Addendum 1

Transportation Impact Assessment

Briar Chapel

Chatham County, NC

Prepared for:

The John R. McAdams Company, Inc.

Prepared by:

Kimley-Horn
and Associates, Inc.

Transportation Impact Assessment

for

Briar Chapel

Chatham County, North Carolina

Addendum 1

Prepared for:

The John R. McAdams Company, Inc.
Research Triangle Park, North Carolina

Prepared By:

Kimley-Horn and Associates, Inc.
P.O. Box 33068
Raleigh, North Carolina 27636-3068
(919) 677-2000

011270015

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NORTH CAROLINA PROFESSIONAL SEAL 8254 ENGINEER ALLEN L. WILLIFORD

9/27/04

NORTH CAROLINA PROFESSIONAL SEAL 029407 ENGINEER EMILY F. HOLLIS

9-27-2004

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1.0 Introduction

This addendum to the Briar Chapel Transportation Impact Assessment (TIA) incorporates changes and clarifications engendered by the Peer Review Report, questions and comments from the two public forums, and preliminary comments from NCDOT. NCDOT's review of the Briar Chapel TIA had not been issued at the time this addendum was prepared. If necessary, another addendum will be issued to address any items arising from NCDOT's review once it is received. This addendum clarifies and expands assumptions and methodologies contained in the TIA and corrects minor discrepancies. There are no changes in the Levels-of-Service or recommendations. The developer has agreed to construct the following two additional turn lanes recommended by the peer reviewer:

At the intersection of U.S. 15-501 & Taylor Road:

- Construct an exclusive right-turn lane on the northbound approach of U.S. 15-501

At the intersection of U.S. 15-501 & Andrews Store Road:

- Construct an exclusive right-turn lane on the northbound approach of U.S. 15-501

No additional roadway improvements are recommended based upon the revisions to the capacity analyses contained in this addendum.

2.0 Trip Generation & Assignment

The peer review discussed issues related to trip generation, pass-by trips, and internal capture. In response to these comments Kimley-Horn and Associates reviewed our methodology and believe the analysis is correct and conservative. The following paragraphs address specific comments.

2.1 Daily Trip Generation

In reviewing peer review comments, it was determined that there was an error in the calculation of the number of daily pass-by capture trips. The corrected number is 1,747 daily pass-by capture trips, which changes the number of daily new external trips to 31,491. The number of daily trips was not used in any of the capacity analyses. Peak hour trips are unchanged. All analysis is based on peak hour trips.

2.2 School Trips

While there are alternative ways to generate school trips, in discussions with County and NCDOT staff prior to beginning the study it was agreed that ITE trip generation rates would be used. NCDOT also has a tool, the Municipal and School Transportation Assistance School Traffic Calculator, which is based on North Carolina data. While there are differences, ITE rates are considered to be accurate and appropriate. However, in response to peer review and NCDOT comments, an analysis was performed using the MSTA School Traffic Calculator instead of ITE rates to estimate the number of trips for the K-8 school. Those trips were then discretely assigned and compared to the TIA analysis.

For the K-8 Public School, the MSTA school traffic calculator suggests (based on 600 Elementary and 300 Middle school students at 100 students per grade) that the school will generate 439 trips entering and 323 trips out in the AM peak hour and 141 trips entering and 155 trips exiting in the PM peak hour. According to the Briar Chapel Fiscal Impact Study, the Briar Chapel development is anticipated to generate 956 new students (669 of which will be either Elementary or Middle school students). This represents over 74% of the 900 student population of the proposed Briar Chapel public school. If the trips for the K-8 school are discretely assigned, it is reasonable to assign 74% of these trips internal to the Briar Chapel Development. However, to be conservative in making this comparison only 50% of the parent and bus trips were assigned to/from Briar Chapel. The remaining parent and bus trips, as well as all faculty trips were assigned externally. It was determined that while the MTSA calculator results in a larger number of overall school trips, when discretely assigned to the network the number of external school related trips is lower than in the Briar Chapel TIA by

206 trips in the AM peak hour and 117 trips in the PM peak hour. It is therefore believed that the trip generation and assignment methodology used in the Briar Chapel TIA was conservative in assessing impacts. These calculations are summarized on Table 2.1 below.

Table 2.1
Discrete School Assignment Comparison

	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Total School Trips from MSTA Calculator	439	323	762	141	155	296
Residential Trips from Trip Generation	383	1215	1598	1280	737	2017
Parent & Bus Trips Assigned to Briar Chapel	*-168*	*-161*	*-329*	*-70*	*-77*	*-147*
Parent & Bus Trips Assigned to School	*-161*	*-168*	*-329*	*-77*	*-70*	*-147*
New External Trips using MSTA	***493***	***1216***	***1709***	***1281***	***745***	***2026***
School Trips from Trip Generation	259	116	375	59	67	126
Residential Trips from Trip Generation	383	1215	1598	1280	737	2017
Internal Capture	-29	-29	-58	N/A	N/A	N/A
New External Trips using Trip Generation	***613***	***86***	***1915***	***1339***	***804***	***2143***
Decrease Using MSTA & Assignment	***120***	***86***	***206***	***58***	***59***	***117***

2.3 Southern Mixed-Use Village (Town Center) Retail Trips

The amount of internal capture taken between the retail portion of the Southern Mixed-Use Village and the residential component of the Briar Chapel development is approximately 11% of the PM peak hour trip generation for the shopping center (no internal capture was assumed for the AM peak hour).

A neighborhood, grocery-store anchored shopping center is generally assumed to have a capture radius of 3 miles. Census data indicates that there are approximately 2100 dwelling units within 3 miles of the Southern Mixed-Use Village location. Table 2.2 shows that the homes from the approved developments in the area and another 1000 homes from unspecified growth over 10 years are added to the existing homes, the Briar Chapel development will still account for over 36% of the homes within the capture radius of this shopping center.

Table 2.2 Homes within 3 miles of Mixed-Use Village	
	Dwelling Units
Existing Homes	2101
Approved Development:	
Fearrington Village	595
The Homestead	475
Unspecified Growth	1000
Briar Chapel	2389
Total	**6560**
Briar Chapel % of Total	**36.4%**

Therefore, if the trips for the Southern Mixed-Use Shopping Center are discretely assigned, it is reasonable to assign 36% of these trips to/from the Briar Chapel Development. We therefore believe that the 11% used in the Briar Chapel TIA is a very conservative estimate in assessing impacts.

2.4 Southern Mixed-Use Village (Town Center) Office Trips

In the Briar Chapel TIA, internal capture was taken between the office component on the east side of U.S. 15-501 and the rest of the Briar Chapel site even though these trips would have to cross U.S. 15-501. Based on comments from NCDOT, these internally captured trips, which were only applied in the PM peak hour, have been assigned across U.S. 15-501 evenly between Taylor Road and Andrews Store Road. The trips assigned to Andrews Store Road were carried through to the South Access Road. These changes do not change any of the levels-of-service at the affected intersections, and there are no changes in the recommendations for these intersections. Revised intersection spreadsheets and Synchro LOS reports for these intersections are included in the Appendix.

3.0 Arterial Analysis

The standard approach to performing a traffic study is to analyze the key intersections in the road network since the intersections generally control the capacity of a roadway. Roadway segments are not typically analyzed since this seldom provides significant additional information. In general the roadway segments, when analyzed in conjunction with intersection analyses, nearly always operate at a better level of service than the intersections themselves. The intersection analyses showed that, with the exception of U.S. 15-501, none of the roadways in the study area indicated the need for more than one through lane; therefore, wholesale roadway widening was deemed unnecessary. Turn lanes are proposed at all new driveways on Andrews Store Road, and the addition of a third lane between driveways will add little capacity and increase impervious surfaces.

However, in response to the peer review comments segment analyses were performed using both Synchro and HCM methodology for Andrews Store Road and Mann's Chapel Road. These are the existing roads that Briar Chapel directly accesses and will most significantly impact. These analyses show that both Andrews Store Road and Mann's Chapel Road operate at acceptable levels of service in the AM and PM peak hours. The arterial levels of service are summarized in the Table 3.1 below, and both Synchro and HCS reports are included in the Appendix.

Table 3.1
Arterial Level-of-Service

Condition	AM Peak-Hour LOS (Avg. Speed)	PM Peak-Hour LOS (Avg. Speed)
Eastbound Andrews Store Road		
Synchro	A (42.5)	A (44.2)
HCS	A (41.0)	A (43.7)
Eastbound Mann's Chapel Road		
Synchro	A (41.5)	B (41.2)
HCS	A (35.9)	A (35.4)

The analysis does not indicate the need for widening of Andrews Store Road or Mann's Chapel Road. Mann's Chapel Road is designated a thoroughfare on the DCHC Thoroughfare Plan and as such may warrant additional right-of-way in the future, but it is not needed to implement the improvements recommended in the TIA.

4.0 Revisions to Capacity Analysis

4.1 Additional Improvements

Based on discussions with the peer reviewer, the developer has committed to the following additional roadway improvements:

At the intersection of U.S. 15-501 & Taylor Road:

- Construct an exclusive right-turn lane on the northbound approach of U.S. 15-501

At the intersection of U.S. 15-501 & Andrews Store Road:

- Construct an exclusive right-turn lane on the northbound approach of U.S. 15-501

The capacity analyses have been revised to include these improvements. Revised Synchro reports are included in the Appendix.

4.2 Andrews Store Road & Parker Herndon Road

The South Access Road is proposed to align with the existing Parker Herndon Road. No background traffic was assigned to Parker Herndon Road in the TIA. To determine the volume of traffic at the intersection of Andrews Store Road & Parker Herndon Road, an additional peak hour turning-movement count was performed by Traffic Survey Services from 7:00 a.m. to 9:00 a.m. and from 4:00 p.m. to 6:00 p.m. at the intersection of on Thursday, September 9, 2004. The count was performed on a typical weekday when both the Chatham County traditional-calendar schools and the University of North Carolina at Chapel Hill were in session.

The capacity analyses for the build-out AM and PM scenarios at the intersection of Andrews Store Road & the South Access Road/Parker Herndon Road have been revised to reflect the observed traffic volumes. There are no changes in the recommendations for this intersection. The revised volumes are shown on Figures 1 and 2. Revised intersection worksheets and Synchro reports are included in the Appendix.

4.3 Southern Mixed-Use Village (Town Center) Office Trips

As stated in Section 2.4, the internally captured trips between the office component on the east side of U.S. 15-501 and the rest of the Briar Chapel site were assigned across U.S. 15-501 evenly between Taylor Road and Andrews Store Road. The trips assigned to Andrews Store Road were carried

through to the South Access Road. These changes do not change any of the levels-of-service at the affected intersections, and there are no changes in the recommendations for these intersections. The revised volumes are shown on Figure 2. Revised intersection spreadsheets and Synchro LOS reports for these intersections are included in the Appendix.

4.4 Signal Phasing

Inconsistencies in phasing have been identified between some of the AM and PM scenarios. These have been corrected and reanalyzed. These corrections do not change any of the levels-of-service at the affected intersections. They are listed below. Revised Synchro reports are included in the Appendix.

At the intersection of U.S. 15-501 and Old Lystra Road:

- Revised phasing to include right-turn overlaps for the westbound approach in the No-Build AM and PM scenarios
- Revised phasing to include right-turn overlaps for the northbound approach in the No-Build AM scenario

At the intersection of U.S. 15-501 & Mann's Chapel Road:

- Revised phasing to include right-turn overlaps for the northbound approach in the No-Build AM and PM scenarios
- Converted the phasing for the east-west direction to split phase in the No-Build PM scenario

Protected-only phasing may be required at the intersection of U.S. 15-501 & Mann's Chapel Road due to the addition of the recommended north- and southbound through lanes. Changing the phasing for the north- and southbound lefts to protected-only does not change the Levels-of-Service and will result in a slight delay increase as shown in Table 4.1 below.

Table 4.1
Level-of-Service Change with Protected Lefts
U.S. 15-501 & Mann's Chapel Road

Condition	AM Peak-Hour LOS (Delay)	PM Peak-Hour LOS (Delay)
Buildout w/ Permitted + Protected Phasing	C (31.1)	C (23.7)
Buildout w/ Protected Only Phasing	C (32.5)	C (27.6)

4.5 Storage Lengths

Some inconsistencies in storage lengths were identified between the No-Build and Build-Out scenarios in the TIA. Storage lengths are correct in the build-out scenario. Correcting the No-Build analysis to match the build-out does not change either the LOS or delay at any intersection. No recommendations were made based on queue lengths in the No-Build scenario.

4.6 Lane Widths

Incorrect lane widths were used at the following locations with the noted corrections. Revised Synchro reports are included in the Appendix.

At the intersection of U.S. 15-501 & Old Lystra Road:

- Changed westbound lane widths from 9 to 12 feet for the No-Build AM and PM scenarios

At the intersection of U.S. 15-501 & Andrews Store Road:

- Changed eastbound lane widths from 10 to 12 feet for the Buildout AM scenario

At the intersection of Lystra Road & Farrington Road:

- Changed northbound, southbound, and eastbound lane widths from 12 to 11 feet for the Buildout PM scenario
- Changed westbound lane widths from 11 to 12 feet for the Buildout PM scenario

4.7 Lane Geometry

Lane geometry was incorrect in the Synchro files at the following locations with the noted corrections. Revised Synchro reports are included in the Appendix.

At the intersection of U.S. 15-501 & Andrews Store Road:

- Removed the exiting right-turn on the Office Driveway in the Buildout PM scenario

At the intersection of Hamletts Chapel Road & Mann's Chapel Road:

- Removed the exclusive right-turn lane on the southbound approach of Mann's Chapel Road in the Buildout AM scenario

At the intersection of Andrews Store Road & South Access Road:

- Changed geometry to a left-turn lane and a shared through-right lane on the South Access Road for both Buildout AM and PM scenarios

Table 4.2 summarizes the projected LOS with all of the revisions noted in Section 5 compared to the LOS as originally reported in the Briar Chapel TIA.

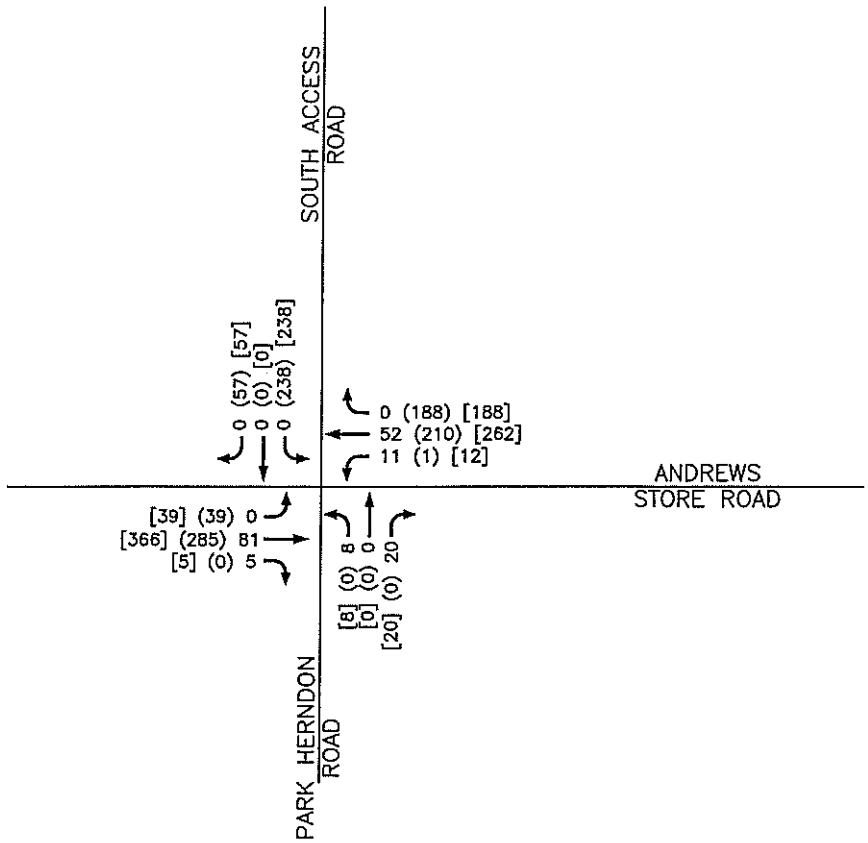
Table 4.2
Level-of-Service Changes

Condition	AM Peak-Hour LOS (Delay)	PM Peak-Hour LOS (Delay)
U.S. 15-501 & Old Lystra Road (Signalized)		
No-Build Reported	A (7.7)	B (11.1)
No-Build Revised	A (7.9)	B (10.7)
U.S. 15-501 & Mann's Chapel Road (Signalized)		
No-Build Reported	C (26.3)	C (28.9)
No-Build Revised	C (26.0)	C (28.6)
U.S. 15-501 & Taylor Road (Signalized)		
Buildout Reported	NA	C (34.0)
Buildout Revised	NA	C (33.1)
U.S. 15-501 & Andrews Store Road (Signalized)		
Buildout Reported	C (23.9)	C (20.1)
Buildout Revised	C (23.6)	C (21.4)
Hamletts Chapel Road & Mann's Chapel Road (Unsignalized)		
Buildout Reported	B (13.4)**	NA
Buildout Revised	B (14.9)**	NA
Lystra Road & Farrington Road (Signalized)		
Buildout Reported	NA	B (16.3)
Buildout Revised	NA	B (18.6)
Andrews Store Road & South Access Road (Unsignalized)		
Buildout Reported	F (76.1)*	C (20.2)*
Buildout Revised	F (77.9)*	C (22.9)*

* Unsignalized intersection - LOS (Delay) for minor street approach with longest delay

** All way stop control - LOS (Delay) for intersection

NOT TO SCALE



LEGEND

XX BACKGROUND TRAFFIC
(XX) SITE TRAFFIC
[XX] TOTAL TRAFFIC

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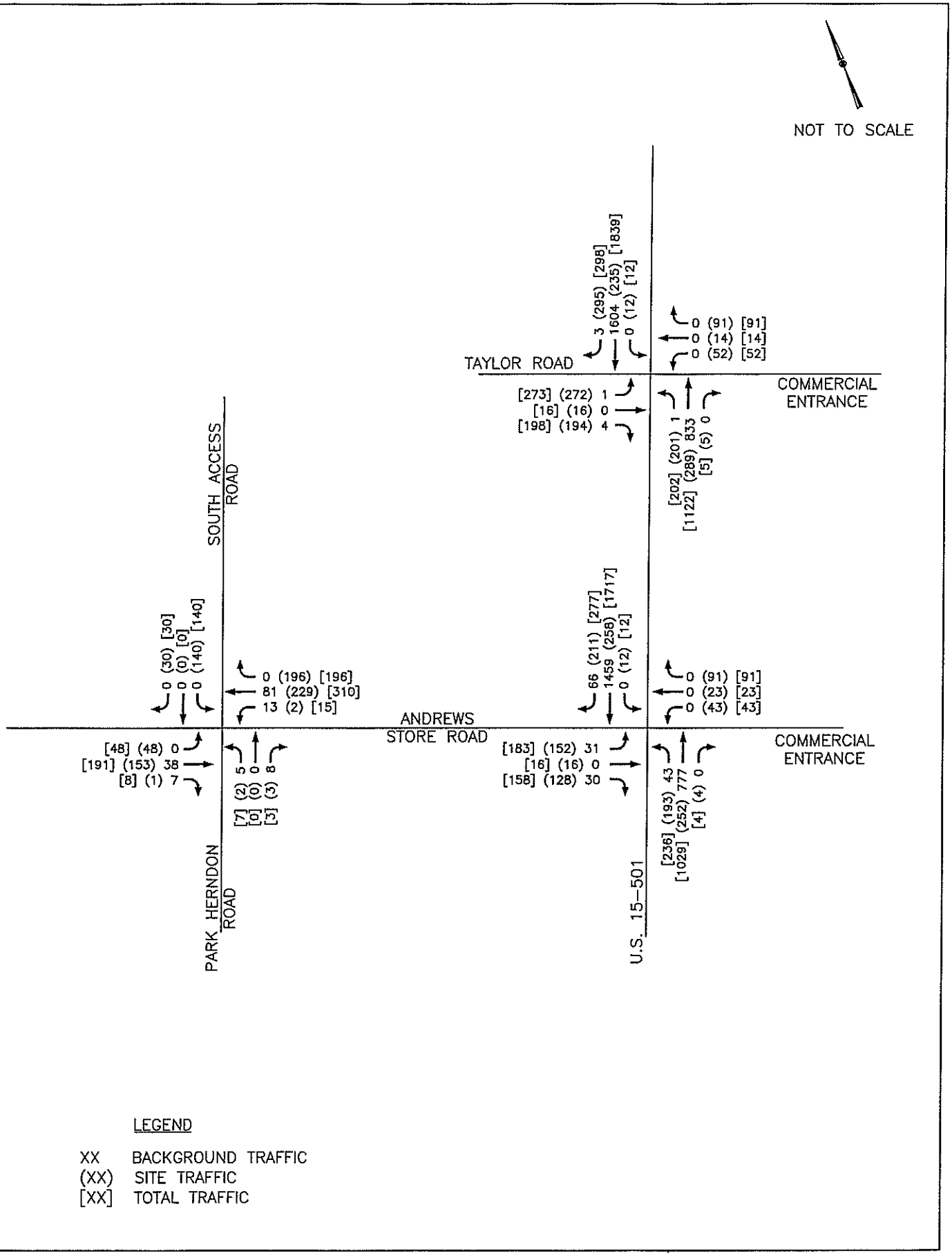
Kimley-Horn and Associates, Inc.	BRIAR CHAPEL TRANSPORTATION IMPACT ASSESSMENT ADDENDUM 1	REVISED 2014 AM PEAK HOUR TRAFFIC VOLUMES	FIGURE 1



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Kimley-Horn and Associates, Inc.

BRIAR CHAPEL
TRANSPORTATION IMPACT ASSESSMENT
ADDENDUM 1

REVISED 2014 PM
PEAK HOUR TRAFFIC
VOLUMES

FIGURE
2

5.0 Recommendations

Since the Briar Chapel TIA was issued, the developer has committed to the following roadway improvements:

At the intersection of U.S. 15-501 & Taylor Road:

- Construct an exclusive right-turn lane on the northbound approach of U.S. 15-501

At the intersection of U.S. 15-501 & Andrews Store Road:

- Construct an exclusive right-turn lane on the northbound approach of U.S. 15-501

No additional roadway improvements are recommended based on the revisions to the capacity analyses included in this addendum.

Appendix

School Trip Generation & Assignment

Table A-1
Discrete School Assignment Comparison

		AM			PM		
		In	**Out**	**Total**	**In**	**Out**	**Total**
MSTA Discrete Assignment							
School Trips	Parent Trips	323	323	646	141	141	282
	Bus Trips	14		14		14	14
	Faculty Trips	102		102			0
	Total Trips	439	323	762	141	155	296
Half of parent & bus trips assigned to Briar Chapel	Parent Trips	161	161	322	70	70	140
	Bus Trips	7		7		7	7
	Total Trips	168	161	329	70	77	147
New External School Trips using MTSA		*271*	*162*	*433*	*71*	*78*	*149*
Residential Trips	All Residential	383	1215	1598	1280	737	2017
	Assigned to School	161	161	322	70	70	140
New External Residential Trips using MTSA		*222*	*1054*	*1276*	*1210*	*667*	*1877*
Total New External Trips using MTSA/Discrete Assignment		***493***	***1216***	***1709***	***1281***	***745***	***2026***
Original Briar Chapel Trip Generation							
From Briar Chapel Trip Generation	School Trips	259	116	375	59	67	126
	Residential Trips	383	1215	1598	1280	737	2017
	Internal Capture	29	29	58			
New External Trips from Briar Chapel Trip Generation		***613***	***1302***	***1915***	***1339***	***804***	***2143***
Decrease using MTSA/Assignment		**120**	**86**	**206**	**58**	**59**	**117**

MSTA School Traffic Calculations

AM and PM Peak Traffic Estimates

(These numbers do not reflect peak hour traffic volumes)

School Name: Briar Chapel K-8 Public School

Is this a PUBLIC school? Yes

Version: 4232002

AM Cars / Student (%)	PM Cars / Student (%)	Avg. Car Length	PM At one Time (%)
36.56%	16.31%	22.19	45.50%
34.58%	14.10%	22.70	51.90%
9.20%	4.30%	24.42	55.71%
P 43.35%	26.30%	22.00	37.87%

Private School school data is based on no buses and uses the same percentages for all school types (elementary, middle, & high).

MSTA School Queue Input

Calculations

Type School	Student Population	Number of Buses	Faculty Members	Student Drivers	PM Total Number of Vehicles	PM Maximum Vehicles	Required Queue Length	Total AM Trips	Total PM Trips
Elementary	600	8	71		98	45	989	518	204
Middle	300	6	31		43	22	507	244	92
High									
							1496	762	296

Elementary School Data

	AM Trips Generated				PM Trips Generated			
Direction	Parents	Buses	Faculty	Trips	Parents	Buses	Faculty	Trips
IN	219	8	71	298	98			98
OUT	219			219	98	8		106
		AM Elementary Trips		518		PM Elementary Trips		204

Middle School Data

	AM Trips Generated				PM Trips Generated			
Direction	Parents	Buses	Faculty	Trips	Parents	Buses	Faculty	Trips
IN	104	6	31	141	43			43
OUT	104			104	43	6		49
		AM Middle Trips		244		PM Middle Trips		92

High School Data

	AM Trips Generated					PM Trips Generated				
Direction	Parents	Buses	Faculty		Trips	Parents	Buses	Faculty		Trips
IN										
OUT										
			AM High Trips					PM High Trips		
			Total All AM Trips	In	439			Total All PM Trips	In	141
				Out	323				Out	155
				Total	762				Total	296

ADT
722
336
1058

NOTE: Traffic volumes reflect peak traffic for school operations which normally take place in approximately 30 minutes.

Calculated 9/23/2004 By:_____

Table 15

Briar Chapel Fiscal Impact Study
Chatham County Schools - Student Generation Rate

Source: 1996 Chatham County Public School Impact Fee Report - Tischler and Associates, Inc.

Adjusted Public School Students Per Household

	Elementary	Middle	High	Total
Single Family	0.19	0.09	0.12	0.40
Multifamily	0.08	0.02	0.04	0.15
Mobile Homes & Other	0.19	0.09	0.09	0.37
ALL TYPES	0.17	0.08	0.09	0.33

Estimated Briar Chapel Public School Students

	Elementary	Middle	High	Total
Single Family	454	215	287	956
Total	454	215	287	956

Public School Student Generation Rate (SGR) 0.40

Revised Intersection Spreadsheets

Briar Chapel TIA
Chatham County

INTERSECTION ANALYSIS SHEET

U.S. 15-501 @ Taylor Road
PM PEAK HOUR

Description	U.S. 15-501 Northbound			U.S. 15-501 Southbound			Taylor Road Eastbound			Office Driveway Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 3/16/2004	1	446			973	2	1		3			
Growth Factor	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34
2014 Background Traffic	1	599	0	0	1308	3	1	0	4	0	0	0
Committed Projects												
Chatham Downs		126			123							
The Homestead												
Fearrington Village		132			230							
Total Committed	0	258	0	0	353	0	0	0	0	0	0	0
Pass-By	0	-24	0	0	-57	0	0	0	0	0	0	0
2014 Non-Project Traffic	1	833	0	0	1604	3	1	0	4	0	0	0
Total Project Traffic	201	289	5	12	235	295	272	16	194	52	14	91
Buildout Total	202	1122	5	12	1839	298	273	16	198	52	14	91

	U.S. 15-501 Northbound			U.S. 15-501 Southbound			Taylor Road Eastbound			Office Driveway Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
North Neighborhood	16	16			10				10			
East Neighborhood	8	6			3				4			
West Neighborhood		6			10							
Central Neighborhood	40	39			23				23			
Traditional Neighborhood		117			160							
North Garden		14			17							
South Mixed-Use	137	91	5	12	12	295	272	16	157	52	14	91
Total	201	289	5	12	235	295	272	16	194	52	14	91

Briar Chapel TIA
Chatham County

INTERSECTION ANALYSIS SHEET

U.S. 15-501 @ Andrews Store Road
PM PEAK HOUR

Description	U.S. 15-501 Northbound			U.S. 15-501 Southbound			Andrews Store Road Eastbound			Andrews Store Road Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 3/16/2004	32	404			867	49	23		22			
Growth Factor	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34
2014 Background Traffic	43	543	0	0	1165	66	31	0	30	0	0	0
Committed Projects												
Chatham Downs		126			123							
The Homestead												
Fearrington Village		132			230							
Total Committed	0	258	0	0	353	0	0	0	0	0	0	0
Pass-By	0	-24	0	0	-59	0	0	0	0	0	0	0
2014 Non-Project Traffic	43	777	0	0	1459	66	31	0	30	0	0	0
Total Project Traffic	193	252	4	12	258	211	152	16	128	43	23	91
Buildout Total	236	1029	4	12	1717	277	183	16	158	43	23	91

	U.S. 15-501 Northbound			U.S. 15-501 Southbound			Andrews Store Road Eastbound			Andrews Store Road Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
North Neighborhood		32			20							
East Neighborhood		14			7							
West Neighborhood	39					10	6		23			
Central Neighborhood	27	79			46				15			
Traditional Neighborhood	127					161	117		90			
North Garden		11			13	4	3					
South Mixed-Use		116	4	12	172	36	26	16		43	23	91
Total	193	252	4	12	258	211	152	16	128	43	23	91

Briar Chapel TIA
Chatham County

INTERSECTION ANALYSIS SHEET

South Access Road @ Andrews Store Road
AM PEAK HOUR

Description	Parker Herndon Road Northbound			South Access Road Southbound			Andrews Store Road Eastbound			Andrews Store Road Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 9/9/2004	6		15					60	4	8	39	
Growth Factor	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34
2014 Background Traffic	8	0	20	0	0	0	0	81	5	11	52	0
Committed Projects												
Chatham Downs												
The Homestead												
Fearrington Village												
Total Committed	0	0	0	0	0	0	0	0	0	0	0	0
Pass-By	0	0	0	0	0	0	0	0	0	0	0	0
2014 Non-Project Traffic	8	0	20	0	0	0	0	81	5	11	52	0
Total Project Traffic	0	0	0	238	0	57	39	285	0	1	210	188
Buildout Total	8	0	20	238	0	57	39	366	5	12	262	188

	Parker Herndon Road Northbound			South Access Road Southbound			Andrews Store Road Eastbound			Andrews Store Road Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
North Neighborhood												
East Neighborhood						2	1					
West Neighborhood				23		5	2	23			7	8
Central Neighborhood				14		15	5	13			4	4
Traditional Neighborhood				201		35	31	201	0	1	176	176
North Garden								11			11	
South Mixed-Use								37			12	
Total	0	0	0	238	0	57	39	285	0	1	210	188

Briar Chapel TIA
Chatham County

INTERSECTION ANALYSIS SHEET

South Access Road @ Andrews Store Road
PM PEAK HOUR

Description	South Access Road Northbound			South Access Road Southbound			Andrews Store Road Eastbound			Andrews Store Road Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Observed 9/9/2004	4		6					28	5	10	60	
Growth Factor	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34
2014 Background Traffic	5	0	8	0	0	0	0	38	7	13	81	0
Committed Projects												
Chatham Downs												
The Homestead												
Fearrington Village												
Total Committed	0	0	0	0	0	0	0	0	0	0	0	0
Pass-By	0	0	0	0	0	0	0	0	0	0	0	0
2014 Non-Project Traffic	5	0	8	0	0	0	0	38	7	13	81	0
Total Project Traffic	2	0	3	140	0	30	48	153	1	2	229	196
Buildout Total	7	0	11	140	0	30	48	191	8	15	310	196

	South Access Road Northbound			South Access Road Southbound			Andrews Store Road Eastbound			Andrews Store Road Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
North Neighborhood												
East Neighborhood						1	2					
West Neighborhood				15		4	6	14			24	25
Central Neighborhood				8		9	15	7			14	14
Traditional Neighborhood	2		3	102		16	25	102	1	2	143	143
North Garden								3			4	
South Mixed-Use				15				27			44	14
Total	2	0	3	140	0	30	48	153	1	2	229	196

Arterial Analysis

URBAN STREET WORKSHEET #1

General Information		Site Information	
Analyst	*JTF*	Urban Street	*Andrews Store Road*
Agency/Co.	*KHA*	Direction of Travel	*East-bound*
Date Performed	*8/31/2004*	Jurisdiction	
Time Period	*AM*	Analysis Year	*2014*

Project Description: *Briar Chapel*

Input Parameters

Analysis Period(h) T = *0.25*	Segments							
	1	2	3	4	5	6	7	8
Cycle length, C (s)	*150.0*							
Eff. green to cycle ratio, g/C	*0.270*							
v/c ratio for lane group, X	*0.570*							
Cap of lane group, c (veh/h)	*330*							
Pct Veh on Grn., PVG								
Arrival type, AT	*4*							
Unit Extension, UE (sec)	*0.0*							
Length of segment, L (mi)	*2.00*							
Initial Queue, Qb (veh)	*0*							
Urban street class, SC	*2*							
Free-flow speed, FSS (mi/h)	*45*							
Running Time, TR (s)	*160.0*							
Other delay, (s)	*0.0*							
Delay Computation								
Uniform delay, d1 (s)	*47.2*	*5.4*	*5.4*	*5.4*	*5.4*	*5.4*	*5.4*	*5.4*
Incremental delay adj, k	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*
Upstream filtering adj factor, I	*1.000*							
Incremental delay, d2 (s)	*7.0*	*3.5*	*3.4*	*3.4*	*3.4*	*3.4*	*3.4*	*3.4*
Initial queue delay, d3 (s)	*0*							
Progression adj factor, PF	*1.008*	*0.256*	*0.256*	*0.256*	*0.256*	*0.256*	*0.256*	*0.256*
Control delay, d (s)	*15.5*							
Segment LOS Determination								
Travel time, ST (s)	*175.5*							
Travel speed, SA (mi/h)	*41.0*							
Segment LOS	*A*							

Urban Street LOS Determination

Total travel time (s)	*175.5*
Total length (mi)	*2.00*
Total travel speed, SA (mi/h)	*41.0*
Total urban street LOS	*A*

URBAN STREET WORKSHEET #1

General Information		Site Information	
Analyst	*JTF*	Urban Street	*Andrews Store Road*
Agency/Co.	*KHA*	Direction of Travel	*East-bound*
Date Performed	*8/31/2004*	Jurisdiction	
Time Period	*PM*	Analysis Year	*2014*

Project Description: *Briar Chapel*

Input Parameters

Analysis Period(h) T = *0.25*	Segments							
	1	2	3	4	5	6	7	8
Cycle length, C (s)	*110.0*							
Eff. green to cycle ratio, g/C	*0.210*							
v/c ratio for lane group, X	*0.370*							
Cap of lane group, c (veh/h)	*177*							
Pct Veh on Grn., PVG								
Arrival type, AT	*4*							
Unit Extension, UE (sec)	*0.0*							
Length of segment, L (mi)	*2.00*							
Initial Queue, Qb (veh)	*0*							
Urban street class, SC	*2*							
Free-flow speed, FSS (mi/h)	*45*							
Running Time, TR (s)	*160.0*							
Other delay, (s)	*0.0*							
Delay Computation								
Uniform delay, d1 (s)	*37.2*	*5.4*	*5.4*	*5.4*	*5.4*	*5.4*	*5.4*	*5.4*
Incremental delay adj, k	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*
Upstream filtering adj factor, I	*1.000*							
Incremental delay, d2 (s)	*5.9*	*4.1*	*3.4*	*3.4*	*3.4*	*3.4*	*3.4*	*3.4*
Initial queue delay, d3 (s)	*0*							
Progression adj factor, PF	*1.048*	*0.256*	*0.256*	*0.256*	*0.256*	*0.256*	*0.256*	*0.256*
Control delay, d (s)	*4.9*							
Segment LOS Determination								
Travel time, ST (s)	*164.9*							
Travel speed, SA (mi/h)	*43.7*							
Segment LOS	*A*							

Urban Street LOS Determination

Total travel time (s)	*164.9*
Total length (mi)	*2.00*
Total travel speed, SA (mi/h)	*43.7*
Total urban street LOS	*A*

URBAN STREET WORKSHEET #1

General Information

Analyst	*JTF*
Agency/Co.	*KHA*
Date Performed	*8/31/2004*
Time Period	*AM*

Site Information

Urban Street	*Mann's Chapel Road*
Direction of Travel	*East-bound*
Jurisdiction	
Analysis Year	*2014*

Project Description: *Briar Chapel*

Input Parameters

Analysis Period(h) T = *0.25*	Segments							
	1	2	3	4	5	6	7	8
Cycle length, C (s)	*150.0*							
Eff. green to cycle ratio, g/C	*0.280*							
v/c ratio for lane group, X	*0.140*							
Cap of lane group, c (veh/h)	*74*							
Pct Veh on Grn., PVG								
Arrival type, AT	*4*							
Unit Extension, UE (sec)	*0.0*							
Length of segment, L (mi)	*2.00*							
Initial Queue, Qb (veh)	*0*							
Urban street class, SC	*2*							
Free-flow speed, FSS (mi/h)	*45*							
Running Time, TR (s)	*160.0*							
Other delay, (s)	*0.0*							
Delay Computation								
Uniform delay, d1 (s)	*40.5*	*5.4*	*5.4*	*5.4*	*5.4*	*5.4*	*5.4*	*5.4*
Incremental delay adj, k	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*
Upstream filtering adj factor, I	*1.000*							
Incremental delay, d2 (s)	*3.9*	*4.4*	*3.4*	*3.4*	*3.4*	*3.4*	*3.4*	*3.4*
Initial queue delay, d3 (s)	*0*							
Progression adj factor, PF	*1.001*	*0.256*	*0.256*	*0.256*	*0.256*	*0.256*	*0.256*	*0.256*
Control delay, d (s)	*40.3*							
Segment LOS Determination								
Travel time, ST (s)	*200.3*							
Travel speed, SA (mi/h)	*35.9*							
Segment LOS	*A*							

Urban Street LOS Determination

Total travel time (s)	*200.3*
Total length (mi)	*2.00*
Total travel speed, SA (mi/h)	*35.9*
Total urban street LOS	*A*

URBAN STREET WORKSHEET #1

General Information		Site Information	
Analyst	*JTF*	Urban Street	*Mann's Chapel Road*
Agency/Co.	*KHA*	Direction of Travel	*East-bound*
Date Performed	*8/31/2004*	Jurisdiction	
Time Period	*PM*	Analysis Year	*2014*

Project Description: *Briar Chapel*

Input Parameters

Analysis Period(h) T = *0.25*	Segments							
	1	2	3	4	5	6	7	8
Cycle length, C (s)	*110.0*							
Eff. green to cycle ratio, g/C	*0.140*							
v/c ratio for lane group, X	*0.330*							
Cap of lane group, c (veh/h)	*83*							
Pct Veh on Grn., PVG								
Arrival type, AT	*4*							
Unit Extension, UE (sec)	*0.0*							
Length of segment, L (mi)	*2.00*							
Initial Queue, Qb (veh)	*0*							
Urban street class, SC	*2*							
Free-flow speed, FSS (mi/h)	*45*							
Running Time, TR (s)	*160.0*							
Other delay, (s)	*0.0*							
Delay Computation								
Uniform delay, d1 (s)	*42.6*	*5.4*	*5.4*	*5.4*	*5.4*	*5.4*	*5.4*	*5.4*
Incremental delay adj, k	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*
Upstream filtering adj factor, I	*1.000*							
Incremental delay, d2 (s)	*10.3*	*4.2*	*3.4*	*3.4*	*3.4*	*3.4*	*3.4*	*3.4*
Initial queue delay, d3 (s)	*0*							
Progression adj factor, PF	*1.088*	*0.256*	*0.256*	*0.256*	*0.256*	*0.256*	*0.256*	*0.256*
Control delay, d (s)	*43.6*							
Segment LOS Determination								
Travel time, ST (s)	*203.6*							
Travel speed, SA (mi/h)	*35.4*							
Segment LOS	*A*							

Urban Street LOS Determination

Total travel time (s)	*203.6*
Total length (mi)	*2.00*
Total travel speed, SA (mi/h)	*35.4*
Total urban street LOS	*A*

Arterial Level of Service: EB Andrews Store Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
U.S. 15-501	II	45	265.7	15.5	281.2	3.3	42.5	A
Total	II		265.7	15.5	281.2	3.3	42.5	A

Arterial Level of Service: EB Mann's Chapel Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
U.S. 15-501	I	45	413.5	40.3	453.8	5.2	41.5	B
Total	I		413.5	40.3	453.8	5.2	41.5	B

Arterial Level of Service: EB Andrews Store Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
U.S. 15-501	II	45	265.7	4.9	270.6	3.3	44.2	A
Total	II		265.7	4.9	270.6	3.3	44.2	A

Arterial Level of Service: EB Mann's Chapel Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
U.S. 15-501	I	45	413.5	43.6	457.1	5.2	41.2	B
Total	I		413.5	43.6	457.1	5.2	41.2	B

Traffic Count Data

Briar Chapel
011270015

9/9/04
Counted: JP
Stop Sign on Parker Herndon Road
Weather: Clear

File Name : AndrewsParker
Site Code : 00024051
Start Date : 9/9/2004
Page No : 1

Groups Printed- 1 - Unshifted

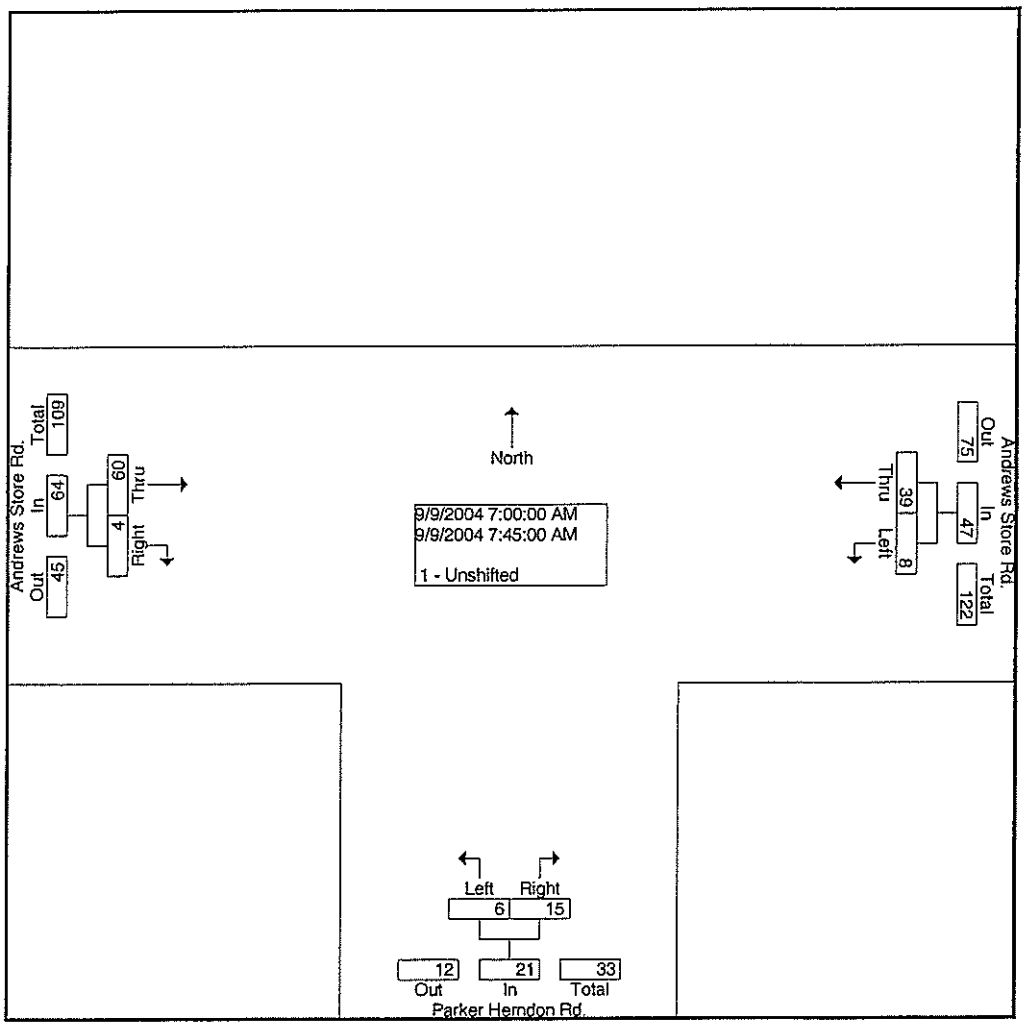
	Parker Herndon Rd. From South			From North			Andrews Store Rd. From West			Andrews Store Rd. From East			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	6	0	0	0	0	0	0	13	0	0	3	1	23
07:15 AM	5	0	2	0	0	0	3	11	0	0	11	2	34
07:30 AM	2	0	3	0	0	0	1	20	0	0	16	4	46
07:45 AM	2	0	1	0	0	0	0	16	0	0	9	1	29
Total	15	0	6	0	0	0	4	60	0	0	39	8	132
08:00 AM	3	0	0	0	0	0	0	7	0	0	2	1	13
08:15 AM	4	0	1	0	0	0	0	10	0	0	8	2	25
08:30 AM	5	0	0	0	0	0	0	10	0	0	3	1	19
08:45 AM	2	0	1	0	0	0	0	4	0	0	9	3	19
Total	14	0	2	0	0	0	0	31	0	0	22	7	76
*** BREAK ***													
04:00 PM	3	0	0	0	0	0	4	6	0	0	11	3	27
04:15 PM	1	0	0	0	0	0	0	3	0	0	8	5	17
04:30 PM	0	0	1	0	0	0	1	3	0	0	8	6	19
04:45 PM	0	0	0	0	0	0	1	4	0	0	21	1	27
Total	4	0	1	0	0	0	6	16	0	0	48	15	90
05:00 PM	2	0	2	0	0	0	1	9	0	0	10	3	27
05:15 PM	1	0	0	0	0	0	1	9	0	0	12	2	25
05:30 PM	3	0	2	0	0	0	2	6	0	0	17	4	34
05:45 PM	4	0	5	0	0	0	1	5	0	0	11	1	27
Total	10	0	9	0	0	0	5	29	0	0	50	10	113
Grand Total	43	0	18	0	0	0	15	136	0	0	159	40	411
Apprch %	70.5	0.0	29.5	0.0	0.0	0.0	9.9	90.1	0.0	0.0	79.9	20.1	
Total %	10.5	0.0	4.4	0.0	0.0	0.0	3.6	33.1	0.0	0.0	38.7	9.7	

Briar Chapel
011270015

9/9/04
Counted: JP
Stop Sign on Parker Herndon Road
Weather: Clear

File Name : AndrewsParker
Site Code : 00024051
Start Date : 9/9/2004
Page No : 2

	Parker Herndon Rd. From South				From North				Andrews Store Rd. From West				Andrews Store Rd. From East				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 07:00 AM to 12:30 PM - Peak 1 of 1																	
Intersection 07:00 AM																	
Volume	15	0	6	21	0	0	0	0	4	60	0	64	0	39	8	47	132
Percent	71.4	0.0	28.6		0.0	0.0	0.0		6.3	93.8	0.0		0.0	83.0	17.0		
07:30 Volume	2	0	3	5	0	0	0	0	1	20	0	21	0	16	4	20	46
Peak Factor																	0.717
High Int.	07:15 AM				6:45:00 AM				07:30 AM				07:30 AM				
Volume	5	0	2	7	0	0	0	0	1	20	0	21	0	16	4	20	
Peak Factor				0.750								0.762				0.588	

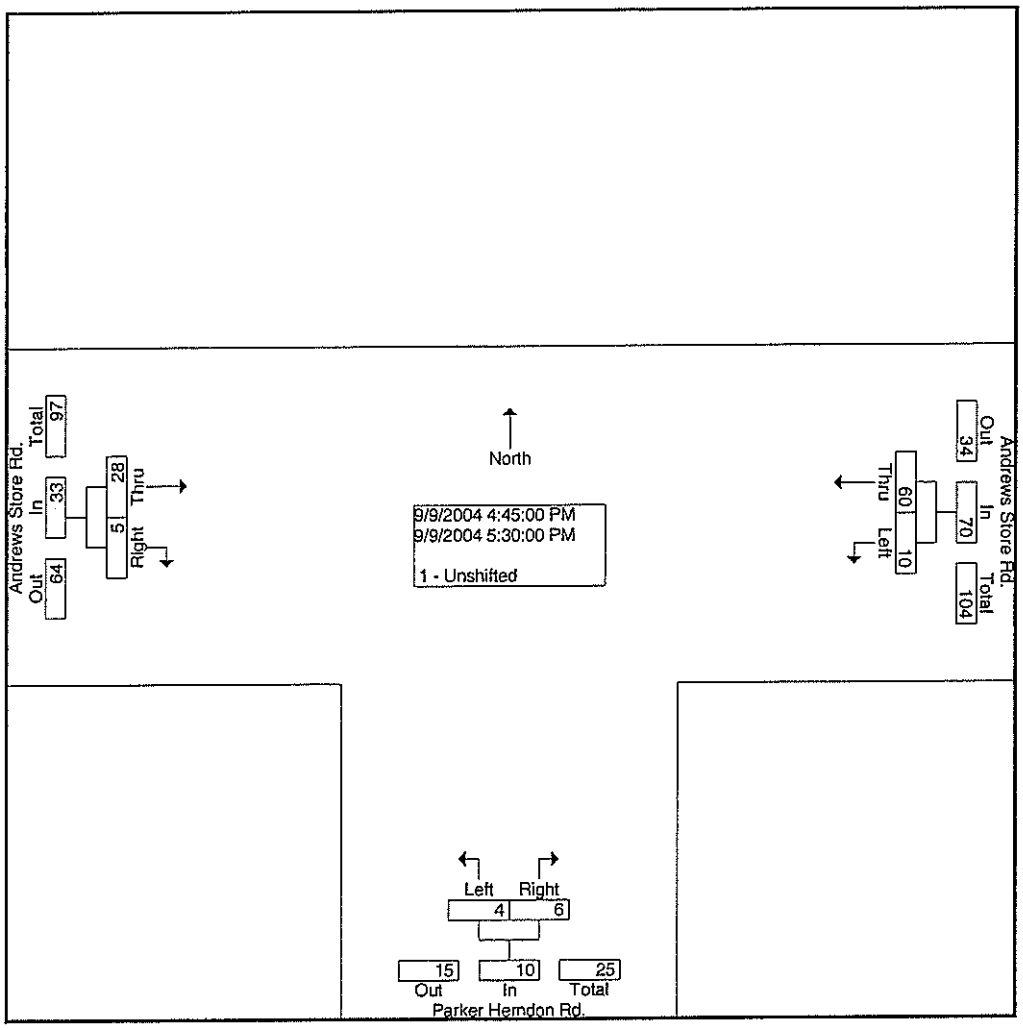


Briar Chapel
011270015

9/9/04
Counted: JP
Stop Sign on Parker Herndon Road
Weather: Clear

File Name : AndrewsParker
Site Code : 00024051
Start Date : 9/9/2004
Page No : 3

	Parker Herndon Rd. From South				From North				Andrews Store Rd. From West				Andrews Store Rd. From East				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 12:45 PM to 05:45 PM - Peak 1 of 1																	
Intersection 04:45 PM																	
Volume	6	0	4	10	0	0	0	0	5	28	0	33	0	60	10	70	113
Percent	60.0	0.0	40.0		0.0	0.0	0.0		15.2	84.8	0.0		0.0	85.7	14.3		
05:30 Volume	3	0	2	5	0	0	0	0	2	6	0	8	0	17	4	21	34
Peak Factor																	0.831
High Int.	05:30 PM								05:00 PM				04:45 PM				
Volume	3	0	2	5	0	0	0	0	1	9	0	10	0	21	1	22	
Peak Factor				0.500								0.825				0.795	



U.S. 15-501 &
Old Lystra Road
(Revised)

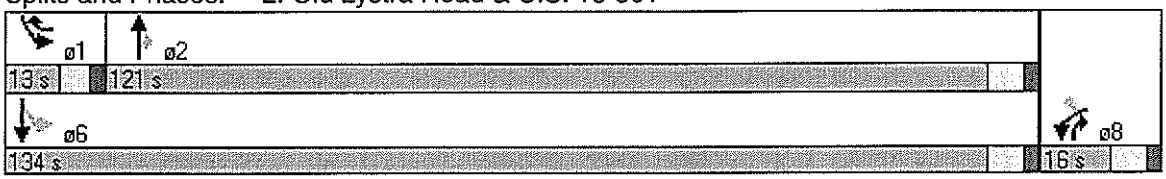
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		250	325	
Storage Lanes	1	1		1	1	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50	300	50	50	300
Trailing Detector (ft)	0	0	0	0	0	0
Turning Speed (mph)	15	9		9	15	
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.053	
Satd. Flow (perm)	1770	1583	3539	1583	99	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		24		118		
Link Speed (mph)	45		55			55
Link Distance (ft)	997		1757			1434
Travel Time (s)	15.2		21.6			17.8
Volume (vph)	39	22	1898	106	58	692
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%
Lane Group Flow (vph)	43	24	2109	118	64	769
Turn Type		pm+ov		pm+ov	pm+pt	
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2	6	
Detector Phases	8	1	2	8	1	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	24.0	13.0	24.0	24.0	13.0	24.0
Total Split (s)	16.0	13.0	121.0	16.0	13.0	134.0
Total Split (%)	11%	9%	81%	11%	9%	89%
Yellow Time (s)	4.7	4.0	4.7	4.7	4.0	4.7
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Coord	None	None	Coord
Act Effct Green (s)	11.9	23.9	122.5	137.9	132.1	132.1
Actuated g/C Ratio	0.08	0.16	0.82	0.92	0.88	0.88
v/c Ratio	0.31	0.09	0.73	0.08	0.34	0.25
Uniform Delay, d1	65.1	0.0	6.8	0.0	1.1	1.4
Delay	65.1	18.1	9.8	0.4	8.3	0.4
LOS	E	B	A	A	A	A
Approach Delay	48.3		9.3			1.0
Approach LOS	D		A			A

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	40	0	470	0	2	13
Queue Length 95th (ft)	82	28	672	m9	17	16
Internal Link Dist (ft)	917		1677			1354
50th Up Block Time (%)						
95th Up Block Time (%)						
Turn Bay Length (ft)				250	325	
50th Bay Block Time %			8%			
95th Bay Block Time %			21%			
Queuing Penalty (veh)			17			

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 7.9 Intersection LOS: A
Intersection Capacity Utilization 75.2% ICU Level of Service C
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Old Lystra Road & U.S. 15-501



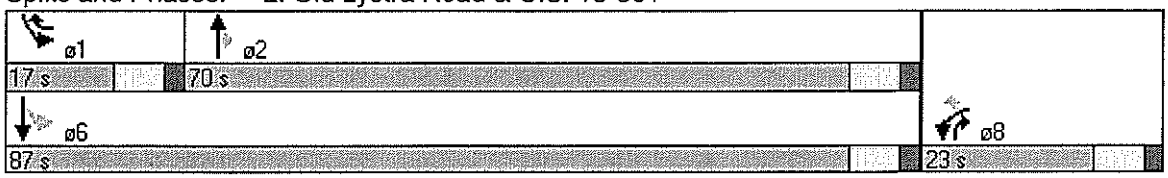
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		250	325	
Storage Lanes	1	1		1	1	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50	300	50	50	300
Trailing Detector (ft)	0	0	0	0	0	0
Turning Speed (mph)	15	9		9	15	
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.138	
Satd. Flow (perm)	1770	1583	3539	1583	257	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		42		70		
Link Speed (mph)	45		55			55
Link Distance (ft)	997		1757			1434
Travel Time (s)	15.2		21.6			17.8
Volume (vph)	116	38	1148	63	17	1950
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%
Lane Group Flow (vph)	129	42	1276	70	19	2167
Turn Type		pm+ov		pm+ov	pm+pt	
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2	6	
Detector Phases	8	1	2	8	1	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	16.0	13.0	16.0	16.0	13.0	16.0
Total Split (s)	23.0	17.0	70.0	23.0	17.0	87.0
Total Split (%)	21%	15%	64%	21%	15%	79%
Yellow Time (s)	4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	Min	Coord	None	Min	Coord
Act Effct Green (s)	16.4	29.0	75.0	94.4	87.6	87.6
Actuated g/C Ratio	0.15	0.26	0.68	0.86	0.80	0.80
v/c Ratio	0.49	0.09	0.53	0.05	0.06	0.77
Uniform Delay, d1	42.9	0.0	8.7	0.0	2.3	5.9
Delay	42.4	8.6	2.4	0.0	4.2	14.2
LOS	D	A	A	A	A	B
Approach Delay	34.1		2.2			14.1
Approach LOS	C		A			B

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	84	0	31	0	4	677
Queue Length 95th (ft)	141	26	36	m0	m5	798
Internal Link Dist (ft)	917		1677			1354
50th Up Block Time (%)						
95th Up Block Time (%)						
Turn Bay Length (ft)				250	325	
50th Bay Block Time %						20%
95th Bay Block Time %			2%			21%
Queuing Penalty (veh)						4

Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 100 (91%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 10.7	Intersection LOS: B
Intersection Capacity Utilization 73.7%	ICU Level of Service C

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

Splits and Phases: 2: Old Lystra Road & U.S. 15-501



U.S. 15-501 &
Mann's Chapel Road
(Revised)

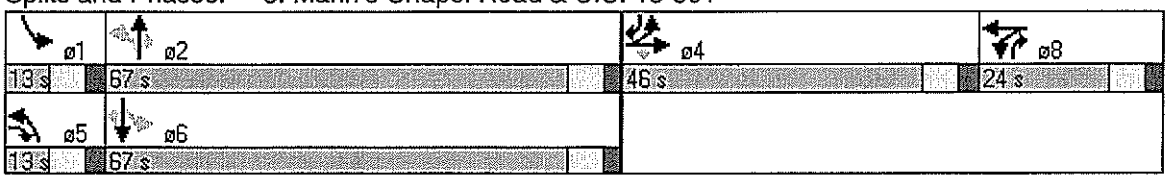
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	11	12	10	10	11	12	11	11	12	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		100	150		0	450		300	450		300
Storage Lanes	2		1	2		0	1		1	1		1
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	3433	1801	1531	3433	1533	0	1711	3539	1531	1711	3539	1531
Flt Permitted	0.950			0.950			0.277			0.062		
Satd. Flow (perm)	3433	1801	1531	3433	1533	0	499	3539	1531	112	3539	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			106		62				61			57
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		4538			1000			2585			795	
Travel Time (s)		68.8			27.3			74.3			12.1	
Volume (vph)	403	67	95	46	15	56	40	1580	70	50	618	51
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%	
Lane Group Flow (vph)	448	74	106	51	79	0	44	1756	78	56	687	57
Turn Type	Split		pm+ov	Split			pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	4	4	5	8	8		5	2	8	1	6	4
Permitted Phases			4				2		2	6		6
Detector Phases	4	4	5	8	8		5	2	8	1	6	4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	24.0	24.0	13.0	24.0	24.0		13.0	24.0	24.0	13.0	24.0	24.0
Total Split (s)	46.0	46.0	13.0	24.0	24.0	0.0	13.0	67.0	24.0	13.0	67.0	46.0
Total Split (%)	31%	31%	9%	16%	16%	0%	9%	45%	16%	9%	45%	31%
Yellow Time (s)	4.7	4.7	4.7	4.7	4.7		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5		2.5	2.5	2.5	2.5	2.5	2.5
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	Coord	None	None	Coord	None
Act Effct Green (s)	27.2	27.2	37.1	12.5	12.5		98.8	90.8	104.0	98.3	88.3	118.5
Actuated g/C Ratio	0.18	0.18	0.25	0.08	0.08		0.66	0.61	0.69	0.66	0.59	0.79
v/c Ratio	0.72	0.23	0.23	0.18	0.43		0.11	0.82	0.07	0.31	0.33	0.05
Uniform Delay, d1	57.8	52.4	0.0	63.9	13.7		8.1	24.2	1.0	8.3	15.7	0.0
Delay	57.3	51.1	4.6	63.0	20.8		7.0	24.9	1.2	13.2	14.2	1.6
LOS	E	D	A	E	C		A	C	A	B	B	A
Approach Delay		47.7			37.3			23.5			13.2	
Approach LOS		D			D			C			B	

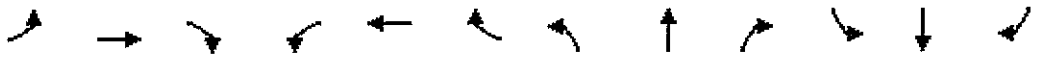
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	216	63	0	24	16		13	461	4	12	182	0
Queue Length 95th (ft)	262	106	36	45	69		m24	#1050	m9	43	262	24
Internal Link Dist (ft)		4458			920			2505			715	
50th Up Block Time (%)												
95th Up Block Time (%)												
Turn Bay Length (ft)	300		100	150			450		300	450		300
50th Bay Block Time %												
95th Bay Block Time %								32%				
Queuing Penalty (veh)								7				

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 54 (36%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 26.0 Intersection LOS: C
Intersection Capacity Utilization 74.6% ICU Level of Service C
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: 3: Mann's Chapel Road & U.S. 15-501





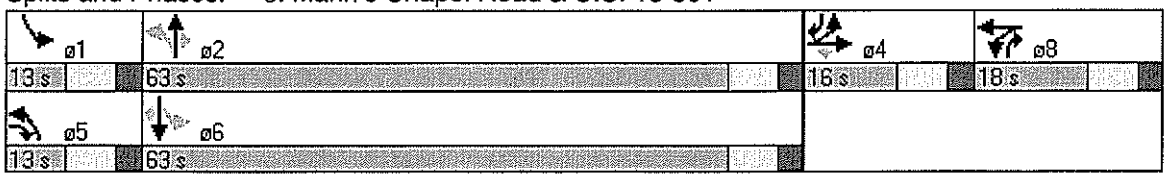
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	11	12	10	10	11	12	11	11	12	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	300		100	150		0	450		300	450		300
Storage Lanes	2		1	2		0	1		1	1		1
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	3433	1801	1531	3433	1634	0	1711	3539	1531	1711	3539	1531
Flt Permitted	0.950			0.950			0.067			0.175		
Satd. Flow (perm)	3433	1801	1531	3433	1634	0	121	3539	1531	315	3539	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			42		25				38			274
Link Speed (mph)		45			45			55			55	
Link Distance (ft)		4538			1000			2585			795	
Travel Time (s)		68.8			27.3			74.3			12.1	
Volume (vph)	155	75	69	159	110	73	145	975	34	140	1629	247
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%	
Lane Group Flow (vph)	172	83	77	177	203	0	161	1083	38	156	1810	274
Turn Type	Split		pm+ov	Split			pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	4	4	5	8	8		5	2	8	1	6	4
Permitted Phases			4				2		2	6		6
Detector Phases	4	4	5	8	8		5	2	8	1	6	4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	16.0	16.0	13.0	16.0	16.0		13.0	16.0	16.0	13.0	16.0	16.0
Total Split (s)	16.0	16.0	13.0	18.0	18.0	0.0	13.0	63.0	18.0	13.0	63.0	16.0
Total Split (%)	15%	15%	12%	16%	16%	0%	12%	57%	16%	12%	57%	15%
Yellow Time (s)	4.7	4.7	4.7	4.7	4.7		4.7	4.7	4.7	4.7	4.7	4.7
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5		2.5	2.5	2.5	2.5	2.5	2.5
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	Coord	None	None	Coord	None
Act Effct Green (s)	12.8	12.8	22.8	15.0	15.0		70.2	60.2	75.2	70.2	60.2	76.0
Actuated g/C Ratio	0.12	0.12	0.21	0.14	0.14		0.64	0.55	0.68	0.64	0.55	0.69
v/c Ratio	0.43	0.40	0.22	0.38	0.83		0.73	0.56	0.04	0.48	0.93	0.24
Uniform Delay, d1	45.2	45.0	10.2	43.2	40.4		19.3	16.2	0.0	6.8	23.1	0.0
Delay	45.5	45.5	12.1	43.6	54.4		37.8	12.7	0.9	10.9	37.3	2.9
LOS	D	D	B	D	D		D	B	A	B	D	A
Approach Delay		37.8			49.4			15.5			31.2	
Approach LOS		D			D			B			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	59	55	15	59	125		36	308	4	60	648	29
Queue Length 95th (ft)	93	105	46	94	#251		#165	167	m0	m70	#785	m46
Internal Link Dist (ft)		4458			920			2505			715	
50th Up Block Time (%)												
95th Up Block Time (%)											19%	
Turn Bay Length (ft)	300		100	150			450		300	450		300
50th Bay Block Time %											37%	
95th Bay Block Time %					42%						36%	
Queuing Penalty (veh)					36						228	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 61 (55%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 28.6 Intersection LOS: C
Intersection Capacity Utilization 88.6% ICU Level of Service D
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: 3: Mann's Chapel Road & U.S. 15-501



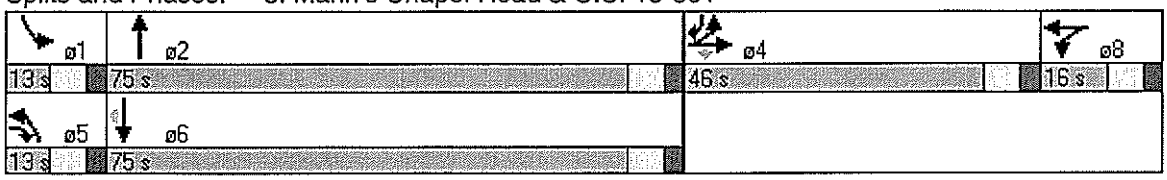
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	500		100	150		0	450		0	450		375
Storage Lanes	2		1	2		0	1		0	1		1
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50	50	50	50		50	300		50	300	50
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	3433	1863	1583	3433	1643	0	1770	5060	0	1770	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1863	1583	3433	1643	0	1770	5060	0	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			80		62			4				256
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		4538			1000			2585			795	
Travel Time (s)		68.8			27.3			74.3			12.1	
Volume (vph)	757	67	141	46	15	56	63	2138	70	50	1215	230
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%	
Lane Group Flow (vph)	841	74	157	51	79	0	70	2454	0	56	1350	256
Turn Type	Split		pm+ov	Split			Prot			Prot		pm+ov
Protected Phases	4	4	5	8	8		5	2		1	6	4
Permitted Phases			4									6
Detector Phases	4	4	5	8	8		5	2		1	6	4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	24.0	24.0	13.0	24.0	24.0		13.0	24.0		13.0	24.0	24.0
Total Split (s)	46.0	46.0	13.0	16.0	16.0	0.0	13.0	75.0	0.0	13.0	75.0	46.0
Total Split (%)	31%	31%	9%	11%	11%	0%	9%	50%	0%	9%	50%	31%
Yellow Time (s)	4.7	4.7	4.7	4.7	4.7		4.7	4.7		4.7	4.7	4.7
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5		2.5	2.5		2.5	2.5	2.5
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	Coord		None	Coord	None
Act Effct Green (s)	42.3	42.3	52.2	11.8	11.8		10.1	76.6		10.1	74.0	119.3
Actuated g/C Ratio	0.28	0.28	0.35	0.08	0.08		0.07	0.51		0.07	0.49	0.80
v/c Ratio	0.87	0.14	0.26	0.19	0.42		0.59	0.95		0.47	0.54	0.20
Uniform Delay, d1	51.3	40.3	11.6	64.7	13.9		68.0	36.0		68.6	26.1	0.0
Delay	53.2	40.3	11.6	64.4	21.4		81.1	32.3		60.1	23.6	0.8
LOS	D	D	B	E	C		F	C		E	C	A
Approach Delay		46.2			38.2			33.7			21.3	
Approach LOS		D			D			C			C	

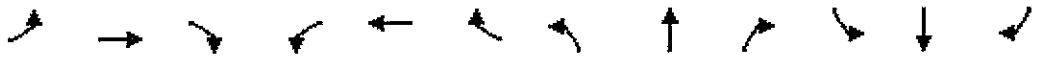
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	403	54	41	24	16		65	750		54	261	1
Queue Length 95th (ft)	487	97	85	47	71		m75	#996		103	327	17
Internal Link Dist (ft)		4458			920			2505			715	
50th Up Block Time (%)												
95th Up Block Time (%)												
Turn Bay Length (ft)	500		100	150			450			450		375
50th Bay Block Time %								10%				
95th Bay Block Time %								18%				
Queuing Penalty (veh)								10				

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 52 (35%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 32.5 Intersection LOS: C
Intersection Capacity Utilization 91.6% ICU Level of Service E
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: 3: Mann's Chapel Road & U.S. 15-501





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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)	500		100	150		0	450		0	450		375
Storage Lanes	2		1	2		0	1		0	1		1
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50	50	50	50		50	50		50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	3433	1863	1583	3433	1751	0	1770	5070	0	1770	5085	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1863	1583	3433	1751	0	1770	5070	0	1770	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			30		25			4				236
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		4532			1000			2585			795	
Travel Time (s)		68.7			27.3			74.3			12.1	
Volume (vph)	354	75	99	159	110	73	193	1532	34	140	2169	575
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%	
Lane Group Flow (vph)	393	83	110	177	203	0	214	1740	0	156	2410	639
Turn Type	Split		pm+ov	Split			Prot			Prot		pm+ov
Protected Phases	4	4	5	8	8		5	2		1	6	4
Permitted Phases			4									6
Detector Phases	4	4	5	8	8		5	2		1	6	4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	16.0	16.0	13.0	16.0	16.0		13.0	16.0		13.0	16.0	16.0
Total Split (s)	18.0	18.0	19.0	17.0	17.0	0.0	19.0	58.0	0.0	17.0	56.0	18.0
Total Split (%)	16%	16%	17%	15%	15%	0%	17%	53%	0%	15%	51%	16%
Yellow Time (s)	4.7	4.7	4.7	4.7	4.7		4.7	4.7		4.7	4.7	4.7
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5		2.5	2.5		2.5	2.5	2.5
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	Coord		None	Coord	None
Act Effct Green (s)	15.0	15.0	31.0	14.0	14.0		16.0	55.0		13.9	53.0	71.0
Actuated g/C Ratio	0.14	0.14	0.28	0.13	0.13		0.15	0.50		0.13	0.48	0.65
v/c Ratio	0.84	0.33	0.24	0.41	0.83		0.83	0.69		0.70	0.98	0.58
Uniform Delay, d1	46.3	42.9	13.5	44.2	40.9		45.7	20.9		45.9	28.1	6.2
Delay	52.9	43.6	13.8	44.5	54.4		59.7	14.0		46.7	29.8	9.5
LOS	D	D	B	D	D		E	B		D	C	A
Approach Delay		44.2			49.8			19.0			26.6	
Approach LOS		D			D			B			C	

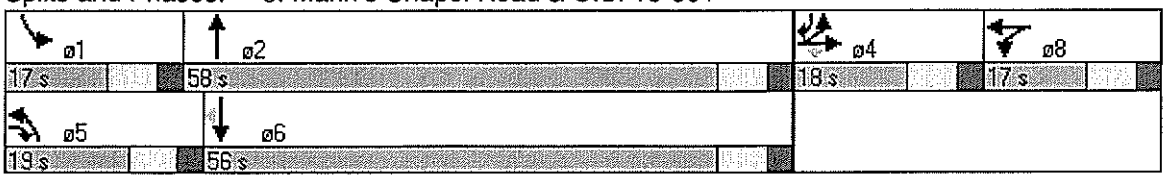
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	141	54	31	60	125		162	128		105	645	197
Queue Length 95th (ft)	#218	102	65	95	#251		m#210	205		m100	m617	m176
Internal Link Dist (ft)		4452			920			2505			715	
50th Up Block Time (%)												
95th Up Block Time (%)												
Turn Bay Length (ft)	500		100	150			450			450		375
50th Bay Block Time %											17%	
95th Bay Block Time %					42%						15%	
Queuing Penalty (veh)					36						25	

Intersection Summary

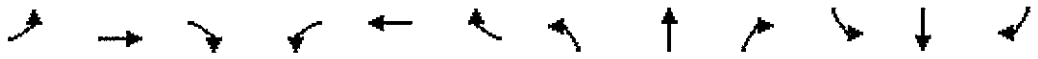
Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 61 (55%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 27.3 Intersection LOS: C
Intersection Capacity Utilization 94.4% ICU Level of Service E

\# 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: 3: Mann's Chapel Road & U.S. 15-501



U.S. 15-501 &
Taylor Road
(Revised)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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)	200		0	0		0	400		50	325		325
Storage Lanes	2		0	1		0	1		1	1		1
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50		50	50		50	300	50	50	300	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	3433	1604	0	1770	1622	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.065			0.135		
Satd. Flow (perm)	3433	1604	0	1770	1622	0	121	3539	1583	251	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		183			101				2			331
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		1000			292			488			1197	
Travel Time (s)		19.5			8.0			20.1			14.0	
Volume (vph)	273	16	198	52	14	91	202	1122	5	12	1839	298
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%	
Lane Group Flow (vph)	303	238	0	58	117	0	224	1247	6	13	2043	331
Turn Type	Split			Split			pm+pt		Perm	pm+pt		pm+ov
Protected Phases	4	4		8	8		5	2		1	6	4
Permitted Phases							2		2	6		6
Detector Phases	4	4		8	8		5	2	2	1	6	4
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		13.0	22.0	22.0	13.0	22.0	22.0
Total Split (s)	16.0	16.0	0.0	16.0	16.0	0.0	13.0	65.0	65.0	13.0	65.0	16.0
Total Split (%)	15%	15%	0%	15%	15%	0%	12%	59%	59%	12%	59%	15%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	Coord	Coord	None	Coord	None
Act Effct Green (s)	13.0	13.0		11.4	11.4		76.1	74.1	74.1	72.4	63.6	79.6
Actuated g/C Ratio	0.12	0.12		0.10	0.10		0.69	0.67	0.67	0.66	0.58	0.72
v/c Ratio	0.75	0.68		0.32	0.45		0.96	0.52	0.01	0.05	1.00	0.27
Uniform Delay, d1	46.9	10.3		45.7	6.1		26.3	11.6	5.0	5.5	23.1	0.0
Delay	49.6	13.1		45.4	12.2		62.4	16.1	14.0	6.0	46.2	2.0
LOS	D	B		D	B		E	B	B	A	D	A
Approach Delay		33.5			23.2			23.1			39.8	
Approach LOS		C			C			C			D	

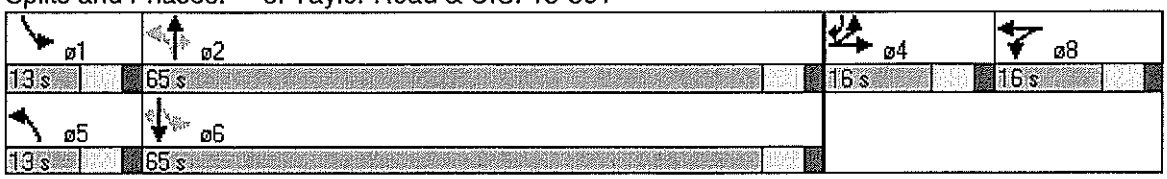
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	108	36		38	10		109	227	1	4	~784	16
Queue Length 95th (ft)	#164	121		79	65		m#267	496	m6	m4	#943	m40
Internal Link Dist (ft)		920			212			408			1117	
50th Up Block Time (%)												
95th Up Block Time (%)								15%				
Turn Bay Length (ft)	200						400		50	325		325
50th Bay Block Time %											38%	
95th Bay Block Time %								16%			42%	
Queuing Penalty (veh)								114			5	

Intersection Summary

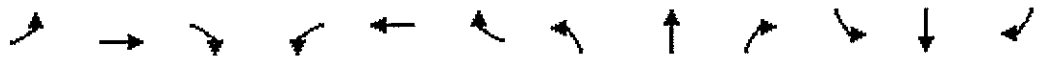
Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 2 (2%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 33.1 Intersection LOS: C
Intersection Capacity Utilization 94.2% ICU Level of Service E

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

Splits and Phases: 6: Taylor Road & U.S. 15-501



U.S. 15-501 &
Andrews Store Road
(Revised)



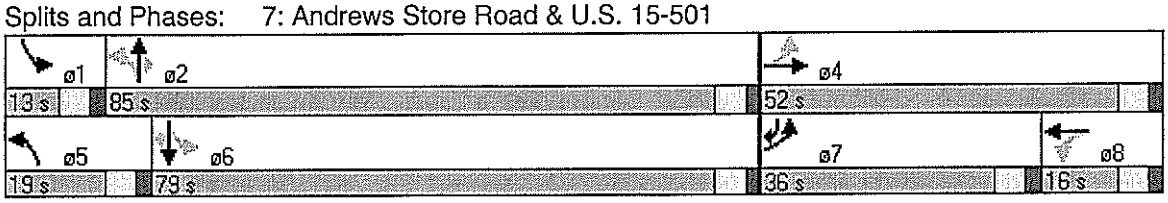
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	500		0	50		0	425		0	350		350
Storage Lanes	1		0	1		0	1		1	1		1
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	1595	0	1770	1609	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.604			0.561			0.235			0.053		
Satd. Flow (perm)	1125	1595	0	1045	1609	0	438	3539	1583	99	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		208			19				30			298
Link Speed (mph)		45			25			45			45	
Link Distance (ft)		2102			343			696			1096	
Travel Time (s)		31.8			9.4			10.5			20.1	
Volume (vph)	327	13	284	6	2	17	198	1707	46	124	753	268
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%	
Lane Group Flow (vph)	363	330	0	7	21	0	220	1897	51	138	837	298
Turn Type	pm+pt			Perm			pm+pt		Perm	pm+pt		pm+ov
Protected Phases	7	4			8		5	2		1	6	7
Permitted Phases	4			8			2		2	6		6
Detector Phases	7	4		8	8		5	2	2	1	6	7
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		13.0	22.0	22.0	13.0	22.0	22.0
Total Split (s)	36.0	52.0	0.0	16.0	16.0	0.0	19.0	85.0	85.0	13.0	79.0	36.0
Total Split (%)	24%	35%	0%	11%	11%	0%	13%	57%	57%	9%	53%	24%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead			Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Coord	Coord	None	Coord	None
Act Effct Green (s)	40.1	40.1		9.8	9.8		103.3	90.9	90.9	97.2	87.2	122.3
Actuated g/C Ratio	0.27	0.27		0.07	0.07		0.69	0.61	0.61	0.65	0.58	0.82
v/c Ratio	0.83	0.57		0.10	0.17		0.52	0.88	0.05	0.78	0.41	0.22
Uniform Delay, d1	48.4	15.6		68.1	6.4		8.9	27.2	5.3	30.2	18.5	0.0
Delay	49.8	15.5		65.5	27.1		9.4	24.1	7.0	50.7	21.6	1.8
LOS	D	B		E	C		A	C	A	D	C	A
Approach Delay		33.5			36.7			22.2			20.1	
Approach LOS		C			D			C			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	312	94		7	2		62	304	4	106	217	0
Queue Length 95th (ft)	421	189		24	31		m103	#1100	m13	#203	323	81
Internal Link Dist (ft)		2022			263			616			1016	
50th Up Block Time (%)								1%				
95th Up Block Time (%)								9%				
Turn Bay Length (ft)	500			50			425			350		350
50th Bay Block Time %								3%				
95th Bay Block Time %								27%				
Queuing Penalty (veh)								116				

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 134 (89%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 23.6 Intersection LOS: C
Intersection Capacity Utilization 96.9% ICU Level of Service E
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: 7: Andrews Store Road & U.S. 15-501



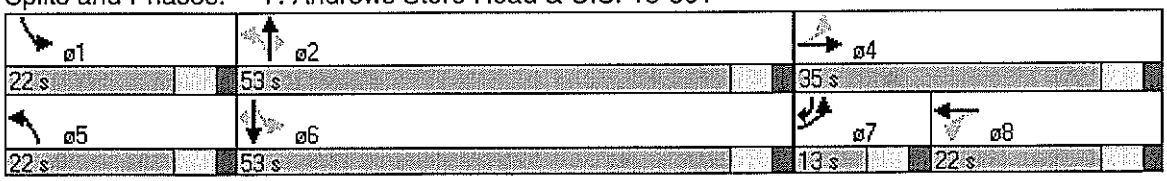
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	500		0	50		0	425		50	350		350
Storage Lanes	1		0	1		0	1		1	1		1
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	1609	0	1770	1641	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.463			0.636			0.080			0.114		
Satd. Flow (perm)	862	1609	0	1185	1641	0	149	3539	1583	212	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		176			101				1			308
Link Speed (mph)		45			25			45			45	
Link Distance (ft)		2102			343			696			1096	
Travel Time (s)		31.8			9.4			10.5			20.1	
Volume (vph)	183	16	158	43	23	91	236	1029	4	12	1717	277
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%	
Lane Group Flow (vph)	203	194	0	48	127	0	262	1143	4	13	1908	308
Turn Type	pm+pt			Perm			pm+pt		Perm	pm+pt		pm+ov
Protected Phases	7	4			8		5	2		1	6	7
Permitted Phases	4			8			2		2	6		6
Detector Phases	7	4		8	8		5	2	2	1	6	7
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	13.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	13.0
Total Split (s)	13.0	35.0	0.0	22.0	22.0	0.0	22.0	53.0	53.0	22.0	53.0	13.0
Total Split (%)	12%	32%	0%	20%	20%	0%	20%	48%	48%	20%	48%	12%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead			Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Coord	Coord	None	Coord	None
Act Effct Green (s)	25.8	25.8		12.7	12.7		78.3	73.5	73.5	67.6	59.0	72.0
Actuated g/C Ratio	0.23	0.23		0.12	0.12		0.71	0.67	0.67	0.61	0.54	0.65
v/c Ratio	0.71	0.38		0.35	0.45		0.76	0.48	0.00	0.05	1.01	0.27
Uniform Delay, d1	36.4	3.0		44.8	8.9		22.5	10.8	5.5	5.5	25.6	0.0
Delay	36.6	6.4		43.8	13.1		33.2	2.1	1.2	4.2	34.9	0.0
LOS	D	A		D	B		C	A	A	A	C	A
Approach Delay		21.8			21.5			7.8			29.9	
Approach LOS		C			C			A			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	124	9		32	17		78	18	0	1	~758	0
Queue Length 95th (ft)	m186	m64		67	71		184	37	m0	m2	m#837	m0
Internal Link Dist (ft)		2022			263			616			1016	
50th Up Block Time (%)												
95th Up Block Time (%)												
Turn Bay Length (ft)	500			50			425		50	350		350
50th Bay Block Time %											10%	
95th Bay Block Time %				26%	28%						20%	
Queuing Penalty (veh)				16	7						2	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 35 (32%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 21.4 Intersection LOS: C
Intersection Capacity Utilization 99.4% ICU Level of Service E
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Andrews Store Road & U.S. 15-501



Hamletts Chapel Road &
Mann's Chapel / River Forrest Road
(Revised)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (veh/h)	210	195	20	47	173	62	23	97	34	59	76	187
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
Hourly flow rate (veh/h)	233	217	22	52	192	69	26	108	38	66	84	208

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	233	239	52	261	171	358
Volume Left (vph)	233	0	52	0	26	66
Volume Right (vph)	0	22	0	69	38	208
Hadj (s)	0.2	0.0	0.2	-0.1	-0.1	-0.3
Departure Headway (s)	6.9	6.6	7.1	6.7	6.7	6.1
Degree Utilization, x	0.45	0.44	0.10	0.49	0.32	0.60
Capacity (veh/h)	502	522	477	498	485	564
Control Delay (s)	14.1	13.5	9.7	14.8	12.8	18.0
Approach Delay (s)	13.8		14.0		12.8	18.0
Approach LOS	B		B		B	C

Intersection Summary			
Delay	14.9		
HCM Level of Service	B		
Intersection Capacity Utilization	70.8%	ICU Level of Service	C

Lystra Road &
Farrington Road
(Revised)

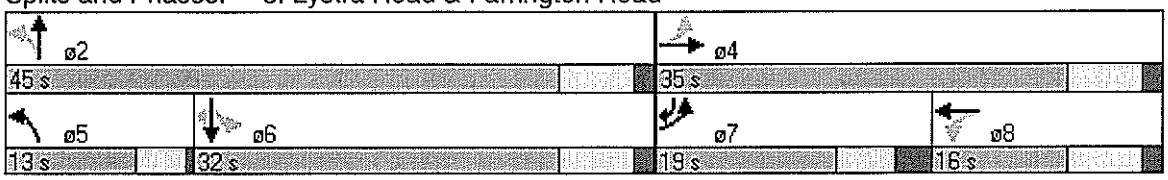
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	11	11	11	11	11	11
Grade (%)		2%			1%			0%			0%	
Storage Length (ft)	150		0	0		0	75		0	125		0
Storage Lanes	1		0	0		0	1		0	1		1
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Leading Detector (ft)	50	50		50	50		50	300		50	300	50
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1694	1533	0	0	1789	0	1711	1801	0	1711	1801	1531
Flt Permitted	0.733				0.979		0.125			0.623		
Satd. Flow (perm)	1307	1533	0	0	1756	0	225	1801	0	1122	1801	1531
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		170			4							662
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		5189			1008			1000			1066	
Travel Time (s)		64.3			22.9			12.4			13.2	
Volume (vph)	430	11	153	1	11	4	153	194	0	44	570	698
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%	
Lane Group Flow (vph)	478	182	0	0	17	0	170	216	0	49	633	776
Turn Type	pm+pt			Perm			pm+pt			Perm		pm+ov
Protected Phases	7	4			8		5	2			6	7
Permitted Phases	4			8			2			6		6
Detector Phases	7	4		8	8		5	2		6	6	7
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	13.0	16.0		16.0	16.0		13.0	16.0		16.0	16.0	13.0
Total Split (s)	19.0	35.0	0.0	16.0	16.0	0.0	13.0	45.0	0.0	32.0	32.0	19.0
Total Split (%)	24%	44%	0%	20%	20%	0%	16%	56%	0%	40%	40%	24%
Yellow Time (s)	4.0	5.1		5.1	5.1		3.5	5.1		5.1	5.1	4.0
All-Red Time (s)	2.5	1.5		1.5	1.5		0.5	1.5		1.5	1.5	2.5
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	Lead
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min		Min	Min	None
Act Effct Green (s)	18.6	18.6			9.9		38.0	38.0		28.3	28.3	48.6
Actuated g/C Ratio	0.30	0.30			0.14		0.59	0.60		0.45	0.45	0.77
v/c Ratio	0.98	0.32			0.07		0.49	0.20		0.10	0.78	0.58
Uniform Delay, d1	20.5	1.0			23.0		7.2	7.4		12.6	18.6	0.6
Delay	54.2	4.1			25.5		8.1	6.4		13.1	24.6	1.2
LOS	D	A			C		A	A		B	C	A
Approach Delay		40.4			25.5			7.1			11.7	
Approach LOS		D			C			A			B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	~222	4			4		21	27		10	197	9
Queue Length 95th (ft)	#369	42			23		87	88		38	#504	72
Internal Link Dist (ft)		5109			928			920			986	
50th Up Block Time (%)												
95th Up Block Time (%)												
Turn Bay Length (ft)	150						75			125		
50th Bay Block Time %	32%										26%	
95th Bay Block Time %	39%						14%	13%			52%	
Queuing Penalty (veh)	64						15	11			19	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 62.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 18.6 Intersection LOS: B
Intersection Capacity Utilization 85.9% ICU Level of Service D
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Lystra Road & Farrington Road



Andrews Store Road &
South Access Road / Parker Herndon Road
(Revised)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	39	366	5	12	262	188	8	0	20	238	0	57
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
Hourly flow rate (veh/h)	43	407	6	13	291	209	9	0	22	264	0	63
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	500			412			877	1023	409	833	817	291
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	500			412			877	1023	409	833	817	291
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			99			96	100	97	1	100	92
cM capacity (veh/h)	1064			1147			236	223	642	267	295	748

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	43	412	304	209	31	264	63
Volume Left	43	0	13	0	9	264	0
Volume Right	0	6	0	209	22	0	63
cSH	1064	1700	1147	1700	431	267	748
Volume to Capacity	0.04	0.24	0.01	0.12	0.07	0.99	0.08
Queue Length (ft)	3	0	1	0	6	245	7
Control Delay (s)	8.5	0.0	0.5	0.0	14.0	94.1	10.3
Lane LOS	A		A		B	F	B
Approach Delay (s)	0.8		0.3		14.0	77.9	
Approach LOS					B	F	

Intersection Summary			
Average Delay	19.9		
Intersection Capacity Utilization	49.7%	ICU Level of Service	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	48	191	8	15	310	196	7	0	11	140	0	30
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
Hourly flow rate (veh/h)	53	212	9	17	344	218	8	0	12	156	0	33
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	562			221			734	919	217	709	706	344
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	562			221			734	919	217	709	706	344
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			99			97	100	99	52	100	95
cM capacity (veh/h)	1009			1348			304	254	823	327	337	698

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	53	221	361	218	20	156	33
Volume Left	53	0	17	0	8	156	0
Volume Right	0	9	0	218	12	0	33
cSH	1009	1700	1348	1700	494	327	698
Volume to Capacity	0.05	0.13	0.01	0.13	0.04	0.48	0.05
Queue Length (ft)	4	0	1	0	3	61	4
Control Delay (s)	8.8	0.0	0.5	0.0	12.6	25.6	10.4
Lane LOS	A		A		B	D	B
Approach Delay (s)	1.7		0.3		12.6	22.9	
Approach LOS					B	C	

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	47.1%	ICU Level of Service	A