-	-	-	-	-	-	641	725	-	430	429	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1364	-	-	1197	-	-	95	242	725	205	228	838
Mov Cap-2 Maneuver	-	-	-	-	-	-	95	242	-	205	228	-
Stage 1	-	-	-	-	-	-	381	390	-	685	726	-
Stage 2	-	-	-	-	-	-	391	723	-	341	372	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.7	0.2	96.9	15.6
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	124	1364	-	-	1197	-	-	223	838
HCM Lane V/C Ratio	0.78	0.134	-	-	0.004	-	-	0.359	0.327
HCM Control Delay (s)	96.9	8	-	-	8	-	-	29.9	11.4
HCM Lane LOS	F	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	4.5	0.5	-	-	0	-	-	1.5	1.4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	79	113	69	75	4	69	4	39	4	4	23
Future Volume (vph)	38	79	113	69	75	4	69	4	39	4	4	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		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			0.850		0.997			0.953			0.897	
Flt Protected		0.984			0.977			0.970			0.994	
Satd. Flow (prot)	0	1833	1583	0	1814	0	0	1722	0	0	1661	0
Flt Permitted		0.984			0.977			0.970			0.994	
Satd. Flow (perm)	0	1833	1583	0	1814	0	0	1722	0	0	1661	0
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		3368			906			1265			1109	
Travel Time (s)		51.0			13.7			28.8			25.2	
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)	42	88	126	77	83	4	77	4	43	4	4	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	130	126	0	164	0	0	124	0	0	34	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			0			0	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.4%		ICU Level of Service A	
Analysis Period (min) 15			

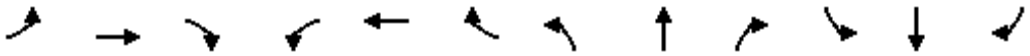
Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	79	113	69	75	4	69	4	39	4	4	23
Future Vol, veh/h	38	79	113	69	75	4	69	4	39	4	4	23
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	42	88	126	77	83	4	77	4	43	4	4	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	87	0	0	214	0	0	426	413	88	498	537	85
Stage 1	-	-	-	-	-	-	172	172	-	239	239	-
Stage 2	-	-	-	-	-	-	254	241	-	259	298	-
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	1509	-	-	1356	-	-	539	529	970	483	450	974
Stage 1	-	-	-	-	-	-	830	756	-	764	708	-
Stage 2	-	-	-	-	-	-	750	706	-	746	667	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1509	-	-	1356	-	-	485	481	970	426	410	974
Mov Cap-2 Maneuver	-	-	-	-	-	-	485	481	-	426	410	-
Stage 1	-	-	-	-	-	-	803	732	-	740	666	-
Stage 2	-	-	-	-	-	-	682	664	-	686	646	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	3.6	12.8	10.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	587	1509	-	-	1356	-	-	725
HCM Lane V/C Ratio	0.212	0.028	-	-	0.057	-	-	0.048
HCM Control Delay (s)	12.8	7.5	0	-	7.8	0	-	10.2
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0.2	-	-	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	38	14	4	32	20	12	21	4	46	33	102
Future Volume (vph)	66	38	14	4	32	20	12	21	4	46	33	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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		0.984			0.952			0.986			0.924	
Flt Protected		0.973			0.997			0.984			0.987	
Satd. Flow (prot)	0	1783	0	0	1768	0	0	1807	0	0	1699	0
Flt Permitted		0.973			0.997			0.984			0.987	
Satd. Flow (perm)	0	1783	0	0	1768	0	0	1807	0	0	1699	0
Link Speed (mph)		45			55			45			45	
Link Distance (ft)		1056			1092			1069			2966	
Travel Time (s)		16.0			13.5			16.2			44.9	
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)	73	42	16	4	36	22	13	23	4	51	37	113
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	131	0	0	62	0	0	40	0	0	201	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)		0			0			0			0	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.7%		ICU Level of Service A	
Analysis Period (min) 15			

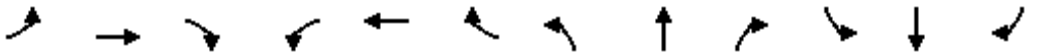
Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	66	38	14	4	32	20	12	21	4	46	33	102
Future Vol, veh/h	66	38	14	4	32	20	12	21	4	46	33	102
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	73	42	16	4	36	22	13	23	4	51	37	113

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	58	0	0	58	0	0	326	262	50	265	259	47
Stage 1	-	-	-	-	-	-	196	196	-	55	55	-
Stage 2	-	-	-	-	-	-	130	66	-	210	204	-
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	1546	-	-	1546	-	-	627	643	1018	688	645	1022
Stage 1	-	-	-	-	-	-	806	739	-	957	849	-
Stage 2	-	-	-	-	-	-	874	840	-	792	733	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1546	-	-	1546	-	-	511	610	1018	638	611	1022
Mov Cap-2 Maneuver	-	-	-	-	-	-	511	610	-	638	611	-
Stage 1	-	-	-	-	-	-	767	703	-	910	846	-
Stage 2	-	-	-	-	-	-	741	837	-	725	697	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.2	0.5	11.5	11
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	598	1546	-	-	1546	-	-	801
HCM Lane V/C Ratio	0.069	0.047	-	-	0.003	-	-	0.251
HCM Control Delay (s)	11.5	7.4	0	-	7.3	0	-	11
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	133	4	4	194	14	4	4	4	37	11	163
Future Volume (vph)	45	133	4	4	194	14	4	4	4	37	11	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		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			0.990			0.955			0.896	
Flt Protected	0.950			0.950				0.984			0.991	
Satd. Flow (prot)	1770	1855	0	1770	1844	0	0	1750	0	0	1654	0
Flt Permitted	0.950			0.950				0.984			0.991	
Satd. Flow (perm)	1770	1855	0	1770	1844	0	0	1750	0	0	1654	0
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		3156			1067			519			1112	
Travel Time (s)		47.8			16.2			14.2			16.8	
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)	50	148	4	4	216	16	4	4	4	41	12	181
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	152	0	4	232	0	0	12	0	0	234	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			0			0	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.6%		ICU Level of Service A	
Analysis Period (min) 15			

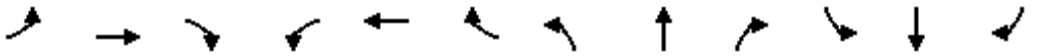
Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	133	4	4	194	14	4	4	4	37	11	163
Future Vol, veh/h	45	133	4	4	194	14	4	4	4	37	11	163
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	75	-	-	100	-	-	-	-	-	-	-	-
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	50	148	4	4	216	16	4	4	4	41	12	181

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	232	0	0	152	0	0	579	490	150	486	484	224
Stage 1	-	-	-	-	-	-	250	250	-	232	232	-
Stage 2	-	-	-	-	-	-	329	240	-	254	252	-
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	1336	-	-	1429	-	-	426	479	896	492	483	815
Stage 1	-	-	-	-	-	-	754	700	-	771	713	-
Stage 2	-	-	-	-	-	-	684	707	-	750	698	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1336	-	-	1429	-	-	315	460	896	471	464	815
Mov Cap-2 Maneuver	-	-	-	-	-	-	315	460	-	471	464	-
Stage 1	-	-	-	-	-	-	726	674	-	742	711	-
Stage 2	-	-	-	-	-	-	521	705	-	714	672	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0.1	13	12.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	464	1336	-	-	1429	-	-	698
HCM Lane V/C Ratio	0.029	0.037	-	-	0.003	-	-	0.336
HCM Control Delay (s)	13	7.8	-	-	7.5	-	-	12.7
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	1.5



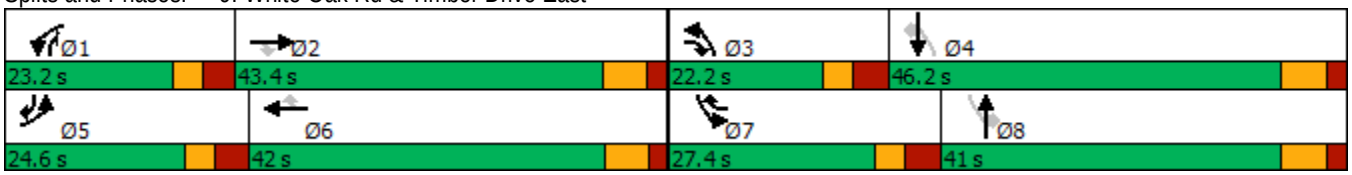
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	422	301	400	223	232	183	238	524	85	417	896	424
Future Volume (vph)	422	301	400	223	232	183	238	524	85	417	896	424
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			1%			-2%			-2%	
Storage Length (ft)	325		350	175		350	350		100	450		325
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	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			0.950			0.950			0.950		
Satd. Flow (prot)	3416	3522	1575	1761	3522	1575	1787	3575	1599	1787	3575	1599
Flt Permitted	0.950			0.950			0.114			0.298		
Satd. Flow (perm)	3416	3522	1575	1761	3522	1575	214	3575	1599	561	3575	1599
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1074			1200			1233			1054	
Travel Time (s)		16.3			18.2			18.7			16.0	
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)	469	334	444	248	258	203	264	582	94	463	996	471
Shared Lane Traffic (%)												
Lane Group Flow (vph)	469	334	444	248	258	203	264	582	94	463	996	471
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	1.01	1.01	1.01	1.01	1.01	1.01	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6	4		8	8		4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0	7.0	7.0	12.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.6	42.9	13.6	13.3	40.9	13.6	13.6	40.9	13.3	13.6	42.9	13.6
Total Split (s)	24.6	43.4	22.2	23.2	42.0	27.4	22.2	41.0	23.2	27.4	46.2	24.6
Total Split (%)	18.2%	32.1%	16.4%	17.2%	31.1%	20.3%	16.4%	30.4%	17.2%	20.3%	34.2%	18.2%
Maximum Green (s)	18.1	36.9	15.6	16.9	35.6	20.8	15.6	34.1	16.9	20.8	39.3	18.1
Yellow Time (s)	3.0	4.4	3.0	3.0	4.4	3.0	3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.5	2.1	3.6	3.3	2.0	3.6	3.6	2.2	3.3	3.6	2.2	3.5
Lost Time Adjust (s)	-1.5	-1.5	-1.6	-1.3	-1.4	-1.6	-1.6	-1.9	-1.3	-1.6	-1.9	-1.5
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	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	6.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Minimum Gap (s)	2.0	3.0	2.0	2.0	3.0	2.0	2.0	3.0	2.0	2.0	3.0	2.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0
Time To Reduce (s)	0.0	30.0	0.0	0.0	30.0	0.0	0.0	30.0	0.0	0.0	30.0	0.0
Recall Mode	None	Min	None	None	Min	None	None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		26.0			25.0			27.0			29.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	19.4	16.7	38.4	18.2	15.5	42.9	57.5	35.0	58.3	57.5	40.8	65.2
Actuated g/C Ratio	0.17	0.15	0.34	0.16	0.14	0.38	0.51	0.31	0.52	0.51	0.36	0.58
v/c Ratio	0.79	0.64	0.83	0.87	0.53	0.34	0.77	0.52	0.11	0.87	0.77	0.51
Control Delay	56.1	51.1	48.2	76.0	49.5	26.8	40.6	34.1	14.8	36.2	36.9	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	0.0
Total Delay	56.1	51.1	48.2	76.0	49.5	26.8	40.6	34.1	14.8	36.2	36.9	16.9
LOS	E	D	D	E	D	C	D	C	B	D	D	B
Approach Delay		52.0			52.3			34.0			31.8	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	169	122	294	177	93	105	121	179	33	188	330	189
Queue Length 95th (ft)	#257	171	427	#343	136	166	#262	251	67	#397	441	309
Internal Link Dist (ft)		994			1120			1153			974	
Turn Bay Length (ft)	325		350	175		350	350		100	450		325
Base Capacity (vph)	596	1204	545	285	1160	601	351	1146	828	531	1311	930
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	0.79	0.28	0.81	0.87	0.22	0.34	0.75	0.51	0.11	0.87	0.76	0.51

Intersection Summary

Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 112.4
Natural Cycle: 135
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 40.5 Intersection LOS: D
Intersection Capacity Utilization 77.0% 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: 9: White Oak Rd & Timber Drive East



MOVEMENT SUMMARY

Site: 78 [2026 Background PM Peak Hour - White Oak Roundabout (Site Folder: Bethel Green)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

White Oak Road / Ackerman Road / Hebron Church Road
Site Category: Future Conditions 1
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed mph
South: Hebron Church Road															
3	L2	All MCs	10	2.0	10	2.0	0.735	23.8	LOS C	5.6	142.1	0.85	1.04	1.64	27.4
8	T1	All MCs	289	2.0	289	2.0	0.735	23.8	LOS C	5.6	142.1	0.85	1.04	1.64	27.9
18	R2	All MCs	149	2.0	149	2.0	0.735	23.8	LOS C	5.6	142.1	0.85	1.04	1.64	27.7
Approach			448	2.0	448	2.0	0.735	23.8	LOS C	5.6	142.1	0.85	1.04	1.64	27.8
East: White Oak Road															
1	L2	All MCs	143	2.0	143	2.0	0.190	5.6	LOS A	0.8	19.9	0.48	0.35	0.48	33.1
6	T1	All MCs	28	2.0	28	2.0	0.190	5.6	LOS A	0.8	19.9	0.48	0.35	0.48	33.7
16	R2	All MCs	323	2.0	323	2.0	0.190	0.2	LOS A	0.8	19.9	0.02	0.01	0.02	39.3
Approach			494	2.0	494	2.0	0.190	2.1	LOS A	0.8	19.9	0.18	0.13	0.18	36.9
North: White Oak Road															
7	L2	All MCs	770	2.0	770	2.0	0.657	11.7	LOS B	6.6	166.9	0.63	0.38	0.70	30.0
4	T1	All MCs	474	2.0	474	2.0	0.484	8.2	LOS A	3.0	76.6	0.47	0.26	0.47	34.6
14	R2	All MCs	92	2.0	92	2.0	0.484	8.2	LOS A	3.0	76.6	0.47	0.26	0.47	34.2
Approach			1337	2.0	1337	2.0	0.657	10.2	LOS B	6.6	166.9	0.56	0.33	0.60	31.7
West: Ackerman Road															
5	L2	All MCs	96	2.0	96	2.0	0.378	16.4	LOS C	1.4	34.8	0.79	0.84	1.01	28.9
2	T1	All MCs	49	2.0	49	2.0	0.378	16.4	LOS C	1.4	34.8	0.79	0.84	1.01	29.4
12	R2	All MCs	4	2.0	4	2.0	0.378	16.4	LOS C	1.4	34.8	0.79	0.84	1.01	29.3
Approach			149	2.0	149	2.0	0.378	16.4	LOS C	1.4	34.8	0.79	0.84	1.01	29.1
All Vehicles			2428	2.0	2428	2.0	0.735	11.4	LOS B	6.6	166.9	0.55	0.45	0.73	31.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

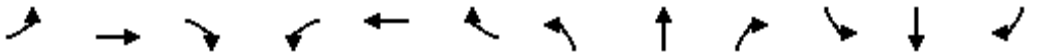
2026 Build Traffic Volumes

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	297	579	1064	325	125	349
Future Volume (vph)	297	579	1064	325	125	349
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%		1%			0%
Storage Length (ft)	125	0		350	388	
Storage Lanes	1	1		1	2	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1761	1575	3522	1575	3433	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1761	1575	3522	1575	3433	1863
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	45		55			55
Link Distance (ft)	2102		1035			1131
Travel Time (s)	31.8		12.8			14.0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	330	643	1182	361	139	388
Shared Lane Traffic (%)						
Lane Group Flow (vph)	330	643	1182	361	139	388
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	14.0	14.0	7.0	14.0
Minimum Split (s)	22.5	13.2	22.5	22.5	13.2	22.5
Total Split (s)	24.0	25.0	41.0	41.0	25.0	66.0
Total Split (%)	26.7%	27.8%	45.6%	45.6%	27.8%	73.3%
Maximum Green (s)	18.1	18.8	34.8	34.8	18.8	59.6
Yellow Time (s)	3.0	3.0	5.1	5.1	3.0	5.2
All-Red Time (s)	2.9	3.2	1.1	1.1	3.2	1.2
Lost Time Adjust (s)	-0.9	-1.2	-1.2	-1.2	-1.2	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	6.0	6.0	2.0	6.0
Minimum Gap (s)	2.0	2.0	3.4	3.4	2.0	3.4

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Time Before Reduce (s)	0.0	0.0	15.0	15.0	0.0	15.0
Time To Reduce (s)	0.0	0.0	40.0	40.0	0.0	40.0
Recall Mode	None	None	Min	Min	None	Min
Act Effct Green (s)	18.1	40.2	33.6	33.6	17.0	55.6
Actuated g/C Ratio	0.22	0.48	0.40	0.40	0.20	0.66
v/c Ratio	0.87	0.85	0.84	0.57	0.20	0.31
Control Delay	57.6	32.5	30.0	24.8	29.1	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.6	32.5	30.0	24.8	29.1	6.8
LOS	E	C	C	C	C	A
Approach Delay	41.0		28.8			12.7
Approach LOS	D		C			B
Queue Length 50th (ft)	183	302	312	156	32	78
Queue Length 95th (ft)	#336	#515	401	246	58	120
Internal Link Dist (ft)	2022		955			1051
Turn Bay Length (ft)	125			350	388	
Base Capacity (vph)	404	816	1533	685	830	1374
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	0.82	0.79	0.77	0.53	0.17	0.28

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 83.9			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 29.9		Intersection LOS: C	
Intersection Capacity Utilization 73.6%		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: 1: NC 50 & New Bethel Church Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	229	27	4	370	9	91	54	5	4	18	188
Future Volume (vph)	131	229	27	4	370	9	91	54	5	4	18	188
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	125		0	0		0	0		100
Storage Lanes	1		0	1		0	0		0	0		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	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.996			0.995				0.850
Flt Protected	0.950			0.950				0.971			0.992	
Satd. Flow (prot)	1770	1833	0	1770	1855	0	0	1800	0	0	1848	1583
Flt Permitted	0.950			0.950				0.971			0.992	
Satd. Flow (perm)	1770	1833	0	1770	1855	0	0	1800	0	0	1848	1583
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		1878			3368			1024			3156	
Travel Time (s)		28.5			51.0			27.9			47.8	
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)	146	254	30	4	411	10	101	60	6	4	20	209
Shared Lane Traffic (%)												
Lane Group Flow (vph)	146	284	0	4	421	0	0	167	0	0	24	209
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 52.1%		ICU Level of Service A	
Analysis Period (min) 15			

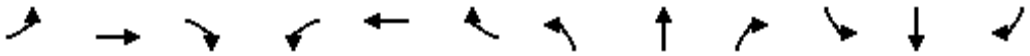
Intersection	
Int Delay, s/veh	32.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	131	229	27	4	370	9	91	54	5	4	18	188
Future Vol, veh/h	131	229	27	4	370	9	91	54	5	4	18	188
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	-	-	-	-	-	-	-	100
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	146	254	30	4	411	10	101	60	6	4	20	209

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	421	0	0	284	0	0	1100	990	269	1018	1000	416
Stage 1	-	-	-	-	-	-	561	561	-	424	424	-
Stage 2	-	-	-	-	-	-	539	429	-	594	576	-
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	1138	-	-	1278	-	-	190	246	770	216	243	637
Stage 1	-	-	-	-	-	-	512	510	-	608	587	-
Stage 2	-	-	-	-	-	-	527	584	-	491	502	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1138	-	-	1278	-	-	107	214	770	152	211	637
Mov Cap-2 Maneuver	-	-	-	-	-	-	107	214	-	152	211	-
Stage 1	-	-	-	-	-	-	446	445	-	530	585	-
Stage 2	-	-	-	-	-	-	341	582	-	368	438	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.9	0.1	217.1	14.7
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	135	1138	-	-	1278	-	-	197	637
HCM Lane V/C Ratio	1.235	0.128	-	-	0.003	-	-	0.124	0.328
HCM Control Delay (s)	217.1	8.6	-	-	7.8	-	-	25.8	13.4
HCM Lane LOS	F	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	10.1	0.4	-	-	0	-	-	0.4	1.4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	108	50	52	131	4	180	4	112	4	4	32
Future Volume (vph)	10	108	50	52	131	4	180	4	112	4	4	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		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			0.850		0.997			0.949			0.890	
Flt Protected		0.996			0.986			0.970			0.995	
Satd. Flow (prot)	0	1855	1583	0	1831	0	0	1715	0	0	1650	0
Flt Permitted		0.996			0.986			0.970			0.995	
Satd. Flow (perm)	0	1855	1583	0	1831	0	0	1715	0	0	1650	0
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		3368			906			1265			1109	
Travel Time (s)		51.0			13.7			28.8			25.2	
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)	11	120	56	58	146	4	200	4	124	4	4	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	131	56	0	208	0	0	328	0	0	44	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			0			0	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 47.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	108	50	52	131	4	180	4	112	4	4	32
Future Vol, veh/h	10	108	50	52	131	4	180	4	112	4	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	-	-	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	120	56	58	146	4	200	4	124	4	4	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	150	0	0	176	0	0	426	408	120	498	462	148
Stage 1	-	-	-	-	-	-	142	142	-	264	264	-
Stage 2	-	-	-	-	-	-	284	266	-	234	198	-
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	1431	-	-	1400	-	-	539	533	931	483	497	899
Stage 1	-	-	-	-	-	-	861	779	-	741	690	-
Stage 2	-	-	-	-	-	-	723	689	-	769	737	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1431	-	-	1400	-	-	493	504	931	398	470	899
Mov Cap-2 Maneuver	-	-	-	-	-	-	493	504	-	398	470	-
Stage 1	-	-	-	-	-	-	853	772	-	734	659	-
Stage 2	-	-	-	-	-	-	659	658	-	656	730	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	2.1	18	10.2
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	600	1431	-	-	1400	-	-	739
HCM Lane V/C Ratio	0.548	0.008	-	-	0.041	-	-	0.06
HCM Control Delay (s)	18	7.5	0	-	7.7	0	-	10.2
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	3.3	0	-	-	0.1	-	-	0.2

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	214	8	0	185	0	42
Future Volume (vph)	214	8	0	185	0	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.995					0.865
Flt Protected						
Satd. Flow (prot)	1853	0	0	1863	0	1611
Flt Permitted						
Satd. Flow (perm)	1853	0	0	1863	0	1611
Link Speed (mph)	45			45	30	
Link Distance (ft)	906			1056	1122	
Travel Time (s)	13.7			16.0	25.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	238	9	0	206	0	47
Shared Lane Traffic (%)						
Lane Group Flow (vph)	247	0	0	206	0	47
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
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)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.7%		ICU Level of Service A	
Analysis Period (min) 15			

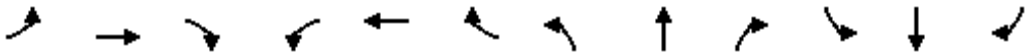
Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	214	8	0	185	0	42
Future Vol, veh/h	214	8	0	185	0	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	-	-	-	-	-	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	238	9	0	206	0	47

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	243
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	796
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	796
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	796	-	-	-
HCM Lane V/C Ratio	0.059	-	-	-
HCM Control Delay (s)	9.8	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	233	12	8	4	34	31	12	27	4	12	10	141
Future Volume (vph)	233	12	8	4	34	31	12	27	4	12	10	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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			0.940			0.989			0.883	
Flt Protected		0.956			0.997			0.986			0.996	
Satd. Flow (prot)	0	1774	0	0	1746	0	0	1816	0	0	1638	0
Flt Permitted		0.956			0.997			0.986			0.996	
Satd. Flow (perm)	0	1774	0	0	1746	0	0	1816	0	0	1638	0
Link Speed (mph)		45			35			35			35	
Link Distance (ft)		1056			1092			1069			2966	
Travel Time (s)		16.0			21.3			20.8			57.8	
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)	259	13	9	4	38	34	13	30	4	13	11	157
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	281	0	0	76	0	0	47	0	0	181	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)		0			0			0			0	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.8%		ICU Level of Service A	
Analysis Period (min) 15			

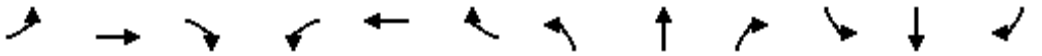
Intersection	
Int Delay, s/veh	8.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	233	12	8	4	34	31	12	27	4	12	10	141
Future Vol, veh/h	233	12	8	4	34	31	12	27	4	12	10	141
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	259	13	9	4	38	34	13	30	4	13	11	157

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	72	0	0	22	0	0	683	616	18	616	603	55
Stage 1	-	-	-	-	-	-	536	536	-	63	63	-
Stage 2	-	-	-	-	-	-	147	80	-	553	540	-
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	1528	-	-	1593	-	-	363	406	1061	403	413	1012
Stage 1	-	-	-	-	-	-	529	523	-	948	842	-
Stage 2	-	-	-	-	-	-	856	828	-	517	521	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1528	-	-	1593	-	-	259	335	1061	324	341	1012
Mov Cap-2 Maneuver	-	-	-	-	-	-	259	335	-	324	341	-
Stage 1	-	-	-	-	-	-	438	433	-	785	839	-
Stage 2	-	-	-	-	-	-	712	826	-	397	431	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	7.2	0.4	17.8	10.9
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	329	1528	-	-	1593	-	-	792
HCM Lane V/C Ratio	0.145	0.169	-	-	0.003	-	-	0.229
HCM Control Delay (s)	17.8	7.8	0	-	7.3	0	-	10.9
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.5	0.6	-	-	0	-	-	0.9



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	151	145	4	4	122	61	4	9	4	23	8	80
Future Volume (vph)	151	145	4	4	122	61	4	9	4	23	8	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		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			0.950			0.970			0.903	
Flt Protected	0.950			0.950				0.989			0.990	
Satd. Flow (prot)	1770	1855	0	1770	1770	0	0	1787	0	0	1665	0
Flt Permitted	0.950			0.950				0.989			0.990	
Satd. Flow (perm)	1770	1855	0	1770	1770	0	0	1787	0	0	1665	0
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		3156			1067			519			1112	
Travel Time (s)		47.8			16.2			14.2			16.8	
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)	168	161	4	4	136	68	4	10	4	26	9	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	168	165	0	4	204	0	0	18	0	0	124	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			0			0	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.0%		ICU Level of Service A	
Analysis Period (min) 15			

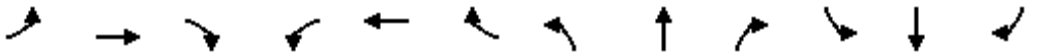
Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	151	145	4	4	122	61	4	9	4	23	8	80
Future Vol, veh/h	151	145	4	4	122	61	4	9	4	23	8	80
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	75	-	-	100	-	-	-	-	-	-	-	-
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	168	161	4	4	136	68	4	10	4	26	9	89

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	204	0	0	165	0	0	726	711	163	684	679	170
Stage 1	-	-	-	-	-	-	499	499	-	178	178	-
Stage 2	-	-	-	-	-	-	227	212	-	506	501	-
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	1368	-	-	1413	-	-	340	358	882	363	374	874
Stage 1	-	-	-	-	-	-	554	544	-	824	752	-
Stage 2	-	-	-	-	-	-	776	727	-	549	543	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1368	-	-	1413	-	-	271	313	882	319	327	874
Mov Cap-2 Maneuver	-	-	-	-	-	-	271	313	-	319	327	-
Stage 1	-	-	-	-	-	-	486	477	-	723	750	-
Stage 2	-	-	-	-	-	-	687	725	-	469	476	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4	0.2	15.7	12.7
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	354	1368	-	-	1413	-	-	590
HCM Lane V/C Ratio	0.053	0.123	-	-	0.003	-	-	0.209
HCM Control Delay (s)	15.7	8	-	-	7.6	-	-	12.7
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0.4	-	-	0	-	-	0.8



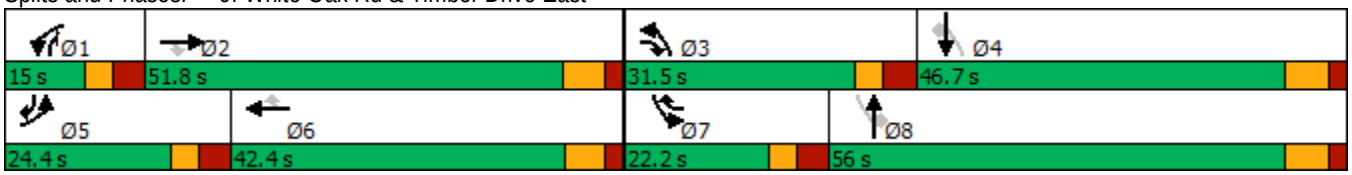
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	408	157	87	47	108	130	333	1151	99	243	387	351
Future Volume (vph)	408	157	87	47	108	130	333	1151	99	243	387	351
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			1%			-2%			-2%	
Storage Length (ft)	325		350	175		350	350		100	450		325
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	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			0.950			0.950			0.950		
Satd. Flow (prot)	3416	3522	1575	1761	3522	1575	1787	3575	1599	1787	3575	1599
Flt Permitted	0.950			0.950			0.448			0.079		
Satd. Flow (perm)	3416	3522	1575	1761	3522	1575	843	3575	1599	149	3575	1599
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1074			1200			1233			1054	
Travel Time (s)		16.3			18.2			18.7			16.0	
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)	453	174	97	52	120	144	370	1279	110	270	430	390
Shared Lane Traffic (%)												
Lane Group Flow (vph)	453	174	97	52	120	144	370	1279	110	270	430	390
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	1.01	1.01	1.01	1.01	1.01	1.01	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6	4		8	8		4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0	7.0	7.0	12.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.6	42.9	13.6	13.3	40.9	13.6	13.6	40.9	13.3	13.6	42.9	13.6
Total Split (s)	24.4	51.8	31.5	15.0	42.4	22.2	31.5	56.0	15.0	22.2	46.7	24.4
Total Split (%)	16.8%	35.7%	21.7%	10.3%	29.2%	15.3%	21.7%	38.6%	10.3%	15.3%	32.2%	16.8%
Maximum Green (s)	17.9	45.3	24.9	8.7	36.0	15.6	24.9	49.1	8.7	15.6	39.8	17.9
Yellow Time (s)	3.0	4.4	3.0	3.0	4.4	3.0	3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.5	2.1	3.6	3.3	2.0	3.6	3.6	2.2	3.3	3.6	2.2	3.5
Lost Time Adjust (s)	-1.5	-1.5	-1.6	-1.3	-1.4	-1.6	-1.6	-1.9	-1.3	-1.6	-1.9	-1.5
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	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	6.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Minimum Gap (s)	2.0	3.0	2.0	2.0	3.0	2.0	2.0	3.0	2.0	2.0	3.0	2.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0
Time To Reduce (s)	0.0	30.0	0.0	0.0	30.0	0.0	0.0	30.0	0.0	0.0	30.0	0.0
Recall Mode	None	Min	None	None	Min	None	None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		26.0			25.0			27.0			29.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	19.4	23.6	47.4	9.2	13.4	35.6	68.2	51.0	65.2	68.2	49.5	73.9
Actuated g/C Ratio	0.16	0.20	0.39	0.08	0.11	0.29	0.56	0.42	0.54	0.56	0.41	0.61
v/c Ratio	0.83	0.25	0.16	0.39	0.31	0.31	0.60	0.85	0.13	0.85	0.29	0.40
Control Delay	63.1	42.6	23.9	62.0	51.9	35.5	16.5	38.2	14.2	56.7	25.4	14.3
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	63.1	42.6	23.9	62.0	51.9	35.5	16.5	38.2	14.2	56.7	25.4	14.3
LOS	E	D	C	E	D	D	B	D	B	E	C	B
Approach Delay		52.9			46.1			32.1			29.2	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	178	61	49	39	46	87	136	465	41	154	116	147
Queue Length 95th (ft)	#256	95	82	81	77	146	196	564	71	#301	170	243
Internal Link Dist (ft)		994			1120			1153			974	
Turn Bay Length (ft)	325		350	175		350	350		100	450		325
Base Capacity (vph)	547	1362	717	145	1088	463	712	1506	872	316	1461	976
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	0.83	0.13	0.14	0.36	0.11	0.31	0.52	0.85	0.13	0.85	0.29	0.40

Intersection Summary

Area Type: Other
Cycle Length: 145
Actuated Cycle Length: 121
Natural Cycle: 145
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 36.3 Intersection LOS: D
Intersection Capacity Utilization 83.6% 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: 9: White Oak Rd & Timber Drive East



MOVEMENT SUMMARY

Site: 78 [2026 Build AM Peak Hour - White Oak Roundabout (Site Folder: Bethel Green)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

White Oak Road / Ackerman Road / Hebron Church Road
Site Category: Future Conditions 1
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed mph
South: Hebron Church Road															
3	L2	All MCs	9	2.0	9	2.0	0.814	19.4	LOS C	18.5	470.1	0.92	0.97	1.80	29.0
8	T1	All MCs	712	2.0	712	2.0	0.814	19.4	LOS C	18.5	470.1	0.92	0.97	1.80	29.5
18	R2	All MCs	152	2.0	152	2.0	0.814	19.4	LOS C	18.5	470.1	0.92	0.97	1.80	29.3
Approach			873	2.0	873	2.0	0.814	19.4	LOS C	18.5	470.1	0.92	0.97	1.80	29.5
East: White Oak Road															
1	L2	All MCs	203	2.0	203	2.0	0.451	12.9	LOS B	2.2	56.2	0.73	0.76	0.96	30.1
6	T1	All MCs	22	2.0	22	2.0	0.451	12.9	LOS B	2.2	56.2	0.73	0.76	0.96	30.6
16	R2	All MCs	790	2.0	790	2.0	0.451	0.9	LOS A	2.2	56.2	0.05	0.05	0.06	38.7
Approach			1016	2.0	1016	2.0	0.451	3.6	LOS A	2.2	56.2	0.20	0.20	0.26	36.3
North: White Oak Road															
7	L2	All MCs	120	2.0	120	2.0	0.108	4.1	LOS A	0.4	11.0	0.35	0.21	0.35	33.2
4	T1	All MCs	398	2.0	398	2.0	0.396	7.2	LOS A	2.1	54.1	0.47	0.29	0.47	35.1
14	R2	All MCs	43	2.0	43	2.0	0.396	7.2	LOS A	2.1	54.1	0.47	0.29	0.47	34.7
Approach			561	2.0	561	2.0	0.396	6.6	LOS A	2.1	54.1	0.45	0.27	0.45	34.6
West: Ackerman Road															
5	L2	All MCs	141	2.0	141	2.0	0.258	7.9	LOS A	1.0	24.5	0.60	0.54	0.60	32.1
2	T1	All MCs	30	2.0	30	2.0	0.258	7.9	LOS A	1.0	24.5	0.60	0.54	0.60	32.7
12	R2	All MCs	17	2.0	17	2.0	0.258	7.9	LOS A	1.0	24.5	0.60	0.54	0.60	32.5
Approach			188	2.0	188	2.0	0.258	7.9	LOS A	1.0	24.5	0.60	0.54	0.60	32.2
All Vehicles			2638	2.0	2638	2.0	0.814	9.8	LOS A	18.5	470.1	0.52	0.50	0.83	33.1

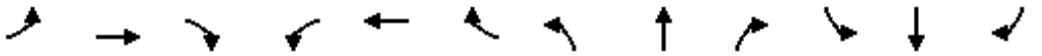
Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	360	313	804	384	447	795
Future Volume (vph)	360	313	804	384	447	795
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%		1%			0%
Storage Length (ft)	125	0		350	388	
Storage Lanes	1	1		1	2	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1761	1575	3522	1575	3433	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1761	1575	3522	1575	3433	1863
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	45		55			55
Link Distance (ft)	2102		1035			1131
Travel Time (s)	31.8		12.8			14.0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	400	348	893	427	497	883
Shared Lane Traffic (%)						
Lane Group Flow (vph)	400	348	893	427	497	883
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	14.0	14.0	7.0	14.0
Minimum Split (s)	22.5	13.2	22.5	22.5	13.2	22.5
Total Split (s)	31.0	21.2	37.8	37.8	21.2	59.0
Total Split (%)	34.4%	23.6%	42.0%	42.0%	23.6%	65.6%
Maximum Green (s)	25.1	15.0	31.6	31.6	15.0	52.6
Yellow Time (s)	3.0	3.0	5.1	5.1	3.0	5.2
All-Red Time (s)	2.9	3.2	1.1	1.1	3.2	1.2
Lost Time Adjust (s)	-0.9	-1.2	-1.2	-1.2	-1.2	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	6.0	6.0	2.0	6.0
Minimum Gap (s)	2.0	2.0	3.4	3.4	2.0	3.4

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Time Before Reduce (s)	0.0	0.0	15.0	15.0	0.0	15.0
Time To Reduce (s)	0.0	0.0	40.0	40.0	0.0	40.0
Recall Mode	None	None	Min	Min	None	Min
Act Effct Green (s)	22.6	43.1	29.3	29.3	15.4	49.8
Actuated g/C Ratio	0.27	0.52	0.35	0.35	0.19	0.60
v/c Ratio	0.83	0.42	0.71	0.76	0.78	0.79
Control Delay	45.4	14.6	27.2	34.8	43.0	19.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.4	14.6	27.2	34.8	43.0	19.3
LOS	D	B	C	C	D	B
Approach Delay	31.1		29.6			27.8
Approach LOS	C		C			C
Queue Length 50th (ft)	207	113	224	208	140	350
Queue Length 95th (ft)	#350	181	293	#329	#213	528
Internal Link Dist (ft)	2022		955			1051
Turn Bay Length (ft)	125			350	388	
Base Capacity (vph)	565	842	1426	637	686	1241
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	0.71	0.41	0.63	0.67	0.72	0.71

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 82.6			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 29.2		Intersection LOS: C	
Intersection Capacity Utilization 70.1%		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: 1: NC 50 & New Bethel Church Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	338	85	4	236	7	55	28	4	13	59	247
Future Volume (vph)	165	338	85	4	236	7	55	28	4	13	59	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	125		0	0		0	0		100
Storage Lanes	1		0	1		0	0		0	0		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	1.00	1.00	1.00	1.00	1.00
Frt		0.970			0.996			0.994				0.850
Flt Protected	0.950			0.950				0.969			0.991	
Satd. Flow (prot)	1770	1807	0	1770	1855	0	0	1794	0	0	1846	1583
Flt Permitted	0.950			0.950				0.969			0.991	
Satd. Flow (perm)	1770	1807	0	1770	1855	0	0	1794	0	0	1846	1583
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		1878			3368			1024			3156	
Travel Time (s)		28.5			51.0			27.9			47.8	
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)	183	376	94	4	262	8	61	31	4	14	66	274
Shared Lane Traffic (%)												
Lane Group Flow (vph)	183	470	0	4	270	0	0	96	0	0	80	274
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 47.7%		ICU Level of Service A	
Analysis Period (min) 15			

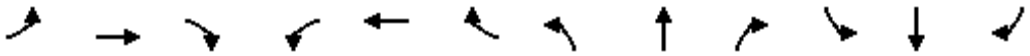
Intersection	
Int Delay, s/veh	21.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	165	338	85	4	236	7	55	28	4	13	59	247
Future Vol, veh/h	165	338	85	4	236	7	55	28	4	13	59	247
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	-	-	-	-	-	-	-	100
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	183	376	94	4	262	8	61	31	4	14	66	274

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	270	0	0	470	0	0	1233	1067	423	1081	1110	266
Stage 1	-	-	-	-	-	-	789	789	-	274	274	-
Stage 2	-	-	-	-	-	-	444	278	-	807	836	-
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	1293	-	-	1092	-	-	154	222	631	195	209	773
Stage 1	-	-	-	-	-	-	384	402	-	732	683	-
Stage 2	-	-	-	-	-	-	593	680	-	375	382	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1293	-	-	1092	-	-	64	190	631	151	179	773
Mov Cap-2 Maneuver	-	-	-	-	-	-	64	190	-	151	179	-
Stage 1	-	-	-	-	-	-	329	345	-	628	680	-
Stage 2	-	-	-	-	-	-	344	677	-	291	328	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.3	0.1	222.9	19.1
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	86	1293	-	-	1092	-	-	173	773
HCM Lane V/C Ratio	1.124	0.142	-	-	0.004	-	-	0.462	0.355
HCM Control Delay (s)	222.9	8.2	-	-	8.3	-	-	42.6	12.2
HCM Lane LOS	F	A	-	-	A	-	-	E	B
HCM 95th %tile Q(veh)	6.7	0.5	-	-	0	-	-	2.2	1.6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	108	181	166	75	4	126	4	67	4	4	23
Future Volume (vph)	38	108	181	166	75	4	126	4	67	4	4	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		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			0.850		0.998			0.954			0.897	
Flt Protected		0.987			0.967			0.969			0.994	
Satd. Flow (prot)	0	1839	1583	0	1798	0	0	1722	0	0	1661	0
Flt Permitted		0.987			0.967			0.969			0.994	
Satd. Flow (perm)	0	1839	1583	0	1798	0	0	1722	0	0	1661	0
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		3368			906			1265			1109	
Travel Time (s)		51.0			13.7			28.8			25.2	
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)	42	120	201	184	83	4	140	4	74	4	4	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	162	201	0	271	0	0	218	0	0	34	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			0			0	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	8.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	108	181	166	75	4	126	4	67	4	4	23
Future Vol, veh/h	38	108	181	166	75	4	126	4	67	4	4	23
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	42	120	201	184	83	4	140	4	74	4	4	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	87	0	0	321	0	0	672	659	120	797	858	85
Stage 1	-	-	-	-	-	-	204	204	-	453	453	-
Stage 2	-	-	-	-	-	-	468	455	-	344	405	-
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	1509	-	-	1239	-	-	370	384	931	305	294	974
Stage 1	-	-	-	-	-	-	798	733	-	586	570	-
Stage 2	-	-	-	-	-	-	575	569	-	671	598	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1509	-	-	1239	-	-	305	313	931	238	239	974
Mov Cap-2 Maneuver	-	-	-	-	-	-	305	313	-	238	239	-
Stage 1	-	-	-	-	-	-	770	707	-	565	481	-
Stage 2	-	-	-	-	-	-	468	480	-	592	577	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	5.7	24.8	12.1
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	396	1509	-	-	1239	-	-	542
HCM Lane V/C Ratio	0.553	0.028	-	-	0.149	-	-	0.064
HCM Control Delay (s)	24.8	7.5	0	-	8.4	0	-	12.1
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	3.2	0.1	-	-	0.5	-	-	0.2

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	148	29	0	245	0	29
Future Volume (vph)	148	29	0	245	0	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.978					0.865
Flt Protected						
Satd. Flow (prot)	1822	0	0	1863	0	1611
Flt Permitted						
Satd. Flow (perm)	1822	0	0	1863	0	1611
Link Speed (mph)	45			45	30	
Link Distance (ft)	906			1056	1122	
Travel Time (s)	13.7			16.0	25.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	164	32	0	272	0	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	196	0	0	272	0	32
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
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)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 19.6%		ICU Level of Service A	
Analysis Period (min) 15			

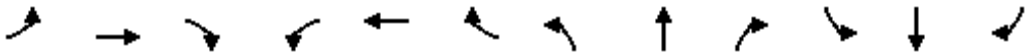
Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	148	29	0	245	0	29
Future Vol, veh/h	148	29	0	245	0	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	-	-	-	-	-	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	164	32	0	272	0	32

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	180
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	863
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	863
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	863	-	-	-
HCM Lane V/C Ratio	0.037	-	-	-
HCM Control Delay (s)	9.3	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	123	38	14	4	32	20	12	21	4	46	33	199
Future Volume (vph)	123	38	14	4	32	20	12	21	4	46	33	199
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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		0.989			0.952			0.986			0.903	
Flt Protected		0.966			0.997			0.984			0.992	
Satd. Flow (prot)	0	1780	0	0	1768	0	0	1807	0	0	1669	0
Flt Permitted		0.966			0.997			0.984			0.992	
Satd. Flow (perm)	0	1780	0	0	1768	0	0	1807	0	0	1669	0
Link Speed (mph)		45			35			35			35	
Link Distance (ft)		1056			1092			1069			2966	
Travel Time (s)		16.0			21.3			20.8			57.8	
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)	137	42	16	4	36	22	13	23	4	51	37	221
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	195	0	0	62	0	0	40	0	0	309	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)		0			0			0			0	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 41.5%		ICU Level of Service A	
Analysis Period (min) 15			

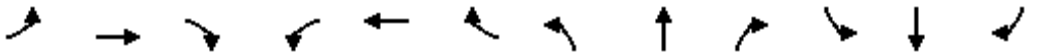
Intersection	
Int Delay, s/veh	9.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	123	38	14	4	32	20	12	21	4	46	33	199
Future Vol, veh/h	123	38	14	4	32	20	12	21	4	46	33	199
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	137	42	16	4	36	22	13	23	4	51	37	221

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	58	0	0	58	0	0	508	390	50	393	387	47
Stage 1	-	-	-	-	-	-	324	324	-	55	55	-
Stage 2	-	-	-	-	-	-	184	66	-	338	332	-
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	1546	-	-	1546	-	-	475	545	1018	566	547	1022
Stage 1	-	-	-	-	-	-	688	650	-	957	849	-
Stage 2	-	-	-	-	-	-	818	840	-	676	644	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1546	-	-	1546	-	-	326	493	1018	504	495	1022
Mov Cap-2 Maneuver	-	-	-	-	-	-	326	493	-	504	495	-
Stage 1	-	-	-	-	-	-	625	590	-	869	846	-
Stage 2	-	-	-	-	-	-	611	837	-	587	585	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.3	0.5	13.9	12.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	444	1546	-	-	1546	-	-	788
HCM Lane V/C Ratio	0.093	0.088	-	-	0.003	-	-	0.392
HCM Control Delay (s)	13.9	7.6	0	-	7.3	0	-	12.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0.3	-	-	0	-	-	1.9



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	133	4	4	194	14	4	4	4	37	11	163
Future Volume (vph)	45	133	4	4	194	14	4	4	4	37	11	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		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			0.990			0.955			0.896	
Flt Protected	0.950			0.950				0.984			0.991	
Satd. Flow (prot)	1770	1855	0	1770	1844	0	0	1750	0	0	1654	0
Flt Permitted	0.950			0.950				0.984			0.991	
Satd. Flow (perm)	1770	1855	0	1770	1844	0	0	1750	0	0	1654	0
Link Speed (mph)		45			45			25			45	
Link Distance (ft)		3156			1067			519			1112	
Travel Time (s)		47.8			16.2			14.2			16.8	
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)	50	148	4	4	216	16	4	4	4	41	12	181
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	152	0	4	232	0	0	12	0	0	234	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			0			0	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.6%		ICU Level of Service A	
Analysis Period (min) 15			

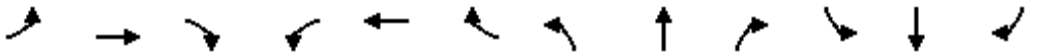
Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	133	4	4	194	14	4	4	4	37	11	163
Future Vol, veh/h	45	133	4	4	194	14	4	4	4	37	11	163
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	75	-	-	100	-	-	-	-	-	-	-	-
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	50	148	4	4	216	16	4	4	4	41	12	181

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	232	0	0	152	0	0	579	490	150	486	484	224
Stage 1	-	-	-	-	-	-	250	250	-	232	232	-
Stage 2	-	-	-	-	-	-	329	240	-	254	252	-
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	1336	-	-	1429	-	-	426	479	896	492	483	815
Stage 1	-	-	-	-	-	-	754	700	-	771	713	-
Stage 2	-	-	-	-	-	-	684	707	-	750	698	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1336	-	-	1429	-	-	315	460	896	471	464	815
Mov Cap-2 Maneuver	-	-	-	-	-	-	315	460	-	471	464	-
Stage 1	-	-	-	-	-	-	726	674	-	742	711	-
Stage 2	-	-	-	-	-	-	521	705	-	714	672	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0.1	13	12.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	464	1336	-	-	1429	-	-	698
HCM Lane V/C Ratio	0.029	0.037	-	-	0.003	-	-	0.336
HCM Control Delay (s)	13	7.8	-	-	7.5	-	-	12.7
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	1.5



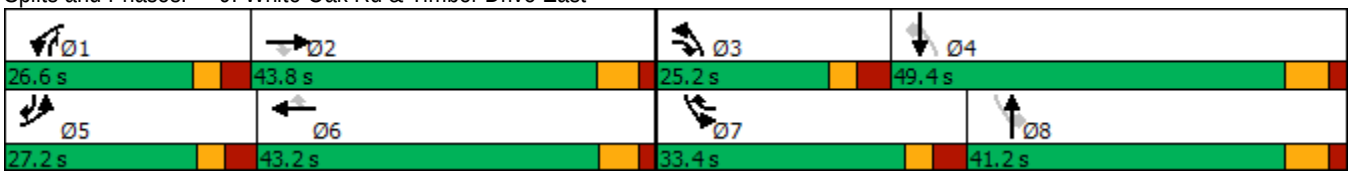
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	422	301	429	233	232	183	255	547	91	417	935	424
Future Volume (vph)	422	301	429	233	232	183	255	547	91	417	935	424
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			1%			-2%			-2%	
Storage Length (ft)	325		350	175		350	350		100	450		325
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	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			0.950			0.950			0.950		
Satd. Flow (prot)	3416	3522	1575	1761	3522	1575	1787	3575	1599	1787	3575	1599
Flt Permitted	0.950			0.950			0.093			0.256		
Satd. Flow (perm)	3416	3522	1575	1761	3522	1575	175	3575	1599	482	3575	1599
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1074			1200			1233			1054	
Travel Time (s)		16.3			18.2			18.7			16.0	
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)	469	334	477	259	258	203	283	608	101	463	1039	471
Shared Lane Traffic (%)												
Lane Group Flow (vph)	469	334	477	259	258	203	283	608	101	463	1039	471
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	1.01	1.01	1.01	1.01	1.01	1.01	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6	4		8	8		4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0	7.0	7.0	12.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.6	42.9	13.6	13.3	40.9	13.6	13.6	40.9	13.3	13.6	42.9	13.6
Total Split (s)	27.2	43.8	25.2	26.6	43.2	33.4	25.2	41.2	26.6	33.4	49.4	27.2
Total Split (%)	18.8%	30.2%	17.4%	18.3%	29.8%	23.0%	17.4%	28.4%	18.3%	23.0%	34.1%	18.8%
Maximum Green (s)	20.7	37.3	18.6	20.3	36.8	26.8	18.6	34.3	20.3	26.8	42.5	20.7
Yellow Time (s)	3.0	4.4	3.0	3.0	4.4	3.0	3.0	4.7	3.0	3.0	4.7	3.0
All-Red Time (s)	3.5	2.1	3.6	3.3	2.0	3.6	3.6	2.2	3.3	3.6	2.2	3.5
Lost Time Adjust (s)	-1.5	-1.5	-1.6	-1.3	-1.4	-1.6	-1.6	-1.9	-1.3	-1.6	-1.9	-1.5
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	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	6.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Minimum Gap (s)	2.0	3.0	2.0	2.0	3.0	2.0	2.0	3.0	2.0	2.0	3.0	2.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Time Before Reduce (s)	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0
Time To Reduce (s)	0.0	30.0	0.0	0.0	30.0	0.0	0.0	30.0	0.0	0.0	30.0	0.0
Recall Mode	None	Min	None	None	Min	None	None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		26.0			25.0			27.0			29.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	21.3	17.2	41.7	21.6	17.5	51.0	64.0	35.6	62.2	64.0	44.4	70.7
Actuated g/C Ratio	0.17	0.14	0.34	0.18	0.14	0.42	0.52	0.29	0.51	0.52	0.36	0.58
v/c Ratio	0.79	0.68	0.89	0.84	0.51	0.31	0.81	0.59	0.12	0.84	0.80	0.51
Control Delay	59.8	57.7	58.7	72.8	52.9	26.1	50.3	40.4	17.0	35.9	41.5	18.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.8	57.7	58.7	72.8	52.9	26.1	50.3	40.4	17.0	35.9	41.5	18.5
LOS	E	E	E	E	D	C	D	D	B	D	D	B
Approach Delay		58.8			52.5			40.8			34.7	
Approach LOS		E			D			D			C	
Queue Length 50th (ft)	185	135	356	202	102	109	163	216	41	220	390	212
Queue Length 95th (ft)	255	186	#538	#363	146	169	#318	292	78	#429	503	330
Internal Link Dist (ft)		994			1120			1153			974	
Turn Bay Length (ft)	325		350	175		350	350		100	450		325
Base Capacity (vph)	618	1113	543	310	1096	653	357	1054	809	553	1293	933
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	0.76	0.30	0.88	0.84	0.24	0.31	0.79	0.58	0.12	0.84	0.80	0.50

Intersection Summary

Area Type: Other
Cycle Length: 145
Actuated Cycle Length: 122.8
Natural Cycle: 145
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 44.7 Intersection LOS: D
Intersection Capacity Utilization 79.5% 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: 9: White Oak Rd & Timber Drive East



MOVEMENT SUMMARY

Site: 78 [2026 Build PM Peak Hour - White Oak Roundabout (Site Folder: Bethel Green)]

Output produced by SIDRA INTERSECTION Version: 9.1.5.224

White Oak Road / Ackerman Road / Hebron Church Road
Site Category: Future Conditions 1
Roundabout

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] ft	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed mph
South: Hebron Church Road															
3	L2	All MCs	10	2.0	10	2.0	0.837	32.5	LOS D	8.2	209.1	0.91	1.22	2.13	24.8
8	T1	All MCs	338	2.0	338	2.0	0.837	32.5	LOS D	8.2	209.1	0.91	1.22	2.13	25.2
18	R2	All MCs	162	2.0	162	2.0	0.837	32.5	LOS D	8.2	209.1	0.91	1.22	2.13	25.0
Approach			510	2.0	510	2.0	0.837	32.5	LOS D	8.2	209.1	0.91	1.22	2.13	25.1
East: White Oak Road															
1	L2	All MCs	166	2.0	166	2.0	0.211	6.0	LOS A	0.9	22.1	0.51	0.39	0.51	32.6
6	T1	All MCs	27	2.0	27	2.0	0.211	6.0	LOS A	0.9	22.1	0.51	0.39	0.51	33.3
16	R2	All MCs	323	2.0	323	2.0	0.197	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	39.5
Approach			516	2.0	516	2.0	0.211	2.3	LOS A	0.9	22.1	0.19	0.15	0.19	36.6
North: White Oak Road															
7	L2	All MCs	770	2.0	770	2.0	0.670	12.2	LOS B	8.2	209.0	0.67	0.46	0.85	29.8
4	T1	All MCs	561	2.0	561	2.0	0.569	9.8	LOS A	4.0	100.6	0.56	0.32	0.56	33.7
14	R2	All MCs	92	2.0	92	2.0	0.569	9.8	LOS A	4.0	100.6	0.56	0.32	0.56	33.4
Approach			1423	2.0	1423	2.0	0.670	11.1	LOS B	8.2	209.0	0.62	0.40	0.72	31.4
West: Ackerman Road															
5	L2	All MCs	98	2.0	98	2.0	0.419	19.2	LOS C	1.5	38.3	0.82	0.88	1.08	27.9
2	T1	All MCs	47	2.0	47	2.0	0.419	19.2	LOS C	1.5	38.3	0.82	0.88	1.08	28.4
12	R2	All MCs	4	2.0	4	2.0	0.419	19.2	LOS C	1.5	38.3	0.82	0.88	1.08	28.2
Approach			149	2.0	149	2.0	0.419	19.2	LOS C	1.5	38.3	0.82	0.88	1.08	28.1
All Vehicles			2598	2.0	2598	2.0	0.837	14.0	LOS B	8.2	209.1	0.60	0.54	0.91	30.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

2026 Build plus Improvements Traffic Volumes

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	214	8	0	185	0	42
Future Vol, veh/h	214	8	0	185	0	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	-	-	-	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	238	9	0	206	0	47

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	238
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	801
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	801
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	801	-	-	-
HCM Lane V/C Ratio	0.058	-	-	-
HCM Control Delay (s)	9.8	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

Intersection	
Int Delay, s/veh	0.6

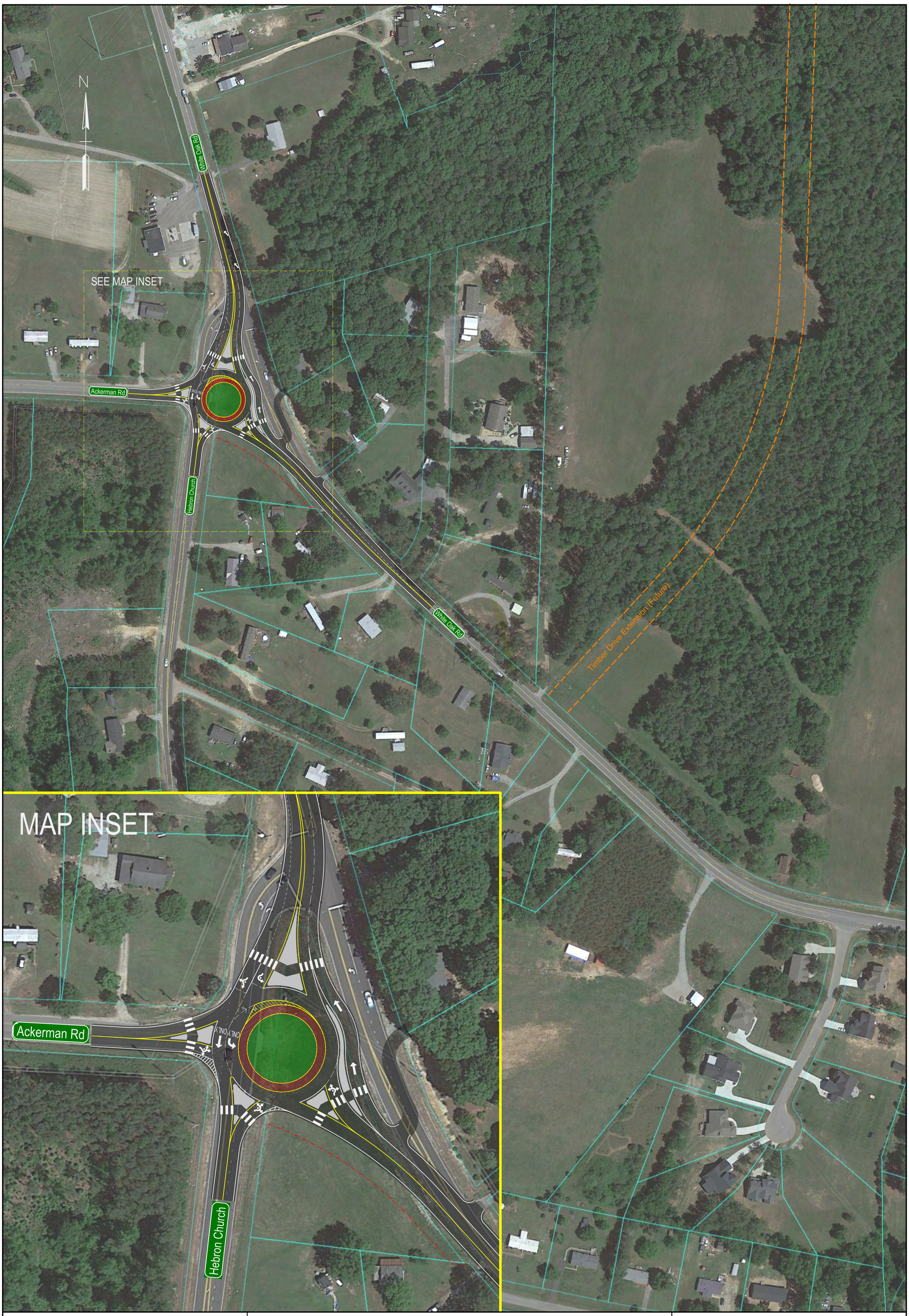
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	148	29	0	245	0	29
Future Vol, veh/h	148	29	0	245	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	50	-	-	-	0
Veh in Median Storage, #	0	-	-	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	164	32	0	272	0	32

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	164
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	881
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	881
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	881	-	-	-
HCM Lane V/C Ratio	0.037	-	-	-
HCM Control Delay (s)	9.2	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Appendix E – Transportation Improvement Projects



ARCADIS Design & Consultancy for natural and built assets

PRELIMINARY CONCEPT - NOT FOR DESIGN PURPOSES

LEGEND

- Proposed Roadways
- Proposed Sidewalk
- Signalized Intersection
- Proposed New ROW (estimate)
- Future Road ROW (estimate)
- Structure Impact

ALTERNATIVE 3

4-LEG PARTIAL DUAL-LANE RAB
(NO FUTURE ACKERMAN EXT)

DRAWING SCALE 1"=200'

DATE: 4/16/2018

Appendix F – Approved Developments

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

November 29, 2021

Walters Buffaloe Assemblage

Traffic Impact Analysis Review Report
Congestion Management Section

TIA Project: SC-2021-478
Division: 5
County: Wake

Doumit Y. Ishak, Regional Engineer
Clarence B. Bunting, IV, P.E. Project Engineer
Braden M. Walker, P.E. Project Design Engineer

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
TRANSPORTATION MOBILITY & SAFETY DIVISION
1561 MAIL SERVICE CENTER
RALEIGH, NC 27699-1561

Telephone: (919) 814-5000
Fax: (919) 771-2745
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
750 N. GREENFIELD PARKWAY
GARNER, NC 27529

Walters Buffaloe Assemblage

SC-2021-478	Garner	Wake County

Per your request, the Congestion Management Section (CMS) of the Transportation Mobility and Safety Division has completed a review of the subject site. The comments and recommendations contained in this review are based on data for background conditions presented in the Traffic Impact Analysis (TIA) and are subject to the approval of the local District Engineer's Office and appropriate local authorities.

Date Initially Received by CMS	10/29/21	Date of Site Plan	03/04/21
Date of Complete Information	10/29/21	Date of Sealed TIA	10/28/21

Proposed Development

The TIA assumes the development is to be completed by 2024 and consist of the following:

Land Use	Land Use Code	Size
Single-Family Detached Housing	210	280 d.u.
Multifamily Housing (Low-Rise)	220	115 d.u.

Trip Generation - Unadjusted Volumes During a Typical Weekday

	IN	OUT	TOTAL
AM Peak Hour	63	195	258
PM Peak Hour	214	126	340
Daily Trips			3,510

General Reference

For reference to various documents applicable to this review please reference the following link: *http://www.ncdot.org/doh/preconstruct/traffic/teppl/Topics/C-37/C-37.html*

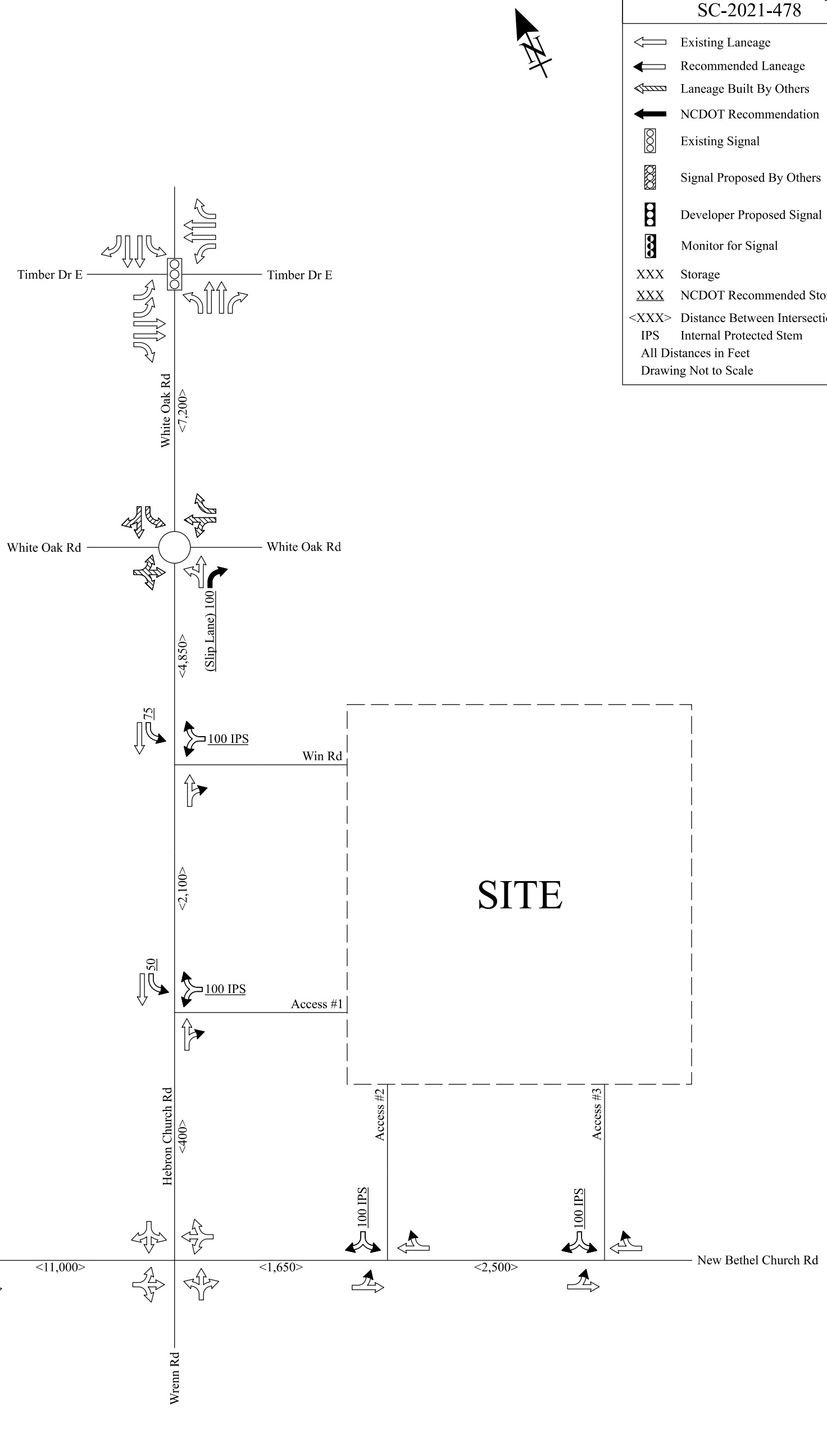
Once the driveway permit has been approved and issued, a copy of the final driveway permit requirements should be forwarded to this office. If we can provide further assistance, please contact the Congestion Management Section.

Improvements By Others

The analysis includes background improvements by others. If these improvements are not in place at the time of construction, the site should provide these improvements or analysis demonstrating mitigation is not necessary.

Walters Buffaloe Assemblage
Garner, Wake County
SC-2021-478

- Existing Laneage
- Recommended Laneage
- Laneage Built By Others
- NCDOT Recommendation
- Existing Signal
- Signal Proposed By Others
- Developer Proposed Signal
- Monitor for Signal
- XXX Storage
- XXX NCDOT Recommended Storage
- <XXX> Distance Between Intersections
- IPS Internal Protected Stem
- All Distances in Feet
- Drawing Not to Scale



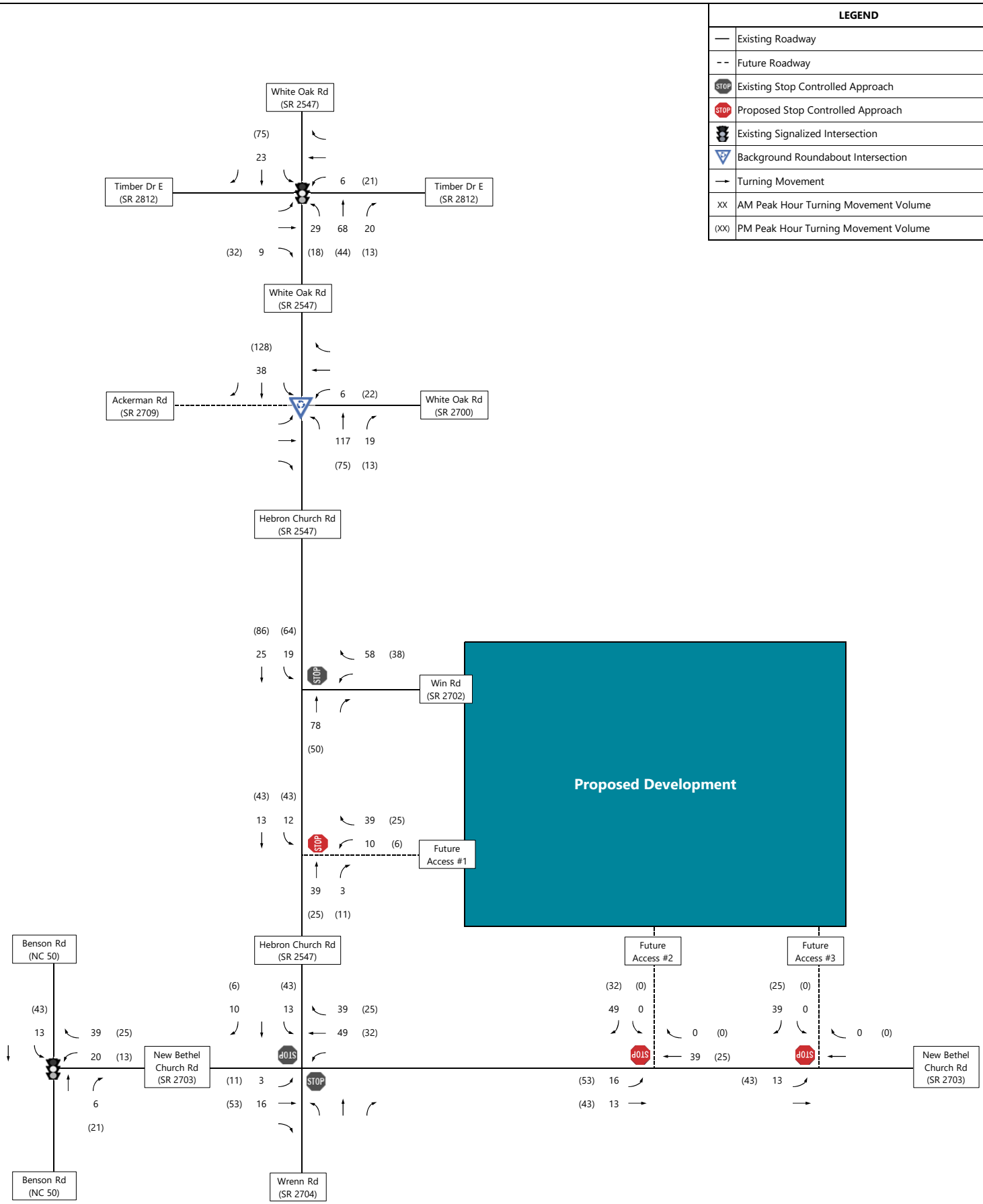
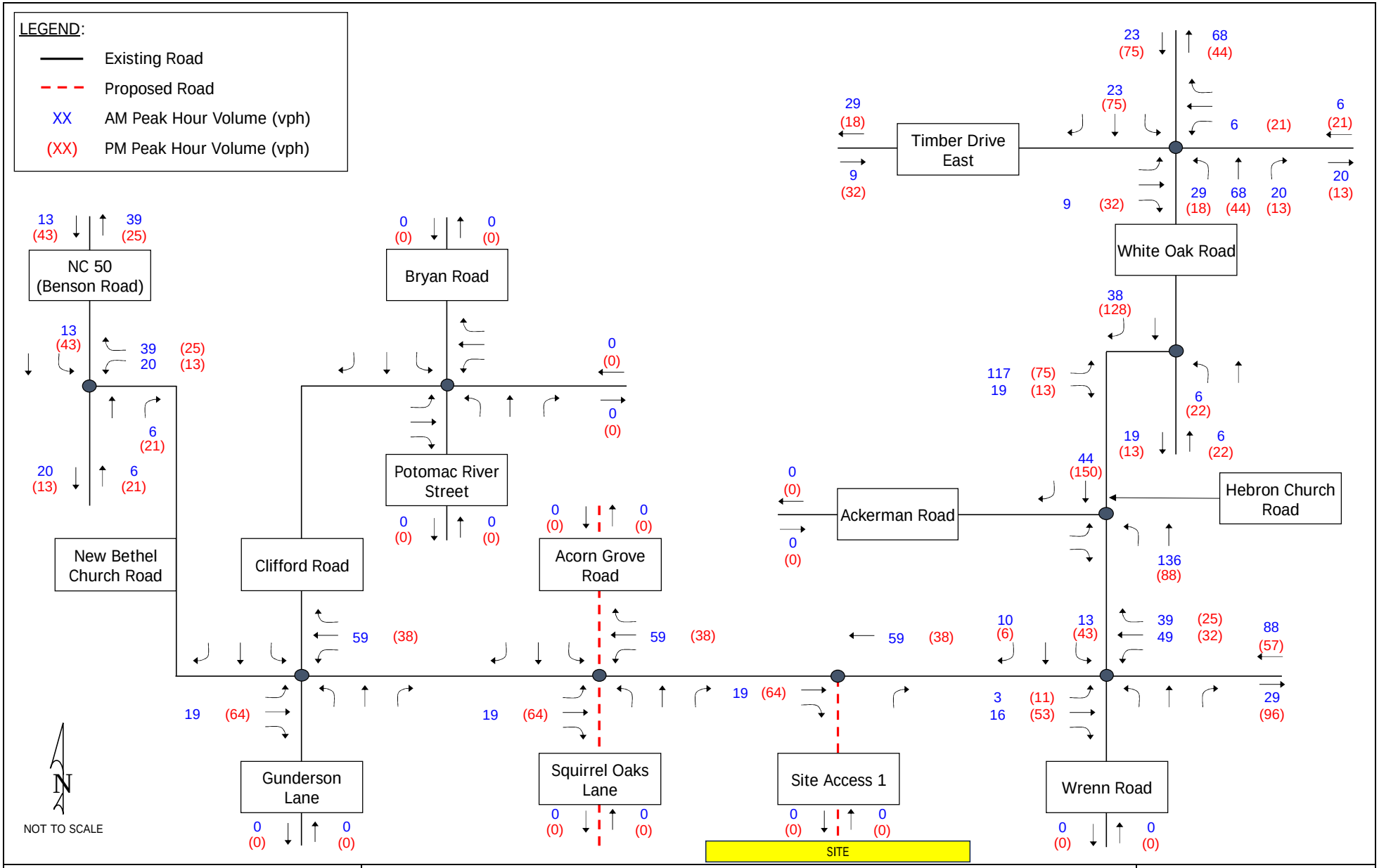


Figure 8
Peak Hour Site Generated Trips

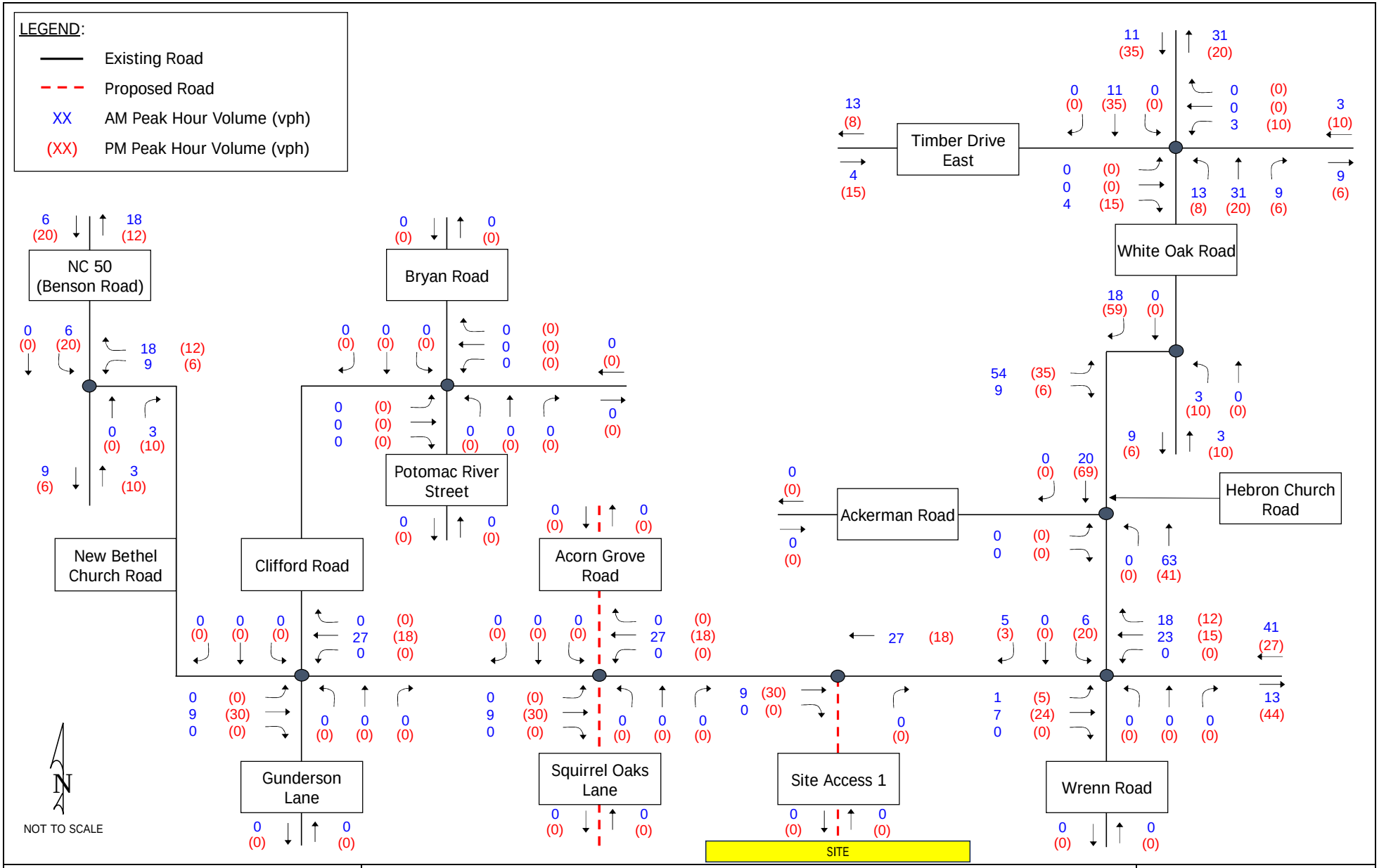
Walters Buffaloe TIA
Garner, NC



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Bethel Green
Traffic Impact Analysis
Approved Development - Cambria Total Site Trips

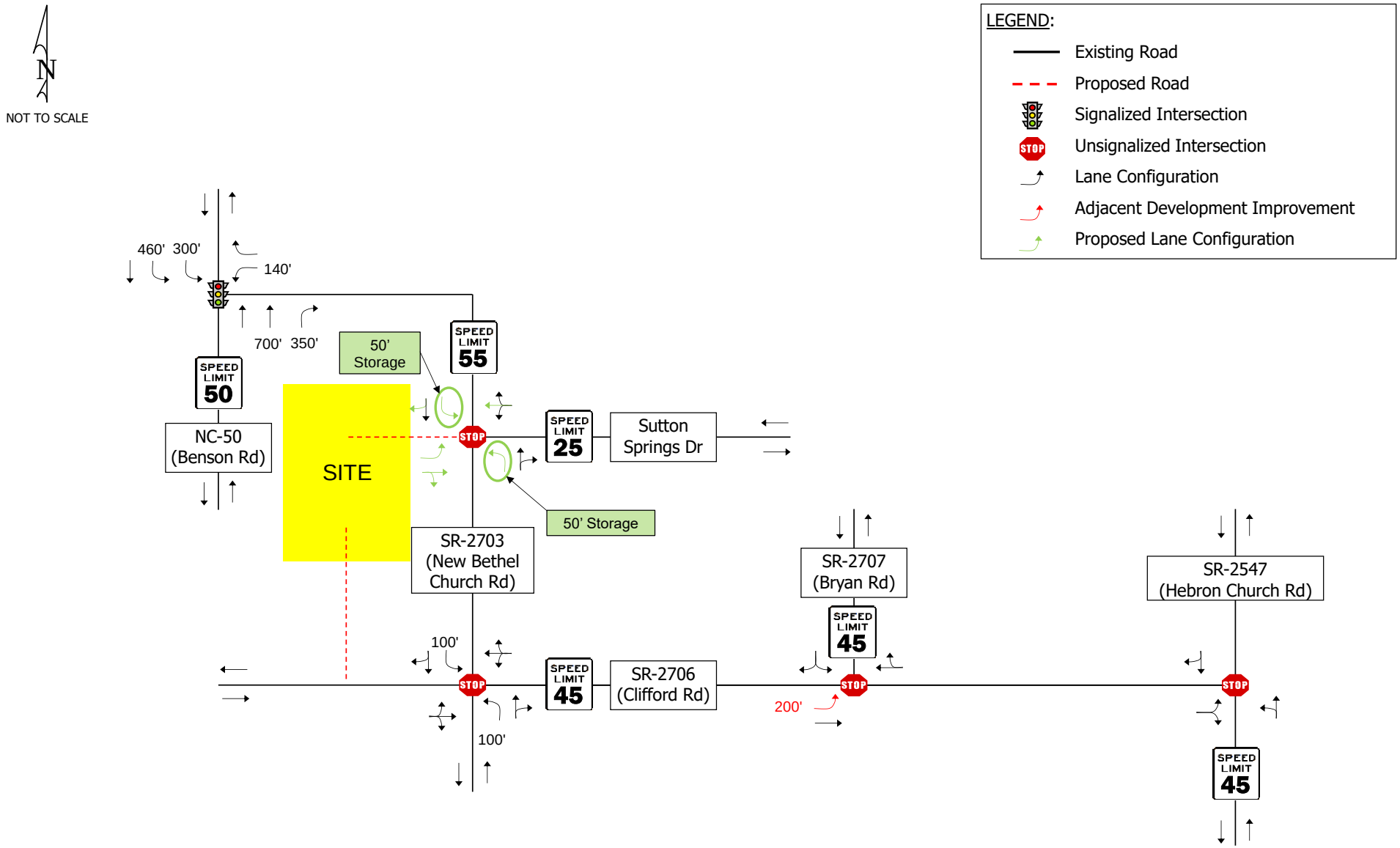
Figure F1a



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Bethel Green
Traffic Impact Analysis
Approved Development - Cambria Unoccupied Site Trips

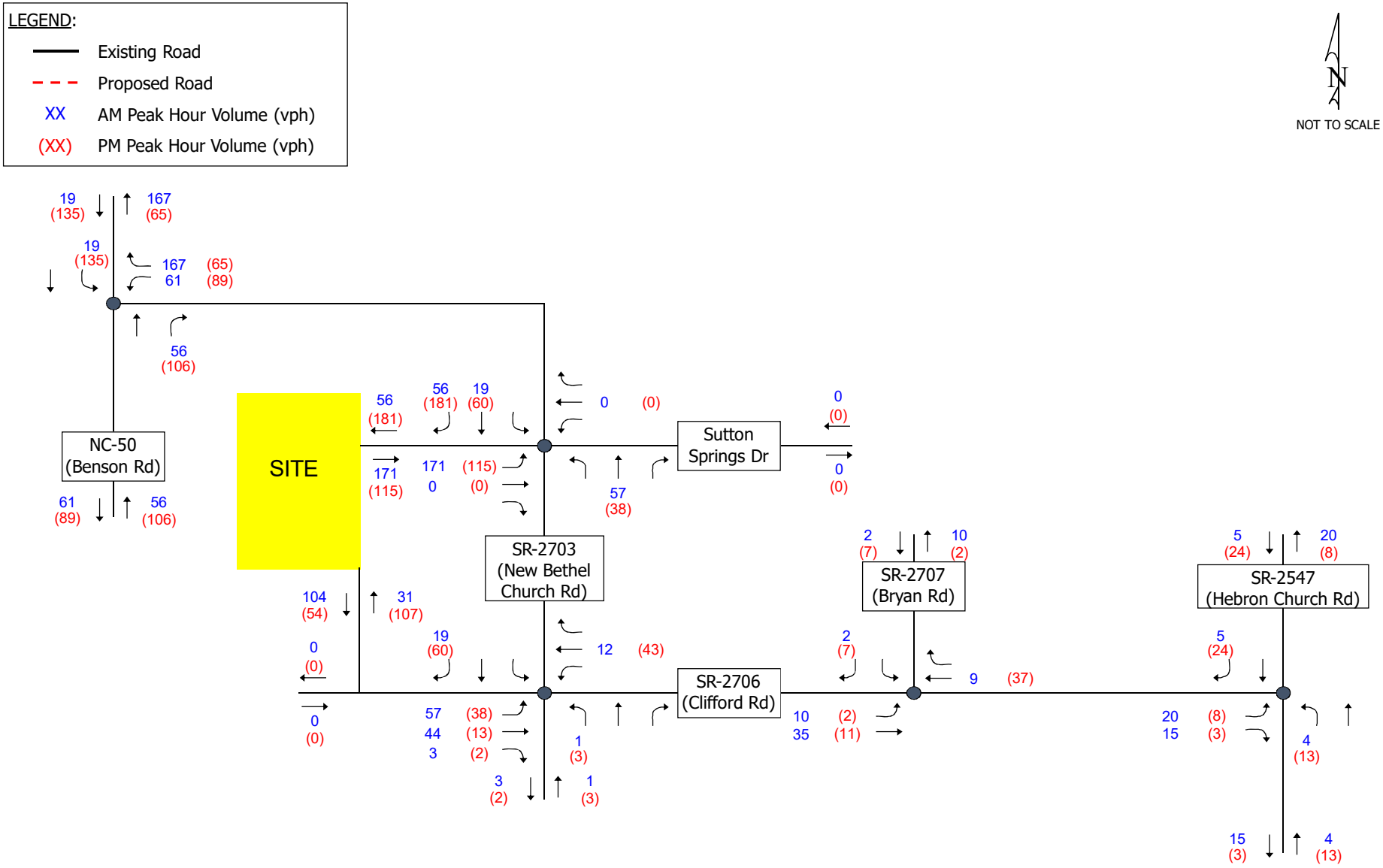
Figure F1b



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

New Bethel
Traffic Impact Analysis
2023 Proposed Lane Configuration

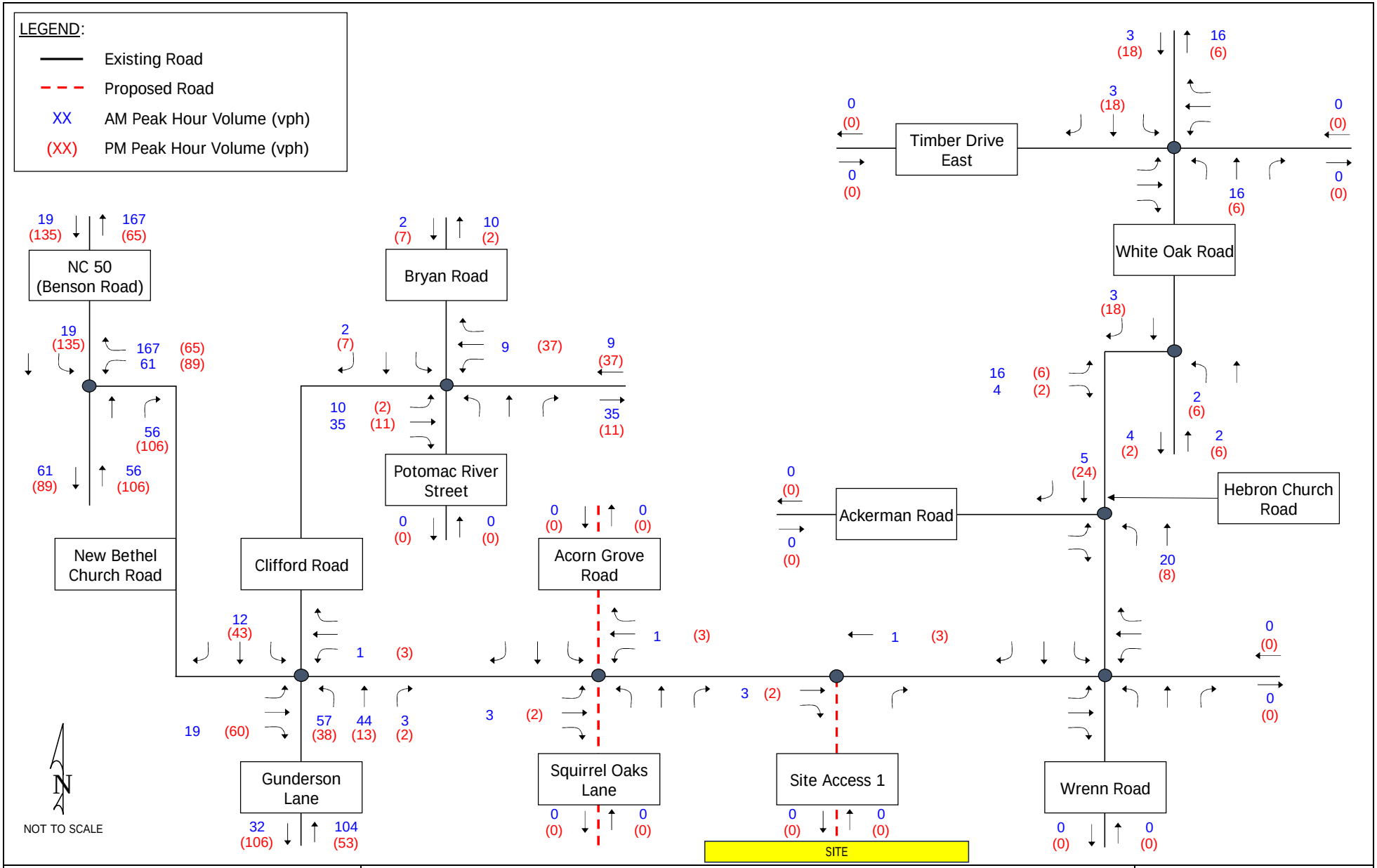
Figure 6-1



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

New Bethel
Traffic Impact Analysis
2023 Trip Distribution Volumes

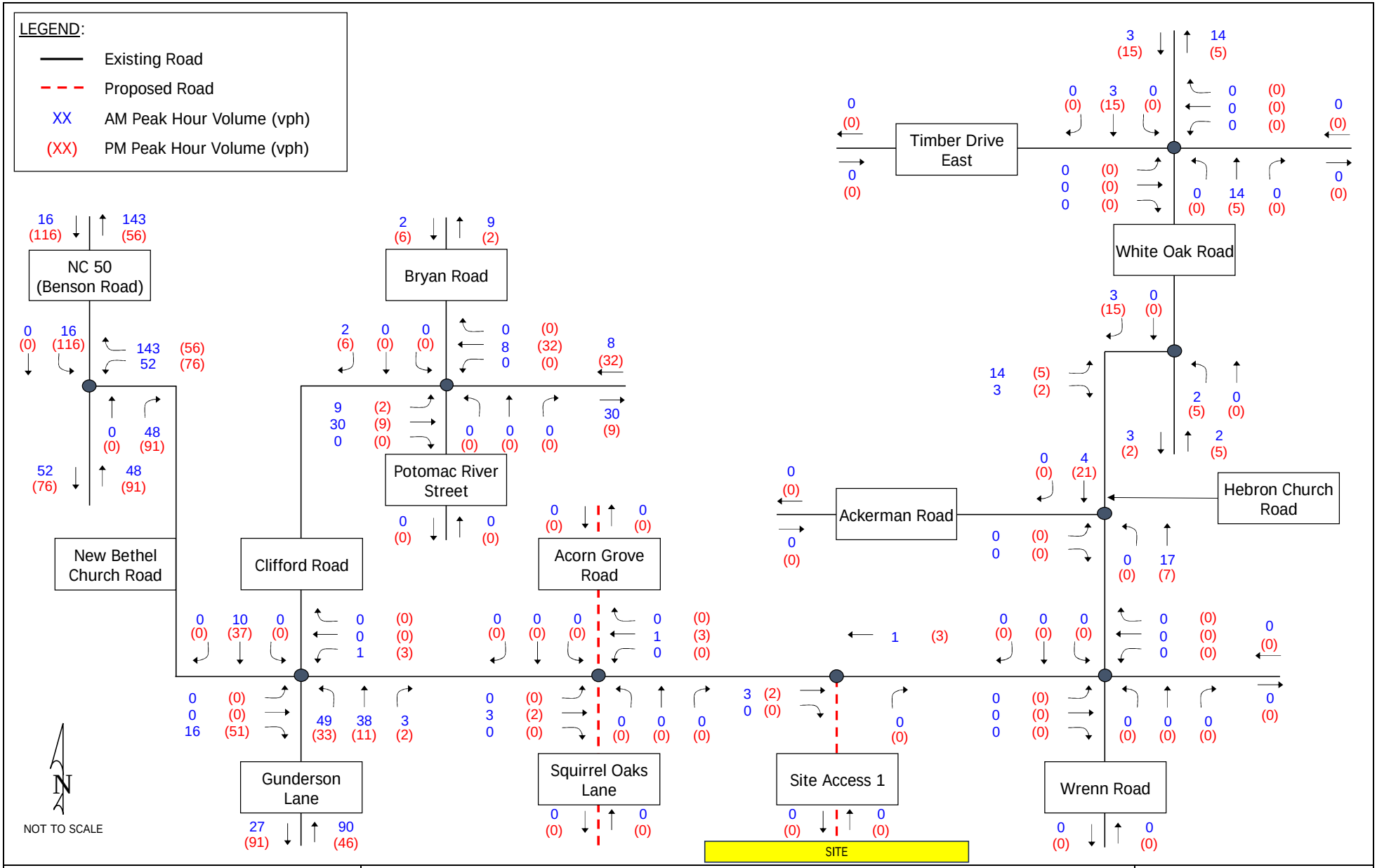
Figure 4-2



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Bethel Green
Traffic Impact Analysis
Approved Development - Magnolia Park Total Site Trips

Figure F2a



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Bethel Green
Traffic Impact Analysis
Approved Development - Magnolia Park Unoccupied Site Trips

Figure F2b

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

April 10, 2019

Bethel

Traffic Impact Analysis Review Report
Congestion Management Section

TIA Project: SC-2019-062
Division: 5
County: Wake

NORTH CAROLINA PROFESSIONAL SEAL 029443 ENGINEER CLARENCE B. BUNTING IV
4-10-19

Doumit Y. Ishak, Regional Engineer
Clarence B. Bunting, IV, P.E. Project Engineer
Braden M. Walker, Design Engineer

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TRANSPORTATION MOBILITY & SAFETY DIVISION
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Fax: (919) 771-2745
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
750 N. GREENFIELD PARKWAY
GARNER, NC 27529

Bethel		
SC-2019-062	Wake	April 10, 2019

Per your request, the Congestion Management Section (CMS) of the Transportation Mobility and Safety Division has completed a review of the subject site. The comments and recommendations contained in this review are based on data for background conditions presented in the Traffic Impact Analysis (TIA) and are subject to the approval of the local District Engineer's Office and appropriate local authorities.

Date Initially Received by CMS	3/18/19	Date of Site Plan	3/19
Date of Complete Information	3/18/19	Date of Sealed TIA	3/18/19

Proposed Development

Per the TIA, the proposed development is to be located on New Bethel Church Road west of Hebron Church Road in Garner, Wake County. The TIA assumes the development is to be constructed by 2026 and is to consist of the following:

Land Use	Land Use Code	Size
Single Family Detached Housing	210	580 d.u.
Multifamily Housing (Low-Rise)	220	165 d.u.

Trip Generation - Unadjusted Volumes During a Typical Weekday			
	IN	**OUT**	**TOTAL**
AM Peak Hour	122	372	494
PM Peak Hour	404	237	641
Daily Trips			6,448

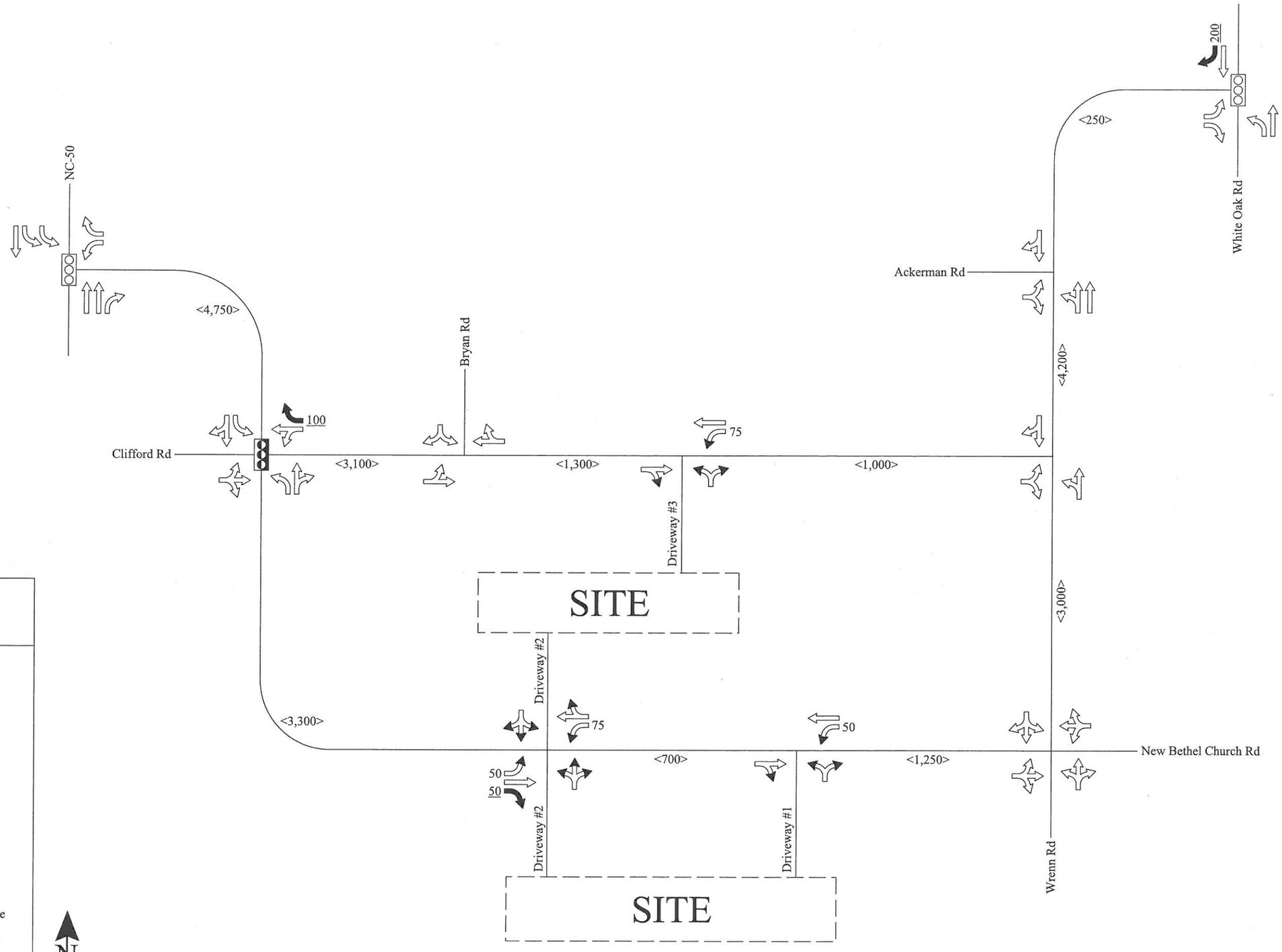
General Reference

For reference to various documents applicable to this review please reference the following link: *http://www.ncdot.org/doh/preconstruct/traffic/teppl/Topics/C-37/C-37.html*

Once the driveway permit has been approved and issued, a copy of the final driveway permit requirements should be forwarded to this office. If we can provide further assistance, please contact the Congestion Management Section.

Signalization

We defer to the District Engineer, the Division Traffic Engineer, and the Regional Traffic Engineer for final decisions regarding signalization.



Bethel
Garner, Wake
SC-2019-062

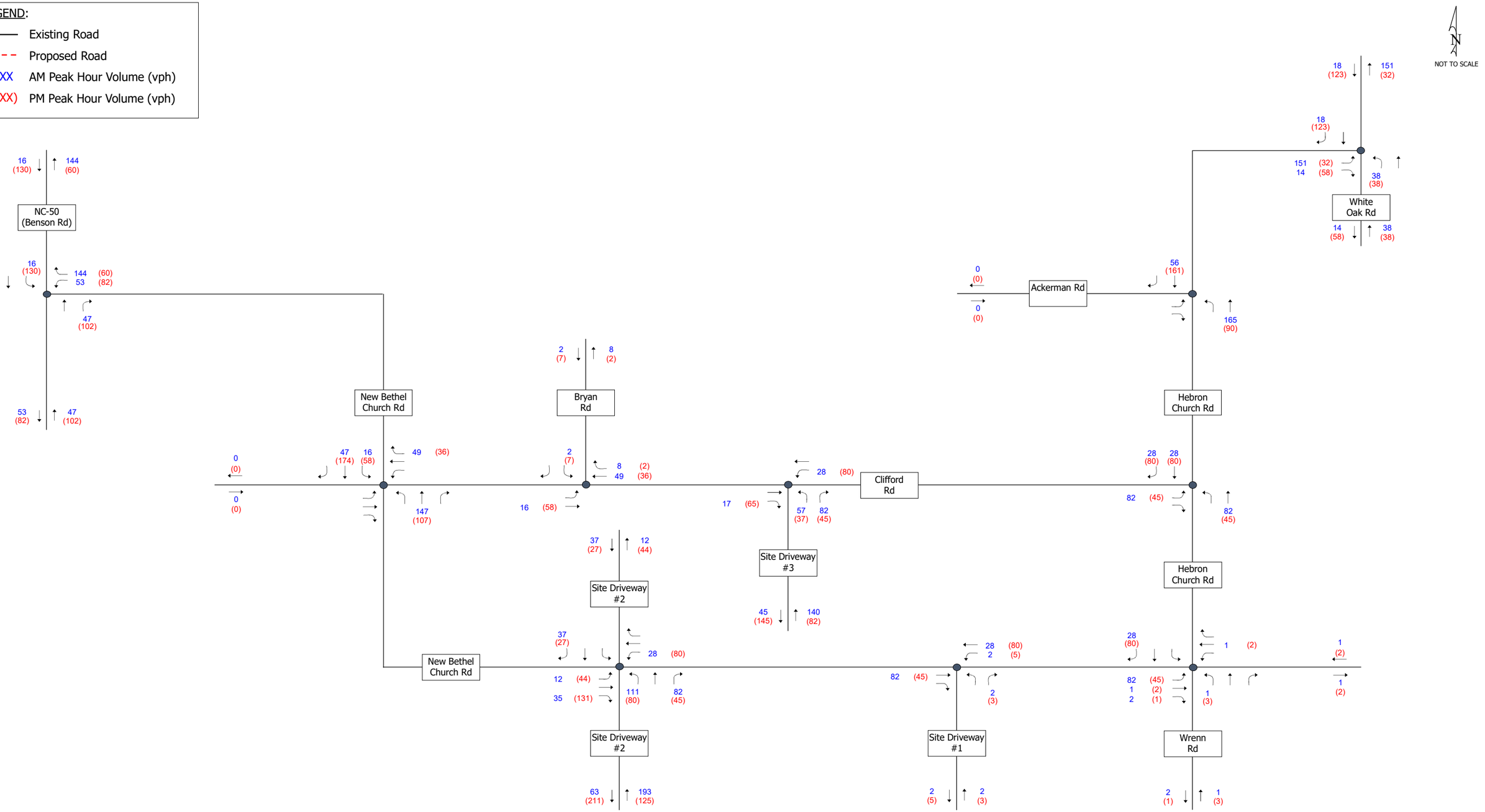
- Existing Laneage
- Recommended Laneage
- Laneage Built By Others
- NCDOT Recommendation
- Existing Signal
- Signal Proposed By Others
- Developer Proposed Signal
- Monitor for Signal
- XXX Storage
- XXX NCDOT Recommended Storage
- <XXX> Distance Between Intersections
- IPS Internal Protected Stem
- All Distances in Feet
- Drawing Not to Scale

N

LEGEND:

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

NOT TO SCALE

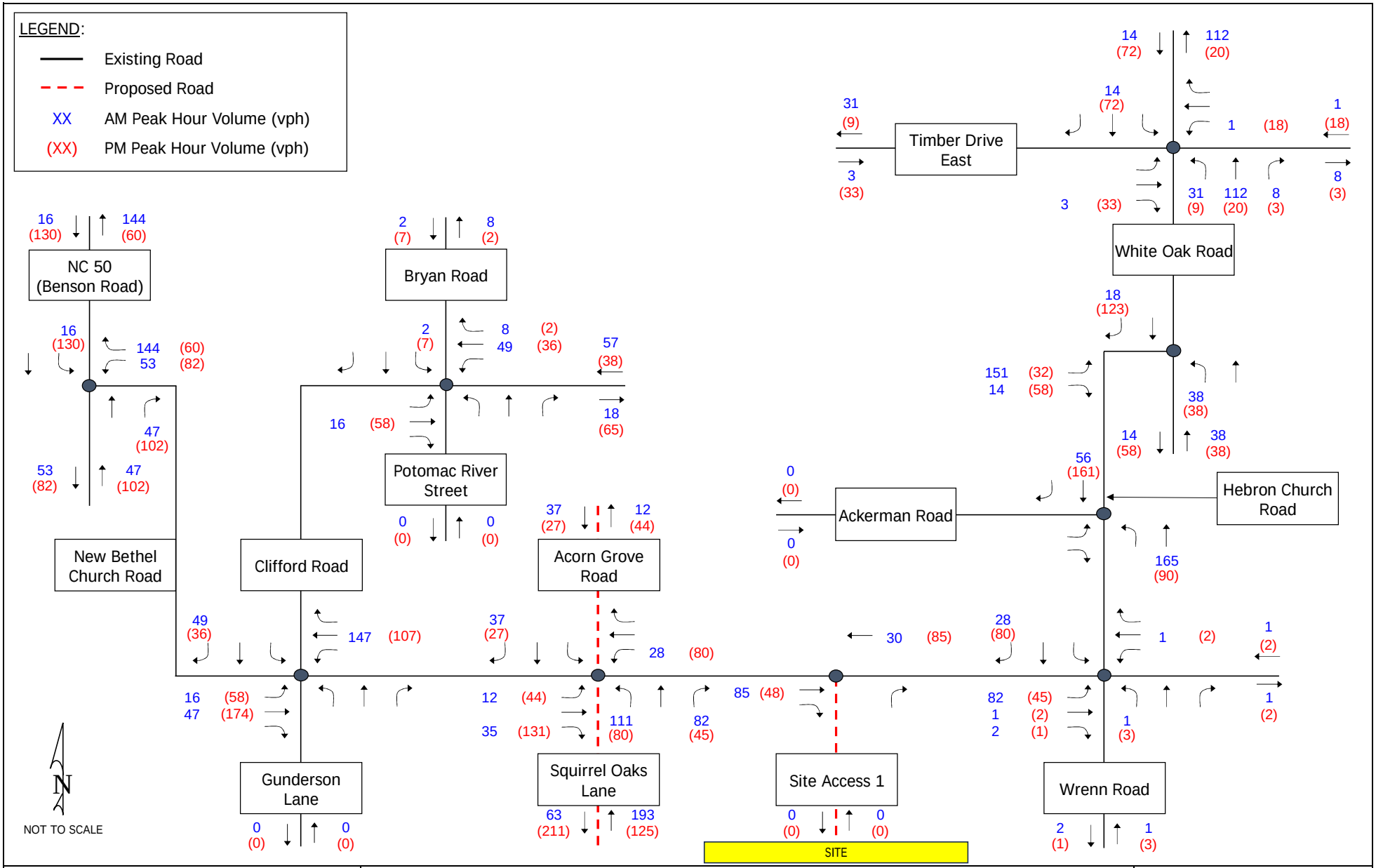


TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Bethel Traffic Impact Analysis

2026 Trip Distribution Volumes

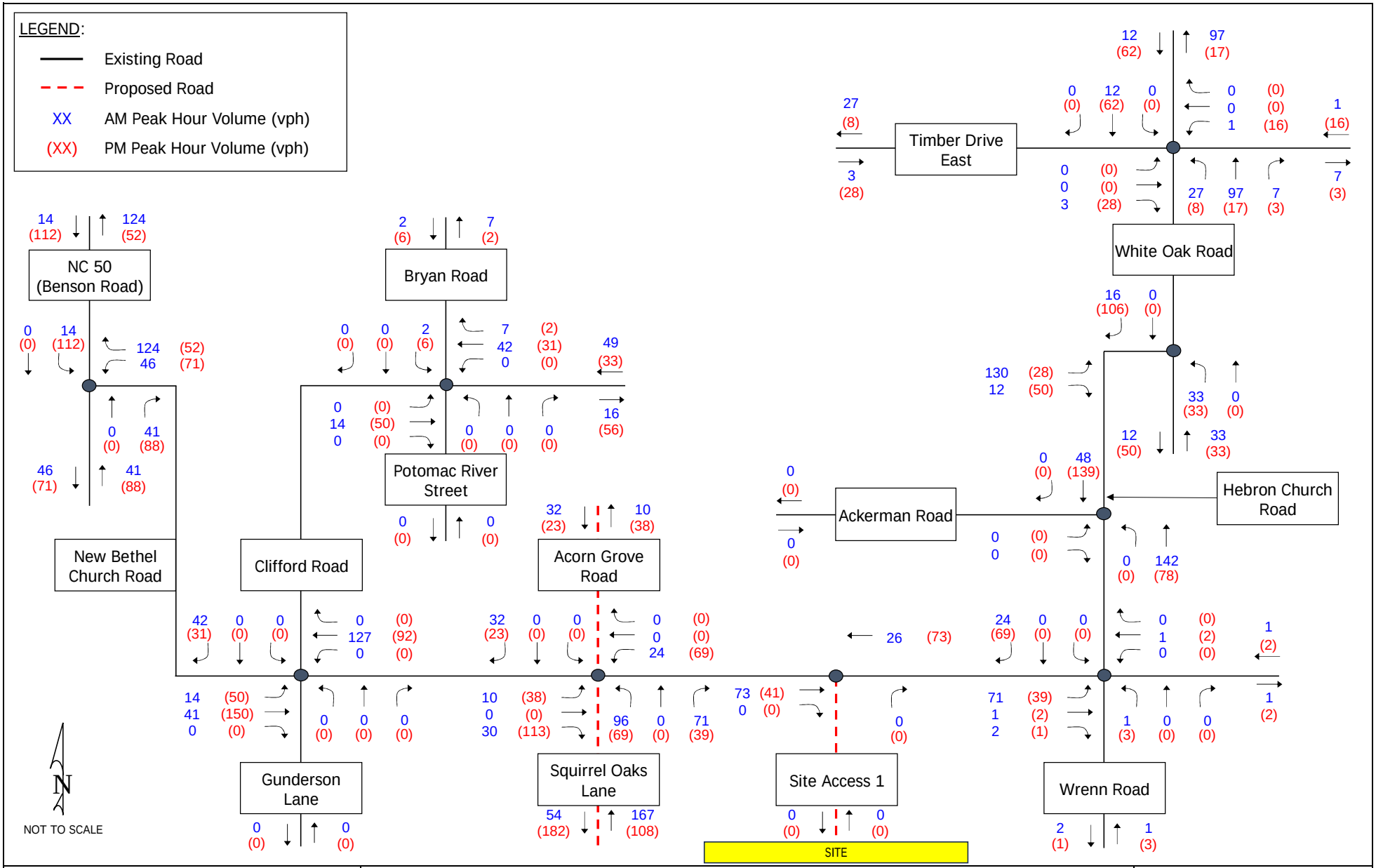
Figure 4-2



Bethel Green
Traffic Impact Analysis
Approved Development - Oak Manor Total Site Trips

Figure F3a

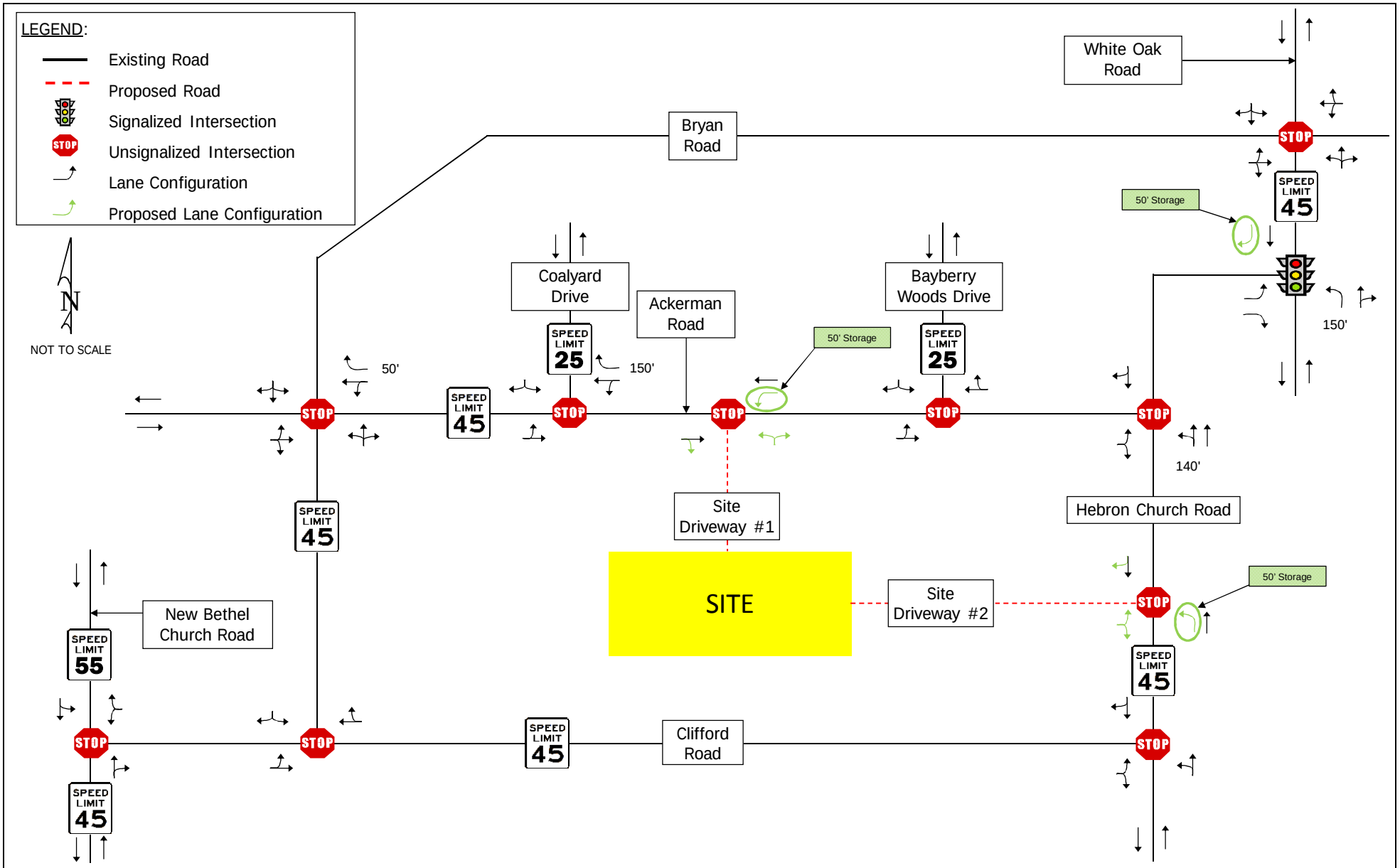
TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.



Bethel Green
Traffic Impact Analysis
Approved Development - Oak Manor Unoccupied Site Trips

Figure F3b

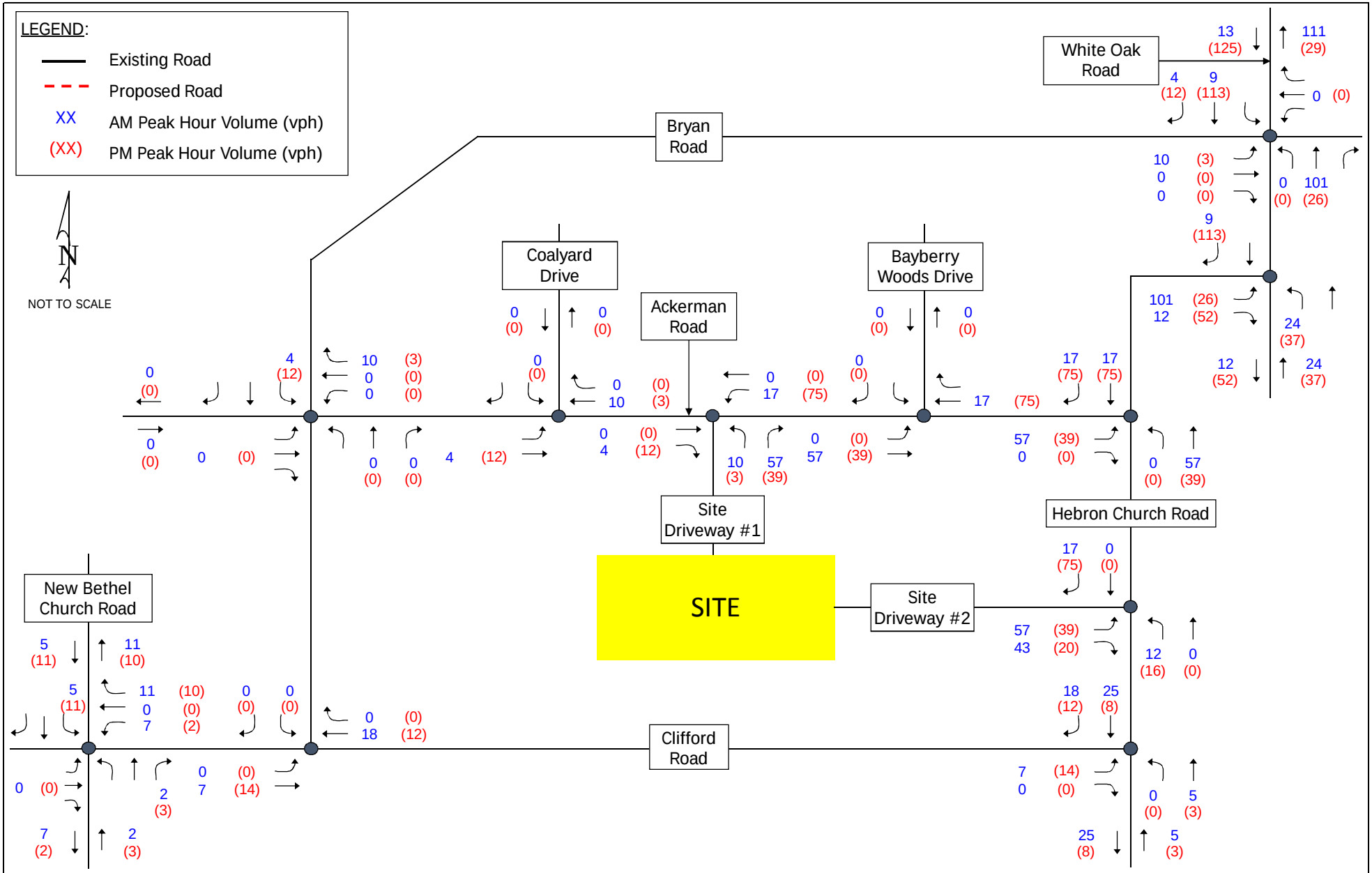
TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

White Oak Farms
Traffic Impact Analysis
2022 Proposed Lane Configuration

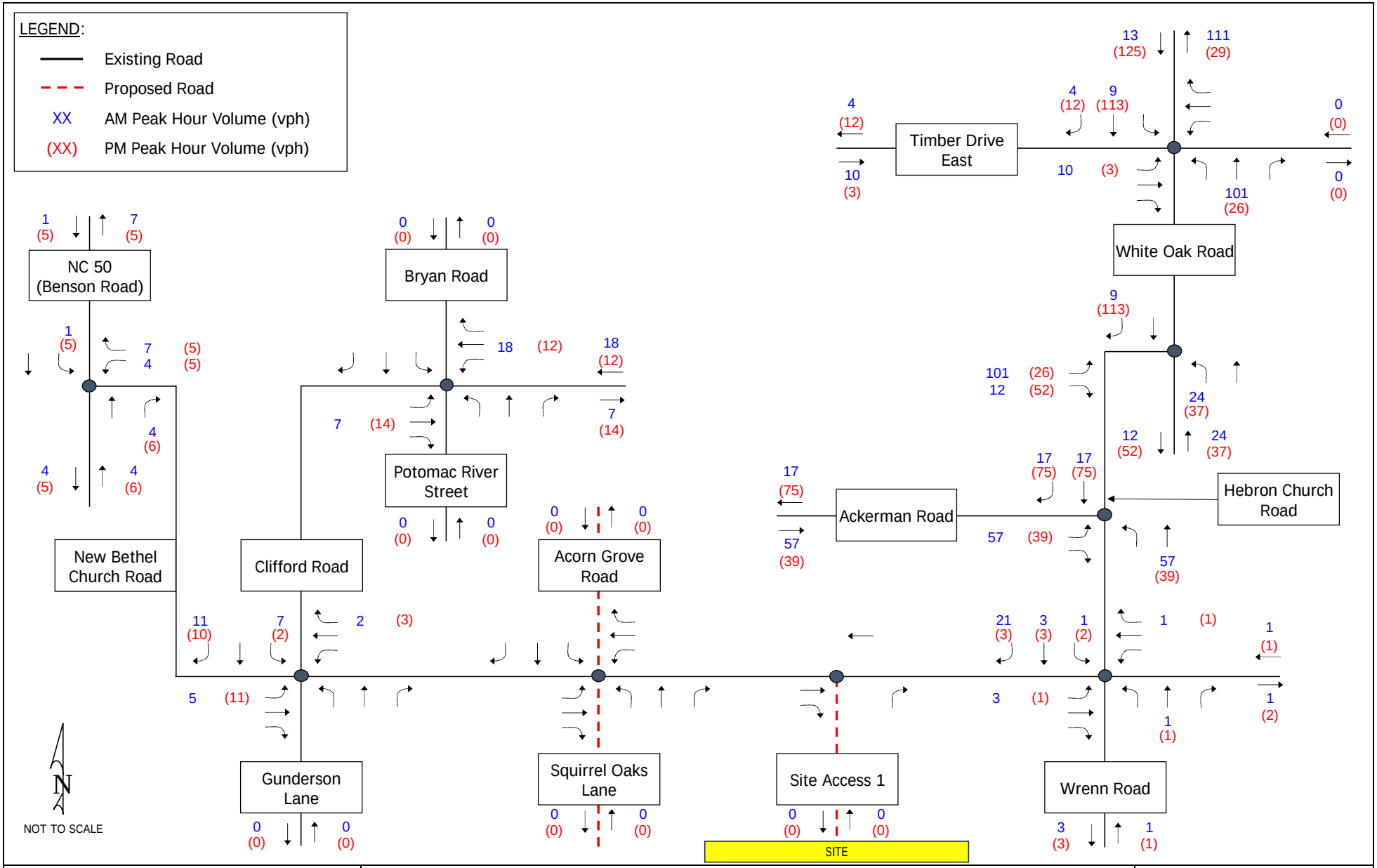
Figure 6-1



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

White Oak Farms
Traffic Impact Analysis
2022 Trip Distribution Traffic Volumes

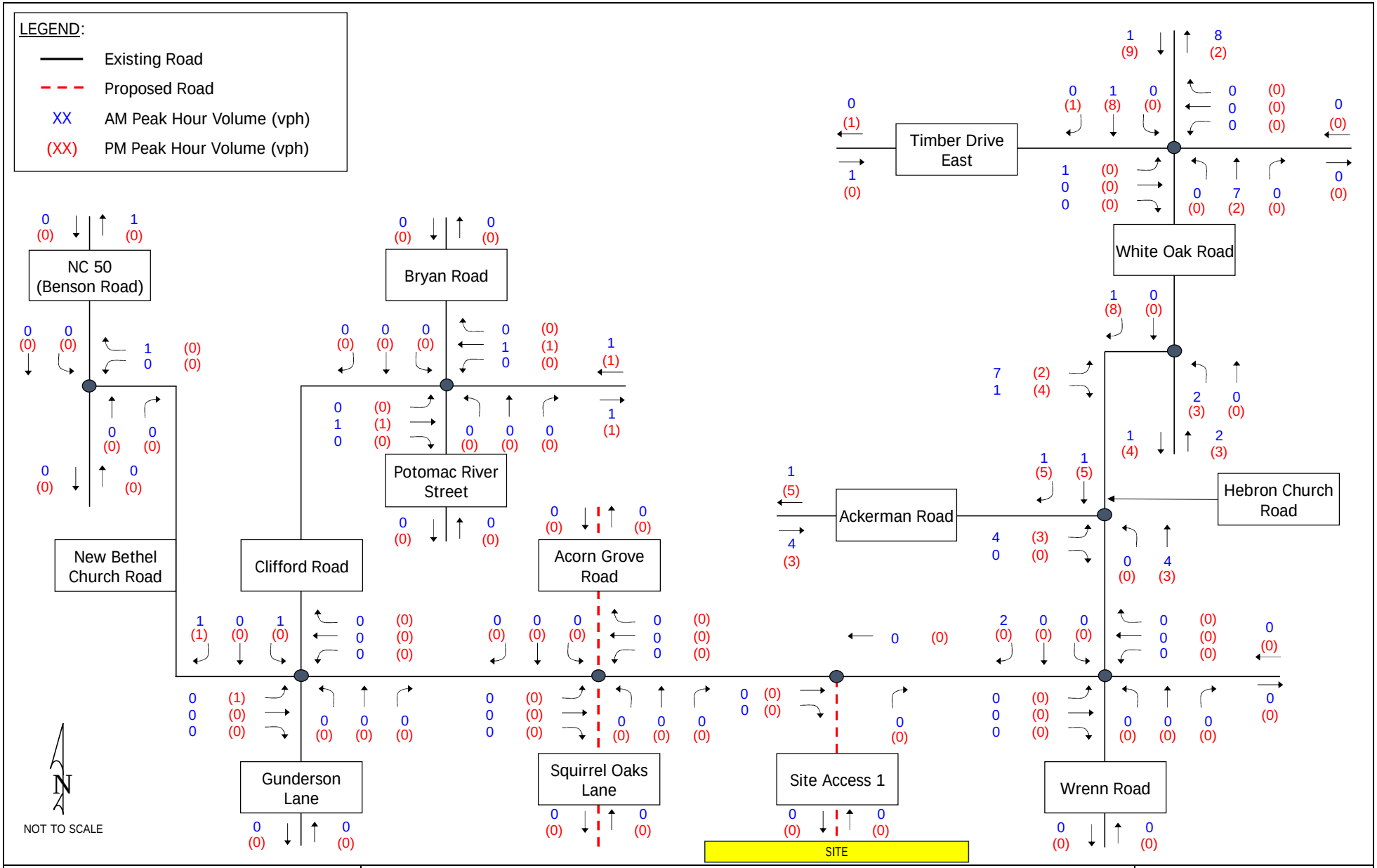
Figure 4-2



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Bethel Green
Traffic Impact Analysis
Approved Development - Ridgemoor Total Site Trips

Figure F4a



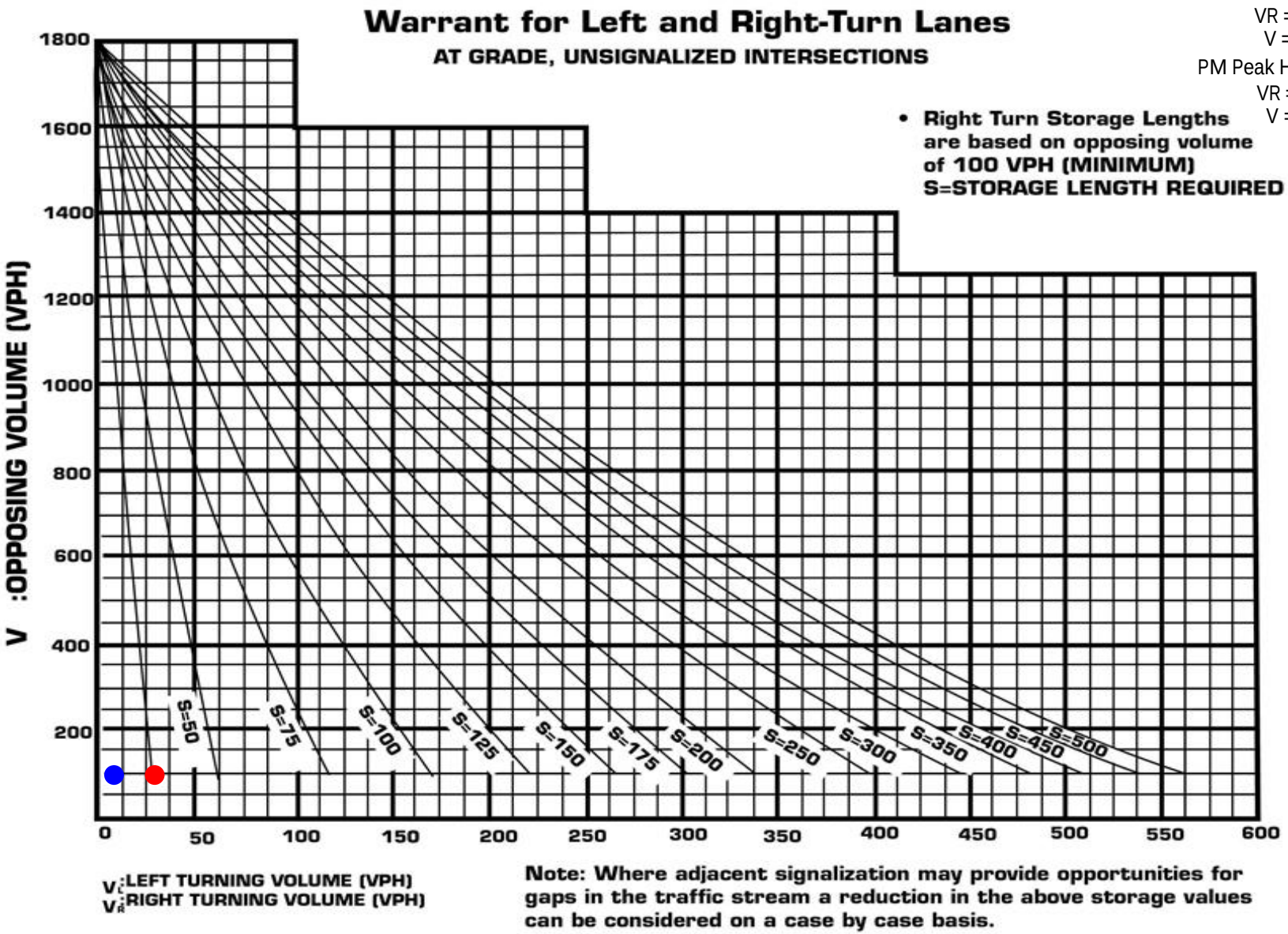
TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Bethel Green
Traffic Impact Analysis
Approved Development - Ridgemoor Unoccupied Site Trips

Figure F4b

Appendix G – NCDOT Nomographs

AM Peak Hour
VR = 8
V = 100
PM Peak Hour
VR = 29
V = 100



New Bethel Church Rd / Site Access 1

Eastbound Approach - Right-Turn Lane

2026 Build AM and PM Peak Hours

LEGEND
● = AM Peak
● = PM Peak