Exhibit E

Traffic Impact Analysis

Herndon Farm

Chatham County, NC

Prepared for:

Herndon's Farm One, LLC

Kimley»Horn

Traffic Impact Analysis for

Herndon Farm

Chatham County, North Carolina

Prepared for:

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Chapel Hill, NC

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Executive Summary

Kimley-Horn has completed a Traffic Impact Analysis for the proposed Herndon Farm development located east of US 15/501 generally between Vickers Road and Oak Island Drive in Chatham County, North Carolina. The site is currently occupied by a few residences, and as currently envisioned will include approximately 170 senior-adult detached dwelling units, a congregate care facility with 125 dwelling units, and a 10,000 square foot (SF) daycare. [It should be noted that while other, less traffic-intense uses such as medical office or a fitness center are being considered in the 10,000 SF building in place of a daycare, this analysis included a daycare to be conservative.] The development is proposed to be accessed via site driveways on US 15/501 and Vickers Road, and the anticipated full build-out year for the project is 2025.

This report presents trip generation, distribution, traffic analyses, and recommendations for transportation improvements required to meet anticipated traffic demands in conjunction with the development. Separate analyses were performed to evaluate future traffic conditions with the existing full-movement Briar Chapel Parkway/Vickers Road intersection as well as the conceptual implementation of a reduced conflict intersection (RCI) corridor ("superstreet" configuration) through the corridor. The traffic conditions studied include the existing (2020) traffic condition as well as the projected (2025) background and build-out traffic conditions.

As shown in Table ES-1, the proposed development has the potential to generate 191 net new trips in the AM peak hour and 209 net new trips in the PM peak hour on a typical weekday.

Table ES-1
ITE Traffic Generation (Vehicles)

Land Use Code	Land Use	Intensity		AM Peak Hour		PM Peak Hour	
				In	Out	In	Out
251	Senior Adult Housing – Detached	170	d.u.	20	41	45	28
253	Congregate Care Facility	125	occ. d.u.	10	10	14	11
565	Daycare Center	10,000	s.f.	58	52	52	59
Net New External Trips				**88**	**103**	**111**	**98**

Capacity analyses were performed using Synchro Version 10 software. Table ES-2 summarizes the operation of the study intersections for the AM and PM peak hour traffic conditions.

Table ES-2 Level-of-Service Summary		
Condition	**AM Peak Hour LOS (Delay)**	**PM Peak Hour LOS (Delay)**
US 15/501 at Lystra Road (Signalized)		
Existing (2020) Traffic – Full Movement	A (8.6)	A (9.6)
Background (2025) Traffic – Full Movement with Committed Improvements	B (17.6)	C (23.4)
Build-out (2025) Traffic – Full Movement with Committed Improvements	B (17.7)	C (23.6)
US 15/501 at Briar Chapel Parkway/Vickers Road (Signalized)		
Existing (2020) Traffic – Full-Movement	B (10.1)	B (11.1)
Background (2025) Traffic – Full-Movement	B (17.5)	B (18.6)
Build-out (2025) Traffic – Full-Movement	C (21.4)	C (24.5)
US 15/501 at Jack Bennett Road (Signalized)		
Existing (2020) Traffic – Full Movement	B (13.8)	B (13.5)
Background (2025) Traffic – RCI with Committed Improvements	C (23.6)	C (25.9)
Build-out (2025) Traffic – RCI with Committed Improvements	C (24.2)	C (26.3)
Lystra Road at Jack Bennett Road (Unsignalized)		
Existing (2020) Traffic – Full Movement	NB – F (209.2)	NB – B (14.2)
Background (2025) Traffic – Full Movement	NB – F (>300)	NB – E (37.6)
Build-out (2025) Traffic – Full Movement	NB – F (>300)	NB – E (39.3)
US 15/501 at U-Turn North of Jack Bennett Road (Signalized)		
Background (2025) Traffic – with Committed Improvements	A (0.9)	A (1.6)
Build-out (2025) Traffic – with Committed Improvements	A (1.0)	A (2.4)
US 15/501 at South Site Driveway (Unsignalized)		
Build-out (2025) Traffic	WB – C (20.3)	WB – C (15.3)
US 15/501 at North Site Driveway (Unsignalized)		
Build-out (2025) Traffic	WB – C (19.4)	WB – C (15.0)
Vickers Road at Site Driveway (Unsignalized)		
Build-out (2025) Traffic	SB – A (9.0)	SB – A (8.9)

Background Improvements

The following improvements are committed to be performed as part of the proposed Williams Corner development based on the *Updated Williams Corner TIA* (Kimley-Horn, January 2020) for that project and were included in the analysis in the background and build-out conditions:

US 15/501 at Lystra Road:

- Construct an additional southbound left-turn lane on US 15/501 with 175 feet of storage to provide dual left-turn lanes on that approach
- Construct an additional westbound left-turn lane on Lystra Road with 275 feet of storage to provide dual left-turn lanes on that approach
- Extend the storage of the existing westbound right-turn lane on Lystra Road by approximately 75 feet to provide 200 feet of storage on that movement
- Modify the existing traffic signal to accommodate the recommended laneage

As NCDOT staff indicated that the adjacent Vickers-Bennett Development will be required to convert the intersection of US 15/501 at Jack Bennett Road to a RCI configuration, the following improvements were assumed to be provided (per conceptual corridor roadway plans) and were included in the analysis in the background and build-out conditions:

US 15/501 at Jack Bennett Road:

- Convert the intersection to a traditional RCI configuration (left-in/right-in/right-out)
- Modify the existing traffic signal to accommodate the reconfigured intersection

US 15/501 at U-Turn North of Jack Bennett Road:

- Construct a U-turn median break on US 15/501 between Briar Chapel Parkway/Vickers Road and Jack Bennett Road to accommodate U-turn traffic on the northbound approach
- Provide a northbound U-turn lane on US 15/501
- Install a traffic signal to accommodate the U-turn movement

The identified background improvements from the referenced developments are shown on **Figure ES-1**.

Recommended Improvements

The following roadway improvements are recommended to be performed as part of this project:

US 15/501 at South Site Driveway:

- Construct a northbound right-turn lane on US 15/501 with 100 feet of storage and appropriate tapers
- Construct the South Site Driveway with one ingress lane and one egress lane

US 15/501 at North Site Driveway:

- Construct a southbound left-turn lane on US 15/501 with 50 feet of storage and appropriate tapers
- Construct the North Site Driveway with one ingress lane and one egress lane

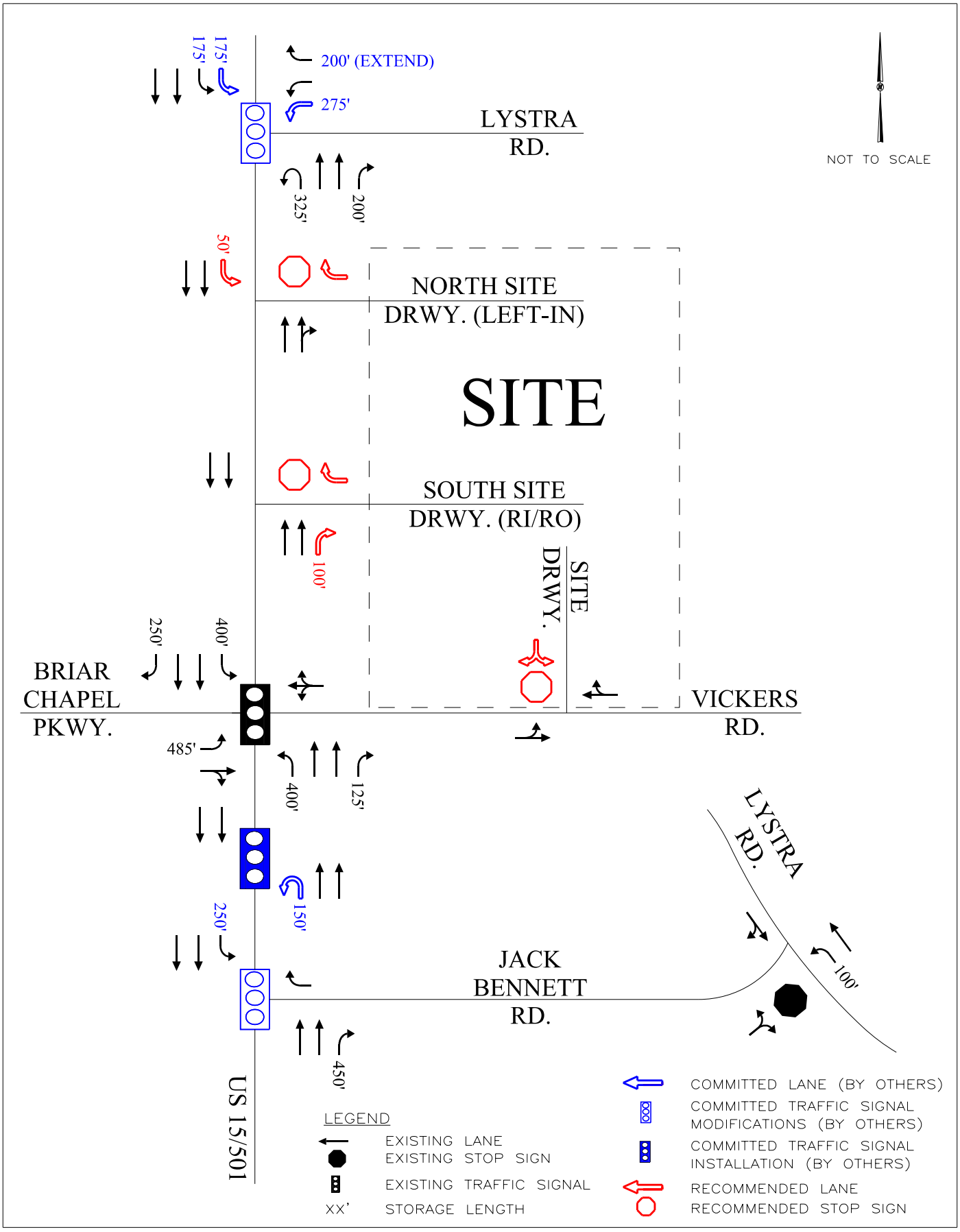
Vickers Road at Site Driveway:

- Construct the Site Driveway with one ingress lane and one egress lane

These recommended improvements are also shown on **Figure ES-1**.

Analyses indicate that with the committed and recommended improvements in place, all of the signalized study intersections will operate at acceptable LOS at project build-out.

Analyses indicate that the unsignalized intersection of Lystra Road at Jack Bennett Road currently operates with long delays on the minor street approach (Jack Bennett Road) in the AM peak hour and is expected to continue to operate with long delays in the study year 2025 with or without the proposed project in place. However, it should be noted that it is typical for stop sign controlled side streets and driveways intersecting major streets to experience long delays during peak hours, while the majority of the traffic moving through the intersection on the major street experiences little or no delay. As site traffic is expected to account for less than 0.7% of total intersection traffic in the AM peak hour at project build-out, and since only minor increases in delays and queues are anticipated with the project in place, no improvements are recommended to be performed to accommodate site traffic.



Kimley»Horn	HERNDON FARM CHATHAM COUNTY, NC TRAFFIC CAPACITY ANALYSIS	COMMITTED AND RECOMMENDED ROADWAY LANEAGE	FIGURE ES-1

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1.0 Introduction

Kimley-Horn has completed a Traffic Impact Analysis for the proposed Herndon Farm development located east of US 15/501 generally between Vickers Road and Oak Island Drive in Chatham County, North Carolina. The site is currently occupied by a few residences, and as currently envisioned will include approximately 170 senior-adult detached dwelling units, a congregate care facility with 125 dwelling units, and a 10,000 square foot (SF) daycare. [It should be noted that while other, less traffic-intense uses such as medical office or a fitness center are being considered in the 10,000 SF building in place of a daycare, this analysis included a daycare to be conservative.] The development is proposed to be accessed via site driveways on US 15/501 and Vickers Road, and the anticipated full build-out year for the project is 2025.

This report presents trip generation, distribution, traffic analyses, and recommendations for transportation improvements required to meet anticipated traffic demands in conjunction with the development. Separate analyses were performed to evaluate future traffic conditions with the existing full-movement Briar Chapel Parkway/Vickers Road intersection as well as the conceptual implementation of a reduced conflict intersection (RCI) corridor ("superstreet" configuration) through the corridor. The traffic conditions studied include the existing (2020) traffic condition as well as the projected (2025) background and build-out traffic conditions.

North Carolina Department of Transportation (NCDOT) and Chatham County Planning staff provided background data and were consulted regarding the elements to be covered in this analysis. The approved Memorandum of Understanding is included in the Appendix of this report.

2.0 Inventory

2.1 *Study Area*

The study area for this development in includes the following intersections:

- US 15/501 at Lystra Road
- US 15/501 at Briar Chapel Parkway/Vickers Road
- US 15/501 at Jack Bennett Road
- Lystra Road at Jack Bennett Road
- US 15/501 at U-Turn North of Jack Bennett Road
- US 15/501 at South Site Driveway (right-in/right-out)
- US 15/501 at North Site Driveway (left-in/right-in/right-out)
- Vickers Road at Site Driveway (full-movement)

Figure 2.1 shows the site location, and **Figure 2.2** shows the conceptual development plan.

2.2 *Existing Conditions*

The proposed Herndon Farm development is located east of US 15/501 generally between Vickers Road and Oak Island Drive in Chatham County, North Carolina. Roadways in the study area include US 15/501, Lystra Road, Briar Chapel Parkway, Vickers Road, and Jack Bennett Road. The existing roadway laneage is shown in **Figure 2.3**.

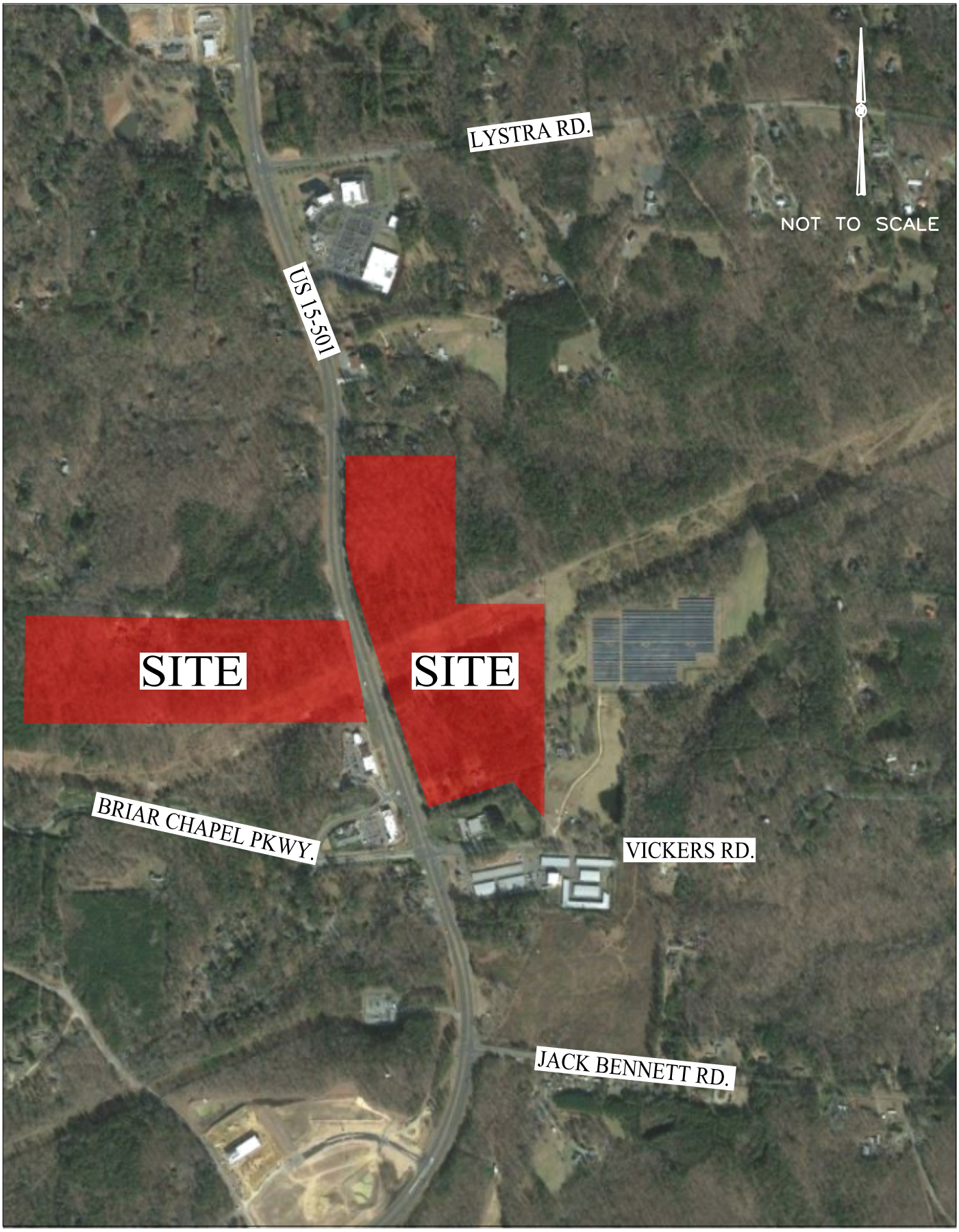
US 15/501 is generally a 4-lane divided roadway with a posted speed limit of 55 mph in the vicinity of the site. The estimated 2020 average daily traffic (ADT) volume is approximately 18,700 vehicles per day (vpd) north of Vickers Road.

Lystra Road is a 2-lane undivided roadway in the vicinity of the site with a posted speed limit of 45 mph. The estimated 2020 ADT volume is approximately 5,900 vpd east of US 15/501.

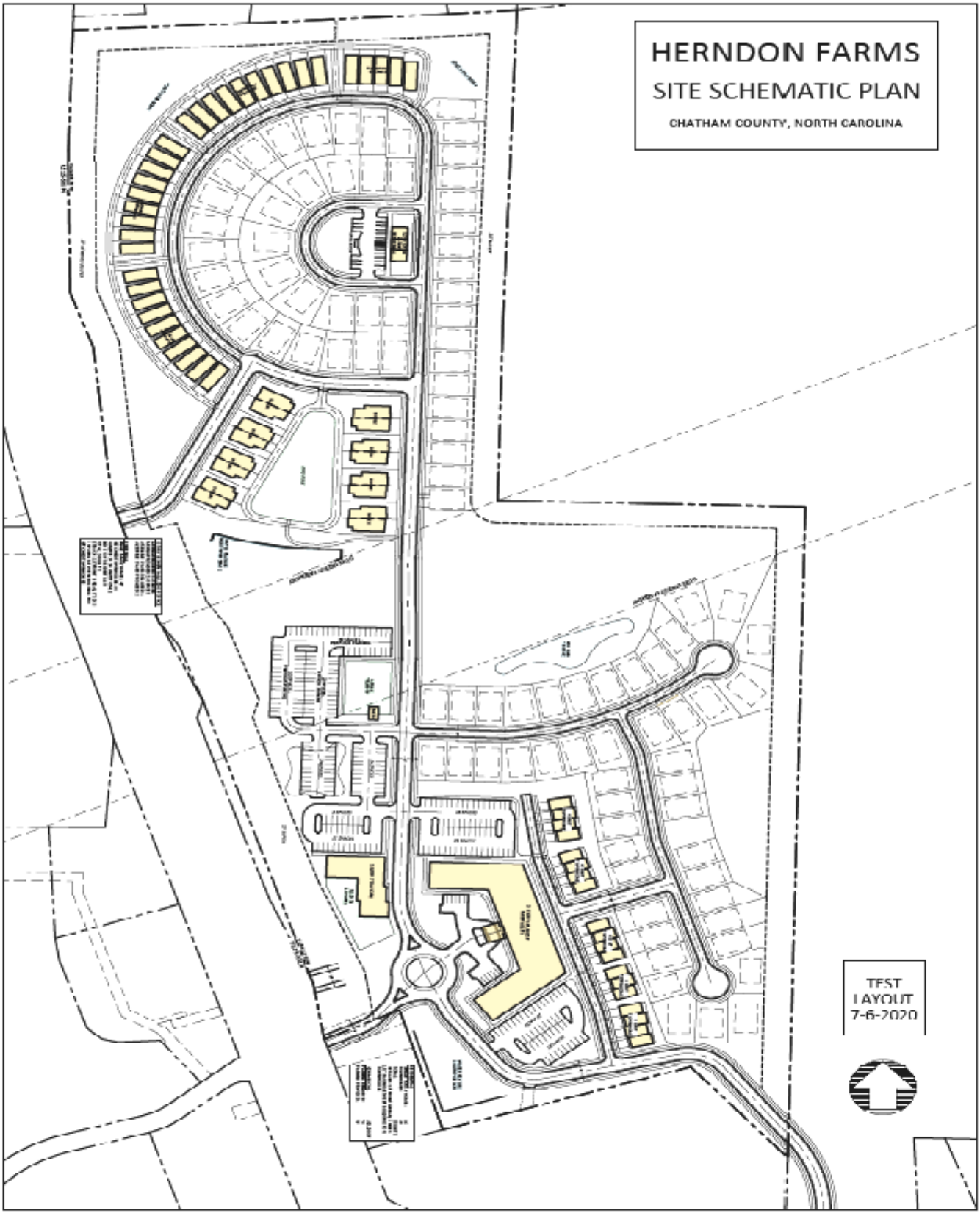
Briar Chapel Parkway is generally a two-lane divided roadway with a posted speed limit of 25 mph. The estimated 2020 ADT volume is approximately 2,600 vpd at US 15/501.

Vickers Road is generally a two-lane undivided roadway with an assumed speed limit of 35 mph. The estimated 2020 ADT volume less than 1,000 vpd.

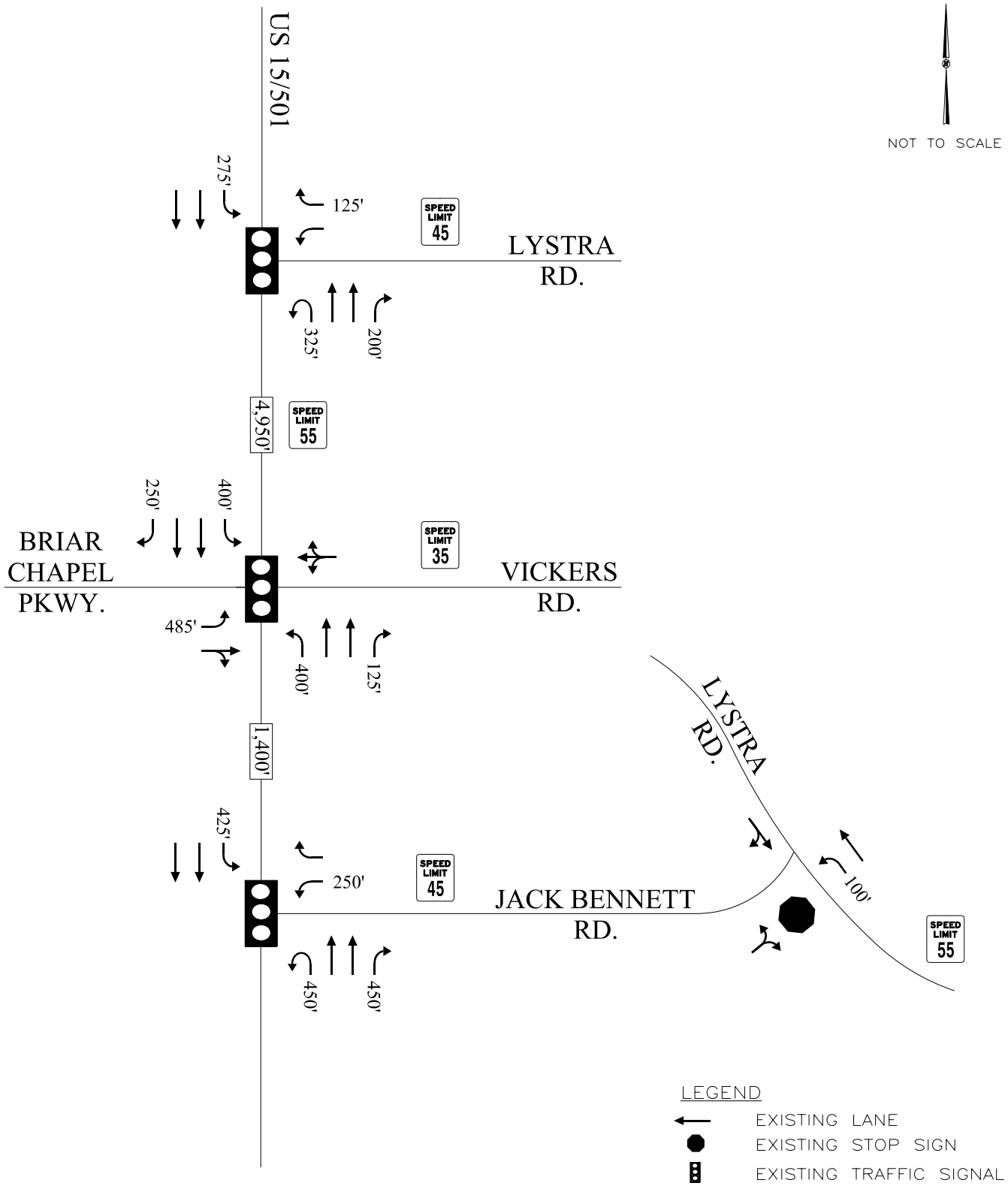
Jack Bennett Road is a two-lane undivided roadway with a posted speed limit of 45 mph. The estimated 2020 ADT volume is approximately 5,800 vpd.



Kimley»Horn	HERNDON FARM CHATHAM COUNTY, NC TRAFFIC CAPACITY ANALYSIS	SITE LOCATION	FIGURE 2.1



Kimley»Horn	HERNDON FARM CHATHAM COUNTY, NC TRAFFIC CAPACITY ANALYSIS	CONCEPTUAL SITE PLAN	FIGURE 2.2



Kimley»Horn	HERNDON FARM CHATHAM COUNTY, NC TRAFFIC CAPACITY ANALYSIS	EXISTING ROADWAY LANEAGE	FIGURE 2.3

3.0 Traffic Generation

The traffic generation potential of the proposed development was determined using the traffic generation rates and equations published in *ITE Trip Generation* (Institute of Transportation Engineers, Tenth Edition, 2017) and confirmed with NCDOT. The site is currently occupied by a few residences, and as currently envisioned will include approximately 170 senior-adult detached dwelling units, a congregate care facility with 125 dwelling units, and a 10,000 SF daycare. [It should be noted that while other, less traffic-intense uses such as medical office or a fitness center are being considered in place of a daycare, this analysis included a daycare to be conservative.] Additionally, to be conservative, trip generation for the congregate care facility was calculated using "peak hour of the generator" as opposed to the "peak hour of the adjacent street" to present a more-conservative analysis.

The trip generation potential of the site is shown below in Table 3.1.

Table 3.1
ITE Traffic Generation (Vehicles)

Land Use Code	Land Use	Intensity		AM Peak Hour		PM Peak Hour	
				In	Out	In	Out
251	Senior Adult Housing – Detached	170	d.u.	20	41	45	28
253	Congregate Care Facility	125	occ. d.u.	10	10	14	11
565	Daycare Center	10,000	s.f.	58	52	52	59
Net New External Trips				**88**	**103**	**111**	**98**

As shown in Table 3.1, the proposed development has the potential to generate 191 net new trips in the AM peak hour and 209 net new trips in the PM peak hour on a typical weekday.

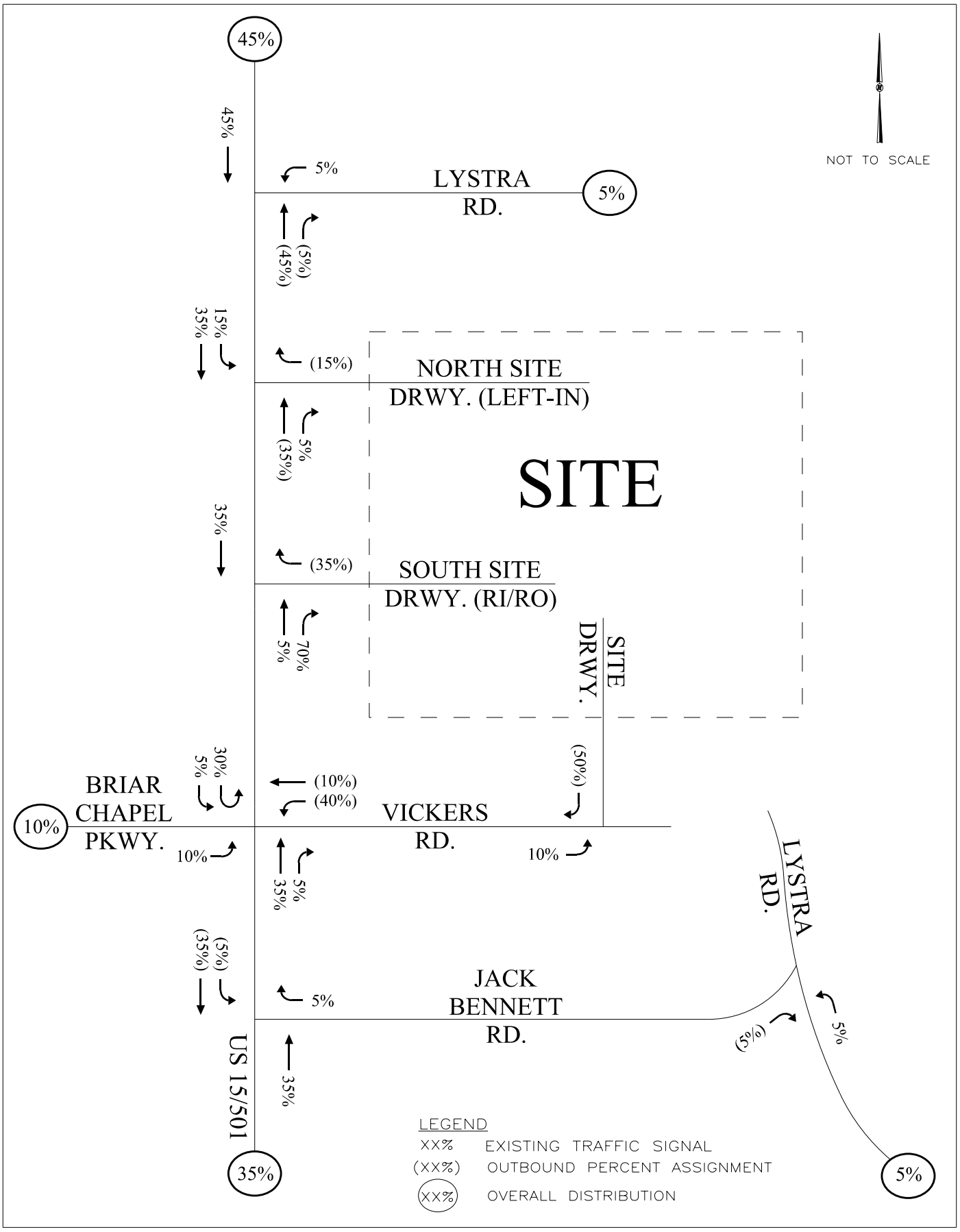
To be conservative, no internal capture was applied between the proposed uses. Detailed trip generation calculations are included in the Appendix.

4.0 Site Traffic Distribution

The proposed generated trips were assigned to the surrounding roadway network. The directional distribution and assignment are based on land uses in the area and existing travel patterns. Site trips were assigned to the network based on the following distribution:

- 45% to/from the north on US 15/501
- 35% to/from the south on US 15/501
- 10% to/from the west on Briar Chapel Parkway
- 5% to/from the east on Lystra Road (via US 15/501)
- 5% to/from the east on Lystra Road (via Jack Bennett Road)

The site traffic distribution and percent assignment are shown on **Figure 4.1**.



Kimley»Horn	HERNDON FARM CHATHAM COUNTY, NC TRAFFIC CAPACITY ANALYSIS	SITE TRAFFIC DISTRIBUTION & PERCENT ASSIGNMENT	FIGURE 4.1

5.0 Projected Traffic Volumes

5.1 *Existing Traffic*

AM peak hour (7:00 to 9:00 AM) and PM peak hour (4:00 to 6:00 PM) turning movement counts were performed at the following intersections:

- US 15/501 at Lystra Road — February 11, 2020
- US 15/501 at Briar Chapel Parkway/Vickers Road — February 11, 2020
- US 15/501 at Jack Bennett Road — February 11, 2020
- Lystra Road at Jack Bennett Road — February 11, 2020

Traffic counts were performed while Chatham County Public Schools were in session. The existing AM and PM peak hour traffic volumes are shown on **Figures 5.1** and **5.2**, and the traffic count data are included in the Appendix.

5.2 *Historic Growth Traffic*

Historic growth traffic is the increase in traffic due to non-specific growth throughout the area. Based on a review of traffic volume growth in the study area as well as the volume of approved development traffic included in the analysis (discussed below), an annual growth rate of 0.5% was applied to the intersections in the study area up to the build-out year 2025.

5.3 *Approved Development Traffic*

Approved development traffic is generated by approved, but not yet constructed, projects in the vicinity of the proposed project. For this analysis, site trips from the updated Williams Corner development, as well as the remaining portions of Briar Chapel and Polks Village, were included as background traffic. Site traffic from the not-yet-approved Vickers-Bennett Development (between Vickers Road and Jack Bennett Road) was also included per discussions with NCDOT and Chatham County staff.

Per an approved amendment to the Briar Chapel CUP in 2017, the traffic analysis for the Briar Chapel development was assumed to include up to approximately 2,650 residential units, 301,000 SF of commercial space, and several schools. As of January 2019, existing development on the site included approximately 1,900 residential units, a public middle school, a charter school, a daycare center, and approximately 27,500 SF of commercial space. For the purposes of this analysis it was assumed that the remainder of Briar Chapel would be completed prior to the build-out of the Herndon Farm project, and the remaining site trips were added to the study network based on previous traffic analyses for Briar Chapel (including the *Briar Chapel Traffic Improvement Phasing Analysis* by Kimley-Horn dated March 2018).

Per the *Polks Landing TIA* (Kimley-Horn, 2008), the Polks Village project was envisioned to include a 5,000 SF daycare center, approximately 49,000 SF of general office space, approximately 32,200 SF of general retail space, a 14,600 SF pharmacy, a 4,200 SF drive-in bank, and a 4,000 SF fast-food restaurant. While Polks Village has been developed to a lower intensity than previously-envisioned, total site trips for the project were obtained from the *Williams Corner/Polks Landing – Addendum 2 to Traffic Impact Analyses* (Kimley-Horn, October 2008), and trips for the remaining portion of the development were calculated as the difference between existing development volumes (from peak hour traffic counts at the existing driveways) and full build-out site traffic volumes from the referenced traffic analysis.

Per the *Updated Williams Corner TIA* (Kimley-Horn, January 2020), a revised development plan for the Williams Corner development proposes the construction of approximately 120,000 square feet (SF) of mini-warehouse (self-storage) space, 550 apartments, 90,000 SF of general office space, 90,000 SF of general retail space, and a 50,000 SF supermarket. While project build-out for that site is anticipated in 2027, all site traffic (and recommended improvements) from that project were included in this analysis in the background and build-out traffic conditions.

Per the *Vickers-Bennett Development TIA* (Ramey-Kemp, Mach 2020), that project proposes the construct of approximately 225 single-family homes, 25,000 SF of general office space, and 50,000 SF of general retail space east of US 15/501 between Vickers Road and Jack Bennett Road. Site access is proposed on US 15/501, Vickers Road, and Jack Bennett Road, and while build-out for that site is anticipated in 2026, all site traffic from that project were included in this analysis in the background and build-out traffic conditions. It should also be noted that while the *Vickers-Bennett TIA* recommended a directional crossover driveway (left-in/right-in/right-out) on US 15/501 and full-movement intersections at Vickers Road and Jack Bennett Road, NCDOT has indicated that development will instead be permitted a right-in/right-out driveway on US 15/501 and also be required to convert Jack Bennett Road to a RCI configuration.

For reference, the combination of historic growth traffic and approved development traffic is equivalent to an effective annual growth rate of 5% to 9% between 2020 and 2025 at each of the existing study intersections, which is generally significantly greater than historic growth in the study area. As such, volumes and delays reported in this analysis are expected to be higher than what is observed in the field at project build-out.

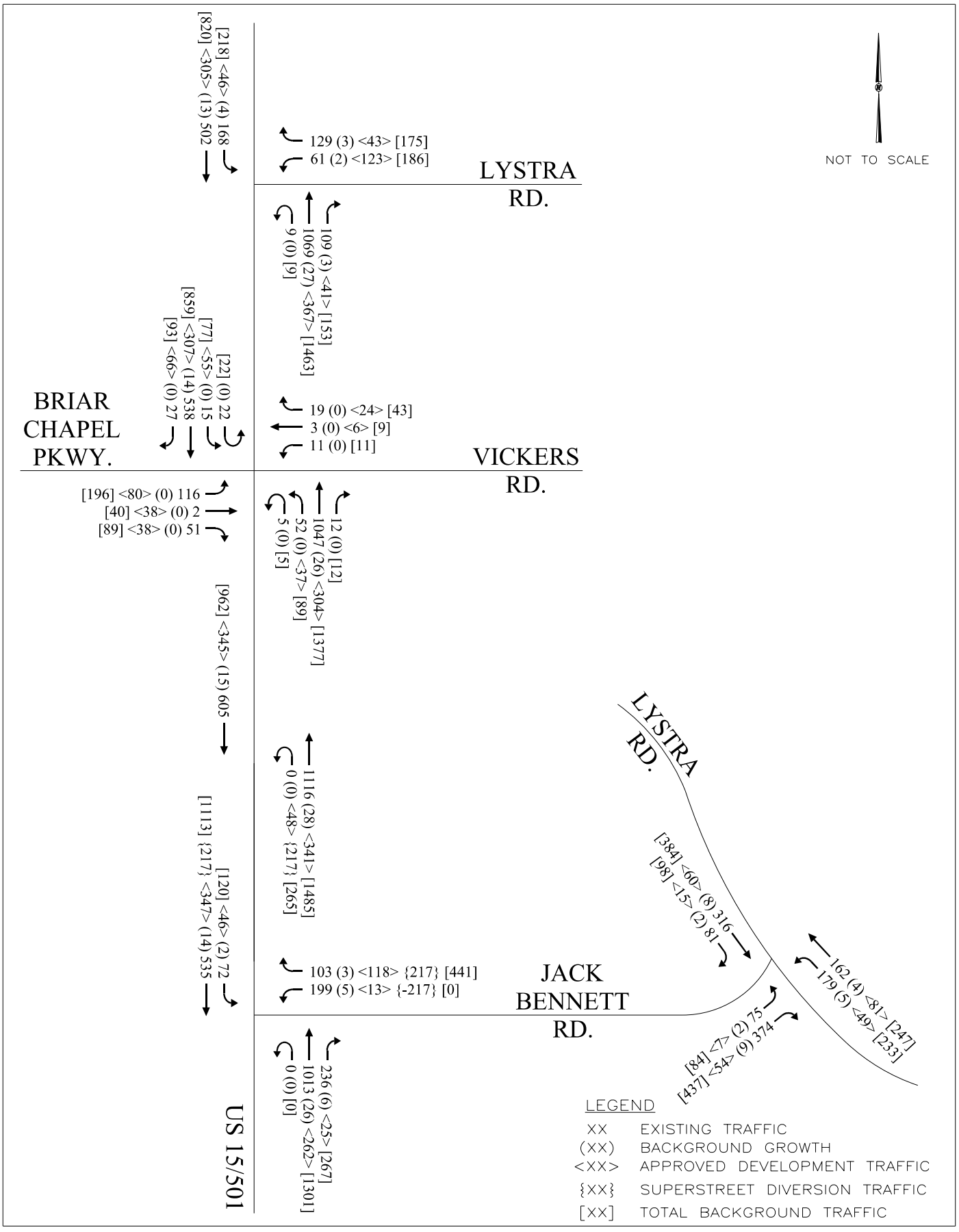
Background traffic volumes consisting of existing, historic growth, and approved development traffic are shown on **Figures 5.1** and **5.2** for the AM and PM peak hours, respectively.

5.4 *Site Traffic*

The proposed site traffic was generated and assigned to the adjacent roadway network according to the distribution discussed previously in Section 4.0. The site traffic volumes for the AM and PM peak hours are shown in **Figures 5.3** and **5.4**, respectively.

5.5 *Build-Out Traffic*

To obtain the projected (2025) build-out traffic volumes, the projected site traffic was added to the projected (2025) background traffic. Traffic volume calculations are detailed in intersection spreadsheets in the Appendix of this report. **Figures 5.3** and **5.4** show the projected (2025) AM and PM peak hour build-out traffic volumes, respectively.



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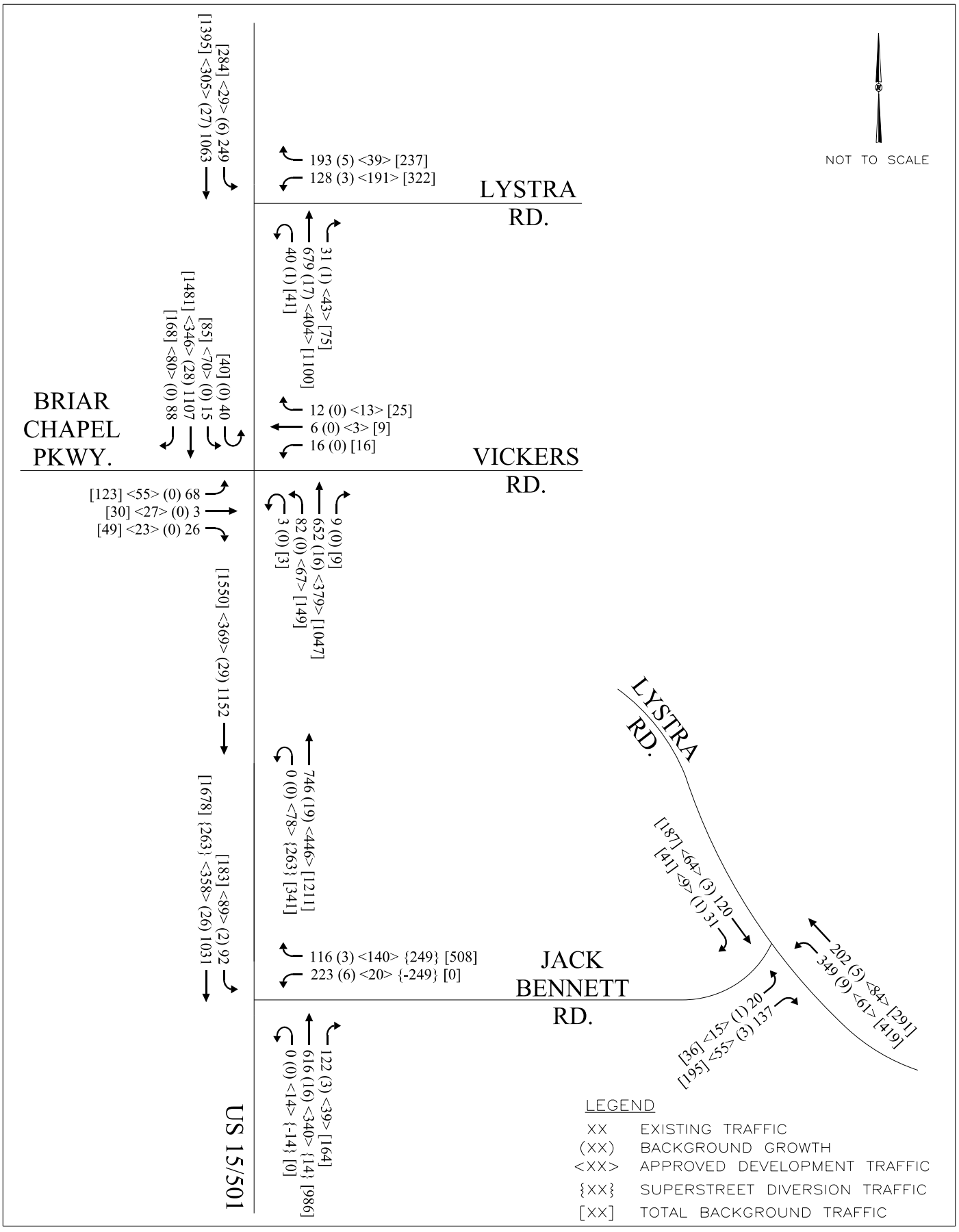
HERNDON FARM
CHATHAM COUNTY, NC
TRAFFIC CAPACITY ANALYSIS

EXISTING AND PROJECTED (2025)
BACKGROUND AM PEAK HOUR
TRAFFIC VOLUMES

FIGURE
5.1



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HERNDON FARM
CHATHAM COUNTY, NC
TRAFFIC CAPACITY ANALYSIS

EXISTING AND PROJECTED (2025)
BACKGROUND PM PEAK HOUR
TRAFFIC VOLUMES

FIGURE
5.2

NOT TO SCALE

LEGEND

XX BACKGROUND TRAFFIC

(XX) SITE TRAFFIC

[XX] TOTAL BUILD-OUT TRAFFIC

FIGURE 5.3

PROJECTED (2025) BUILD AM PEAK HOUR TRAFFIC VOLUMES

HERNDON FARM
CHATHAM COUNTY, NC
TRAFFIC CAPACITY ANALYSIS

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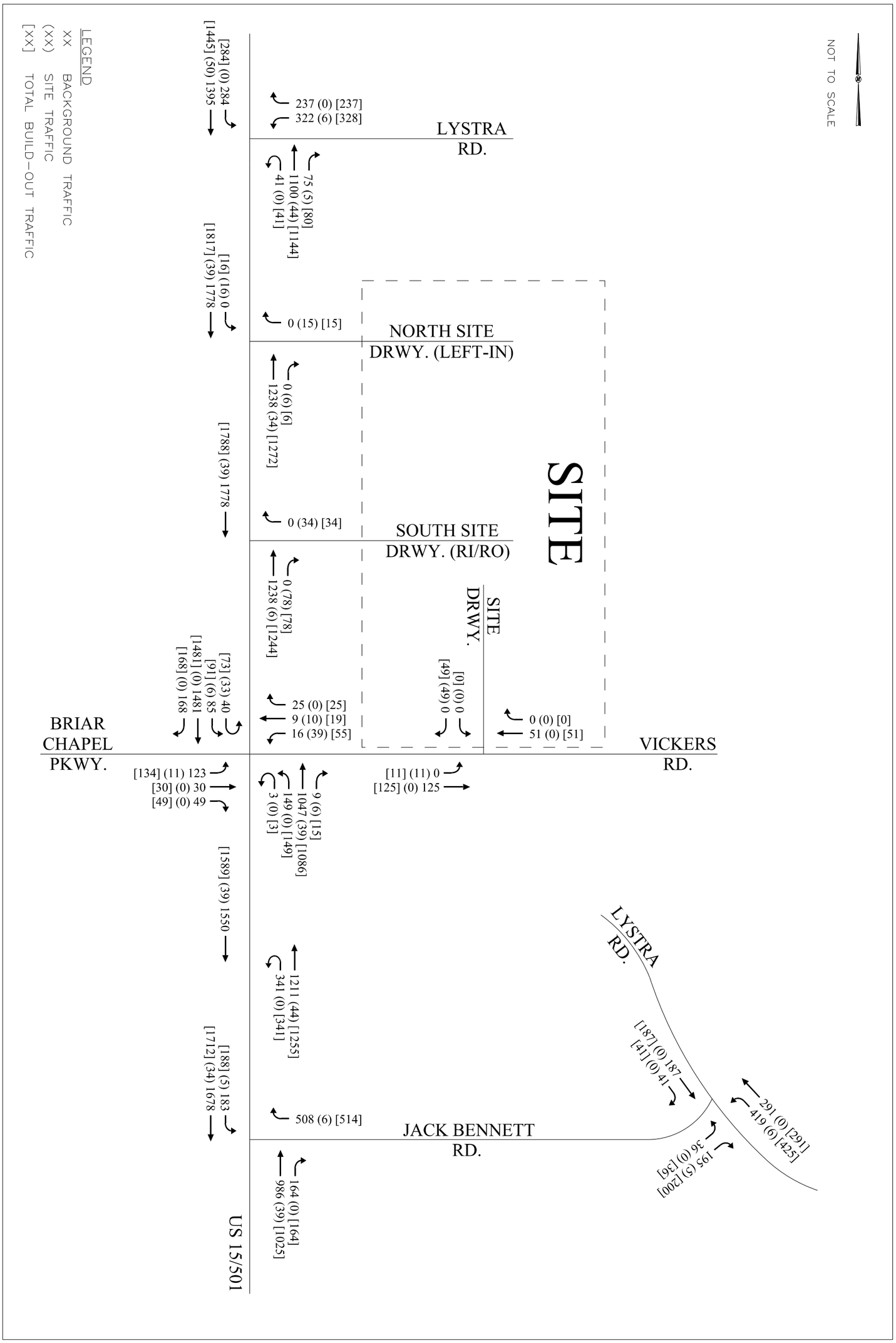


Kimley»Horn	HERNDON FARM CHATHAM COUNTY, NC TRAFFIC CAPACITY ANALYSIS	PROJECTED (2025) BUILD PM PEAK HOUR TRAFFIC VOLUMES	FIGURE 5.4

6.0 Capacity Analysis

Highway Capacity Manual LOS Thresholds

Capacity is defined as the maximum number of vehicles that can pass over a particular road segment or through a particular intersection within a set time duration. Capacity is combined with Level-of-Service (LOS) to describe the operating characteristics of a road segment or intersection. LOS is a qualitative measure that describes operational conditions and motorist perceptions within a traffic stream. The *Highway Capacity Manual* defines six levels of service, LOS A through LOS F, with A representing the shortest average delays and F representing the longest average delays. LOS D is the typically accepted standard for signalized intersections in urbanized areas. For signalized intersections, LOS is defined for the overall intersection.

For unsignalized intersections, only the movements that must yield right-of-way experience control delay. Therefore, LOS criteria for the overall intersection is not reported by Synchro or SimTraffic or computable using methodology published in the *Highway Capacity Manual.* It is typical for stop sign controlled side streets and driveways intersecting major streets to experience long delays during peak hours, while the majority of the traffic moving through the intersection on the major street experiences little or no delay. Table 6.0 lists the LOS control delay thresholds published in the *Highway Capacity Manual* for signalized and unsignalized intersections.

Table 6.0
Level-of-Service Control Delay Thresholds

Level-of-Service	Signalized Intersections – Control Delay Per Vehicle [sec/veh]	Unsignalized Intersections – Average Control Delay [sec/veh] & Qualitative Operational Description	
A	≤ 10	≤ 10	Short Delays
B	> 10 – 20	> 10 – 15	
C	> 20 – 35	> 15 – 25	
D	> 35 – 55	> 25 – 35	Moderate Delays
E	> 55 – 80	> 35 – 50	
F	> 80	> 50	Long Delays

Deviations from Typical Congestion Management Guidelines

Right-turns on red were allowed as currently permitted in the field. As there is no expectation that right-turns on red would be prohibited due to the addition of background or site traffic, field conditions were maintained for consistency. Additionally, existing peak hour factors (PHF) were used at existing intersections, while a 0.90 PHF was used at new intersections. As actual PHF were confirmed from field-collected data, and since it is typical for PHF to at least be maintained or increased with study area build-out, the use of actual PHF was determined to be appropriate.

Capacity analyses were performed for the AM and PM peak hours using Synchro/SimTraffic Version 10 software to determine the operating characteristics of the adjacent road network and the impacts of the proposed project. Those analyses are included in the Appendix and are briefly summarized in the following sub-sections.

6.1 *US 15/501 at Lystra Road*

Analyses indicate that the signalized intersection of US 15/501 at Lystra Road currently operates at LOS A in the AM and PM peak hours. NCDOT staff have indicated that signal phasing modifications are being considered at this intersection for the northbound U-turn and southbound left-turn movements on US 15/501, and the NCDOT Traffic Signals website includes completed plans to modify the signal to limit those movements to protected-only phasing. As such, that signal modification was assumed to be in place in the background and build-out traffic conditions. The following improvements are committed to be performed as part of the updated Williams Corner development per the 2020 TIA for that project:

- Construct an additional southbound left-turn lane on US 15/501 with 175 feet of storage to provide dual left-turn lanes on that approach
- Construct an additional westbound left-turn lane on Lystra Road with 275 feet of storage to provide dual left-turn lanes on that approach
- Extend the storage of the existing westbound right-turn lane on Lystra Road by approximately 75 feet to provide 200 feet of storage on that movement
- Modify the existing traffic signal to accommodate the recommended laneage

Analyses indicate with the committed improvements in place, the intersection is expected to operate at LOS B in the AM peak hour and LOS C in the PM peak hour with or without the proposed Herndon Farm project in place. As only minor increases in delays and queues are anticipated with the project in place, no improvements are recommended to be performed to accommodate site traffic.

Table 6.1 summarizes operations at the intersection of US 15/501 at Lystra Road for the existing (2020) and projected (2025) background and build-out traffic conditions.

Table 6.1
Level-of-Service
US 15/501 at Lystra Road (Signalized)

Condition	AM Peak Hour LOS (Delay)	PM Peak Hour LOS (Delay)
Existing (2020) Traffic – Full Movement	A (8.6)	A (9.6)
Background (2025) Traffic – Full Movement with Committed Improvements	B (17.6)	C (23.4)
Build-out (2025) Traffic – Full Movement with Committed Improvements	B (17.7)	C (23.6)

6.2 *US 15/501 at Briar Chapel Parkway/Vickers Road*

Analyses indicate that the signalized intersection of US 15/501 at Briar Chapel Parkway/Vickers Road currently operates at LOS B in both the AM and PM peak hours and is expected to continue to operate at LOS B in both peak hours in the projected (2025) background traffic condition. At project build-out, this intersection is expected to operate at LOS B in the AM peak hour and LOS C in the PM peak hour. No queuing issues are anticipated at this intersection, and no improvements are recommended to be performed to accommodate site traffic.

Table 6.2 summarizes operations at the intersection of US 15/501 at Briar Chapel Parkway/Vickers Road for the existing (2020) and projected (2025) background and build-out traffic conditions.

Table 6.2
Level-of-Service
US 15/501 at Lystra Road (Signalized)

Condition	AM Peak Hour LOS (Delay)	PM Peak Hour LOS (Delay)
Existing (2020) Traffic – Full-Movement	B (10.1)	B (11.1)
Background (2025) Traffic – Full-Movement	B (17.5)	B (18.6)
Build-out (2025) Traffic – Full-Movement	C (21.4)	C (24.5)

6.3 *US 15/501 at Jack Bennett Road*

Analyses indicate that the signalized intersection of US 15/501 at Jack Bennett Road currently operates at LOS B in both the AM and PM peak hours.

As NCDOT staff indicated that the adjacent Vickers-Bennett Development will be required to convert the intersection of US 15/501 at Jack Bennett Road to a RCI configuration, the following improvements were assumed to be provided (per conceptual corridor roadway plans) and were included in the analysis in the background and build-out conditions:

- Convert the intersection to a traditional RCI configuration (left-in/right-in/right-out)
- Modify the existing traffic signal to accommodate the reconfigured intersection

With these background improvements in place, this intersection is anticipated to operate at LOS C in the study year 2025 with or without the proposed project in place. As only minor increases in delays and queues are anticipated with the project in place, no improvements are recommended to be performed to accommodate site traffic.

Table 6.3 summarizes operations at the intersection of US 15/501 at Jack Bennett Road for the existing (2020) and projected (2025) background and build-out traffic conditions.

Table 6.3
Level-of-Service
US 15/501 at Jack Bennett Road (Signalized)

Condition	AM Peak Hour LOS (Delay)	PM Peak Hour LOS (Delay)
Existing (2020) Traffic – Full Movement	B (13.8)	B (13.5)
Background (2025) Traffic – RCI with Committed Improvements	C (23.6)	C (25.9)
Build-out (2025) Traffic – RCI with Committed Improvements	C (24.2)	C (26.3)

6.4 *Lystra Road at Jack Bennett Road*

Analyses indicate that the unsignalized intersection of Lystra Road at Jack Bennett Road currently operates with long delays on the minor street approach (Jack Bennett Road) in the AM peak hour and short delays in the PM peak hour. In the study year 2025, the intersection is expected to operate with long delays on the minor street approach in the AM peak hour and moderate delays in the PM peak hour with or without the proposed project in place. However, it is typical for stop sign controlled side streets and driveways intersecting major streets to experience long delays during peak hours, while the majority of the traffic moving through the intersection on the major street experiences little or no delay. As site traffic is expected to account for less than 0.7% of total intersection traffic in the AM peak hour at project build-out, and since only minor increases in delays and queues are anticipated with the project in place, no improvements are recommended to be performed to accommodate site traffic.

Table 6.4 summarizes operations at the intersection of Lystra Road at Jack Bennett Road for the existing (2020) and projected (2025) background and build-out traffic conditions.

Table 6.4
Level-of-Service
Lystra Road at Jack Bennett Road (Unsignalized)

Condition	AM Peak Hour LOS (Delay)	PM Peak Hour LOS (Delay)
Existing (2020) Traffic – Full Movement	NB – F (209.2)	NB – B (14.2)
Background (2025) Traffic – Full Movement	NB – F (>500)	NB – E (37.6)
Build-out (2025) Traffic – Full Movement	NB – F (>500)	NB – E (39.3)

6.5 *US 15/501 at U-Turn North of Jack Bennett Road*

NCDOT has indicated that the Vickers-Bennett Development will be required to convert the intersection of US 15/501 at Jack Bennett Road to a "traditional" RCI (left-in/right-in/right-out) and provide the associated U-turn accommodation north of the intersection on US 15/501. For the purposes of this analysis, and consistent with the *Vickers-Bennett TIA*, this U-turn was assumed to be provided between Briar Chapel Parkway/Vickers Road and Jack Bennett Road.

The following improvements were assumed to be provided for the U-turn break and were included in the analysis in the background and build-out conditions:

- Construct a U-turn median break on US 15/501 between Briar Chapel Parkway/Vickers Road and Jack Bennett Road to accommodate U-turn traffic on the northbound approach
- Provide a northbound U-turn lane on US 15/501
- Install a traffic signal to accommodate the U-turn movement

With these background improvements in place, this intersection is anticipated to operate at LOS A in the study year 2025 with or without the proposed project in place. As only minor increases in delays and queues are anticipated with the project in place, no improvements are recommended to be performed to accommodate site traffic.

Table 6.5 summarizes operations at the intersection of US 15/501 at U-Turn North of Jack Bennett Road for the projected (2025) background and build-out traffic conditions.

Table 6.5
Level-of-Service
US 15/501 at U-Turn North of Jack Bennett Road (Signalized)

Condition	AM Peak Hour LOS (Delay)	PM Peak Hour LOS (Delay)
Background (2025) Traffic – with Committed Improvements	A (0.9)	A (1.6)
Build-out (2025) Traffic – with Committed Improvements	A (1.0)	A (2.4)

6.6 *US 15/501 at South Site Driveway*

A right-in/right-out site driveway is proposed on US 15/501 approximately 450 feet north of Vickers Road. The following roadway improvements are recommended to be performed at this intersection to accommodate projected future traffic volumes:

- Construct a northbound right-turn lane on US 15/501 with 100 feet of storage and appropriate tapers
- Construct the South Site Driveway with one ingress lane and one egress lane

Analyses indicate that the intersection is expected to operate with short delays on the minor street approach (South Site Driveway), and no queuing issues are anticipated at project build-out.

Table 6.6 summarizes operations at the intersection of US 15/501 at the South Site Driveway for the projected (2025) build-out traffic condition.

Table 6.6
Level-of-Service
US 15/501 at South Site Driveway (Unsignalized)

Condition	AM Peak Hour LOS (Delay)	PM Peak Hour LOS (Delay)
Build-out (2025) Traffic	WB – C (20.3)	WB – C (15.3)

6.7 *US 15/501 at North Site Driveway*

A directional crossover (left-in/right-in/right-out) site driveway is proposed on US 15/501 generally aligned with Oak Island Drive. The following roadway improvements are recommended to be performed at this intersection to accommodate projected future traffic volumes:

- Construct a southbound left-turn lane on US 15/501 with 50 feet of storage and appropriate tapers
- Construct the North Site Driveway with one ingress lane and one egress lane

Analyses indicate that the intersection is expected to operate with short delays on the minor street approach (North Site Driveway), and no queuing issues are anticipated at project build-out.

Table 6.7 summarizes operations at the intersection of US 15/501 at the North Site Driveway for the projected (2025) build-out traffic condition.

Table 6.7
Level-of-Service
US 15/501 at North Site Driveway (Unsignalized)

Condition	AM Peak Hour LOS (Delay)	PM Peak Hour LOS (Delay)
Build-out (2025) Traffic	WB – C (19.4)	WB – C (15.0)

6.8 *Vickers Road at Site Driveway*

A full-movement site driveway is proposed on Vickers Road approximately 850 feet east of US 15/501, which is east of the existing veterinary hospital driveway. This intersection is proposed to be constructed with one ingress and one egress lane, and analyses indicate that this intersection is expected to operate with short delays and queues on the minor street approach (Site Driveway) at project build-out.

Table 6.8 summarizes operations at the intersection of Lystra Road at West Site Driveway for the projected (2025) build-out traffic condition.

Table 6.8
Level-of-Service
Vickers Road at Site Driveway (Unsignalized)

Condition	AM Peak Hour LOS (Delay)	PM Peak Hour LOS (Delay)
Build-out (2025) Traffic	SB – A (9.0)	SB – A (8.9)

7.0 Recommendations

Background Improvements

The following improvements are committed to be performed as part of the proposed Williams Corner development based on the *Updated Williams Corner TIA* (Kimley-Horn, January 2020) for that project and were included in the analysis in the background and build-out conditions:

US 15/501 at Lystra Road:

- Construct an additional southbound left-turn lane on US 15/501 with 175 feet of storage to provide dual left-turn lanes on that approach
- Construct an additional westbound left-turn lane on Lystra Road with 275 feet of storage to provide dual left-turn lanes on that approach
- Extend the storage of the existing westbound right-turn lane on Lystra Road by approximately 75 feet to provide 200 feet of storage on that movement
- Modify the existing traffic signal to accommodate the recommended laneage

As NCDOT staff indicated that the adjacent Vickers-Bennett Development will be required to convert the intersection of US 15/501 at Jack Bennett Road to a RCI configuration, the following improvements were assumed to be provided (per conceptual corridor roadway plans) and were included in the analysis in the background and build-out conditions:

US 15/501 at Jack Bennett Road:

- Convert the intersection to a traditional RCI configuration (left-in/right-in/right-out)
- Modify the existing traffic signal to accommodate the reconfigured intersection

US 15/501 at U-Turn North of Jack Bennett Road:

- Construct a U-turn median break on US 15/501 between Briar Chapel Parkway/Vickers Road and Jack Bennett Road to accommodate U-turn traffic on the northbound approach
- Provide a northbound U-turn lane on US 15/501
- Install a traffic signal to accommodate the U-turn movement

The identified background improvements from the referenced developments are shown on **Figure 7.1**.

Recommended Improvements

The following roadway improvements are recommended to be performed as part of this project:

US 15/501 at South Site Driveway:

- Construct a northbound right-turn lane on US 15/501 with 100 feet of storage and appropriate tapers
- Construct the South Site Driveway with one ingress lane and one egress lane

US 15/501 at North Site Driveway:

- Construct a southbound left-turn lane on US 15/501 with 50 feet of storage and appropriate tapers
- Construct the North Site Driveway with one ingress lane and one egress lane

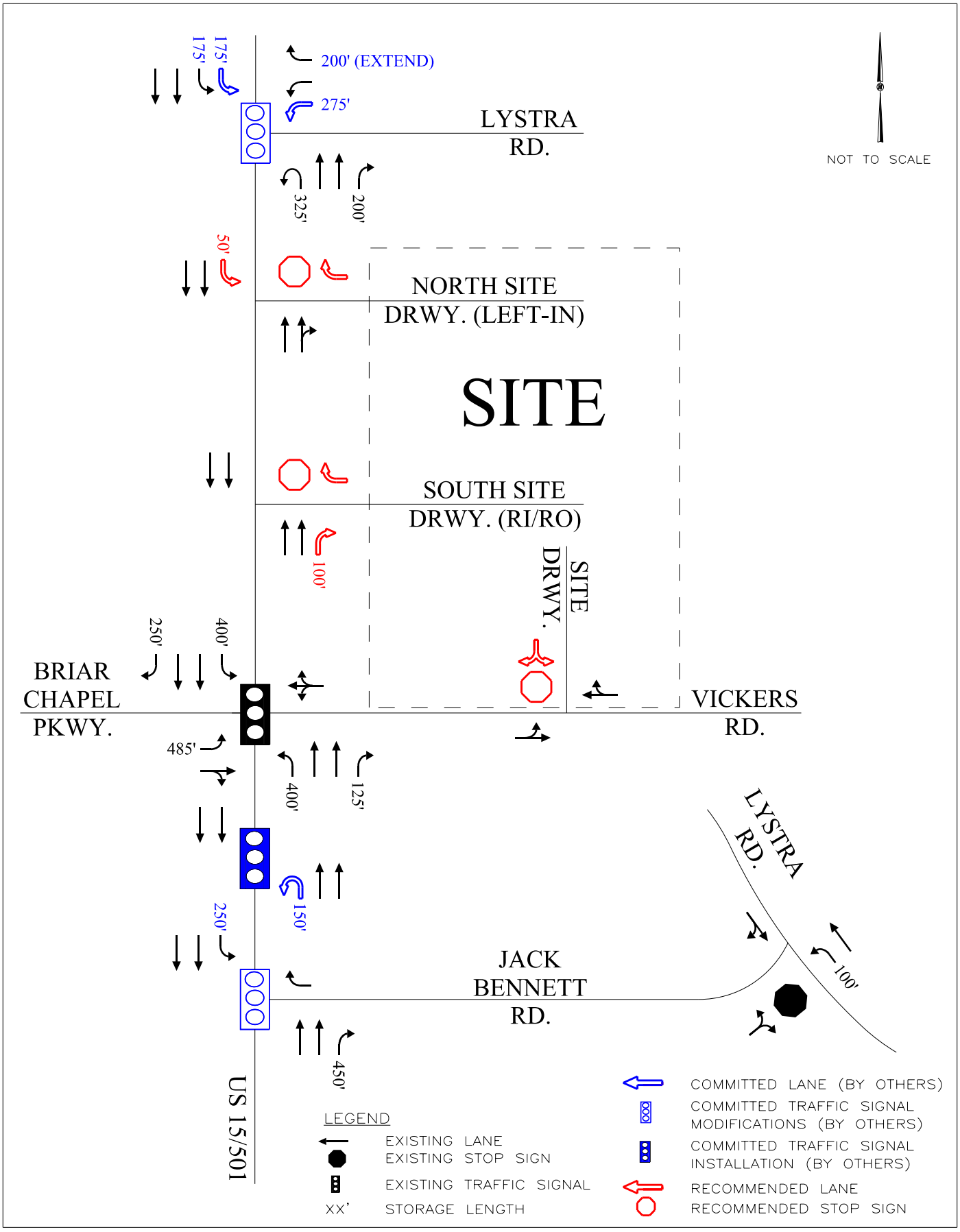
Vickers Road at Site Driveway:

- Construct the Site Driveway with one ingress lane and one egress lane

These recommended improvements are also shown on **Figure 7.1**.

Analyses indicate that with the committed and recommended improvements in place, all of the signalized study intersections will operate at acceptable LOS at project build-out.

Analyses indicate that the unsignalized intersection of Lystra Road at Jack Bennett Road currently operates with long delays on the minor street approach (Jack Bennett Road) in the AM peak hour and is expected to continue to operate with long delays in the study year 2025 with or without the proposed project in place. However, it should be noted that it is typical for stop sign controlled side streets and driveways intersecting major streets to experience long delays during peak hours, while the majority of the traffic moving through the intersection on the major street experiences little or no delay. As site traffic is expected to account for less than 0.7% of total intersection traffic in the AM peak hour at project build-out, and since only minor increases in delays and queues are anticipated with the project in place, no improvements are recommended to be performed to accommodate site traffic.



Kimley»Horn	HERNDON FARM CHATHAM COUNTY, NC TRAFFIC CAPACITY ANALYSIS	COMMITTED AND RECOMMENDED ROADWAY LANEAGE	FIGURE 7.1

8.0 Future Year (2025) RCI Corridor Analysis

In addition to analyzing the intersections of US 15/501 at Lystra Road and Briar Chapel Parkway/Vickers Road as full-movement intersections, NCDOT requested that those intersections also be analyzed as "traditional" reduced conflict intersections ("RCI") for the study year 2025. For that future year analysis, it was also requested that the North Site Driveway on US 15/501 be analyzed as both a directional crossover (left-in/right-in/right-out) and as a right-in/right-out driveway.

For these future year RCI Corridor scenarios, the following improvements were analyzed along the corridor in addition to background and recommended improvements identified in *Section 7.0* of this report.

US 15/501 at Lystra Road:

- Convert the intersection to a traditional RCI configuration, with lefts permitted from US 15/501 onto Lystra Road
- Modify the traffic signal to accommodate the reconfigured intersection

US 15/501 at Briar Chapel Parkway/Vickers Road:

- Convert the intersection to a traditional RCI configuration, with lefts permitted from US 15/501 onto both Briar Chapel Parkway and Vickers Road
- Modify the traffic signal to accommodate the reconfigured intersection

US 15/501 at U-Turn North of Jack Bennett Road/South of Briar Chapel Parkway:

- Construct a U-turn median break on US 15/501 between Briar Chapel Parkway/Vickers Road and Jack Bennett Road to accommodate U-turn traffic on the southbound approach
- Provide a southbound U-turn lane on US 15/501

US 15/501 at U-Turn North of Vickers Road:

- Construct a U-turn median break on US 15/501 between Vickers Road and Oak Island Drive to accommodate U-turn traffic on the northbound approach
- Provide a northbound U-turn lane on US 15/501

Synchro Version 10 software was used to perform capacity analyses for these future year scenarios, and Table 8.1 summarizes the operation of the study intersections for the AM and PM peak hour traffic conditions. For intersections where the type of access provided at the North Site Driveway is not anticipated to have a significant impact (US 15/501 at Lystra Road, Lystra Road at Jack Bennett), delays from only the "Left-In" scenario were reported.

Table 8.1 Level-of-Service Summary – Future Year RCI Corridor Scenarios		
Condition	**AM Peak Hour LOS (Delay)**	**PM Peak Hour LOS (Delay)**
US 15/501 at Lystra Road (Signalized)		
Build-out (2025) Traffic – RCI with Identified Imps.	B (18.2)	C (24.3)
US 15/501 at Briar Chapel Parkway/Vickers Road (Signalized)		
Build-out (2025) Traffic – RCI & Left-In North Site Driveway	BC Pkwy. Sig.: B (17.2) Vickers Rd. Sig.: A (5.8)	BC Pkwy. Sig.: B (15.1) Vickers Rd. Sig.: A (9.4)
Build-out (2025) Traffic – RCI RI/RO North Site Driveway	BC Pkwy. Sig.: B (17.2) Vickers Rd. Sig.: A (6.4)	BC Pkwy. Sig.: B (15.1) Vickers Rd. Sig.: B (10.1)
US 15/501 at Jack Bennett Road (Signalized)		
Build-out (2025) Traffic – RCI with Committed Imps.	C (23.8)	C (26.1)
Lystra Road at Jack Bennett Road (Unsignalized)		
Build-out (2025) Traffic	NB – F (>500)	NB – E (39.3)
US 15/501 at U-Turn North of Jack Bennett Road/South of Briar Chapel Parkway (Signalized)		
Build-out (2025) Traffic – Left-In North Site Driveway	NB U-Turn Sig.: A (1.6) SB U-Turn Sig.: A (2.0)	NB U-Turn Sig.: A (3.4) SB U-Turn Sig.: A (2.2)
Build-out (2025) Traffic – RI/RO North Site Driveway	NB U-Turn Sig.: A (1.6) SB U-Turn Sig.: A (2.0)	NB U-Turn Sig.: A (3.4) SB U-Turn Sig.: A (2.2)
US 15/501 at U-Turn North of Vickers Road (Unsignalized)		
Build-out (2025) Traffic – Left-In North Site Driveway	WB – C (15.0)	WB – D (27.7)
Build-out (2025) Traffic – RI/RO North Site Driveway	WB – C (15.1)	WB – D (28.2)
US 15/501 at South Site Driveway (Unsignalized)		
Build-out (2025) Traffic – with Left-In North Site Driveway	WB – C (23.2)	WB – C (16.7)
Build-out (2025) Traffic – with RI/RO North Site Driveway	WB – C (23.4)	WB – C (16.9)
US 15/501 at North Site Driveway (Unsignalized)		
Build-out (2025) Traffic – Left-In	WB – C (19.4)	WB – C (15.0)
Build-out (2025) Traffic – RI/RO	WB – C (19.5)	WB – C (15.1)
Vickers Road at Site Driveway (Unsignalized)		
Build-out (2025) Traffic – with Left-In North Site Driveway	SB – A (8.9)	SB – A (8.8)
Build-out (2025) Traffic – with RI/RO North Site Driveway	SB – A (8.9)	SB – A (8.8)

As shown in Table 8.1, all of the study intersections along US 15/501 are anticipated to operate at acceptable LOS in the study year 2025 with RCI configurations at the existing full-movement

study intersections along US 15/501 at Lystra Road, Briar Chapel Parkway/Vickers Road, and Jack Bennett Road. Additionally, delays are generally shorter in the "Left-In North Site Driveway" scenario than in the "Right-in/Right-out North Site Driveway" scenario.

Given that Herndon Farm site traffic is anticipated to have a minor impact on intersection volumes, delays, and queues at off-site intersections (as illustrated in *Section 6* of this report) and since the intersection of US 15/501 at Briar Chapel Parkway/Vickers Road is expected to operate at an acceptable LOS in its current full-movement configuration at project build-out, implementation of RCI improvements is not recommended to be performed as part of this project.

Appendix

Appendix A:

Approved Assumptions Memorandum

Preliminary Assumptions
Herndon Farm - Traffic Impact Analysis
Chatham County, North Carolina

KHA will perform analyses for the proposed Herndon Farm mixed-use project, located generally northeast of the intersection of US 15/501 at Vickers Road in Chatham County, North Carolina. The following assumptions will be used in the analysis of the site (based on a scoping call with County and NCDOT representatives on December 17, 2019 and subsequent discussions):

Study Scenarios:
The study scenarios will consist of:

- Existing (2020)
- Background (2025) – Full-Movement Corridor Intersections
- Build-out (2025) – Full-Movement Corridor Intersections
- Build-out (2025) – RCI Corridor Intersections (left-in/right-in/right-out)
    - Left-in/Right-in/Right-out North Site Driveway
- Build-out (2025) – RCI Corridor Intersections (left-in/right-in/right-out)
    - RI/RO North Site Driveway

Study Intersections:
The study area will consist of the following intersections:

- US 15/501 at Lystra Road
- US 15/501 at Briar Chapel Parkway/Vickers Road
- US 15/501 at Jack Bennett Road
- Lystra Road at Jack Bennett Road
- US 15/501 at North Site Driveway (assumed left-in/right-in/right-out)
- US 15/501 at South Site Driveway (assumed right-in/right-out)
- Vickers Road at Site Driveway (assumed full-movement)

Traffic Counts:
Weekday AM (7-9AM) and PM (4-6PM) peak hour turning movement counts will be performed at each of the study intersections when Chatham County Public Schools are in session. [Those counts were collected in February 2020 when school was in session prior to school and business closures associated with the Covid-19 outbreak.]

Background Developments:
Based on discussions with the County and NCDOT, four developments in the study area were identified for inclusion in this analysis as background traffic. Those projects included:

- Williams Corner (updated, reduced development plan per 2020 TIA)
- Polk's Landing (remaining portion)
- Briar Chapel (remaining portion)
- Vickers Bennett Development (Ramey Kemp, March 2020)
    - Assumed 225 single-family homes, 25,000 SF general office space, and 50,000 SF general retail space
    - Assume Jack Bennett converted to traditional RCI configuration

Inclusion of approved development traffic from these projects is anticipated to overestimate future traffic volumes since (generally) no traffic was assigned between the projects.

Background Growth

Historic daily traffic volumes in the study area indicate that traffic growth is approximately 3% per year since 2004. However, the identified approved development traffic alone is estimated to be equivalent to effective annual growth rates of more than 3% at Lystra Road up to the study year 2025, and full build-out site traffic from the identified developments will be included even though some are not anticipated to be complete prior to 2025. As such, a 0.5% annual growth rate will be applied to existing through volumes up to the study year 2025 (except to/from Briar Chapel Parkway since growth accounted for through approved development site traffic).

Trip Distribution

The following directional distribution will be used for the site based on a review of surrounding land uses (see attached distribution figure):

- 45% to/from the north on US 15/501
- 35% to/from the south on US 15/501
- 10% to/from the west on Briar Chapel Parkway
- 5% to/from the east on Lystra Road (via US 15/501)
- 5% to/from the east on Lystra Road (via Jack Bennett Road)

Proposed Uses and Trip Generation

The property is occupied by a few single-family homes, and as currently envisioned will include approximately 170 senior-adult detached residential units, a congregate care facility with approximately 125 units, and a 10,000 SF daycare. Other on-site amenities and support uses (neighborhood "clubhouse", barn, etc.) are also proposed but not anticipated to generate significant site traffic or otherwise accounted for in residential trip generation. No internal capture or pass-by reductions will be applied to the trip generation based on these proposed land uses.

While there is a portion of the property west of US 15/501, no development is envisioned on that portion of the property at this time.

Site Access

Primary site access is proposed via two site driveways on US 15/501 and one site driveway on Vickers Road. Based on discussions with NCDOT and the County, this analysis will assume that the northern site driveway on US 15/501 will be constructed as a directional crossover (left-in/right-in/right-out) north of the existing power easement, and the southern site driveway will be constructed as a right-in/right-out only driveway generally aligning with Falling Springs Drive. No direct vehicular access onto US 15/501 is proposed to the portion of the property west of US 15/501. While there is a potential for future cross-access to adjacent parcels, those connections will not be analyzed with this study to present conservative results at the primary site driveways.

Other Study Assumptions

Existing peak hour factors (PHF's) will be used at existing intersections, and a PHF of 0.90 will be used at new intersections. Right-turns on red (RTOR) and permitted + protected phasing will be permitted in the analysis where currently allowed and considered for new movements at traffic signals. Justification for those inputs will be provided in the TIA consistent with other studies submitted to and reviewed by NCDOT Congestion Management.

Kimley»Horn

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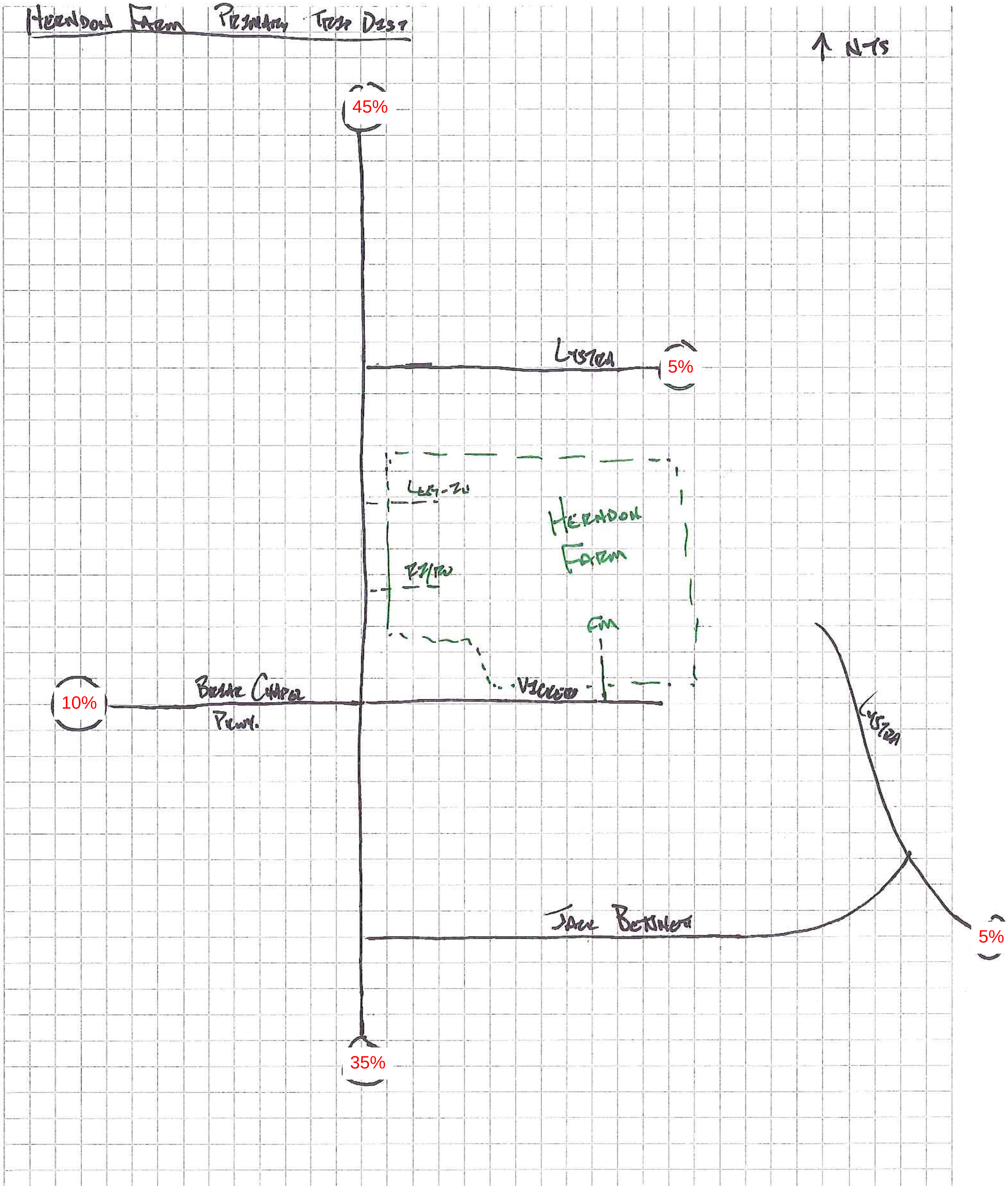
Job Herndon Farm Subject Primary Trip Dist. Sheet No. ____ of ____

Job No. ____

Designed By KH Date 1/20/20 Checked By ____ Date ____



Herndon Farm

Table 1 - Trip Generation

Land Use		Intensity		Daily	AM Peak Hour			PM Peak Hour		
				Total	Total	In	Out	Total	In	Out
251	Senior Adult Housing - Detached	170	d.u.	898	61	20	41	73	45	28
253	Congregate Care Facility[1]	125	d.u.	254	20	10	10	25	14	11
565	Day Care Center	10,000	s.f.	476	110	58	52	111	52	59
Total Net New External Trips				**1,628**	**191**	**88**	**103**	**209**	**111**	**98**

[1]To be conservative, peak hour trip generation for LUC 253 was based on peak hour of the generator as opposed to peak hour of the adjacent street to present a more-conservative approach.

Appendix B:
Trip Generation

Herndon Farm

Table 1 - Trip Generation

Land Use		Intensity		Daily	AM Peak Hour			PM Peak Hour		
				Total	Total	In	Out	Total	In	Out
251	Senior Adult Housing - Detached	170	d.u.	898	61	20	41	73	45	28
253	Congregate Care Facility[1]	125	d.u.	254	20	10	10	25	14	11
565	Day Care Center	10,000	s.f.	476	110	58	52	111	52	59
Total Net New External Trips				**1,628**	**191**	**88**	**103**	**209**	**111**	**98**

[1]To be conservative, peak hour trip generation for LUC 253 was based on peak hour of the generator as opposed to peak hour of the adjacent street to present a more-conservative approach.

Appendix C:
Traffic Count Data

Project ID: 20-09047-001
Location: US 15/US 501 & CR 1721/Lystra Rd
City: Chapel Hill

Day: Tuesday
Date: 02/11/2020

Groups Printed - Cars, PU, Vans - Heavy Trucks

	US 15/US 501 Northbound						US 15/US 501 Southbound						CR 1721/Lystra Rd Eastbound						CR 1721/Lystra Rd Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	0	204	6	0	0	210	13	86	0	0	0	99	0	0	0	0	0	0	8	0	25	0	0	33	342
7:15 AM	0	306	12	1	0	319	30	132	0	0	0	162	0	0	0	0	0	0	11	0	20	0	0	31	512
7:30 AM	0	256	32	1	0	289	43	132	0	0	0	175	0	0	0	0	0	0	15	0	27	0	0	42	506
7:45 AM	0	249	43	3	0	295	43	131	0	0	0	174	0	0	0	0	0	0	20	0	39	0	2	59	528
Total	0	1015	93	5	0	1113	129	481	0	0	0	610	0	0	0	0	0	0	54	0	111	0	2	165	1888
8:00 AM	0	258	22	4	0	284	52	107	0	1	0	160	0	0	0	0	0	0	15	0	43	0	0	58	502
8:15 AM	0	259	13	2	0	274	38	114	0	0	0	152	0	0	0	0	0	0	12	0	29	0	0	41	467
8:30 AM	0	260	6	8	0	274	30	103	0	0	0	133	0	0	0	0	0	0	15	0	30	0	1	45	452
8:45 AM	0	207	13	2	0	222	21	98	0	0	0	119	0	0	0	0	0	0	20	0	28	0	0	48	389
Total	0	984	54	16	0	1054	141	422	0	1	0	564	0	0	0	0	0	0	62	0	130	0	1	192	1810
BREAK																									
4:00 PM	0	153	6	15	0	174	47	225	0	2	0	274	0	0	0	0	0	0	30	0	51	0	0	81	529
4:15 PM	0	152	10	12	0	174	54	263	0	2	0	319	0	0	0	0	0	0	38	0	44	0	0	82	575
4:30 PM	0	173	8	8	0	189	70	276	0	0	0	346	0	0	0	0	0	0	29	0	52	0	0	81	616
4:45 PM	0	169	13	9	0	191	63	233	0	0	0	296	0	0	0	0	0	0	31	0	39	0	0	70	557
Total	0	647	37	44	0	728	234	997	0	4	0	1235	0	0	0	0	0	0	128	0	186	0	0	314	2277
5:00 PM	0	154	7	15	0	176	54	255	0	0	0	309	0	0	0	0	0	0	35	0	55	0	0	90	575
5:15 PM	0	183	3	8	0	194	62	299	0	0	0	361	0	0	0	0	0	0	33	0	47	0	0	80	635
5:30 PM	0	135	14	11	0	160	57	252	0	2	0	311	0	0	0	0	0	0	43	0	61	0	0	104	575
5:45 PM	0	145	7	9	0	161	41	221	0	1	0	263	0	0	0	0	0	0	29	0	57	0	0	86	510
Total	0	617	31	43	0	691	214	1027	0	3	0	1244	0	0	0	0	0	0	140	0	220	0	0	360	2295
Grand Total	0	3263	215	108	0	3586	718	2927	0	8	0	3653	0	0	0	0	0	0	384	0	647	0	3	1031	8270
Apprch %	0.0	91.0	6.0	3.0	0.0		19.7	80.1	0.0	0.2	0.0		0.0	0.0	0.0	0.0	0.0		37.2	0.0	62.8	0.0	0.3		
Total %	0.0	39.5	2.6	1.3	0.0	43.4	8.7	35.4	0.0	0.1	0.0	44.2	0.0	0.0	0.0	0.0	0.0	0.0	4.6	0.0	7.8	0.0	0.0	12.5	
Cars, PU, Vans	0	3203	206	108		3517	707	2869	0	8		3584	0	0	0	0		0	377	0	635	0		1012	8113
% Cars, PU, Vans	0.0	98.2	95.8	100.0		98.1	98.5	98.0	0.0	100.0		98.1	0.0	0.0	0.0	0.0		0.0	98.2	0.0	98.1	0.0		98.2	98.1
Heavy Trucks	0	60	9	0		69	11	58	0	0		69	0	0	0	0		0	7	0	12	0		19	157
%Heavy Trucks	0.0	1.8	4.2	0.0		1.9	1.5	2.0	0.0	0.0		1.9	0.0	0.0	0.0	0.0		0.0	1.8	0.0	1.9	0.0		1.8	1.9

Project ID: 20-09047-001
Location: US 15/US 501 & CR 1721/Lystra Rd
City: Chapel Hill

PEAK HOURS

Day: Tuesday
Date: 02/11/2020

AM

	US 15/US 501 Northbound					US 15/US 501 Southbound					CR 1721/Lystra Rd Eastbound					CR 1721/Lystra Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM to 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
7:15 AM	0	306	12	1	319	30	132	0	0	162	0	0	0	0	0	11	0	20	0	31	512
7:30 AM	0	256	32	1	289	43	132	0	0	175	0	0	0	0	0	15	0	27	0	42	506
7:45 AM	0	249	43	3	295	43	131	0	0	174	0	0	0	0	0	20	0	39	0	59	528
8:00 AM	0	258	22	4	284	52	107	0	1	160	0	0	0	0	0	15	0	43	0	58	502
Total Volume	0	1069	109	9	1187	168	502	0	1	671	0	0	0	0	0	61	0	129	0	190	2048
% App. Total	0.0	90.1	9.2	0.8	100	25.0	74.8	0.0	0.1	100	0.0	0.0	0.0	0.0	0	32.1	0.0	67.9	0.0	100	
PHF					0.930					0.959										0.805	0.970
Cars, PU, Vans	0	1048	104	9	1161	165	485	0	1	651	0	0	0	0	0	59	0	127	0	186	1998
% Cars, PU, Vans	0.0	98.0	95.4	100.0	97.8	98.2	96.6	0.0	100.0	97.0	0.0	0.0	0.0	0.0	0.0	96.7	0.0	98.4	0.0	97.9	97.6
Heavy Trucks	0	21	5	0	26	3	17	0	0	20	0	0	0	0	0	2	0	2	0	4	50
%Heavy Trucks	0.0	2.0	4.6	0.0	2.2	1.8	3.4	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.3	0.0	1.6	0.0	2.1	2.4

PM

	US 15/US 501 Northbound					US 15/US 501 Southbound					CR 1721/Lystra Rd Eastbound					CR 1721/Lystra Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM to 06:00 PM																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
4:30 PM	0	173	8	8	189	70	276	0	0	346	0	0	0	0	0	29	0	52	0	81	616
4:45 PM	0	169	13	9	191	63	233	0	0	296	0	0	0	0	0	31	0	39	0	70	557
5:00 PM	0	154	7	15	176	54	255	0	0	309	0	0	0	0	0	35	0	55	0	90	575
5:15 PM	0	183	3	8	194	62	299	0	0	361	0	0	0	0	0	33	0	47	0	80	635
Total Volume	0	679	31	40	750	249	1063	0	0	1312	0	0	0	0	0	128	0	193	0	321	2383
% App. Total	0.0	90.5	4.1	5.3	100	19.0	81.0	0.0	0.0	100	0.0	0.0	0.0	0.0	0	39.9	0.0	60.1	0.0	100	
PHF					0.966					0.909										0.892	0.938
Cars, PU, Vans	0	674	31	40	745	246	1050	0	0	1296	0	0	0	0	0	127	0	192	0	319	2360
% Cars, PU, Vans	0.0	99.3	100.0	100.0	99.3	98.8	98.8	0.0	0.0	98.8	0.0	0.0	0.0	0.0	0.0	99.2	0.0	99.5	0.0	99.4	99.0
Heavy Trucks	0	5	0	0	5	3	13	0	0	16	0	0	0	0	0	1	0	1	0	2	23
%Heavy Trucks	0.0	0.7	0.0	0.0	0.7	1.2	1.2	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.5	0.0	0.6	1.0

Project ID: 20-09047-002
Location: US 15/US 501/Chapel Hill Rd & Briar Chapel Pkwy/Vickers Rd
City: Chapel Hill

Day: Tuesday
Date: 02/11/2020

Groups Printed - Cars, PU, Vans - Heavy Trucks

	US 15/US 501/Chapel Hill Rd Northbound						US 15/US 501/Chapel Hill Rd Southbound						Briar Chapel Pkwy/Vickers Rd Eastbound						Briar Chapel Pkwy/Vickers Rd Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	9	215	1	0	0	225	3	99	3	3	0	108	18	0	16	0	0	34	2	0	2	0	0	4	371
7:15 AM	4	275	1	0	0	280	2	133	3	4	0	142	30	1	15	0	0	46	1	0	4	0	0	5	473
7:30 AM	11	276	3	1	0	291	2	147	5	6	0	160	30	1	12	0	0	43	2	0	3	0	0	5	499
7:45 AM	19	216	6	4	0	245	10	142	11	5	0	168	37	0	4	0	0	41	5	0	9	0	0	14	468
Total	43	982	11	5	0	1041	17	521	22	18	0	578	115	2	47	0	0	164	10	0	18	0	0	28	1811
8:00 AM	18	280	2	0	0	300	1	116	8	7	0	132	19	0	20	0	0	39	3	3	3	0	0	9	480
8:15 AM	16	214	2	3	0	235	5	104	6	7	0	122	22	2	13	0	0	37	0	0	7	0	0	7	401
8:30 AM	9	234	5	1	0	249	3	116	5	7	0	131	21	0	16	0	0	37	0	1	6	0	0	7	424
8:45 AM	21	195	1	0	0	217	5	96	9	7	0	117	15	1	8	0	0	24	0	0	6	0	0	6	364
Total	64	923	10	4	0	1001	14	432	28	28	0	502	77	3	57	0	0	137	3	4	22	0	0	29	1669
BREAK																									
4:00 PM	16	156	6	2	0	180	3	226	19	4	0	252	13	1	7	0	1	21	3	1	7	0	0	11	464
4:15 PM	12	137	3	1	0	153	7	296	14	6	0	323	16	1	5	0	0	22	2	1	3	0	1	6	504
4:30 PM	20	172	2	2	0	196	2	291	17	17	0	327	14	0	7	0	0	21	4	1	3	0	0	8	552
4:45 PM	18	158	1	0	0	177	3	241	18	6	0	268	20	1	6	0	0	27	1	1	2	0	0	4	476
Total	66	623	12	5	0	706	15	1054	68	33	0	1170	63	3	25	0	1	91	10	4	15	0	1	29	1996
5:00 PM	21	161	3	0	0	185	3	279	25	6	0	313	19	2	8	0	0	29	7	1	4	0	0	12	539
5:15 PM	23	161	3	1	0	188	7	296	28	11	0	342	15	0	5	0	0	20	4	3	3	0	0	10	560
5:30 PM	19	143	2	0	0	164	3	271	20	4	0	298	15	0	6	0	0	21	3	1	5	0	0	9	492
5:45 PM	24	131	2	0	0	157	4	214	16	4	0	238	13	0	2	0	0	15	3	0	1	0	0	4	414
Total	87	596	10	1	0	694	17	1060	89	25	0	1191	62	2	21	0	0	85	17	5	13	0	0	35	2005
Grand Total	260	3124	43	15	0	3442	63	3067	207	104	0	3441	317	10	150	0	1	477	40	13	68	0	1	121	7481
Apprch %	7.6	90.8	1.2	0.4	0.0		1.8	89.1	6.0	3.0	0.0		66.5	2.1	31.4	0.0	0.2		33.1	10.7	56.2	0.0	0.8		
Total %	3.5	41.8	0.6	0.2	0.0	46.0	0.8	41.0	2.8	1.4	0.0	46.0	4.2	0.1	2.0	0.0	0.0	6.4	0.5	0.2	0.9	0.0	0.0	1.6	
Cars, PU, Vans	259	3067	39	15		3380	59	3007	204	104		3374	314	10	148	0		472	37	13	64	0		114	7340
% Cars, PU, Vans	99.6	98.2	90.7	100.0		98.2	93.7	98.0	98.6	100.0		98.1	99.1	100.0	98.7	0.0		99.0	92.5	100.0	94.1	0.0		94.2	98.1
Heavy Trucks	1	57	4	0		62	4	60	3	0		67	3	0	2	0		5	3	0	4	0		7	141
%Heavy Trucks	0.4	1.8	9.3	0.0		1.8	6.3	2.0	1.4	0.0		1.9	0.9	0.0	1.3	0.0		1.0	7.5	0.0	5.9	0.0		5.8	1.9

Project ID: 20-09047-002
Location: US 15/US 501/Chapel Hill Rd & Briar Chapel Pkwy
City: Chapel Hill

PEAK HOURS

Day: Tuesday
Date: 02/11/2020

AM

	US 15/US 501/Chapel Hill Rd Northbound					US 15/US 501/Chapel Hill Rd Southbound					Briar Chapel Pkwy/Vickers Rd Eastbound					Briar Chapel Pkwy/Vickers Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM to 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
7:15 AM	4	275	1	0	280	2	133	3	4	142	30	1	15	0	46	1	0	4	0	5	473
7:30 AM	11	276	3	1	291	2	147	5	6	160	30	1	12	0	43	2	0	3	0	5	499
7:45 AM	19	216	6	4	245	10	142	11	5	168	37	0	4	0	41	5	0	9	0	14	468
8:00 AM	18	280	2	0	300	1	116	8	7	132	19	0	20	0	39	3	3	3	0	9	480
Total Volume	52	1047	12	5	1116	15	538	27	22	602	116	2	51	0	169	11	3	19	0	33	1920
% App. Total	4.7	93.8	1.1	0.4	100	2.5	89.4	4.5	3.7	100	68.6	1.2	30.2	0.0	100	33.3	9.1	57.6	0.0	100	
PHF					0.930					0.896					0.918					0.589	0.962
Cars, PU, Vans	52	1023	11	5	1091	14	520	26	22	582	114	2	50	0	166	9	3	17	0	29	1868
% Cars, PU, Vans	100.0	97.7	91.7	100.0	97.8	93.3	96.7	96.3	100.0	96.7	98.3	100.0	98.0	0.0	98.2	81.8	100.0	89.5	0.0	87.9	97.3
Heavy Trucks	0	24	1	0	25	1	18	1	0	20	2	0	1	0	3	2	0	2	0	4	52
%Heavy Trucks	0.0	2.3	8.3	0.0	2.2	6.7	3.3	3.7	0.0	3.3	1.7	0.0	2.0	0.0	1.8	18.2	0.0	10.5	0.0	12.1	2.7

PM

	US 15/US 501/Chapel Hill Rd Northbound					US 15/US 501/Chapel Hill Rd Southbound					Briar Chapel Pkwy/Vickers Rd Eastbound					Briar Chapel Pkwy/Vickers Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM to 06:00 PM																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
4:30 PM	20	172	2	2	196	2	291	17	17	327	14	0	7	0	21	4	1	3	0	8	552
4:45 PM	18	158	1	0	177	3	241	18	6	268	20	1	6	0	27	1	1	2	0	4	476
5:00 PM	21	161	3	0	185	3	279	25	6	313	19	2	8	0	29	7	1	4	0	12	539
5:15 PM	23	161	3	1	188	7	296	28	11	342	15	0	5	0	20	4	3	3	0	10	560
Total Volume	82	652	9	3	746	15	1107	88	40	1250	68	3	26	0	97	16	6	12	0	34	2127
% App. Total	11.0	87.4	1.2	0.4	100	1.2	88.6	7.0	3.2	100	70.1	3.1	26.8	0.0	100	47.1	17.6	35.3	0.0	100	
PHF					0.952					0.914					0.836					0.708	0.950
Cars, PU, Vans	82	646	9	3	740	15	1091	88	40	1234	67	3	26	0	96	16	6	12	0	34	2104
% Cars, PU, Vans	100.0	99.1	100.0	100.0	99.2	100.0	98.6	100.0	100.0	98.7	98.5	100.0	100.0	0.0	99.0	100.0	100.0	100.0	0.0	100.0	98.9
Heavy Trucks	0	6	0	0	6	0	16	0	0	16	1	0	0	0	1	0	0	0	0	0	23
%Heavy Trucks	0.0	0.9	0.0	0.0	0.8	0.0	1.4	0.0	0.0	1.3	1.5	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.1

Project ID: 20-09047-003
Location: US 15/US 501/Chapel Hill Rd & CR 1717/Jack Bennett Rd
City: Chapel Hill

Day: Tuesday
Date: 02/11/2020

Groups Printed - Cars, PU, Vans - Heavy Trucks

	US 15/US 501/Chapel Hill Rd Northbound						US 15/US 501/Chapel Hill Rd Southbound						CR 1717/Jack Bennett Rd Eastbound						CR 1717/Jack Bennett Rd Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	0	177	41	0	0	218	15	75	0	0	0	90	0	0	0	0	0	0	22	0	17	0	0	39	347
7:15 AM	0	266	60	0	0	326	20	142	0	0	0	162	0	0	0	0	0	0	22	0	18	0	0	40	528
7:30 AM	0	260	65	0	0	325	15	134	0	0	0	149	0	0	0	0	0	0	46	0	14	0	0	60	534
7:45 AM	0	226	35	0	0	261	16	140	0	0	0	156	0	0	0	0	0	0	77	0	39	0	0	116	533
Total	0	929	201	0	0	1130	66	491	0	0	0	557	0	0	0	0	0	0	167	0	88	0	0	255	1942
8:00 AM	0	261	76	0	0	337	21	119	0	0	0	140	0	0	0	0	0	0	54	0	32	0	0	86	563
8:15 AM	0	223	83	0	0	306	24	113	0	1	0	138	0	0	0	0	0	0	47	0	29	0	0	76	520
8:30 AM	0	251	42	0	0	293	22	88	0	2	0	112	0	0	0	0	0	0	26	0	17	0	0	43	448
8:45 AM	0	185	27	1	0	213	15	111	0	1	0	127	0	0	0	0	0	0	31	0	26	0	0	57	397
Total	0	920	228	1	0	1149	82	431	0	4	0	517	0	0	0	0	0	0	158	0	104	0	0	262	1928
BREAK																									
4:00 PM	0	151	29	0	0	180	24	211	0	0	0	235	0	0	0	0	0	0	41	0	28	0	0	69	484
4:15 PM	0	145	30	0	0	175	13	276	0	5	0	294	0	0	0	0	0	0	31	0	18	0	0	49	518
4:30 PM	0	158	30	0	0	188	26	253	0	0	0	279	0	0	0	0	0	0	55	0	19	0	1	74	541
4:45 PM	0	146	26	0	0	172	29	241	0	0	0	270	0	0	0	0	0	0	55	0	36	0	0	91	533
Total	0	600	115	0	0	715	92	981	0	5	0	1078	0	0	0	0	0	0	182	0	101	0	1	283	2076
5:00 PM	0	147	30	0	0	177	17	267	0	0	0	284	0	0	0	0	0	0	55	0	28	0	0	83	544
5:15 PM	0	165	36	0	0	201	17	270	0	3	0	290	0	0	0	0	0	0	58	0	33	0	0	91	582
5:30 PM	0	140	20	0	0	160	40	233	0	1	0	274	0	0	0	0	0	0	45	0	21	0	0	66	500
5:45 PM	0	135	15	0	0	150	40	230	0	5	0	275	0	0	0	0	0	0	55	0	25	0	0	80	505
Total	0	587	101	0	0	688	114	1000	0	9	0	1123	0	0	0	0	0	0	213	0	107	0	0	320	2131
Grand Total	0	3036	645	1	0	3682	354	2903	0	18	0	3275	0	0	0	0	0	0	720	0	400	0	1	1120	8077
Apprch %	0.0	82.5	17.5	0.0	0.0		10.8	88.6	0.0	0.5	0.0		0.0	0.0	0.0	0.0	0.0		64.3	0.0	35.7	0.0	0.1		
Total %	0.0	37.6	8.0	0.0	0.0	45.6	4.4	35.9	0.0	0.2	0.0	40.5	0.0	0.0	0.0	0.0	0.0	0.0	8.9	0.0	5.0	0.0	0.0	13.9	
Cars, PU, Vans	0	2977	631	1		3609	353	2839	0	18		3210	0	0	0	0		0	693	0	397	0		1090	7909
% Cars, PU, Vans	0.0	98.1	97.8	100.0		98.0	99.7	97.8	0.0	100.0		98.0	0.0	0.0	0.0	0.0		0.0	96.3	0.0	99.3	0.0		97.3	97.9
Heavy Trucks	0	59	14	0		73	1	64	0	0		65	0	0	0	0		0	27	0	3	0		30	168
%Heavy Trucks	0.0	1.9	2.2	0.0		2.0	0.3	2.2	0.0	0.0		2.0	0.0	0.0	0.0	0.0		0.0	3.8	0.0	0.8	0.0		2.7	2.1

Project ID: 20-09047-003
Location: US 15/US 501/Chapel Hill Rd & CR 1717/Jack Benr
City: Chapel Hill

PEAK HOURS

Day: Tuesday
Date: 02/11/2020

AM

	US 15/US 501/Chapel Hill Rd Northbound					US 15/US 501/Chapel Hill Rd Southbound					CR 1717/Jack Bennett Rd Eastbound					CR 1717/Jack Bennett Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM to 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
7:15 AM	0	266	60	0	326	20	142	0	0	162	0	0	0	0	0	22	0	18	0	40	528
7:30 AM	0	260	65	0	325	15	134	0	0	149	0	0	0	0	0	46	0	14	0	60	534
7:45 AM	0	226	35	0	261	16	140	0	0	156	0	0	0	0	0	77	0	39	0	116	533
8:00 AM	0	261	76	0	337	21	119	0	0	140	0	0	0	0	0	54	0	32	0	86	563
Total Volume	0	1013	236	0	1249	72	535	0	0	607	0	0	0	0	0	199	0	103	0	302	2158
% App. Total	0.0	81.1	18.9	0.0	100	11.9	88.1	0.0	0.0	100	0.0	0.0	0.0	0.0	0	65.9	0.0	34.1	0.0	100	
PHF					0.927					0.937										0.651	0.958
Cars, PU, Vans	0	990	230	0	1220	71	514	0	0	585	0	0	0	0	0	184	0	101	0	285	2090
% Cars, PU, Vans	0.0	97.7	97.5	0.0	97.7	98.6	96.1	0.0	0.0	96.4	0.0	0.0	0.0	0.0	0.0	92.5	0.0	98.1	0.0	94.4	96.8
Heavy Trucks	0	23	6	0	29	1	21	0	0	22	0	0	0	0	0	15	0	2	0	17	68
%Heavy Trucks	0.0	2.3	2.5	0.0	2.3	1.4	3.9	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	7.5	0.0	1.9	0.0	5.6	3.2

PM

	US 15/US 501/Chapel Hill Rd Northbound					US 15/US 501/Chapel Hill Rd Southbound					CR 1717/Jack Bennett Rd Eastbound					CR 1717/Jack Bennett Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM to 06:00 PM																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
4:30 PM	0	158	30	0	188	26	253	0	0	279	0	0	0	0	0	55	0	19	0	74	541
4:45 PM	0	146	26	0	172	29	241	0	0	270	0	0	0	0	0	55	0	36	0	91	533
5:00 PM	0	147	30	0	177	17	267	0	0	284	0	0	0	0	0	55	0	28	0	83	544
5:15 PM	0	165	36	0	201	17	270	0	3	290	0	0	0	0	0	58	0	33	0	91	582
Total Volume	0	616	122	0	738	89	1031	0	3	1123	0	0	0	0	0	223	0	116	0	339	2200
% App. Total	0.0	83.5	16.5	0.0	100	7.9	91.8	0.0	0.3	100	0.0	0.0	0.0	0.0	0	65.8	0.0	34.2	0.0	100	
PHF					0.918					0.968										0.931	0.945
Cars, PU, Vans	0	610	122	0	732	89	1015	0	3	1107	0	0	0	0	0	220	0	116	0	336	2175
% Cars, PU, Vans	0.0	99.0	100.0	0.0	99.2	100.0	98.4	0.0	100.0	98.6	0.0	0.0	0.0	0.0	0.0	98.7	0.0	100.0	0.0	99.1	98.9
Heavy Trucks	0	6	0	0	6	0	16	0	0	16	0	0	0	0	0	3	0	0	0	3	25
%Heavy Trucks	0.0	1.0	0.0	0.0	0.8	0.0	1.6	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.9	1.1

Project ID: 20-09047-004
Location: CR 1721/Lystra Rd & CR 1717/Jack Bennett Rd
City: Chapel Hill

Day: Tuesday
Date: 02/11/2020

Groups Printed - Cars, PU, Vans - Heavy Trucks

	CR 1721/Lystra Rd Northbound						CR 1721/Lystra Rd Southbound						CR 1717/Jack Bennett Rd Eastbound						CR 1717/Jack Bennett Rd Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	23	16	0	0	0	39	0	28	0	0	0	28	8	0	64	0	0	72	0	0	0	0	0	0	139
7:15 AM	28	32	0	0	0	60	0	31	2	0	0	33	17	0	111	0	0	128	0	0	0	0	0	0	221
7:30 AM	54	59	0	0	0	113	0	69	21	0	0	90	38	0	67	0	0	105	0	0	0	0	0	0	308
7:45 AM	43	65	0	0	0	108	0	123	50	0	0	173	28	0	77	0	0	105	0	0	0	0	0	0	386
Total	148	172	0	0	0	320	0	251	73	0	0	324	91	0	319	0	0	410	0	0	0	0	0	0	1054
8:00 AM	54	13	0	0	0	67	0	82	7	0	0	89	5	0	96	0	0	101	0	0	0	0	0	0	257
8:15 AM	28	25	0	0	0	53	0	42	3	0	0	45	4	0	134	0	0	138	0	0	0	0	0	0	236
8:30 AM	37	19	0	0	0	56	0	30	3	0	0	33	3	0	74	0	0	77	0	0	0	0	0	0	166
8:45 AM	25	25	0	0	0	50	0	21	7	0	0	28	2	0	61	0	0	63	0	0	0	0	0	0	141
Total	144	82	0	0	0	226	0	175	20	0	0	195	14	0	365	0	0	379	0	0	0	0	0	0	800
BREAK																									
4:00 PM	55	46	0	0	0	101	0	23	7	0	0	30	5	0	45	0	0	50	0	0	0	0	0	0	181
4:15 PM	76	37	0	0	0	113	0	27	8	0	0	35	2	0	34	0	0	36	0	0	0	0	0	0	184
4:30 PM	75	60	0	0	0	135	0	31	12	0	0	43	3	0	40	0	0	43	0	0	0	0	0	0	221
4:45 PM	83	49	0	0	0	132	0	40	10	0	0	50	7	0	38	0	0	45	0	0	0	0	0	0	227
Total	289	192	0	0	0	481	0	121	37	0	0	158	17	0	157	0	0	174	0	0	0	0	0	0	813
5:00 PM	81	48	0	0	0	129	0	37	11	0	0	48	1	0	34	0	0	35	0	0	0	0	0	0	212
5:15 PM	78	44	0	0	0	122	0	29	7	0	0	36	3	0	32	0	0	35	0	0	0	0	0	0	193
5:30 PM	89	50	0	0	0	139	0	30	8	0	0	38	3	0	34	0	0	37	0	0	0	0	0	0	214
5:45 PM	101	60	0	0	0	161	0	24	5	0	0	29	13	0	37	0	0	50	0	0	0	0	0	0	240
Total	349	202	0	0	0	551	0	120	31	0	0	151	20	0	137	0	0	157	0	0	0	0	0	0	859
Grand Total	930	648	0	0	0	1578	0	667	161	0	0	828	142	0	978	0	0	1120	0	0	0	0	0	0	3526
Apprch %	58.9	41.1	0.0	0.0	0.0		0.0	80.6	19.4	0.0	0.0		12.7	0.0	87.3	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	26.4	18.4	0.0	0.0	0.0	44.8	0.0	18.9	4.6	0.0	0.0	23.5	4.0	0.0	27.7	0.0	0.0	31.8	0.0	0.0	0.0	0.0	0.0	0.0	
Cars, PU, Vans	907	626	0	0		1533	0	655	155	0		810	136	0	969	0		1105	0	0	0	0		0	3448
% Cars, PU, Vans	97.5	96.6	0.0	0.0		97.1	0.0	98.2	96.3	0.0		97.8	95.8	0.0	99.1	0.0		98.7	0.0	0.0	0.0	0.0		0.0	97.8
Heavy Trucks	23	22	0	0		45	0	12	6	0		18	6	0	9	0		15	0	0	0	0		0	78
%Heavy Trucks	2.5	3.4	0.0	0.0		2.9	0.0	1.8	3.7	0.0		2.2	4.2	0.0	0.9	0.0		1.3	0.0	0.0	0.0	0.0		0.0	2.2

Project ID: 20-09047-004
Location: CR 1721/Lystra Rd & CR 1717/Jack Bennett Rd
City: Chapel Hill

PEAK HOURS

Day: Tuesday
Date: 02/11/2020

AM

	CR 1721/Lystra Rd Northbound					CR 1721/Lystra Rd Southbound					CR 1717/Jack Bennett Rd Eastbound					CR 1717/Jack Bennett Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM to 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
7:30 AM	54	59	0	0	113	0	69	21	0	90	38	0	67	0	105	0	0	0	0	0	308
7:45 AM	43	65	0	0	108	0	123	50	0	173	28	0	77	0	105	0	0	0	0	0	386
8:00 AM	54	13	0	0	67	0	82	7	0	89	5	0	96	0	101	0	0	0	0	0	257
8:15 AM	28	25	0	0	53	0	42	3	0	45	4	0	134	0	138	0	0	0	0	0	236
Total Volume	179	162	0	0	341	0	316	81	0	397	75	0	374	0	449	0	0	0	0	0	1187
% App. Total	52.5	47.5	0.0	0.0	100	0.0	79.6	20.4	0.0	100	16.7	0.0	83.3	0.0	100	0.0	0.0	0.0	0.0	0	
PHF					0.754					0.574					0.813						0.769
Cars, PU, Vans	170	153	0	0	323	0	312	76	0	388	69	0	370	0	439	0	0	0	0	0	1150
% Cars, PU, Vans	95.0	94.4	0.0	0.0	94.7	0.0	98.7	93.8	0.0	97.7	92.0	0.0	98.9	0.0	97.8	0.0	0.0	0.0	0.0	0.0	96.9
Heavy Trucks	9	9	0	0	18	0	4	5	0	9	6	0	4	0	10	0	0	0	0	0	37
%Heavy Trucks	5.0	5.6	0.0	0.0	5.3	0.0	1.3	6.2	0.0	2.3	8.0	0.0	1.1	0.0	2.2	0.0	0.0	0.0	0.0	0.0	3.1

PM

	CR 1721/Lystra Rd Northbound					CR 1721/Lystra Rd Southbound					CR 1717/Jack Bennett Rd Eastbound					CR 1717/Jack Bennett Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM to 06:00 PM																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
5:00 PM	81	48	0	0	129	0	37	11	0	48	1	0	34	0	35	0	0	0	0	0	212
5:15 PM	78	44	0	0	122	0	29	7	0	36	3	0	32	0	35	0	0	0	0	0	193
5:30 PM	89	50	0	0	139	0	30	8	0	38	3	0	34	0	37	0	0	0	0	0	214
5:45 PM	101	60	0	0	161	0	24	5	0	29	13	0	37	0	50	0	0	0	0	0	240
Total Volume	349	202	0	0	551	0	120	31	0	151	20	0	137	0	157	0	0	0	0	0	859
% App. Total	63.3	36.7	0.0	0.0	100	0.0	79.5	20.5	0.0	100	12.7	0.0	87.3	0.0	100	0.0	0.0	0.0	0.0	0	
PHF					0.856					0.786					0.785						0.895
Cars, PU, Vans	345	202	0	0	547	0	118	31	0	149	20	0	137	0	157	0	0	0	0	0	853
% Cars, PU, Vans	98.9	100.0	0.0	0.0	99.3	0.0	98.3	100.0	0.0	98.7	100.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	99.3
Heavy Trucks	4	0	0	0	4	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	6
%Heavy Trucks	1.1	0.0	0.0	0.0	0.7	0.0	1.7	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7

Appendix D:
Approved Development Data

Briar Chapel - Analysis Update

Table 1 - Trip Generation - Full Build-Out

Land Use	Intensity		Daily			AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out	Total	In	Out
210 Single Family Detached Housing	2,072	d.u.	17,076	8,538	8,538	1,460	365	1,095	1,608	1,013	595
220 Apartment	350	d.u.	2,246	1,123	1,123	175	35	140	210	137	73
230 Residential Condominium/Townhouse	40	d.u.	290	145	145	25	4	21	28	19	9
251 Senior Adult Housing - Detached	188	d.u.	830	415	415	62	22	40	72	44	28
412 County Park	66	acres	150	75	75	1	1	0	6	4	2
522 Middle School	800	students	1,296	648	648	432	238	194	128	63	65
536 Charter School	500	students	1,240	620	620	405	247	158	85	37	48
540 Junior/Community College	400	students	654	327	327	139	117	22	173	109	64
565 Day Care Center	160	students	800	400	400	121	64	57	114	54	60
590 Library	6,000	s.f.	538	269	269	2	1	1	47	23	24
620 Nursing Home	120	beds	330	165	165	20	14	6	26	9	17
710 General Office Building[1]	51,450	s.f.	792	396	396	112	99	13	136	23	113
720 Medical Office Building	17,555	s.f.	504	252	252	42	33	9	61	17	44
820 Shopping Center	36,000	s.f.	3,496	1,748	1,748	84	52	32	302	145	157
826 Specialty Retail[2]	9,495	s.f.	444	222	222	13	8	5	44	19	25
850 Supermarket	40,000	s.f.	4,070	2,035	2,035	136	84	52	395	201	194
934 Fast-Food Restaurant with Drive-Through Window	3,500	s.f.	1,736	868	868	159	81	78	114	59	55
945 Gasoline/Service Station with Convenience Market	4	f.p.	652	326	326	41	21	20	54	27	27
Subtotal			**37,144**	**18,572**	**18,572**	**3,429**	**1,486**	**1,943**	**3,603**	**2,003**	**1,600**
Internal Capture											
Single Family Detached Housing			1,588	814	774	38	10	28	158	99	59
Apartment			209	107	102	5	1	4	20	13	7
Residential Condominium/Townhouse			27	14	13	1	0	1	3	2	1
Senior Adult Housing - Detached			78	40	38	2	1	1	7	4	3
County Park			46	22	24	-	-	-	3	2	1
General Office Building			444	276	168	32	20	12	44	19	25
Medical Office Building			282	175	107	15	7	8	24	14	10
Shopping Center			937	399	538	17	9	8	85	34	51
Specialty Retail			119	51	68	2	1	1	13	5	8
Supermarket			1,090	464	626	28	15	13	111	48	63
Fast-Food Restaurant with Drive-Through Window			1,101	612	489	76	44	32	63	27	36
Gasoline/Service Station with Convenience Market			174	74	100	9	4	5	15	6	9
Internal Capture Total	**15.15%**		6,095	3,048	3,047	225	112	113	546	273	273
Total External Trips			**31,049**	**15,524**	**15,525**	**3,204**	**1,374**	**1,830**	**3,057**	**1,730**	**1,327**
Pass-By Traffic (ITE)	AM	PM									
820 Shopping Center	0%	34%	740	370	370	0	0	0	74	38	36
850 Supermarket	0%	36%	1,020	510	510	0	0	0	102	55	47
934 Fast-Food Restaurant with Drive-Through Window	49%	50%	260	130	130	41	18	23	26	16	10
945 Gasoline/Service Station with Convenience Market	62%	56%	220	110	110	20	11	9	22	12	10
Pass-By Total:	**6.22%**		**2,240**	**1,120**	**1,120**	**61**	**29**	**32**	**224**	**121**	**103**
Total Net New External Trips			**28,809**	**14,404**	**14,405**	**3,143**	**1,345**	**1,798**	**2,833**	**1,609**	**1,224**

[1] *For the Office Space land use (less than 50,000 s.f.), the peak hour rates were used.*

[2] *The ITE Trip Generation Manual does not include trip generation rates for specialty retail space in the AM peak hour of the adjacent street. Therefore, the trip generation potential of the specialty retail space in the AM peak hour is estimated based on the trip generation potential of the PM peak hour for specialty retail space, adjusted by the ratio of the AM peak hour trip generation potential for general retail space divided by the PM peak hour trip generation potential for general retail space. The enter and exit percentages for the AM peak hour were also assumed to the be same as general retail space.*

Briar Chapel 2017 Update

Methodology for A.M. Peak Hour and P.M. Peak Hour
based on the *Trip Generation Handbook* , 3rd Edition, published by the Institute of Transportation Engineers

Methodology for Daily
based on the average of the Unconstrained Rates for the A.M. Peak Hour and P.M. Peak Hour

SUMMARY

GROSS TRIP GENERATION

INPUT

Land Use	Daily		A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit	Enter	Exit
Office	648	648	132	22	40	157
Retail	4,331	4,331	165	109	392	403
Restaurant	868	868	81	78	59	55
Cinema/Entertainment	75	75	1	0	4	2
Residential	10,221	10,221	426	1,296	1,213	705
Hotel	0	0	0	0	0	0
	16,143	16,143	805	1,505	1,708	1,322

INTERNAL TRIPS

OUTPUT

Land Use	Daily		A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit	Enter	Exit
Office	451	275	27	20	33	35
Retail	988	1,332	30	28	93	131
Restaurant	612	489	44	32	27	36
Cinema/Entertainment	22	24	0	0	2	1
Residential	974	927	12	33	118	70
Hotel	0	0	0	0	0	0
	3,047	3,047	113	113	273	273
% Reduction	18.9%		9.8%		18.0%	

EXTERNAL TRIPS

OUTPUT

Land Use	Daily		A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit	Enter	Exit
Office	197	373	105	2	7	122
Retail	3,343	2,999	135	81	299	272
Restaurant	256	379	37	46	32	19
Cinema/Entertainment	53	51	1	0	2	1
Residential	9,247	9,294	414	1,263	1,095	635
Hotel	0	0	0	0	0	0
	13,096	13,096	692	1,392	1,435	1,049

Briar Chapel - Analysis Update

Table 2 - Trip Generation - Existing as of 01/07/2017

Land Use		Intensity		Daily			AM Peak Hour			PM Peak Hour		
				Total	In	Out	Total	In	Out	Total	In	Out
210	Single Family Detached Housing	1,860	d.u.	15,462	7,731	7,731	1,312	328	984	1,459	919	540
230	Residential Condominium/Townhouse	40	d.u.	290	145	145	25	4	21	28	19	9
522	Middle School	800	students	1,296	648	648	432	238	194	128	63	65
536	Charter School	500	students	1,240	620	620	405	247	158	85	37	48
565	Day Care Center	160	students	800	400	400	121	64	57	114	54	60
720	Medical Office Building	12,252	s.f.	286	143	143	29	23	6	44	12	32
826	Specialty Retail[1]	15,290	s.f.	692	346	346	17	11	6	58	26	32
	Subtotal			**20,066**	**10,033**	**10,033**	**2,341**	**915**	**1,426**	**1,916**	**1,130**	**786**
Internal Capture												
	Single Family Detached Housing			158	70	88	4	1	3	19	9	10
	Residential Condominium/Townhouse			3	1	2	0	0	0	0	0	0
	Medical Office Building			104	68	36	4	2	2	11	8	3
	Specialty Retail			175	81	94	6	4	2	14	5	9
	Internal Capture Total	**2.30%**		440	220	220	14	7	7	44	22	22
	Total Net New External Trips			**19,626**	**9,813**	**9,813**	**2,327**	**908**	**1,419**	**1,872**	**1,108**	**764**

[1] The ITE Trip Generation Manual does not include trip generation rates for specialty retail space in the AM peak hour of the adjacent street. Therefore, the trip generation potential of the specialty retail space in the AM peak hour is estimated based on the trip generation potential of the PM peak hour for specialty retail space, adjusted by the ratio of the AM peak hour trip generation potential for general retail space divided by the PM peak hour trip generation potential for general retail space. The enter and exit percentages for the AM peak hour were also assumed to the be same as general retail space.

Briar Chapel 2017 Update

Methodology for A.M. Peak Hour and P.M. Peak Hour
based on the *Trip Generation Handbook* , 3rd Edition, published by the Institute of Transportation Engineers

Methodology for Daily
based on the average of the Unconstrained Rates for the A.M. Peak Hour and P.M. Peak Hour

SUMMARY

GROSS TRIP GENERATION

INPUT

Land Use	Daily		A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit	Enter	Exit
Office	143	143	23	6	12	32
Retail	346	346	11	6	26	32
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	7,876	7,876	332	1,005	938	549
Hotel	0	0	0	0	0	0
	8,365	8,365	366	1,017	976	613

INTERNAL TRIPS

OUTPUT

Land Use	Daily		A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit	Enter	Exit
Office	68	36	2	2	8	3
Retail	81	94	4	2	5	9
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	71	90	1	3	9	10
Hotel	0	0	0	0	0	0
	220	220	7	7	22	22
% Reduction	2.6%		1.0%		2.8%	

EXTERNAL TRIPS

OUTPUT

Land Use	Daily		A.M. Peak Hour		P.M. Peak Hour	
	Enter	Exit	Enter	Exit	Enter	Exit
Office	75	107	21	4	4	29
Retail	265	252	7	4	21	23
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	7,805	7,786	331	1,002	929	539
Hotel	0	0	0	0	0	0
	8,145	8,145	359	1,010	954	591

INTERSECTION ANALYSIS SHEET

Project:	**Briar Chapel - Analysis Update**
Location:	**Chapel Hill, NC**
Scenario:	**Study Scenario**
Ct. Date	**1/31/2017**
N/S Street:	**US 15/501**
E/W Street:	**Briar Chapel Parkway**

	AM In	**AM Out**	**PM In**	**PM Out**
Net New Trips:	437	379	501	460
Pass-By Trips:	29	32	121	103

Annual Growth Rate: 3.0% **Existing Year:** 2017
Growth Factor: 0.194052 **Buildout Year:** 2023

AM PEAK HOUR
AM PHF = 0.93

Description	Briar Chapel Parkway **Eastbound**			Briar Chapel Parkway **Westbound**			US 15/501 **Northbound**				US 15/501 **Southbound**			
	Left	Through	Right	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Project Traffic														
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	6%	0%	0%	0%	0%	32%	15%
Inbound Project Traffic	0	0	0	0	0	0	0	26	0	0	0	0	140	66
Percent Assignment Outbound	21%	0%	10%	0%	0%	0%	0%	0%	15%	0%	0%	0%	0%	0%
Outbound Project Traffic	80	0	38	0	0	0	0	0	57	0	0	0	0	0
Total External Site Traffic	80	0	38	0	0	0	0	26	57	0	0	0	140	66
Pass-By Capture Reduction	0	0	0	0	0	0	0	0	-17	0	0	0	0	0
Pass-By Capture Assignment	0	0	0	0	0	0	0	0	19	0	0	0	0	0
Total Pass-By Traffic	0	0	0	0	0	0	0	0	2	0	0	0	0	0
Total Project Traffic	80	0	38	0	0	0	0	26	59	0	0	0	140	66

Overall Percent Impact 14.7%

PM PEAK HOUR
PM PHF = 0.96

Description	Briar Chapel Parkway **Eastbound**			Briar Chapel Parkway **Westbound**			US 15/501 **Northbound**				US 15/501 **Southbound**			
	Left	Through	Right	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Project Traffic														
Percent Assignment Inbound	0%	0	0	0	0	0	0	7%	0	0	0	0	22%	16%
Inbound Project Traffic	0	0	0	0	0	0	0	35	0	0	0	0	110	80
Percent Assignment Outbound	12%	0	5%	0	0	0	0	0	32%	0	0	0	0	0
Outbound Project Traffic	55	0	23	0	0	0	0	0	147	0	0	0	0	0
Total External Site Traffic	55	0	23	0	0	0	0	35	147	0	0	0	110	80
Pass-By Capture Reduction	0	0	0	0	0	0	0	0	-56	0	0	0	0	0
Pass-By Capture Assignment	0	0	0	0	0	0	0	0	47	0	0	0	0	0
Total Pass-By Traffic	0	0	0	0	0	0	0	0	-9	0	0	0	0	0
Total Project Traffic	55	0	23	0	0	0	0	35	138	0	0	0	110	80

Overall Percent Impact 13.5%

INTERSECTION ANALYSIS SHEET

Project:	**Briar Chapel - Analysis Update**
Location:	**Chapel Hill, NC**
Ct. Date	**1/31/2017**
N/S Street:	**US 15/501**
E/W Street:	**Jack Bennett Road**

	AM In	**AM Out**	**PM In**	**PM Out**
Net New Trips:	437	379	501	460
Pass-By Trips:	29	32	121	103

Annual Growth Rate:	3.0%	**Existing Year:**	2017
Growth Factor:	0.194052	**Buildout Year:**	2023

AM PEAK HOUR

Description	Jack Bennett Road **Eastbound**			Jack Bennett Road **Westbound**			US 15/501 **Northbound**				US 15/501 **Southbound**			
	Left	Through	Right	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Project Traffic														
Percent Assignment Inbound	0%	0%	0%	3%	0%	3%	0%	0%	3%	0%	0%	0%	32%	0%
Inbound Project Traffic	0	0	0	13	0	13	0	0	13	0	0	0	140	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	15%	5%	0%	1%	9%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	57	19	0	4	34	0
Total External Site Traffic	0	0	0	13	0	13	0	0	70	19	0	4	174	0
Pass-By Capture Reduction	0	0	0	0	0	0	0	0	-17	0	0	0	0	0
Pass-By Capture Assignment	0	0	0	0	0	0	0	0	19	0	0	0	0	0
Total Pass-By Traffic	0	0	0	0	0	0	0	0	2	0	0	0	0	0
Total Remaining Project Traffic	0	0	0	13	0	13	0	0	72	19	0	4	174	0

PM PEAK HOUR

Description	Jack Bennett Road **Eastbound**			Jack Bennett Road **Westbound**			US 15/501 **Northbound**				US 15/501 **Southbound**			
	Left	Through	Right	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Project Traffic														
Percent Assignment Inbound	0%	0	0	4%	0	2%	0	0	5%	0	0	0	22%	0
Inbound Project Traffic	0	0	0	20	0	10	0	0	25	0	0	0	110	0
Percent Assignment Outbound	0	0	0	0	0	0	3%	0	32%	5%	0	1%	4%	0
Outbound Project Traffic	0	0	0	0	0	0	14	0	147	23	0	5	18	0
Total External Site Traffic	0	0	0	20	0	10	14	0	172	23	0	5	128	0
Pass-By Capture Reduction	0	0	0	0	0	0	0	0	-56	0	0	0	0	0
Pass-By Capture Assignment	0	0	0	0	0	0	0	0	47	0	0	0	0	0
Total Pass-By Traffic	0	0	0	0	0	0	0	0	-9	0	0	0	0	0
Total Remaining Project Traffic	0	0	0	20	0	10	14	0	163	23	0	5	128	0

INTERSECTION ANALYSIS SHEET

		AM In	AM Out	PM In	PM Out
Project:	**Briar Chapel - Analysis Update**	**Net New Trips:**	437	379	501	460
Location:	**Chapel Hill, NC**	**Pass-By Trips:**	29	32	121	103
Scenario:	**Study Scenario**					
Ct. Date	**1/31/2017**					
N/S Street:	**Jack Bennett Road**	**Annual Growth Rate:**	3.0%	**Existing Year:**	2017	
E/W Street:	**Lystra Road**	**Growth Factor:**	0.194052	**Buildout Year:**	2023	

AM PEAK HOUR
AM PHF = 0.76

Description	Lystra Road Eastbound			Lystra Road Westbound			Jack Bennett Road Northbound			Jack Bennett Road Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	6%	5%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	26	22	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	5%	0%	0%	0%	0%	0%	0%	6%	0%	0%	0%
Outbound Project Traffic	0	19	0	0	0	0	0	0	23	0	0	0
Total Project Traffic	0	19	0	26	22	0	0	0	23	0	0	0

Overall Percent Impact 6.7%

PM PEAK HOUR
PM PHF = 0.94

Description	Lystra Road Eastbound			Lystra Road Westbound			Jack Bennett Road Northbound			Jack Bennett Road Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	6%	5%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	30	25	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	5%	0%	0%	0%	0%	0%	0%	6%	0%	0%	0%
Outbound Project Traffic	0	23	0	0	0	0	0	0	28	0	0	0
Total Project Traffic	0	23	0	30	25	0	0	0	28	0	0	0

Overall Percent Impact 10.4%

INTERSECTION ANALYSIS SHEET

Project:	**Briar Chapel - Analysis Update**
Location:	**Chapel Hill, NC**
Ct. Date	**1/31/2017**
N/S Street:	**US 15/501**
E/W Street:	**Lystra Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	437	379	501	460
Pass-By Trips:	29	32	121	103

Annual Growth Rate:	3.0%	**Existing Year:**	2017
Growth Factor:	0.194052	**Buildout Year:**	2023

AM PEAK HOUR

Description	Lystra Road Eastbound Left	Through	Right	Lystra Road Westbound Left	Through	Right	US 15/501 Northbound U-Turn	Left	Through	Right	US 15/501 Southbound U-Turn	Left	Through	Right
Project Traffic														
Percent Assignment Inbound	0%	0%	0%	4%	0%	1%	0%	0%	0%	0%	0%	0%	43%	0%
Inbound Project Traffic	0	0	0	17	0	4	0	0	0	0	0	0	188	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	31%	5%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	118	19	0	0	0	0
Total External Site Traffic	0	0	0	17	0	4	0	0	118	19	0	0	188	0
Pass-By Capture Reduction	0	0	0	0	0	0	0	0	-17	0	0	0	0	0
Pass-By Capture Assignment	0	0	0	0	0	0	0	0	19	0	0	0	0	0
Total Pass-By Traffic	0	0	0	0	0	0	0	0	2	0	0	0	0	0
Total Remaining Project Traffic	0	0	0	17	0	4	0	0	120	19	0	0	188	0

PM PEAK HOUR

Description	Lystra Road Eastbound Left	Through	Right	Lystra Road Westbound Left	Through	Right	US 15/501 Northbound U-Turn	Left	Through	Right	US 15/501 Southbound U-Turn	Left	Through	Right
Project Traffic														
Percent Assignment Inbound	0%	0	0	4%	0	2%	0	0	0	0	0	0	34%	0
Inbound Project Traffic	0	0	0	20	0	10	0	0	0	0	0	0	170	0
Percent Assignment Outbound	0	0	0	0	0	0	0	0	39%	5%	0	0	0	0
Outbound Project Traffic	0	0	0	0	0	0	0	0	179	23	0	0	0	0
Total External Site Traffic	0	0	0	20	0	10	0	0	179	23	0	0	170	0
Pass-By Capture Reduction	0	0	0	0	0	0	0	0	-56	0	0	0	0	0
Pass-By Capture Assignment	0	0	0	0	0	0	0	0	47	0	0	0	0	0
Total Pass-By Traffic	0	0	0	0	0	0	0	0	-9	0	0	0	0	0
Total Remaining Project Traffic	0	0	0	20	0	10	0	0	170	23	0	0	170	0

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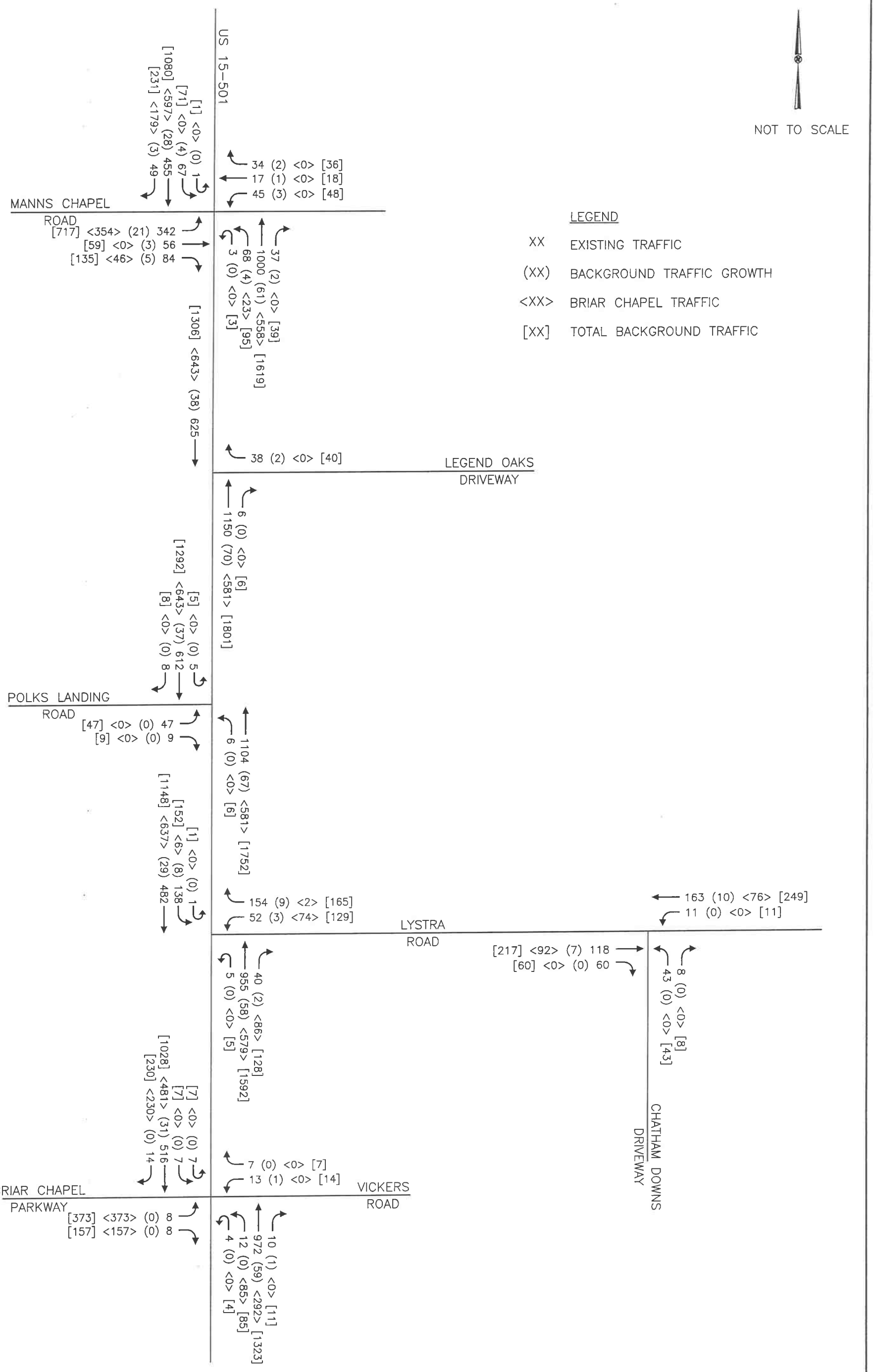

Kimley-Horn and Associates, Inc.

WILLIAMS CORNER/POLKS LANDING
TRAFFIC IMPACT ANALYSIS

EXISTING AND PROJECTED BACKGROUND
AM PEAK HOUR TRAFFIC VOLUMES

FIGURE
1

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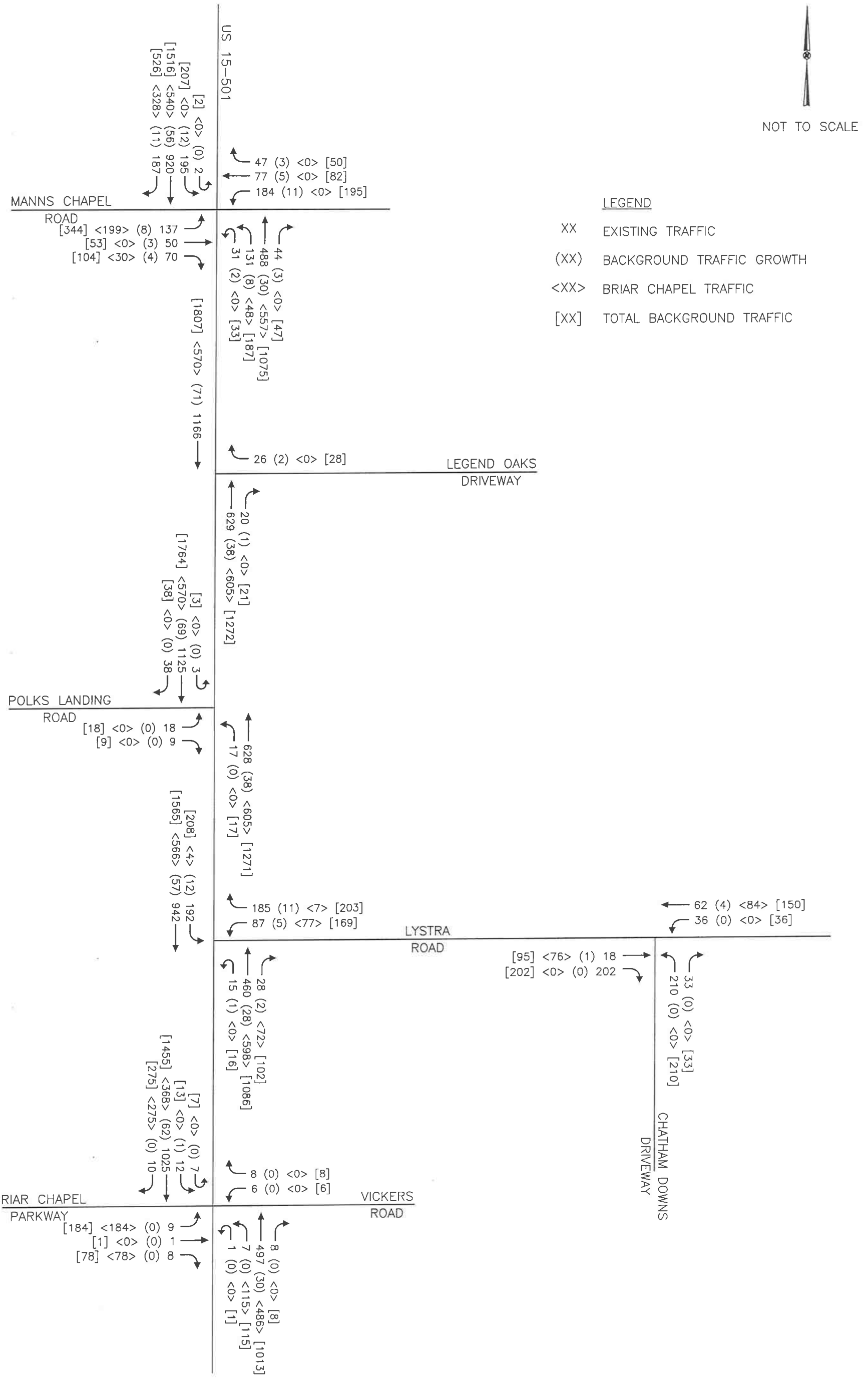

Kimley-Horn and Associates, Inc.

WILLIAMS CORNER/POLKS LANDING
TRAFFIC IMPACT ANALYSIS

EXISTING AND PROJECTED BACKGROUND
PM PEAK HOUR TRAFFIC VOLUMES

FIGURE
2

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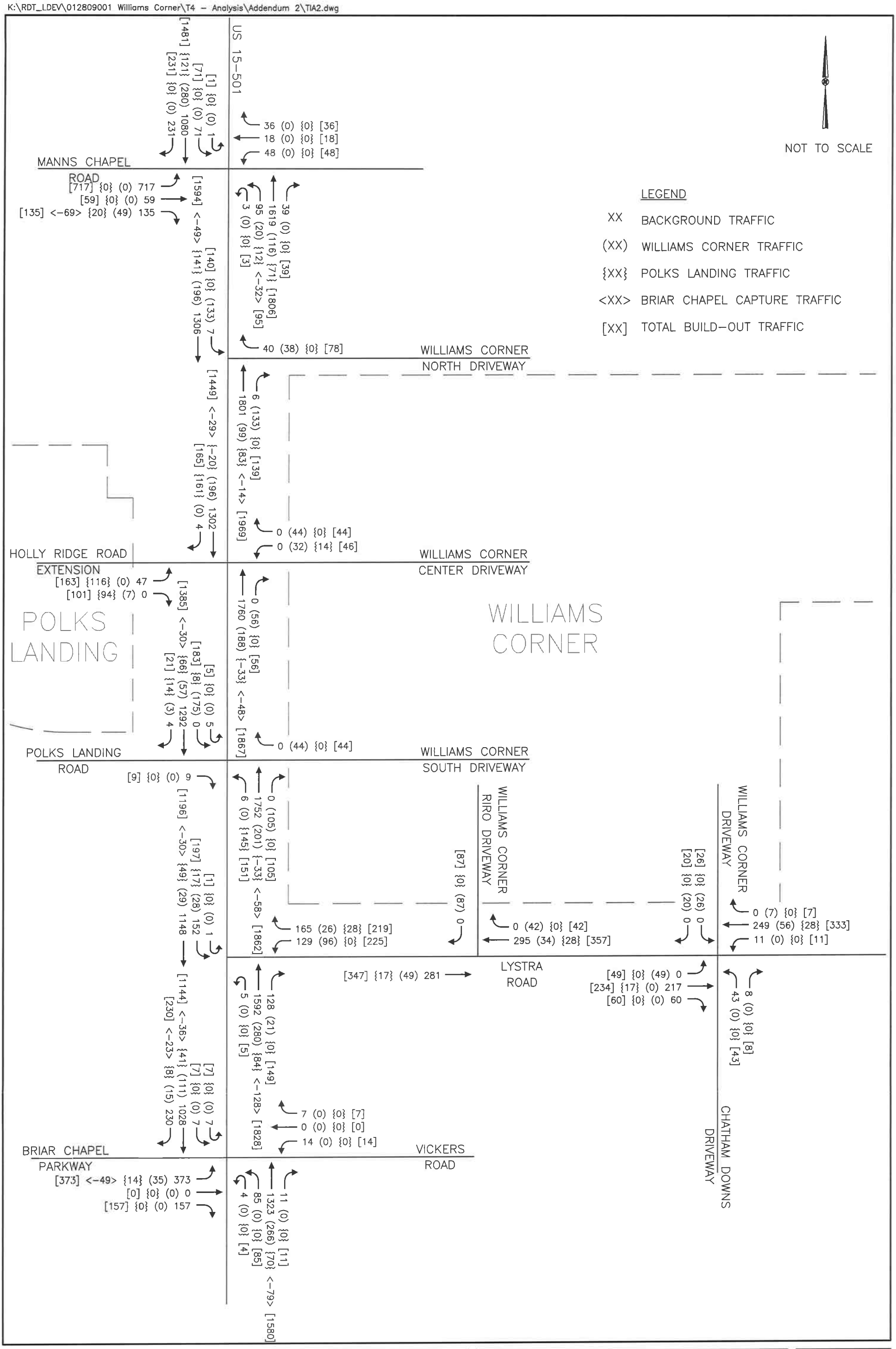

Kimley-Horn and Associates, Inc.

WILLIAMS CORNER/POLKS LANDING
TRAFFIC IMPACT ANALYSIS

PROJECTED BUILD-OUT AM
PEAK HOUR TRAFFIC VOLUMES

FIGURE
3

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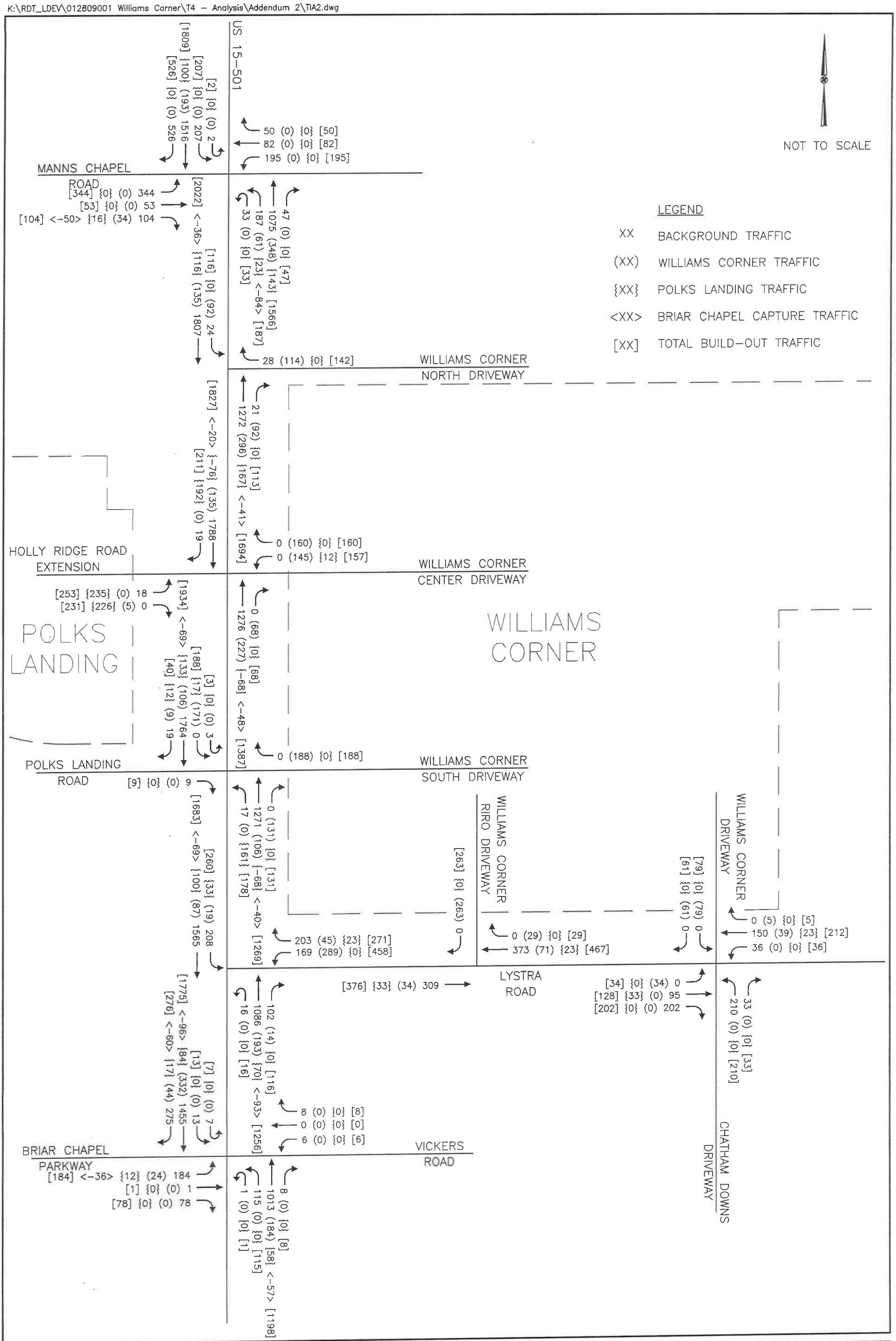

Kimley-Horn and Associates, Inc.

WILLIAMS CORNER/POLKS LANDING
TRAFFIC IMPACT ANALYSIS

PROJECTED BUILD-OUT PM
PEAK HOUR TRAFFIC VOLUMES

FIGURE
4

Updated Traffic Impact Analysis

Williams Corner

Chatham County, NC

Prepared for:

Bradshaw Robinson Slawter LLP

Kimley»Horn

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Kimley»Horn	WILLIAMS CORNER 2020 TIA UPDATE TRAFFIC IMPACT ANALYSIS CHATHAM COUNTY, NC	SITE LOCATION	FIGURE 2.1

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Kimley»Horn	WILLIAMS CORNER 2020 TIA UPDATE TRAFFIC IMPACT ANALYSIS CHATHAM COUNTY, NC	CONCEPTUAL DEVELOPMENT PLAN	FIGURE 2.2

3.0 Traffic Generation

The traffic generation potential of the proposed development was determined using the traffic generation rates and equations published in *ITE Trip Generation* (Institute of Transportation Engineers, Tenth Edition, 2017). The site is currently vacant, and while specific plans have not been confirmed for the site, this analysis assumed that the project will now consist of up to 120,000 square feet (SF) of mini-warehouse (self-storage) space, a maximum of 550 apartments, approximately 90,000 SF of general office space, approximately 90,000 SF of general retail space, and an approximately 50,000 SF supermarket. While some fast-casual type restaurant space is being considered, all anticipated retail space (other than the supermarket) was classified as general retail for trip generation purposes in order to analyze higher trip generation volumes (in order to be conservative). The trip generation potential of the site is shown below in Table 3.0.

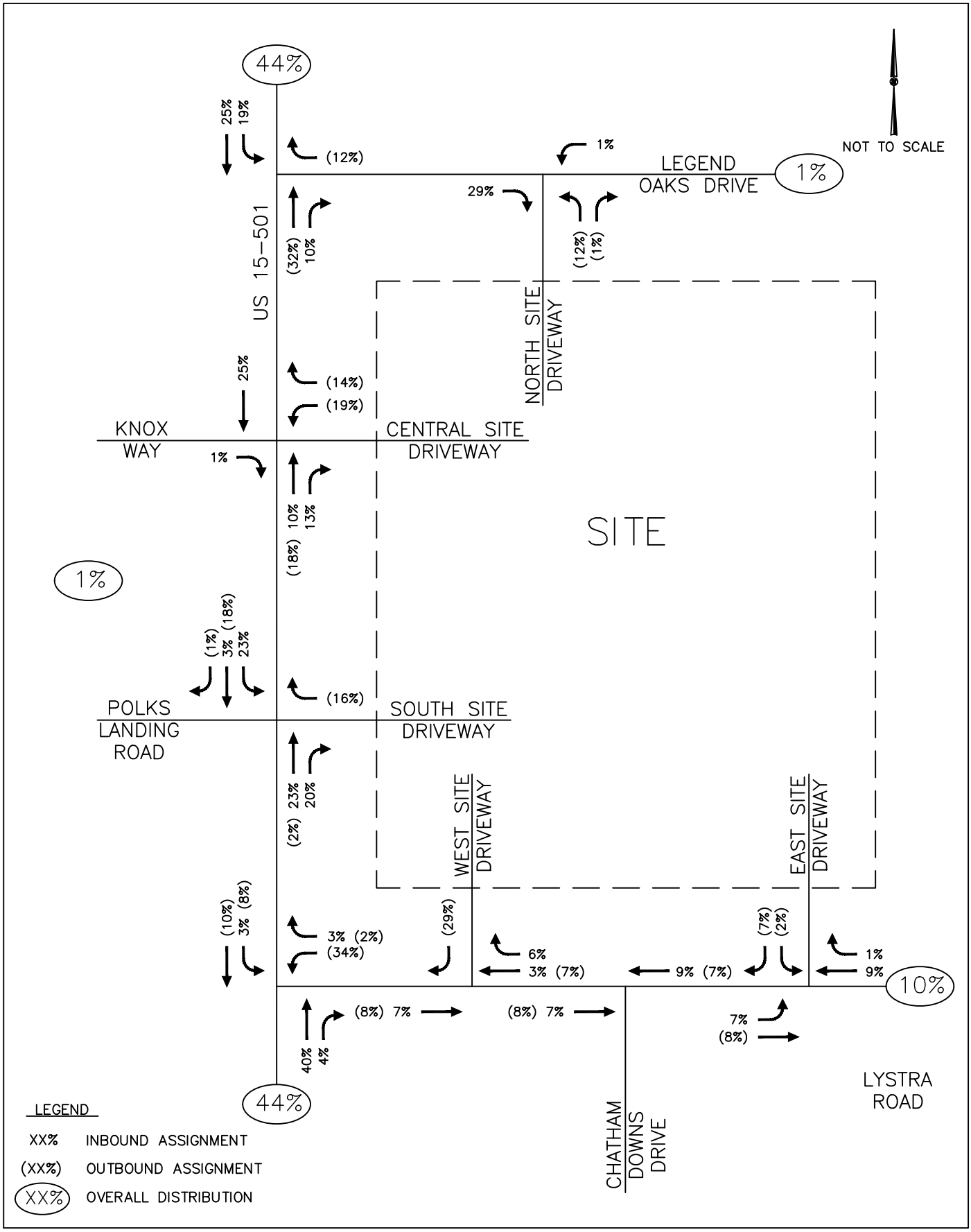
Table 3.0
ITE Traffic Generation (Vehicles)

Land Use Code	Land Use	Intensity		Daily		AM Peak Hour		PM Peak Hour	
				In	Out	In	Out	In	Out
151	Mini-Warehouse	120,000	s.f.	91	91	7	5	20	12
221	Multifamily Housing (Mid-Rise) – North	275	d.u.	749	749	24	68	71	46
221	Multifamily Housing (Mid-Rise) – South	275	d.u.	749	749	24	68	71	46
710	General Office Building	90,000	s.f.	479	479	95	16	16	87
820	Shopping Center	90,000	s.f.	2,798	2,798	122	75	241	262
850	Supermarket	50,000	s.f.	2,379	2,379	115	76	238	228
Subtotal				7,245	7,245	387	308	646	680
Internal Capture				*973*	*973*	*15*	*15*	*138*	*138*
Pass-by Capture				*1,564*	*1,564*	*0*	*0*	*147*	*146*
Net New External Trips				**4,708**	**4,708**	**372**	**293**	**361**	**396**

As shown in Table 3.0, the proposed development has the potential to generate 9,416 net new trips on a typical weekday, with 665 net new trips in the AM peak hour and 757 net new trips in the PM peak hour.

For reference, the previous development was expected to generate approximately 14,788 net new trips on a typical weekday, with 992 new trips in the AM peak hour and 1,358 new trips in the PM peak hour. Based on those volumes, the currently proposed development plan is expected to generate 5,372 fewer new daily trips, 327 fewer AM peak hour trips, and 601 fewer PM peak hour trips.

Detailed trip generation calculations are included in the Appendix.



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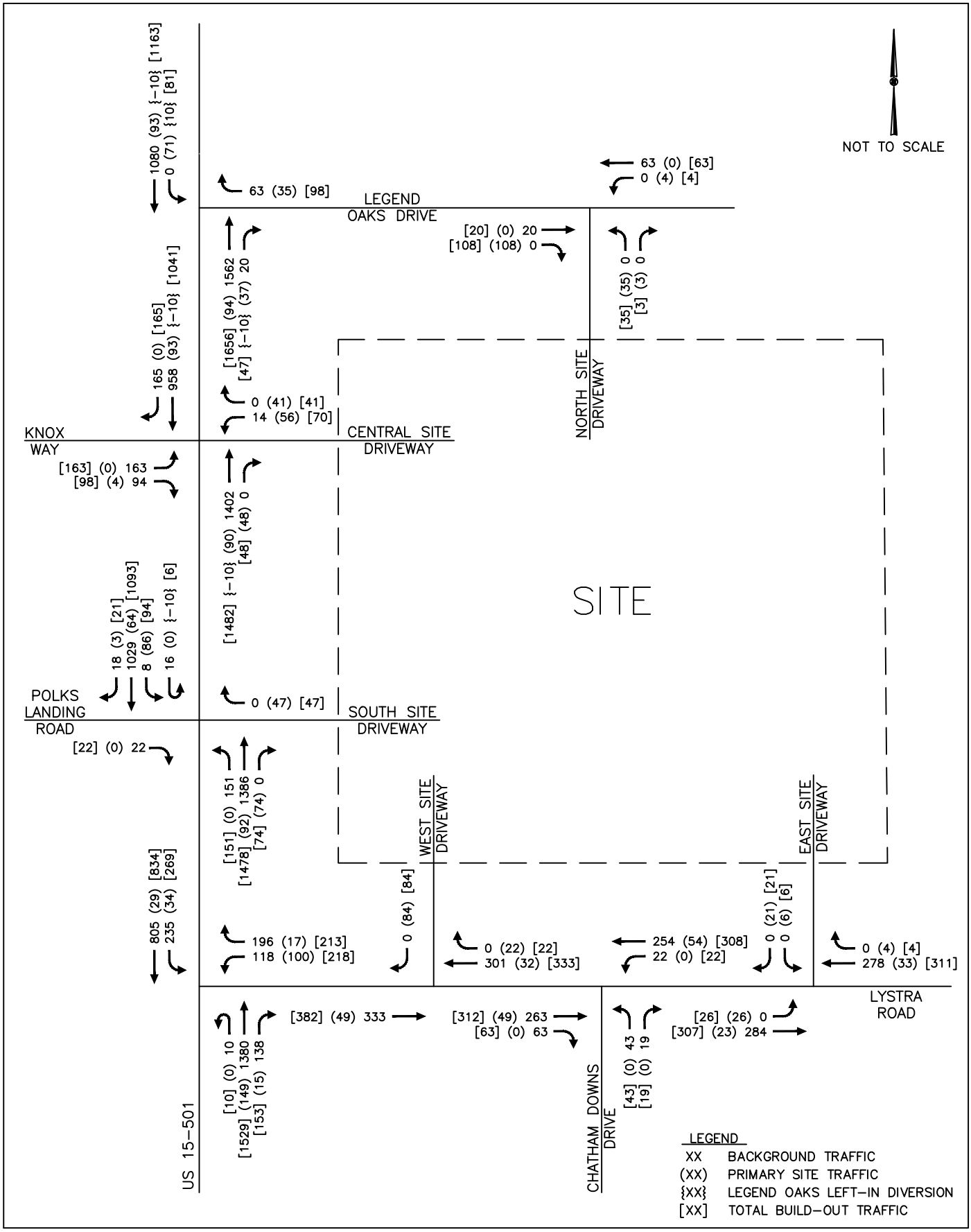
Kimley»Horn	WILLIAMS CORNER 2020 TIA UPDATE TRAFFIC IMPACT ANALYSIS CHATHAM COUNTY, NC	SITE TRAFFIC DISTRIBUTION AND PERCENT ASSIGNMENT	FIGURE 4.1



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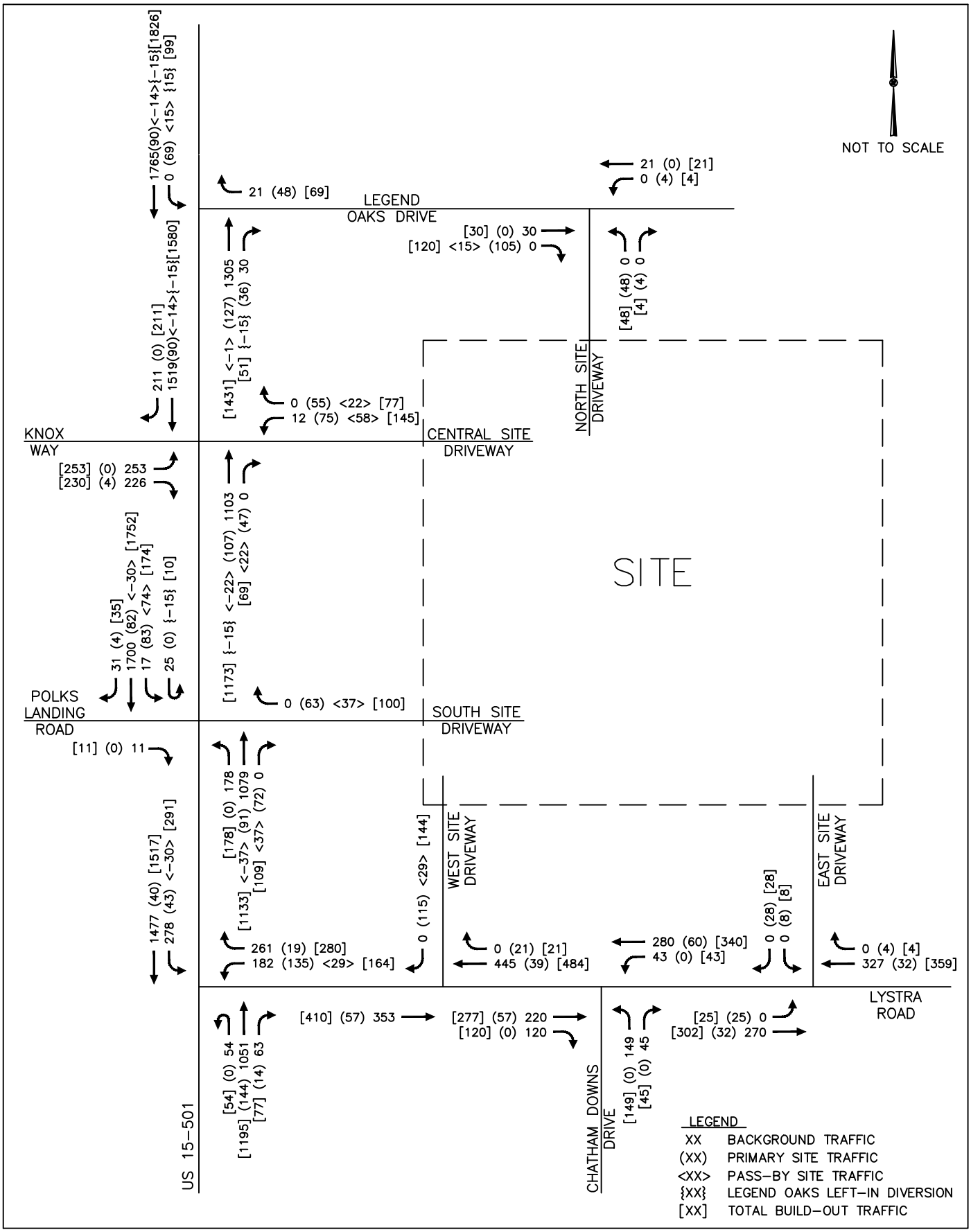
Kimley»Horn	WILLIAMS CORNER 2020 TIA UPDATE TRAFFIC IMPACT ANALYSIS CHATHAM COUNTY, NC	PROJECTED (2027) BUILD-OUT AM PEAK HOUR TRAFFIC VOLUMES	FIGURE 5.3



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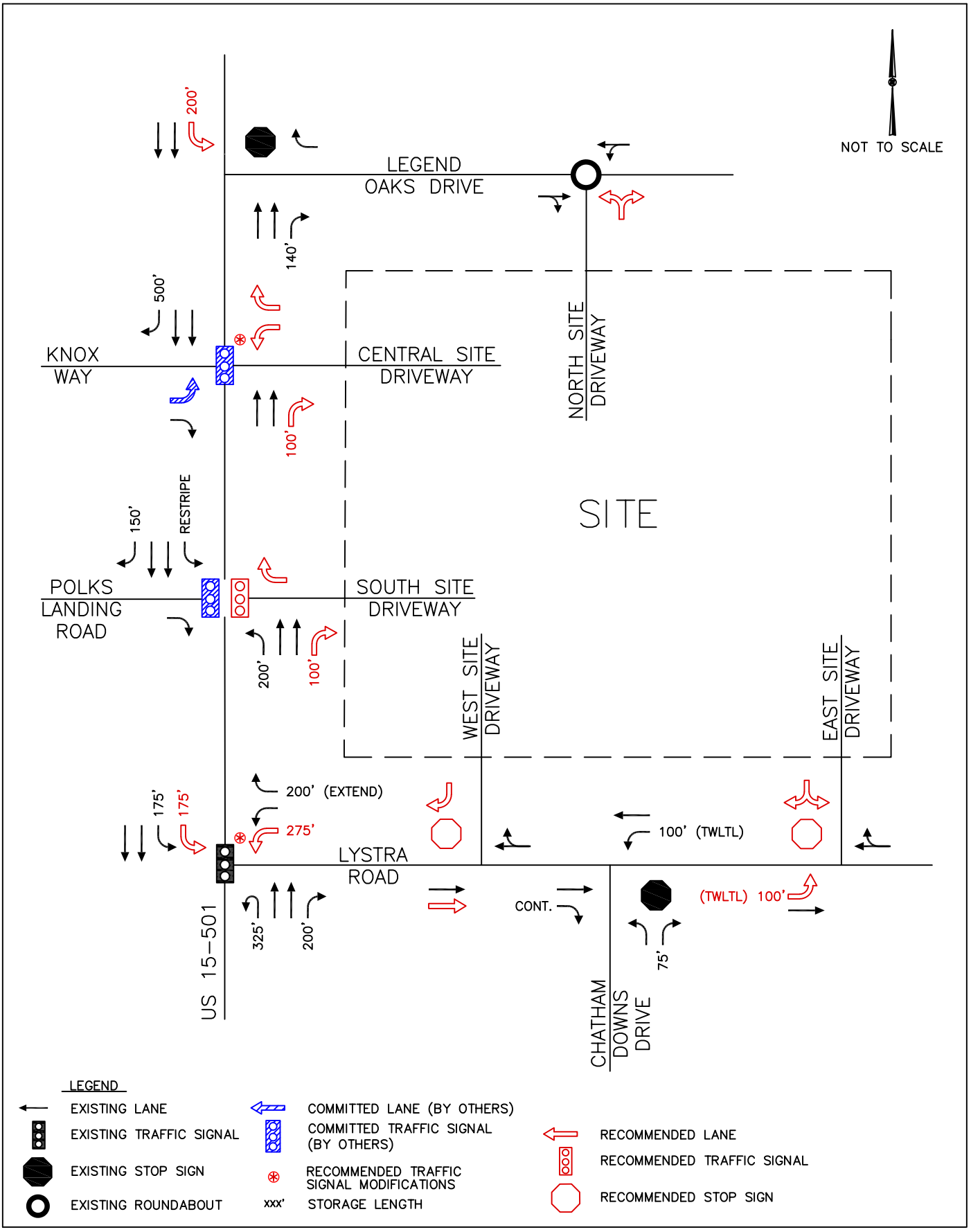
Kimley»Horn	WILLIAMS CORNER 2020 TIA UPDATE TRAFFIC IMPACT ANALYSIS CHATHAM COUNTY, NC	PROJECTED (2027) BUILD-OUT PM PEAK HOUR TRAFFIC VOLUMES	FIGURE 5.4



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Kimley»Horn	WILLIAMS CORNER 2020 TIA UPDATE TRAFFIC IMPACT ANALYSIS CHAPEL HILL, NC	RECOMMENDED ROADWAY LANEAGE	FIGURE 7.1

TRAFFIC IMPACT ANALYSIS

FOR

VICKERS BENNETT DEVELOPMENT

LOCATED

IN

CHATHAM COUNTY, NORTH CAROINA

Prepared For:
CE Group
301 Glenwood Avenue, Suite 220
Raleigh, NC 27603

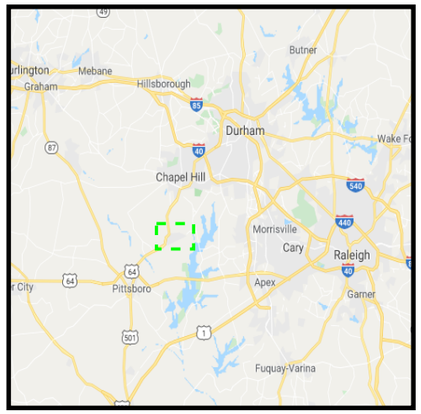
Prepared By:
Ramey Kemp & Associates, Inc.
5808 Faringdon Place, Suite 100
Raleigh, NC 27609
License #C-0910

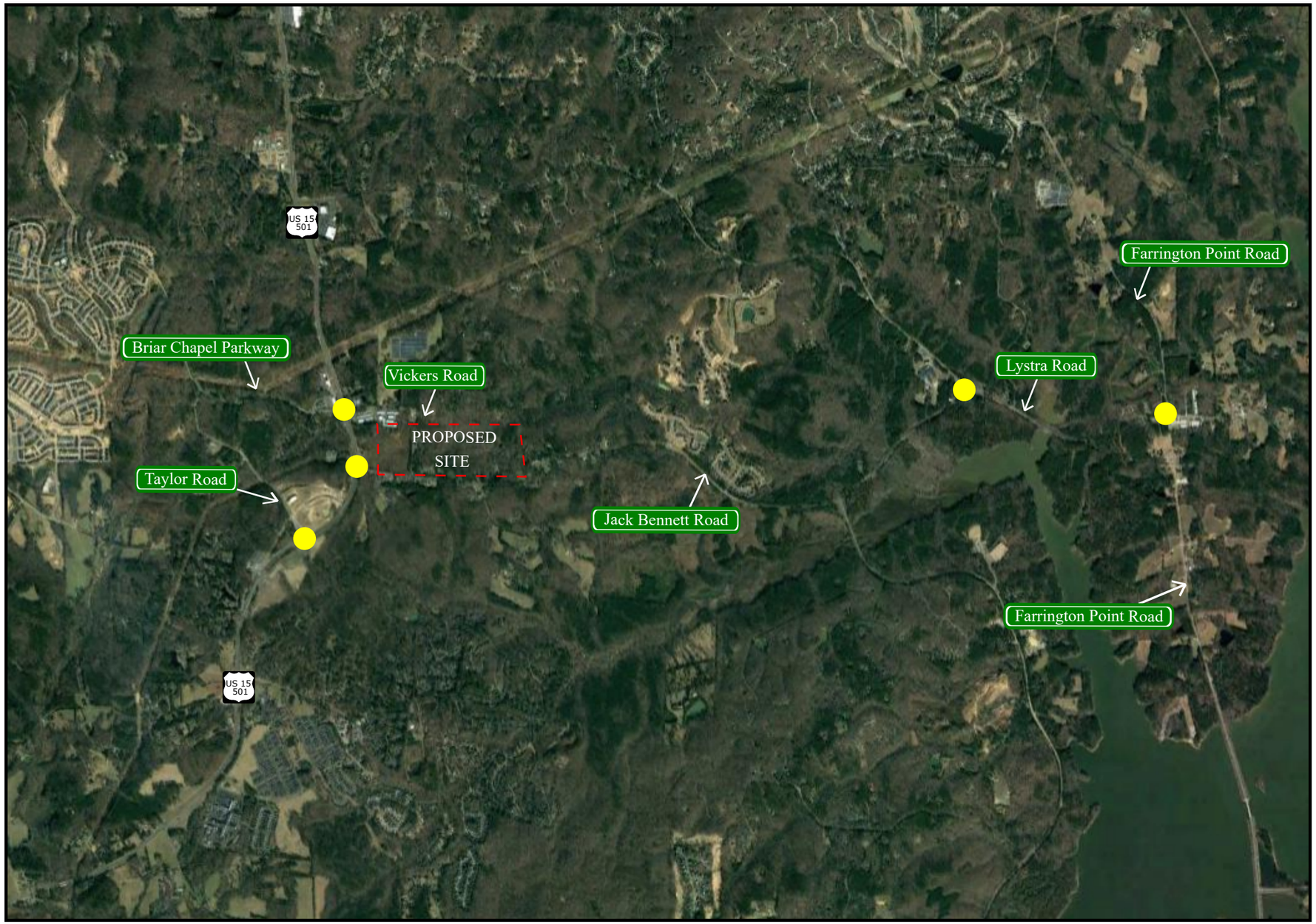
March 2020

RKA Project No. 19380

Prepared By: MLS

Reviewed By: CTS





LEGEND

- Proposed Site Location
- Study Intersection
- Study Area

N

Moving forward.
RKA
RAMEY KEMP ASSOCIATES

Vickers Bennett
Mixed-Use
Chatham County, NC

Site Location Map

Scale: Not to Scale | Figure 1

15-501 COMPACT COMMUNITY CONCEPT PLAN

CHATHAM COUNTY, NC

MARCH 26, 2020

LEGEND

- APPROXIMATE BUFFERS
- APPROXIMATE WETLANDS LOCATION
- APPROXIMATE STREAMS

NORTH

150' 0 150' 300'

SCALE: 1" = 150'

SITE DATA:

ZONING:	R-1 & CD-RB
TOTAL TRACT AREA:	± 95.4 AC

CE GROUP

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RALEIGH,NC 27603
PHONE: 919-367-8790
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www.cegroupinc.com

License # C-1739

VICINITY MAP

MCGREGOR WOODS RD

VICKERS RD

BRIAR CHAPEL PKWY

G SPRINGS DR

RIRO

15-501

JACK BENNETT RD

PARCEL #1 COMMERCIAL / MULTI-FAMILY ±2.9 AC.

PARCEL #2 COMMERCIAL / MULTI-FAMILY ±5.8 AC.

PARCEL #3 COMMERCIAL / MULTI-FAMILY ±2.3 AC.

AMENITY ±1.3 AC.

SINGLE FAMILY

NATURAL OPEN SPACE

OPEN SPACE

WQ

LS

80' R.o.W.

60' R.o.W.

20' ALLEY

30' LANDSCAPE BUFFER

50' LANDSCAPE BUFFER

LEGEND

TOTAL SITE ACREAGE= ±95.4 AC.

±1.3 AC.	AMENITY	(±12.3 AC.)
±11.0 AC.	COMM-MULTI. FAM.	
±13.28 AC.	RIGHT OF WAY	
±181 UNITS	SINGLE FAMILY RESIDENCES	
±30.99 AC.	NATURAL OPEN SPACE (±32.48%)	(±51.29%)
±17.94 AC.	OPEN SPACE (±18.81%)	

4. SITE TRIP GENERATION AND DISTRIBUTION

4.1. Trip Generation

The proposed development is expected to consist of a maximum of 225 single family homes, 25,000 sq. ft. of office development, and 50,000 sq. ft. retail and/or restaurant. Average weekday daily, AM peak hour, and PM peak hour trips for the proposed development were estimated using methodology contained within the ITE *Trip Generation Manual*, 10th Edition. Table 2 provides a summary of the trip generation potential for the site.

Table 2: Trip Generation Summary

Land Use (ITE Code)	Intensity	Daily Traffic (vpd)	AM Peak Hour Trips (vph)		PM Peak Hour Trips (vph)	
			Enter	Exit	Enter	Exit
Single Family Detached (210)	225 units	2,200	41	124	139	82
General Office Building (710)	25,000 sq. ft.	280	43	6	17	76
Shopping Center (820)	50,000 sq. ft.	3,750	110	67	156	169
Total Trips		**6,230**	**194**	**197**	**312**	**327**
Internal Capture (4% AM, 24% PM)			*-8*	*-8*	*-75*	*-78*
Pass-By Trips: Shopping Center (34% PM)			--	--	*-42*	*-42*
Total Primary Trips			**186**	**189**	**195**	**207**

It is estimated that the proposed development will generate approximately 6,230 total site trips on the roadway network during a typical 24-hour weekday period. Of the daily traffic volume, it is anticipated that 391 trips (194 entering and 197 exiting) will occur during the weekday AM peak hour and 639 trips (312 entering and 327 exiting) will occur during the weekday PM peak hour.

Internal capture is the consideration for trips that will be made within the site between land uses, so the vehicle technically never leaves the internal site, but can still be considered as a trip to that specific land use. Internal capture typically only considers trips between residential,

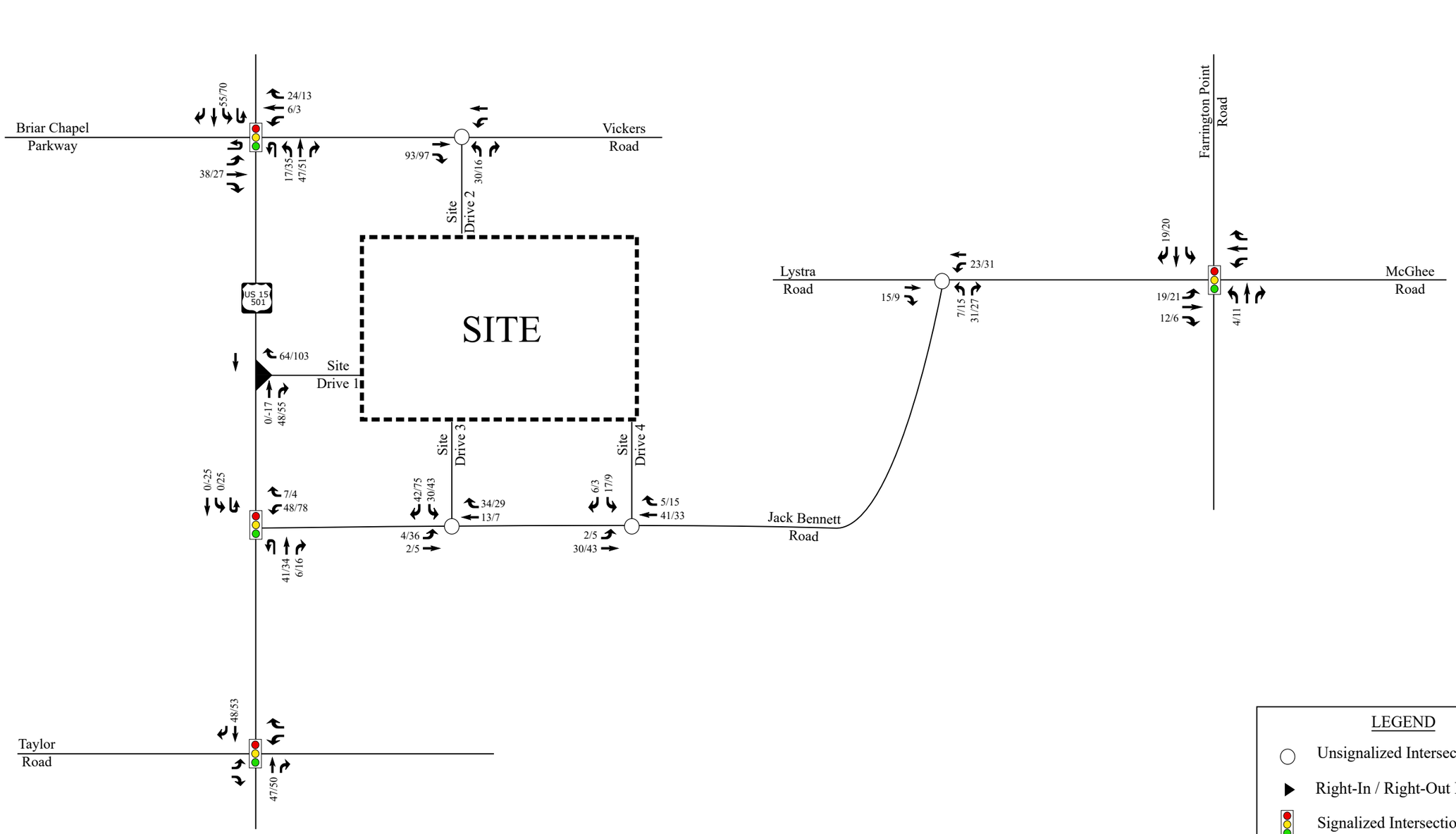
- 25% to/from the south via US 15-501
- 10% to/from the north via Farrington Point Road
- 10% to/from the east via Lystra Road
- 25% to/from the west via Briar Chapel Parkway
- 5% to/from the south via Big Woods Road

Site access is proposed via one (1) right-in / right-out *or* left-over driveway on US 15-501, two (2) full movement driveways on Jack Bennett Road, and one (1) full movement driveway on Vickers Road. Based on coordination with the NCDOT, US 15-501 is anticipated to be converted to a reduced conflict corridor section along the frontage of the proposed site; however, has not yet been fully funded. Based on discussions with NCDOT, due to the driveway access alternatives and the potential reduced conflict corridor conversion, this study was analyzed under the following four (4) combined (2026) analysis scenarios:

- Scenario 1: Right-in/right-out without US 15-501 reduced conflict corridor improvements
- Scenario 2: Left-over without US 15-501 reduced conflict corridor improvements
- Scenario 3: Right-in/right-out with US 15-501 reduced conflict corridor improvements
- Scenario 4: Left-over with US 15-501 reduced conflict corridor improvements

The site trip distributions for scenario 1 are shown in Figures 8a, 8b, and 8c for residential, retail/commercial, and pass-by trips, respectively. The pass-by site trips were distributed based on existing traffic patterns with consideration given to the proposed driveway access and site layout. Figures 9a, 9b, and 9c show the site trip distributions for Scenario 2 for residential, retail/commercial, and pass-by trips, respectively. The site trip distributions for scenario 3 are shown in Figures 10a, 10b, and 10c for residential, retail/commercial, and pass-by trips, respectively. Figures 11a, 11b, and 11c show the site trip distributions for Scenario 4 for residential, retail/commercial, and pass-by trips, respectively.

The site trip assignments for Scenario 1 are shown in Figures 12a, 12b, 12c, 12d, and 12e for residential, office, commercial, pass-by, and the total sum of site trips, respectively. Refer to Figures 13a, 13b, 13c, 13d, and 13e for Scenario 2 residential, office, commercial, pass-by,



Moving forward.
RKA
RAMEY KEMP ASSOCIATES

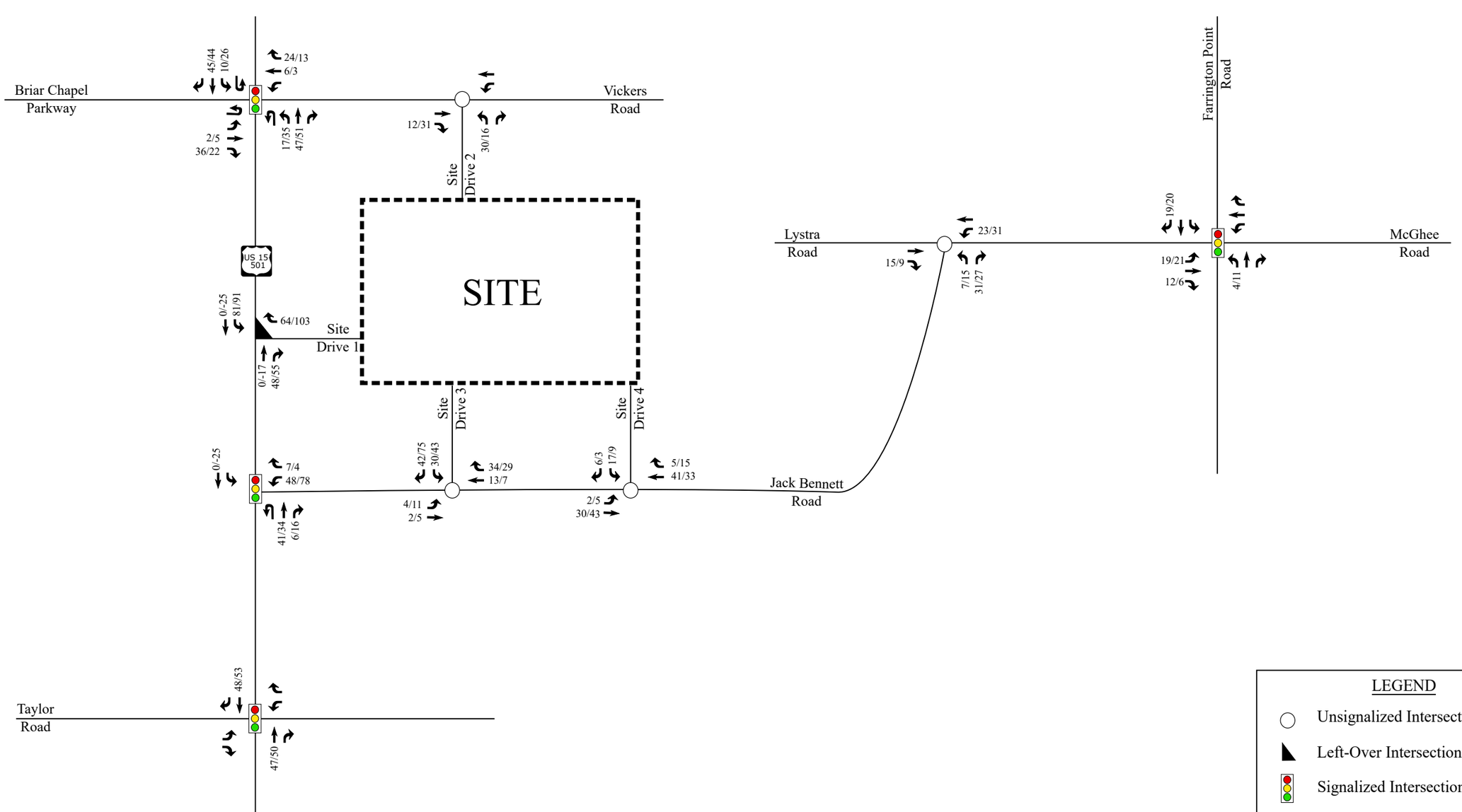
Vickers Bennett Mixed-Use

Chatham County, NC

Total Site Trip Assignment - Scenario 1

Scale: Not to Scale

Figure 12e



Moving forward.
RKA
RAMEY KEMP ASSOCIATES

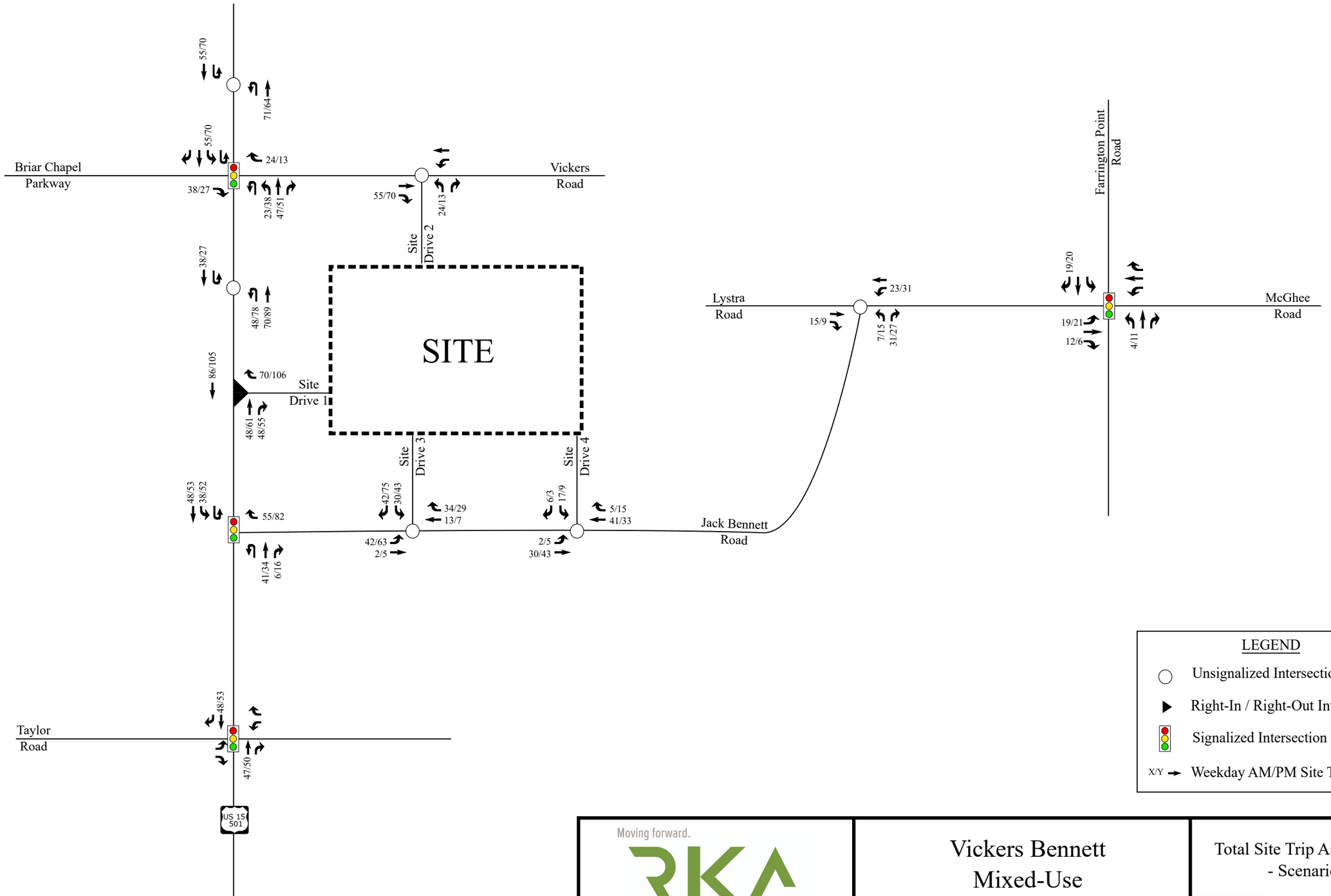
Vickers Bennett Mixed-Use

Chatham County, NC

Total Site Trip Assignment - Scenario 2

Scale: Not to Scale

Figure 13e

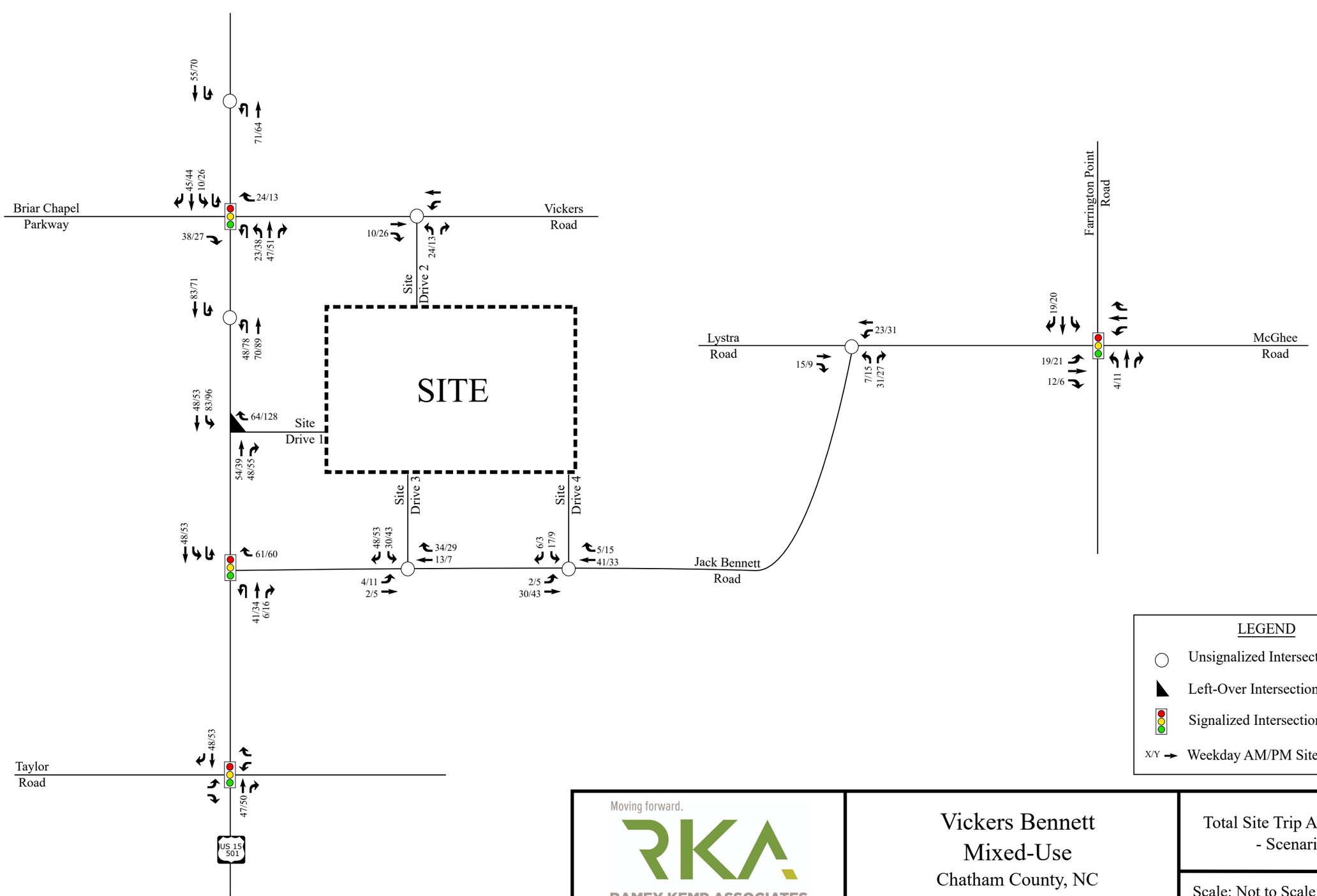


Moving forward.
RKA
RAMEY KEMP ASSOCIATES

Vickers Bennett Mixed-Use
Chatham County, NC

Total Site Trip Assignment - Scenario 3

Scale: Not to Scale | Figure 14e



Moving forward.
RKA
RAMEY KEMP ASSOCIATES

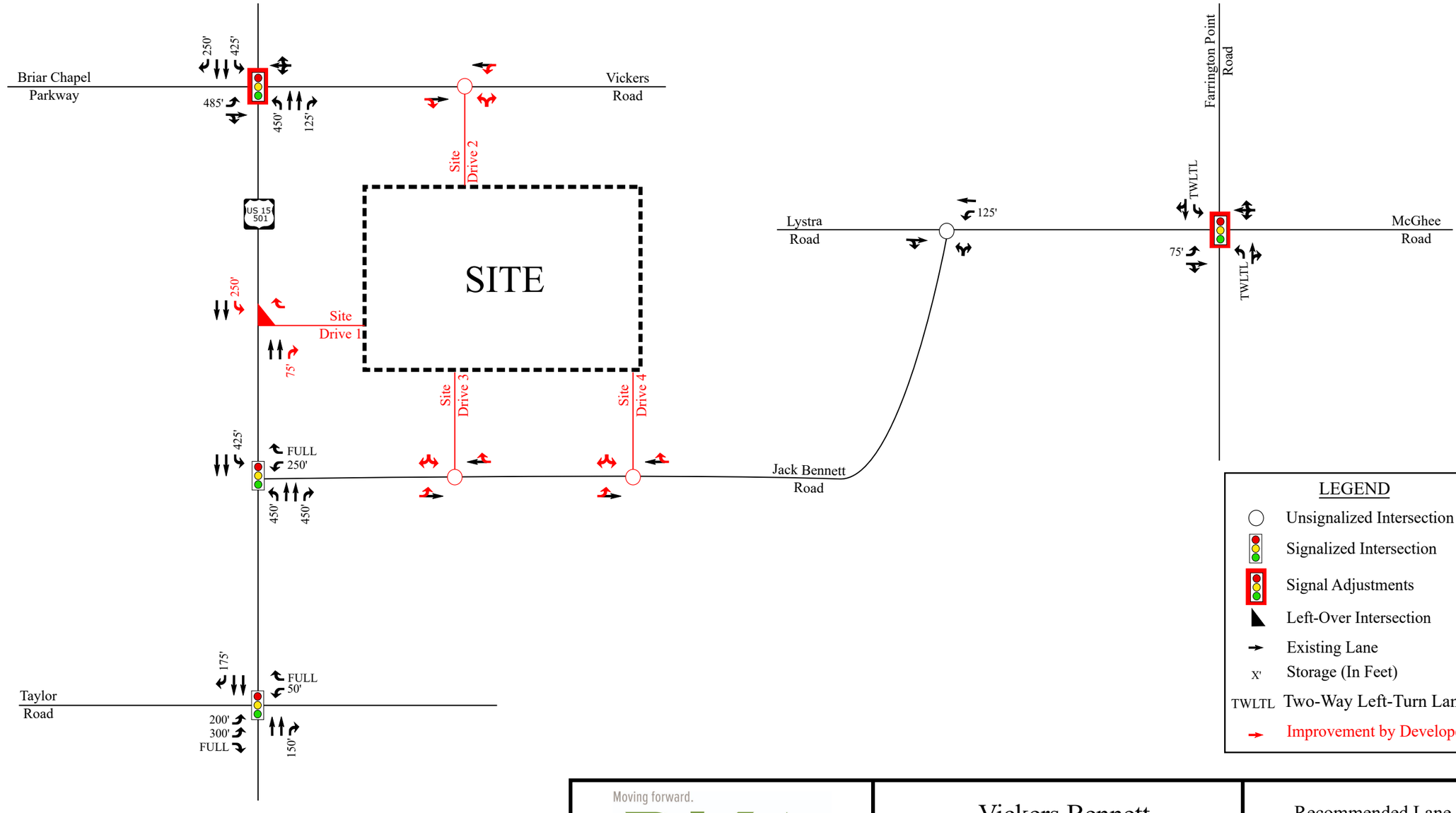
Vickers Bennett Mixed-Use

Chatham County, NC

Total Site Trip Assignment - Scenario 4

Scale: Not to Scale

Figure 15e



Moving forward.
RKA
RAMEY KEMP ASSOCIATES

Vickers Bennett Mixed-Use

Chatham County, NC

Recommended Lane Configuration

Scale: Not to Scale

Figure 17

Appendix E:
Intersection Spreadsheets

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**Scenario 1 - Full-Mvnt. @ Vickers - Site Build**
Ct. Date	**2/11/2020**
N/S Street:	**US 15/501**
E/W Street:	**Lystra Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.97

Description	- Eastbound			Lystra Road Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	61	0	129	9	1069	109	168	502	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	0	0	61	0	129	9	1069	109	168	502	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	2	0	3	0	27	3	4	13	0
Committed Projects												
Williams Corner (Updated)	0	0	0	100	0	17	0	149	15	34	29	0
Polks Village (Remaining Portion)	0	0	0	0	0	22	0	34	0	12	38	0
Briar Chapel (Remaining Portion)	0	0	0	17	0	4	0	120	19	0	188	0
Vickers Bennett	0	0	0	6	0	0	0	64	7	0	50	0
Total Committed Traffic	0	0	0	123	0	43	0	367	41	46	305	0
2025 Background Traffic	0	0	0	186	0	175	9	1463	153	218	820	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	45%	0%
Inbound Project Traffic	0	0	0	4	0	0	0	0	0	0	40	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	45%	5%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	46	5	0	0	0
Total Project Traffic	0	0	0	4	0	0	0	46	5	0	40	0
2025 Buildout Total	0	0	0	190	0	175	9	1509	158	218	860	0
Percent Impact (Approach)		-			1.1%			3.0%			3.7%	

Overall Percent Impact 3.0%

PM PEAK HOUR
PM PHF = 0.94

Description	- Eastbound			Lystra Road Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	128	0	193	40	679	31	249	1063	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	0	0	128	0	193	40	679	31	249	1063	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	3	0	5	1	17	1	6	27	0
Committed Projects												
Williams Corner (Updated)	0	0	0	164	0	19	0	144	14	13	40	0
Polks Village (Remaining Portion)	0	0	0	0	0	10	0	32	0	16	32	0
Briar Chapel (Remaining Portion)	0	0	0	20	0	10	0	170	23	0	170	0
Vickers Bennett	0	0	0	7	0	0	0	58	6	0	63	0
Total Committed Traffic	0	0	0	191	0	39	0	404	43	29	305	0
2025 Background Traffic	0	0	0	322	0	237	41	1100	75	284	1395	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	45%	0%
Inbound Project Traffic	0	0	0	6	0	0	0	0	0	0	50	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	45%	5%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	44	5	0	0	0
Total Project Traffic	0	0	0	6	0	0	0	44	5	0	50	0
2025 Buildout Total	0	0	0	328	0	237	41	1144	80	284	1445	0
Percent Impact (Approach)		-			1.1%			3.9%			2.9%	

Overall Percent Impact 3.0%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**Scenario 1 - Full-Mvnt. @ Vickers - Site Build**
Ct. Date	**2/11/2020**
N/S Street:	**US 15/501**
E/W Street:	**Briar Chapel Parkway/Vickers Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate: 0.5%
Growth Factor: 0.025251

Existing Year: 2020
Buildout Year: 2025

AM PEAK HOUR
AM PHF = 0.96

Description	Briar Chapel Parkway Eastbound			Vickers Road Westbound			US 15/501 Northbound				US 15/501 Southbound			
	Left	Through	Right	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
2020 Traffic Count	116	2	51	11	3	19	5	52	1047	12	22	15	538	27
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	116	2	51	11	3	19	5	52	1047	12	22	15	538	27
Growth Factor (0.005 per year)	0.000	0.000	0.000	0.025	0.000	0.025	0.000	0.000	0.025	0.025	0.000	0.025	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	0	26	0	0	0	14	0
Committed Projects														
Williams Corner (Updated)	0	0	0	0	0	0	0	0	164	0	0	0	129	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	0	34	0	0	0	38	0
Briar Chapel (Remaining Portion)	80	0	38	0	0	0	0	26	59	0	0	0	140	66
Vickers Bennett	0	38	0	0	6	24	0	11	47	0	0	55	0	0
Total Committed Traffic	80	38	38	0	6	24	0	37	304	0	0	55	307	66
2025 Background Traffic	196	40	89	11	9	43	5	89	1377	12	22	70	859	93
Project Traffic														
Percent Assignment Inbound	10%	0%	0%	0%	0%	0%	0%	0%	35%	5%	30%	5%	0%	0%
Inbound Project Traffic	9	0	0	0	0	0	0	0	31	4	26	4	0	0
Percent Assignment Outbound	0%	0%	0%	40%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	41	10	0	0	0	0	0	0	0	0	0
Total Project Traffic	9	0	0	41	10	0	0	0	31	4	26	4	0	0
2025 Buildout Total	205	40	89	52	19	43	5	89	1408	16	48	74	859	93
Percent Impact (Approach)		2.7%			44.7%				2.3%				2.8%	

Overall Percent Impact 4.1%

PM PEAK HOUR
PM PHF = 0.95

Description	Briar Chapel Parkway Eastbound			Vickers Road Westbound			US 15/501 Northbound				US 15/501 Southbound			
	Left	Through	Right	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
2020 Traffic Count	68	3	26	16	6	12	3	82	652	9	40	15	1107	88
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	68	3	26	16	6	12	3	82	652	9	40	15	1107	88
Growth Factor (0.005 per year)	0.000	0.000	0.000	0.025	0.000	0.025	0.000	0.000	0.025	0.025	0.000	0.025	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	0	16	0	0	0	28	0
Committed Projects														
Williams Corner (Updated)	0	0	0	0	0	0	0	0	158	0	0	0	204	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	0	32	0	0	0	32	0
Briar Chapel (Remaining Portion)	55	0	23	0	0	0	0	35	138	0	0	0	110	80
Vickers Bennett	0	27	0	0	3	13	0	32	51	0	0	70	0	0
Total Committed Traffic	55	27	23	0	3	13	0	67	379	0	0	70	346	80
2025 Background Traffic	123	30	49	16	9	25	3	149	1047	9	40	85	1481	168
Project Traffic														
Percent Assignment Inbound	10%	0%	0%	0%	0%	0%	0%	0%	35%	5%	30%	5%	0%	0%
Inbound Project Traffic	11	0	0	0	0	0	0	0	39	6	33	6	0	0
Percent Assignment Outbound	0%	0%	0%	40%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	39	10	0	0	0	0	0	0	0	0	0
Total Project Traffic	11	0	0	39	10	0	0	0	39	6	33	6	0	0
2025 Buildout Total	134	30	49	55	19	25	3	149	1086	15	73	91	1481	168
Percent Impact (Approach)		5.2%			49.5%				3.6%				2.2%	

Overall Percent Impact 4.3%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**Scenario 1 - Full-Mvnt. @ Vickers - Site Build**
Ct. Date	**2/11/2020**
N/S Street:	**US 15/501**
E/W Street:	**Jack Bennett Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.96

Description	- Eastbound			Jack Bennett Road Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	199	0	103	0	1013	236	72	535	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	0	0	199	0	103	0	1013	236	72	535	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	5	0	3	0	26	6	2	14	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	41	0	123	0	32	97	0
Polks Village (Remaining Portion)	0	0	0	0	0	9	0	26	0	10	29	0
Briar Chapel (Remaining Portion)	0	0	0	13	0	13	0	72	19	4	174	0
Vickers Bennett	0	0	0	0	0	55	0	41	6	0	48	0
Total Committed Traffic	0	0	0	13	0	118	0	262	25	46	347	0
Superstreet Diversion	0	0	0	-217	0	217	0	0	0	0	217	0
2025 Background Traffic	0	0	0	0	0	441	0	1301	267	120	1113	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	5%	0%	35%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	0	0	4	0	31	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	35%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	5	36	0
Total Project Traffic	0	0	0	0	0	4	0	31	0	5	36	0
2025 Buildout Total	0	0	0	0	0	445	0	1332	267	125	1149	0
Percent Impact (Approach)		-			0.9%			1.9%			3.2%	

Overall Percent Impact 2.3%

PM PEAK HOUR
PM PHF = 0.95

Description	- Eastbound			Jack Bennett Road Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	223	0	116	0	616	122	92	1031	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	0	0	223	0	116	0	616	122	92	1031	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	6	0	3	0	16	3	2	26	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	40	0	119	0	51	153	0
Polks Village (Remaining Portion)	0	0	0	0	0	8	0	24	0	8	24	0
Briar Chapel (Remaining Portion)	0	0	0	20	0	10	14	163	23	5	128	0
Vickers Bennett	0	0	0	0	0	82	0	34	16	25	53	0
Total Committed Traffic	0	0	0	20	0	140	14	340	39	89	358	0
Superstreet Diversion	0	0	0	-249	0	249	-14	14	0	0	263	0
2025 Background Traffic	0	0	0	0	0	508	0	986	164	183	1678	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	5%	0%	35%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	0	0	6	0	39	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	35%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	5	34	0
Total Project Traffic	0	0	0	0	0	6	0	39	0	5	34	0
2025 Buildout Total	0	0	0	0	0	514	0	1025	164	188	1712	0
Percent Impact (Approach)		-			1.2%			3.3%			2.1%	

Overall Percent Impact 2.3%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**Scenario 1 - Full-Mvnt. @ Vickers - Site Build**
Ct. Date	**2/11/2020**
N/S Street:	**Jack Bennett Road**
E/W Street:	**Lystra Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.77

Description	Lystra Road Eastbound			Lystra Road Westbound			Jack Bennett Road Northbound			Jack Bennett Road Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	316	81	179	162	0	75	0	374	0	0	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	316	81	179	162	0	75	0	374	0	0	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	8	2	5	4	0	2	0	9	0	0	0
Committed Projects												
Williams Corner (Updated)	0	29	0	0	37	0	0	0	0	0	0	0
Polks Village (Remaining Portion)	0	12	0	0	22	0	0	0	0	0	0	0
Briar Chapel (Remaining Portion)	0	19	0	26	22	0	0	0	23	0	0	0
Vickers Bennett	0	0	15	23	0	0	7	0	31	0	0	0
Total Committed Traffic	0	60	15	49	81	0	7	0	54	0	0	0
2025 Background Traffic	0	384	98	233	247	0	84	0	437	0	0	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	4	0	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	5	0	0	0
Total Project Traffic	0	0	0	4	0	0	0	0	5	0	0	0
2025 Buildout Total	0	384	98	237	247	0	84	0	442	0	0	0
Percent Impact (Approach)		0.0%			0.8%			1.0%			-	

Overall Percent Impact 0.6%

PM PEAK HOUR
PM PHF = 0.90

Description	Lystra Road Eastbound			Lystra Road Westbound			Jack Bennett Road Northbound			Jack Bennett Road Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	120	31	349	202	0	20	0	137	0	0	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	120	31	349	202	0	20	0	137	0	0	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	3	1	9	5	0	1	0	3	0	0	0
Committed Projects												
Williams Corner (Updated)	0	29	0	0	37	0	0	0	0	0	0	0
Polks Village (Remaining Portion)	0	12	0	0	22	0	0	0	0	0	0	0
Briar Chapel (Remaining Portion)	0	23	0	30	25	0	0	0	28	0	0	0
Vickers Bennett	0	0	9	31	0	0	15	0	27	0	0	0
Total Committed Traffic	0	64	9	61	84	0	15	0	55	0	0	0
2025 Background Traffic	0	187	41	419	291	0	36	0	195	0	0	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	6	0	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	5	0	0	0
Total Project Traffic	0	0	0	6	0	0	0	0	5	0	0	0
2025 Buildout Total	0	187	41	425	291	0	36	0	200	0	0	0
Percent Impact (Approach)		0.0%			0.8%			2.1%			-	

Overall Percent Impact 0.9%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**Scenario 1 - Full-Mvnt. @ Vickers - Site Build**
Ct. Date	**Balanced with 15/501 at Briar Chapel/Vickers**
N/S Street:	**US 15/501**
E/W Street:	**U-Turn North of Jack Bennett/South of Vickers**

	AM In	**AM Out**	**PM In**	**PM Out**
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	U-Turn Bulb-outs **Eastbound** Left	Through	Right	U-Turn Bulb-outs **Westbound** Left	Through	Right	US 15/501 **Northbound** U-Turn	Through	Right	US 15/501 **Southbound** U-Turn	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	1116	0	0	602	0
2020 Existing Traffic	0	0	0	0	0	0	0	1116	0	0	602	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	0	0	0	0	28	0	0	15	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	164	0	0	129	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	34	0	0	38	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	85	0	0	178	0
Vickers Bennett	0	0	0	0	0	0	48	58	0	0	0	0
Total Committed Traffic	0	0	0	0	0	0	48	341	0	0	345	0
Superstreet Diversion	0	0	0	0	0	0	217	0	0	0	0	0
2025 Background Traffic	0	0	0	0	0	0	265	1485	0	0	962	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	40%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	35	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	0	41	0
Total Project Traffic	0	0	0	0	0	0	0	35	0	0	41	0
2025 Buildout Total	0	0	0	0	0	0	265	1520	0	0	1003	0
Percent Impact (Approach)		-			-			2.0%			4.1%	

Overall Percent Impact 2.7%

PM PEAK HOUR
PM PHF = 0.90

Description	U-Turn Bulb-outs **Eastbound** Left	Through	Right	U-Turn Bulb-outs **Westbound** Left	Through	Right	US 15/501 **Northbound** U-Turn	Through	Right	US 15/501 **Southbound** Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	746	0	0	1152	0
2020 Existing Traffic	0	0	0	0	0	0	0	746	0	0	1152	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	0	0	0	0	19	0	0	29	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	158	0	0	204	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	32	0	0	32	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	173	0	0	133	0
Vickers Bennett	0	0	0	0	0	0	78	83	0	0	0	0
Total Committed Traffic	0	0	0	0	0	0	78	446	0	0	369	0
Superstreet Diversion	0	0	0	0	0	0	263	0	0	0	0	0
2025 Background Traffic	0	0	0	0	0	0	341	1211	0	0	1550	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	40%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	44	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	0	39	0
Total Project Traffic	0	0	0	0	0	0	0	44	0	0	39	0
2025 Buildout Total	0	0	0	0	0	0	341	1255	0	0	1589	0
Percent Impact (Approach)		-			-			2.8%			2.5%	

Overall Percent Impact 2.6%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**Scenario 1 - Full-Mvnt. @ Vickers - Site Build**
Ct. Date	**Balanced with 15/501 @ Vickers**
N/S Street:	**US 15/501**
E/W Street:	**South Site Driveway (RI/RO)**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	- Eastbound			South Site Driveway (RI/RO) Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	1204	0	0	602	0
2020 Existing Traffic	0	0	0	0	0	0	0	1204	0	0	602	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	30	0	0	15	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	164	0	0	129	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	34	0	0	38	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	139	0	0	205	0
Vickers Bennett	0	0	0	0	0	0	0	71	0	0	55	0
Total Committed Traffic	0	0	0	0	0	0	0	408	0	0	427	0
2025 Background Traffic	0	0	0	0	0	0	0	1642	0	0	1044	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	5%	70%	0%	35%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	4	62	0	31	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	35%	0%	0%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	36	0	0	0	0	0	0
Total Project Traffic	0	0	0	0	0	36	0	4	62	0	31	0
2025 Buildout Total	0	0	0	0	0	36	0	1646	62	0	1075	0
Percent Impact (Approach)		-			100.0%			3.9%			2.9%	

Overall Percent Impact 4.7%

PM PEAK HOUR
PM PHF = 0.90

Description	- Eastbound			South Site Driveway (RI/RO) Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	772	0	0	1250	0
2020 Existing Traffic	0	0	0	0	0	0	0	772	0	0	1250	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	19	0	0	32	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	158	0	0	204	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	32	0	0	32	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	193	0	0	190	0
Vickers Bennett	0	0	0	0	0	0	0	64	0	0	70	0
Total Committed Traffic	0	0	0	0	0	0	0	447	0	0	496	0
2025 Background Traffic	0	0	0	0	0	0	0	1238	0	0	1778	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	5%	70%	0%	35%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	6	78	0	39	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	35%	0%	0%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	34	0	0	0	0	0	0
Total Project Traffic	0	0	0	0	0	34	0	6	78	0	39	0
2025 Buildout Total	0	0	0	0	0	34	0	1244	78	0	1817	0
Percent Impact (Approach)		-			100.0%			6.4%			2.1%	

Overall Percent Impact 4.9%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**Scenario 1 - Full-Mvnt. @ Vickers - Site Build**
Ct. Date	**Balanced with 15/501 @ Vickers**
N/S Street:	**US 15/501**
E/W Street:	**North Site Driveway (Left-in)**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	- Eastbound			North Site Driveway (Left-in) Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	1204	0	0	602	0
2020 Existing Traffic	0	0	0	0	0	0	0	1204	0	0	602	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	30	0	0	15	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	164	0	0	129	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	34	0	0	38	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	139	0	0	205	0
Vickers Bennett	0	0	0	0	0	0	0	71	0	0	55	0
Total Committed Traffic	0	0	0	0	0	0	0	408	0	0	427	0
2025 Background Traffic	0	0	0	0	0	0	0	1642	0	0	1044	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	0%	5%	15%	35%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	0	4	13	31	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	15%	0%	35%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	15	0	36	0	0	0	0
Total Project Traffic	0	0	0	0	0	15	0	36	4	13	31	0
2025 Buildout Total	0	0	0	0	0	15	0	1678	4	13	1075	0
Percent Impact (Approach)		-			100.0%			2.4%			4.0%	

Overall Percent Impact 3.6%

PM PEAK HOUR
PM PHF = 0.90

Description	- Eastbound			North Site Driveway (Left-in) Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	772	0	0	1250	0
2020 Existing Traffic	0	0	0	0	0	0	0	772	0	0	1250	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	19	0	0	32	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	158	0	0	204	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	32	0	0	32	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	193	0	0	190	0
Vickers Bennett	0	0	0	0	0	0	0	64	0	0	70	0
Total Committed Traffic	0	0	0	0	0	0	0	447	0	0	496	0
2025 Background Traffic	0	0	0	0	0	0	0	1238	0	0	1778	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	0%	5%	15%	35%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	0	6	16	39	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	15%	0%	35%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	15	0	34	0	0	0	0
Total Project Traffic	0	0	0	0	0	15	0	34	6	16	39	0
2025 Buildout Total	0	0	0	0	0	15	0	1272	6	16	1817	0
Percent Impact (Approach)		-			100.0%			3.1%			3.0%	

Overall Percent Impact 3.5%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**Scenario 1 - Full-Mvnt. @ Vickers - Site Build**
Ct. Date	**Balanced with 15/501 @ Vickers**
N/S Street:	**Site Driveway**
E/W Street:	**Vickers Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	Vickers Road Eastbound			Vickers Road Westbound			Site Driveway Northbound			Site Driveway Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	29	0	0	33	0	0	0	0	0	0	0
2020 Existing Traffic	0	29	0	0	33	0	0	0	0	0	0	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	1	0	0	1	0	0	0	0	0	0	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	0	0	0	0	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	0	0	0	0	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	0	0	0	0	0
Vickers Bennett	0	93	0	0	30	0	0	0	0	0	0	0
Total Committed Traffic	0	93	0	0	30	0	0	0	0	0	0	0
2025 Background Traffic	0	123	0	0	64	0	0	0	0	0	0	0
Project Traffic												
Percent Assignment Inbound	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	9	0	0	0	0	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	0	0	52
Total Project Traffic	9	0	0	0	0	0	0	0	0	0	0	52
2025 Buildout Total	9	123	0	0	64	0	0	0	0	0	0	52
Percent Impact (Approach)		6.8%			0.0%			-			100.0%	

Overall Percent Impact 24.6%

PM PEAK HOUR
PM PHF = 0.90

Description	Vickers Road Eastbound			Vickers Road Westbound			Site Driveway Northbound			Site Driveway Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	27	0	0	34	0	0	0	0	0	0	0
2020 Existing Traffic	0	27	0	0	34	0	0	0	0	0	0	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	1	0	0	1	0	0	0	0	0	0	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	0	0	0	0	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	0	0	0	0	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	0	0	0	0	0
Vickers Bennett	0	97	0	0	16	0	0	0	0	0	0	0
Total Committed Traffic	0	97	0	0	16	0	0	0	0	0	0	0
2025 Background Traffic	0	125	0	0	51	0	0	0	0	0	0	0
Project Traffic												
Percent Assignment Inbound	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	11	0	0	0	0	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	0	0	49
Total Project Traffic	11	0	0	0	0	0	0	0	0	0	0	49
2025 Buildout Total	11	125	0	0	51	0	0	0	0	0	0	49
Percent Impact (Approach)		8.1%			0.0%			-			100.0%	

Overall Percent Impact 25.4%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #1 - Trad. RCI w/ Left-In North Site Drwy.**
Ct. Date	**1/8/2020**
Ct. Peaks	**AM: 730-830; PM: 445-545**
N/S Street:	**US 15/501**
E/W Street:	**Lystra Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.97

Description	- Eastbound			Lystra Road Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	61	0	129	9	1069	109	168	502	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	0	0	61	0	129	9	1069	109	168	502	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	2	0	3	0	27	3	4	13	0
Committed Projects												
Williams Corner (Updated)	0	0	0	100	0	17	0	149	15	34	29	0
Polks Village (Remaining Portion)	0	0	0	0	0	22	0	34	0	12	38	0
Briar Chapel (Remaining Portion)	0	0	0	17	0	4	0	120	19	0	188	0
Vickers Bennett - Scen. 3	0	0	0	6	0	0	0	64	7	0	50	0
Total Committed Traffic	0	0	0	123	0	43	0	367	41	46	305	0
Superstreet Diversion	0	0	0	-186	0	186	-9	9	0	0	195	0
2025 Background Traffic	0	0	0	0	0	361	0	1472	153	218	1014	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	50%	0%
Inbound Project Traffic	0	0	0	0	0	4	0	0	0	0	44	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	45%	5%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	46	5	0	0	0
Total Project Traffic	0	0	0	0	0	4	0	46	5	0	44	0
2025 Buildout Total	0	0	0	0	0	365	0	1518	158	218	1058	0
Percent Impact (Approach)		-			1.1%			3.0%			3.4%	

Overall Percent Impact 3.0%

PM PEAK HOUR
PM PHF = 0.92

Description	- Eastbound			Lystra Road Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	128	0	193	40	679	31	249	1063	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	0	0	128	0	193	40	679	31	249	1063	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	3	0	5	1	17	1	6	27	0
Committed Projects												
Williams Corner (Updated)	0	0	0	164	0	19	0	144	14	13	40	0
Polks Village (Remaining Portion)	0	0	0	0	0	10	0	32	0	16	32	0
Briar Chapel (Remaining Portion)	0	0	0	20	0	10	0	170	23	0	170	0
Vickers Bennett - Scen. 3	0	0	0	7	0	0	0	58	6	0	63	0
Total Committed Traffic	0	0	0	191	0	39	0	404	43	29	305	0
Superstreet Diversion	0	0	0	-322	0	322	-41	41	0	0	363	0
2025 Background Traffic	0	0	0	0	0	559	0	1141	75	284	1758	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	50%	0%
Inbound Project Traffic	0	0	0	0	0	6	0	0	0	0	56	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	45%	5%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	44	5	0	0	0
Total Project Traffic	0	0	0	0	0	6	0	44	5	0	56	0
2025 Buildout Total	0	0	0	0	0	565	0	1185	80	284	1814	0
Percent Impact (Approach)		-			1.1%			3.9%			2.7%	

Overall Percent Impact 2.8%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #1 - Trad. RCI w/ Left-In North Site Drwy.**
Ct. Date	**2/11/2020**
Ct. Peaks	**AM: 715-815; PM: 430-530**
N/S Street:	**US 15/501**
E/W Street:	**Briar Chapel Parkway/Vickers Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate: 0.5%
Growth Factor: 0.025251

Existing Year: 2020
Buildout Year: 2025

AM PEAK HOUR
AM PHF = 0.96

Description	Briar Chapel Parkway Eastbound			Vickers Road Westbound			US 15/501 Northbound				US 15/501 Southbound			
	Left	Through	Right	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
2020 Traffic Count	116	2	51	11	3	19	5	52	1047	12	22	15	538	27
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	116	2	51	11	3	19	5	52	1047	12	22	15	538	27
Growth Factor (0.005 per year)	0.000	0.000	0.000	0.025	0.000	0.025	0.000	0.000	0.025	0.025	0.000	0.025	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	0	26	0	0	0	14	0
Committed Projects														
Williams Corner (Updated)	0	0	0	0	0	0	0	0	164	0	0	0	129	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	0	34	0	0	0	38	0
Briar Chapel (Remaining Portion)	80	0	38	0	0	0	0	26	59	0	0	0	140	66
Vickers Bennett - Scen. 3	0	0	38	0	0	24	0	23	47	0	0	55	0	0
Total Committed Traffic	80	0	76	0	0	24	0	49	304	0	0	55	307	66
Superstreet Diversion	-196	-2	198	-11	-3	14	0	0	196	2	0	0	11	3
2025 Background Traffic	0	0	325	0	0	57	5	101	1573	14	22	70	870	96
Project Traffic														
Percent Assignment Inbound	0%	0%	10%	0%	0%	0%	0%	0%	45%	5%	30%	5%	0%	0%
Inbound Project Traffic	0	0	9	0	0	0	0	0	40	4	26	4	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%	40%	10%
Outbound Project Traffic	0	0	0	0	0	26	0	0	0	0	0	0	41	10
Total Project Traffic	0	0	9	0	0	26	0	0	40	4	26	4	41	10
2025 Buildout Total	0	0	334	0	0	83	5	101	1613	18	48	74	911	106
Percent Impact (Approach)		2.7%			31.3%				2.5%				7.1%	

Overall Percent Impact 4.9%

PM PEAK HOUR
PM PHF = 0.95

Description	Briar Chapel Parkway Eastbound			Vickers Road Westbound			US 15/501 Northbound				US 15/501 Southbound			
	Left	Through	Right	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
2020 Traffic Count	68	3	26	16	6	12	3	82	652	9	40	15	1107	88
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	68	3	26	16	6	12	3	82	652	9	40	15	1107	88
Growth Factor (0.005 per year)	0.000	0.000	0.000	0.025	0.000	0.025	0.000	0.000	0.025	0.025	0.000	0.025	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	0	16	0	0	0	28	0
Committed Projects														
Williams Corner (Updated)	0	0	0	0	0	0	0	0	158	0	0	0	204	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	0	32	0	0	0	32	0
Briar Chapel (Remaining Portion)	55	0	23	0	0	0	0	35	138	0	0	0	110	80
Vickers Bennett - Scen. 3	0	0	27	0	0	13	0	38	51	0	0	70	0	0
Total Committed Traffic	55	0	50	0	0	13	0	73	379	0	0	70	346	80
Superstreet Diversion	-123	-3	126	-16	-6	22	0	0	123	3	0	0	16	6
2025 Background Traffic	0	0	202	0	0	47	3	155	1170	12	40	85	1497	174
Project Traffic														
Percent Assignment Inbound	0%	0%	10%	0%	0%	0%	0%	0%	45%	5%	30%	5%	0%	0%
Inbound Project Traffic	0	0	11	0	0	0	0	0	50	6	33	6	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%	40%	10%
Outbound Project Traffic	0	0	0	0	0	25	0	0	0	0	0	0	39	10
Total Project Traffic	0	0	11	0	0	25	0	0	50	6	33	6	39	10
2025 Buildout Total	0	0	213	0	0	72	3	155	1220	18	73	91	1536	184
Percent Impact (Approach)		5.2%			34.7%				4.0%				4.7%	

Overall Percent Impact 5.0%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #1 - Trad. RCI w/ Left-In North Site Drwy.**
Ct. Date	**2/11/2020**
Ct. Peaks	**AM: 715-841; PM: 430-530**
N/S Street:	**US 15/501**
E/W Street:	**Jack Bennett Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.96

Description	- Eastbound			Jack Bennett Road Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	199	0	103	0	1013	236	72	535	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	0	0	199	0	103	0	1013	236	72	535	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	5	0	3	0	26	6	2	14	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	41	0	123	0	32	97	0
Polks Village (Remaining Portion)	0	0	0	0	0	9	0	26	0	10	29	0
Briar Chapel (Remaining Portion)	0	0	0	13	0	13	0	72	19	4	174	0
Vickers Bennett - Scen. 3	0	0	0	0	0	55	0	41	6	38	48	0
Total Committed Traffic	0	0	0	13	0	118	0	262	25	84	347	0
Superstreet Diversion	0	0	0	-217	0	217	0	0	0	0	217	0
2025 Background Traffic	0	0	0	0	0	441	0	1301	267	158	1113	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	5%	0%	35%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	0	0	4	0	31	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	35%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	5	36	0
Total Project Traffic	0	0	0	0	0	4	0	31	0	5	36	0
2025 Buildout Total	0	0	0	0	0	445	0	1332	267	163	1149	0
Percent Impact (Approach)		-			0.9%			1.9%			3.1%	

Overall Percent Impact 2.3%

PM PEAK HOUR
PM PHF = 0.95

Description	- Eastbound			Jack Bennett Road Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	223	0	116	0	616	122	92	1031	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	0	0	223	0	116	0	616	122	92	1031	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	6	0	3	0	16	3	2	26	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	40	0	119	0	51	153	0
Polks Village (Remaining Portion)	0	0	0	0	0	8	0	24	0	8	24	0
Briar Chapel (Remaining Portion)	0	0	0	20	0	10	14	163	23	5	128	0
Vickers Bennett - Scen. 3	0	0	0	0	0	82	0	34	16	52	53	0
Total Committed Traffic	0	0	0	20	0	140	14	340	39	116	358	0
Superstreet Diversion	0	0	0	-249	0	249	-14	14	0	0	263	0
2025 Background Traffic	0	0	0	0	0	508	0	986	164	210	1678	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	5%	0%	35%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	0	0	6	0	39	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	35%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	5	34	0
Total Project Traffic	0	0	0	0	0	6	0	39	0	5	34	0
2025 Buildout Total	0	0	0	0	0	514	0	1025	164	215	1712	0
Percent Impact (Approach)		-			1.2%			3.3%			2.0%	

Overall Percent Impact 2.3%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #1 - Trad. RCI w/ Left-In North Site Drwy.**
Ct. Date	**2/11/2020**
Ct. Peaks	**AM: 730-830; PM: 500-600**
N/S Street:	**Jack Bennett Road**
E/W Street:	**Lystra Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.77

Description	Lystra Road Eastbound			Lystra Road Westbound			Jack Bennett Road Northbound			Jack Bennett Road Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	316	81	179	162	0	75	0	374	0	0	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	316	81	179	162	0	75	0	374	0	0	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	8	2	5	4	0	2	0	9	0	0	0
Committed Projects												
Williams Corner (Updated)	0	29	0	0	37	0	0	0	0	0	0	0
Polks Village (Remaining Portion)	0	12	0	0	22	0	0	0	0	0	0	0
Briar Chapel (Remaining Portion)	0	19	0	26	22	0	0	0	23	0	0	0
Vickers Bennett - Scen. 3	0	0	15	23	0	0	7	0	31	0	0	0
Total Committed Traffic	0	60	15	49	81	0	7	0	54	0	0	0
2025 Background Traffic	0	384	98	233	247	0	84	0	437	0	0	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	4	0	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	5	0	0	0
Total Project Traffic	0	0	0	4	0	0	0	0	5	0	0	0
2025 Buildout Total	0	384	98	237	247	0	84	0	442	0	0	0
Percent Impact (Approach)		0.0%			0.8%			1.0%			-	

Overall Percent Impact 0.6%

PM PEAK HOUR
PM PHF = 0.90

Description	Lystra Road Eastbound			Lystra Road Westbound			Jack Bennett Road Northbound			Jack Bennett Road Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	120	31	349	202	0	20	0	137	0	0	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	120	31	349	202	0	20	0	137	0	0	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	3	1	9	5	0	1	0	3	0	0	0
Committed Projects												
Williams Corner (Updated)	0	29	0	0	37	0	0	0	0	0	0	0
Polks Village (Remaining Portion)	0	12	0	0	22	0	0	0	0	0	0	0
Briar Chapel (Remaining Portion)	0	23	0	30	25	0	0	0	28	0	0	0
Vickers Bennett - Scen. 3	0	0	9	31	0	0	15	0	27	0	0	0
Total Committed Traffic	0	64	9	61	84	0	15	0	55	0	0	0
2025 Background Traffic	0	187	41	419	291	0	36	0	195	0	0	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	6	0	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	5	0	0	0
Total Project Traffic	0	0	0	6	0	0	0	0	5	0	0	0
2025 Buildout Total	0	187	41	425	291	0	36	0	200	0	0	0
Percent Impact (Approach)		0.0%			0.8%			2.1%			-	

Overall Percent Impact 0.9%

INTERSECTION ANALYSIS SHEET

		AM In	AM Out	PM In	PM Out
Project:	**Herndon Farm**	**Net New Trips:**	88	103	111	98
Location:	**Chatham County, NC**	**Pass-By Trips:**	0	0	0	0
Scenario:	**RCI Alt. #1 - Trad. RCI w/ Left-In North Site Drwy.**					
Ct. Date	**Balanced with 15/501 at Briar Chapel/Vickers**					
Ct. Peaks	**AM: 715-841; PM: 430-530**					
N/S Street:	**US 15/501**	**Annual Growth Rate:**	0.5%	**Existing Year:**	2020	
E/W Street:	**U-Turn North of Jack Bennett/South of Vickers**	**Growth Factor:**	0.025251	**Buildout Year:**	2025	

AM PEAK HOUR
AM PHF = 0.90

Description	U-Turn Bulb-outs Eastbound			U-Turn Bulb-outs Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Through	Right	U-Turn	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	1116	0	0	605	0
2020 Existing Traffic	0	0	0	0	0	0	0	1116	0	0	605	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	0	0	0	0	28	0	0	15	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	164	0	0	129	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	34	0	0	38	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	85	0	0	178	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	48	70	0	0	38	0
Total Committed Traffic	0	0	0	0	0	0	48	353	0	0	383	0
Superstreet Diversion	0	0	0	0	0	0	217	0	0	198	0	0
2025 Background Traffic	0	0	0	0	0	0	265	1497	0	198	1003	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	40%	0%	10%	0%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	35	0	9	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	0	41	0
Total Project Traffic	0	0	0	0	0	0	0	35	0	9	41	0
2025 Buildout Total	0	0	0	0	0	0	265	1532	0	207	1044	0
Percent Impact (Approach)		-			-			1.9%			4.0%	

Overall Percent Impact 2.8%

PM PEAK HOUR
PM PHF = 0.90

Description	U-Turn Bulb-outs Eastbound			U-Turn Bulb-outs Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	746	0	0	1152	0
2020 Existing Traffic	0	0	0	0	0	0	0	746	0	0	1152	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	0	0	0	0	19	0	0	29	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	158	0	0	204	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	32	0	0	32	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	173	0	0	133	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	78	89	0	0	27	0
Total Committed Traffic	0	0	0	0	0	0	78	452	0	0	396	0
Superstreet Diversion	0	0	0	0	0	0	263	0	0	126	0	0
2025 Background Traffic	0	0	0	0	0	0	341	1217	0	126	1577	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	40%	0%	10%	0%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	44	0	11	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	0	39	0
Total Project Traffic	0	0	0	0	0	0	0	44	0	11	39	0
2025 Buildout Total	0	0	0	0	0	0	341	1261	0	137	1616	0
Percent Impact (Approach)		-			-			2.7%			2.9%	

Overall Percent Impact 2.8%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #1 - Trad. RCI w/ Left-In North Site Drwy.**
Ct. Date	**Balanced with 15/501 @ Vickers**
N/S Street:	**US 15/501**
E/W Street:	**U-Turn North of Vickers**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	- Eastbound			U-Turn North of Vickers Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	1204	0	0	602	0
2020 Existing Traffic	0	0	0	0	0	0	0	1204	0	0	602	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	30	0	0	15	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	164	0	0	129	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	34	0	0	38	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	139	0	0	205	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	0	71	0	0	55	0
Total Committed Traffic	0	0	0	0	0	0	0	408	0	0	427	0
Superstreet Diversion	0	0	0	0	0	0	14	0	0	0	0	0
2025 Background Traffic	0	0	0	0	0	0	14	1642	0	0	1044	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	35%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	4	0	0	31	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	50%	35%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	52	36	0	0	0	0
Total Project Traffic	0	0	0	0	0	0	52	40	0	0	31	0
2025 Buildout Total	0	0	0	0	0	0	66	1682	0	0	1075	0
Percent Impact (Approach)		-			-			5.3%			2.9%	

Overall Percent Impact 4.4%

PM PEAK HOUR
PM PHF = 0.90

Description	- Eastbound			U-Turn North of Vickers Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	772	0	0	1250	0
2020 Existing Traffic	0	0	0	0	0	0	0	772	0	0	1250	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	19	0	0	32	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	158	0	0	204	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	32	0	0	32	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	193	0	0	190	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	0	64	0	0	70	0
Total Committed Traffic	0	0	0	0	0	0	0	447	0	0	496	0
Superstreet Diversion	0	0	0	0	0	0	22	0	0	0	0	0
2025 Background Traffic	0	0	0	0	0	0	22	1238	0	0	1778	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	35%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	6	0	0	39	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	50%	35%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	49	34	0	0	0	0
Total Project Traffic	0	0	0	0	0	0	49	40	0	0	39	0
2025 Buildout Total	0	0	0	0	0	0	71	1278	0	0	1817	0
Percent Impact (Approach)		-			-			6.6%			2.1%	

Overall Percent Impact 4.0%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #1 - Trad. RCI w/ Left-In North Site Drwy.**
Ct. Date	**Balanced with 15/501 @ Vickers**
N/S Street:	**US 15/501**
E/W Street:	**South Site Driveway (RI/RO)**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	- Eastbound			South Site Driveway (RI/RO) Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	1204	0	0	602	0
2020 Existing Traffic	0	0	0	0	0	0	0	1204	0	0	602	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	30	0	0	15	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	164	0	0	129	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	34	0	0	38	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	139	0	0	205	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	0	71	0	0	55	0
Total Committed Traffic	0	0	0	0	0	0	0	408	0	0	427	0
Superstreet Diversion	0	0	0	0	0	0	0	14	0	0	0	0
2025 Background Traffic	0	0	0	0	0	0	0	1656	0	0	1044	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	5%	70%	0%	35%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	4	62	0	31	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	60%	0%	25%	0%	0%	50%	0%
Outbound Project Traffic	0	0	0	0	0	62	0	26	0	0	52	0
Total Project Traffic	0	0	0	0	0	62	0	30	62	0	83	0
2025 Buildout Total	0	0	0	0	0	62	0	1686	62	0	1127	0
Percent Impact (Approach)		-			100.0%			5.3%			7.4%	

Overall Percent Impact 8.1%

PM PEAK HOUR
PM PHF = 0.90

Description	- Eastbound			South Site Driveway (RI/RO) Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	772	0	0	1250	0
2020 Existing Traffic	0	0	0	0	0	0	0	772	0	0	1250	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	19	0	0	32	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	158	0	0	204	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	32	0	0	32	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	193	0	0	190	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	0	64	0	0	70	0
Total Committed Traffic	0	0	0	0	0	0	0	447	0	0	496	0
Superstreet Diversion	0	0	0	0	0	0	0	22	0	0	0	0
2025 Background Traffic	0	0	0	0	0	0	0	1260	0	0	1778	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	5%	70%	0%	35%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	6	78	0	39	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	60%	0%	25%	0%	0%	50%	0%
Outbound Project Traffic	0	0	0	0	0	59	0	25	0	0	49	0
Total Project Traffic	0	0	0	0	0	59	0	31	78	0	88	0
2025 Buildout Total	0	0	0	0	0	59	0	1291	78	0	1866	0
Percent Impact (Approach)		-			100.0%			8.0%			4.7%	

Overall Percent Impact 7.8%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #1 - Trad. RCI w/ Left-In North Site Drwy.**
Ct. Date	**Balanced with 15/501 @ Vickers**
N/S Street:	**US 15/501**
E/W Street:	**North Site Driveway (Left-in)**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	- Eastbound			North Site Driveway (Left-in) Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	1204	0	0	602	0
2020 Existing Traffic	0	0	0	0	0	0	0	1204	0	0	602	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	30	0	0	15	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	164	0	0	129	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	34	0	0	38	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	139	0	0	205	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	0	71	0	0	55	0
Total Committed Traffic	0	0	0	0	0	0	0	408	0	0	427	0
2025 Background Traffic	0	0	0	0	0	0	0	1642	0	0	1044	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	0%	5%	15%	35%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	0	4	13	31	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	15%	0%	35%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	15	0	36	0	0	0	0
Total Project Traffic	0	0	0	0	0	15	0	36	4	13	31	0
2025 Buildout Total	0	0	0	0	0	15	0	1678	4	13	1075	0
Percent Impact (Approach)		-			100.0%			2.4%			4.0%	

Overall Percent Impact 3.6%

PM PEAK HOUR
PM PHF = 0.90

Description	- Eastbound			North Site Driveway (Left-in) Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	772	0	0	1250	0
2020 Existing Traffic	0	0	0	0	0	0	0	772	0	0	1250	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	19	0	0	32	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	158	0	0	204	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	32	0	0	32	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	193	0	0	190	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	0	64	0	0	70	0
Total Committed Traffic	0	0	0	0	0	0	0	447	0	0	496	0
2025 Background Traffic	0	0	0	0	0	0	0	1238	0	0	1778	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	0%	5%	15%	35%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	0	6	16	39	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	15%	0%	35%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	15	0	34	0	0	0	0
Total Project Traffic	0	0	0	0	0	15	0	34	6	16	39	0
2025 Buildout Total	0	0	0	0	0	15	0	1272	6	16	1817	0
Percent Impact (Approach)		-			100.0%			3.1%			3.0%	

Overall Percent Impact 3.5%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #1 - Trad. RCI w/ Left-In North Site Drwy.**
Ct. Date	**Balanced with 15/501 @ Vickers**
N/S Street:	**Site Driveway**
E/W Street:	**Vickers Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	Vickers Road Eastbound			Vickers Road Westbound			Site Driveway Northbound			Site Driveway Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	29	0	0	33	0	0	0	0	0	0	0
2020 Existing Traffic	0	29	0	0	33	0	0	0	0	0	0	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	1	0	0	1	0	0	0	0	0	0	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	0	0	0	0	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	0	0	0	0	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	0	0	0	0	0
Vickers Bennett - Scen. 3	0	55	0	0	24	0	0	0	0	0	0	0
Total Committed Traffic	0	55	0	0	24	0	0	0	0	0	0	0
2025 Background Traffic	0	85	0	0	58	0	0	0	0	0	0	0
Project Traffic												
Percent Assignment Inbound	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	9	0	0	0	0	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	0	0	26
Total Project Traffic	9	0	0	0	0	0	0	0	0	0	0	26
2025 Buildout Total	9	85	0	0	58	0	0	0	0	0	0	26
Percent Impact (Approach)		9.6%			0.0%			-			100.0%	

Overall Percent Impact 19.7%

PM PEAK HOUR
PM PHF = 0.90

Description	Vickers Road Eastbound			Vickers Road Westbound			Site Driveway Northbound			Site Driveway Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	27	0	0	34	0	0	0	0	0	0	0
2020 Existing Traffic	0	27	0	0	34	0	0	0	0	0	0	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	1	0	0	1	0	0	0	0	0	0	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	0	0	0	0	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	0	0	0	0	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	0	0	0	0	0
Vickers Bennett - Scen. 3	0	70	0	0	13	0	0	0	0	0	0	0
Total Committed Traffic	0	70	0	0	13	0	0	0	0	0	0	0
2025 Background Traffic	0	98	0	0	48	0	0	0	0	0	0	0
Project Traffic												
Percent Assignment Inbound	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	11	0	0	0	0	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	0	0	25
Total Project Traffic	11	0	0	0	0	0	0	0	0	0	0	25
2025 Buildout Total	11	98	0	0	48	0	0	0	0	0	0	25
Percent Impact (Approach)		10.1%			0.0%			-			100.0%	

Overall Percent Impact 19.8%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #2 - Trad. RCI w/ RIRO North Site Drwy.**
Ct. Date	**1/8/2020**
Ct. Peaks	**AM: 730-830; PM: 445-545**
N/S Street:	**US 15/501**
E/W Street:	**Lystra Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.97

Description	- Eastbound			Lystra Road Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	61	0	129	9	1069	109	168	502	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	0	0	61	0	129	9	1069	109	168	502	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	2	0	3	0	27	3	4	13	0
Committed Projects												
Williams Corner (Updated)	0	0	0	100	0	17	0	149	15	34	29	0
Polks Village (Remaining Portion)	0	0	0	0	0	22	0	34	0	12	38	0
Briar Chapel (Remaining Portion)	0	0	0	17	0	4	0	120	19	0	188	0
Vickers Bennett - Scen. 3	0	0	0	6	0	0	0	64	7	0	50	0
Total Committed Traffic	0	0	0	123	0	43	0	367	41	46	305	0
Superstreet Diversion	0	0	0	-186	0	186	-9	9	0	0	195	0
2025 Background Traffic	0	0	0	0	0	361	0	1472	153	218	1014	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	50%	0%
Inbound Project Traffic	0	0	0	0	0	4	0	0	0	0	44	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	45%	5%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	46	5	0	0	0
Total Project Traffic	0	0	0	0	0	4	0	46	5	0	44	0
2025 Buildout Total	0	0	0	0	0	365	0	1518	158	218	1058	0
Percent Impact (Approach)		-			1.1%			3.0%			3.4%	

Overall Percent Impact 3.0%

PM PEAK HOUR
PM PHF = 0.92

Description	- Eastbound			Lystra Road Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	128	0	193	40	679	31	249	1063	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	0	0	128	0	193	40	679	31	249	1063	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	3	0	5	1	17	1	6	27	0
Committed Projects												
Williams Corner (Updated)	0	0	0	164	0	19	0	144	14	13	40	0
Polks Village (Remaining Portion)	0	0	0	0	0	10	0	32	0	16	32	0
Briar Chapel (Remaining Portion)	0	0	0	20	0	10	0	170	23	0	170	0
Vickers Bennett - Scen. 3	0	0	0	7	0	0	0	58	6	0	63	0
Total Committed Traffic	0	0	0	191	0	39	0	404	43	29	305	0
Superstreet Diversion	0	0	0	-322	0	322	-41	41	0	0	363	0
2025 Background Traffic	0	0	0	0	0	559	0	1141	75	284	1758	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	50%	0%
Inbound Project Traffic	0	0	0	0	0	6	0	0	0	0	56	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	45%	5%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	44	5	0	0	0
Total Project Traffic	0	0	0	0	0	6	0	44	5	0	56	0
2025 Buildout Total	0	0	0	0	0	565	0	1185	80	284	1814	0
Percent Impact (Approach)		-			1.1%			3.9%			2.7%	

Overall Percent Impact 2.8%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #2 - Trad. RCI w/ RIRO North Site Drwy.**
Ct. Date	**2/11/2020**
Ct. Peaks	**AM: 715-815; PM: 430-530**
N/S Street:	**US 15/501**
E/W Street:	**Briar Chapel Parkway/Vickers Road**

	AM In	**AM Out**	**PM In**	**PM Out**
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate: 0.5%
Growth Factor: 0.025251

Existing Year: 2020
Buildout Year: 2025

AM PEAK HOUR
AM PHF = 0.96

	Briar Chapel Parkway Eastbound			Vickers Road Westbound			US 15/501 Northbound				US 15/501 Southbound			
Description	Left	Through	Right	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
2020 Traffic Count	116	2	51	11	3	19	5	52	1047	12	22	15	538	27
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	116	2	51	11	3	19	5	52	1047	12	22	15	538	27
Growth Factor (0.005 per year)	0.000	0.000	0.000	0.025	0.000	0.025	0.000	0.000	0.025	0.025	0.000	0.025	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	0	26	0	0	0	14	0
Committed Projects														
Williams Corner (Updated)	0	0	0	0	0	0	0	0	164	0	0	0	129	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	0	34	0	0	0	38	0
Briar Chapel (Remaining Portion)	80	0	38	0	0	0	0	26	59	0	0	0	140	66
Vickers Bennett - Scen. 3	0	0	38	0	0	24	0	23	47	0	0	55	0	0
Total Committed Traffic	80	0	76	0	0	24	0	49	304	0	0	55	307	66
Superstreet Diversion	-196	-2	198	-11	-3	14	0	0	196	2	0	0	11	3
2025 Background Traffic	0	0	325	0	0	57	5	101	1573	14	22	70	870	96
Project Traffic														
Percent Assignment Inbound	0%	0%	10%	0%	0%	0%	0%	0%	45%	5%	40%	10%	0%	0%
Inbound Project Traffic	0	0	9	0	0	0	0	0	40	4	35	9	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%	40%	10%
Outbound Project Traffic	0	0	0	0	0	26	0	0	0	0	0	0	41	10
Total Project Traffic	0	0	9	0	0	26	0	0	40	4	35	9	41	10
2025 Buildout Total	0	0	334	0	0	83	5	101	1613	18	57	79	911	106
Percent Impact (Approach)		2.7%			31.3%				2.5%				8.2%	

Overall Percent Impact 5.3%

PM PEAK HOUR
PM PHF = 0.95

	Briar Chapel Parkway Eastbound			Vickers Road Westbound			US 15/501 Northbound				US 15/501 Southbound			
Description	Left	Through	Right	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
2020 Traffic Count	68	3	26	16	6	12	3	82	652	9	40	15	1107	88
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	68	3	26	16	6	12	3	82	652	9	40	15	1107	88
Growth Factor (0.005 per year)	0.000	0.000	0.000	0.025	0.000	0.025	0.000	0.000	0.025	0.025	0.000	0.025	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	0	16	0	0	0	28	0
Committed Projects														
Williams Corner (Updated)	0	0	0	0	0	0	0	0	158	0	0	0	204	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	0	32	0	0	0	32	0
Briar Chapel (Remaining Portion)	55	0	23	0	0	0	0	35	138	0	0	0	110	80
Vickers Bennett - Scen. 3	0	0	27	0	0	13	0	38	51	0	0	70	0	0
Total Committed Traffic	55	0	50	0	0	13	0	73	379	0	0	70	346	80
Superstreet Diversion	-123	-3	126	-16	-6	22	0	0	123	3	0	0	16	6
2025 Background Traffic	0	0	202	0	0	47	3	155	1170	12	40	85	1497	174
Project Traffic														
Percent Assignment Inbound	0%	0%	10%	0%	0%	0%	0%	0%	45%	5%	40%	10%	0%	0%
Inbound Project Traffic	0	0	11	0	0	0	0	0	50	6	44	11	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%	40%	10%
Outbound Project Traffic	0	0	0	0	0	25	0	0	0	0	0	0	39	10
Total Project Traffic	0	0	11	0	0	25	0	0	50	6	44	11	39	10
2025 Buildout Total	0	0	213	0	0	72	3	155	1220	18	84	96	1536	184
Percent Impact (Approach)		5.2%			34.7%				4.0%				5.5%	

Overall Percent Impact 5.5%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #2 - Trad. RCI w/ RIRO North Site Drwy.**
Ct. Date	**2/11/2020**
Ct. Peaks	**AM: 715-841; PM: 430-530**
N/S Street:	**US 15/501**
E/W Street:	**Jack Bennett Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.96

Description	- Eastbound			Jack Bennett Road Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	199	0	103	0	1013	236	72	535	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	0	0	199	0	103	0	1013	236	72	535	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	5	0	3	0	26	6	2	14	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	41	0	123	0	32	97	0
Polks Village (Remaining Portion)	0	0	0	0	0	9	0	26	0	10	29	0
Briar Chapel (Remaining Portion)	0	0	0	13	0	13	0	72	19	4	174	0
Vickers Bennett - Scen. 3	0	0	0	0	0	55	0	41	6	38	48	0
Total Committed Traffic	0	0	0	13	0	118	0	262	25	84	347	0
Superstreet Diversion	0	0	0	-217	0	217	0	0	0	0	217	0
2025 Background Traffic	0	0	0	0	0	441	0	1301	267	158	1113	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	5%	0%	35%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	0	0	4	0	31	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	35%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	5	36	0
Total Project Traffic	0	0	0	0	0	4	0	31	0	5	36	0
2025 Buildout Total	0	0	0	0	0	445	0	1332	267	163	1149	0
Percent Impact (Approach)		-			0.9%			1.9%			3.1%	

Overall Percent Impact 2.3%

PM PEAK HOUR
PM PHF = 0.95

Description	- Eastbound			Jack Bennett Road Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	223	0	116	0	616	122	92	1031	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	0	0	223	0	116	0	616	122	92	1031	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	6	0	3	0	16	3	2	26	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	40	0	119	0	51	153	0
Polks Village (Remaining Portion)	0	0	0	0	0	8	0	24	0	8	24	0
Briar Chapel (Remaining Portion)	0	0	0	20	0	10	14	163	23	5	128	0
Vickers Bennett - Scen. 3	0	0	0	0	0	82	0	34	16	52	53	0
Total Committed Traffic	0	0	0	20	0	140	14	340	39	116	358	0
Superstreet Diversion	0	0	0	-249	0	249	-14	14	0	0	263	0
2025 Background Traffic	0	0	0	0	0	508	0	986	164	210	1678	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	5%	0%	35%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	0	0	6	0	39	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	35%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	5	34	0
Total Project Traffic	0	0	0	0	0	6	0	39	0	5	34	0
2025 Buildout Total	0	0	0	0	0	514	0	1025	164	215	1712	0
Percent Impact (Approach)		-			1.2%			3.3%			2.0%	

Overall Percent Impact 2.3%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #2 - Trad. RCI w/ RIRO North Site Drwy.**
Ct. Date	**2/11/2020**
Ct. Peaks	**AM: 730-830; PM: 500-600**
N/S Street:	**Jack Bennett Road**
E/W Street:	**Lystra Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.77

Description	Lystra Road Eastbound			Lystra Road Westbound			Jack Bennett Road Northbound			Jack Bennett Road Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	316	81	179	162	0	75	0	374	0	0	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	316	81	179	162	0	75	0	374	0	0	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	8	2	5	4	0	2	0	9	0	0	0
Committed Projects												
Williams Corner (Updated)	0	29	0	0	37	0	0	0	0	0	0	0
Polks Village (Remaining Portion)	0	12	0	0	22	0	0	0	0	0	0	0
Briar Chapel (Remaining Portion)	0	19	0	26	22	0	0	0	23	0	0	0
Vickers Bennett - Scen. 3	0	0	15	23	0	0	7	0	31	0	0	0
Total Committed Traffic	0	60	15	49	81	0	7	0	54	0	0	0
2025 Background Traffic	0	384	98	233	247	0	84	0	437	0	0	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	4	0	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	5	0	0	0
Total Project Traffic	0	0	0	4	0	0	0	0	5	0	0	0
2025 Buildout Total	0	384	98	237	247	0	84	0	442	0	0	0
Percent Impact (Approach)		0.0%			0.8%			1.0%			-	

Overall Percent Impact 0.6%

PM PEAK HOUR
PM PHF = 0.90

Description	Lystra Road Eastbound			Lystra Road Westbound			Jack Bennett Road Northbound			Jack Bennett Road Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	120	31	349	202	0	20	0	137	0	0	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	120	31	349	202	0	20	0	137	0	0	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	3	1	9	5	0	1	0	3	0	0	0
Committed Projects												
Williams Corner (Updated)	0	29	0	0	37	0	0	0	0	0	0	0
Polks Village (Remaining Portion)	0	12	0	0	22	0	0	0	0	0	0	0
Briar Chapel (Remaining Portion)	0	23	0	30	25	0	0	0	28	0	0	0
Vickers Bennett - Scen. 3	0	0	9	31	0	0	15	0	27	0	0	0
Total Committed Traffic	0	64	9	61	84	0	15	0	55	0	0	0
2025 Background Traffic	0	187	41	419	291	0	36	0	195	0	0	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	6	0	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	5	0	0	0
Total Project Traffic	0	0	0	6	0	0	0	0	5	0	0	0
2025 Buildout Total	0	187	41	425	291	0	36	0	200	0	0	0
Percent Impact (Approach)		0.0%			0.8%			2.1%			-	

Overall Percent Impact 0.9%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #2 - Trad. RCI w/ RIRO North Site Drwy.**
Ct. Date	**Balanced with 15/501 at Briar Chapel/Vickers**
Ct. Peaks	**AM: 715-841; PM: 430-530**
N/S Street:	**US 15/501**
E/W Street:	**U-Turn North of Jack Bennett/South of Vickers**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	U-Turn Bulb-outs Eastbound Left	Through	Right	U-Turn Bulb-outs Westbound Left	Through	Right	US 15/501 Northbound U-Turn	Through	Right	US 15/501 Southbound U-Turn	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	1116	0	0	605	0
2020 Existing Traffic	0	0	0	0	0	0	0	1116	0	0	605	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	0	0	0	0	28	0	0	15	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	164	0	0	129	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	34	0	0	38	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	85	0	0	178	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	48	70	0	0	38	0
Total Committed Traffic	0	0	0	0	0	0	48	353	0	0	383	0
Superstreet Diversion	0	0	0	0	0	0	217	0	0	198	0	0
2025 Background Traffic	0	0	0	0	0	0	265	1497	0	198	1003	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	40%	0%	10%	0%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	35	0	9	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	0	41	0
Total Project Traffic	0	0	0	0	0	0	0	35	0	9	41	0
2025 Buildout Total	0	0	0	0	0	0	265	1532	0	207	1044	0
Percent Impact (Approach)		-			-			1.9%			4.0%	

Overall Percent Impact 2.8%

PM PEAK HOUR
PM PHF = 0.90

Description	U-Turn Bulb-outs Eastbound Left	Through	Right	U-Turn Bulb-outs Westbound Left	Through	Right	US 15/501 Northbound U-Turn	Through	Right	US 15/501 Southbound Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	746	0	0	1152	0
2020 Existing Traffic	0	0	0	0	0	0	0	746	0	0	1152	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	0	0	0	0	19	0	0	29	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	158	0	0	204	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	32	0	0	32	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	173	0	0	133	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	78	89	0	0	27	0
Total Committed Traffic	0	0	0	0	0	0	78	452	0	0	396	0
Superstreet Diversion	0	0	0	0	0	0	263	0	0	126	0	0
2025 Background Traffic	0	0	0	0	0	0	341	1217	0	126	1577	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	40%	0%	10%	0%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	44	0	11	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	0	39	0
Total Project Traffic	0	0	0	0	0	0	0	44	0	11	39	0
2025 Buildout Total	0	0	0	0	0	0	341	1261	0	137	1616	0
Percent Impact (Approach)		-			-			2.7%			2.9%	

Overall Percent Impact 2.8%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #2 - Trad. RCI w/ RIRO North Site Drwy.**
Ct. Date	**Balanced with 15/501 @ Vickers**
N/S Street:	**US 15/501**
E/W Street:	**U-Turn North of Vickers**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	- Eastbound			U-Turn North of Vickers Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	1204	0	0	602	0
2020 Existing Traffic	0	0	0	0	0	0	0	1204	0	0	602	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	30	0	0	15	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	164	0	0	129	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	34	0	0	38	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	139	0	0	205	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	0	71	0	0	55	0
Total Committed Traffic	0	0	0	0	0	0	0	408	0	0	427	0
Superstreet Diversion	0	0	0	0	0	0	14	0	0	0	0	0
2025 Background Traffic	0	0	0	0	0	0	14	1642	0	0	1044	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	15%	0%	0%	50%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	13	0	0	44	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	50%	35%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	52	36	0	0	0	0
Total Project Traffic	0	0	0	0	0	0	52	49	0	0	44	0
2025 Buildout Total	0	0	0	0	0	0	66	1691	0	0	1088	0
Percent Impact (Approach)		-			-			5.7%			4.0%	

Overall Percent Impact 5.1%

PM PEAK HOUR
PM PHF = 0.90

Description	- Eastbound			U-Turn North of Vickers Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	772	0	0	1250	0
2020 Existing Traffic	0	0	0	0	0	0	0	772	0	0	1250	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	19	0	0	32	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	158	0	0	204	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	32	0	0	32	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	193	0	0	190	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	0	64	0	0	70	0
Total Committed Traffic	0	0	0	0	0	0	0	447	0	0	496	0
Superstreet Diversion	0	0	0	0	0	0	22	0	0	0	0	0
2025 Background Traffic	0	0	0	0	0	0	22	1238	0	0	1778	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	15%	0%	0%	50%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	17	0	0	56	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	50%	35%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	49	34	0	0	0	0
Total Project Traffic	0	0	0	0	0	0	49	51	0	0	56	0
2025 Buildout Total	0	0	0	0	0	0	71	1289	0	0	1834	0
Percent Impact (Approach)		-			-			7.4%			3.1%	

Overall Percent Impact 4.9%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #2 - Trad. RCI w/ RIRO North Site Drwy.**
Ct. Date	**Balanced with 15/501 @ Vickers**
N/S Street:	**US 15/501**
E/W Street:	**South Site Driveway (RI/RO)**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	- Eastbound			South Site Driveway (RI/RO) Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	1204	0	0	602	0
2020 Existing Traffic	0	0	0	0	0	0	0	1204	0	0	602	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	30	0	0	15	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	164	0	0	129	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	34	0	0	38	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	139	0	0	205	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	0	71	0	0	55	0
Total Committed Traffic	0	0	0	0	0	0	0	408	0	0	427	0
Superstreet Diversion	0	0	0	0	0	0	0	14	0	0	0	0
2025 Background Traffic	0	0	0	0	0	0	0	1656	0	0	1044	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	15%	70%	0%	50%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	13	62	0	44	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	60%	0%	25%	0%	0%	50%	0%
Outbound Project Traffic	0	0	0	0	0	62	0	26	0	0	52	0
Total Project Traffic	0	0	0	0	0	62	0	39	62	0	96	0
2025 Buildout Total	0	0	0	0	0	62	0	1695	62	0	1140	0
Percent Impact (Approach)		-			100.0%			5.7%			8.4%	

Overall Percent Impact 8.8%

PM PEAK HOUR
PM PHF = 0.90

Description	- Eastbound			South Site Driveway (RI/RO) Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	772	0	0	1250	0
2020 Existing Traffic	0	0	0	0	0	0	0	772	0	0	1250	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	19	0	0	32	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	158	0	0	204	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	32	0	0	32	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	193	0	0	190	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	0	64	0	0	70	0
Total Committed Traffic	0	0	0	0	0	0	0	447	0	0	496	0
Superstreet Diversion	0	0	0	0	0	0	0	22	0	0	0	0
2025 Background Traffic	0	0	0	0	0	0	0	1260	0	0	1778	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	15%	70%	0%	50%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	17	78	0	56	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	60%	0%	25%	0%	0%	50%	0%
Outbound Project Traffic	0	0	0	0	0	59	0	25	0	0	49	0
Total Project Traffic	0	0	0	0	0	59	0	42	78	0	105	0
2025 Buildout Total	0	0	0	0	0	59	0	1302	78	0	1883	0
Percent Impact (Approach)		-			100.0%			8.7%			5.6%	

Overall Percent Impact 8.5%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #2 - Trad. RCI w/ RIRO North Site Drwy.**
Ct. Date	**Balanced with 15/501 @ Vickers**
N/S Street:	**US 15/501**
E/W Street:	**North Site Driveway (Left-in)**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	- Eastbound			North Site Driveway (Left-in) Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	1204	0	0	602	0
2020 Existing Traffic	0	0	0	0	0	0	0	1204	0	0	602	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	30	0	0	15	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	164	0	0	129	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	34	0	0	38	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	139	0	0	205	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	0	71	0	0	55	0
Total Committed Traffic	0	0	0	0	0	0	0	408	0	0	427	0
2025 Background Traffic	0	0	0	0	0	0	0	1642	0	0	1044	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	0%	15%	0%	50%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	0	13	0	44	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	15%	0%	35%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	15	0	36	0	0	0	0
Total Project Traffic	0	0	0	0	0	15	0	36	13	0	44	0
2025 Buildout Total	0	0	0	0	0	15	0	1678	13	0	1088	0
Percent Impact (Approach)		-			100.0%			2.9%			4.0%	

Overall Percent Impact 3.9%

PM PEAK HOUR
PM PHF = 0.90

Description	- Eastbound			North Site Driveway (Left-in) Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	772	0	0	1250	0
2020 Existing Traffic	0	0	0	0	0	0	0	772	0	0	1250	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	19	0	0	32	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	158	0	0	204	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	32	0	0	32	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	193	0	0	190	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	0	64	0	0	70	0
Total Committed Traffic	0	0	0	0	0	0	0	447	0	0	496	0
2025 Background Traffic	0	0	0	0	0	0	0	1238	0	0	1778	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	0%	15%	0%	50%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	0	17	0	56	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	15%	0%	35%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	15	0	34	0	0	0	0
Total Project Traffic	0	0	0	0	0	15	0	34	17	0	56	0
2025 Buildout Total	0	0	0	0	0	15	0	1272	17	0	1834	0
Percent Impact (Approach)		-			100.0%			4.0%			3.1%	

Overall Percent Impact 3.9%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #2 - Trad. RCI w/ RIRO North Site Drwy.**
Ct. Date	**Balanced with 15/501 @ Vickers**
N/S Street:	**Site Driveway**
E/W Street:	**Vickers Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	Vickers Road Eastbound			Vickers Road Westbound			Site Driveway Northbound			Site Driveway Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	29	0	0	33	0	0	0	0	0	0	0
2020 Existing Traffic	0	29	0	0	33	0	0	0	0	0	0	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	1	0	0	1	0	0	0	0	0	0	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	0	0	0	0	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	0	0	0	0	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	0	0	0	0	0
Vickers Bennett - Scen. 3	0	55	0	0	24	0	0	0	0	0	0	0
Total Committed Traffic	0	55	0	0	24	0	0	0	0	0	0	0
2025 Background Traffic	0	85	0	0	58	0	0	0	0	0	0	0
Project Traffic												
Percent Assignment Inbound	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	13	0	0	0	0	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	0	0	26
Total Project Traffic	13	0	0	0	0	0	0	0	0	0	0	26
2025 Buildout Total	13	85	0	0	58	0	0	0	0	0	0	26
Percent Impact (Approach)		13.3%			0.0%			-			100.0%	

Overall Percent Impact 21.4%

PM PEAK HOUR
PM PHF = 0.90

Description	Vickers Road Eastbound			Vickers Road Westbound			Site Driveway Northbound			Site Driveway Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	27	0	0	34	0	0	0	0	0	0	0
2020 Existing Traffic	0	27	0	0	34	0	0	0	0	0	0	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	1	0	0	1	0	0	0	0	0	0	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	0	0	0	0	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	0	0	0	0	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	0	0	0	0	0
Vickers Bennett - Scen. 3	0	70	0	0	13	0	0	0	0	0	0	0
Total Committed Traffic	0	70	0	0	13	0	0	0	0	0	0	0
2025 Background Traffic	0	98	0	0	48	0	0	0	0	0	0	0
Project Traffic												
Percent Assignment Inbound	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	17	0	0	0	0	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	0	0	25
Total Project Traffic	17	0	0	0	0	0	0	0	0	0	0	25
2025 Buildout Total	17	98	0	0	48	0	0	0	0	0	0	25
Percent Impact (Approach)		14.8%			0.0%			-			100.0%	

Overall Percent Impact 22.3%

Appendix F:
Synchro Output:
Existing (2020)

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	61	129	9	1069	109	168	502
Future Volume (vph)	61	129	9	1069	109	168	502
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12
Grade (%)	4%			-1%			1%
Storage Length (ft)	0	125	325		200	275	
Storage Lanes	1	1	1		1	1	
Taper Length (ft)	100		165			225	
Satd. Flow (prot)	1734	1552	1778	3557	1591	1744	3487
Flt Permitted	0.950		0.461			0.225	
Satd. Flow (perm)	1734	1552	863	3557	1591	413	3487
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)		57			112		
Link Speed (mph)	45			55			55
Link Distance (ft)	1952			1889			1855
Travel Time (s)	29.6			23.4			23.0
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%			0%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	63	133	9	1102	112	173	518
Turn Type	Prot	pm+ov	D.Pm	NA	pm+ov	D.P+P	NA
Protected Phases	8	1		2	8	1	6
Permitted Phases		8	6		2	2	
Detector Phase	8	1	6	2	8	1	6
Switch Phase							
Minimum Initial (s)	7.0	7.0	14.0	14.0	7.0	7.0	14.0
Minimum Split (s)	15.0	15.0	22.0	22.0	15.0	15.0	22.0
Total Split (s)	20.0	35.0	100.0	65.0	20.0	35.0	100.0
Total Split (%)	16.7%	29.2%	83.3%	54.2%	16.7%	29.2%	83.3%
Yellow Time (s)	3.0	3.0	5.3	5.3	3.0	3.0	5.3
All-Red Time (s)	3.1	3.1	1.2	1.2	3.1	3.1	1.2
Lost Time Adjust (s)	-1.1	-1.1	-1.5	-1.5	-1.1	-1.1	-1.5
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lag		Lead	
Lead-Lag Optimize?		Yes		Yes		Yes	
Recall Mode	None	None	C-Max	C-Max	None	None	C-Max
Act Effct Green (s)	9.7	24.0	100.3	86.0	100.6	95.3	100.3
Actuated g/C Ratio	0.08	0.20	0.84	0.72	0.84	0.79	0.84
v/c Ratio	0.45	0.37	0.01	0.43	0.08	0.40	0.18
Control Delay	62.7	25.9	2.0	8.0	0.5	4.9	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	25.9	2.0	8.0	0.5	4.9	2.1
LOS	E	C	A	A	A	A	A
Approach Delay	37.7			7.3			2.8
Approach LOS	D			A			A
Queue Length 50th (ft)	48	51	1	152	0	17	28
Queue Length 95th (ft)	92	102	4	250	9	36	48
Internal Link Dist (ft)	1872			1809			1775
Turn Bay Length (ft)		125	325		200	275	
Base Capacity (vph)	216	613	721	2548	1418	678	2915
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.22	0.01	0.43	0.08	0.26	0.18

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120

Offset: 26 (22%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.45	
Intersection Signal Delay: 8.6	Intersection LOS: A
Intersection Capacity Utilization 57.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: U.S. 15-501 & Lystra Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (vph)	116	4	51	11	4	19	5	52	1047	12	22	15	538	27
Future Volume (vph)	116	4	51	11	4	19	5	52	1047	12	22	15	538	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		-1%			-5%				1%				-2%	
Storage Length (ft)	485		0	0		0		400		125		400		250
Storage Lanes	1		0	0		0		1		1		1		1
Taper Length (ft)	100			100				100				100		
Satd. Flow (prot)	1778	1612	0	0	1581	0	0	1761	3522	1575	0	1770	3540	1584
Flt Permitted	0.989				0.873			0.418				0.206		
Satd. Flow (perm)	1851	1612	0	0	1401	0	0	775	3522	1575	0	384	3540	1584
Right Turn on Red			Yes			Yes				Yes				Yes
Satd. Flow (RTOR)		53			20					152				95
Link Speed (mph)		35			35				55				55	
Link Distance (ft)		1355			868				1385				1800	
Travel Time (s)		26.4			16.9				17.2				22.3	
Confl. Peds. (#/hr)														
Confl. Bikes (#/hr)														
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	12%	12%	12%	2%	2%	2%	2%	3%	3%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)														
Mid-Block Traffic (%)		0%			0%				0%				0%	
Shared Lane Traffic (%)														
Lane Group Flow (vph)	121	57	0	0	35	0	0	59	1091	13	0	39	560	28
Turn Type	D.P+P	NA		Perm	NA		D.P+P	D.P+P	NA	Perm	D.P+P	D.P+P	NA	pm+ov
Protected Phases	7	4			8		5	5	2		1	1	6	7
Permitted Phases	8			8			6	6		2	2	2		6
Detector Phase	7	4		8	8		5	5	2	2	1	1	6	7
Switch Phase														
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	7.0	14.0	14.0	7.0	7.0	14.0	7.0
Minimum Split (s)	15.0	15.0		15.0	15.0		15.0	15.0	22.0	22.0	15.0	15.0	35.5	15.0
Total Split (s)	20.0	40.0		20.0	20.0		15.0	15.0	65.0	65.0	15.0	15.0	65.0	20.0
Total Split (%)	16.7%	33.3%		16.7%	16.7%		12.5%	12.5%	54.2%	54.2%	12.5%	12.5%	54.2%	16.7%
Yellow Time (s)	3.0	3.9		4.2	4.2		3.0	3.0	5.4	5.4	3.0	3.0	5.4	3.0
All-Red Time (s)	3.3	2.7		2.7	2.7		3.5	3.5	1.1	1.1	3.3	3.3	1.1	3.3
Lost Time Adjust (s)	-1.3	-1.6			-1.9			-1.5	-1.5	-1.5		-1.3	-1.5	-1.3
Total Lost Time (s)	5.0	5.0			5.0			5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead			Lag	Lag		Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	None	C-Max	C-Max	None	None	C-Max	None
Act Effct Green (s)	18.3	21.3			9.4			84.7	80.7	80.7		85.7	77.9	96.3
Actuated g/C Ratio	0.15	0.18			0.08			0.71	0.67	0.67		0.71	0.65	0.80
v/c Ratio	0.44	0.17			0.28			0.10	0.46	0.01		0.11	0.24	0.02
Control Delay	46.2	11.7			34.9			2.5	5.6	0.0		6.9	11.2	0.0
Queue Delay	0.0	0.0			0.0			0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	46.2	11.7			34.9			2.5	5.6	0.0		6.9	11.2	0.0
LOS	D	B			C			A	A	A		A	B	A
Approach Delay		35.2			34.9				5.4				10.4	
Approach LOS		D			C				A				B	
Queue Length 50th (ft)	79	2			11			3	264	0		8	106	0
Queue Length 95th (ft)	128	36			44			8	155	m0		22	154	0
Internal Link Dist (ft)		1275			788				1305				1720	
Turn Bay Length (ft)	485							400		125		400		250
Base Capacity (vph)	311	507			192			636	2369	1109		393	2296	1306
Starvation Cap Reductn	0	0			0			0	0	0		0	0	0
Spillback Cap Reductn	0	0			0			0	0	0		0	0	0
Storage Cap Reductn	0	0			0			0	0	0		0	0	0
Reduced v/c Ratio	0.39	0.11			0.18			0.09	0.46	0.01		0.10	0.24	0.02

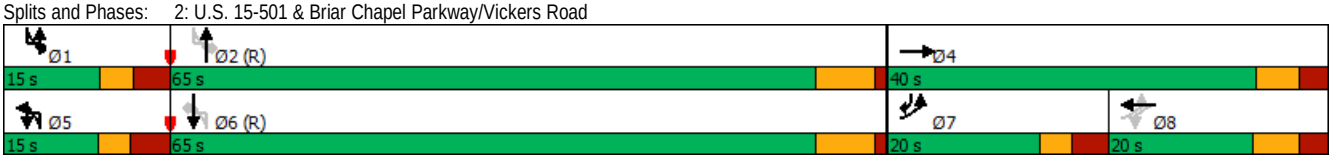
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120

Offset: 15 (13%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.46	
Intersection Signal Delay: 10.1	Intersection LOS: B
Intersection Capacity Utilization 60.4%	ICU Level of Service B
Analysis Period (min) 15	
Description: 08-1090	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: U.S. 15-501 & Briar Chapel Parkway/Vickers Road



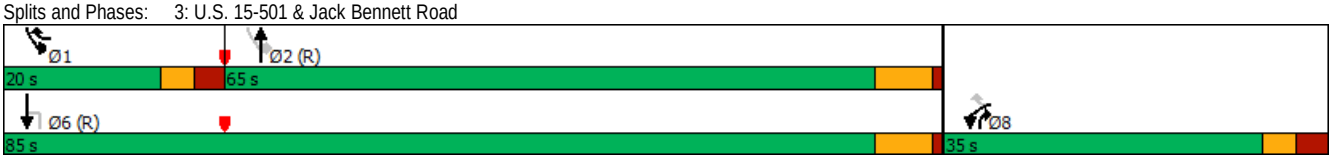
Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	199	103	4	1013	236	72	535
Future Volume (vph)	199	103	4	1013	236	72	535
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12
Grade (%)	1%			0%			0%
Storage Length (ft)	250	0	450		450	425	
Storage Lanes	1	1	1		1	1	
Taper Length (ft)	100		100			100	
Satd. Flow (prot)	1694	1516	1770	3539	1583	1736	3471
Flt Permitted	0.950		0.440			0.223	
Satd. Flow (perm)	1694	1516	820	3539	1583	407	3471
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)		65			246		
Link Speed (mph)	45			55			55
Link Distance (ft)	1007			2128			1385
Travel Time (s)	15.3			26.4			17.2
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	2%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%			0%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	207	107	4	1055	246	75	557
Turn Type	Prot	pm+ov	D.Pm	NA	pm+ov	D.P+P	NA
Protected Phases	8	1		2	8	1	6
Permitted Phases		8	6		2	2	
Detector Phase	8	1	6	2	8	1	6
Switch Phase							
Minimum Initial (s)	7.0	7.0	14.0	14.0	7.0	7.0	14.0
Minimum Split (s)	15.0	19.8	20.2	20.2	15.0	19.8	20.2
Total Split (s)	35.0	20.0	85.0	65.0	35.0	20.0	85.0
Total Split (%)	29.2%	16.7%	70.8%	54.2%	29.2%	16.7%	70.8%
Yellow Time (s)	3.0	3.0	5.2	5.2	3.0	3.0	5.2
All-Red Time (s)	3.1	2.8	1.0	1.0	3.1	2.8	1.0
Lost Time Adjust (s)	-1.1	-0.8	-1.2	-1.2	-1.1	-0.8	-1.2
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lag		Lead	
Lead-Lag Optimize?		Yes		Yes		Yes	
Recall Mode	None	None	C-Max	C-Max	None	None	C-Max
Act Effct Green (s)	19.3	32.1	90.7	77.9	102.2	85.7	90.7
Actuated g/C Ratio	0.16	0.27	0.76	0.65	0.85	0.71	0.76
v/c Ratio	0.76	0.24	0.01	0.46	0.18	0.20	0.21
Control Delay	65.5	15.2	5.0	12.0	0.5	6.5	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.5	15.2	5.0	12.0	0.5	6.5	4.6
LOS	E	B	A	B	A	A	A
Approach Delay	48.4			9.8			4.9
Approach LOS	D			A			A
Queue Length 50th (ft)	155	25	1	198	0	13	56
Queue Length 95th (ft)	224	65	4	291	9	30	77
Internal Link Dist (ft)	927			2048			1305
Turn Bay Length (ft)	250		450		450	425	
Base Capacity (vph)	423	540	619	2297	1503	473	2624
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.20	0.01	0.46	0.16	0.16	0.21

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 13.8	Intersection LOS: B
Intersection Capacity Utilization 57.4%	ICU Level of Service B
Analysis Period (min) 15	
Description: 08-0355	

Splits and Phases: 3: U.S. 15-501 & Jack Bennett Road



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	316	81	179	162	75	374
Future Volume (vph)	316	81	179	162	75	374
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			100		100	
Satd. Flow (prot)	1811	0	1719	1810	1639	0
Flt Permitted			0.950		0.992	
Satd. Flow (perm)	1811	0	1719	1810	1639	0
Link Speed (mph)	55			55	45	
Link Distance (ft)	1491			2698	1865	
Travel Time (s)	18.5			33.4	28.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	5%	5%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	515	0	232	210	583	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 68.7%		ICU Level of Service C	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	80.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	316	81	179	162	75	374
Future Vol, veh/h	316	81	179	162	75	374
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	5	5	2	2
Mvmt Flow	410	105	232	210	97	486

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	515	0	1137	463
Stage 1	-	-	-	-	463	-
Stage 2	-	-	-	-	674	-
Critical Hdwy	-	-	4.15	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.245	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1035	-	223	599
Stage 1	-	-	-	-	634	-
Stage 2	-	-	-	-	506	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1035	-	173	599
Mov Cap-2 Maneuver	-	-	-	-	173	-
Stage 1	-	-	-	-	634	-
Stage 2	-	-	-	-	393	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5	209.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	424	-	-	1035	-
HCM Lane V/C Ratio	1.375	-	-	0.225	-
HCM Control Delay (s)	209.2	-	-	9.5	-
HCM Lane LOS	F	-	-	A	-
HCM 95th %tile Q(veh)	27.8	-	-	0.9	-

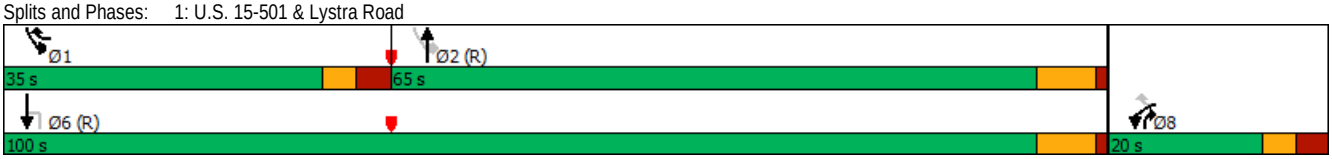
Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	128	193	40	679	31	249	1063
Future Volume (vph)	128	193	40	679	31	249	1063
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12
Grade (%)	4%			-1%			1%
Storage Length (ft)	0	125	325		200	275	
Storage Lanes	1	1	1		1	1	
Taper Length (ft)	100		165			225	
Satd. Flow (prot)	1734	1552	1778	3557	1591	1761	3522
Flt Permitted	0.950		0.235			0.355	
Satd. Flow (perm)	1734	1552	440	3557	1591	658	3522
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)		164			33		
Link Speed (mph)	45			55			55
Link Distance (ft)	1952			1889			1855
Travel Time (s)	29.6			23.4			23.0
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%			0%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	136	205	43	722	33	265	1131
Turn Type	Prot	pm+ov	D.Pm	NA	pm+ov	D.P+P	NA
Protected Phases	8	1		2	8	1	6
Permitted Phases		8	6		2	2	
Detector Phase	8	1	6	2	8	1	6
Switch Phase							
Minimum Initial (s)	7.0	7.0	14.0	14.0	7.0	7.0	14.0
Minimum Split (s)	15.0	15.0	22.0	22.0	15.0	15.0	22.0
Total Split (s)	20.0	35.0	100.0	65.0	20.0	35.0	100.0
Total Split (%)	16.7%	29.2%	83.3%	54.2%	16.7%	29.2%	83.3%
Yellow Time (s)	3.0	3.0	5.3	5.3	3.0	3.0	5.3
All-Red Time (s)	3.1	3.1	1.2	1.2	3.1	3.1	1.2
Lost Time Adjust (s)	-1.1	-1.1	-1.5	-1.5	-1.1	-1.1	-1.5
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lag		Lead	
Lead-Lag Optimize?		Yes		Yes		Yes	
Recall Mode	None	None	C-Max	C-Max	None	None	C-Max
Act Effct Green (s)	12.8	27.0	97.2	83.0	100.7	92.2	97.2
Actuated g/C Ratio	0.11	0.22	0.81	0.69	0.84	0.77	0.81
v/c Ratio	0.74	0.43	0.12	0.29	0.02	0.45	0.40
Control Delay	75.1	12.2	3.6	7.9	0.6	5.4	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.1	12.2	3.6	7.9	0.6	5.4	3.8
LOS	E	B	A	A	A	A	A
Approach Delay	37.3			7.4			4.1
Approach LOS	D			A			A
Queue Length 50th (ft)	103	25	6	105	0	39	109
Queue Length 95th (ft)	#171	89	15	148	5	62	141
Internal Link Dist (ft)	1872			1809			1775
Turn Bay Length (ft)		125	325		200	275	
Base Capacity (vph)	216	716	356	2459	1370	808	2854
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.29	0.12	0.29	0.02	0.33	0.40

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 26 (22%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 9.6	Intersection LOS: A
Intersection Capacity Utilization 60.6%	ICU Level of Service B
Analysis Period (min) 15	

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

Splits and Phases: 1: U.S. 15-501 & Lystra Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (vph)	68	4	26	16	6	12	4	82	652	9	40	15	1107	88
Future Volume (vph)	68	4	26	16	6	12	4	82	652	9	40	15	1107	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		-1%			-5%				1%				-2%	
Storage Length (ft)	485		0	0		0		400		125		400		250
Storage Lanes	1		0	0		0		1		1		1		1
Taper Length (ft)	100			100				100				100		
Satd. Flow (prot)	1778	1627	0	0	1774	0	0	1761	3522	1575	0	1787	3575	1599
Flt Permitted	0.948				0.834			0.184				0.361		
Satd. Flow (perm)	1775	1627	0	0	1514	0	0	341	3522	1575	0	679	3575	1599
Right Turn on Red			Yes			Yes				Yes				Yes
Satd. Flow (RTOR)		27			13					152				95
Link Speed (mph)		35			35				55				55	
Link Distance (ft)		1355			868				1385				1800	
Travel Time (s)		26.4			16.9				17.2				22.3	
Confl. Peds. (#/hr)														
Confl. Bikes (#/hr)														
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)														
Mid-Block Traffic (%)		0%			0%				0%				0%	
Shared Lane Traffic (%)														
Lane Group Flow (vph)	72	31	0	0	36	0	0	90	686	9	0	58	1165	93
Turn Type	D.P+P	NA		Perm	NA		D.P+P	D.P+P	NA	Perm	D.P+P	D.P+P	NA	pm+ov
Protected Phases	7	4			8		5	5	2		1	1	6	7
Permitted Phases	8			8			6	6		2	2	2		6
Detector Phase	7	4		8	8		5	5	2	2	1	1	6	7
Switch Phase														
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	7.0	14.0	14.0	7.0	7.0	14.0	7.0
Minimum Split (s)	15.0	15.0		15.0	15.0		15.0	15.0	22.0	22.0	15.0	15.0	35.5	15.0
Total Split (s)	15.0	35.0		20.0	20.0		15.0	15.0	70.0	70.0	15.0	15.0	70.0	15.0
Total Split (%)	12.5%	29.2%		16.7%	16.7%		12.5%	12.5%	58.3%	58.3%	12.5%	12.5%	58.3%	12.5%
Yellow Time (s)	3.0	3.9		4.2	4.2		3.0	3.0	5.4	5.4	3.0	3.0	5.4	3.0
All-Red Time (s)	3.3	2.7		2.7	2.7		3.5	3.5	1.1	1.1	3.3	3.3	1.1	3.3
Lost Time Adjust (s)	-1.3	-1.6			-1.9			-1.5	-1.5	-1.5		-1.3	-1.5	-1.3
Total Lost Time (s)	5.0	5.0			5.0			5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead			Lag	Lag		Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	None	C-Max	C-Max	None	None	C-Max	None
Act Effct Green (s)	15.4	18.4			9.5			86.6	81.0	81.0		87.6	77.9	92.4
Actuated g/C Ratio	0.13	0.15			0.08			0.72	0.68	0.68		0.73	0.65	0.77
v/c Ratio	0.32	0.11			0.27			0.26	0.29	0.01		0.10	0.50	0.07
Control Delay	45.8	16.4			42.5			5.4	4.8	0.0		5.3	13.1	1.2
Queue Delay	0.0	0.0			0.0			0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	45.8	16.4			42.5			5.4	4.8	0.0		5.3	13.1	1.2
LOS	D	B			D			A	A	A		A	B	A
Approach Delay		36.9			42.5				4.8				11.9	
Approach LOS		D			D				A				B	
Queue Length 50th (ft)	47	3			17			3	147	0		12	260	0
Queue Length 95th (ft)	88	29			51			28	198	m0		26	345	14
Internal Link Dist (ft)		1275			788				1305				1720	
Turn Bay Length (ft)	485							400		125		400		250
Base Capacity (vph)	235	427			200			368	2376	1112		595	2321	1259
Starvation Cap Reductn	0	0			0			0	0	0		0	0	0
Spillback Cap Reductn	0	0			0			0	0	0		0	0	0
Storage Cap Reductn	0	0			0			0	0	0		0	0	0
Reduced v/c Ratio	0.31	0.07			0.18			0.24	0.29	0.01		0.10	0.50	0.07

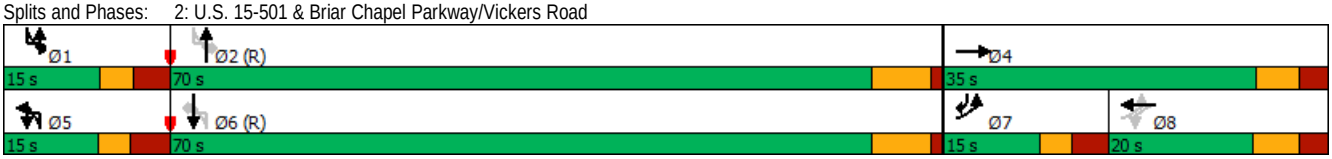
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120

Offset: 15 (13%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.50	
Intersection Signal Delay: 11.1	Intersection LOS: B
Intersection Capacity Utilization 57.5%	ICU Level of Service B
Analysis Period (min) 15	
Description: 08-1090	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: U.S. 15-501 & Briar Chapel Parkway/Vickers Road

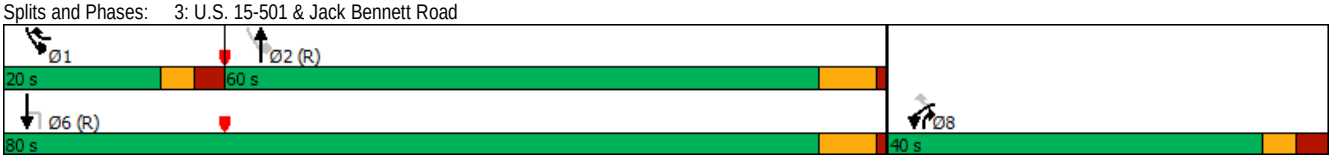


Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	223	116	4	616	122	92	1031
Future Volume (vph)	223	116	4	616	122	92	1031
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12
Grade (%)	1%			0%			0%
Storage Length (ft)	250	0	450		450	425	
Storage Lanes	1	1	1		1	1	
Taper Length (ft)	100		100			100	
Satd. Flow (prot)	1761	1575	1770	3539	1583	1770	3539
Flt Permitted	0.950		0.236			0.378	
Satd. Flow (perm)	1761	1575	440	3539	1583	704	3539
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)		122			128		
Link Speed (mph)	45			55			55
Link Distance (ft)	1007			2128			1385
Travel Time (s)	15.3			26.4			17.2
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%			0%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	235	122	4	648	128	97	1085
Turn Type	Prot	pm+ov	D.Pm	NA	pm+ov	D.P+P	NA
Protected Phases	8	1		2	8	1	6
Permitted Phases		8	6		2	2	
Detector Phase	8	1	6	2	8	1	6
Switch Phase							
Minimum Initial (s)	7.0	7.0	14.0	14.0	7.0	7.0	14.0
Minimum Split (s)	15.0	19.8	20.2	20.2	15.0	19.8	20.2
Total Split (s)	40.0	20.0	80.0	60.0	40.0	20.0	80.0
Total Split (%)	33.3%	16.7%	66.7%	50.0%	33.3%	16.7%	66.7%
Yellow Time (s)	3.0	3.0	5.2	5.2	3.0	3.0	5.2
All-Red Time (s)	3.1	2.8	1.0	1.0	3.1	2.8	1.0
Lost Time Adjust (s)	-1.1	-0.8	-1.2	-1.2	-1.1	-0.8	-1.2
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead		Lag		Lead	
Lead-Lag Optimize?		Yes		Yes		Yes	
Recall Mode	None	None	C-Max	C-Max	None	None	C-Max
Act Effct Green (s)	20.8	33.6	89.2	76.4	102.1	84.2	89.2
Actuated g/C Ratio	0.17	0.28	0.74	0.64	0.85	0.70	0.74
v/c Ratio	0.77	0.23	0.01	0.29	0.09	0.17	0.41
Control Delay	63.7	6.0	5.8	10.8	0.4	6.6	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.7	6.0	5.8	10.8	0.4	6.6	7.3
LOS	E	A	A	B	A	A	A
Approach Delay	44.0			9.1			7.2
Approach LOS	D			A			A
Queue Length 50th (ft)	176	0	1	108	0	18	140
Queue Length 95th (ft)	248	41	5	168	7	51	233
Internal Link Dist (ft)	927			2048			1305
Turn Bay Length (ft)	250		450		450	425	
Base Capacity (vph)	513	615	327	2252	1529	656	2631
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.20	0.01	0.29	0.08	0.15	0.41

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 13.5	Intersection LOS: B
Intersection Capacity Utilization 65.0%	ICU Level of Service C
Analysis Period (min) 15	
Description: 08-0355	

Splits and Phases: 3: U.S. 15-501 & Jack Bennett Road



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	120	31	349	202	20	137
Future Volume (vph)	120	31	349	202	20	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			100		100	
Satd. Flow (prot)	1812	0	1770	1863	1633	0
Flt Permitted			0.950		0.994	
Satd. Flow (perm)	1812	0	1770	1863	1633	0
Link Speed (mph)	55			55	45	
Link Distance (ft)	1491			2698	1865	
Travel Time (s)	18.5			33.4	28.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	167	0	388	224	174	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 47.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	6.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	120	31	349	202	20	137
Future Vol, veh/h	120	31	349	202	20	137
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
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	133	34	388	224	22	152

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	167	0	1150	150
Stage 1	-	-	-	-	150	-
Stage 2	-	-	-	-	1000	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1411	-	219	896
Stage 1	-	-	-	-	878	-
Stage 2	-	-	-	-	356	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1411	-	159	896
Mov Cap-2 Maneuver	-	-	-	-	159	-
Stage 1	-	-	-	-	878	-
Stage 2	-	-	-	-	258	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.4	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	563	-	-	1411	-
HCM Lane V/C Ratio	0.31	-	-	0.275	-
HCM Control Delay (s)	14.2	-	-	8.5	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	1.3	-	-	1.1	-

Appendix G:
Synchro Output:
Background (2025)

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	186	175	9	1463	153	218	820
Future Volume (vph)	186	175	9	1463	153	218	820
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12
Grade (%)	4%			-1%			1%
Storage Length (ft)	275	200	325		200	175	
Storage Lanes	1	1	1		1	2	
Taper Length (ft)	100		165			225	
Satd. Flow (prot)	3364	1552	1778	3557	1591	3383	3487
Flt Permitted	0.950		0.950			0.950	
Satd. Flow (perm)	3364	1552	1778	3557	1591	3383	3487
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)		42			100		
Link Speed (mph)	45			55			55
Link Distance (ft)	911			1889			1855
Travel Time (s)	13.8			23.4			23.0
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%			0%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	192	180	9	1508	158	225	845
Turn Type	Prot	pm+ov	Prot	NA	pm+ov	Prot	NA
Protected Phases	8	1	5	2	8	1	6
Permitted Phases		8			2		
Detector Phase	8	1	5	2	8	1	6
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	14.0	7.0	7.0	14.0
Minimum Split (s)	15.0	15.0	13.0	22.0	15.0	15.0	22.0
Total Split (s)	20.0	20.0	15.0	80.0	20.0	20.0	85.0
Total Split (%)	16.7%	16.7%	12.5%	66.7%	16.7%	16.7%	70.8%
Yellow Time (s)	3.0	3.0	3.0	5.3	3.0	3.0	5.1
All-Red Time (s)	3.1	3.1	2.4	1.2	3.1	3.1	1.1
Lost Time Adjust (s)	-1.1	-1.1	-0.4	-1.5	-1.1	-1.1	-1.2
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lag	Lag		Lead	Lead
Lead-Lag Optimize?		Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	None	None	C-Max
Act Effct Green (s)	11.4	28.7	7.9	81.3	97.7	12.3	95.6
Actuated g/C Ratio	0.10	0.24	0.07	0.68	0.81	0.10	0.80
v/c Ratio	0.60	0.45	0.08	0.63	0.12	0.65	0.30
Control Delay	59.9	32.1	53.4	13.0	1.2	60.5	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.9	32.1	53.4	13.0	1.2	60.5	4.4
LOS	E	C	D	B	A	E	A
Approach Delay	46.4			12.1			16.2
Approach LOS	D			B			B
Queue Length 50th (ft)	74	90	7	315	7	87	62
Queue Length 95th (ft)	110	150	24	450	21	126	172
Internal Link Dist (ft)	831			1809			1775
Turn Bay Length (ft)	275	200	325		200	175	
Base Capacity (vph)	420	437	148	2409	1358	423	2778
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.41	0.06	0.63	0.12	0.53	0.30

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 66 (55%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay: 17.6	Intersection LOS: B
Intersection Capacity Utilization 65.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: U.S. 15-501 & Lystra Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (vph)	196	40	89	11	9	43	5	89	1377	12	22	70	859	93
Future Volume (vph)	196	40	89	11	9	43	5	89	1377	12	22	70	859	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		-1%			-5%				1%				-2%	
Storage Length (ft)	485		0	0		0		400		125		400		250
Storage Lanes	1		0	0		0		1		1		1		1
Taper Length (ft)	100			100				100				100		
Satd. Flow (prot)	1778	1679	0	0	1622	0	0	1761	3522	1575	0	1787	3575	1599
Flt Permitted	0.688				0.910			0.255				0.095		
Satd. Flow (perm)	1288	1679	0	0	1488	0	0	473	3522	1575	0	179	3575	1599
Right Turn on Red			Yes			Yes				Yes				Yes
Satd. Flow (RTOR)		93			45					152				97
Link Speed (mph)		35			35				55				55	
Link Distance (ft)		1355			868				545				1800	
Travel Time (s)		26.4			16.9				6.8				22.3	
Confl. Peds. (#/hr)														
Confl. Bikes (#/hr)														
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)														
Mid-Block Traffic (%)		0%			0%				0%				0%	
Shared Lane Traffic (%)														
Lane Group Flow (vph)	204	135	0	0	65	0	0	98	1434	13	0	96	895	97
Turn Type	D.P+P	NA		Perm	NA		D.P+P	D.P+P	NA	Perm	D.P+P	D.P+P	NA	pm+ov
Protected Phases	7	4			8		5	5	2		1	1	6	7
Permitted Phases	8			8			6	6		2	2	2		6
Detector Phase	7	4		8	8		5	5	2	2	1	1	6	7
Switch Phase														
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	7.0	14.0	14.0	7.0	7.0	14.0	7.0
Minimum Split (s)	15.0	15.0		15.0	15.0		15.0	15.0	22.0	22.0	15.0	15.0	35.5	15.0
Total Split (s)	20.0	40.0		20.0	20.0		15.0	15.0	65.0	65.0	15.0	15.0	65.0	20.0
Total Split (%)	16.7%	33.3%		16.7%	16.7%		12.5%	12.5%	54.2%	54.2%	12.5%	12.5%	54.2%	16.7%
Yellow Time (s)	3.0	3.9		4.2	4.2		3.0	3.0	5.4	5.4	3.0	3.0	5.4	3.0
All-Red Time (s)	3.3	2.7		2.7	2.7		3.5	3.5	1.1	1.1	3.3	3.3	1.1	3.3
Lost Time Adjust (s)	-1.3	-1.6			-1.9			-1.5	-1.5	-1.5		-1.3	-1.5	-1.3
Total Lost Time (s)	5.0	5.0			5.0			5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead			Lag	Lag		Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	None	C-Max	C-Max	None	None	C-Max	None
Act Effct Green (s)	22.6	26.6			9.8			78.4	69.0	69.0		78.4	69.4	89.0
Actuated g/C Ratio	0.19	0.22			0.08			0.65	0.58	0.58		0.65	0.58	0.74
v/c Ratio	0.68	0.30			0.40			0.24	0.71	0.01		0.40	0.43	0.08
Control Delay	52.0	14.7			29.3			5.7	15.7	0.0		12.5	16.1	1.3
Queue Delay	0.0	0.0			0.0			0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	52.0	14.7			29.3			5.7	15.7	0.0		12.5	16.1	1.3
LOS	D	B			C			A	B	A		B	B	A
Approach Delay		37.2			29.3				14.9				14.4	
Approach LOS		D			C				B				B	
Queue Length 50th (ft)	136	25			15			18	387	0		23	202	0
Queue Length 95th (ft)	204	75			59			m25	516	m0		47	281	16
Internal Link Dist (ft)		1275			788				465				1720	
Turn Bay Length (ft)	485							400		125		400		250
Base Capacity (vph)	308	555			225			421	2025	970		259	2068	1216
Starvation Cap Reductn	0	0			0			0	0	0		0	0	0
Spillback Cap Reductn	0	0			0			0	0	0		0	0	0
Storage Cap Reductn	0	0			0			0	0	0		0	0	0
Reduced v/c Ratio	0.66	0.24			0.29			0.23	0.71	0.01		0.37	0.43	0.08

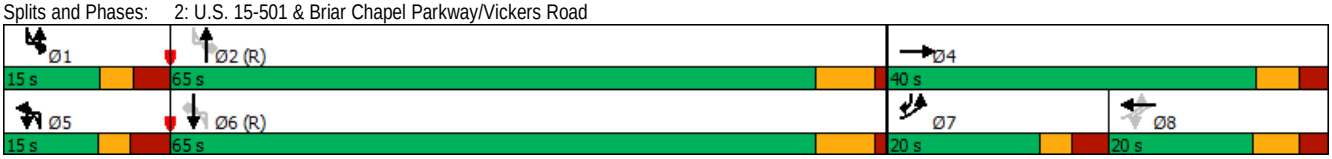
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120

Offset: 16 (13%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 17.5	Intersection LOS: B
Intersection Capacity Utilization 73.9%	ICU Level of Service D
Analysis Period (min) 15	
Description: 08-1090	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: U.S. 15-501 & Briar Chapel Parkway/Vickers Road

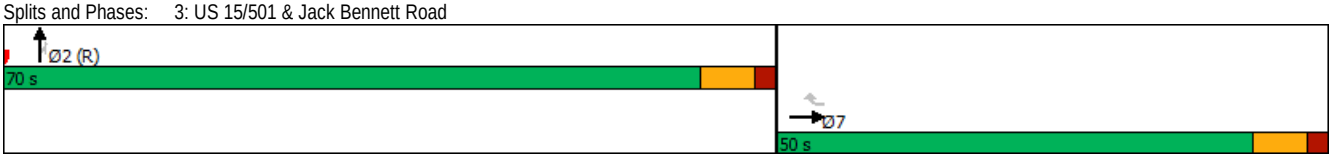


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	120	0	0	0	441	0	1301	267	0	0	0
Future Volume (vph)	0	120	0	0	0	441	0	1301	267	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		450	0		0
Storage Lanes	0		0	0		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	1863	0	0	0	1611	0	3539	1583	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	0	1611	0	3539	1583	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						37			278			
Link Speed (mph)		55			45			55			55	
Link Distance (ft)		123			1272			502			558	
Travel Time (s)		1.5			19.3			6.2			6.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	125	0	0	0	459	0	1355	278	0	0	0
Turn Type		NA				Perm		NA	Perm			
Protected Phases		7						2				
Permitted Phases						7			2			
Detector Phase		7				7		2	2			
Switch Phase												
Minimum Initial (s)		7.0				7.0		12.0	12.0			
Minimum Split (s)		16.0				16.0		19.0	19.0			
Total Split (s)		50.0				50.0		70.0	70.0			
Total Split (%)		41.7%				41.7%		58.3%	58.3%			
Yellow Time (s)		5.0				5.0		5.0	5.0			
All-Red Time (s)		2.0				2.0		2.0	2.0			
Lost Time Adjust (s)		-2.0				-2.0		-2.0	-2.0			
Total Lost Time (s)		5.0				5.0		5.0	5.0			
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		None				None		C-Max	C-Max			
Act Effct Green (s)		38.4				38.4		71.6	71.6			
Actuated g/C Ratio		0.32				0.32		0.60	0.60			
v/c Ratio		0.21				0.85		0.64	0.26			
Control Delay		29.1				49.8		18.6	2.2			
Queue Delay		0.0				0.0		0.0	0.0			
Total Delay		29.1				49.8		18.6	2.2			
LOS		C				D		B	A			
Approach Delay		29.1			49.8			15.8				
Approach LOS		C			D			B				
Queue Length 50th (ft)		83				303		350	0			
Queue Length 95th (ft)		135				412		476	39			
Internal Link Dist (ft)		43			1192			422			478	
Turn Bay Length (ft)									450			
Base Capacity (vph)		698				627		2112	1056			
Starvation Cap Reductn		0				0		0	0			
Spillback Cap Reductn		0				0		0	0			
Storage Cap Reductn		0				0		0	0			
Reduced v/c Ratio		0.18				0.73		0.64	0.26			

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 0 (0%), Referenced to phase 2:NBT and 6:, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 23.6	Intersection LOS: C
Intersection Capacity Utilization 103.2%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 3: US 15/501 & Jack Bennett Road



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	384	98	233	247	84	437
Future Volume (vph)	384	98	233	247	84	437
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			100		100	
Satd. Flow (prot)	1812	0	1770	1863	1639	0
Flt Permitted			0.950		0.992	
Satd. Flow (perm)	1812	0	1770	1863	1639	0
Link Speed (mph)	55			55	45	
Link Distance (ft)	1491			2698	1865	
Travel Time (s)	18.5			33.4	28.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	626	0	303	321	677	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 80.7%		ICU Level of Service D	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	213.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	384	98	233	247	84	437
Future Vol, veh/h	384	98	233	247	84	437
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	499	127	303	321	109	568

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	626	0	1490	563
Stage 1	-	-	-	-	563	-
Stage 2	-	-	-	-	927	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	956	-	136	~ 526
Stage 1	-	-	-	-	570	-
Stage 2	-	-	-	-	385	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	956	-	~ 93	~ 526
Mov Cap-2 Maneuver	-	-	-	-	~ 93	-
Stage 1	-	-	-	-	570	-
Stage 2	-	-	-	-	263	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.1	$ 602.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	300	-	-	956	-
HCM Lane V/C Ratio	2.255	-	-	0.317	-
HCM Control Delay (s)	$ 602.7	-	-	10.5	-
HCM Lane LOS	F	-	-	B	-
HCM 95th %tile Q(veh)	52	-	-	1.4	-

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

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	265	0	0	0	0	962
Future Volume (vph)	265	0	0	0	0	962
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	100				100	
Satd. Flow (prot)	1770	0	0	0	0	3539
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	0	0	3539
Right Turn on Red	Yes	Yes		Yes		
Satd. Flow (RTOR)						
Link Speed (mph)	55		55			55
Link Distance (ft)	43		437			316
Travel Time (s)	0.5		5.4			3.9
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	294	0	0	0	0	1069
Turn Type	pm+pt					NA
Protected Phases	3					6!
Permitted Phases	6!					
Detector Phase	3					6
Switch Phase						
Minimum Initial (s)	7.0					12.0
Minimum Split (s)	16.0					19.0
Total Split (s)	45.0					75.0
Total Split (%)	37.5%					62.5%
Yellow Time (s)	5.0					5.0
All-Red Time (s)	2.0					2.0
Lost Time Adjust (s)	-2.0					-2.0
Total Lost Time (s)	5.0					5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None					C-Max
Act Effct Green (s)	120.0					101.0
Actuated g/C Ratio	1.00					0.84
v/c Ratio	0.17					0.36
Control Delay	0.2					1.0
Queue Delay	0.0					0.0
Total Delay	0.2					1.0
LOS	A					A
Approach Delay	0.2					1.0
Approach LOS	A					A
Queue Length 50th (ft)	0					17
Queue Length 95th (ft)	m0					29
Internal Link Dist (ft)	1		357			236
Turn Bay Length (ft)						
Base Capacity (vph)	1770					2978
Starvation Cap Reductn	0					0
Spillback Cap Reductn	0					0
Storage Cap Reductn	0					0
Reduced v/c Ratio	0.17					0.36

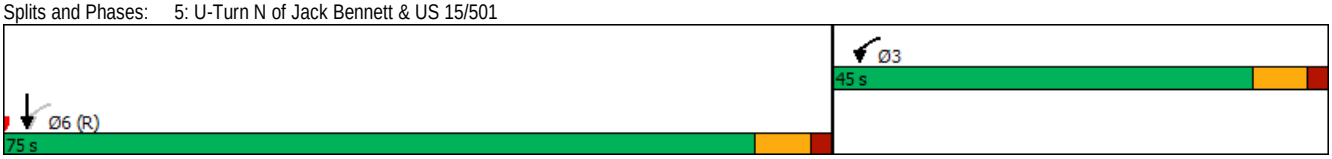
Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 17 (14%), Referenced to phase 2: and 6:WBSB, Start of Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.36	
Intersection Signal Delay: 0.9	Intersection LOS: A
Intersection Capacity Utilization 75.1%	ICU Level of Service D
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

! Phase conflict between lane groups.

Splits and Phases: 5: U-Turn N of Jack Bennett & US 15/501



Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	322	237	41	1100	75	284	1395
Future Volume (vph)	322	237	41	1100	75	284	1395
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12
Grade (%)	4%			-1%			1%
Storage Length (ft)	275	200	325		200	175	
Storage Lanes	1	1	1		1	2	
Taper Length (ft)	100		165			225	
Satd. Flow (prot)	3364	1552	1778	3557	1591	3416	3522
Flt Permitted	0.950		0.950			0.950	
Satd. Flow (perm)	3364	1552	1778	3557	1591	3416	3522
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)		61			80		
Link Speed (mph)	45			55			55
Link Distance (ft)	911			1889			1855
Travel Time (s)	13.8			23.4			23.0
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%			0%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	343	252	44	1170	80	302	1484
Turn Type	Prot	pm+ov	Prot	NA	pm+ov	Prot	NA
Protected Phases	8	1	5	2	8	1	6
Permitted Phases		8			2		
Detector Phase	8	1	5	2	8	1	6
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	14.0	7.0	7.0	14.0
Minimum Split (s)	15.0	15.0	13.0	22.0	15.0	15.0	22.0
Total Split (s)	25.0	25.0	15.0	70.0	25.0	25.0	80.0
Total Split (%)	20.8%	20.8%	12.5%	58.3%	20.8%	20.8%	66.7%
Yellow Time (s)	3.0	3.0	3.0	5.3	3.0	3.0	5.1
All-Red Time (s)	3.1	3.1	2.4	1.2	3.1	3.1	1.1
Lost Time Adjust (s)	-1.1	-1.1	-0.4	-1.5	-1.1	-1.1	-1.2
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lag	Lag		Lead	Lead
Lead-Lag Optimize?		Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	None	None	C-Max
Act Effct Green (s)	16.5	36.6	9.5	73.4	94.9	15.1	81.5
Actuated g/C Ratio	0.14	0.30	0.08	0.61	0.79	0.13	0.68
v/c Ratio	0.74	0.49	0.31	0.54	0.06	0.70	0.62
Control Delay	59.8	27.7	58.1	15.5	0.9	59.1	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.8	27.7	58.1	15.5	0.9	59.1	13.3
LOS	E	C	E	B	A	E	B
Approach Delay	46.2			16.0			21.1
Approach LOS	D			B			C
Queue Length 50th (ft)	132	119	33	260	0	117	334
Queue Length 95th (ft)	178	182	72	375	11	159	441
Internal Link Dist (ft)	831			1809			1775
Turn Bay Length (ft)	275	200	325		200	175	
Base Capacity (vph)	560	576	148	2176	1319	569	2393
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.44	0.30	0.54	0.06	0.53	0.62

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120

Offset: 92 (77%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 23.4	Intersection LOS: C
Intersection Capacity Utilization 66.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: U.S. 15-501 & Lystra Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (vph)	123	30	49	16	9	25	4	149	1047	9	40	85	1481	168
Future Volume (vph)	123	30	49	16	9	25	4	149	1047	9	40	85	1481	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		-1%			-5%				1%				-2%	
Storage Length (ft)	485		0	0		0		400		125		400		250
Storage Lanes	1		0	0		0		1		1		1		1
Taper Length (ft)	100			100				100				100		
Satd. Flow (prot)	1778	1698	0	0	1595	0	0	1761	3522	1575	0	1787	3575	1599
Flt Permitted	0.796				0.858			0.074				0.196		
Satd. Flow (perm)	1490	1698	0	0	1390	0	0	137	3522	1575	0	369	3575	1599
Right Turn on Red			Yes			Yes				Yes				Yes
Satd. Flow (RTOR)		52			26					152				177
Link Speed (mph)		35			35				55				55	
Link Distance (ft)		1355			868				545				1800	
Travel Time (s)		26.4			16.9				6.8				22.3	
Confl. Peds. (#/hr)														
Confl. Bikes (#/hr)														
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	12%	12%	12%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)														
Mid-Block Traffic (%)		0%			0%				0%				0%	
Shared Lane Traffic (%)														
Lane Group Flow (vph)	129	84	0	0	52	0	0	161	1102	9	0	131	1559	177
Turn Type	D.P+P	NA		Perm	NA		D.P+P	D.P+P	NA	Perm	D.P+P	D.P+P	NA	pm+ov
Protected Phases	7	4			8		5	5	2		1	1	6	7
Permitted Phases	8			8			6	6		2	2	2		6
Detector Phase	7	4		8	8		5	5	2	2	1	1	6	7
Switch Phase														
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	7.0	14.0	14.0	7.0	7.0	14.0	7.0
Minimum Split (s)	15.0	15.0		15.0	15.0		15.0	15.0	22.0	22.0	15.0	15.0	35.5	15.0
Total Split (s)	15.0	35.0		20.0	20.0		20.0	20.0	65.0	65.0	20.0	20.0	65.0	15.0
Total Split (%)	12.5%	29.2%		16.7%	16.7%		16.7%	16.7%	54.2%	54.2%	16.7%	16.7%	54.2%	12.5%
Yellow Time (s)	3.0	3.9		4.2	4.2		3.0	3.0	5.4	5.4	3.0	3.0	5.4	3.0
All-Red Time (s)	3.3	2.7		2.7	2.7		3.5	3.5	1.1	1.1	3.3	3.3	1.1	3.3
Lost Time Adjust (s)	-1.3	-1.6			-1.9			-1.5	-1.5	-1.5		-1.3	-1.5	-1.3
Total Lost Time (s)	5.0	5.0			5.0			5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead			Lag	Lag		Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	None	C-Max	C-Max	None	None	C-Max	None
Act Effct Green (s)	18.0	22.0			10.0			83.0	74.0	74.0		83.0	70.4	85.2
Actuated g/C Ratio	0.15	0.18			0.08			0.69	0.62	0.62		0.69	0.59	0.71
v/c Ratio	0.52	0.24			0.37			0.61	0.51	0.01		0.36	0.74	0.15
Control Delay	49.8	19.1			38.1			31.7	10.1	0.0		8.5	22.9	1.5
Queue Delay	0.0	0.0			0.0			0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	49.8	19.1			38.1			31.7	10.1	0.0		8.5	22.9	1.5
LOS	D	B			D			C	B	A		A	C	A
Approach Delay		37.7			38.1				12.8				19.9	
Approach LOS		D			D				B				B	
Queue Length 50th (ft)	87	20			19			58	187	0		27	458	0
Queue Length 95th (ft)	141	62			59			m128	216	m0		53	657	26
Internal Link Dist (ft)		1275			788				465				1720	
Turn Bay Length (ft)	485							400		125		400		250
Base Capacity (vph)	250	463			196			306	2171	1029		447	2096	1188
Starvation Cap Reductn	0	0			0			0	0	0		0	0	0
Spillback Cap Reductn	0	0			0			0	0	0		0	0	0
Storage Cap Reductn	0	0			0			0	0	0		0	0	0
Reduced v/c Ratio	0.52	0.18			0.27			0.53	0.51	0.01		0.29	0.74	0.15

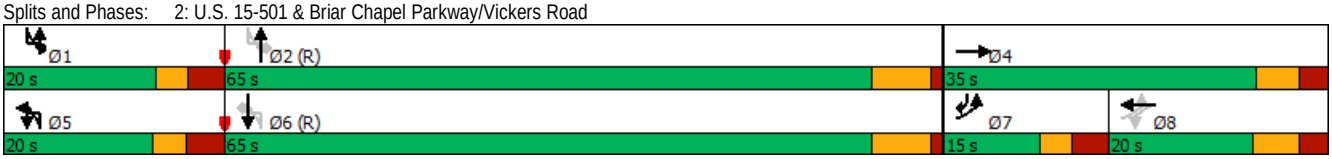
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120

Offset: 12 (10%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 18.6	Intersection LOS: B
Intersection Capacity Utilization 75.4%	ICU Level of Service D
Analysis Period (min) 15	
Description: 08-1090	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: U.S. 15-501 & Briar Chapel Parkway/Vickers Road

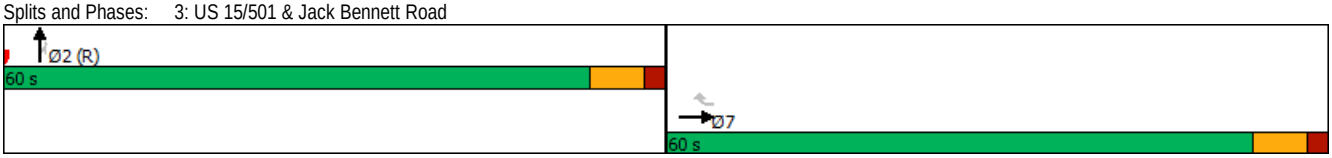


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	183	0	0	0	508	0	986	164	0	0	0
Future Volume (vph)	0	183	0	0	0	508	0	986	164	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		450	0		0
Storage Lanes	0		0	0		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	1863	0	0	0	1611	0	3539	1583	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	0	1611	0	3539	1583	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						52			173			
Link Speed (mph)		55			45			55			55	
Link Distance (ft)		123			1272			502			558	
Travel Time (s)		1.5			19.3			6.2			6.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	193	0	0	0	535	0	1038	173	0	0	0
Turn Type		NA				Perm		NA	Perm			
Protected Phases		7						2				
Permitted Phases						7			2			
Detector Phase		7				7		2	2			
Switch Phase												
Minimum Initial (s)		7.0				7.0		12.0	12.0			
Minimum Split (s)		16.0				16.0		19.0	19.0			
Total Split (s)		60.0				60.0		60.0	60.0			
Total Split (%)		50.0%				50.0%		50.0%	50.0%			
Yellow Time (s)		5.0				5.0		5.0	5.0			
All-Red Time (s)		2.0				2.0		2.0	2.0			
Lost Time Adjust (s)		-2.0				-2.0		-2.0	-2.0			
Total Lost Time (s)		5.0				5.0		5.0	5.0			
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		None				None		C-Max	C-Max			
Act Effct Green (s)		45.3				45.3		64.7	64.7			
Actuated g/C Ratio		0.38				0.38		0.54	0.54			
v/c Ratio		0.27				0.83		0.54	0.19			
Control Delay		29.1				41.9		20.8	3.1			
Queue Delay		0.0				0.0		0.0	0.0			
Total Delay		29.1				41.9		20.8	3.1			
LOS		C				D		C	A			
Approach Delay		29.1			41.9			18.3				
Approach LOS		C			D			B				
Queue Length 50th (ft)		136				336		271	0			
Queue Length 95th (ft)		188				429		389	39			
Internal Link Dist (ft)		43			1192			422			478	
Turn Bay Length (ft)									450			
Base Capacity (vph)		853				766		1906	932			
Starvation Cap Reductn		0				0		0	0			
Spillback Cap Reductn		0				0		0	0			
Storage Cap Reductn		0				0		0	0			
Reduced v/c Ratio		0.23				0.70		0.54	0.19			

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 15 (13%), Referenced to phase 2:NBT and 6:, Start of Green	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 25.9	Intersection LOS: C
Intersection Capacity Utilization 114.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 3: US 15/501 & Jack Bennett Road



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	187	41	419	291	36	195
Future Volume (vph)	187	41	419	291	36	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			100		100	
Satd. Flow (prot)	1818	0	1770	1863	1637	0
Flt Permitted			0.950		0.992	
Satd. Flow (perm)	1818	0	1770	1863	1637	0
Link Speed (mph)	55			55	45	
Link Distance (ft)	1491			2698	1865	
Travel Time (s)	18.5			33.4	28.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	254	0	466	323	257	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 59.6%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	10.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	187	41	419	291	36	195
Future Vol, veh/h	187	41	419	291	36	195
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
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	208	46	466	323	40	217

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	254	0	1486	231
Stage 1	-	-	-	-	231	-
Stage 2	-	-	-	-	1255	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1311	-	137	808
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	268	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1311	-	88	808
Mov Cap-2 Maneuver	-	-	-	-	88	-
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	173	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.5	37.6
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	355	-	-	1311	-
HCM Lane V/C Ratio	0.723	-	-	0.355	-
HCM Control Delay (s)	37.6	-	-	9.2	-
HCM Lane LOS	E	-	-	A	-
HCM 95th %tile Q(veh)	5.4	-	-	1.6	-

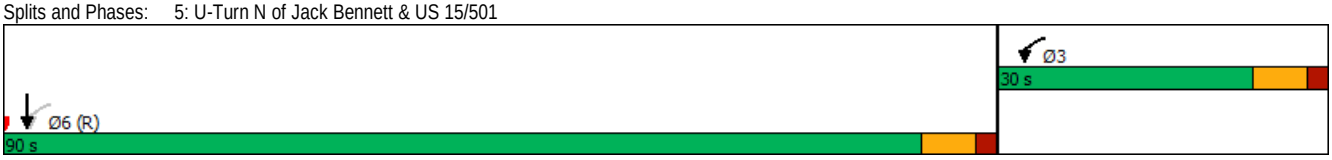
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	341	0	0	0	0	1550
Future Volume (vph)	341	0	0	0	0	1550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	100				100	
Satd. Flow (prot)	1770	0	0	0	0	3539
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	0	0	3539
Right Turn on Red	Yes	Yes		Yes		
Satd. Flow (RTOR)						
Link Speed (mph)	55		55			55
Link Distance (ft)	43		437			316
Travel Time (s)	0.5		5.4			3.9
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	379	0	0	0	0	1722
Turn Type	pm+pt					NA
Protected Phases	3					6!
Permitted Phases	6!					
Detector Phase	3					6
Switch Phase						
Minimum Initial (s)	7.0					12.0
Minimum Split (s)	16.0					19.0
Total Split (s)	30.0					90.0
Total Split (%)	25.0%					75.0%
Yellow Time (s)	5.0					5.0
All-Red Time (s)	2.0					2.0
Lost Time Adjust (s)	-2.0					-2.0
Total Lost Time (s)	5.0					5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None					C-Max
Act Effct Green (s)	120.0					100.9
Actuated g/C Ratio	1.00					0.84
v/c Ratio	0.21					0.58
Control Delay	0.2					1.8
Queue Delay	0.0					0.1
Total Delay	0.2					1.9
LOS	A					A
Approach Delay	0.2					1.9
Approach LOS	A					A
Queue Length 50th (ft)	0					23
Queue Length 95th (ft)	0					10
Internal Link Dist (ft)	1		357			236
Turn Bay Length (ft)						
Base Capacity (vph)	1770					2974
Starvation Cap Reductn	0					275
Spillback Cap Reductn	0					0
Storage Cap Reductn	0					0
Reduced v/c Ratio	0.21					0.64

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 8 (7%), Referenced to phase 2: and 6:WBSB, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 1.6	Intersection LOS: A
Intersection Capacity Utilization 83.8%	ICU Level of Service E
Analysis Period (min) 15	

! Phase conflict between lane groups.

Splits and Phases: 5: U-Turn N of Jack Bennett & US 15/501



Appendix H:
Synchro Output:
Build-out (2025)

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	190	175	9	1509	158	218	860
Future Volume (vph)	190	175	9	1509	158	218	860
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12
Grade (%)	4%			-1%			1%
Storage Length (ft)	275	200	325		200	175	
Storage Lanes	1	1	1		1	2	
Taper Length (ft)	100		165			225	
Satd. Flow (prot)	3364	1552	1778	3557	1591	3383	3487
Flt Permitted	0.950		0.950			0.950	
Satd. Flow (perm)	3364	1552	1778	3557	1591	3383	3487
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)		38			100		
Link Speed (mph)	45			55			55
Link Distance (ft)	911			1889			1855
Travel Time (s)	13.8			23.4			23.0
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%			0%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	196	180	9	1556	163	225	887
Turn Type	Prot	pm+ov	Prot	NA	pm+ov	Prot	NA
Protected Phases	8	1	5	2	8	1	6
Permitted Phases		8			2		
Detector Phase	8	1	5	2	8	1	6
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	14.0	7.0	7.0	14.0
Minimum Split (s)	15.0	15.0	13.0	22.0	15.0	15.0	22.0
Total Split (s)	20.0	20.0	15.0	80.0	20.0	20.0	85.0
Total Split (%)	16.7%	16.7%	12.5%	66.7%	16.7%	16.7%	70.8%
Yellow Time (s)	3.0	3.0	3.0	5.3	3.0	3.0	5.1
All-Red Time (s)	3.1	3.1	2.4	1.2	3.1	3.1	1.1
Lost Time Adjust (s)	-1.1	-1.1	-0.4	-1.5	-1.1	-1.1	-1.2
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lag	Lag		Lead	Lead
Lead-Lag Optimize?		Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	None	None	C-Max
Act Effct Green (s)	11.5	28.8	7.9	81.2	97.7	12.3	95.5
Actuated g/C Ratio	0.10	0.24	0.07	0.68	0.81	0.10	0.80
v/c Ratio	0.61	0.45	0.08	0.65	0.12	0.65	0.32
Control Delay	59.9	33.1	53.4	13.4	1.3	60.7	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.9	33.1	53.4	13.4	1.3	60.7	4.5
LOS	E	C	D	B	A	E	A
Approach Delay	47.1			12.5			15.9
Approach LOS	D			B			B
Queue Length 50th (ft)	76	93	7	334	8	87	67
Queue Length 95th (ft)	112	153	24	474	22	126	184
Internal Link Dist (ft)	831			1809			1775
Turn Bay Length (ft)	275	200	325		200	175	
Base Capacity (vph)	420	435	148	2407	1357	422	2774
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.41	0.06	0.65	0.12	0.53	0.32

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 66 (55%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay: 17.7	Intersection LOS: B
Intersection Capacity Utilization 66.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: U.S. 15-501 & Lystra Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (vph)	205	40	89	52	19	43	5	89	1408	16	48	74	859	93
Future Volume (vph)	205	40	89	52	19	43	5	89	1408	16	48	74	859	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		-1%			-5%				1%				-2%	
Storage Length (ft)	485		0	0		0		400		125		400		250
Storage Lanes	1		0	0		0		1		1		1		1
Taper Length (ft)	100			100				100				100		
Satd. Flow (prot)	1778	1679	0	0	1721	0	0	1761	3522	1575	0	1787	3575	1599
Flt Permitted	0.592				0.790			0.250				0.078		
Satd. Flow (perm)	1108	1679	0	0	1391	0	0	463	3522	1575	0	147	3575	1599
Right Turn on Red			Yes			Yes				Yes				Yes
Satd. Flow (RTOR)		93			23					152				97
Link Speed (mph)		35			35				55				55	
Link Distance (ft)		1355			783				545				457	
Travel Time (s)		26.4			15.3				6.8				5.7	
Confl. Peds. (#/hr)														
Confl. Bikes (#/hr)														
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	5%	5%	5%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)														
Mid-Block Traffic (%)		0%			0%				0%				0%	
Shared Lane Traffic (%)														
Lane Group Flow (vph)	214	135	0	0	119	0	0	98	1467	17	0	127	895	97
Turn Type	D.P+P	NA		Perm	NA		D.P+P	D.P+P	NA	Perm	D.P+P	D.P+P	NA	pm+ov
Protected Phases	7	4			8		5	5	2		1	1	6	7
Permitted Phases	8			8			6	6		2	2	2		6
Detector Phase	7	4		8	8		5	5	2	2	1	1	6	7
Switch Phase														
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	7.0	14.0	14.0	7.0	7.0	14.0	7.0
Minimum Split (s)	15.0	15.0		15.0	15.0		15.0	15.0	22.0	22.0	15.0	15.0	35.5	15.0
Total Split (s)	15.0	45.0		30.0	30.0		15.0	15.0	60.0	60.0	15.0	15.0	60.0	15.0
Total Split (%)	12.5%	37.5%		25.0%	25.0%		12.5%	12.5%	50.0%	50.0%	12.5%	12.5%	50.0%	12.5%
Yellow Time (s)	3.0	3.9		4.2	4.2		3.0	3.0	5.4	5.4	3.0	3.0	5.4	3.0
All-Red Time (s)	3.3	2.7		2.7	2.7		3.5	3.5	1.1	1.1	3.3	3.3	1.1	3.3
Lost Time Adjust (s)	-1.3	-1.6			-1.9			-1.5	-1.5	-1.5		-1.3	-1.5	-1.3
Total Lost Time (s)	5.0	5.0			5.0			5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead			Lag	Lag		Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	None	C-Max	C-Max	None	None	C-Max	None
Act Effct Green (s)	24.7	29.7			14.7			75.3	64.8	64.8		75.3	66.2	81.2
Actuated g/C Ratio	0.21	0.25			0.12			0.63	0.54	0.54		0.63	0.55	0.68
v/c Ratio	0.75	0.28			0.62			0.25	0.77	0.02		0.54	0.45	0.09
Control Delay	56.7	13.7			53.6			6.5	18.9	0.0		23.6	17.8	1.9
Queue Delay	0.0	0.0			0.0			0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	56.7	13.7			53.6			6.5	18.9	0.0		23.6	17.8	1.9
LOS	E	B			D			A	B	A		C	B	A
Approach Delay		40.0			53.6				17.9				17.1	
Approach LOS		D			D				B				B	
Queue Length 50th (ft)	143	25			71			18	354	0		32	205	0
Queue Length 95th (ft)	204	72			128			m28	#652	m0		98	303	21
Internal Link Dist (ft)		1275			703				465				377	
Turn Bay Length (ft)	485							400		125		400		250
Base Capacity (vph)	284	621			308			404	1901	920		246	1970	1112
Starvation Cap Reductn	0	0			0			0	0	0		0	0	0
Spillback Cap Reductn	0	0			0			0	0	0		0	0	0
Storage Cap Reductn	0	0			0			0	0	0		0	0	0
Reduced v/c Ratio	0.75	0.22			0.39			0.24	0.77	0.02		0.52	0.45	0.09

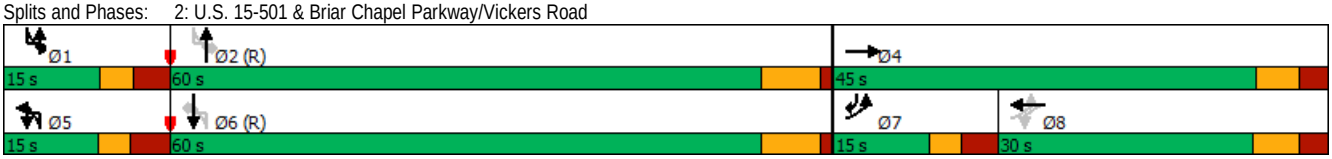
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120

Offset: 16 (13%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 21.4	Intersection LOS: C
Intersection Capacity Utilization 80.2%	ICU Level of Service D
Analysis Period (min) 15	
Description: 08-1090	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: U.S. 15-501 & Briar Chapel Parkway/Vickers Road

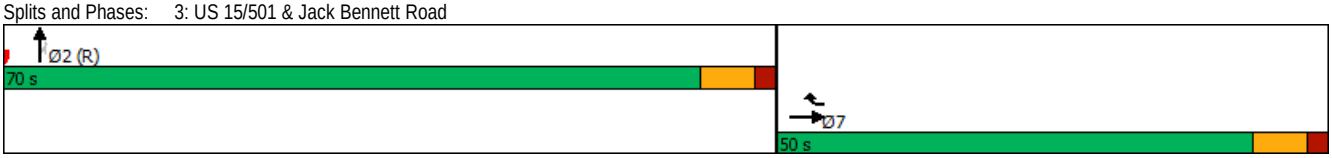


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	125	0	0	0	445	0	1332	267	0	0	0
Future Volume (vph)	0	125	0	0	0	445	0	1332	267	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		450	0		0
Storage Lanes	0		0	0		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	1863	0	0	0	1611	0	3539	1583	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	0	1611	0	3539	1583	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						36			278			
Link Speed (mph)		55			45			55			55	
Link Distance (ft)		123			1272			502			558	
Travel Time (s)		1.5			19.3			6.2			6.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	130	0	0	0	464	0	1388	278	0	0	0
Turn Type		NA				Prot		NA	Perm			
Protected Phases		7				7		2				
Permitted Phases									2			
Detector Phase		7				7		2	2			
Switch Phase												
Minimum Initial (s)		7.0				7.0		12.0	12.0			
Minimum Split (s)		16.0				16.0		19.0	19.0			
Total Split (s)		50.0				50.0		70.0	70.0			
Total Split (%)		41.7%				41.7%		58.3%	58.3%			
Yellow Time (s)		5.0				5.0		5.0	5.0			
All-Red Time (s)		2.0				2.0		2.0	2.0			
Lost Time Adjust (s)		-2.0				-2.0		-2.0	-2.0			
Total Lost Time (s)		5.0				5.0		5.0	5.0			
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		None				None		C-Max	C-Max			
Act Effct Green (s)		38.7				38.7		71.3	71.3			
Actuated g/C Ratio		0.32				0.32		0.59	0.59			
v/c Ratio		0.22				0.85		0.66	0.26			
Control Delay		32.2				50.0		19.2	2.2			
Queue Delay		0.0				0.0		0.0	0.0			
Total Delay		32.2				50.0		19.2	2.2			
LOS		C				D		B	A			
Approach Delay		32.2			50.0			16.4				
Approach LOS		C			D			B				
Queue Length 50th (ft)		90				307		368	0			
Queue Length 95th (ft)		147				419		495	39			
Internal Link Dist (ft)		43			1192			422			478	
Turn Bay Length (ft)									450			
Base Capacity (vph)		698				626		2102	1053			
Starvation Cap Reductn		0				0		0	0			
Spillback Cap Reductn		0				0		0	0			
Storage Cap Reductn		0				0		0	0			
Reduced v/c Ratio		0.19				0.74		0.66	0.26			

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 0 (0%), Referenced to phase 2:NBT and 6:, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 24.2	Intersection LOS: C
Intersection Capacity Utilization 105.3%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 3: US 15/501 & Jack Bennett Road



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	384	98	237	247	84	442
Future Volume (vph)	384	98	237	247	84	442
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			100		100	
Satd. Flow (prot)	1812	0	1770	1863	1639	0
Flt Permitted			0.950		0.992	
Satd. Flow (perm)	1812	0	1770	1863	1639	0
Link Speed (mph)	55			55	45	
Link Distance (ft)	1491			2698	1865	
Travel Time (s)	18.5			33.4	28.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	626	0	308	321	683	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 81.2%		ICU Level of Service D	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	220

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	384	98	237	247	84	442
Future Vol, veh/h	384	98	237	247	84	442
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	499	127	308	321	109	574

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	626	0	1500	563
Stage 1	-	-	-	-	563	-
Stage 2	-	-	-	-	937	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	956	-	134	~ 526
Stage 1	-	-	-	-	570	-
Stage 2	-	-	-	-	381	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	956	-	~ 91	~ 526
Mov Cap-2 Maneuver	-	-	-	-	~ 91	-
Stage 1	-	-	-	-	570	-
Stage 2	-	-	-	-	258	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.2	$ 619.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	298	-	-	956	-
HCM Lane V/C Ratio	2.292	-	-	0.322	-
HCM Control Delay (s)	$ 619.3	-	-	10.5	-
HCM Lane LOS	F	-	-	B	-
HCM 95th %tile Q(veh)	53	-	-	1.4	-

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

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	265	0	0	0	0	1003
Future Volume (vph)	265	0	0	0	0	1003
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	100				100	
Satd. Flow (prot)	1770	0	0	0	0	3539
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	0	0	3539
Right Turn on Red	Yes	Yes		Yes		
Satd. Flow (RTOR)						
Link Speed (mph)	55		55			55
Link Distance (ft)	43		437			316
Travel Time (s)	0.5		5.4			3.9
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	294	0	0	0	0	1114
Turn Type	pm+pt					NA
Protected Phases	3					6!
Permitted Phases	6!					
Detector Phase	3					6
Switch Phase						
Minimum Initial (s)	7.0					12.0
Minimum Split (s)	16.0					19.0
Total Split (s)	45.0					75.0
Total Split (%)	37.5%					62.5%
Yellow Time (s)	5.0					5.0
All-Red Time (s)	2.0					2.0
Lost Time Adjust (s)	-2.0					-2.0
Total Lost Time (s)	5.0					5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None					C-Max
Act Effct Green (s)	120.0					101.0
Actuated g/C Ratio	1.00					0.84
v/c Ratio	0.17					0.37
Control Delay	0.2					1.2
Queue Delay	0.0					0.0
Total Delay	0.2					1.2
LOS	A					A
Approach Delay	0.2					1.2
Approach LOS	A					A
Queue Length 50th (ft)	0					17
Queue Length 95th (ft)	m0					30
Internal Link Dist (ft)	1		357			236
Turn Bay Length (ft)						
Base Capacity (vph)	1770					2978
Starvation Cap Reductn	0					0
Spillback Cap Reductn	0					0
Storage Cap Reductn	0					0
Reduced v/c Ratio	0.17					0.37

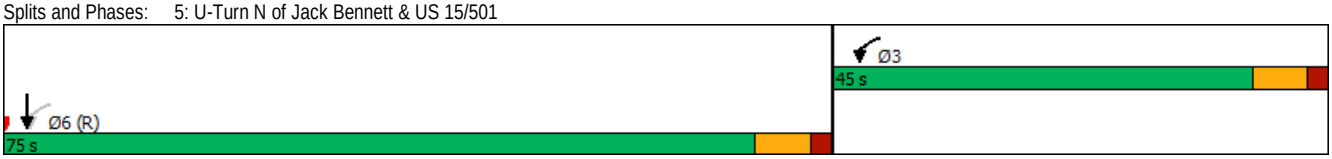
Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 17 (14%), Referenced to phase 2: and 6:WBSB, Start of Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.37	
Intersection Signal Delay: 1.0	Intersection LOS: A
Intersection Capacity Utilization 77.2%	ICU Level of Service D
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

! Phase conflict between lane groups.

Splits and Phases: 5: U-Turn N of Jack Bennett & US 15/501



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	36	1646	62	0	1075
Future Volume (vph)	0	36	1646	62	0	1075
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			-2%
Storage Length (ft)	0	0		100	0	
Storage Lanes	0	1		1	0	
Taper Length (ft)	100				100	
Satd. Flow (prot)	0	1611	3539	1583	0	3575
Flt Permitted						
Satd. Flow (perm)	0	1611	3539	1583	0	3575
Link Speed (mph)	25		55			55
Link Distance (ft)	525		457			1278
Travel Time (s)	14.3		5.7			15.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	40	1829	69	0	1194
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	36	1646	62	0	1075
Future Vol, veh/h	0	36	1646	62	0	1075
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	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	-2
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	40	1829	69	0	1194

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	915	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	275	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	275	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	275	-
HCM Lane V/C Ratio	-	-	0.145	-
HCM Control Delay (s)	-	-	20.3	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.5	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	15	1678	4	13	1075
Future Volume (vph)	0	15	1678	4	13	1075
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			-2%
Storage Length (ft)	0	0		0	50	
Storage Lanes	0	1		0	1	
Taper Length (ft)	100				100	
Satd. Flow (prot)	0	1611	3539	0	1787	3575
Flt Permitted					0.950	
Satd. Flow (perm)	0	1611	3539	0	1787	3575
Link Speed (mph)	25		55			55
Link Distance (ft)	490		1278			396
Travel Time (s)	13.4		15.8			4.9
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	17	1868	0	14	1194
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		

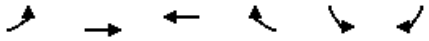
Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	15	1678	4	13	1075
Future Vol, veh/h	0	15	1678	4	13	1075
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	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	-2
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	1864	4	14	1194

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	934	0	0	1868	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	0	267	-	-	319	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	267	-	-	319	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	267	319	-
HCM Lane V/C Ratio	-	-	0.062	0.045	-
HCM Control Delay (s)	-	-	19.4	16.8	-
HCM Lane LOS	-	-	C	C	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	9	123	64	4	4	52
Future Volume (vph)	9	123	64	4	4	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	-5%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	100				100	
Satd. Flow (prot)	0	1857	1896	0	1623	0
Flt Permitted		0.997			0.997	
Satd. Flow (perm)	0	1857	1896	0	1623	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		783	692		576	
Travel Time (s)		15.3	13.5		15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	147	75	0	62	0
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	123	64	4	4	52
Future Vol, veh/h	9	123	64	4	4	52
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	-5	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	137	71	4	4	58

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	75	0	-	0	230	73
Stage 1	-	-	-	-	73	-
Stage 2	-	-	-	-	157	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1524	-	-	-	758	989
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	871	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1524	-	-	-	753	989
Mov Cap-2 Maneuver	-	-	-	-	753	-
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	871	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1524	-	-	-	967
HCM Lane V/C Ratio	0.007	-	-	-	0.064
HCM Control Delay (s)	7.4	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	328	237	41	1144	80	284	1445
Future Volume (vph)	328	237	41	1144	80	284	1445
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12
Grade (%)	4%			-1%			1%
Storage Length (ft)	275	200	325		200	175	
Storage Lanes	1	1	1		1	2	
Taper Length (ft)	100		165			225	
Satd. Flow (prot)	3364	1552	1778	3557	1591	3416	3522
Flt Permitted	0.950		0.950			0.950	
Satd. Flow (perm)	3364	1552	1778	3557	1591	3416	3522
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)		67			42		
Link Speed (mph)	45			55			55
Link Distance (ft)	911			1889			1855
Travel Time (s)	13.8			23.4			23.0
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%			0%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	349	252	44	1217	85	302	1537
Turn Type	Prot	pm+ov	Prot	NA	pm+ov	Prot	NA
Protected Phases	8	1	5	2	8	1	6
Permitted Phases		8			2		
Detector Phase	8	1	5	2	8	1	6
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	14.0	7.0	7.0	14.0
Minimum Split (s)	15.0	15.0	13.0	22.0	15.0	15.0	22.0
Total Split (s)	25.0	20.0	15.0	75.0	25.0	20.0	80.0
Total Split (%)	20.8%	16.7%	12.5%	62.5%	20.8%	16.7%	66.7%
Yellow Time (s)	3.0	3.0	3.0	5.3	3.0	3.0	5.1
All-Red Time (s)	3.1	3.1	2.4	1.2	3.1	3.1	1.1
Lost Time Adjust (s)	-1.1	-1.1	-0.4	-1.5	-1.1	-1.1	-1.2
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lag	Lag		Lead	Lead
Lead-Lag Optimize?		Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	None	None	C-Max
Act Effct Green (s)	16.6	35.7	9.5	74.3	95.9	14.1	81.4
Actuated g/C Ratio	0.14	0.30	0.08	0.62	0.80	0.12	0.68
v/c Ratio	0.75	0.50	0.31	0.55	0.07	0.76	0.64
Control Delay	60.0	27.8	58.1	15.0	1.7	63.6	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.0	27.8	58.1	15.0	1.7	63.6	13.9
LOS	E	C	E	B	A	E	B
Approach Delay	46.5			15.6			22.0
Approach LOS	D			B			C
Queue Length 50th (ft)	135	115	33	277	6	117	357
Queue Length 95th (ft)	181	189	72	362	15	166	468
Internal Link Dist (ft)	831			1809			1775
Turn Bay Length (ft)	275	200	325		200	175	
Base Capacity (vph)	560	523	148	2202	1324	434	2389
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.48	0.30	0.55	0.06	0.70	0.64

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 92 (77%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 23.6	Intersection LOS: C
Intersection Capacity Utilization 67.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: U.S. 15-501 & Lystra Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Volume (vph)	134	30	49	55	19	25	4	149	1086	15	73	91	1481	168
Future Volume (vph)	134	30	49	55	19	25	4	149	1086	15	73	91	1481	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		-1%			-5%				1%				-2%	
Storage Length (ft)	485		0	0		0		400		125		400		250
Storage Lanes	1		0	0		0		1		1		1		1
Taper Length (ft)	100			100				100				100		
Satd. Flow (prot)	1778	1698	0	0	1634	0	0	1761	3522	1575	0	1787	3575	1599
Flt Permitted	0.655				0.781			0.063				0.161		
Satd. Flow (perm)	1226	1698	0	0	1312	0	0	117	3522	1575	0	303	3575	1599
Right Turn on Red			Yes			Yes				Yes				Yes
Satd. Flow (RTOR)		52			13					152				171
Link Speed (mph)		35			35				55				55	
Link Distance (ft)		1355			783				545				509	
Travel Time (s)		26.4			15.3				6.8				6.3	
Confl. Peds. (#/hr)														
Confl. Bikes (#/hr)														
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	12%	12%	12%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)														
Mid-Block Traffic (%)		0%			0%				0%				0%	
Shared Lane Traffic (%)														
Lane Group Flow (vph)	141	84	0	0	104	0	0	161	1143	16	0	173	1559	177
Turn Type	D.P+P	NA		Perm	NA		D.P+P	D.P+P	NA	Perm	D.P+P	D.P+P	NA	pm+ov
Protected Phases	7	4			8		5	5	2		1	1	6	7
Permitted Phases	8			8			6	6		2	2	2		6
Detector Phase	7	4		8	8		5	5	2	2	1	1	6	7
Switch Phase														
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	7.0	14.0	14.0	7.0	7.0	14.0	7.0
Minimum Split (s)	15.0	15.0		15.0	15.0		15.0	15.0	22.0	22.0	15.0	15.0	35.5	15.0
Total Split (s)	15.0	45.0		30.0	30.0		15.0	15.0	60.0	60.0	15.0	15.0	60.0	15.0
Total Split (%)	12.5%	37.5%		25.0%	25.0%		12.5%	12.5%	50.0%	50.0%	12.5%	12.5%	50.0%	12.5%
Yellow Time (s)	3.0	3.9		4.2	4.2		3.0	3.0	5.4	5.4	3.0	3.0	5.4	3.0
All-Red Time (s)	3.3	2.7		2.7	2.7		3.5	3.5	1.1	1.1	3.3	3.3	1.1	3.3
Lost Time Adjust (s)	-1.3	-1.6			-1.9			-1.5	-1.5	-1.5		-1.3	-1.5	-1.3
Total Lost Time (s)	5.0	5.0			5.0			5.0	5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead			Lag	Lag		Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	None	C-Max	C-Max	None	None	C-Max	None
Act Effct Green (s)	24.5	29.5			14.7			75.5	64.6	64.6		75.5	63.1	77.9
Actuated g/C Ratio	0.20	0.25			0.12			0.63	0.54	0.54		0.63	0.53	0.65
v/c Ratio	0.48	0.18			0.60			0.66	0.60	0.02		0.53	0.83	0.16
Control Delay	41.9	15.8			57.3			39.8	15.2	0.0		14.7	30.2	2.1
Queue Delay	0.0	0.0			0.0			0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	41.9	15.8			57.3			39.8	15.2	0.0		14.7	30.2	2.1
LOS	D	B			E			D	B	A		B	C	A
Approach Delay		32.2			57.3				18.0				26.2	
Approach LOS		C			E				B				C	
Queue Length 50th (ft)	90	19			68			71	214	0		45	523	2
Queue Length 95th (ft)	138	56			121			m146	283	m0		86	#767	31
Internal Link Dist (ft)		1275			703				465				429	
Turn Bay Length (ft)	485							400		125		400		250
Base Capacity (vph)	298	600			283			248	1897	918		332	1878	1100
Starvation Cap Reductn	0	0			0			0	0	0		0	0	0
Spillback Cap Reductn	0	0			0			0	0	0		0	0	0
Storage Cap Reductn	0	0			0			0	0	0		0	0	0
Reduced v/c Ratio	0.47	0.14			0.37			0.65	0.60	0.02		0.52	0.83	0.16

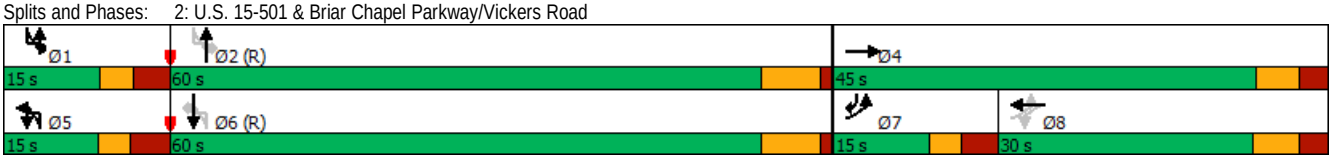
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120

Offset: 12 (10%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 24.5	Intersection LOS: C
Intersection Capacity Utilization 74.2%	ICU Level of Service D
Analysis Period (min) 15	
Description: 08-1090	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: U.S. 15-501 & Briar Chapel Parkway/Vickers Road

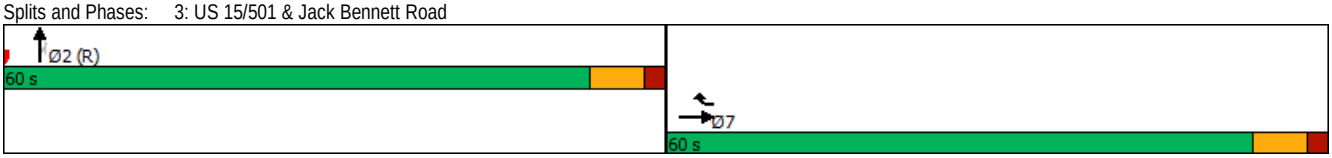


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	188	0	0	0	514	0	1025	164	0	0	0
Future Volume (vph)	0	188	0	0	0	514	0	1025	164	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		450	0		0
Storage Lanes	0		0	0		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	1863	0	0	0	1611	0	3539	1583	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	0	1611	0	3539	1583	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						46			173			
Link Speed (mph)		55			45			55			55	
Link Distance (ft)		123			1272			502			558	
Travel Time (s)		1.5			19.3			6.2			6.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	198	0	0	0	541	0	1079	173	0	0	0
Turn Type		NA				Prot		NA	Perm			
Protected Phases		7				7		2				
Permitted Phases									2			
Detector Phase		7				7		2	2			
Switch Phase												
Minimum Initial (s)		7.0				7.0		12.0	12.0			
Minimum Split (s)		16.0				16.0		19.0	19.0			
Total Split (s)		60.0				60.0		60.0	60.0			
Total Split (%)		50.0%				50.0%		50.0%	50.0%			
Yellow Time (s)		5.0				5.0		5.0	5.0			
All-Red Time (s)		2.0				2.0		2.0	2.0			
Lost Time Adjust (s)		-2.0				-2.0		-2.0	-2.0			
Total Lost Time (s)		5.0				5.0		5.0	5.0			
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		None				None		C-Max	C-Max			
Act Effct Green (s)		45.9				45.9		64.1	64.1			
Actuated g/C Ratio		0.38				0.38		0.53	0.53			
v/c Ratio		0.28				0.84		0.57	0.19			
Control Delay		28.5				42.4		21.6	3.2			
Queue Delay		0.0				0.0		0.0	0.0			
Total Delay		28.5				42.4		21.6	3.2			
LOS		C				D		C	A			
Approach Delay		28.5			42.4			19.1				
Approach LOS		C			D			B				
Queue Length 50th (ft)		142				343		291	0			
Queue Length 95th (ft)		189				441		410	39			
Internal Link Dist (ft)		43			1192			422			478	
Turn Bay Length (ft)									450			
Base Capacity (vph)		853				763		1890	926			
Starvation Cap Reductn		0				0		0	0			
Spillback Cap Reductn		0				0		0	0			
Storage Cap Reductn		0				0		0	0			
Reduced v/c Ratio		0.23				0.71		0.57	0.19			

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 15 (13%), Referenced to phase 2:NBT and 6:, Start of Green	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 26.3	Intersection LOS: C
Intersection Capacity Utilization 116.7%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 3: US 15/501 & Jack Bennett Road



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	187	41	425	291	36	200
Future Volume (vph)	187	41	425	291	36	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			100		100	
Satd. Flow (prot)	1818	0	1770	1863	1637	0
Flt Permitted			0.950		0.992	
Satd. Flow (perm)	1818	0	1770	1863	1637	0
Link Speed (mph)	55			55	45	
Link Distance (ft)	1491			2698	1865	
Travel Time (s)	18.5			33.4	28.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	254	0	472	323	262	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.2%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	11.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	187	41	425	291	36	200
Future Vol, veh/h	187	41	425	291	36	200
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
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	208	46	472	323	40	222

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	254	0	1498	231
Stage 1	-	-	-	-	231	-
Stage 2	-	-	-	-	1267	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1311	-	135	808
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	265	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1311	-	86	808
Mov Cap-2 Maneuver	-	-	-	-	86	-
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	170	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.5	39.3
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	354	-	-	1311	-
HCM Lane V/C Ratio	0.741	-	-	0.36	-
HCM Control Delay (s)	39.3	-	-	9.3	-
HCM Lane LOS	E	-	-	A	-
HCM 95th %tile Q(veh)	5.7	-	-	1.7	-

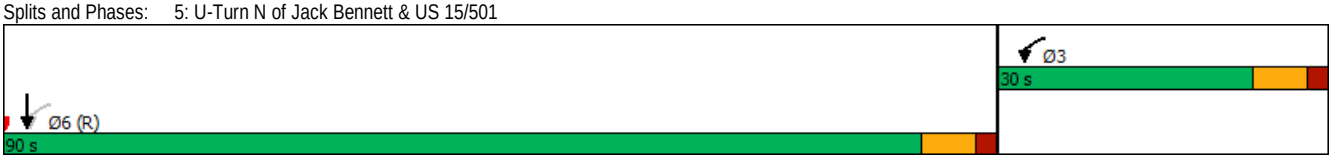
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	341	0	0	0	0	1589
Future Volume (vph)	341	0	0	0	0	1589
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	100				100	
Satd. Flow (prot)	1770	0	0	0	0	3539
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	0	0	3539
Right Turn on Red	Yes	Yes		Yes		
Satd. Flow (RTOR)						
Link Speed (mph)	55		55			55
Link Distance (ft)	43		437			316
Travel Time (s)	0.5		5.4			3.9
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	379	0	0	0	0	1766
Turn Type	pm+pt					NA
Protected Phases	3					6!
Permitted Phases	6!					
Detector Phase	3					6
Switch Phase						
Minimum Initial (s)	7.0					12.0
Minimum Split (s)	16.0					19.0
Total Split (s)	30.0					90.0
Total Split (%)	25.0%					75.0%
Yellow Time (s)	5.0					5.0
All-Red Time (s)	2.0					2.0
Lost Time Adjust (s)	-2.0					-2.0
Total Lost Time (s)	5.0					5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None					C-Max
Act Effct Green (s)	120.0					100.9
Actuated g/C Ratio	1.00					0.84
v/c Ratio	0.21					0.59
Control Delay	0.2					2.6
Queue Delay	0.0					0.2
Total Delay	0.2					2.8
LOS	A					A
Approach Delay	0.2					2.8
Approach LOS	A					A
Queue Length 50th (ft)	0					30
Queue Length 95th (ft)	0					61
Internal Link Dist (ft)	1		357			236
Turn Bay Length (ft)						
Base Capacity (vph)	1770					2974
Starvation Cap Reductn	0					408
Spillback Cap Reductn	0					0
Storage Cap Reductn	0					0
Reduced v/c Ratio	0.21					0.69

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 8 (7%), Referenced to phase 2: and 6:WBSB, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 2.4	Intersection LOS: A
Intersection Capacity Utilization 86.1%	ICU Level of Service E
Analysis Period (min) 15	

! Phase conflict between lane groups.

Splits and Phases: 5: U-Turn N of Jack Bennett & US 15/501



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	34	1244	78	0	1817
Future Volume (vph)	0	34	1244	78	0	1817
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			-2%
Storage Length (ft)	0	0		100	0	
Storage Lanes	0	1		1	0	
Taper Length (ft)	100				100	
Satd. Flow (prot)	0	1611	3539	1583	0	3575
Flt Permitted						
Satd. Flow (perm)	0	1611	3539	1583	0	3575
Link Speed (mph)	25		55			55
Link Distance (ft)	525		509			1215
Travel Time (s)	14.3		6.3			15.1
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	38	1382	87	0	2019
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	34	1244	78	0	1817
Future Vol, veh/h	0	34	1244	78	0	1817
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	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	-2
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	38	1382	87	0	2019

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	691	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	387	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	387	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	387	-
HCM Lane V/C Ratio	-	-	0.098	-
HCM Control Delay (s)	-	-	15.3	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.3	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	15	1272	6	16	1817
Future Volume (vph)	0	15	1272	6	16	1817
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			-2%
Storage Length (ft)	0	0		0	50	
Storage Lanes	0	1		0	1	
Taper Length (ft)	100				100	
Satd. Flow (prot)	0	1611	3536	0	1787	3575
Flt Permitted					0.950	
Satd. Flow (perm)	0	1611	3536	0	1787	3575
Link Speed (mph)	25		55			55
Link Distance (ft)	490		1215			558
Travel Time (s)	13.4		15.1			6.9
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	17	1420	0	18	2019
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		

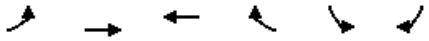
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	15	1272	6	16	1817
Future Vol, veh/h	0	15	1272	6	16	1817
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	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	-2
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	1413	7	18	2019

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	710	0	0	1420	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	0	376	-	-	475	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	376	-	-	475	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	376	475	-
HCM Lane V/C Ratio	-	-	0.044	0.037	-
HCM Control Delay (s)	-	-	15	12.9	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	11	125	51	4	4	49
Future Volume (vph)	11	125	51	4	4	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	-5%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	100				100	
Satd. Flow (prot)	0	1855	1892	0	1623	0
Flt Permitted		0.996			0.997	
Satd. Flow (perm)	0	1855	1892	0	1623	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		783	692		576	
Travel Time (s)		15.3	13.5		15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	151	61	0	58	0
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	125	51	4	4	49
Future Vol, veh/h	11	125	51	4	4	49
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	-5	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	139	57	4	4	54

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	61	0	-	0	222	59
Stage 1	-	-	-	-	59	-
Stage 2	-	-	-	-	163	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1542	-	-	-	766	1007
Stage 1	-	-	-	-	964	-
Stage 2	-	-	-	-	866	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1542	-	-	-	760	1007
Mov Cap-2 Maneuver	-	-	-	-	760	-
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	866	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1542	-	-	-	983
HCM Lane V/C Ratio	0.008	-	-	-	0.06
HCM Control Delay (s)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Appendix I:

H171698 – US 15/501 Conceptual

RCI Corridor Maps (Parsons, March 2018)

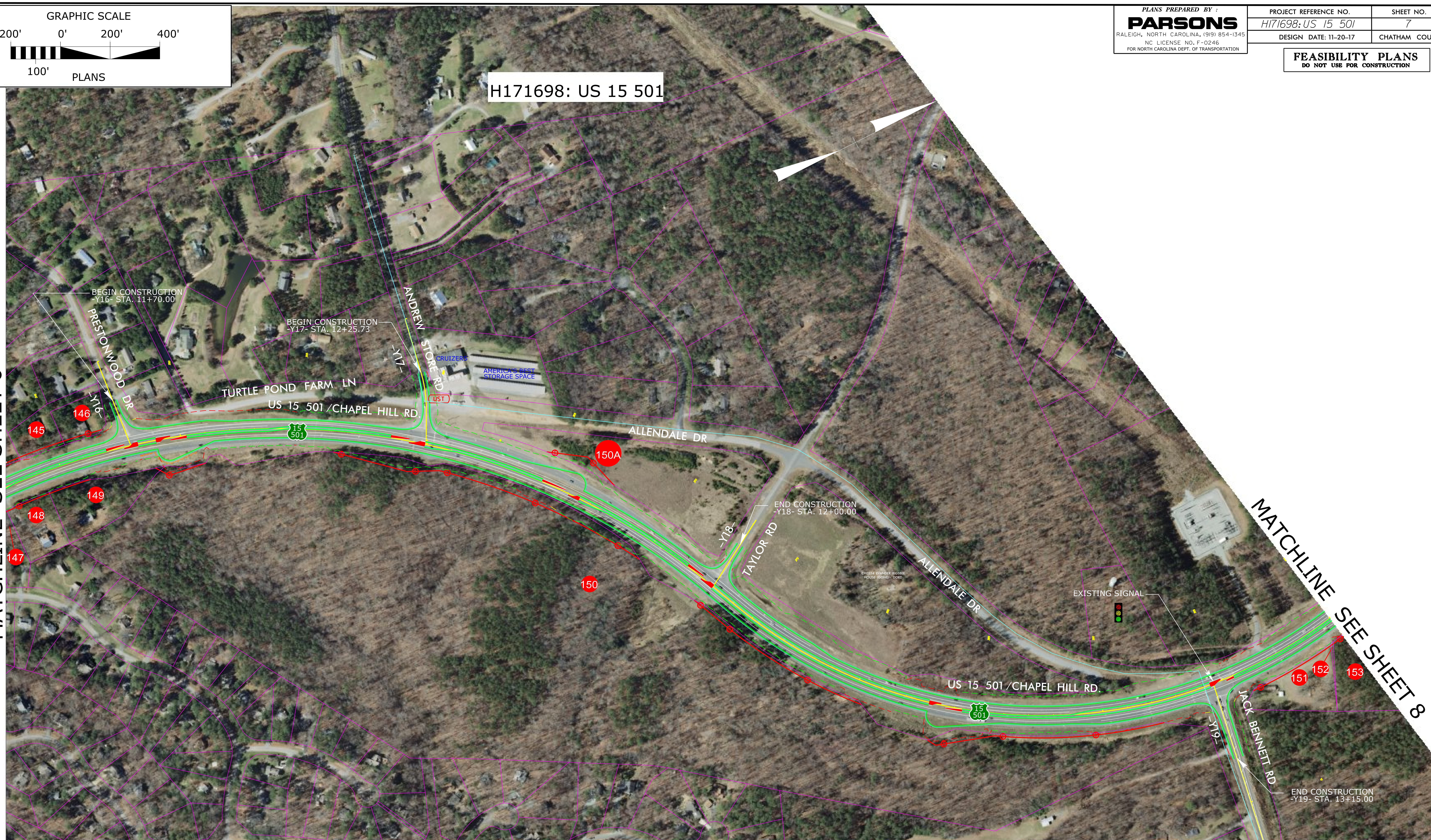
PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

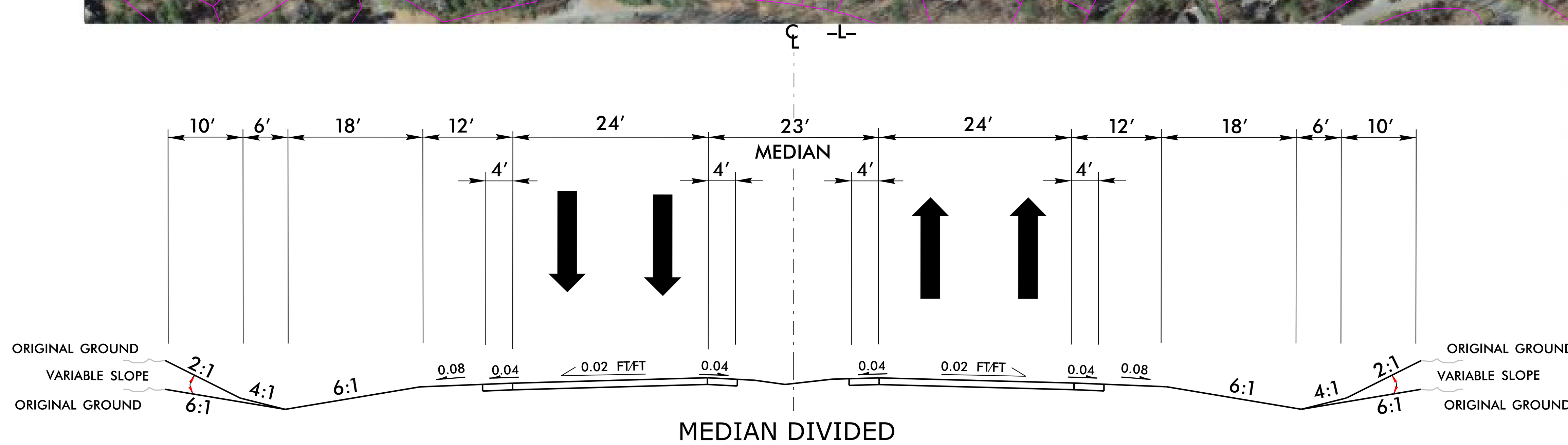
PROJECT REFERENCE NO.	SHEET NO.
H171698: US 15 501	7
DESIGN DATE: 11-20-17	CHATHAM COUNTY

FEASIBILITY PLANS
DO NOT USE FOR CONSTRUCTION

H171698: US 15 501

GRAPHIC SCALE
200' 0' 200' 400'
100'
PLANS





MEDIAN DIVIDED

LEGEND

(magenta line)	EXIST R/W AND PROPERTY LINES
UST	UNDERGROUND STORAGE TANK
(cyan line)	BIKE ROUTE
(signal symbol)	EXISTING TRAFFIC SIGNAL

REVISIONS

8/17/99

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p009962C AT 7MCX3H2

8/17/99

REVISIONS

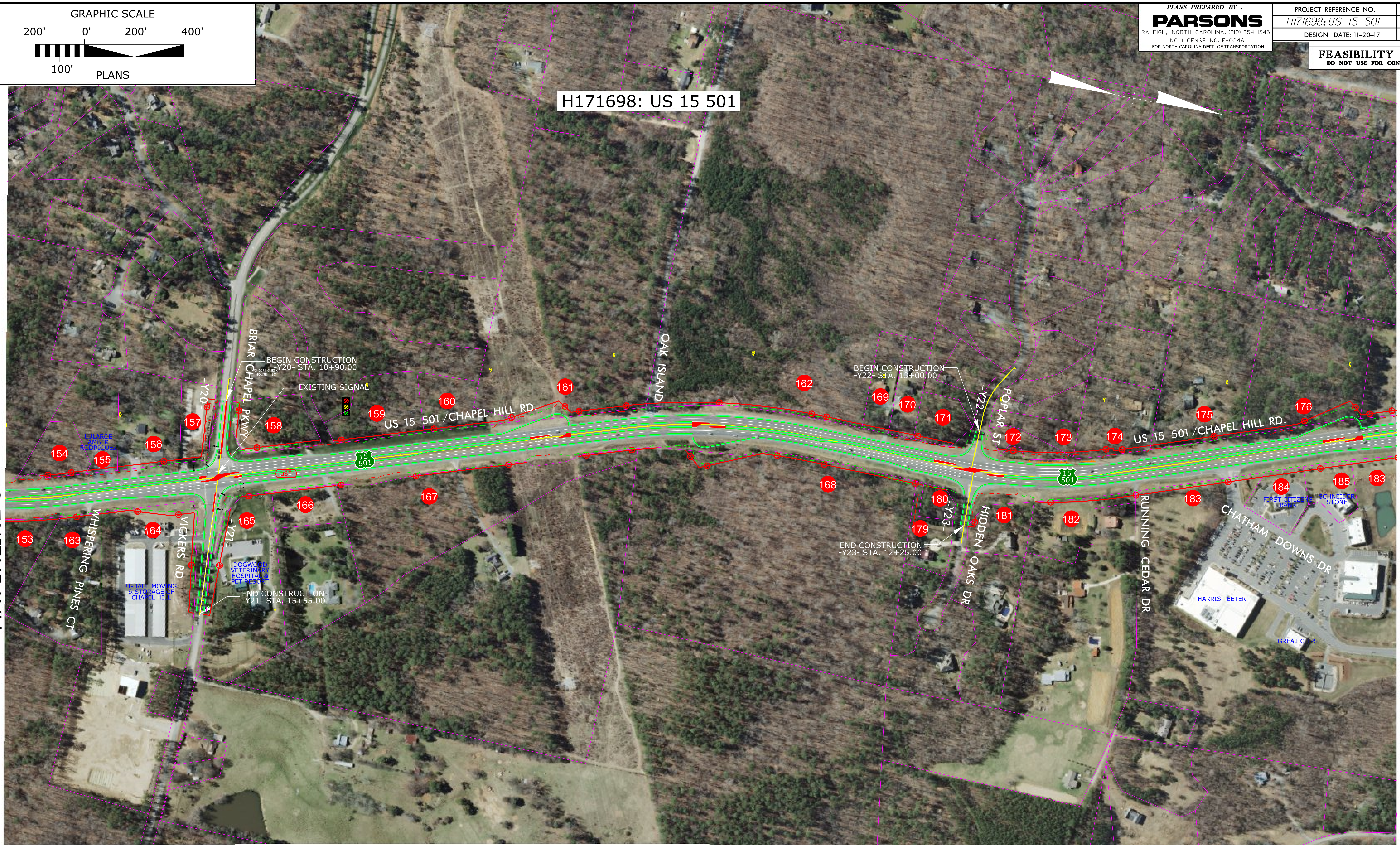
GRAPHIC SCALE
200' 0' 200' 400'
100'
PLANS

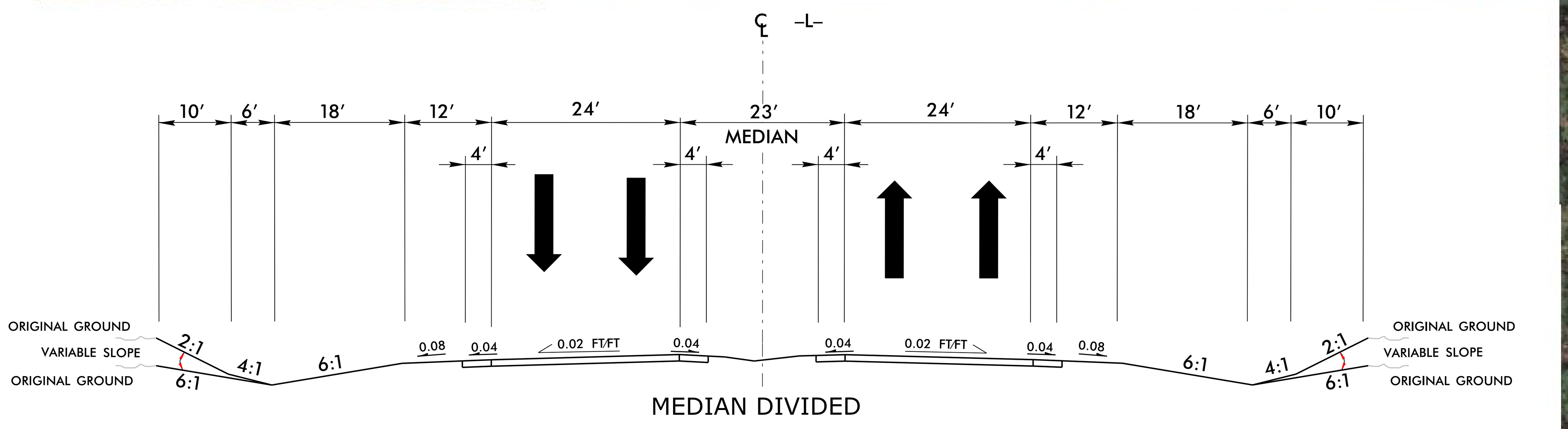
PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
H171698: US 15 501	8
DESIGN DATE: 11-20-17	CHATHAM COUNTY

FEASIBILITY PLANS
DO NOT USE FOR CONSTRUCTION

H171698: US 15 501





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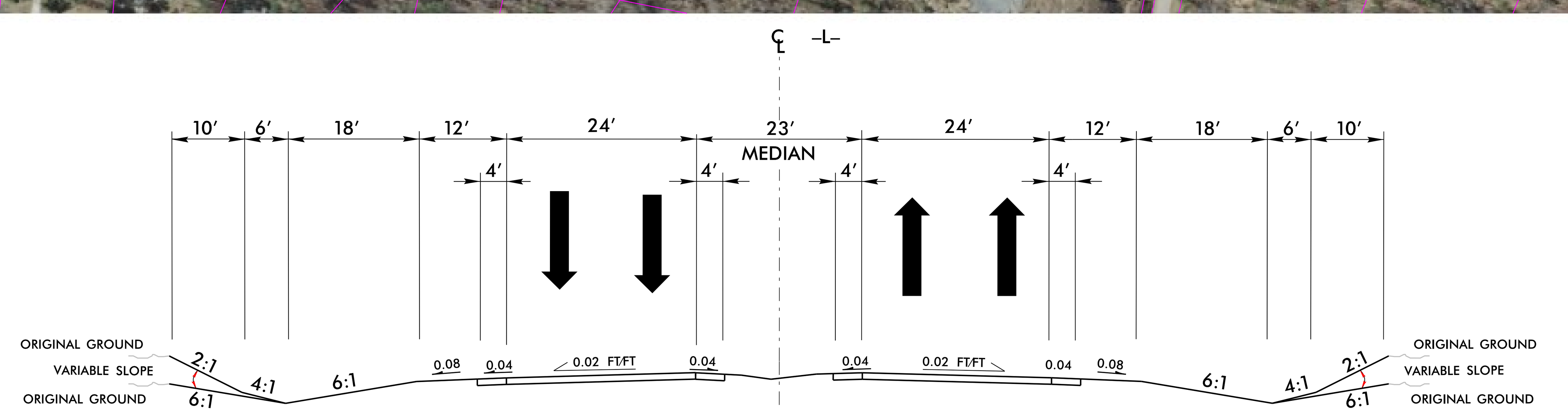
PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
H171698: US 15 501	9
DESIGN DATE: 11-20-17	CHATHAM COUNTY

FEASIBILITY PLANS
DO NOT USE FOR CONSTRUCTION

H171698: US 15 501



MEDIAN DIVIDED

LEGEND

EXIST R/W AND PROPERTY LINES

UST UNDERGROUND STORAGE TANK

EXISTING TRAFFIC SIGNAL

REVISIONS

8/17/99

28-MAR-2018 16:37
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p009962C AT 7MCX3H2

Appendix J:

Intersection Spreadsheets

- Future Year RCI Corridor Scenarios

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #1 - Trad. RCI w/ Left-In North Site Drwy.**
Ct. Date	**1/8/2020**
Ct. Peaks	**AM: 730-830; PM: 445-545**
N/S Street:	**US 15/501**
E/W Street:	**Lystra Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.97

Description	- Eastbound			Lystra Road Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	61	0	129	9	1069	109	168	502	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	0	0	61	0	129	9	1069	109	168	502	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	2	0	3	0	27	3	4	13	0
Committed Projects												
Williams Corner (Updated)	0	0	0	100	0	17	0	149	15	34	29	0
Polks Village (Remaining Portion)	0	0	0	0	0	22	0	34	0	12	38	0
Briar Chapel (Remaining Portion)	0	0	0	17	0	4	0	120	19	0	188	0
Vickers Bennett - Scen. 3	0	0	0	6	0	0	0	64	7	0	50	0
Total Committed Traffic	0	0	0	123	0	43	0	367	41	46	305	0
Superstreet Diversion	0	0	0	-186	0	186	-9	9	0	0	195	0
2025 Background Traffic	0	0	0	0	0	361	0	1472	153	218	1014	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	50%	0%
Inbound Project Traffic	0	0	0	0	0	4	0	0	0	0	44	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	45%	5%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	46	5	0	0	0
Total Project Traffic	0	0	0	0	0	4	0	46	5	0	44	0
2025 Buildout Total	0	0	0	0	0	365	0	1518	158	218	1058	0
Percent Impact (Approach)		-			1.1%			3.0%			3.4%	

Overall Percent Impact 3.0%

PM PEAK HOUR
PM PHF = 0.92

Description	- Eastbound			Lystra Road Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	128	0	193	40	679	31	249	1063	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	0	0	128	0	193	40	679	31	249	1063	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	3	0	5	1	17	1	6	27	0
Committed Projects												
Williams Corner (Updated)	0	0	0	164	0	19	0	144	14	13	40	0
Polks Village (Remaining Portion)	0	0	0	0	0	10	0	32	0	16	32	0
Briar Chapel (Remaining Portion)	0	0	0	20	0	10	0	170	23	0	170	0
Vickers Bennett - Scen. 3	0	0	0	7	0	0	0	58	6	0	63	0
Total Committed Traffic	0	0	0	191	0	39	0	404	43	29	305	0
Superstreet Diversion	0	0	0	-322	0	322	-41	41	0	0	363	0
2025 Background Traffic	0	0	0	0	0	559	0	1141	75	284	1758	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	50%	0%
Inbound Project Traffic	0	0	0	0	0	6	0	0	0	0	56	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	45%	5%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	44	5	0	0	0
Total Project Traffic	0	0	0	0	0	6	0	44	5	0	56	0
2025 Buildout Total	0	0	0	0	0	565	0	1185	80	284	1814	0
Percent Impact (Approach)		-			1.1%			3.9%			2.7%	

Overall Percent Impact 2.8%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #1 - Trad. RCI w/ Left-In North Site Drwy.**
Ct. Date	**2/11/2020**
Ct. Peaks	**AM: 715-815; PM: 430-530**
N/S Street:	**US 15/501**
E/W Street:	**Briar Chapel Parkway/Vickers Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate: 0.5%
Growth Factor: 0.025251

Existing Year: 2020
Buildout Year: 2025

AM PEAK HOUR
AM PHF = 0.96

Description	Briar Chapel Parkway Eastbound			Vickers Road Westbound			US 15/501 Northbound				US 15/501 Southbound			
	Left	Through	Right	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
2020 Traffic Count	116	2	51	11	3	19	5	52	1047	12	22	15	538	27
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	116	2	51	11	3	19	5	52	1047	12	22	15	538	27
Growth Factor (0.005 per year)	0.000	0.000	0.000	0.025	0.000	0.025	0.000	0.000	0.025	0.025	0.000	0.025	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	0	26	0	0	0	14	0
Committed Projects														
Williams Corner (Updated)	0	0	0	0	0	0	0	0	164	0	0	0	129	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	0	34	0	0	0	38	0
Briar Chapel (Remaining Portion)	80	0	38	0	0	0	0	26	59	0	0	0	140	66
Vickers Bennett - Scen. 3	0	0	38	0	0	24	0	23	47	0	0	55	0	0
Total Committed Traffic	80	0	76	0	0	24	0	49	304	0	0	55	307	66
Superstreet Diversion	-196	-2	198	-11	-3	14	0	0	196	2	0	0	11	3
2025 Background Traffic	0	0	325	0	0	57	5	101	1573	14	22	70	870	96
Project Traffic														
Percent Assignment Inbound	0%	0%	10%	0%	0%	0%	0%	0%	45%	5%	30%	5%	0%	0%
Inbound Project Traffic	0	0	9	0	0	0	0	0	40	4	26	4	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%	40%	10%
Outbound Project Traffic	0	0	0	0	0	26	0	0	0	0	0	0	41	10
Total Project Traffic	0	0	9	0	0	26	0	0	40	4	26	4	41	10
2025 Buildout Total	0	0	334	0	0	83	5	101	1613	18	48	74	911	106
Percent Impact (Approach)		2.7%			31.3%				2.5%				7.1%	

Overall Percent Impact 4.9%

PM PEAK HOUR
PM PHF = 0.95

Description	Briar Chapel Parkway Eastbound			Vickers Road Westbound			US 15/501 Northbound				US 15/501 Southbound			
	Left	Through	Right	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
2020 Traffic Count	68	3	26	16	6	12	3	82	652	9	40	15	1107	88
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	68	3	26	16	6	12	3	82	652	9	40	15	1107	88
Growth Factor (0.005 per year)	0.000	0.000	0.000	0.025	0.000	0.025	0.000	0.000	0.025	0.025	0.000	0.025	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	0	16	0	0	0	28	0
Committed Projects														
Williams Corner (Updated)	0	0	0	0	0	0	0	0	158	0	0	0	204	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	0	32	0	0	0	32	0
Briar Chapel (Remaining Portion)	55	0	23	0	0	0	0	35	138	0	0	0	110	80
Vickers Bennett - Scen. 3	0	0	27	0	0	13	0	38	51	0	0	70	0	0
Total Committed Traffic	55	0	50	0	0	13	0	73	379	0	0	70	346	80
Superstreet Diversion	-123	-3	126	-16	-6	22	0	0	123	3	0	0	16	6
2025 Background Traffic	0	0	202	0	0	47	3	155	1170	12	40	85	1497	174
Project Traffic														
Percent Assignment Inbound	0%	0%	10%	0%	0%	0%	0%	0%	45%	5%	30%	5%	0%	0%
Inbound Project Traffic	0	0	11	0	0	0	0	0	50	6	33	6	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%	40%	10%
Outbound Project Traffic	0	0	0	0	0	25	0	0	0	0	0	0	39	10
Total Project Traffic	0	0	11	0	0	25	0	0	50	6	33	6	39	10
2025 Buildout Total	0	0	213	0	0	72	3	155	1220	18	73	91	1536	184
Percent Impact (Approach)		5.2%			34.7%				4.0%				4.7%	

Overall Percent Impact 5.0%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #1 - Trad. RCI w/ Left-In North Site Drwy.**
Ct. Date	**2/11/2020**
Ct. Peaks	**AM: 715-841; PM: 430-530**
N/S Street:	**US 15/501**
E/W Street:	**Jack Bennett Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.96

Description	- Eastbound			Jack Bennett Road Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	199	0	103	0	1013	236	72	535	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	0	0	199	0	103	0	1013	236	72	535	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	5	0	3	0	26	6	2	14	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	41	0	123	0	32	97	0
Polks Village (Remaining Portion)	0	0	0	0	0	9	0	26	0	10	29	0
Briar Chapel (Remaining Portion)	0	0	0	13	0	13	0	72	19	4	174	0
Vickers Bennett - Scen. 3	0	0	0	0	0	55	0	41	6	38	48	0
Total Committed Traffic	0	0	0	13	0	118	0	262	25	84	347	0
Superstreet Diversion	0	0	0	-217	0	217	0	0	0	0	217	0
2025 Background Traffic	0	0	0	0	0	441	0	1301	267	158	1113	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	5%	0%	35%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	0	0	4	0	31	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	35%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	5	36	0
Total Project Traffic	0	0	0	0	0	4	0	31	0	5	36	0
2025 Buildout Total	0	0	0	0	0	445	0	1332	267	163	1149	0
Percent Impact (Approach)		-			0.9%			1.9%			3.1%	

Overall Percent Impact 2.3%

PM PEAK HOUR
PM PHF = 0.95

Description	- Eastbound			Jack Bennett Road Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	223	0	116	0	616	122	92	1031	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	0	0	223	0	116	0	616	122	92	1031	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	6	0	3	0	16	3	2	26	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	40	0	119	0	51	153	0
Polks Village (Remaining Portion)	0	0	0	0	0	8	0	24	0	8	24	0
Briar Chapel (Remaining Portion)	0	0	0	20	0	10	14	163	23	5	128	0
Vickers Bennett - Scen. 3	0	0	0	0	0	82	0	34	16	52	53	0
Total Committed Traffic	0	0	0	20	0	140	14	340	39	116	358	0
Superstreet Diversion	0	0	0	-249	0	249	-14	14	0	0	263	0
2025 Background Traffic	0	0	0	0	0	508	0	986	164	210	1678	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	5%	0%	35%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	0	0	6	0	39	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	35%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	5	34	0
Total Project Traffic	0	0	0	0	0	6	0	39	0	5	34	0
2025 Buildout Total	0	0	0	0	0	514	0	1025	164	215	1712	0
Percent Impact (Approach)		-			1.2%			3.3%			2.0%	

Overall Percent Impact 2.3%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #1 - Trad. RCI w/ Left-In North Site Drwy.**
Ct. Date	**2/11/2020**
Ct. Peaks	**AM: 730-830; PM: 500-600**
N/S Street:	**Jack Bennett Road**
E/W Street:	**Lystra Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.77

Description	Lystra Road Eastbound			Lystra Road Westbound			Jack Bennett Road Northbound			Jack Bennett Road Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	316	81	179	162	0	75	0	374	0	0	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	316	81	179	162	0	75	0	374	0	0	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	8	2	5	4	0	2	0	9	0	0	0
Committed Projects												
Williams Corner (Updated)	0	29	0	0	37	0	0	0	0	0	0	0
Polks Village (Remaining Portion)	0	12	0	0	22	0	0	0	0	0	0	0
Briar Chapel (Remaining Portion)	0	19	0	26	22	0	0	0	23	0	0	0
Vickers Bennett - Scen. 3	0	0	15	23	0	0	7	0	31	0	0	0
Total Committed Traffic	0	60	15	49	81	0	7	0	54	0	0	0
2025 Background Traffic	0	384	98	233	247	0	84	0	437	0	0	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	4	0	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	5	0	0	0
Total Project Traffic	0	0	0	4	0	0	0	0	5	0	0	0
2025 Buildout Total	0	384	98	237	247	0	84	0	442	0	0	0
Percent Impact (Approach)		0.0%			0.8%			1.0%			-	

Overall Percent Impact 0.6%

PM PEAK HOUR
PM PHF = 0.90

Description	Lystra Road Eastbound			Lystra Road Westbound			Jack Bennett Road Northbound			Jack Bennett Road Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	120	31	349	202	0	20	0	137	0	0	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	120	31	349	202	0	20	0	137	0	0	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	3	1	9	5	0	1	0	3	0	0	0
Committed Projects												
Williams Corner (Updated)	0	29	0	0	37	0	0	0	0	0	0	0
Polks Village (Remaining Portion)	0	12	0	0	22	0	0	0	0	0	0	0
Briar Chapel (Remaining Portion)	0	23	0	30	25	0	0	0	28	0	0	0
Vickers Bennett - Scen. 3	0	0	9	31	0	0	15	0	27	0	0	0
Total Committed Traffic	0	64	9	61	84	0	15	0	55	0	0	0
2025 Background Traffic	0	187	41	419	291	0	36	0	195	0	0	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	6	0	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	5	0	0	0
Total Project Traffic	0	0	0	6	0	0	0	0	5	0	0	0
2025 Buildout Total	0	187	41	425	291	0	36	0	200	0	0	0
Percent Impact (Approach)		0.0%			0.8%			2.1%			-	

Overall Percent Impact 0.9%

INTERSECTION ANALYSIS SHEET

		AM In	AM Out	PM In	PM Out
Project:	**Herndon Farm**	**Net New Trips:**	88	103	111	98
Location:	**Chatham County, NC**	**Pass-By Trips:**	0	0	0	0
Scenario:	**RCI Alt. #1 - Trad. RCI w/ Left-In North Site Drwy.**					
Ct. Date	**Balanced with 15/501 at Briar Chapel/Vickers**					
Ct. Peaks	**AM: 715-841; PM: 430-530**					
N/S Street:	**US 15/501**	**Annual Growth Rate:**	0.5%	**Existing Year:**	2020	
E/W Street:	**U-Turn North of Jack Bennett/South of Vickers**	**Growth Factor:**	0.025251	**Buildout Year:**	2025	

AM PEAK HOUR
AM PHF = 0.90

Description	U-Turn Bulb-outs Eastbound			U-Turn Bulb-outs Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Through	Right	U-Turn	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	1116	0	0	605	0
2020 Existing Traffic	0	0	0	0	0	0	0	1116	0	0	605	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	0	0	0	0	28	0	0	15	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	164	0	0	129	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	34	0	0	38	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	85	0	0	178	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	48	70	0	0	38	0
Total Committed Traffic	0	0	0	0	0	0	48	353	0	0	383	0
Superstreet Diversion	0	0	0	0	0	0	217	0	0	198	0	0
2025 Background Traffic	0	0	0	0	0	0	265	1497	0	198	1003	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	40%	0%	10%	0%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	35	0	9	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	0	41	0
Total Project Traffic	0	0	0	0	0	0	0	35	0	9	41	0
2025 Buildout Total	0	0	0	0	0	0	265	1532	0	207	1044	0
Percent Impact (Approach)		-			-			1.9%			4.0%	

Overall Percent Impact 2.8%

PM PEAK HOUR
PM PHF = 0.90

Description	U-Turn Bulb-outs Eastbound			U-Turn Bulb-outs Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	746	0	0	1152	0
2020 Existing Traffic	0	0	0	0	0	0	0	746	0	0	1152	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	0	0	0	0	19	0	0	29	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	158	0	0	204	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	32	0	0	32	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	173	0	0	133	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	78	89	0	0	27	0
Total Committed Traffic	0	0	0	0	0	0	78	452	0	0	396	0
Superstreet Diversion	0	0	0	0	0	0	263	0	0	126	0	0
2025 Background Traffic	0	0	0	0	0	0	341	1217	0	126	1577	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	40%	0%	10%	0%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	44	0	11	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	0	39	0
Total Project Traffic	0	0	0	0	0	0	0	44	0	11	39	0
2025 Buildout Total	0	0	0	0	0	0	341	1261	0	137	1616	0
Percent Impact (Approach)		-			-			2.7%			2.9%	

Overall Percent Impact 2.8%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #1 - Trad. RCI w/ Left-In North Site Drwy.**
Ct. Date	**Balanced with 15/501 @ Vickers**
N/S Street:	**US 15/501**
E/W Street:	**U-Turn North of Vickers**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	- Eastbound			U-Turn North of Vickers Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	1204	0	0	602	0
2020 Existing Traffic	0	0	0	0	0	0	0	1204	0	0	602	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	30	0	0	15	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	164	0	0	129	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	34	0	0	38	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	139	0	0	205	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	0	71	0	0	55	0
Total Committed Traffic	0	0	0	0	0	0	0	408	0	0	427	0
Superstreet Diversion	0	0	0	0	0	0	14	0	0	0	0	0
2025 Background Traffic	0	0	0	0	0	0	14	1642	0	0	1044	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	35%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	4	0	0	31	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	50%	35%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	52	36	0	0	0	0
Total Project Traffic	0	0	0	0	0	0	52	40	0	0	31	0
2025 Buildout Total	0	0	0	0	0	0	66	1682	0	0	1075	0
Percent Impact (Approach)		-			-			5.3%			2.9%	

Overall Percent Impact 4.4%

PM PEAK HOUR
PM PHF = 0.90

Description	- Eastbound			U-Turn North of Vickers Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	772	0	0	1250	0
2020 Existing Traffic	0	0	0	0	0	0	0	772	0	0	1250	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	19	0	0	32	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	158	0	0	204	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	32	0	0	32	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	193	0	0	190	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	0	64	0	0	70	0
Total Committed Traffic	0	0	0	0	0	0	0	447	0	0	496	0
Superstreet Diversion	0	0	0	0	0	0	22	0	0	0	0	0
2025 Background Traffic	0	0	0	0	0	0	22	1238	0	0	1778	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	35%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	6	0	0	39	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	50%	35%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	49	34	0	0	0	0
Total Project Traffic	0	0	0	0	0	0	49	40	0	0	39	0
2025 Buildout Total	0	0	0	0	0	0	71	1278	0	0	1817	0
Percent Impact (Approach)		-			-			6.6%			2.1%	

Overall Percent Impact 4.0%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #1 - Trad. RCI w/ Left-In North Site Drwy.**
Ct. Date	**Balanced with 15/501 @ Vickers**
N/S Street:	**US 15/501**
E/W Street:	**South Site Driveway (RI/RO)**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	- Eastbound			South Site Driveway (RI/RO) Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	1204	0	0	602	0
2020 Existing Traffic	0	0	0	0	0	0	0	1204	0	0	602	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	30	0	0	15	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	164	0	0	129	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	34	0	0	38	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	139	0	0	205	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	0	71	0	0	55	0
Total Committed Traffic	0	0	0	0	0	0	0	408	0	0	427	0
Superstreet Diversion	0	0	0	0	0	0	0	14	0	0	0	0
2025 Background Traffic	0	0	0	0	0	0	0	1656	0	0	1044	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	5%	70%	0%	35%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	4	62	0	31	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	60%	0%	25%	0%	0%	50%	0%
Outbound Project Traffic	0	0	0	0	0	62	0	26	0	0	52	0
Total Project Traffic	0	0	0	0	0	62	0	30	62	0	83	0
2025 Buildout Total	0	0	0	0	0	62	0	1686	62	0	1127	0
Percent Impact (Approach)		-			100.0%			5.3%			7.4%	

Overall Percent Impact 8.1%

PM PEAK HOUR
PM PHF = 0.90

Description	- Eastbound			South Site Driveway (RI/RO) Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	772	0	0	1250	0
2020 Existing Traffic	0	0	0	0	0	0	0	772	0	0	1250	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	19	0	0	32	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	158	0	0	204	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	32	0	0	32	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	193	0	0	190	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	0	64	0	0	70	0
Total Committed Traffic	0	0	0	0	0	0	0	447	0	0	496	0
Superstreet Diversion	0	0	0	0	0	0	0	22	0	0	0	0
2025 Background Traffic	0	0	0	0	0	0	0	1260	0	0	1778	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	5%	70%	0%	35%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	6	78	0	39	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	60%	0%	25%	0%	0%	50%	0%
Outbound Project Traffic	0	0	0	0	0	59	0	25	0	0	49	0
Total Project Traffic	0	0	0	0	0	59	0	31	78	0	88	0
2025 Buildout Total	0	0	0	0	0	59	0	1291	78	0	1866	0
Percent Impact (Approach)		-			100.0%			8.0%			4.7%	

Overall Percent Impact 7.8%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #1 - Trad. RCI w/ Left-In North Site Drwy.**
Ct. Date	**Balanced with 15/501 @ Vickers**
N/S Street:	**US 15/501**
E/W Street:	**North Site Driveway (Left-in)**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	- Eastbound			North Site Driveway (Left-in) Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	1204	0	0	602	0
2020 Existing Traffic	0	0	0	0	0	0	0	1204	0	0	602	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	30	0	0	15	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	164	0	0	129	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	34	0	0	38	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	139	0	0	205	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	0	71	0	0	55	0
Total Committed Traffic	0	0	0	0	0	0	0	408	0	0	427	0
2025 Background Traffic	0	0	0	0	0	0	0	1642	0	0	1044	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	0%	5%	15%	35%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	0	4	13	31	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	15%	0%	35%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	15	0	36	0	0	0	0
Total Project Traffic	0	0	0	0	0	15	0	36	4	13	31	0
2025 Buildout Total	0	0	0	0	0	15	0	1678	4	13	1075	0
Percent Impact (Approach)		-			100.0%			2.4%			4.0%	

Overall Percent Impact 3.6%

PM PEAK HOUR
PM PHF = 0.90

Description	- Eastbound			North Site Driveway (Left-in) Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	772	0	0	1250	0
2020 Existing Traffic	0	0	0	0	0	0	0	772	0	0	1250	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	19	0	0	32	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	158	0	0	204	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	32	0	0	32	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	193	0	0	190	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	0	64	0	0	70	0
Total Committed Traffic	0	0	0	0	0	0	0	447	0	0	496	0
2025 Background Traffic	0	0	0	0	0	0	0	1238	0	0	1778	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	0%	5%	15%	35%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	0	6	16	39	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	15%	0%	35%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	15	0	34	0	0	0	0
Total Project Traffic	0	0	0	0	0	15	0	34	6	16	39	0
2025 Buildout Total	0	0	0	0	0	15	0	1272	6	16	1817	0
Percent Impact (Approach)		-			100.0%			3.1%			3.0%	

Overall Percent Impact 3.5%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #1 - Trad. RCI w/ Left-In North Site Drwy.**
Ct. Date	**Balanced with 15/501 @ Vickers**
N/S Street:	**Site Driveway**
E/W Street:	**Vickers Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	Vickers Road Eastbound			Vickers Road Westbound			Site Driveway Northbound			Site Driveway Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	29	0	0	33	0	0	0	0	0	0	0
2020 Existing Traffic	0	29	0	0	33	0	0	0	0	0	0	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	1	0	0	1	0	0	0	0	0	0	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	0	0	0	0	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	0	0	0	0	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	0	0	0	0	0
Vickers Bennett - Scen. 3	0	55	0	0	24	0	0	0	0	0	0	0
Total Committed Traffic	0	55	0	0	24	0	0	0	0	0	0	0
2025 Background Traffic	0	85	0	0	58	0	0	0	0	0	0	0
Project Traffic												
Percent Assignment Inbound	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	9	0	0	0	0	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	0	0	26
Total Project Traffic	9	0	0	0	0	0	0	0	0	0	0	26
2025 Buildout Total	9	85	0	0	58	0	0	0	0	0	0	26
Percent Impact (Approach)		9.6%			0.0%			-			100.0%	

Overall Percent Impact 19.7%

PM PEAK HOUR
PM PHF = 0.90

Description	Vickers Road Eastbound			Vickers Road Westbound			Site Driveway Northbound			Site Driveway Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	27	0	0	34	0	0	0	0	0	0	0
2020 Existing Traffic	0	27	0	0	34	0	0	0	0	0	0	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	1	0	0	1	0	0	0	0	0	0	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	0	0	0	0	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	0	0	0	0	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	0	0	0	0	0
Vickers Bennett - Scen. 3	0	70	0	0	13	0	0	0	0	0	0	0
Total Committed Traffic	0	70	0	0	13	0	0	0	0	0	0	0
2025 Background Traffic	0	98	0	0	48	0	0	0	0	0	0	0
Project Traffic												
Percent Assignment Inbound	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	11	0	0	0	0	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	0	0	25
Total Project Traffic	11	0	0	0	0	0	0	0	0	0	0	25
2025 Buildout Total	11	98	0	0	48	0	0	0	0	0	0	25
Percent Impact (Approach)		10.1%			0.0%			-			100.0%	

Overall Percent Impact 19.8%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #2 - Trad. RCI w/ RIRO North Site Drwy.**
Ct. Date	**1/8/2020**
Ct. Peaks	**AM: 730-830; PM: 445-545**
N/S Street:	**US 15/501**
E/W Street:	**Lystra Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.97

Description	- Eastbound			Lystra Road Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	61	0	129	9	1069	109	168	502	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	0	0	61	0	129	9	1069	109	168	502	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	2	0	3	0	27	3	4	13	0
Committed Projects												
Williams Corner (Updated)	0	0	0	100	0	17	0	149	15	34	29	0
Polks Village (Remaining Portion)	0	0	0	0	0	22	0	34	0	12	38	0
Briar Chapel (Remaining Portion)	0	0	0	17	0	4	0	120	19	0	188	0
Vickers Bennett - Scen. 3	0	0	0	6	0	0	0	64	7	0	50	0
Total Committed Traffic	0	0	0	123	0	43	0	367	41	46	305	0
Superstreet Diversion	0	0	0	-186	0	186	-9	9	0	0	195	0
2025 Background Traffic	0	0	0	0	0	361	0	1472	153	218	1014	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	50%	0%
Inbound Project Traffic	0	0	0	0	0	4	0	0	0	0	44	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	45%	5%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	46	5	0	0	0
Total Project Traffic	0	0	0	0	0	4	0	46	5	0	44	0
2025 Buildout Total	0	0	0	0	0	365	0	1518	158	218	1058	0
Percent Impact (Approach)		-			1.1%			3.0%			3.4%	

Overall Percent Impact 3.0%

PM PEAK HOUR
PM PHF = 0.92

Description	- Eastbound			Lystra Road Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	128	0	193	40	679	31	249	1063	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	0	0	128	0	193	40	679	31	249	1063	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	3	0	5	1	17	1	6	27	0
Committed Projects												
Williams Corner (Updated)	0	0	0	164	0	19	0	144	14	13	40	0
Polks Village (Remaining Portion)	0	0	0	0	0	10	0	32	0	16	32	0
Briar Chapel (Remaining Portion)	0	0	0	20	0	10	0	170	23	0	170	0
Vickers Bennett - Scen. 3	0	0	0	7	0	0	0	58	6	0	63	0
Total Committed Traffic	0	0	0	191	0	39	0	404	43	29	305	0
Superstreet Diversion	0	0	0	-322	0	322	-41	41	0	0	363	0
2025 Background Traffic	0	0	0	0	0	559	0	1141	75	284	1758	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	50%	0%
Inbound Project Traffic	0	0	0	0	0	6	0	0	0	0	56	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	45%	5%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	44	5	0	0	0
Total Project Traffic	0	0	0	0	0	6	0	44	5	0	56	0
2025 Buildout Total	0	0	0	0	0	565	0	1185	80	284	1814	0
Percent Impact (Approach)		-			1.1%			3.9%			2.7%	

Overall Percent Impact 2.8%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #2 - Trad. RCI w/ RIRO North Site Drwy.**
Ct. Date	**2/11/2020**
Ct. Peaks	**AM: 715-815; PM: 430-530**
N/S Street:	**US 15/501**
E/W Street:	**Briar Chapel Parkway/Vickers Road**

	AM In	**AM Out**	**PM In**	**PM Out**
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate: 0.5%
Growth Factor: 0.025251

Existing Year: 2020
Buildout Year: 2025

AM PEAK HOUR
AM PHF = 0.96

	Briar Chapel Parkway Eastbound			Vickers Road Westbound			US 15/501 Northbound				US 15/501 Southbound			
Description	Left	Through	Right	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
2020 Traffic Count	116	2	51	11	3	19	5	52	1047	12	22	15	538	27
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	116	2	51	11	3	19	5	52	1047	12	22	15	538	27
Growth Factor (0.005 per year)	0.000	0.000	0.000	0.025	0.000	0.025	0.000	0.000	0.025	0.025	0.000	0.025	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	0	26	0	0	0	14	0
Committed Projects														
Williams Corner (Updated)	0	0	0	0	0	0	0	0	164	0	0	0	129	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	0	34	0	0	0	38	0
Briar Chapel (Remaining Portion)	80	0	38	0	0	0	0	26	59	0	0	0	140	66
Vickers Bennett - Scen. 3	0	0	38	0	0	24	0	23	47	0	0	55	0	0
Total Committed Traffic	80	0	76	0	0	24	0	49	304	0	0	55	307	66
Superstreet Diversion	-196	-2	198	-11	-3	14	0	0	196	2	0	0	11	3
2025 Background Traffic	0	0	325	0	0	57	5	101	1573	14	22	70	870	96
Project Traffic														
Percent Assignment Inbound	0%	0%	10%	0%	0%	0%	0%	0%	45%	5%	40%	10%	0%	0%
Inbound Project Traffic	0	0	9	0	0	0	0	0	40	4	35	9	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%	40%	10%
Outbound Project Traffic	0	0	0	0	0	26	0	0	0	0	0	0	41	10
Total Project Traffic	0	0	9	0	0	26	0	0	40	4	35	9	41	10
2025 Buildout Total	0	0	334	0	0	83	5	101	1613	18	57	79	911	106
Percent Impact (Approach)		2.7%			31.3%				2.5%				8.2%	

Overall Percent Impact 5.3%

PM PEAK HOUR
PM PHF = 0.95

	Briar Chapel Parkway Eastbound			Vickers Road Westbound			US 15/501 Northbound				US 15/501 Southbound			
Description	Left	Through	Right	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
2020 Traffic Count	68	3	26	16	6	12	3	82	652	9	40	15	1107	88
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	68	3	26	16	6	12	3	82	652	9	40	15	1107	88
Growth Factor (0.005 per year)	0.000	0.000	0.000	0.025	0.000	0.025	0.000	0.000	0.025	0.025	0.000	0.025	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	0	16	0	0	0	28	0
Committed Projects														
Williams Corner (Updated)	0	0	0	0	0	0	0	0	158	0	0	0	204	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	0	32	0	0	0	32	0
Briar Chapel (Remaining Portion)	55	0	23	0	0	0	0	35	138	0	0	0	110	80
Vickers Bennett - Scen. 3	0	0	27	0	0	13	0	38	51	0	0	70	0	0
Total Committed Traffic	55	0	50	0	0	13	0	73	379	0	0	70	346	80
Superstreet Diversion	-123	-3	126	-16	-6	22	0	0	123	3	0	0	16	6
2025 Background Traffic	0	0	202	0	0	47	3	155	1170	12	40	85	1497	174
Project Traffic														
Percent Assignment Inbound	0%	0%	10%	0%	0%	0%	0%	0%	45%	5%	40%	10%	0%	0%
Inbound Project Traffic	0	0	11	0	0	0	0	0	50	6	44	11	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%	40%	10%
Outbound Project Traffic	0	0	0	0	0	25	0	0	0	0	0	0	39	10
Total Project Traffic	0	0	11	0	0	25	0	0	50	6	44	11	39	10
2025 Buildout Total	0	0	213	0	0	72	3	155	1220	18	84	96	1536	184
Percent Impact (Approach)		5.2%			34.7%				4.0%				5.5%	

Overall Percent Impact 5.5%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #2 - Trad. RCI w/ RIRO North Site Drwy.**
Ct. Date	**2/11/2020**
Ct. Peaks	**AM: 715-841; PM: 430-530**
N/S Street:	**US 15/501**
E/W Street:	**Jack Bennett Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.96

Description	- Eastbound			Jack Bennett Road Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	199	0	103	0	1013	236	72	535	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	0	0	199	0	103	0	1013	236	72	535	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	5	0	3	0	26	6	2	14	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	41	0	123	0	32	97	0
Polks Village (Remaining Portion)	0	0	0	0	0	9	0	26	0	10	29	0
Briar Chapel (Remaining Portion)	0	0	0	13	0	13	0	72	19	4	174	0
Vickers Bennett - Scen. 3	0	0	0	0	0	55	0	41	6	38	48	0
Total Committed Traffic	0	0	0	13	0	118	0	262	25	84	347	0
Superstreet Diversion	0	0	0	-217	0	217	0	0	0	0	217	0
2025 Background Traffic	0	0	0	0	0	441	0	1301	267	158	1113	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	5%	0%	35%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	0	0	4	0	31	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	35%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	5	36	0
Total Project Traffic	0	0	0	0	0	4	0	31	0	5	36	0
2025 Buildout Total	0	0	0	0	0	445	0	1332	267	163	1149	0
Percent Impact (Approach)		-			0.9%			1.9%			3.1%	

Overall Percent Impact 2.3%

PM PEAK HOUR
PM PHF = 0.95

Description	- Eastbound			Jack Bennett Road Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	U-Turn	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	223	0	116	0	616	122	92	1031	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	0	0	223	0	116	0	616	122	92	1031	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	6	0	3	0	16	3	2	26	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	40	0	119	0	51	153	0
Polks Village (Remaining Portion)	0	0	0	0	0	8	0	24	0	8	24	0
Briar Chapel (Remaining Portion)	0	0	0	20	0	10	14	163	23	5	128	0
Vickers Bennett - Scen. 3	0	0	0	0	0	82	0	34	16	52	53	0
Total Committed Traffic	0	0	0	20	0	140	14	340	39	116	358	0
Superstreet Diversion	0	0	0	-249	0	249	-14	14	0	0	263	0
2025 Background Traffic	0	0	0	0	0	508	0	986	164	210	1678	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	5%	0%	35%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	0	0	6	0	39	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	35%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	5	34	0
Total Project Traffic	0	0	0	0	0	6	0	39	0	5	34	0
2025 Buildout Total	0	0	0	0	0	514	0	1025	164	215	1712	0
Percent Impact (Approach)		-			1.2%			3.3%			2.0%	

Overall Percent Impact 2.3%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #2 - Trad. RCI w/ RIRO North Site Drwy.**
Ct. Date	**2/11/2020**
Ct. Peaks	**AM: 730-830; PM: 500-600**
N/S Street:	**Jack Bennett Road**
E/W Street:	**Lystra Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.77

Description	Lystra Road Eastbound			Lystra Road Westbound			Jack Bennett Road Northbound			Jack Bennett Road Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	316	81	179	162	0	75	0	374	0	0	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	316	81	179	162	0	75	0	374	0	0	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	8	2	5	4	0	2	0	9	0	0	0
Committed Projects												
Williams Corner (Updated)	0	29	0	0	37	0	0	0	0	0	0	0
Polks Village (Remaining Portion)	0	12	0	0	22	0	0	0	0	0	0	0
Briar Chapel (Remaining Portion)	0	19	0	26	22	0	0	0	23	0	0	0
Vickers Bennett - Scen. 3	0	0	15	23	0	0	7	0	31	0	0	0
Total Committed Traffic	0	60	15	49	81	0	7	0	54	0	0	0
2025 Background Traffic	0	384	98	233	247	0	84	0	437	0	0	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	4	0	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	5	0	0	0
Total Project Traffic	0	0	0	4	0	0	0	0	5	0	0	0
2025 Buildout Total	0	384	98	237	247	0	84	0	442	0	0	0
Percent Impact (Approach)		0.0%			0.8%			1.0%			-	

Overall Percent Impact 0.6%

PM PEAK HOUR
PM PHF = 0.90

Description	Lystra Road Eastbound			Lystra Road Westbound			Jack Bennett Road Northbound			Jack Bennett Road Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	120	31	349	202	0	20	0	137	0	0	0
Count Balancing	0	0	0	0	0	0	0	0	0	0	0	0
2020 Existing Traffic	0	120	31	349	202	0	20	0	137	0	0	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	3	1	9	5	0	1	0	3	0	0	0
Committed Projects												
Williams Corner (Updated)	0	29	0	0	37	0	0	0	0	0	0	0
Polks Village (Remaining Portion)	0	12	0	0	22	0	0	0	0	0	0	0
Briar Chapel (Remaining Portion)	0	23	0	30	25	0	0	0	28	0	0	0
Vickers Bennett - Scen. 3	0	0	9	31	0	0	15	0	27	0	0	0
Total Committed Traffic	0	64	9	61	84	0	15	0	55	0	0	0
2025 Background Traffic	0	187	41	419	291	0	36	0	195	0	0	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	0	0	0	6	0	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	5	0	0	0
Total Project Traffic	0	0	0	6	0	0	0	0	5	0	0	0
2025 Buildout Total	0	187	41	425	291	0	36	0	200	0	0	0
Percent Impact (Approach)		0.0%			0.8%			2.1%			-	

Overall Percent Impact 0.9%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #2 - Trad. RCI w/ RIRO North Site Drwy.**
Ct. Date	**Balanced with 15/501 at Briar Chapel/Vickers**
Ct. Peaks	**AM: 715-841; PM: 430-530**
N/S Street:	**US 15/501**
E/W Street:	**U-Turn North of Jack Bennett/South of Vickers**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	U-Turn Bulb-outs Eastbound Left	Through	Right	U-Turn Bulb-outs Westbound Left	Through	Right	US 15/501 Northbound U-Turn	Through	Right	US 15/501 Southbound U-Turn	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	1116	0	0	605	0
2020 Existing Traffic	0	0	0	0	0	0	0	1116	0	0	605	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	0	0	0	0	28	0	0	15	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	164	0	0	129	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	34	0	0	38	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	85	0	0	178	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	48	70	0	0	38	0
Total Committed Traffic	0	0	0	0	0	0	48	353	0	0	383	0
Superstreet Diversion	0	0	0	0	0	0	217	0	0	198	0	0
2025 Background Traffic	0	0	0	0	0	0	265	1497	0	198	1003	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	40%	0%	10%	0%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	35	0	9	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	0	41	0
Total Project Traffic	0	0	0	0	0	0	0	35	0	9	41	0
2025 Buildout Total	0	0	0	0	0	0	265	1532	0	207	1044	0
Percent Impact (Approach)		-			-			1.9%			4.0%	

Overall Percent Impact 2.8%

PM PEAK HOUR
PM PHF = 0.90

Description	U-Turn Bulb-outs Eastbound Left	Through	Right	U-Turn Bulb-outs Westbound Left	Through	Right	US 15/501 Northbound U-Turn	Through	Right	US 15/501 Southbound Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	746	0	0	1152	0
2020 Existing Traffic	0	0	0	0	0	0	0	746	0	0	1152	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	0	0	0	0	0	0	19	0	0	29	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	158	0	0	204	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	32	0	0	32	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	173	0	0	133	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	78	89	0	0	27	0
Total Committed Traffic	0	0	0	0	0	0	78	452	0	0	396	0
Superstreet Diversion	0	0	0	0	0	0	263	0	0	126	0	0
2025 Background Traffic	0	0	0	0	0	0	341	1217	0	126	1577	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	40%	0%	10%	0%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	44	0	11	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	0%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	0	39	0
Total Project Traffic	0	0	0	0	0	0	0	44	0	11	39	0
2025 Buildout Total	0	0	0	0	0	0	341	1261	0	137	1616	0
Percent Impact (Approach)		-			-			2.7%			2.9%	

Overall Percent Impact 2.8%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #2 - Trad. RCI w/ RIRO North Site Drwy.**
Ct. Date	**Balanced with 15/501 @ Vickers**
N/S Street:	**US 15/501**
E/W Street:	**U-Turn North of Vickers**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	- Eastbound			U-Turn North of Vickers Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	1204	0	0	602	0
2020 Existing Traffic	0	0	0	0	0	0	0	1204	0	0	602	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	30	0	0	15	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	164	0	0	129	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	34	0	0	38	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	139	0	0	205	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	0	71	0	0	55	0
Total Committed Traffic	0	0	0	0	0	0	0	408	0	0	427	0
Superstreet Diversion	0	0	0	0	0	0	14	0	0	0	0	0
2025 Background Traffic	0	0	0	0	0	0	14	1642	0	0	1044	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	15%	0%	0%	50%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	13	0	0	44	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	50%	35%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	52	36	0	0	0	0
Total Project Traffic	0	0	0	0	0	0	52	49	0	0	44	0
2025 Buildout Total	0	0	0	0	0	0	66	1691	0	0	1088	0
Percent Impact (Approach)		-			-			5.7%			4.0%	

Overall Percent Impact 5.1%

PM PEAK HOUR
PM PHF = 0.90

Description	- Eastbound			U-Turn North of Vickers Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	772	0	0	1250	0
2020 Existing Traffic	0	0	0	0	0	0	0	772	0	0	1250	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	19	0	0	32	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	158	0	0	204	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	32	0	0	32	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	193	0	0	190	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	0	64	0	0	70	0
Total Committed Traffic	0	0	0	0	0	0	0	447	0	0	496	0
Superstreet Diversion	0	0	0	0	0	0	22	0	0	0	0	0
2025 Background Traffic	0	0	0	0	0	0	22	1238	0	0	1778	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	15%	0%	0%	50%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	17	0	0	56	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	50%	35%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	0	49	34	0	0	0	0
Total Project Traffic	0	0	0	0	0	0	49	51	0	0	56	0
2025 Buildout Total	0	0	0	0	0	0	71	1289	0	0	1834	0
Percent Impact (Approach)		-			-			7.4%			3.1%	

Overall Percent Impact 4.9%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #2 - Trad. RCI w/ RIRO North Site Drwy.**
Ct. Date	**Balanced with 15/501 @ Vickers**
N/S Street:	**US 15/501**
E/W Street:	**South Site Driveway (RI/RO)**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	- Eastbound			South Site Driveway (RI/RO) Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	1204	0	0	602	0
2020 Existing Traffic	0	0	0	0	0	0	0	1204	0	0	602	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	30	0	0	15	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	164	0	0	129	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	34	0	0	38	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	139	0	0	205	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	0	71	0	0	55	0
Total Committed Traffic	0	0	0	0	0	0	0	408	0	0	427	0
Superstreet Diversion	0	0	0	0	0	0	0	14	0	0	0	0
2025 Background Traffic	0	0	0	0	0	0	0	1656	0	0	1044	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	15%	70%	0%	50%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	13	62	0	44	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	60%	0%	25%	0%	0%	50%	0%
Outbound Project Traffic	0	0	0	0	0	62	0	26	0	0	52	0
Total Project Traffic	0	0	0	0	0	62	0	39	62	0	96	0
2025 Buildout Total	0	0	0	0	0	62	0	1695	62	0	1140	0
Percent Impact (Approach)		-			100.0%			5.7%			8.4%	

Overall Percent Impact 8.8%

PM PEAK HOUR
PM PHF = 0.90

Description	- Eastbound			South Site Driveway (RI/RO) Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	772	0	0	1250	0
2020 Existing Traffic	0	0	0	0	0	0	0	772	0	0	1250	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	19	0	0	32	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	158	0	0	204	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	32	0	0	32	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	193	0	0	190	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	0	64	0	0	70	0
Total Committed Traffic	0	0	0	0	0	0	0	447	0	0	496	0
Superstreet Diversion	0	0	0	0	0	0	0	22	0	0	0	0
2025 Background Traffic	0	0	0	0	0	0	0	1260	0	0	1778	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	15%	70%	0%	50%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	17	78	0	56	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	60%	0%	25%	0%	0%	50%	0%
Outbound Project Traffic	0	0	0	0	0	59	0	25	0	0	49	0
Total Project Traffic	0	0	0	0	0	59	0	42	78	0	105	0
2025 Buildout Total	0	0	0	0	0	59	0	1302	78	0	1883	0
Percent Impact (Approach)		-			100.0%			8.7%			5.6%	

Overall Percent Impact 8.5%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #2 - Trad. RCI w/ RIRO North Site Drwy.**
Ct. Date	**Balanced with 15/501 @ Vickers**
N/S Street:	**US 15/501**
E/W Street:	**North Site Driveway (Left-in)**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	- Eastbound			North Site Driveway (Left-in) Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	1204	0	0	602	0
2020 Existing Traffic	0	0	0	0	0	0	0	1204	0	0	602	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	30	0	0	15	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	164	0	0	129	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	34	0	0	38	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	139	0	0	205	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	0	71	0	0	55	0
Total Committed Traffic	0	0	0	0	0	0	0	408	0	0	427	0
2025 Background Traffic	0	0	0	0	0	0	0	1642	0	0	1044	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	0%	15%	0%	50%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	0	13	0	44	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	15%	0%	35%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	15	0	36	0	0	0	0
Total Project Traffic	0	0	0	0	0	15	0	36	13	0	44	0
2025 Buildout Total	0	0	0	0	0	15	0	1678	13	0	1088	0
Percent Impact (Approach)		-			100.0%			2.9%			4.0%	

Overall Percent Impact 3.9%

PM PEAK HOUR
PM PHF = 0.90

Description	- Eastbound			North Site Driveway (Left-in) Westbound			US 15/501 Northbound			US 15/501 Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	0	0	0	0	0	0	772	0	0	1250	0
2020 Existing Traffic	0	0	0	0	0	0	0	772	0	0	1250	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.025	0.000
2025 Background Growth	0	0	0	0	0	0	0	19	0	0	32	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	158	0	0	204	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	32	0	0	32	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	193	0	0	190	0
Vickers Bennett - Scen. 3	0	0	0	0	0	0	0	64	0	0	70	0
Total Committed Traffic	0	0	0	0	0	0	0	447	0	0	496	0
2025 Background Traffic	0	0	0	0	0	0	0	1238	0	0	1778	0
Project Traffic												
Percent Assignment Inbound	0%	0%	0%	0%	0%	0%	0%	0%	15%	0%	50%	0%
Inbound Project Traffic	0	0	0	0	0	0	0	0	17	0	56	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	15%	0%	35%	0%	0%	0%	0%
Outbound Project Traffic	0	0	0	0	0	15	0	34	0	0	0	0
Total Project Traffic	0	0	0	0	0	15	0	34	17	0	56	0
2025 Buildout Total	0	0	0	0	0	15	0	1272	17	0	1834	0
Percent Impact (Approach)		-			100.0%			4.0%			3.1%	

Overall Percent Impact 3.9%

INTERSECTION ANALYSIS SHEET

Project:	**Herndon Farm**
Location:	**Chatham County, NC**
Scenario:	**RCI Alt. #2 - Trad. RCI w/ RIRO North Site Drwy.**
Ct. Date	**Balanced with 15/501 @ Vickers**
N/S Street:	**Site Driveway**
E/W Street:	**Vickers Road**

	AM In	AM Out	PM In	PM Out
Net New Trips:	88	103	111	98
Pass-By Trips:	0	0	0	0

Annual Growth Rate:	0.5%	**Existing Year:**	2020
Growth Factor:	0.025251	**Buildout Year:**	2025

AM PEAK HOUR
AM PHF = 0.90

Description	Vickers Road Eastbound			Vickers Road Westbound			Site Driveway Northbound			Site Driveway Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	29	0	0	33	0	0	0	0	0	0	0
2020 Existing Traffic	0	29	0	0	33	0	0	0	0	0	0	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	1	0	0	1	0	0	0	0	0	0	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	0	0	0	0	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	0	0	0	0	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	0	0	0	0	0
Vickers Bennett - Scen. 3	0	55	0	0	24	0	0	0	0	0	0	0
Total Committed Traffic	0	55	0	0	24	0	0	0	0	0	0	0
2025 Background Traffic	0	85	0	0	58	0	0	0	0	0	0	0
Project Traffic												
Percent Assignment Inbound	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	13	0	0	0	0	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	0	0	26
Total Project Traffic	13	0	0	0	0	0	0	0	0	0	0	26
2025 Buildout Total	13	85	0	0	58	0	0	0	0	0	0	26
Percent Impact (Approach)		13.3%			0.0%			-			100.0%	

Overall Percent Impact 21.4%

PM PEAK HOUR
PM PHF = 0.90

Description	Vickers Road Eastbound			Vickers Road Westbound			Site Driveway Northbound			Site Driveway Southbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2020 Traffic Count	0	0	0	0	0	0	0	0	0	0	0	0
Count Balancing	0	27	0	0	34	0	0	0	0	0	0	0
2020 Existing Traffic	0	27	0	0	34	0	0	0	0	0	0	0
Growth Factor (0.005 per year)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
2025 Background Growth	0	1	0	0	1	0	0	0	0	0	0	0
Committed Projects												
Williams Corner (Updated)	0	0	0	0	0	0	0	0	0	0	0	0
Polks Village (Remaining Portion)	0	0	0	0	0	0	0	0	0	0	0	0
Briar Chapel (Remaining Portion)	0	0	0	0	0	0	0	0	0	0	0	0
Vickers Bennett - Scen. 3	0	70	0	0	13	0	0	0	0	0	0	0
Total Committed Traffic	0	70	0	0	13	0	0	0	0	0	0	0
2025 Background Traffic	0	98	0	0	48	0	0	0	0	0	0	0
Project Traffic												
Percent Assignment Inbound	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Inbound Project Traffic	17	0	0	0	0	0	0	0	0	0	0	0
Percent Assignment Outbound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	25%
Outbound Project Traffic	0	0	0	0	0	0	0	0	0	0	0	25
Total Project Traffic	17	0	0	0	0	0	0	0	0	0	0	25
2025 Buildout Total	17	98	0	0	48	0	0	0	0	0	0	25
Percent Impact (Approach)		14.8%			0.0%			-			100.0%	

Overall Percent Impact 22.3%

Appendix K:

Synchro Output:

Build (2025)

- Future Year RCI Corridor Scenarios

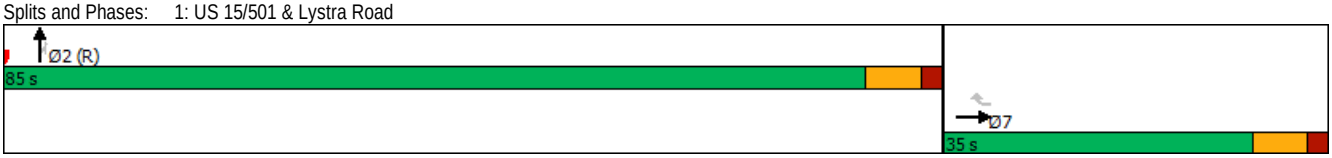
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	218	0	0	0	365	0	1518	158	0	0	0
Future Volume (vph)	0	218	0	0	0	365	0	1518	158	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		200	0		200	0		0
Storage Lanes	0		0	0		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	1845	0	0	0	2787	0	3539	1583	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	1845	0	0	0	2787	0	3539	1583	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						82			160			
Link Speed (mph)		55			45			55			30	
Link Distance (ft)		196			880			640			849	
Travel Time (s)		2.4			13.3			7.9			19.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	225	0	0	0	376	0	1565	163	0	0	0
Turn Type		NA				Perm		NA	Perm			
Protected Phases		7						2				
Permitted Phases						7			2			
Detector Phase		7				7		2	2			
Switch Phase												
Minimum Initial (s)		7.0				7.0		12.0	12.0			
Minimum Split (s)		16.0				16.0		19.0	19.0			
Total Split (s)		35.0				35.0		85.0	85.0			
Total Split (%)		29.2%				29.2%		70.8%	70.8%			
Yellow Time (s)		5.0				5.0		5.0	5.0			
All-Red Time (s)		2.0				2.0		2.0	2.0			
Lost Time Adjust (s)		-2.0				-2.0		-2.0	-2.0			
Total Lost Time (s)		5.0				5.0		5.0	5.0			
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		None				None		C-Max	C-Max			
Act Effct Green (s)		22.2				22.2		87.8	87.8			
Actuated g/C Ratio		0.18				0.18		0.73	0.73			
v/c Ratio		0.66				0.65		0.60	0.14			
Control Delay		54.3				39.8		9.7	1.3			
Queue Delay		0.0				0.0		0.0	0.0			
Total Delay		54.3				39.8		9.7	1.3			
LOS		D				D		A	A			
Approach Delay		54.3			39.8			8.9				
Approach LOS		D			D			A				
Queue Length 50th (ft)		164				121		265	1			
Queue Length 95th (ft)		231				165		412	22			
Internal Link Dist (ft)		116			800			560			769	
Turn Bay Length (ft)						200			200			
Base Capacity (vph)		461				758		2590	1201			
Starvation Cap Reductn		0				0		0	0			
Spillback Cap Reductn		0				0		0	0			
Storage Cap Reductn		0				0		0	0			
Reduced v/c Ratio		0.49				0.50		0.60	0.14			

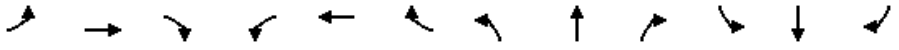
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120

Offset: 68 (57%), Referenced to phase 2:NBT and 6:, Start of Green	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 18.2	Intersection LOS: B
Intersection Capacity Utilization 91.6%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 1: US 15/501 & Lystra Road



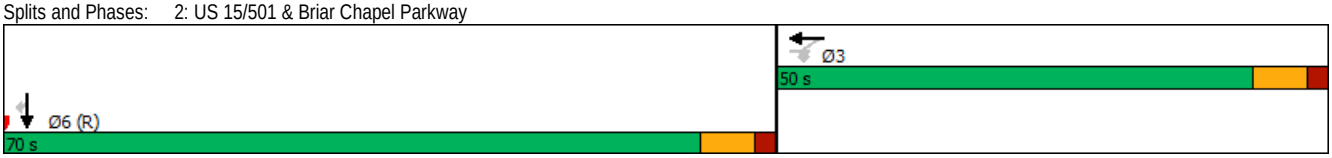


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	334	5	101	0	0	0	0	0	912	107
Future Volume (vph)	0	0	334	5	101	0	0	0	0	0	912	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		100
Storage Lanes	0		1	0		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	0	1611	0	1859	0	0	0	0	0	3539	1583
Flt Permitted					0.998							
Satd. Flow (perm)	0	0	1611	0	1859	0	0	0	0	0	3539	1583
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)			107		36							73
Link Speed (mph)		35			55			55			55	
Link Distance (ft)		683			200			709			229	
Travel Time (s)		13.3			2.5			8.8			2.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	348	0	110	0	0	0	0	0	950	111
Turn Type			Perm	Perm	NA						NA	Perm
Protected Phases					3						6	
Permitted Phases			3	3								6
Detector Phase			3	3	3						6	6
Switch Phase												
Minimum Initial (s)			7.0	7.0	7.0						12.0	12.0
Minimum Split (s)			16.0	16.0	16.0						19.0	19.0
Total Split (s)			50.0	50.0	50.0						70.0	70.0
Total Split (%)			41.7%	41.7%	41.7%						58.3%	58.3%
Yellow Time (s)			5.0	5.0	5.0						5.0	5.0
All-Red Time (s)			2.0	2.0	2.0						2.0	2.0
Lost Time Adjust (s)			-2.0		-2.0						-2.0	-2.0
Total Lost Time (s)			5.0		5.0						5.0	5.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode			None	None	None						C-Max	C-Max
Act Effct Green (s)			27.0		27.0						83.0	83.0
Actuated g/C Ratio			0.22		0.22						0.69	0.69
v/c Ratio			0.78		0.25						0.39	0.10
Control Delay			41.6		21.8						9.3	3.6
Queue Delay			0.0		0.0						0.0	0.0
Total Delay			41.6		21.8						9.3	3.6
LOS			D		C						A	A
Approach Delay		41.6			21.8						8.7	
Approach LOS		D			C						A	
Queue Length 50th (ft)			180		22						146	8
Queue Length 95th (ft)			259		56						246	35
Internal Link Dist (ft)		603			120			629			149	
Turn Bay Length (ft)												100
Base Capacity (vph)			671		719						2448	1117
Starvation Cap Reductn			0		0						0	0
Spillback Cap Reductn			0		0						0	0
Storage Cap Reductn			0		0						0	0
Reduced v/c Ratio			0.52		0.15						0.39	0.10

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 60 (50%), Referenced to phase 2: and 6:SBT, Start of Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 17.2	Intersection LOS: B
Intersection Capacity Utilization 64.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: US 15/501 & Briar Chapel Parkway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	74	0	0	0	83	0	1613	18	0	0	0
Future Volume (vph)	48	74	0	0	0	83	0	1613	18	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		125	0		0
Storage Lanes	0		0	0		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	1827	0	0	0	1565	0	3539	1583	0	0	0
Flt Permitted		0.981										
Satd. Flow (perm)	0	1827	0	0	0	1565	0	3539	1583	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36				64			36			
Link Speed (mph)		55			35			55			55	
Link Distance (ft)		252			330			183			486	
Travel Time (s)		3.1			6.4			2.3			6.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	5%	5%	5%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	127	0	0	0	86	0	1680	19	0	0	0
Turn Type	Perm	NA				Perm		NA	Perm			
Protected Phases		7						2				
Permitted Phases	7					7			2			
Detector Phase	7	7				7		2	2			
Switch Phase												
Minimum Initial (s)	7.0	7.0				7.0		12.0	12.0			
Minimum Split (s)	16.0	16.0				16.0		19.0	19.0			
Total Split (s)	20.0	20.0				20.0		100.0	100.0			
Total Split (%)	16.7%	16.7%				16.7%		83.3%	83.3%			
Yellow Time (s)	5.0	5.0				5.0		5.0	5.0			
All-Red Time (s)	2.0	2.0				2.0		2.0	2.0			
Lost Time Adjust (s)		-2.0				-2.0		-2.0	-2.0			
Total Lost Time (s)		5.0				5.0		5.0	5.0			
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None				None		C-Max	C-Max			
Act Effct Green (s)		12.7				12.7		97.3	97.3			
Actuated g/C Ratio		0.11				0.11		0.81	0.81			
v/c Ratio		0.56				0.39		0.59	0.01			
Control Delay		45.8				22.7		2.0	0.0			
Queue Delay		0.0				0.0		0.0	0.0			
Total Delay		45.8				22.7		2.0	0.0			
LOS		D				C		A	A			
Approach Delay		45.8			22.7			2.0				
Approach LOS		D			C			A				
Queue Length 50th (ft)		67				16		34	0			
Queue Length 95th (ft)		130				65		33	m0			
Internal Link Dist (ft)		172			250			103			406	
Turn Bay Length (ft)									125			
Base Capacity (vph)		259				251		2868	1289			
Starvation Cap Reductn		0				0		33	0			
Spillback Cap Reductn		0				0		0	0			
Storage Cap Reductn		0				0		0	0			
Reduced v/c Ratio		0.49				0.34		0.59	0.01			

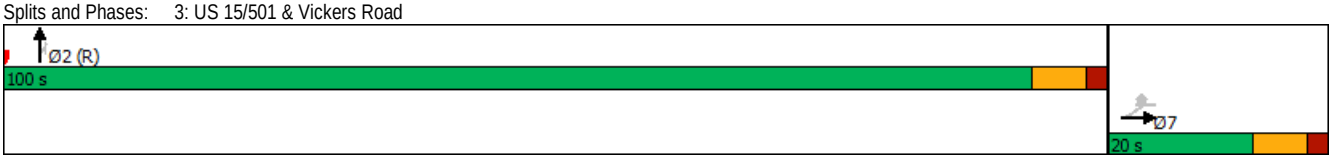
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120

Offset: 4 (3%), Referenced to phase 2:NBT and 6:, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 5.8	Intersection LOS: A
Intersection Capacity Utilization 69.5%	ICU Level of Service C
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: US 15/501 & Vickers Road

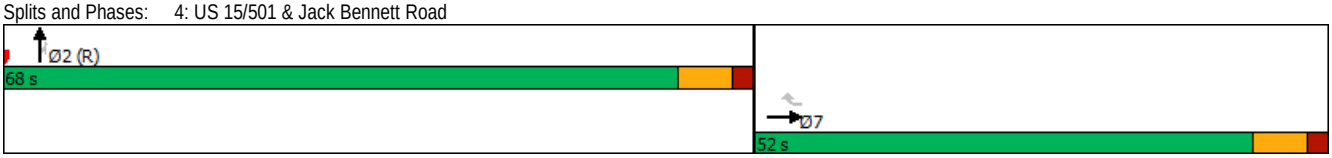


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑				↱		↑↑	↱			
Traffic Volume (vph)	0	163	0	0	0	445	0	1332	267	0	0	0
Future Volume (vph)	0	163	0	0	0	445	0	1332	267	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		450	0		0
Storage Lanes	0		0	0		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	1863	0	0	0	1611	0	3539	1583	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	0	1611	0	3539	1583	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						36			278			
Link Speed (mph)		55			45			55			55	
Link Distance (ft)		123			1272			502			548	
Travel Time (s)		1.5			19.3			6.2			6.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	170	0	0	0	464	0	1388	278	0	0	0
Turn Type		NA				Perm		NA	Perm			
Protected Phases		7						2				
Permitted Phases						7			2			
Detector Phase		7				7		2	2			
Switch Phase												
Minimum Initial (s)		7.0				7.0		12.0	12.0			
Minimum Split (s)		16.0				16.0		19.0	19.0			
Total Split (s)		52.0				52.0		68.0	68.0			
Total Split (%)		43.3%				43.3%		56.7%	56.7%			
Yellow Time (s)		5.0				5.0		5.0	5.0			
All-Red Time (s)		2.0				2.0		2.0	2.0			
Lost Time Adjust (s)		-2.0				-2.0		-2.0	-2.0			
Total Lost Time (s)		5.0				5.0		5.0	5.0			
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		None				None		C-Max	C-Max			
Act Effct Green (s)		39.4				39.4		70.6	70.6			
Actuated g/C Ratio		0.33				0.33		0.59	0.59			
v/c Ratio		0.28				0.84		0.67	0.27			
Control Delay		25.0				48.0		19.9	2.3			
Queue Delay		0.0				0.0		0.0	0.0			
Total Delay		25.0				48.0		19.9	2.3			
LOS		C				D		B	A			
Approach Delay		25.0			48.0			17.0				
Approach LOS		C			D			B				
Queue Length 50th (ft)		99				306		370	0			
Queue Length 95th (ft)		106				407		515	41			
Internal Link Dist (ft)		43			1192			422			468	
Turn Bay Length (ft)									450			
Base Capacity (vph)		729				652		2081	1045			
Starvation Cap Reductn		0				0		0	0			
Spillback Cap Reductn		0				0		0	0			
Storage Cap Reductn		0				0		0	0			
Reduced v/c Ratio		0.23				0.71		0.67	0.27			

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 0 (0%), Referenced to phase 2:NBT and 6:, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 23.8	Intersection LOS: C
Intersection Capacity Utilization 105.3%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 4: US 15/501 & Jack Bennett Road



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	384	98	237	247	84	442
Future Volume (vph)	384	98	237	247	84	442
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			100		100	
Satd. Flow (prot)	1812	0	1770	1863	1639	0
Flt Permitted			0.950		0.992	
Satd. Flow (perm)	1812	0	1770	1863	1639	0
Link Speed (mph)	55			55	45	
Link Distance (ft)	1491			2698	1865	
Travel Time (s)	18.5			33.4	28.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	626	0	308	321	683	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 81.2%		ICU Level of Service D	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	220

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	384	98	237	247	84	442
Future Vol, veh/h	384	98	237	247	84	442
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	499	127	308	321	109	574

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	626	0	1500	563
Stage 1	-	-	-	-	563	-
Stage 2	-	-	-	-	937	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	956	-	134	~ 526
Stage 1	-	-	-	-	570	-
Stage 2	-	-	-	-	381	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	956	-	~ 91	~ 526
Mov Cap-2 Maneuver	-	-	-	-	~ 91	-
Stage 1	-	-	-	-	570	-
Stage 2	-	-	-	-	258	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.2	$ 619.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	298	-	-	956	-
HCM Lane V/C Ratio	2.292	-	-	0.322	-
HCM Control Delay (s)	$ 619.3	-	-	10.5	-
HCM Lane LOS	F	-	-	B	-
HCM 95th %tile Q(veh)	53	-	-	1.4	-

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

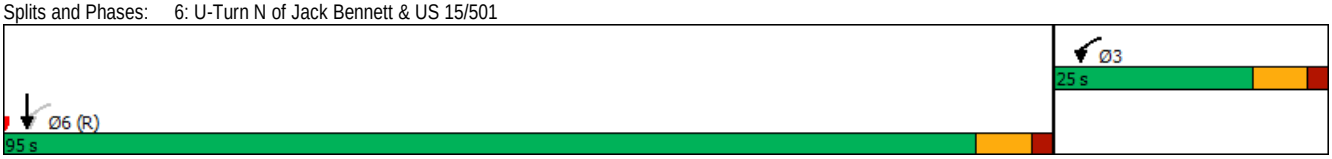
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	265	0	0	0	0	1044
Future Volume (vph)	265	0	0	0	0	1044
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	100				100	
Satd. Flow (prot)	1770	0	0	0	0	3539
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	0	0	3539
Right Turn on Red	Yes	Yes		Yes		
Satd. Flow (RTOR)						
Link Speed (mph)	55		55			55
Link Distance (ft)	51		431			143
Travel Time (s)	0.6		5.3			1.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	294	0	0	0	0	1160
Turn Type	pm+pt					NA
Protected Phases	3					6!
Permitted Phases	6!					
Detector Phase	3					6
Switch Phase						
Minimum Initial (s)	7.0					12.0
Minimum Split (s)	16.0					19.0
Total Split (s)	25.0					95.0
Total Split (%)	20.8%					79.2%
Yellow Time (s)	5.0					5.0
All-Red Time (s)	2.0					2.0
Lost Time Adjust (s)	-2.0					-2.0
Total Lost Time (s)	5.0					5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None					C-Max
Act Effct Green (s)	120.0					101.0
Actuated g/C Ratio	1.00					0.84
v/c Ratio	0.17					0.39
Control Delay	0.2					2.0
Queue Delay	0.0					0.0
Total Delay	0.2					2.0
LOS	A					A
Approach Delay	0.2					2.0
Approach LOS	A					A
Queue Length 50th (ft)	0					70
Queue Length 95th (ft)	0					56
Internal Link Dist (ft)	1		351			63
Turn Bay Length (ft)						
Base Capacity (vph)	1770					2978
Starvation Cap Reductn	0					0
Spillback Cap Reductn	0					0
Storage Cap Reductn	0					0
Reduced v/c Ratio	0.17					0.39

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 44 (37%), Referenced to phase 2: and 6:WBSB, Start of Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.39	
Intersection Signal Delay: 1.6	Intersection LOS: A
Intersection Capacity Utilization 78.7%	ICU Level of Service D
Analysis Period (min) 15	

! Phase conflict between lane groups.

Splits and Phases: 6: U-Turn N of Jack Bennett & US 15/501



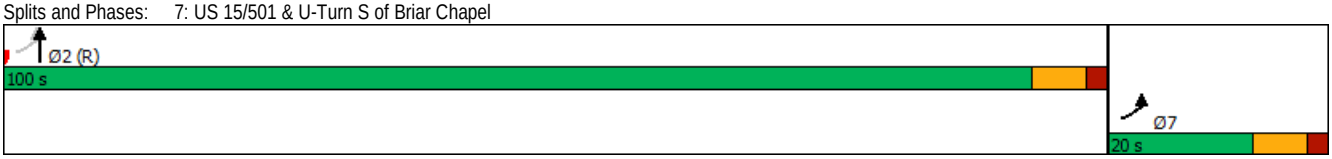
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	207	0	0	1532	0	0
Future Volume (vph)	207	0	0	1532	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	100		100			
Satd. Flow (prot)	1770	0	0	3539	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	3539	0	0
Right Turn on Red	Yes	Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	55			55	55	
Link Distance (ft)	53			160	514	
Travel Time (s)	0.7			2.0	6.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	230	0	0	1702	0	0
Turn Type	pm+pt			NA		
Protected Phases	7			2!		
Permitted Phases	2!					
Detector Phase	7			2		
Switch Phase						
Minimum Initial (s)	7.0			12.0		
Minimum Split (s)	16.0			19.0		
Total Split (s)	20.0			100.0		
Total Split (%)	16.7%			83.3%		
Yellow Time (s)	5.0			5.0		
All-Red Time (s)	2.0			2.0		
Lost Time Adjust (s)	-2.0			-2.0		
Total Lost Time (s)	5.0			5.0		
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None			C-Max		
Act Effct Green (s)	120.0			101.0		
Actuated g/C Ratio	1.00			0.84		
v/c Ratio	0.13			0.57		
Control Delay	0.1			2.3		
Queue Delay	0.0			0.0		
Total Delay	0.1			2.3		
LOS	A			A		
Approach Delay	0.1			2.3		
Approach LOS	A			A		
Queue Length 50th (ft)	0			77		
Queue Length 95th (ft)	0			94		
Internal Link Dist (ft)	1			80	434	
Turn Bay Length (ft)						
Base Capacity (vph)	1770			2978		
Starvation Cap Reductn	0			0		
Spillback Cap Reductn	0			0		
Storage Cap Reductn	0			0		
Reduced v/c Ratio	0.13			0.57		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 0 (0%), Referenced to phase 2:NBEB and 6:, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 2.0	Intersection LOS: A
Intersection Capacity Utilization 62.1%	ICU Level of Service B
Analysis Period (min) 15	

! Phase conflict between lane groups.

Splits and Phases: 7: US 15/501 & U-Turn S of Briar Chapel



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	66	0	0	0	0	1075
Future Volume (vph)	66	0	0	0	0	1075
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	100				100	
Satd. Flow (prot)	1770	0	0	0	0	3539
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	0	0	3539
Link Speed (mph)	55		55			55
Link Distance (ft)	47		1154			379
Travel Time (s)	0.6		14.3			4.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	73	0	0	0	0	1194
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 82.9%		ICU Level of Service E	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	66	0	0	0	0	1075
Future Vol, veh/h	66	0	0	0	0	1075
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	16974	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	73	0	0	0	0	1194

Major/Minor	Minor1			Major2	
Conflicting Flow All	597	-		-	-
Stage 1	0	-		-	-
Stage 2	597	-		-	-
Critical Hdwy	6.84	-		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	5.84	-		-	-
Follow-up Hdwy	3.52	-		-	-
Pot Cap-1 Maneuver	434	0		0	-
Stage 1	-	0		0	-
Stage 2	513	0		0	-
Platoon blocked, %					-
Mov Cap-1 Maneuver	434	-		-	-
Mov Cap-2 Maneuver	434	-		-	-
Stage 1	-	-		-	-
Stage 2	513	-		-	-

Approach	WB	SB
HCM Control Delay, s	15	0
HCM LOS	C	

Minor Lane/Major Mvmt	WBLn1	SBT
Capacity (veh/h)	434	-
HCM Lane V/C Ratio	0.169	-
HCM Control Delay (s)	15	-
HCM Lane LOS	C	-
HCM 95th %tile Q(veh)	0.6	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	62	1686	62	0	0
Future Volume (vph)	0	62	1686	62	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		100	0	
Storage Lanes	0	1		1	0	
Taper Length (ft)	100				100	
Satd. Flow (prot)	0	1611	3539	1583	0	0
Flt Permitted						
Satd. Flow (perm)	0	1611	3539	1583	0	0
Link Speed (mph)	25		55			55
Link Distance (ft)	262		486			908
Travel Time (s)	7.1		6.0			11.3
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	69	1873	69	0	0
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		

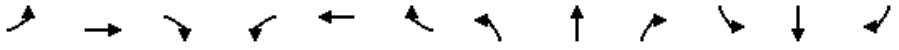
Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	62	1686	62	0	0
Future Vol, veh/h	0	62	1686	62	0	0
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	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	69	1873	69	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	937	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	266	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	266	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	23.2	0
HCM LOS	C	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	266
HCM Lane V/C Ratio	-	-	0.259
HCM Control Delay (s)	-	-	23.2
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	15	0	1678	4	13	0	1075
Future Volume (vph)	0	0	0	0	0	15	0	1678	4	13	0	1075
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	50		0
Storage Lanes	0		0	0		1	0		0	1		2
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	0	0	0	0	1611	0	3539	0	1770	0	2787
Flt Permitted										0.950		
Satd. Flow (perm)	0	0	0	0	0	1611	0	3539	0	1770	0	2787
Link Speed (mph)		55			25			55			55	
Link Distance (ft)		379			379			378			839	
Travel Time (s)		4.7			10.3			4.7			10.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	17	0	1868	0	14	0	1194
Sign Control		Free			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 56.5%		ICU Level of Service B	
Analysis Period (min) 15			

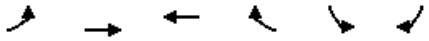
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	15	0	1678	4	13	0	1075
Future Vol, veh/h	0	0	0	0	0	15	0	1678	4	13	0	1075
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	50	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16979	-
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	0	0	0	0	0	17	0	1864	4	14	0	1194

Major/Minor	Minor1			Major1		
Conflicting Flow All	-	-	934	-	0	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	0	267	0	-	-
Stage 1	0	0	-	0	-	-
Stage 2	0	0	-	0	-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	-	0	267	-	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	-	0	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	19.4	0
HCM LOS	C	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	267
HCM Lane V/C Ratio	-	-	0.062
HCM Control Delay (s)	-	-	19.4
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.2



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	9	85	58	4	4	26
Future Volume (vph)	9	85	58	4	4	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	-5%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	100				100	
Satd. Flow (prot)	0	1853	1894	0	1631	0
Flt Permitted		0.995			0.994	
Satd. Flow (perm)	0	1853	1894	0	1631	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		392	692		576	
Travel Time (s)		7.6	13.5		15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	104	68	0	33	0
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	85	58	4	4	26
Future Vol, veh/h	9	85	58	4	4	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	-5	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	94	64	4	4	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	68	0	-	0	180	66
Stage 1	-	-	-	-	66	-
Stage 2	-	-	-	-	114	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1533	-	-	-	810	998
Stage 1	-	-	-	-	957	-
Stage 2	-	-	-	-	911	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1533	-	-	-	804	998
Mov Cap-2 Maneuver	-	-	-	-	804	-
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	911	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	8.9
HCM LOS			A

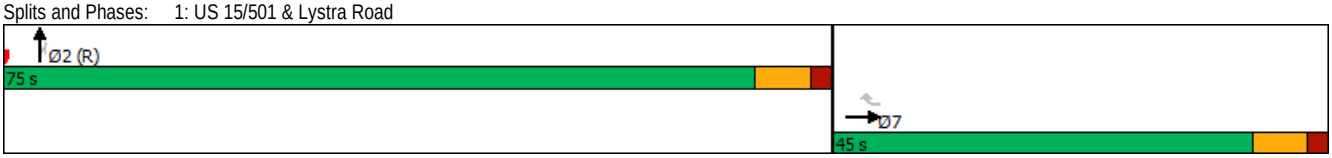
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1533	-	-	-	967
HCM Lane V/C Ratio	0.007	-	-	-	0.034
HCM Control Delay (s)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

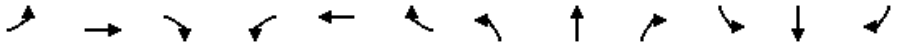
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	284	0	0	0	565	0	1185	80	0	0	0
Future Volume (vph)	0	284	0	0	0	565	0	1185	80	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		200	0		200	0		0
Storage Lanes	0		0	0		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	1863	0	0	0	2787	0	3539	1583	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	0	2787	0	3539	1583	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						100			83			
Link Speed (mph)		55			45			55			30	
Link Distance (ft)		196			880			640			849	
Travel Time (s)		2.4			13.3			7.9			19.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	309	0	0	0	614	0	1288	87	0	0	0
Turn Type		NA				Perm		NA	Perm			
Protected Phases		7						2				
Permitted Phases						7			2			
Detector Phase		7				7		2	2			
Switch Phase												
Minimum Initial (s)		7.0				7.0		12.0	12.0			
Minimum Split (s)		16.0				16.0		19.0	19.0			
Total Split (s)		45.0				45.0		75.0	75.0			
Total Split (%)		37.5%				37.5%		62.5%	62.5%			
Yellow Time (s)		5.0				5.0		5.0	5.0			
All-Red Time (s)		2.0				2.0		2.0	2.0			
Lost Time Adjust (s)		-2.0				-2.0		-2.0	-2.0			
Total Lost Time (s)		5.0				5.0		5.0	5.0			
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		None				None		C-Max	C-Max			
Act Effct Green (s)		31.3				31.3		78.7	78.7			
Actuated g/C Ratio		0.26				0.26		0.66	0.66			
v/c Ratio		0.64				0.77		0.56	0.08			
Control Delay		44.7				40.3		13.2	2.5			
Queue Delay		0.0				0.0		0.0	0.0			
Total Delay		44.7				40.3		13.2	2.5			
LOS		D				D		B	A			
Approach Delay		44.7			40.3			12.5				
Approach LOS		D			D			B				
Queue Length 50th (ft)		213				212		260	1			
Queue Length 95th (ft)		280				259		392	23			
Internal Link Dist (ft)		116			800			560			769	
Turn Bay Length (ft)						200			200			
Base Capacity (vph)		621				995		2320	1066			
Starvation Cap Reductn		0				0		0	0			
Spillback Cap Reductn		0				0		0	0			
Storage Cap Reductn		0				0		0	0			
Reduced v/c Ratio		0.50				0.62		0.56	0.08			

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 59 (49%), Referenced to phase 2:NBT and 6:, Start of Green	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 24.3	Intersection LOS: C
Intersection Capacity Utilization 110.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 1: US 15/501 & Lystra Road



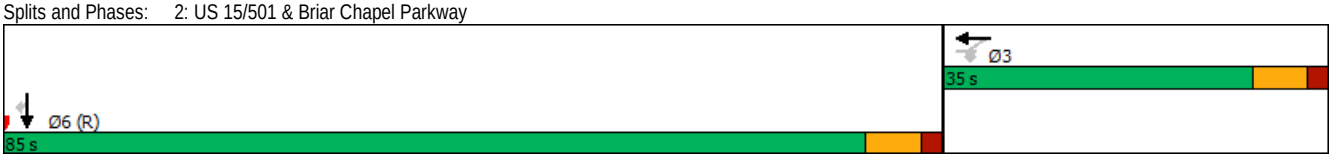


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	213	4	155	0	0	0	0	0	1536	184
Future Volume (vph)	0	0	213	4	155	0	0	0	0	0	1536	184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		100
Storage Lanes	0		1	0		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	0	1611	0	1861	0	0	0	0	0	3539	1583
Flt Permitted					0.999							
Satd. Flow (perm)	0	0	1611	0	1861	0	0	0	0	0	3539	1583
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)			42		36							103
Link Speed (mph)		35			55			55			55	
Link Distance (ft)		683			203			709			230	
Travel Time (s)		13.3			2.5			8.8			2.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	224	0	167	0	0	0	0	0	1617	194
Turn Type			Perm	Perm	NA						NA	Perm
Protected Phases					3						6	
Permitted Phases			3	3								6
Detector Phase			3	3	3						6	6
Switch Phase												
Minimum Initial (s)			7.0	7.0	7.0						12.0	12.0
Minimum Split (s)			16.0	16.0	16.0						19.0	19.0
Total Split (s)			35.0	35.0	35.0						85.0	85.0
Total Split (%)			29.2%	29.2%	29.2%						70.8%	70.8%
Yellow Time (s)			5.0	5.0	5.0						5.0	5.0
All-Red Time (s)			2.0	2.0	2.0						2.0	2.0
Lost Time Adjust (s)			-2.0		-2.0						-2.0	-2.0
Total Lost Time (s)			5.0		5.0						5.0	5.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode			None	None	None						C-Max	C-Max
Act Effct Green (s)			21.1		21.1						88.9	88.9
Actuated g/C Ratio			0.18		0.18						0.74	0.74
v/c Ratio			0.70		0.47						0.62	0.16
Control Delay			49.0		37.9						9.5	3.0
Queue Delay			0.0		0.0						0.0	0.0
Total Delay			49.0		37.9						9.5	3.0
LOS			D		D						A	A
Approach Delay		49.0			37.9						8.8	
Approach LOS		D			D						A	
Queue Length 50th (ft)			134		91						274	17
Queue Length 95th (ft)			206		159						432	48
Internal Link Dist (ft)		603			123			629			150	
Turn Bay Length (ft)												100
Base Capacity (vph)			434		492						2621	1199
Starvation Cap Reductn			0		0						0	0
Spillback Cap Reductn			0		0						0	0
Storage Cap Reductn			0		0						0	0
Reduced v/c Ratio			0.52		0.34						0.62	0.16

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 48 (40%), Referenced to phase 2: and 6:SBT, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 15.1	Intersection LOS: B
Intersection Capacity Utilization 76.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: US 15/501 & Briar Chapel Parkway



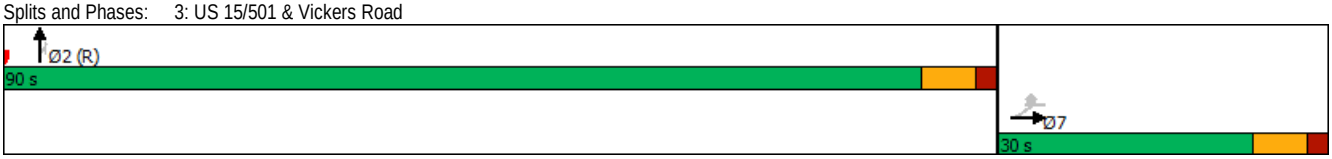
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	91	0	0	0	72	0	1220	18	0	0	0
Future Volume (vph)	73	91	0	0	0	72	0	1220	18	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		125	0		0
Storage Lanes	0		0	0		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	1822	0	0	0	1611	0	3539	1583	0	0	0
Flt Permitted		0.978										
Satd. Flow (perm)	0	1822	0	0	0	1611	0	3539	1583	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36				99			36			
Link Speed (mph)		55			35			55			55	
Link Distance (ft)		252			330			183			479	
Travel Time (s)		3.1			6.4			2.3			5.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	173	0	0	0	76	0	1284	19	0	0	0
Turn Type	Perm	NA				Perm		NA	Perm			
Protected Phases		7						2				
Permitted Phases	7					7			2			
Detector Phase	7	7				7		2	2			
Switch Phase												
Minimum Initial (s)	7.0	7.0				7.0		12.0	12.0			
Minimum Split (s)	16.0	16.0				16.0		19.0	19.0			
Total Split (s)	30.0	30.0				30.0		90.0	90.0			
Total Split (%)	25.0%	25.0%				25.0%		75.0%	75.0%			
Yellow Time (s)	5.0	5.0				5.0		5.0	5.0			
All-Red Time (s)	2.0	2.0				2.0		2.0	2.0			
Lost Time Adjust (s)		-2.0				-2.0		-2.0	-2.0			
Total Lost Time (s)		5.0				5.0		5.0	5.0			
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None				None		C-Max	C-Max			
Act Effct Green (s)		16.5				16.5		93.5	93.5			
Actuated g/C Ratio		0.14				0.14		0.78	0.78			
v/c Ratio		0.62				0.25		0.47	0.02			
Control Delay		47.3				6.2		4.5	0.9			
Queue Delay		0.0				0.0		0.0	0.0			
Total Delay		47.3				6.2		4.6	0.9			
LOS		D				A		A	A			
Approach Delay		47.3			6.2			4.5				
Approach LOS		D			A			A				
Queue Length 50th (ft)		101				0		45	0			
Queue Length 95th (ft)		167				27		277	m1			
Internal Link Dist (ft)		172			250			103			399	
Turn Bay Length (ft)									125			
Base Capacity (vph)		408				414		2758	1241			
Starvation Cap Reductn		0				0		195	0			
Spillback Cap Reductn		0				0		0	0			
Storage Cap Reductn		0				0		0	0			
Reduced v/c Ratio		0.42				0.18		0.50	0.02			

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 6 (5%), Referenced to phase 2:NBT and 6:, Start of Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 9.4	Intersection LOS: A
Intersection Capacity Utilization 60.9%	ICU Level of Service B
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: US 15/501 & Vickers Road

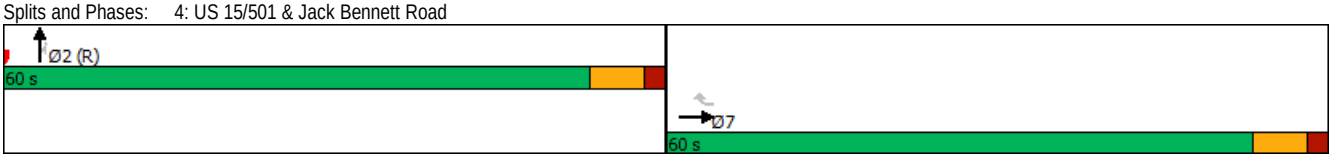


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑				↱		↑↑	↱			
Traffic Volume (vph)	0	215	0	0	0	514	0	1025	164	0	0	0
Future Volume (vph)	0	215	0	0	0	514	0	1025	164	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		450	0		0
Storage Lanes	0		0	0		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	1863	0	0	0	1611	0	3539	1583	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	0	1611	0	3539	1583	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						46			173			
Link Speed (mph)		55			45			55			55	
Link Distance (ft)		123			1272			502			548	
Travel Time (s)		1.5			19.3			6.2			6.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	226	0	0	0	541	0	1079	173	0	0	0
Turn Type		NA				Perm		NA	Perm			
Protected Phases		7						2				
Permitted Phases						7			2			
Detector Phase		7				7		2	2			
Switch Phase												
Minimum Initial (s)		7.0				7.0		12.0	12.0			
Minimum Split (s)		16.0				16.0		19.0	19.0			
Total Split (s)		60.0				60.0		60.0	60.0			
Total Split (%)		50.0%				50.0%		50.0%	50.0%			
Yellow Time (s)		5.0				5.0		5.0	5.0			
All-Red Time (s)		2.0				2.0		2.0	2.0			
Lost Time Adjust (s)		-2.0				-2.0		-2.0	-2.0			
Total Lost Time (s)		5.0				5.0		5.0	5.0			
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		None				None		C-Max	C-Max			
Act Effct Green (s)		45.9				45.9		64.1	64.1			
Actuated g/C Ratio		0.38				0.38		0.53	0.53			
v/c Ratio		0.32				0.84		0.57	0.19			
Control Delay		26.3				42.4		21.6	3.2			
Queue Delay		0.0				0.0		0.0	0.0			
Total Delay		26.3				42.4		21.6	3.2			
LOS		C				D		C	A			
Approach Delay		26.3			42.4			19.1				
Approach LOS		C			D			B				
Queue Length 50th (ft)		109				343		291	0			
Queue Length 95th (ft)		149				441		410	39			
Internal Link Dist (ft)		43			1192			422			468	
Turn Bay Length (ft)									450			
Base Capacity (vph)		853				763		1890	926			
Starvation Cap Reductn		0				0		0	0			
Spillback Cap Reductn		0				0		0	0			
Storage Cap Reductn		0				0		0	0			
Reduced v/c Ratio		0.26				0.71		0.57	0.19			

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 55 (46%), Referenced to phase 2:NBT and 6:, Start of Green	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 26.1	Intersection LOS: C
Intersection Capacity Utilization 116.7%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 4: US 15/501 & Jack Bennett Road



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	187	41	425	291	36	200
Future Volume (vph)	187	41	425	291	36	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			100		100	
Satd. Flow (prot)	1818	0	1770	1863	1637	0
Flt Permitted			0.950		0.992	
Satd. Flow (perm)	1818	0	1770	1863	1637	0
Link Speed (mph)	55			55	45	
Link Distance (ft)	1491			2698	1865	
Travel Time (s)	18.5			33.4	28.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	254	0	472	323	262	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.2%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	11.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	187	41	425	291	36	200
Future Vol, veh/h	187	41	425	291	36	200
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
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	208	46	472	323	40	222

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	254	0	1498	231
Stage 1	-	-	-	-	231	-
Stage 2	-	-	-	-	1267	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1311	-	135	808
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	265	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1311	-	86	808
Mov Cap-2 Maneuver	-	-	-	-	86	-
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	170	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.5	39.3
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	354	-	-	1311	-
HCM Lane V/C Ratio	0.741	-	-	0.36	-
HCM Control Delay (s)	39.3	-	-	9.3	-
HCM Lane LOS	E	-	-	A	-
HCM 95th %tile Q(veh)	5.7	-	-	1.7	-

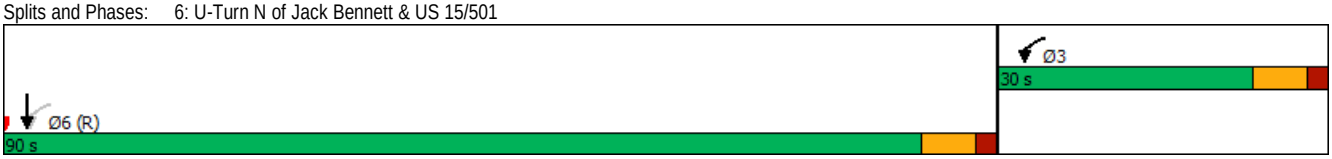
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	341	0	0	0	0	1616
Future Volume (vph)	341	0	0	0	0	1616
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	100				100	
Satd. Flow (prot)	1770	0	0	0	0	3539
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	0	0	3539
Right Turn on Red	Yes	Yes		Yes		
Satd. Flow (RTOR)						
Link Speed (mph)	55		55			55
Link Distance (ft)	51		431			143
Travel Time (s)	0.6		5.3			1.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	379	0	0	0	0	1796
Turn Type	pm+pt					NA
Protected Phases	3					6!
Permitted Phases	6!					
Detector Phase	3					6
Switch Phase						
Minimum Initial (s)	7.0					12.0
Minimum Split (s)	16.0					19.0
Total Split (s)	30.0					90.0
Total Split (%)	25.0%					75.0%
Yellow Time (s)	5.0					5.0
All-Red Time (s)	2.0					2.0
Lost Time Adjust (s)	-2.0					-2.0
Total Lost Time (s)	5.0					5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None					C-Max
Act Effct Green (s)	120.0					100.9
Actuated g/C Ratio	1.00					0.84
v/c Ratio	0.21					0.60
Control Delay	0.2					4.0
Queue Delay	0.0					0.0
Total Delay	0.2					4.1
LOS	A					A
Approach Delay	0.2					4.1
Approach LOS	A					A
Queue Length 50th (ft)	0					143
Queue Length 95th (ft)	0					291
Internal Link Dist (ft)	1		351			63
Turn Bay Length (ft)						
Base Capacity (vph)	1770					2974
Starvation Cap Reductn	0					98
Spillback Cap Reductn	0					0
Storage Cap Reductn	0					0
Reduced v/c Ratio	0.21					0.62

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 6 (5%), Referenced to phase 2: and 6:WBSB, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 3.4	Intersection LOS: A
Intersection Capacity Utilization 87.0%	ICU Level of Service E
Analysis Period (min) 15	

! Phase conflict between lane groups.

Splits and Phases: 6: U-Turn N of Jack Bennett & US 15/501



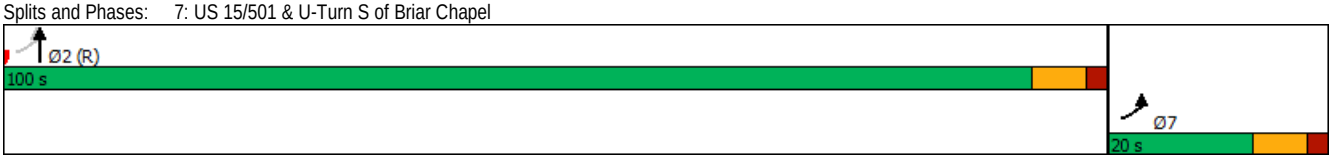
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	137	0	0	1261	0	0
Future Volume (vph)	137	0	0	1261	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	100		100			
Satd. Flow (prot)	1770	0	0	3539	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	3539	0	0
Right Turn on Red	Yes	Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	55			55	55	
Link Distance (ft)	53			160	513	
Travel Time (s)	0.7			2.0	6.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	0	0	1401	0	0
Turn Type	pm+pt			NA		
Protected Phases	7			2!		
Permitted Phases	2!					
Detector Phase	7			2		
Switch Phase						
Minimum Initial (s)	7.0			12.0		
Minimum Split (s)	16.0			19.0		
Total Split (s)	20.0			100.0		
Total Split (%)	16.7%			83.3%		
Yellow Time (s)	5.0			5.0		
All-Red Time (s)	2.0			2.0		
Lost Time Adjust (s)	-2.0			-2.0		
Total Lost Time (s)	5.0			5.0		
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None			C-Max		
Act Effct Green (s)	120.0			101.0		
Actuated g/C Ratio	1.00			0.84		
v/c Ratio	0.09			0.47		
Control Delay	0.1			2.4		
Queue Delay	0.0			0.0		
Total Delay	0.1			2.4		
LOS	A			A		
Approach Delay	0.1			2.4		
Approach LOS	A			A		
Queue Length 50th (ft)	0			67		
Queue Length 95th (ft)	0			147		
Internal Link Dist (ft)	1			80	433	
Turn Bay Length (ft)						
Base Capacity (vph)	1770			2978		
Starvation Cap Reductn	0			0		
Spillback Cap Reductn	0			0		
Storage Cap Reductn	0			0		
Reduced v/c Ratio	0.09			0.47		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 119 (99%), Referenced to phase 2:NBEB and 6:, Start of Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.47	
Intersection Signal Delay: 2.2	Intersection LOS: A
Intersection Capacity Utilization 50.8%	ICU Level of Service A
Analysis Period (min) 15	

! Phase conflict between lane groups.

Splits and Phases: 7: US 15/501 & U-Turn S of Briar Chapel



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	71	0	0	0	0	1817
Future Volume (vph)	71	0	0	0	0	1817
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	100				100	
Satd. Flow (prot)	1770	0	0	0	0	3539
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	0	0	3539
Link Speed (mph)	55		55			55
Link Distance (ft)	47		1153			398
Travel Time (s)	0.6		14.3			4.9
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	79	0	0	0	0	2019
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 92.2%		ICU Level of Service F	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	71	0	0	0	0	1817
Future Vol, veh/h	71	0	0	0	0	1817
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	16974	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	79	0	0	0	0	2019

Major/Minor	Minor1			Major2	
Conflicting Flow All	1010	-		-	-
Stage 1	0	-		-	-
Stage 2	1010	-		-	-
Critical Hdwy	6.84	-		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	5.84	-		-	-
Follow-up Hdwy	3.52	-		-	-
Pot Cap-1 Maneuver	236	0		0	-
Stage 1	-	0		0	-
Stage 2	313	0		0	-
Platoon blocked, %					-
Mov Cap-1 Maneuver	236	-		-	-
Mov Cap-2 Maneuver	236	-		-	-
Stage 1	-	-		-	-
Stage 2	313	-		-	-

Approach	WB	SB
HCM Control Delay, s	27.7	0
HCM LOS	D	

Minor Lane/Major Mvmt	WBLn1	SBT
Capacity (veh/h)	236	-
HCM Lane V/C Ratio	0.334	-
HCM Control Delay (s)	27.7	-
HCM Lane LOS	D	-
HCM 95th %tile Q(veh)	1.4	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	59	1291	78	0	0
Future Volume (vph)	0	59	1291	78	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		100	0	
Storage Lanes	0	1		1	0	
Taper Length (ft)	100				100	
Satd. Flow (prot)	0	1611	3539	1583	0	0
Flt Permitted						
Satd. Flow (perm)	0	1611	3539	1583	0	0
Link Speed (mph)	25		55			55
Link Distance (ft)	262		479			915
Travel Time (s)	7.1		5.9			11.3
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	66	1434	87	0	0
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	46.0%	ICU Level of Service	A
Analysis Period (min)	15		

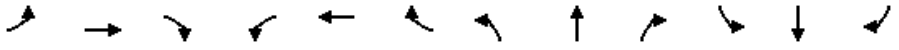
Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	59	1291	78	0	0
Future Vol, veh/h	0	59	1291	78	0	0
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	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	66	1434	87	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	717	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	372	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	372	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	16.7	0
HCM LOS	C	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	372
HCM Lane V/C Ratio	-	-	0.176
HCM Control Delay (s)	-	-	16.7
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	15	0	1272	6	16	0	1817
Future Volume (vph)	0	0	0	0	0	15	0	1272	6	16	0	1817
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	50		0
Storage Lanes	0		0	0		1	0		0	1		2
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	0	0	0	0	1611	0	3536	0	1770	0	2787
Flt Permitted										0.950		
Satd. Flow (perm)	0	0	0	0	0	1611	0	3536	0	1770	0	2787
Link Speed (mph)		55			25			55			55	
Link Distance (ft)		398			379			398			841	
Travel Time (s)		4.9			10.3			4.9			10.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	17	0	1420	0	18	0	2019
Sign Control		Free			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 66.9%		ICU Level of Service C	
Analysis Period (min) 15			

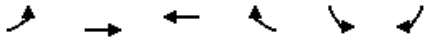
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	15	0	1272	6	16	0	1817
Future Vol, veh/h	0	0	0	0	0	15	0	1272	6	16	0	1817
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	50	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16979	-
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	0	0	0	0	0	17	0	1413	7	18	0	2019

Major/Minor	Minor1			Major1		
Conflicting Flow All	-	-	710	-	0	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	0	376	0	-	-
Stage 1	0	0	-	0	-	-
Stage 2	0	0	-	0	-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	-	0	376	-	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	-	0	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	15	0
HCM LOS	C	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	376
HCM Lane V/C Ratio	-	-	0.044
HCM Control Delay (s)	-	-	15
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.1



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	11	98	48	4	4	25
Future Volume (vph)	11	98	48	4	4	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	-5%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	100				100	
Satd. Flow (prot)	0	1853	1892	0	1633	0
Flt Permitted		0.995			0.994	
Satd. Flow (perm)	0	1853	1892	0	1633	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		392	692		576	
Travel Time (s)		7.6	13.5		15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	121	57	0	32	0
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	98	48	4	4	25
Future Vol, veh/h	11	98	48	4	4	25
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	-5	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	109	53	4	4	28

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	57	0	-	0	188	55
Stage 1	-	-	-	-	55	-
Stage 2	-	-	-	-	133	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1547	-	-	-	801	1012
Stage 1	-	-	-	-	968	-
Stage 2	-	-	-	-	893	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1547	-	-	-	795	1012
Mov Cap-2 Maneuver	-	-	-	-	795	-
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	893	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	8.8
HCM LOS			A

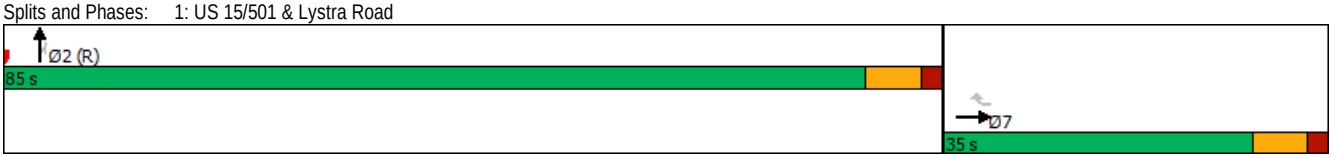
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1547	-	-	-	975
HCM Lane V/C Ratio	0.008	-	-	-	0.033
HCM Control Delay (s)	7.3	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

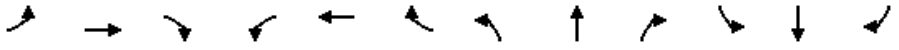
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	218	0	0	0	365	0	1518	158	0	0	0
Future Volume (vph)	0	218	0	0	0	365	0	1518	158	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		200	0		200	0		0
Storage Lanes	0		0	0		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	1845	0	0	0	2787	0	3539	1583	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	1845	0	0	0	2787	0	3539	1583	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						82			160			
Link Speed (mph)		55			45			55			30	
Link Distance (ft)		196			880			640			849	
Travel Time (s)		2.4			13.3			7.9			19.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	225	0	0	0	376	0	1565	163	0	0	0
Turn Type		NA				Perm		NA	Perm			
Protected Phases		7						2				
Permitted Phases						7			2			
Detector Phase		7				7		2	2			
Switch Phase												
Minimum Initial (s)		7.0				7.0		12.0	12.0			
Minimum Split (s)		16.0				16.0		19.0	19.0			
Total Split (s)		35.0				35.0		85.0	85.0			
Total Split (%)		29.2%				29.2%		70.8%	70.8%			
Yellow Time (s)		5.0				5.0		5.0	5.0			
All-Red Time (s)		2.0				2.0		2.0	2.0			
Lost Time Adjust (s)		-2.0				-2.0		-2.0	-2.0			
Total Lost Time (s)		5.0				5.0		5.0	5.0			
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		None				None		C-Max	C-Max			
Act Effct Green (s)		22.2				22.2		87.8	87.8			
Actuated g/C Ratio		0.18				0.18		0.73	0.73			
v/c Ratio		0.66				0.65		0.60	0.14			
Control Delay		54.3				39.8		9.7	1.3			
Queue Delay		0.0				0.0		0.0	0.0			
Total Delay		54.3				39.8		9.7	1.3			
LOS		D				D		A	A			
Approach Delay		54.3			39.8			8.9				
Approach LOS		D			D			A				
Queue Length 50th (ft)		164				121		265	1			
Queue Length 95th (ft)		231				165		412	22			
Internal Link Dist (ft)		116			800			560			769	
Turn Bay Length (ft)						200			200			
Base Capacity (vph)		461				758		2590	1201			
Starvation Cap Reductn		0				0		0	0			
Spillback Cap Reductn		0				0		0	0			
Storage Cap Reductn		0				0		0	0			
Reduced v/c Ratio		0.49				0.50		0.60	0.14			

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 68 (57%), Referenced to phase 2:NBT and 6:, Start of Green	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 18.2	Intersection LOS: B
Intersection Capacity Utilization 91.6%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 1: US 15/501 & Lystra Road





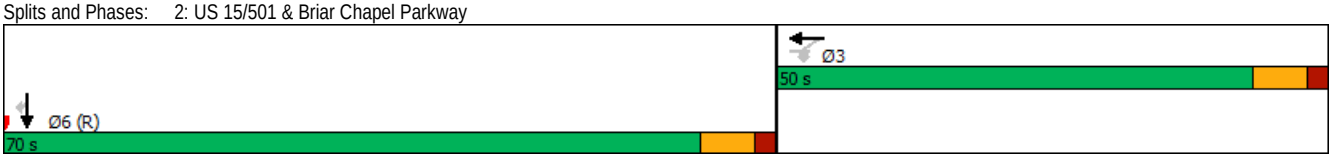
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	334	5	101	0	0	0	0	0	911	106
Future Volume (vph)	0	0	334	5	101	0	0	0	0	0	911	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		100
Storage Lanes	0		1	0		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	0	1611	0	1859	0	0	0	0	0	3539	1583
Flt Permitted					0.998							
Satd. Flow (perm)	0	0	1611	0	1859	0	0	0	0	0	3539	1583
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)			107		36							72
Link Speed (mph)		35			55			55			55	
Link Distance (ft)		683			201			709			230	
Travel Time (s)		13.3			2.5			8.8			2.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	348	0	110	0	0	0	0	0	949	110
Turn Type			Perm	Perm	NA						NA	Perm
Protected Phases					3						6	
Permitted Phases			3	3								6
Detector Phase			3	3	3						6	6
Switch Phase												
Minimum Initial (s)			7.0	7.0	7.0						12.0	12.0
Minimum Split (s)			16.0	16.0	16.0						19.0	19.0
Total Split (s)			50.0	50.0	50.0						70.0	70.0
Total Split (%)			41.7%	41.7%	41.7%						58.3%	58.3%
Yellow Time (s)			5.0	5.0	5.0						5.0	5.0
All-Red Time (s)			2.0	2.0	2.0						2.0	2.0
Lost Time Adjust (s)			-2.0		-2.0						-2.0	-2.0
Total Lost Time (s)			5.0		5.0						5.0	5.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode			None	None	None						C-Max	C-Max
Act Effct Green (s)			27.0		27.0						83.0	83.0
Actuated g/C Ratio			0.22		0.22						0.69	0.69
v/c Ratio			0.78		0.25						0.39	0.10
Control Delay			41.6		21.7						9.3	3.7
Queue Delay			0.0		0.0						0.0	0.0
Total Delay			41.6		21.7						9.3	3.7
LOS			D		C						A	A
Approach Delay		41.6			21.7						8.7	
Approach LOS		D			C						A	
Queue Length 50th (ft)			180		22						146	8
Queue Length 95th (ft)			259		56						246	35
Internal Link Dist (ft)		603			121			629			150	
Turn Bay Length (ft)												100
Base Capacity (vph)			671		719						2448	1117
Starvation Cap Reductn			0		0						0	0
Spillback Cap Reductn			0		0						0	0
Storage Cap Reductn			0		0						0	0
Reduced v/c Ratio			0.52		0.15						0.39	0.10

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120

Offset: 60 (50%), Referenced to phase 2: and 6:SBT, Start of Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 17.2	Intersection LOS: B
Intersection Capacity Utilization 64.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: US 15/501 & Briar Chapel Parkway



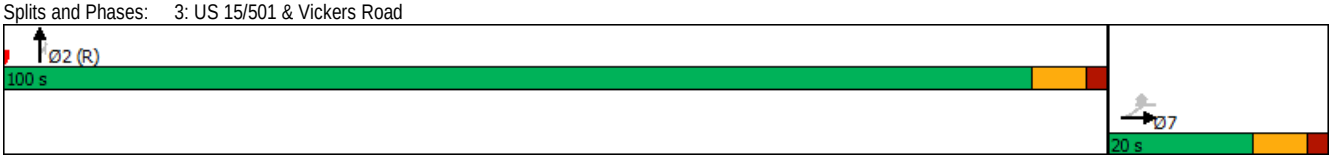
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	79	0	0	0	83	0	1613	18	0	0	0
Future Volume (vph)	57	79	0	0	0	83	0	1613	18	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		125	0		0
Storage Lanes	0		0	0		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	1825	0	0	0	1565	0	3539	1583	0	0	0
Flt Permitted		0.980										
Satd. Flow (perm)	0	1825	0	0	0	1565	0	3539	1583	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36				64			36			
Link Speed (mph)		55			35			55			55	
Link Distance (ft)		251			330			185			486	
Travel Time (s)		3.1			6.4			2.3			6.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	5%	5%	5%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	141	0	0	0	86	0	1680	19	0	0	0
Turn Type	Perm	NA				Perm		NA	Perm			
Protected Phases		7						2				
Permitted Phases	7					7			2			
Detector Phase	7	7				7		2	2			
Switch Phase												
Minimum Initial (s)	7.0	7.0				7.0		12.0	12.0			
Minimum Split (s)	16.0	16.0				16.0		19.0	19.0			
Total Split (s)	20.0	20.0				20.0		100.0	100.0			
Total Split (%)	16.7%	16.7%				16.7%		83.3%	83.3%			
Yellow Time (s)	5.0	5.0				5.0		5.0	5.0			
All-Red Time (s)	2.0	2.0				2.0		2.0	2.0			
Lost Time Adjust (s)		-2.0				-2.0		-2.0	-2.0			
Total Lost Time (s)		5.0				5.0		5.0	5.0			
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None				None		C-Max	C-Max			
Act Effct Green (s)		13.1				13.1		96.9	96.9			
Actuated g/C Ratio		0.11				0.11		0.81	0.81			
v/c Ratio		0.61				0.38		0.59	0.01			
Control Delay		49.1				22.4		2.0	0.0			
Queue Delay		0.0				0.0		0.0	0.0			
Total Delay		49.1				22.4		2.1	0.0			
LOS		D				C		A	A			
Approach Delay		49.1			22.4			2.0				
Approach LOS		D			C			A				
Queue Length 50th (ft)		77				16		34	0			
Queue Length 95th (ft)		145				65		32	m0			
Internal Link Dist (ft)		171			250			105			406	
Turn Bay Length (ft)									125			
Base Capacity (vph)		259				251		2858	1285			
Starvation Cap Reductn		0				0		33	0			
Spillback Cap Reductn		0				0		0	0			
Storage Cap Reductn		0				0		0	0			
Reduced v/c Ratio		0.54				0.34		0.59	0.01			

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 4 (3%), Referenced to phase 2:NBT and 6:, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 6.4	Intersection LOS: A
Intersection Capacity Utilization 70.2%	ICU Level of Service C
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: US 15/501 & Vickers Road

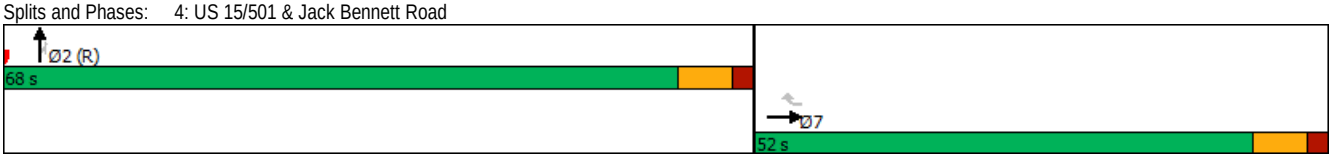


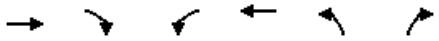
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑				↱		↑↑	↱			
Traffic Volume (vph)	0	163	0	0	0	445	0	1332	267	0	0	0
Future Volume (vph)	0	163	0	0	0	445	0	1332	267	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		450	0		0
Storage Lanes	0		0	0		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	1863	0	0	0	1611	0	3539	1583	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	0	1611	0	3539	1583	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						36			278			
Link Speed (mph)		55			45			55			55	
Link Distance (ft)		123			1272			502			548	
Travel Time (s)		1.5			19.3			6.2			6.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	170	0	0	0	464	0	1388	278	0	0	0
Turn Type		NA				Perm		NA	Perm			
Protected Phases		7						2				
Permitted Phases						7			2			
Detector Phase		7				7		2	2			
Switch Phase												
Minimum Initial (s)		7.0				7.0		12.0	12.0			
Minimum Split (s)		16.0				16.0		19.0	19.0			
Total Split (s)		52.0				52.0		68.0	68.0			
Total Split (%)		43.3%				43.3%		56.7%	56.7%			
Yellow Time (s)		5.0				5.0		5.0	5.0			
All-Red Time (s)		2.0				2.0		2.0	2.0			
Lost Time Adjust (s)		-2.0				-2.0		-2.0	-2.0			
Total Lost Time (s)		5.0				5.0		5.0	5.0			
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		None				None		C-Max	C-Max			
Act Effct Green (s)		39.4				39.4		70.6	70.6			
Actuated g/C Ratio		0.33				0.33		0.59	0.59			
v/c Ratio		0.28				0.84		0.67	0.27			
Control Delay		25.0				48.0		19.9	2.3			
Queue Delay		0.0				0.0		0.0	0.0			
Total Delay		25.0				48.0		19.9	2.3			
LOS		C				D		B	A			
Approach Delay		25.0			48.0			17.0				
Approach LOS		C			D			B				
Queue Length 50th (ft)		99				306		370	0			
Queue Length 95th (ft)		106				407		515	41			
Internal Link Dist (ft)		43			1192			422			468	
Turn Bay Length (ft)									450			
Base Capacity (vph)		729				652		2081	1045			
Starvation Cap Reductn		0				0		0	0			
Spillback Cap Reductn		0				0		0	0			
Storage Cap Reductn		0				0		0	0			
Reduced v/c Ratio		0.23				0.71		0.67	0.27			

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 0 (0%), Referenced to phase 2:NBT and 6:, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 23.8	Intersection LOS: C
Intersection Capacity Utilization 105.3%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 4: US 15/501 & Jack Bennett Road





Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	384	98	237	247	84	442
Future Volume (vph)	384	98	237	247	84	442
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			100		100	
Satd. Flow (prot)	1812	0	1770	1863	1639	0
Flt Permitted			0.950		0.992	
Satd. Flow (perm)	1812	0	1770	1863	1639	0
Link Speed (mph)	55			55	45	
Link Distance (ft)	1491			2698	1865	
Travel Time (s)	18.5			33.4	28.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	626	0	308	321	683	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 81.2%		ICU Level of Service D	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	220

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	384	98	237	247	84	442
Future Vol, veh/h	384	98	237	247	84	442
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	499	127	308	321	109	574

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	626	0	1500	563
Stage 1	-	-	-	-	563	-
Stage 2	-	-	-	-	937	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	956	-	134	~ 526
Stage 1	-	-	-	-	570	-
Stage 2	-	-	-	-	381	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	956	-	~ 91	~ 526
Mov Cap-2 Maneuver	-	-	-	-	~ 91	-
Stage 1	-	-	-	-	570	-
Stage 2	-	-	-	-	258	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.2	$ 619.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	298	-	-	956	-
HCM Lane V/C Ratio	2.292	-	-	0.322	-
HCM Control Delay (s)	$ 619.3	-	-	10.5	-
HCM Lane LOS	F	-	-	B	-
HCM 95th %tile Q(veh)	53	-	-	1.4	-

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

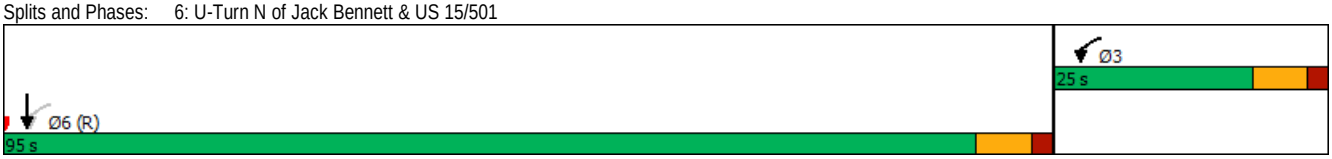
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	265	0	0	0	0	1044
Future Volume (vph)	265	0	0	0	0	1044
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	100				100	
Satd. Flow (prot)	1770	0	0	0	0	3539
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	0	0	3539
Right Turn on Red	Yes	Yes		Yes		
Satd. Flow (RTOR)						
Link Speed (mph)	55		55			55
Link Distance (ft)	51		431			143
Travel Time (s)	0.6		5.3			1.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	294	0	0	0	0	1160
Turn Type	pm+pt					NA
Protected Phases	3					6!
Permitted Phases	6!					
Detector Phase	3					6
Switch Phase						
Minimum Initial (s)	7.0					12.0
Minimum Split (s)	16.0					19.0
Total Split (s)	25.0					95.0
Total Split (%)	20.8%					79.2%
Yellow Time (s)	5.0					5.0
All-Red Time (s)	2.0					2.0
Lost Time Adjust (s)	-2.0					-2.0
Total Lost Time (s)	5.0					5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None					C-Max
Act Effct Green (s)	120.0					101.0
Actuated g/C Ratio	1.00					0.84
v/c Ratio	0.17					0.39
Control Delay	0.2					2.0
Queue Delay	0.0					0.0
Total Delay	0.2					2.0
LOS	A					A
Approach Delay	0.2					2.0
Approach LOS	A					A
Queue Length 50th (ft)	0					71
Queue Length 95th (ft)	0					56
Internal Link Dist (ft)	1		351			63
Turn Bay Length (ft)						
Base Capacity (vph)	1770					2978
Starvation Cap Reductn	0					0
Spillback Cap Reductn	0					0
Storage Cap Reductn	0					0
Reduced v/c Ratio	0.17					0.39

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 44 (37%), Referenced to phase 2: and 6:WBSB, Start of Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.39	
Intersection Signal Delay: 1.6	Intersection LOS: A
Intersection Capacity Utilization 78.7%	ICU Level of Service D
Analysis Period (min) 15	

! Phase conflict between lane groups.

Splits and Phases: 6: U-Turn N of Jack Bennett & US 15/501



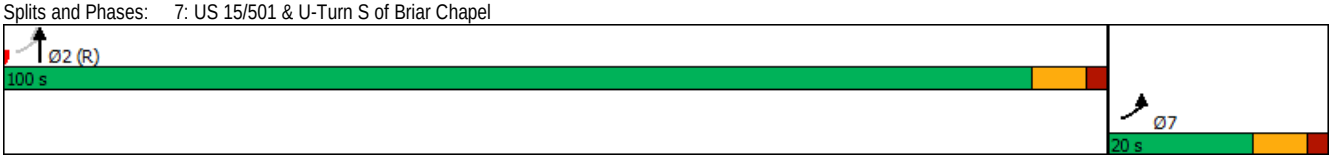
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	207	0	0	1532	0	0
Future Volume (vph)	207	0	0	1532	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	100		100			
Satd. Flow (prot)	1770	0	0	3539	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	3539	0	0
Right Turn on Red	Yes	Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	55			55	55	
Link Distance (ft)	53			160	512	
Travel Time (s)	0.7			2.0	6.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	230	0	0	1702	0	0
Turn Type	pm+pt			NA		
Protected Phases	7			2!		
Permitted Phases	2!					
Detector Phase	7			2		
Switch Phase						
Minimum Initial (s)	7.0			12.0		
Minimum Split (s)	16.0			19.0		
Total Split (s)	20.0			100.0		
Total Split (%)	16.7%			83.3%		
Yellow Time (s)	5.0			5.0		
All-Red Time (s)	2.0			2.0		
Lost Time Adjust (s)	-2.0			-2.0		
Total Lost Time (s)	5.0			5.0		
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None			C-Max		
Act Effct Green (s)	120.0			101.0		
Actuated g/C Ratio	1.00			0.84		
v/c Ratio	0.13			0.57		
Control Delay	0.1			2.3		
Queue Delay	0.0			0.0		
Total Delay	0.1			2.3		
LOS	A			A		
Approach Delay	0.1			2.3		
Approach LOS	A			A		
Queue Length 50th (ft)	0			77		
Queue Length 95th (ft)	0			94		
Internal Link Dist (ft)	1			80	432	
Turn Bay Length (ft)						
Base Capacity (vph)	1770			2978		
Starvation Cap Reductn	0			0		
Spillback Cap Reductn	0			0		
Storage Cap Reductn	0			0		
Reduced v/c Ratio	0.13			0.57		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 0 (0%), Referenced to phase 2:NBEB and 6:, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 2.0	Intersection LOS: A
Intersection Capacity Utilization 62.1%	ICU Level of Service B
Analysis Period (min) 15	

! Phase conflict between lane groups.

Splits and Phases: 7: US 15/501 & U-Turn S of Briar Chapel



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	66	0	0	0	0	1088
Future Volume (vph)	66	0	0	0	0	1088
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	100				100	
Satd. Flow (prot)	1770	0	0	0	0	3539
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	0	0	3539
Link Speed (mph)	55		55			55
Link Distance (ft)	47		1153			379
Travel Time (s)	0.6		14.3			4.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	73	0	0	0	0	1209
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 83.5%		ICU Level of Service E	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	66	0	0	0	0	1088
Future Vol, veh/h	66	0	0	0	0	1088
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	16974	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	73	0	0	0	0	1209

Major/Minor	Minor1			Major2	
Conflicting Flow All	605	-		-	-
Stage 1	0	-		-	-
Stage 2	605	-		-	-
Critical Hdwy	6.84	-		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	5.84	-		-	-
Follow-up Hdwy	3.52	-		-	-
Pot Cap-1 Maneuver	429	0		0	-
Stage 1	-	0		0	-
Stage 2	508	0		0	-
Platoon blocked, %					-
Mov Cap-1 Maneuver	429	-		-	-
Mov Cap-2 Maneuver	429	-		-	-
Stage 1	-	-		-	-
Stage 2	508	-		-	-

Approach	WB	SB
HCM Control Delay, s	15.1	0
HCM LOS	C	

Minor Lane/Major Mvmt	WBLn1	SBT
Capacity (veh/h)	429	-
HCM Lane V/C Ratio	0.171	-
HCM Control Delay (s)	15.1	-
HCM Lane LOS	C	-
HCM 95th %tile Q(veh)	0.6	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	62	1695	62	0	0
Future Volume (vph)	0	62	1695	62	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		100	0	
Storage Lanes	0	1		1	0	
Taper Length (ft)	100				100	
Satd. Flow (prot)	0	1611	3539	1583	0	0
Flt Permitted						
Satd. Flow (perm)	0	1611	3539	1583	0	0
Link Speed (mph)	25		55			55
Link Distance (ft)	262		486			908
Travel Time (s)	7.1		6.0			11.3
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	69	1883	69	0	0
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		

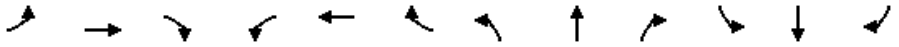
Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	62	1695	62	0	0
Future Vol, veh/h	0	62	1695	62	0	0
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	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	69	1883	69	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	942	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	264	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	264	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	23.4	0
HCM LOS	C	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	264
HCM Lane V/C Ratio	-	-	0.261
HCM Control Delay (s)	-	-	23.4
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	15	0	1678	13	0	0	1088
Future Volume (vph)	0	0	0	0	0	15	0	1678	13	0	0	1088
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	50		0
Storage Lanes	0		0	0		1	0		0	0		2
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	0	0	0	0	1611	0	3536	0	0	0	2787
Flt Permitted												
Satd. Flow (perm)	0	0	0	0	0	1611	0	3536	0	0	0	2787
Link Speed (mph)		55			25			55			55	
Link Distance (ft)		379			379			378			839	
Travel Time (s)		4.7			10.3			4.7			10.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	17	0	1878	0	0	0	1209
Sign Control		Free			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 56.8%		ICU Level of Service B	
Analysis Period (min) 15			

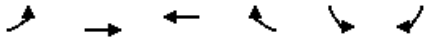
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	15	0	1678	13	0	0	1088
Future Vol, veh/h	0	0	0	0	0	15	0	1678	13	0	0	1088
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16979	-
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	0	0	0	0	0	17	0	1864	14	0	0	1209

Major/Minor	Minor1			Major1		
Conflicting Flow All	-	-	939	-	0	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	0	265	0	-	-
Stage 1	0	0	-	0	-	-
Stage 2	0	0	-	0	-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	-	0	265	-	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	-	0	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	19.5	0
HCM LOS	C	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	265
HCM Lane V/C Ratio	-	-	0.063
HCM Control Delay (s)	-	-	19.5
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.2



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	13	85	58	4	4	26
Future Volume (vph)	13	85	58	4	4	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	-5%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	100				100	
Satd. Flow (prot)	0	1852	1894	0	1631	0
Flt Permitted		0.994			0.994	
Satd. Flow (perm)	0	1852	1894	0	1631	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		392	692		576	
Travel Time (s)		7.6	13.5		15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	108	68	0	33	0
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	85	58	4	4	26
Future Vol, veh/h	13	85	58	4	4	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	-5	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	94	64	4	4	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	68	0	-	0	188	66
Stage 1	-	-	-	-	66	-
Stage 2	-	-	-	-	122	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1533	-	-	-	801	998
Stage 1	-	-	-	-	957	-
Stage 2	-	-	-	-	903	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1533	-	-	-	793	998
Mov Cap-2 Maneuver	-	-	-	-	793	-
Stage 1	-	-	-	-	947	-
Stage 2	-	-	-	-	903	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	8.9
HCM LOS			A

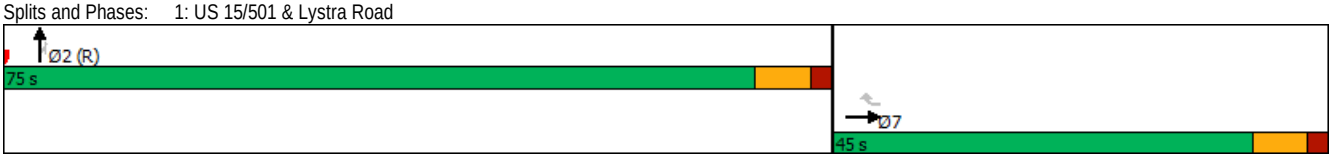
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1533	-	-	-	965
HCM Lane V/C Ratio	0.009	-	-	-	0.035
HCM Control Delay (s)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

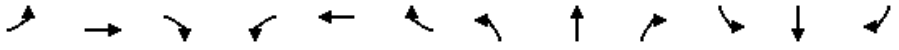
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	284	0	0	0	565	0	1185	80	0	0	0
Future Volume (vph)	0	284	0	0	0	565	0	1185	80	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		200	0		200	0		0
Storage Lanes	0		0	0		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	1863	0	0	0	2787	0	3539	1583	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	0	2787	0	3539	1583	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						100			83			
Link Speed (mph)		55			45			55			30	
Link Distance (ft)		196			880			640			849	
Travel Time (s)		2.4			13.3			7.9			19.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	309	0	0	0	614	0	1288	87	0	0	0
Turn Type		NA				Perm		NA	Perm			
Protected Phases		7						2				
Permitted Phases						7			2			
Detector Phase		7				7		2	2			
Switch Phase												
Minimum Initial (s)		7.0				7.0		12.0	12.0			
Minimum Split (s)		16.0				16.0		19.0	19.0			
Total Split (s)		45.0				45.0		75.0	75.0			
Total Split (%)		37.5%				37.5%		62.5%	62.5%			
Yellow Time (s)		5.0				5.0		5.0	5.0			
All-Red Time (s)		2.0				2.0		2.0	2.0			
Lost Time Adjust (s)		-2.0				-2.0		-2.0	-2.0			
Total Lost Time (s)		5.0				5.0		5.0	5.0			
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		None				None		C-Max	C-Max			
Act Effct Green (s)		31.3				31.3		78.7	78.7			
Actuated g/C Ratio		0.26				0.26		0.66	0.66			
v/c Ratio		0.64				0.77		0.56	0.08			
Control Delay		44.7				40.3		13.2	2.5			
Queue Delay		0.0				0.0		0.0	0.0			
Total Delay		44.7				40.3		13.2	2.5			
LOS		D				D		B	A			
Approach Delay		44.7			40.3			12.5				
Approach LOS		D			D			B				
Queue Length 50th (ft)		213				212		260	1			
Queue Length 95th (ft)		280				259		392	23			
Internal Link Dist (ft)		116			800			560			769	
Turn Bay Length (ft)						200			200			
Base Capacity (vph)		621				995		2320	1066			
Starvation Cap Reductn		0				0		0	0			
Spillback Cap Reductn		0				0		0	0			
Storage Cap Reductn		0				0		0	0			
Reduced v/c Ratio		0.50				0.62		0.56	0.08			

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 59 (49%), Referenced to phase 2:NBT and 6:, Start of Green	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 24.3	Intersection LOS: C
Intersection Capacity Utilization 110.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 1: US 15/501 & Lystra Road





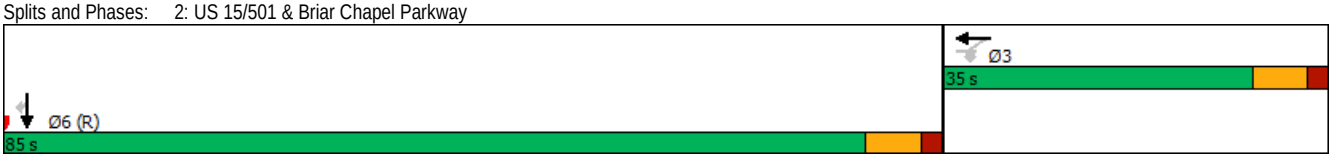
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	213	4	155	0	0	0	0	0	1536	184
Future Volume (vph)	0	0	213	4	155	0	0	0	0	0	1536	184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		100
Storage Lanes	0		1	0		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	0	1611	0	1861	0	0	0	0	0	3539	1583
Flt Permitted					0.999							
Satd. Flow (perm)	0	0	1611	0	1861	0	0	0	0	0	3539	1583
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)			42		36							103
Link Speed (mph)		35			55			55			55	
Link Distance (ft)		683			203			709			230	
Travel Time (s)		13.3			2.5			8.8			2.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	224	0	167	0	0	0	0	0	1617	194
Turn Type			Perm	Perm	NA						NA	Perm
Protected Phases					3						6	
Permitted Phases			3	3								6
Detector Phase			3	3	3						6	6
Switch Phase												
Minimum Initial (s)			7.0	7.0	7.0						12.0	12.0
Minimum Split (s)			16.0	16.0	16.0						19.0	19.0
Total Split (s)			35.0	35.0	35.0						85.0	85.0
Total Split (%)			29.2%	29.2%	29.2%						70.8%	70.8%
Yellow Time (s)			5.0	5.0	5.0						5.0	5.0
All-Red Time (s)			2.0	2.0	2.0						2.0	2.0
Lost Time Adjust (s)			-2.0		-2.0						-2.0	-2.0
Total Lost Time (s)			5.0		5.0						5.0	5.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode			None	None	None						C-Max	C-Max
Act Effct Green (s)			21.1		21.1						88.9	88.9
Actuated g/C Ratio			0.18		0.18						0.74	0.74
v/c Ratio			0.70		0.47						0.62	0.16
Control Delay			49.0		37.9						9.5	3.0
Queue Delay			0.0		0.0						0.0	0.0
Total Delay			49.0		37.9						9.5	3.0
LOS			D		D						A	A
Approach Delay		49.0			37.9						8.8	
Approach LOS		D			D						A	
Queue Length 50th (ft)			134		91						274	17
Queue Length 95th (ft)			206		159						432	48
Internal Link Dist (ft)		603			123			629			150	
Turn Bay Length (ft)												100
Base Capacity (vph)			434		492						2621	1199
Starvation Cap Reductn			0		0						0	0
Spillback Cap Reductn			0		0						0	0
Storage Cap Reductn			0		0						0	0
Reduced v/c Ratio			0.52		0.34						0.62	0.16

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120

Offset: 48 (40%), Referenced to phase 2: and 6:SBT, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 15.1	Intersection LOS: B
Intersection Capacity Utilization 76.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: US 15/501 & Briar Chapel Parkway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	96	0	0	0	72	0	1220	18	0	0	0
Future Volume (vph)	84	96	0	0	0	72	0	1220	18	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		125	0		0
Storage Lanes	0		0	0		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	1820	0	0	0	1611	0	3539	1583	0	0	0
Flt Permitted		0.977										
Satd. Flow (perm)	0	1820	0	0	0	1611	0	3539	1583	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36				99			36			
Link Speed (mph)		55			35			55			55	
Link Distance (ft)		252			330			183			479	
Travel Time (s)		3.1			6.4			2.3			5.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	189	0	0	0	76	0	1284	19	0	0	0
Turn Type	Perm	NA				Perm		NA	Perm			
Protected Phases		7						2				
Permitted Phases	7					7			2			
Detector Phase	7	7				7		2	2			
Switch Phase												
Minimum Initial (s)	7.0	7.0				7.0		12.0	12.0			
Minimum Split (s)	16.0	16.0				16.0		19.0	19.0			
Total Split (s)	30.0	30.0				30.0		90.0	90.0			
Total Split (%)	25.0%	25.0%				25.0%		75.0%	75.0%			
Yellow Time (s)	5.0	5.0				5.0		5.0	5.0			
All-Red Time (s)	2.0	2.0				2.0		2.0	2.0			
Lost Time Adjust (s)		-2.0				-2.0		-2.0	-2.0			
Total Lost Time (s)		5.0				5.0		5.0	5.0			
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None				None		C-Max	C-Max			
Act Effct Green (s)		17.5				17.5		92.5	92.5			
Actuated g/C Ratio		0.15				0.15		0.77	0.77			
v/c Ratio		0.64				0.24		0.47	0.02			
Control Delay		48.0				5.9		4.9	0.9			
Queue Delay		0.0				0.0		0.0	0.0			
Total Delay		48.0				5.9		4.9	0.9			
LOS		D				A		A	A			
Approach Delay		48.0			5.9			4.8				
Approach LOS		D			A			A				
Queue Length 50th (ft)		113				0		46	0			
Queue Length 95th (ft)		180				26		286	m1			
Internal Link Dist (ft)		172			250			103			399	
Turn Bay Length (ft)									125			
Base Capacity (vph)		407				414		2726	1227			
Starvation Cap Reductn		0				0		189	0			
Spillback Cap Reductn		0				0		0	0			
Storage Cap Reductn		0				0		0	0			
Reduced v/c Ratio		0.46				0.18		0.51	0.02			

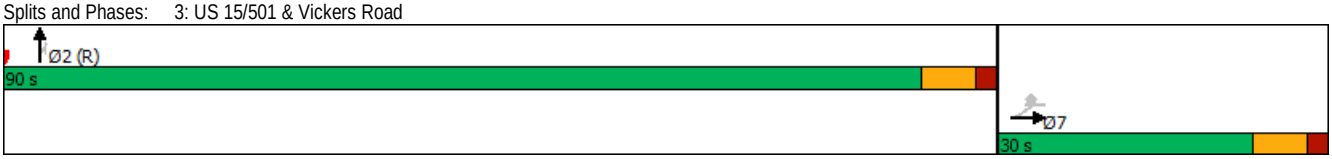
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120

Offset: 6 (5%), Referenced to phase 2:NBT and 6:, Start of Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 10.1	Intersection LOS: B
Intersection Capacity Utilization 61.8%	ICU Level of Service B
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: US 15/501 & Vickers Road

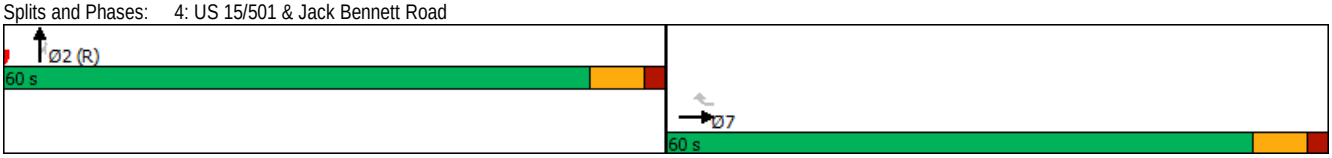


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	215	0	0	0	514	0	1025	164	0	0	0
Future Volume (vph)	0	215	0	0	0	514	0	1025	164	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		450	0		0
Storage Lanes	0		0	0		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	1863	0	0	0	1611	0	3539	1583	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	0	1611	0	3539	1583	0	0	0
Right Turn on Red	Yes		Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						46			173			
Link Speed (mph)		55			45			55			55	
Link Distance (ft)		123			1272			502			548	
Travel Time (s)		1.5			19.3			6.2			6.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	226	0	0	0	541	0	1079	173	0	0	0
Turn Type		NA				Perm		NA	Perm			
Protected Phases		7						2				
Permitted Phases						7			2			
Detector Phase		7				7		2	2			
Switch Phase												
Minimum Initial (s)		7.0				7.0		12.0	12.0			
Minimum Split (s)		16.0				16.0		19.0	19.0			
Total Split (s)		60.0				60.0		60.0	60.0			
Total Split (%)		50.0%				50.0%		50.0%	50.0%			
Yellow Time (s)		5.0				5.0		5.0	5.0			
All-Red Time (s)		2.0				2.0		2.0	2.0			
Lost Time Adjust (s)		-2.0				-2.0		-2.0	-2.0			
Total Lost Time (s)		5.0				5.0		5.0	5.0			
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		None				None		C-Max	C-Max			
Act Effct Green (s)		45.9				45.9		64.1	64.1			
Actuated g/C Ratio		0.38				0.38		0.53	0.53			
v/c Ratio		0.32				0.84		0.57	0.19			
Control Delay		26.3				42.4		21.6	3.2			
Queue Delay		0.0				0.0		0.0	0.0			
Total Delay		26.3				42.4		21.6	3.2			
LOS		C				D		C	A			
Approach Delay		26.3			42.4			19.1				
Approach LOS		C			D			B				
Queue Length 50th (ft)		109				343		291	0			
Queue Length 95th (ft)		149				441		410	39			
Internal Link Dist (ft)		43			1192			422			468	
Turn Bay Length (ft)									450			
Base Capacity (vph)		853				763		1890	926			
Starvation Cap Reductn		0				0		0	0			
Spillback Cap Reductn		0				0		0	0			
Storage Cap Reductn		0				0		0	0			
Reduced v/c Ratio		0.26				0.71		0.57	0.19			

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 55 (46%), Referenced to phase 2:NBT and 6:, Start of Green	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 26.1	Intersection LOS: C
Intersection Capacity Utilization 116.7%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 4: US 15/501 & Jack Bennett Road



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	187	41	425	291	36	200
Future Volume (vph)	187	41	425	291	36	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			100		100	
Satd. Flow (prot)	1818	0	1770	1863	1637	0
Flt Permitted			0.950		0.992	
Satd. Flow (perm)	1818	0	1770	1863	1637	0
Link Speed (mph)	55			55	45	
Link Distance (ft)	1491			2698	1865	
Travel Time (s)	18.5			33.4	28.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	254	0	472	323	262	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.2%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	11.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	187	41	425	291	36	200
Future Vol, veh/h	187	41	425	291	36	200
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
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	208	46	472	323	40	222

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	254	0	1498	231
Stage 1	-	-	-	-	231	-
Stage 2	-	-	-	-	1267	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1311	-	135	808
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	265	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1311	-	86	808
Mov Cap-2 Maneuver	-	-	-	-	86	-
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	170	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.5	39.3
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	354	-	-	1311	-
HCM Lane V/C Ratio	0.741	-	-	0.36	-
HCM Control Delay (s)	39.3	-	-	9.3	-
HCM Lane LOS	E	-	-	A	-
HCM 95th %tile Q(veh)	5.7	-	-	1.7	-

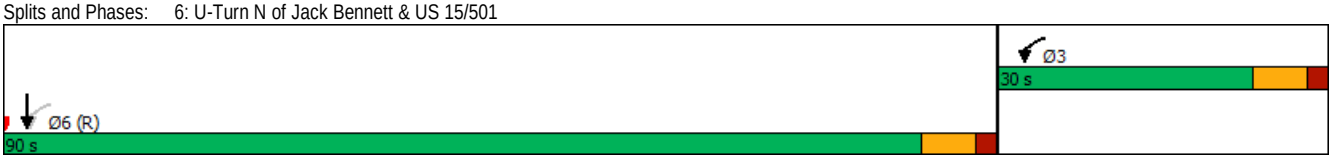
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	341	0	0	0	0	1616
Future Volume (vph)	341	0	0	0	0	1616
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	100				100	
Satd. Flow (prot)	1770	0	0	0	0	3539
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	0	0	3539
Right Turn on Red	Yes	Yes		Yes		
Satd. Flow (RTOR)						
Link Speed (mph)	55		55			55
Link Distance (ft)	51		431			143
Travel Time (s)	0.6		5.3			1.8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	379	0	0	0	0	1796
Turn Type	pm+pt					NA
Protected Phases	3					6!
Permitted Phases	6!					
Detector Phase	3					6
Switch Phase						
Minimum Initial (s)	7.0					12.0
Minimum Split (s)	16.0					19.0
Total Split (s)	30.0					90.0
Total Split (%)	25.0%					75.0%
Yellow Time (s)	5.0					5.0
All-Red Time (s)	2.0					2.0
Lost Time Adjust (s)	-2.0					-2.0
Total Lost Time (s)	5.0					5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None					C-Max
Act Effct Green (s)	120.0					100.9
Actuated g/C Ratio	1.00					0.84
v/c Ratio	0.21					0.60
Control Delay	0.2					4.0
Queue Delay	0.0					0.0
Total Delay	0.2					4.1
LOS	A					A
Approach Delay	0.2					4.1
Approach LOS	A					A
Queue Length 50th (ft)	0					143
Queue Length 95th (ft)	0					291
Internal Link Dist (ft)	1		351			63
Turn Bay Length (ft)						
Base Capacity (vph)	1770					2974
Starvation Cap Reductn	0					98
Spillback Cap Reductn	0					0
Storage Cap Reductn	0					0
Reduced v/c Ratio	0.21					0.62

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 6 (5%), Referenced to phase 2: and 6:WBSB, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 3.4	Intersection LOS: A
Intersection Capacity Utilization 87.0%	ICU Level of Service E
Analysis Period (min) 15	

! Phase conflict between lane groups.

Splits and Phases: 6: U-Turn N of Jack Bennett & US 15/501



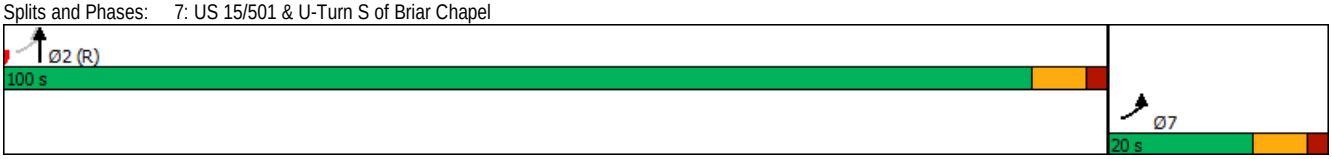
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	137	0	0	1261	0	0
Future Volume (vph)	137	0	0	1261	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	100		100			
Satd. Flow (prot)	1770	0	0	3539	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	3539	0	0
Right Turn on Red	Yes	Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	55			55	55	
Link Distance (ft)	53			160	513	
Travel Time (s)	0.7			2.0	6.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	0	0	1401	0	0
Turn Type	pm+pt			NA		
Protected Phases	7			2!		
Permitted Phases	2!					
Detector Phase	7			2		
Switch Phase						
Minimum Initial (s)	7.0			12.0		
Minimum Split (s)	16.0			19.0		
Total Split (s)	20.0			100.0		
Total Split (%)	16.7%			83.3%		
Yellow Time (s)	5.0			5.0		
All-Red Time (s)	2.0			2.0		
Lost Time Adjust (s)	-2.0			-2.0		
Total Lost Time (s)	5.0			5.0		
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None			C-Max		
Act Effct Green (s)	120.0			101.0		
Actuated g/C Ratio	1.00			0.84		
v/c Ratio	0.09			0.47		
Control Delay	0.1			2.4		
Queue Delay	0.0			0.0		
Total Delay	0.1			2.4		
LOS	A			A		
Approach Delay	0.1			2.4		
Approach LOS	A			A		
Queue Length 50th (ft)	0			67		
Queue Length 95th (ft)	0			147		
Internal Link Dist (ft)	1			80	433	
Turn Bay Length (ft)						
Base Capacity (vph)	1770			2978		
Starvation Cap Reductn	0			0		
Spillback Cap Reductn	0			0		
Storage Cap Reductn	0			0		
Reduced v/c Ratio	0.09			0.47		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	

Offset: 119 (99%), Referenced to phase 2:NBEB and 6:, Start of Green	
Natural Cycle: 40	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.47	
Intersection Signal Delay: 2.2	Intersection LOS: A
Intersection Capacity Utilization 50.8%	ICU Level of Service A
Analysis Period (min) 15	

! Phase conflict between lane groups.

Splits and Phases: 7: US 15/501 & U-Turn S of Briar Chapel



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	71	0	0	0	0	1834
Future Volume (vph)	71	0	0	0	0	1834
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	100				100	
Satd. Flow (prot)	1770	0	0	0	0	3539
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	0	0	3539
Link Speed (mph)	55		55			55
Link Distance (ft)	47		1153			398
Travel Time (s)	0.6		14.3			4.9
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	79	0	0	0	0	2038
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 93.0%		ICU Level of Service F	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	71	0	0	0	0	1834
Future Vol, veh/h	71	0	0	0	0	1834
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	16974	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	79	0	0	0	0	2038

Major/Minor	Minor1			Major2	
Conflicting Flow All	1019	-		-	-
Stage 1	0	-		-	-
Stage 2	1019	-		-	-
Critical Hdwy	6.84	-		-	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	5.84	-		-	-
Follow-up Hdwy	3.52	-		-	-
Pot Cap-1 Maneuver	233	0		0	-
Stage 1	-	0		0	-
Stage 2	309	0		0	-
Platoon blocked, %					-
Mov Cap-1 Maneuver	233	-		-	-
Mov Cap-2 Maneuver	233	-		-	-
Stage 1	-	-		-	-
Stage 2	309	-		-	-

Approach	WB	SB
HCM Control Delay, s	28.2	0
HCM LOS	D	

Minor Lane/Major Mvmt	WBLn1	SBT
Capacity (veh/h)	233	-
HCM Lane V/C Ratio	0.339	-
HCM Control Delay (s)	28.2	-
HCM Lane LOS	D	-
HCM 95th %tile Q(veh)	1.4	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	59	1302	78	0	0
Future Volume (vph)	0	59	1302	78	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		100	0	
Storage Lanes	0	1		1	0	
Taper Length (ft)	100				100	
Satd. Flow (prot)	0	1611	3539	1583	0	0
Flt Permitted						
Satd. Flow (perm)	0	1611	3539	1583	0	0
Link Speed (mph)	25		55			55
Link Distance (ft)	262		479			915
Travel Time (s)	7.1		5.9			11.3
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	66	1447	87	0	0
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	46.3%	ICU Level of Service	A
Analysis Period (min)	15		

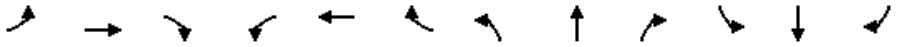
Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	59	1302	78	0	0
Future Vol, veh/h	0	59	1302	78	0	0
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	-	100	-	-
Veh in Median Storage, #	0	-	0	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	66	1447	87	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	724	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	368	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	368	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	16.9	0
HCM LOS	C	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	368
HCM Lane V/C Ratio	-	-	0.178
HCM Control Delay (s)	-	-	16.9
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	15	0	1272	17	0	0	1834
Future Volume (vph)	0	0	0	0	0	15	0	1272	17	0	0	1834
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	50		0
Storage Lanes	0		0	0		1	0		0	0		2
Taper Length (ft)	100			100			100			100		
Satd. Flow (prot)	0	0	0	0	0	1611	0	3532	0	0	0	2787
Flt Permitted												
Satd. Flow (perm)	0	0	0	0	0	1611	0	3532	0	0	0	2787
Link Speed (mph)		55			25			55			55	
Link Distance (ft)		398			379			398			841	
Travel Time (s)		4.9			10.3			4.9			10.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	17	0	1432	0	0	0	2038
Sign Control		Free			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 67.5%		ICU Level of Service C	
Analysis Period (min) 15			

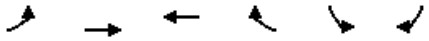
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	15	0	1272	17	0	0	1834
Future Vol, veh/h	0	0	0	0	0	15	0	1272	17	0	0	1834
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16979	-
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	0	0	0	0	0	17	0	1413	19	0	0	2038

Major/Minor	Minor1			Major1		
Conflicting Flow All	-	-	716	-	0	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	0	373	0	-	-
Stage 1	0	0	-	0	-	-
Stage 2	0	0	-	0	-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	-	0	373	-	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-
Stage 1	-	0	-	-	-	-
Stage 2	-	0	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	15.1	0
HCM LOS	C	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	373
HCM Lane V/C Ratio	-	-	0.045
HCM Control Delay (s)	-	-	15.1
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.1



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	17	98	48	4	4	25
Future Volume (vph)	17	98	48	4	4	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	-5%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	100				100	
Satd. Flow (prot)	0	1850	1892	0	1633	0
Flt Permitted		0.993			0.994	
Satd. Flow (perm)	0	1850	1892	0	1633	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		392	692		576	
Travel Time (s)		7.6	13.5		15.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	128	57	0	32	0
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	98	48	4	4	25
Future Vol, veh/h	17	98	48	4	4	25
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	-5	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	19	109	53	4	4	28

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	57	0	-	0	202	55
Stage 1	-	-	-	-	55	-
Stage 2	-	-	-	-	147	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1547	-	-	-	787	1012
Stage 1	-	-	-	-	968	-
Stage 2	-	-	-	-	880	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1547	-	-	-	777	1012
Mov Cap-2 Maneuver	-	-	-	-	777	-
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	880	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	8.8
HCM LOS			A

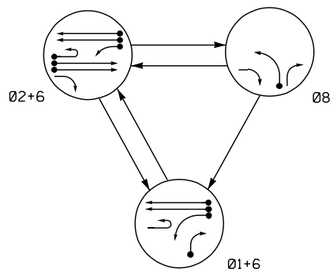
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1547	-	-	-	971
HCM Lane V/C Ratio	0.012	-	-	-	0.033
HCM Control Delay (s)	7.4	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Appendix L:

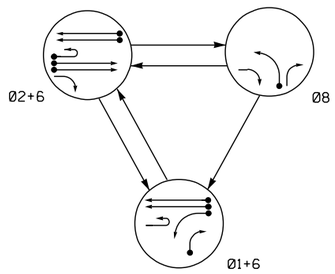
- Traffic Signal Plans

PROJECT REFERENCE NO.	SHEET NO.
08-0429 TOD	Sig. 1

DEFAULT PHASING DIAGRAM



ALTERNATE PHASING DIAGRAM



DEFAULT PHASING TABLE OF OPERATION

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

ALTERNATE PHASING TABLE OF OPERATION

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

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
1A	6X60	0	2-4-2	-	1	Y	Y	-	-	15**	-	-
					6 #	Y	Y	Y	-	3	-	-
1B	6X60*	0	2-4-2	-	1	Y	Y	-	-	15	-	-
2A	6X6	420	4	-	2	Y	Y	-	-	-	-	-
2B	6X6	420	4	-	2	Y	Y	-	-	-	-	-
2C	6X40	0	2-4-2	-	2	Y	Y	Y	-	3	-	-
6A	6X6	420	4	-	6	Y	Y	-	-	-	-	-
6B	6X6	420	4	-	6	Y	Y	-	-	-	-	-
8A	6X60	0	2-4-2	-	8	Y	Y	-	-	-	-	-

* Dogleg Loop
** Disable Delay During Alternate Phasing Operation.
\# Disable Phase 6 Call For Loop 1A During Alternate Phasing Operation.

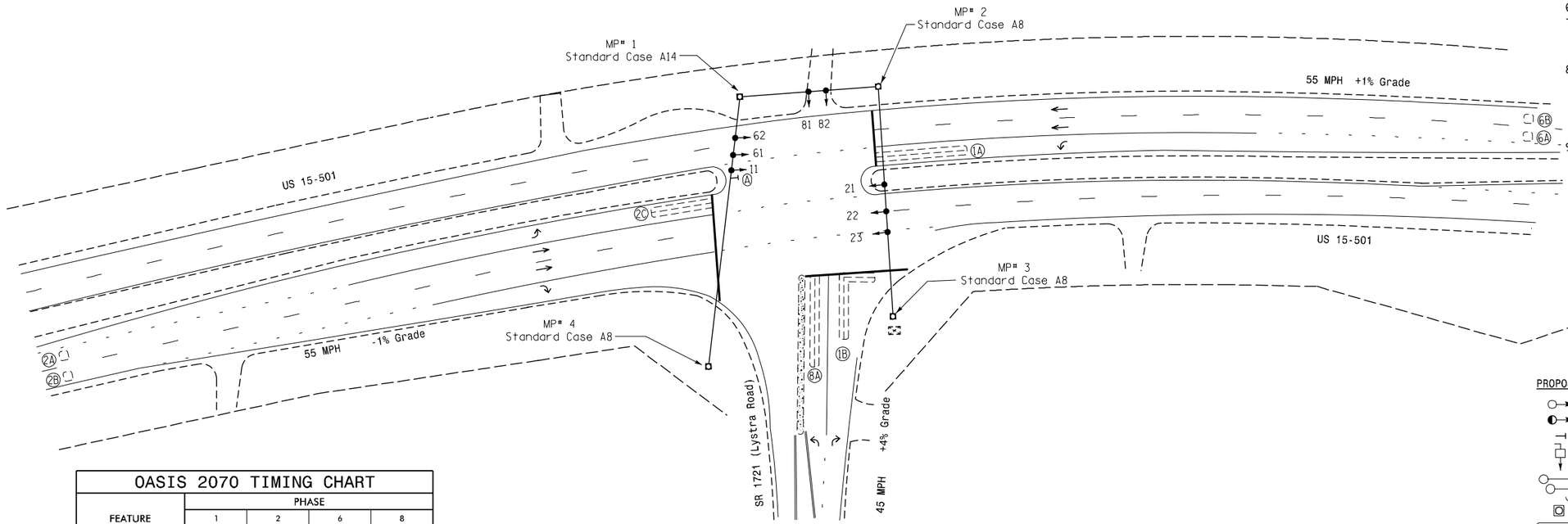
3 Phase
Fully Actuated
(US 15-501 CLS)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012, "Standard Specifications for Roads and Structures" dated January 2012
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 may be lagged.
4. Set all detector units to presence mode.
5. In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
6. Pavement markings are existing.
7. The Division Traffic Engineer will determine the hours of use for each phasing plan.
8. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
9. Closed loop system data:
   Controller Asset #: 0429.

PHASING DIAGRAM DETECTION LEGEND

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



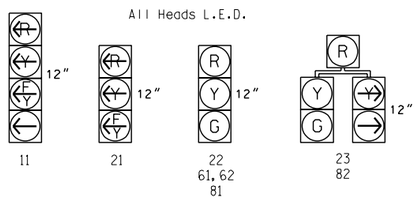
OASIS 2070 TIMING CHART

FEATURE	PHASE 1	PHASE 2	PHASE 6	PHASE 8
Min Green 1 *	7	14	14	7
Extension 1 *	1.0	6.0	6.0	1.0
Max Green 1 *	25	120	120	40
Yellow Clearance	3.0	5.3	5.3	3.0
Red Clearance	3.1	1.2	1.2	3.1
Red Revert	2.0	2.0	2.0	2.0
Walk 1 *	-	-	-	-
Don't Walk 1	-	-	-	-
Seconds Per Actuation *	-	1.5	1.5	-
Max Variable Initial *	-	46	46	-
Time Before Reduction *	-	15	15	-
Time To Reduce *	-	30	30	-
Minimum Gap	-	4.0	4.0	-
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.

SIGNAL FACE I.D.

All Heads L.E.D.



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	●↓
◘	Metal Strain Pole	■
▭	Inductive Loop Detector	▭
⊠	Controller & Cabinet	⊠
□	Junction Box	■
·-·-·-·	2-in Underground Conduit	·-·-·-·
N/A	Right of Way	— — —
→	Directional Arrow	→
Ⓐ	"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
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

US 15-501 at SR 1721 (Lystra Road)

Division 8 Chatham County NE of Pittsboro

PLAN DATE: March 2017 REVIEWED BY:
PREPARED BY: R.J. Ziemba REVIEWED BY:

REVISIONS	INIT.	DATE

SCALE 0 40 1"=40'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 026486 ENGINEER ROBERT J. ZIEMBA
DocuSigned by: 3/23/2017
DATE

SIG. INVENTORY NO. 08-0429

23-MAR-2017 15:14
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rziemba

PROJECT REFERENCE NO.	SHEET NO.
Protected Left	Sig. 1

3 Phase
Fully Actuated
(US 15-501 CLS)
Signal System #: 10822

PHASING DIAGRAM

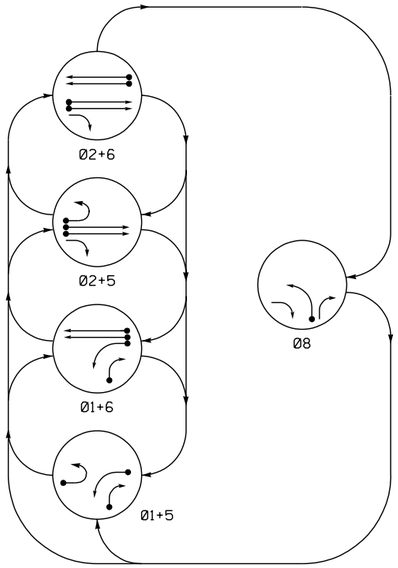


TABLE OF OPERATION

SIGNAL FACE	PHASE					
	Ø1+5	Ø1+6	Ø2+5	Ø2+6	Ø8	FLASH
11	←	←	~~R~~	~~R~~	~~R~~	~~R~~
22	R	R	G	G	R	Y
23	R	R	G	G	R/	Y
51	∩	(R)	∩	(R)	(R)	(R)
61, 62	R	G	R	G	R	Y
81	R	R	R	R	G	R
82	R/	R/	R	R	G	R

OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

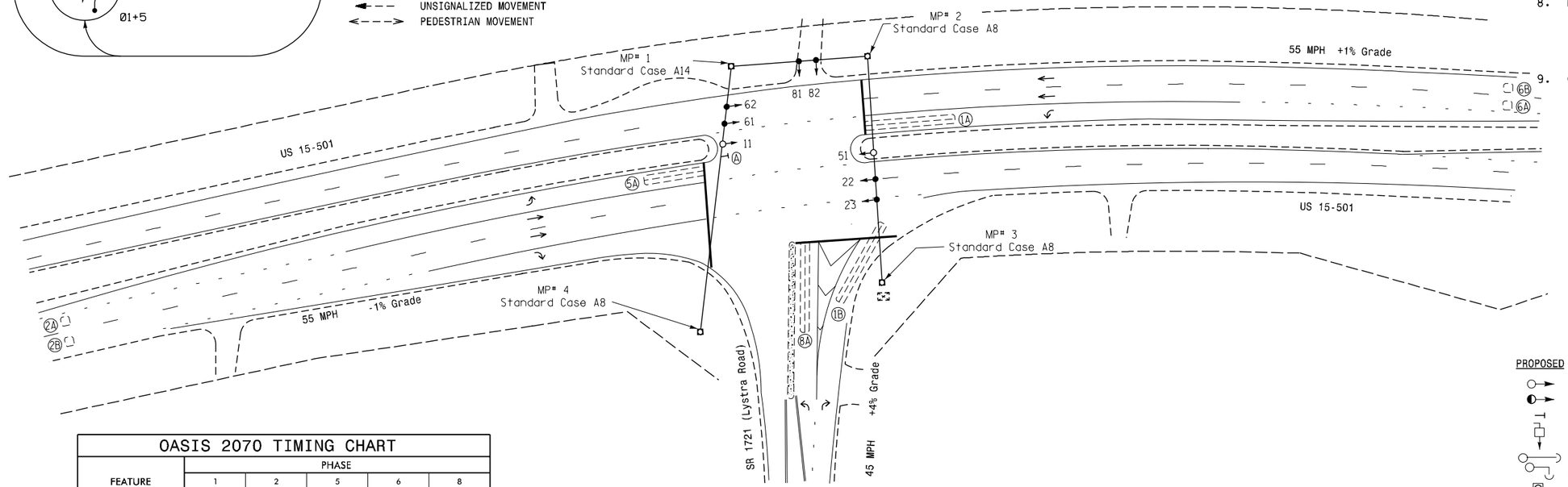
INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
1A	6X60	0	2-4-2	-	1	Y	Y	-	-	-	-	-
1B	6X60	+10	2-4-2	-	1	Y	Y	-	-	15	-	-
2A	6X6	420	4	-	2	Y	Y	-	-	-	-	-
2B	6X6	420	4	-	2	Y	Y	-	-	-	-	-
5A	6X40	0	2-4-2	-	5	Y	Y	-	-	-	-	Y
6A	6X6	420	4	-	6	Y	Y	-	-	-	-	-
6B	6X6	420	4	-	6	Y	Y	-	-	-	-	-
8A	6X60	0	2-4-2	-	8	Y	Y	-	-	-	-	-

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2018, "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 may be lagged.
4. Renumber existing loop 2C as 5A.
5. Set all detector units to presence mode.
6. In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
7. Pavement markings are existing.
8. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
9. Closed loop system data:
   Controller Asset #: 0429.

PHASING DIAGRAM DETECTION LEGEND

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



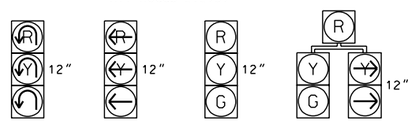
OASIS 2070 TIMING CHART

FEATURE	PHASE				
	1	2	5	6	8
Min Green 1 *	7	14	7	14	7
Extension 1 *	1.0	6.0	1.0	6.0	1.0
Max Green 1 *	25	120	25	120	40
Yellow Clearance	3.0	5.3	3.0	5.1	3.0
Red Clearance	3.1	1.2	2.4	1.1	3.1
Red Revert	2.0	2.0	2.0	2.0	2.0
Walk 1 *	-	-	-	-	-
Don't Walk 1	-	-	-	-	-
Seconds Per Actuation *	-	1.5	-	1.5	-
Max Variable Initial *	-	46	-	45	-
Time Before Reduction *	-	15	-	15	-
Time To Reduce *	-	30	-	30	-
Minimum Gap	-	4.0	-	4.0	-
Recall Mode	-	MIN RECALL	-	MIN RECALL	-
Vehicle Call Memory	-	YELLOW	-	YELLOW	-
Dual Entry	-	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON	ON

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

SIGNAL FACE I.D.

All Heads L.E.D.



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	
	Metal Strain Pole	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	
Ⓐ	"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
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

US 15-501
at
SR 1721 (Lystra Road)

Division 8 Chatham County NE of Pittsboro

PLAN DATE: December 2019 REVIEWED BY: I.O. Imozurike
PREPARED BY: W. LeShure REVIEWED BY:

REVISIONS	INIT.	DATE

SCALE 0 40 1"=40'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 026486 ENGINEER ROBERT J. ZIEMBA
Docusigned by: 12/19/2019
SIGNATURE DATE
SIG. INVENTORY NO. 08-0429

19-DEC-2019 15:56
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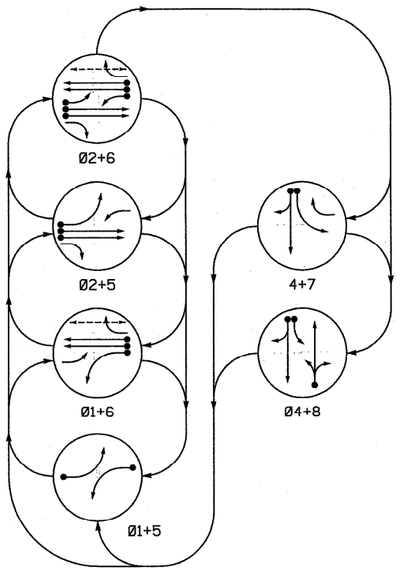
rziemba

PROJECT REFERENCE NO.	SHEET NO.
36249.3087	SIG. 1

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

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

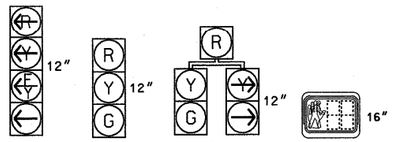
TABLE OF OPERATION

SIGNAL FACE	PHASE 01+05	01+06	02+05	02+06	04+07	04+08	FLASH
11	←	←	F.Y.	F.Y.	R	R	Y
21, 22	R	R	G	G	R	R	Y
41, 42, 43	R	R	R	R	G	G	R
51	←	F.Y.	←	F.Y.	R	R	Y
61	R	G	R	G	R	R	Y
62	R	G	R	G	R/	R	Y
71	R	R	R	R	←	F.Y.	R
81, 82	R	R	R	R	R	G	R
P61, P62	DW	W	DW	W	DW	DW	DRK

F.Y. = Flashing Yellow Arrow

SIGNAL FACE I.D.

All Heads L.E.D.

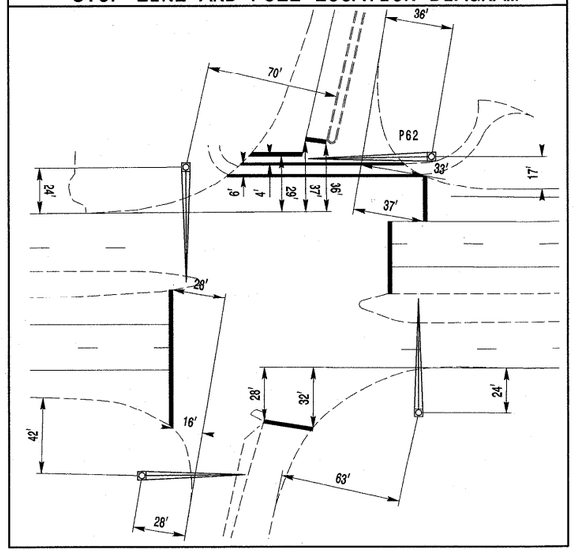


11, 51, 71 — 21, 22, 41, 42, 43, 61, 81, 82 — 62 — P61, P62

OASIS 2070L 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
1A	6X40	0	2-4-2	Y	1	Y	Y	-	-	15	-	Y
					6	Y	Y	Y	-	3	-	Y
2A	6X6	420	6	Y	2	Y	Y	-	-	-	-	Y
2B	6X6	420	6	Y	2	Y	Y	-	-	-	-	Y
4A	6X40	0	2-4-2	Y	4	Y	Y	-	-	10	-	Y
4B	6X6	0	4	Y	4	Y	Y	-	-	15	-	Y
5A	6X40	0	2-4-2	Y	5	Y	Y	-	-	15	-	Y
					2	Y	Y	Y	-	3	-	Y
6A	6X6	420	6	Y	6	Y	Y	-	-	-	-	Y
6B	6X6	420	6	Y	6	Y	Y	-	-	-	-	Y
7A	6X40	0	2-4-2	Y	7	Y	Y	-	-	15	-	Y
					4	Y	Y	-	-	-	-	Y
8A	6X40	0	2-4-2	Y	8	Y	Y	-	-	10	-	Y
S13	6X6	+200	5	Y	·	-	-	-	-	-	Y	Y
S14	6X6	+200	5	Y	·	-	-	-	-	-	Y	Y
S15	6X6	+200	5	Y	·	-	-	-	-	-	Y	Y
S16	6X6	+200	5	Y	·	-	-	-	-	-	Y	Y

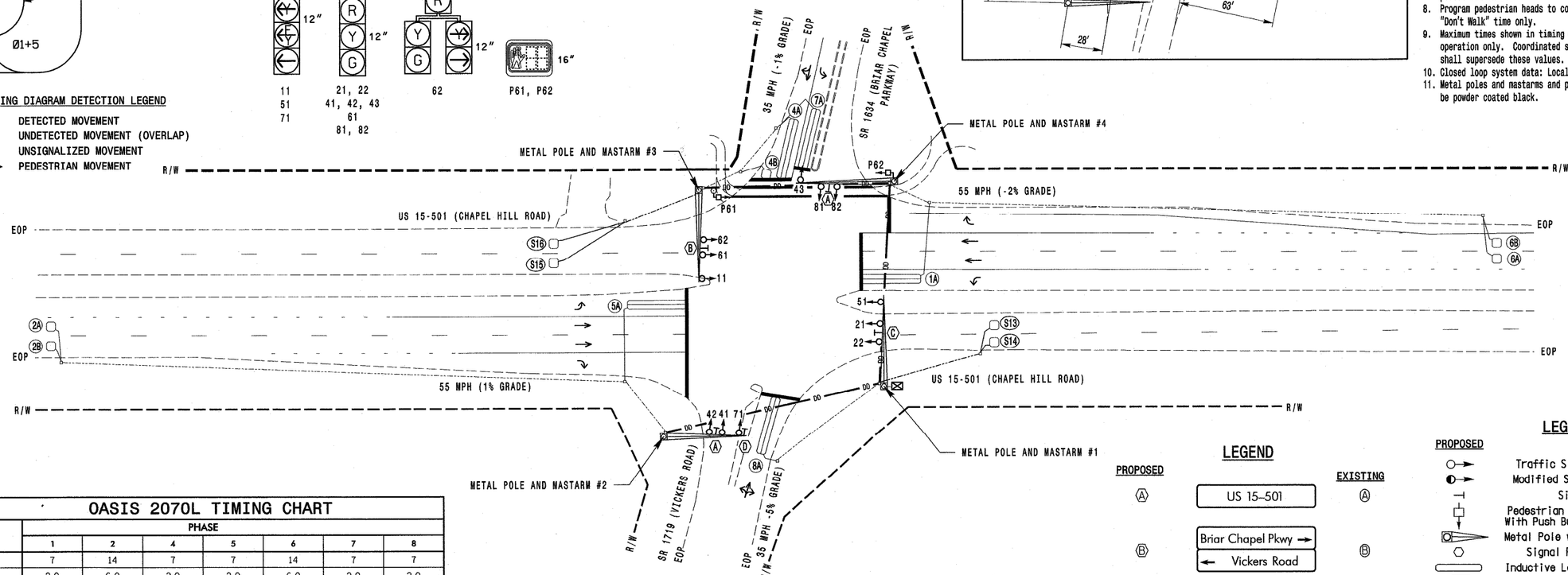
STOP LINE AND POLE LOCATION DIAGRAM



6 PHASE FULLY ACTUATED (US 15-501 CLOSED-LOOP SYSTEM)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012, "Standard Specifications for Roads and Structures" dated January 2012, and all applicable sections of the latest version of the generic Project Special Provisions. The PSP can be accessed at the following website: http://www.ncdot.org/doh/preconstruct/traffic/itss/
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Omit Phase 7 during phase 8.
4. Phase 1 and/or phase 5 may be lagged.
5. Set all detector units to presence mode.
6. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
7. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
8. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
9. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.
10. Closed loop system data: Local Asset: 1090.
11. Metal poles and mastarms and pedestrian pedestals shall be powder coated black.



LEGEND

PROPOSED		EXISTING
A	US 15–501	A
B	Briar Chapel Pkwy → / ← Vickers Road	B
C	← Briar Chapel Pkwy / Vickers Road →	C
D	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	D

NEW INSTALLATION

LEGEND

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

OASIS 2070L TIMING CHART

FEATURE	PHASE 1	2	4	5	6	7	8
Min Green 1 *	7	14	7	7	14	7	7
Extension 1 *	2.0	6.0	2.0	2.0	6.0	2.0	2.0
Max Green 1 *	30	90	40	30	90	30	40
Yellow Clearance	3.0	5.4	3.9	3.0	5.4	3.0	4.2
Red Clearance	3.3	1.1	2.7	3.5	1.1	3.3	2.7
Walk 1 *	-	-	-	-	7	-	-
Don't Walk 1	-	-	-	-	22	-	-
Seconds Per Actuation *	-	1.5	-	-	1.5	-	-
Max Variable Initial *	-	46	-	-	46	-	-
Time Before Reduction *	-	15	-	-	15	-	-
Time To Reduce *	-	45	-	-	45	-	-
Minimum Gap	-	3.4	-	-	3.4	-	-
Recall Mode	-	MIN RECALL	-	-	MIN RECALL	-	-
Vehicle Call Memory	-	YELLOW	-	-	YELLOW	-	-
Dual Entry	-	-	ON	-	-	-	ON
Simultaneous Gap	ON	ON	ON	ON	ON	ON	ON

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

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
FINAL DRAWING Date: 2/7/12
Traffic Engineering Branch

PLANS PREPARED IN THE OFFICE OF:
Kimley-Horn and Associates, Inc.
NC License *F-0102
P.O. Box 33068
Raleigh, NC 27636
(919) 677-2000

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

US 15-501 (CHAPEL HILL ROAD) AT SR 1634 (BRIAR CHAPEL PARKWAY) AND SR 1719 (VICKERS ROAD)

DIVISION 8 CHATHAM COUNTY NEAR CHAPEL HILL

PLAN DATE: SEPTEMBER 2011 REVIEWED BY:
PREPARED BY: SP PENNINGTON REVIEWED BY: SL PHILLIPS

REVISIONS	INIT.	DATE

SCALE 0 40' 1"=40'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 032607 ENGINEER JANE L. PHILLIPS

SIGNATURE 1-25-12 DATE

SIG. INVENTORY NO. 08-1090

1/25/2012 11:40:19 AM susan.pennington K:\RAL_Roadway\102741000 (Briar Chapel)\Plans\signals\s4 - Signal Design\08-1090_2011.dgn

PROJECT REFERENCE NO.	SHEET NO.
08-0355 POR	Sig. 1

PHASING DIAGRAM

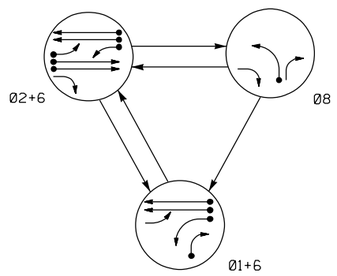


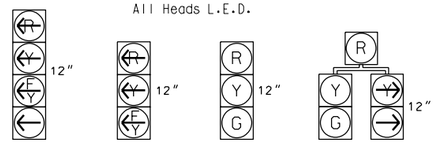
TABLE OF OPERATION				
SIGNAL FACE	PHASE Ø1+6	PHASE Ø2+6	PHASE Ø8	FLASH
11	←	F Y	R	↓Y
21	F Y	F Y	R	↓Y
22	R	G	R	Y
23	R	G	R	Y
61, 62	G	G	R	Y
81	R	R	G	R
82	R	R	G	R

PHASING DIAGRAM DETECTION LEGEND

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

SIGNAL FACE I.D.

All Heads L.E.D.



2070L LOOP & DETECTOR INSTALLATION

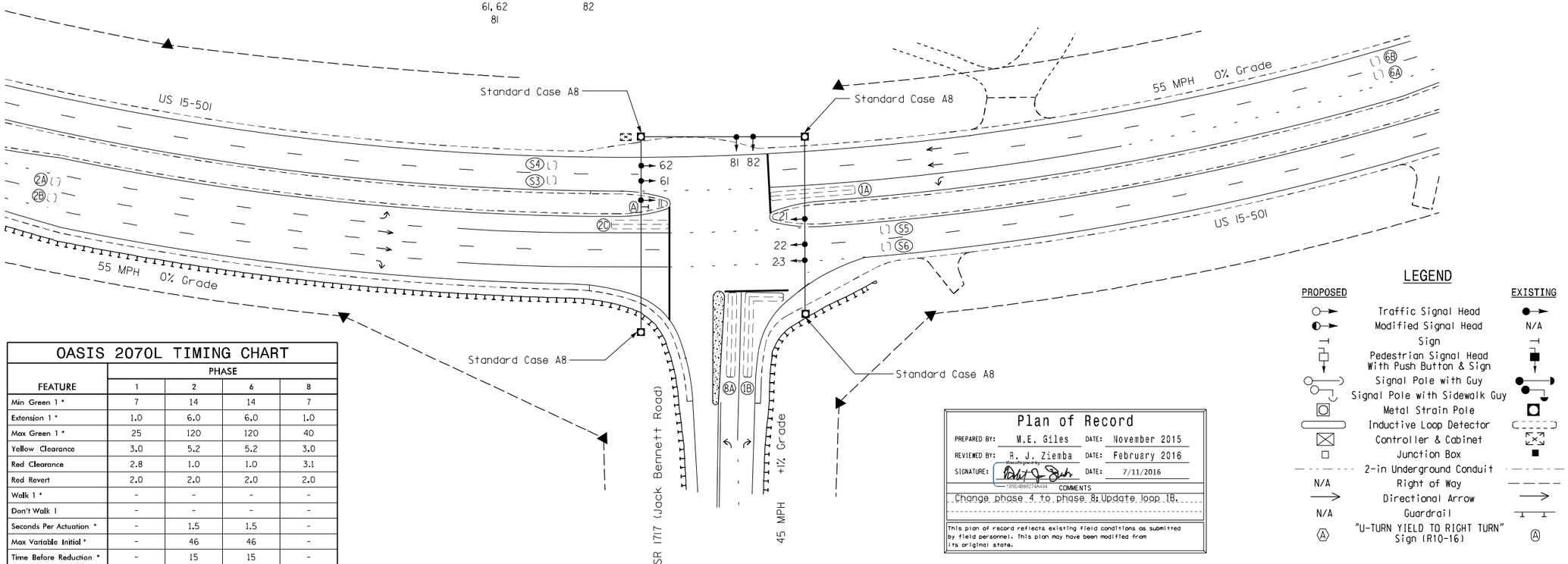
INDUCTIVE LOOPS					DETECTOR PROGRAMMING						
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
1A	6X40	0	2-4-2	-	1	Y	Y	-	——	15	-	-
					6	Y	Y	Y	——	3	-	-
1B	6X40•	0	2-4-2	-	1	Y	Y	-	——	15	-	-
2A	6X6	420	Existing	-	2	Y	Y	-	——	——	-	-
2B	6X6	420	Existing	-	2	Y	Y	-	——	——	-	-
2C	6X40	0	2-4-2	-	2	Y	Y	Y	——	3	-	-
6A	6X6	420	Existing	-	6	Y	Y	-	——	——	-	-
6B	6X6	420	Existing	-	6	Y	Y	-	——	——	-	-
8A	6X40	0	2-4-2	-	8	Y	Y	-	——	——	-	-
S3	6X6	+150	Existing	-	-	-	-	-	——	——	Y	-
S4	6X6	+150	Existing	-	-	-	-	-	——	——	Y	-
S5	6X6	+150	Existing	-	-	-	-	-	——	——	Y	-
S6	6X6	+150	Existing	-	-	-	-	-	——	——	Y	-

• Dogleg loop

3 Phase
Fully Actuated
(US 15-501 CLS)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 may be lagged.
4. Set all detector units to presence mode.
5. Pavement markings are existing.
6. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
7. Closed loop system data:
   Controller Asset #: 0355.



OASIS 2070L TIMING CHART

FEATURE	PHASE 1	2	6	8
Min Green 1 *	7	14	14	7
Extension 1 *	1.0	6.0	6.0	1.0
Max Green 1 *	25	120	120	40
Yellow Clearance	3.0	5.2	5.2	3.0
Red Clearance	2.8	1.0	1.0	3.1
Red Revert	2.0	2.0	2.0	2.0
Walk 1 *	-	-	-	-
Don't Walk 1	-	-	-	-
Seconds Per Actuation *	-	1.5	1.5	-
Max Variable Initial *	-	46	46	-
Time Before Reduction *	-	15	15	-
Time To Reduce *	-	30	30	-
Minimum Gap	-	4.0	4.0	-
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.

Plan of Record

PREPARED BY:	W.E. Giles	DATE:	November 2015
REVIEWED BY:	R. J. Ziemba	DATE:	February 2016
SIGNATURE:	Robert J. Ziemba (DocuSigned by: TD5E4B6827A424...)	DATE:	7/11/2016

COMMENTS

Change phase 4 to phase 8; Update loop 1B.

This plan of record reflects existing field conditions as submitted by field personnel. This plan may have been modified from its original state.

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	●
◘	Metal Strain Pole	■
▭	Inductive Loop Detector	▭
⊠	Controller & Cabinet	⊠
□	Junction Box	■
- - - - -	2-in Underground Conduit	- · - · -
N/A	Right of Way	————
→	Directional Arrow	→
N/A	Guardrail	⊥⊥
Ⓐ	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	Ⓐ

Plan of Record

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

US 15-501
at
SR 1717 (Jack Bennett Road)

Division 8 Chatham County Near Pittsboro

PLAN DATE:	July 2011	REVIEWED BY:	
PREPARED BY:	Sterling	REVIEWED BY:	

REVISIONS	INIT.	DATE

SCALE 0 40 1"=40'

SEAL

Not a certified document. This document originally Issued and sealed by Robert J. Ziemba, PE. #026486, on 10/04/11. This document shall not be considered a certified document.

SIGNATURE DATE

SIG. INVENTORY NO. 08-0355

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rziemba