

August 17, 2006

George Farrell, Jr.
354 McGhee Rd
Chapel Hill, NC 27517
919-417-1417

Subject: Traffic Assessment
Proposed Flex Space and Storage Facility – Chatham County, North Carolina

Dear Mr. Farrell:

This letter summarizes the findings of a traffic assessment (TA) prepared by Ramey Kemp & Associates, Inc. (RKA) for the proposed flex space and storage facility located in the northeast quadrant of the intersection of Farrington Point Road (SR 1008) and Lystra Church Road / McGhee Road (SR 1717) in Chatham County. The purpose of this study is to determine impacts to the surrounding transportation system created by traffic generated by the proposed development and recommend improvements to mitigate the impacts.

The preliminary site plan for this development shows a total of approximately 39,200 s.f. of flex space as well as 18,000 s.f. of mini-storage. For this study, the flex space is assumed to be general office space. Access to the site is proposed via four full access driveways, one on Farrington Point Road located approximately 360 feet north of Lystra Church / McGhee Road and three on McGhee Road located approximately 120 feet, 400 feet, and 580 feet east of Farrington Point Road. It should be noted that the easternmost driveway on McGhee Road will serve the mini-storage exclusively.

The scope of work for this traffic assessment includes the intersections below. These intersections were analyzed during the weekday AM and PM peak hours under existing (2006) conditions and combined (2008) conditions with site traffic.

- Farrington Point Road and Lystra Church Road / McGhee Road
- Farrington Point Road and Site Driveway 1
- McGhee Road and Site Driveways 2-4

It should be noted that NCDOT District Office has visited the site to review the number and location of driveways and has given preliminary approval of the number and location of driveways.

Existing Traffic

Existing peak hour turning movement traffic counts were conducted at the intersection of Farrington Point Road and Lystra Church Road / McGhee Road in August, 2006 during the weekday AM (7:00-9:00 AM) and PM (4:30-6:30 PM) peak periods. Refer to Figure 1 for the

existing (2006) weekday AM and PM peak hour traffic volumes. Traffic counts are included in Appendix A.

Based on Average Daily Traffic maps provided by NCDOT, Lystra Church Road west of Farrington Point Road carried approximately 4,800 vehicles per day (vpd) in 2003. Farrington Road carried approximately 5,800 vpd south of the site in 2003.

The intersection of Farrington Point Road and Lystra Church Road / McGhee Road was analyzed to determine the current levels of service based on existing traffic conditions. Traffic signal timings and phasing were determined based on field observations by RKA. This signal is assumed to run as a three-phase signal with a cycle length of approximately 120 seconds and a protected + permitted northbound left turn movement. A cycle length of 120 seconds was chosen for this analysis since it would represent a worst-case condition for queuing. Analysis results for this intersection are displayed in Table 1. Printouts of the analysis are included in Appendix B.

TABLE 1
EXISTING (2006) PEAK HOUR CAPACITY ANALYSIS RESULTS

INTERSECTION	A P P R O A C H	LANE CONFIGURATIONS	WEEDKAY AM PEAK HOUR LEVEL OF SERVICE		WEEDKAY PM PEAK HOUR LEVEL OF SERVICE	
			Approach	Overall	Approach	Overall
Farrington Point Road and Lystra Church Road / McGhee Road (Signalized)	EB	1 LT, 1 TH-RT	B	B	B	A
	WB	1 LT-TH-RT	A		B	
	NB	1 LT, 1 TH-RT	B		A	
	SB	1 LT, 1 TH-RT	B		B	

Analysis indicates that the intersection operates at LOS B in the AM peak hour and LOS A in the PM peak hour. All approaches operate at LOS B or better in both peak hour periods.

Trip Generation

Average weekday daily, AM peak hour, and PM peak hour trips for the proposed site were calculated utilizing methodology contained within the Institute of Transportation Engineers (ITE) *Trip Generation* manual, 7th Edition. A detailed breakdown of the trip generation results can be found in Table 2.

It is estimated that the site will generate a total of 694 trips (entering and exiting) during a typical weekday. Of the total, approximately 92 trips (80 enter and 12 exit) will occur during the AM peak hour, while approximately 127 trips (23 enter and 104 exit) will occur during the PM peak hour.

TABLE 2
TRIP GENERATION

ITE Land Use (Code)	Size	Average Daily Traffic (vpd)	AM Peak Hour (vph)		PM Peak Hour (vph)	
			Enter	Exit	Enter	Exit
General Office (710)	39,200 sf	649	78	11	21	102
Mini-Warehouse (151)	18,000 sf	45	2	1	2	2
TOTAL TRIPS		694	80	12	23	104

Trip Distribution and Assignment

Trip distribution percentages used in assigning site trips were estimated based on the location of nearby residential areas, existing traffic patterns, and engineering judgment. It is estimated that 50 percent of site trips will access the site from the south on Farrington Point Road while 15 percent will access the site from the west on Farrington Point Road. The remaining 15 percent will access the site from the west on Lystra Church Road. Refer to Figure 2 for the primary site trip distribution percentages and peak hour site trips.

Future Traffic Conditions

Future peak hour traffic volumes were determined by projecting the existing traffic volumes (Figure 1) to the horizon year 2008. To be conservative, a compounded annual growth rate of 5% was applied to the existing traffic volumes.

Combined Traffic Conditions – With Site Traffic

Combined (2008) peak hour traffic conditions were determined by combining the total site trips (Figure 2) with the projected future peak hour traffic volumes. Refer to Figure 3 for the combined AM and PM peak hour traffic volumes at study intersections.

Study intersections were analyzed to determine the expected levels of service under future traffic conditions. Analysis results at the study intersections are displayed in Table 3. Printouts of the analysis are included in Appendix C.

TABLE 3
COMBINED (2008) PEAK HOUR CAPACITY ANALYSIS RESULTS

INTERSECTION	APPROACH	LANE CONFIGURATIONS	WEEDKAY AM PEAK HOUR LEVEL OF SERVICE		WEEDKAY PM PEAK HOUR LEVEL OF SERVICE	
			Approach	Overall	Approach	Overall
Farrington Point Road and Lystra Church Road / McGhee Road (Signalized)	EB WB NB SB	1 LT, 1 TH-RT 1 LT-TH-RT 1 LT, 1 TH-RT 1 LT, 1 TH-RT	B A B B	B	C C A B	B
Farrington Point Road and Site Drive 1 (Unsignalized)	WB NB SB	1 LT-RT 1 TH-RT 1 LT-TH	C ² -- A ¹	N/A	B ² -- A ¹	N/A
McGhee Road and Site Drive 2 (Unsignalized)	EB WB SB	1 LT-TH 1 TH-RT 1 LT-RT	A ¹ -- A ²	N/A	A ¹ -- A ²	N/A
McGhee Road and Site Drive 3 (Unsignalized)	EB WB SB	1 LT-TH 1 TH-RT 1 LT-RT	A ¹ -- A ²	N/A	A ¹ -- A ²	N/A
McGhee Road and Site Drive 4 (Unsignalized)	EB WB SB	1 LT-TH 1 TH-RT 1 LT-RT	A ¹ -- A ²	N/A	A ¹ -- A ²	N/A

Note: Improvements in bold

1. Level of service for left turn movement on major approach.
2. Level of service for minor approach

Capacity analysis indicates the intersection of Farrington Point Road and Lystra Church Road / McGhee Road will operate at LOS B during both the AM and PM peak hours under combined (2008) conditions. All approaches are expected to operate at LOS C or better in both peak hour periods. In addition, simulation analysis indicates that queues at this intersection during the peak hour will not extend beyond the proposed site driveways on both Farrington Point Road and McGhee Road.

All site driveway intersections were analyzed with no additional turn major street turn lane improvements as well as single lane approaches on the site driveways. Analysis indicates that the major street left turn movement and minor street approach at the intersection of Farrington Point Road and Site Drive 1 will operate at LOS C or better during the peak hours under

Mr. George Farrell, Jr.
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combined conditions. Analysis indicates that both the major street left turn movements and minor street approaches at the intersections of McGhee Road and Site Driveways 2 through 4 will operate at LOS A during the peak hours under combined conditions.

Conclusions and Recommendations

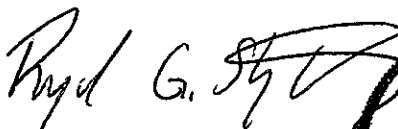
In conclusion, the proposed flex space / mini-storage development is not expected to have a significant impact on the adjacent transportation network. Analysis suggests all study intersections are expected to operate at acceptable levels of service under future conditions with full build out of the site.

Analysis indicates that the intersection of Farrington Point Road and Lystra Church Road / McGhee Road will operate at LOS B under future conditions. Additionally, queues at this intersection are not expected to extend beyond the proposed site driveway locations. No improvements are necessary at this intersection to achieve an acceptable level of service.

All major street left turn movements and minor street approaches at site driveway intersections are expected to operate at LOS C or better with minimal queuing. It is recommended that each site driveways be constructed as a two-lane section with one ingress and one egress lane. No turn lane improvements are necessary on the major street at any of the site driveway locations to achieve an acceptable level of service.

If you should have any questions or comments relative to this traffic assessment, please feel free to contact me at (919) 872-5115.

Sincerely,
Ramey Kemp & Associates, Inc.

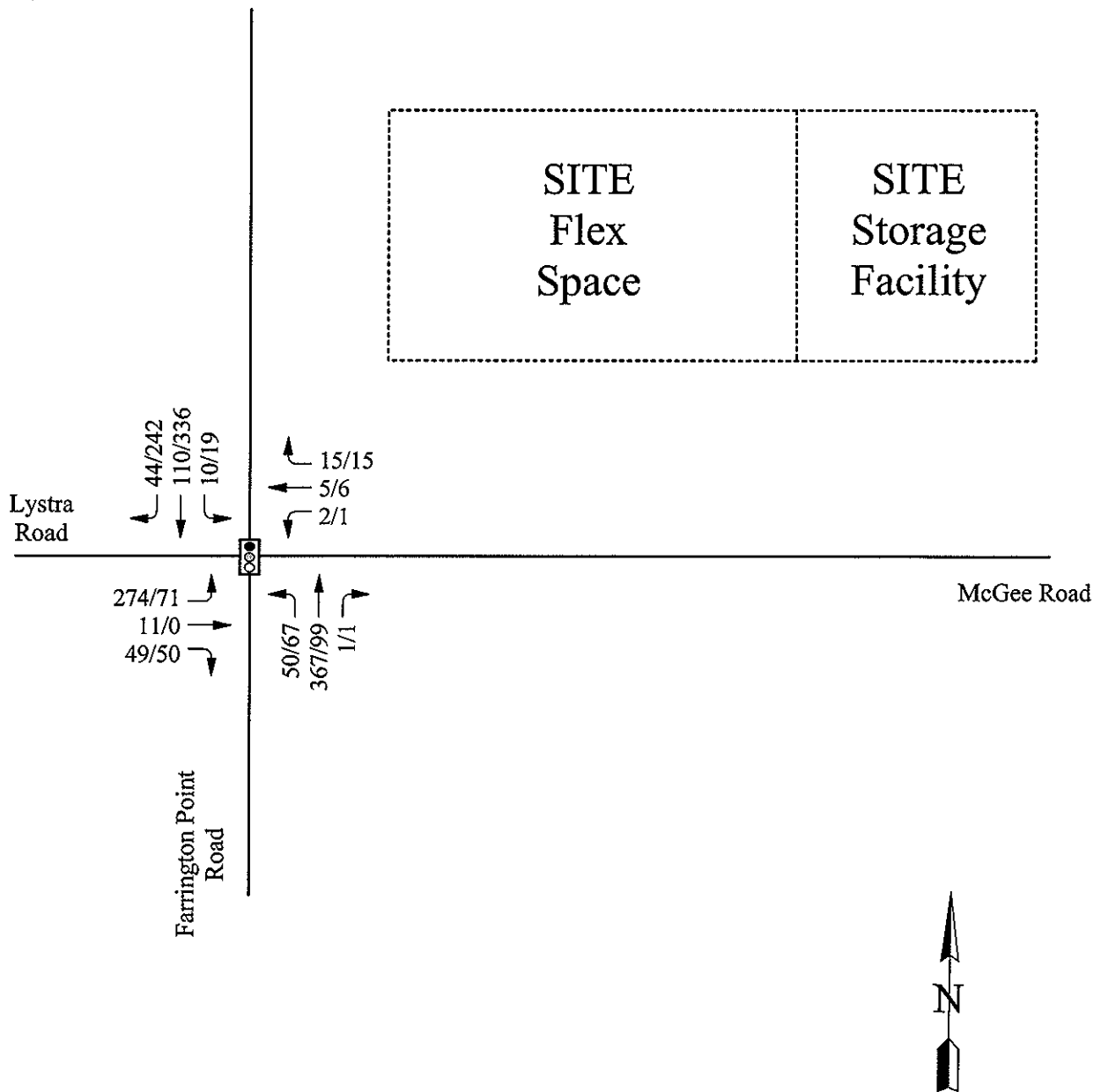


Rynal G. Stephenson, P.E.
Transportation Engineer




Attachments

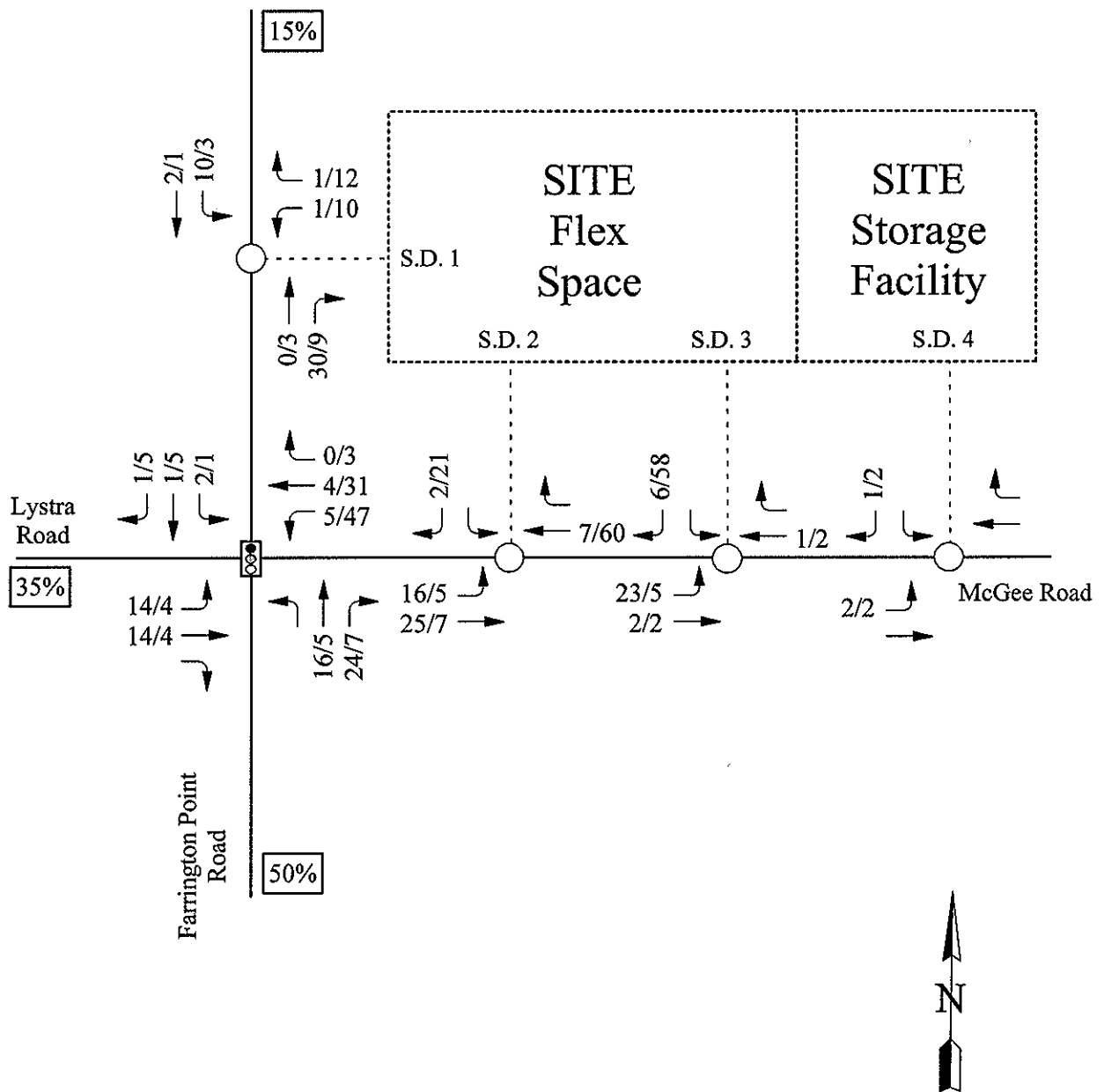
FIGURES




LEGEND

-  Signalized Intersection
- X/Y → AM/PM Weekday Peak Hour Traffic

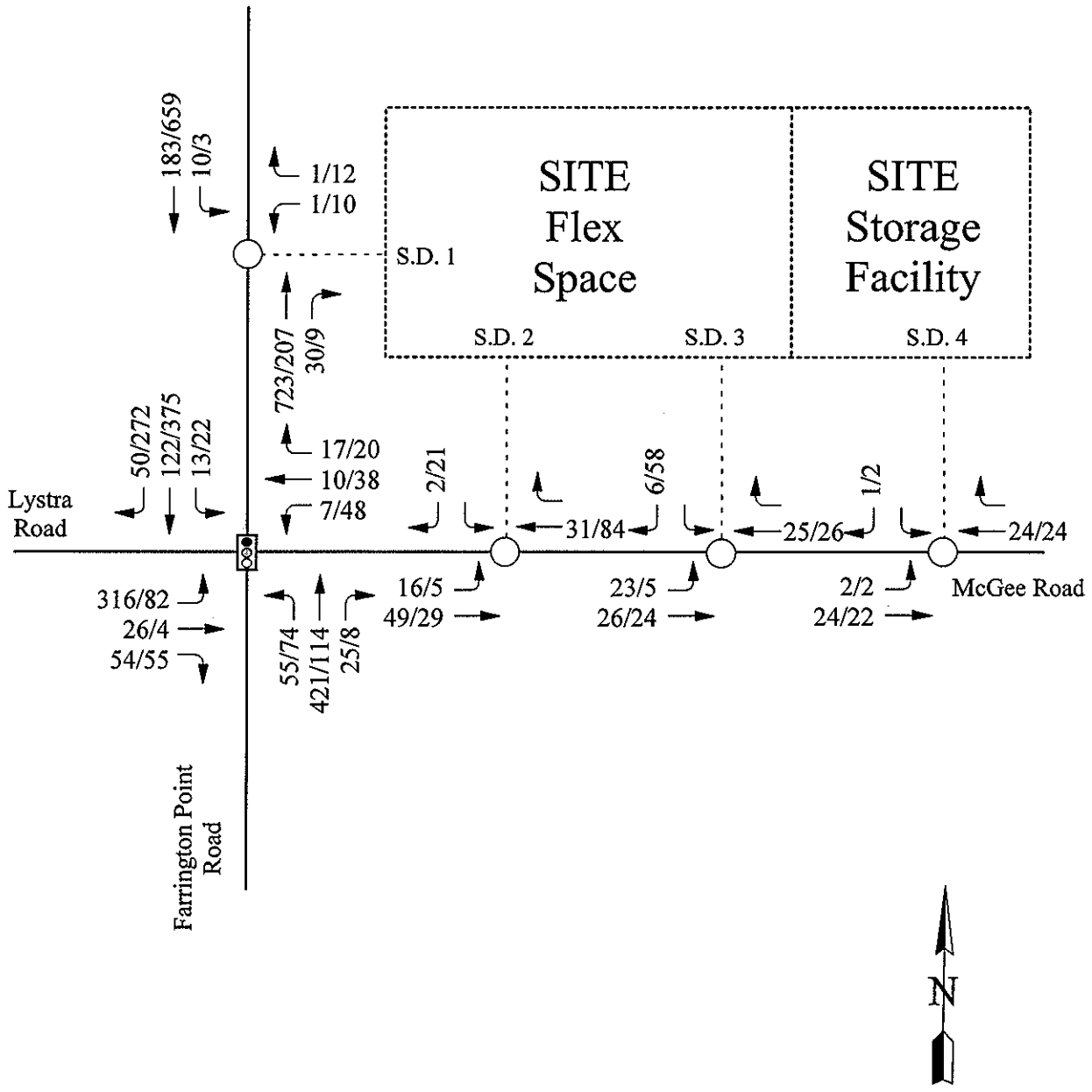
<i>FLEX SPACE/STORAGE FACILITY CHATHAM COUNTY, NORTH CAROLINA</i>	
Existing (2006) Traffic	
Scale: Not to Scale	Figure 1




LEGEND

-  Signalized Intersection
- X/Y → AM/PM Weekday Peak Hour Site Trips

<i>FLEX SPACE/STORAGE FACILITY CHATHAM COUNTY, NORTH CAROLINA</i>	
Site Trips	
Scale: Not to Scale	Figure 2



LEGEND

-  Signalized Intersection
- X/Y → AM/PM Weekday Peak Hour Traffic

<i>FLEX SPACE/STORAGE FACILITY CHATHAM COUNTY, NORTH CAROLINA</i>	
Combined (2008) Traffic	
Scale: Not to Scale	Figure 3

APPENDIX A

TRAFFIC COUNTS

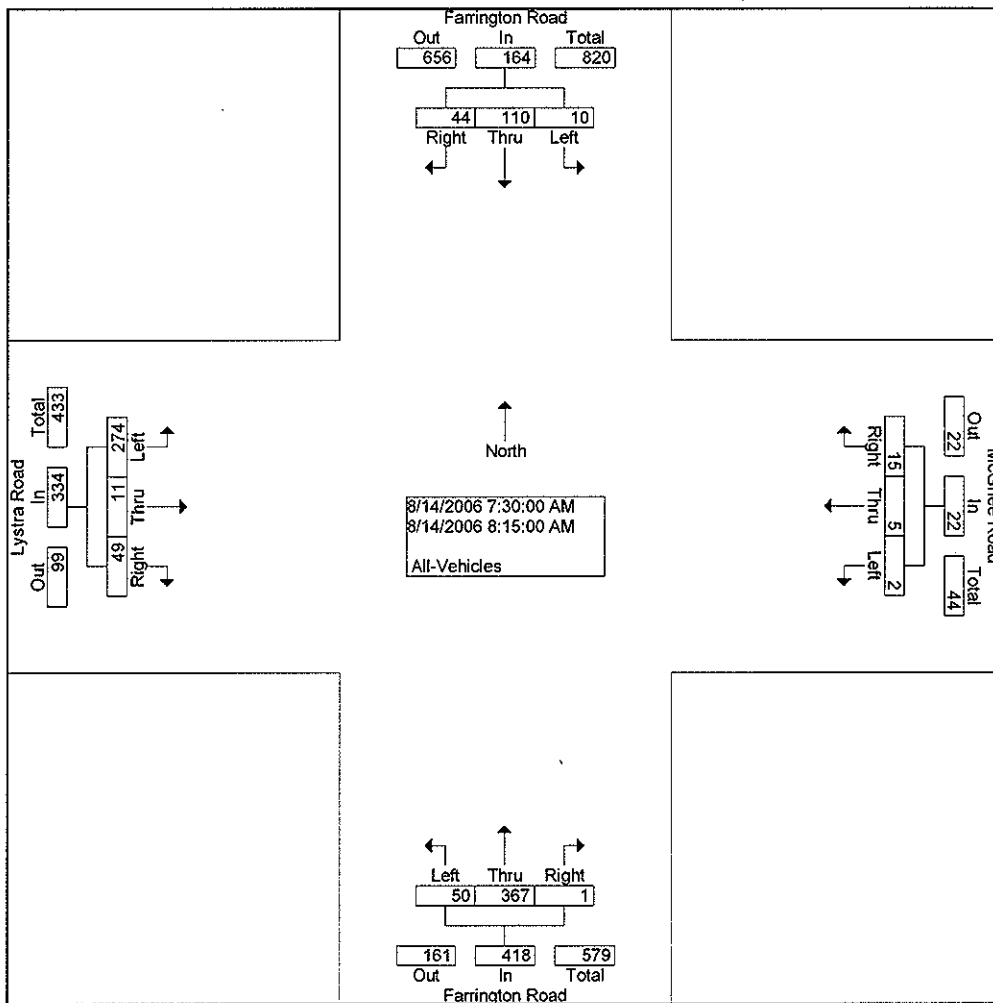
Ramey Kemp and Associates, Inc.
 4928-A Windy Hill Drive
 Raleigh, NC 27609
 P:(919)872-5115 F:(919)878-5416

File Name : Farrington@Lystra
 Site Code : 00081406
 Start Date : 08/14/2006
 Page No : 1

Groups Printed- All-Vehicles

Start Time	Farrington Road Southbound				McGhee Road Westbound				Farrington Road Northbound				Lystra Road Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks	Left	Thru	Right	Trks			
07:00 AM	2	20	9	3	1	1	5	0	13	48	0	1	32	1	9	1	5	141	146
07:15 AM	1	12	10	0	0	1	4	0	8	66	0	4	60	0	14	2	6	176	182
07:30 AM	2	32	10	1	0	0	3	0	13	104	0	6	68	4	11	0	7	247	254
07:45 AM	4	25	12	2	1	0	5	1	12	96	1	3	84	3	13	0	6	256	262
Total	9	89	41	6	2	2	17	1	46	314	1	14	244	8	47	3	24	820	844
08:00 AM	3	32	15	3	1	3	2	1	15	89	0	6	66	2	11	3	13	239	252
08:15 AM	1	21	7	1	0	2	5	1	10	78	0	0	56	2	14	0	2	196	198
08:30 AM	1	29	9	2	0	1	2	0	12	74	0	6	41	2	8	3	11	179	190
08:45 AM	7	17	9	0	0	0	0	0	6	64	0	0	33	0	15	3	3	151	154
Total	12	99	40	6	1	6	9	2	43	305	0	12	196	6	48	9	29	765	794
****BREAK****																			
04:30 PM	5	69	45	4	0	1	3	0	8	22	2	2	22	5	8	1	7	190	197
04:45 PM	6	64	50	0	1	1	6	0	16	31	0	0	21	0	10	1	1	206	207
Total	11	133	95	4	1	2	9	0	24	53	2	2	43	5	18	2	8	396	404
05:00 PM	3	81	40	4	0	1	4	0	16	18	1	1	17	0	10	1	6	191	197
05:15 PM	6	108	75	6	0	1	2	1	23	27	0	3	16	0	11	0	10	269	279
05:30 PM	4	83	77	2	0	3	3	1	12	23	0	0	17	0	19	3	6	241	247
05:45 PM	5	56	60	5	0	0	2	0	13	19	0	0	19	0	8	0	5	182	187
Total	18	328	252	17	0	5	11	2	64	87	1	4	69	0	48	4	27	883	910
06:00 PM	9	54	47	4	0	3	0	0	20	27	1	3	21	2	19	1	8	203	211
06:15 PM	9	57	68	0	0	3	15	0	18	30	0	0	12	3	6	1	1	221	222
Grand Total	68	760	543	37	4	21	61	5	215	816	5	35	585	24	186	20	97	3288	3385
Apprch %	5.0	55.4	39.6		4.7	24.4	70.9		20.8	78.8	0.5		73.6	3.0	23.4				
Total %	2.1	23.1	16.5		0.1	0.6	1.9		6.5	24.8	0.2		17.8	0.7	5.7		2.9	97.1	

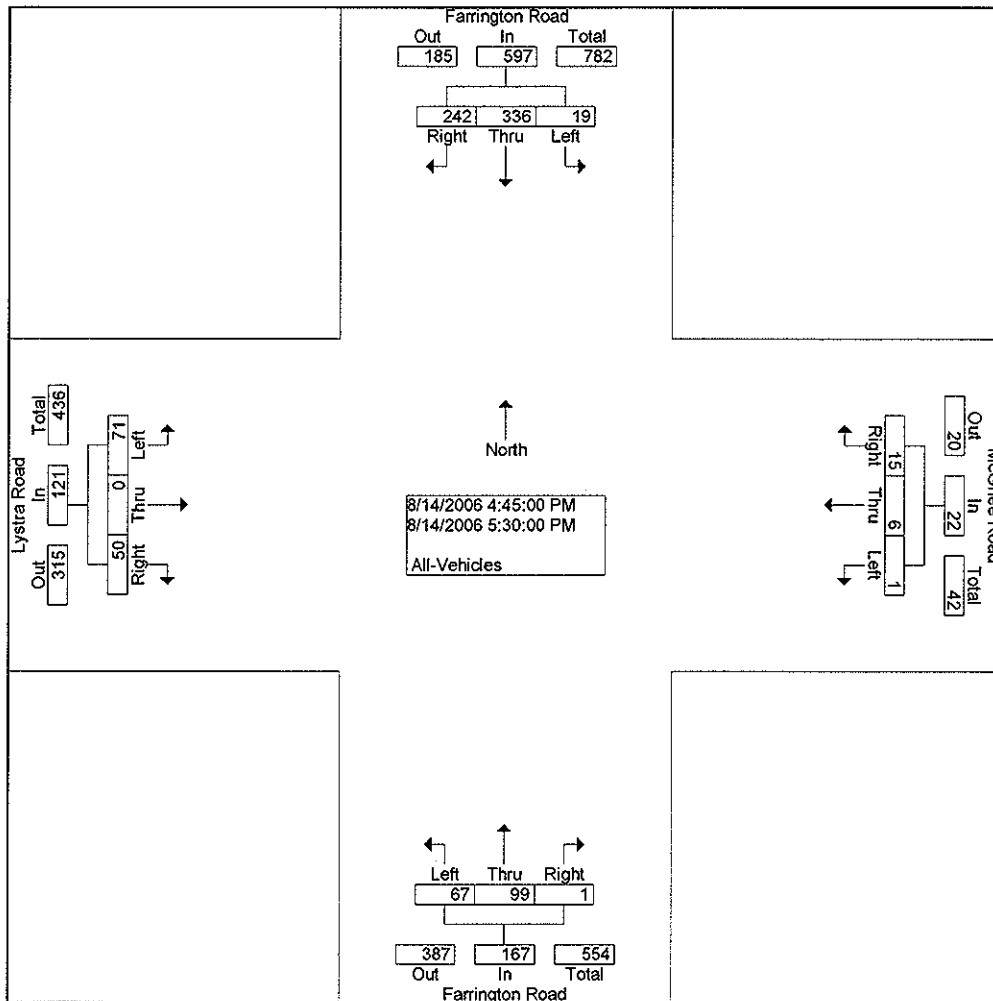
Start Time	Farrington Road Southbound				McGhee Road Westbound				Farrington Road Northbound				Lystra Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection	07:30 AM																
Volume	10	110	44	164	2	5	15	22	50	367	1	418	274	11	49	334	938
Percent	6.1	67.1	26.8		9.1	22.7	68.2		12.0	87.8	0.2		82.0	3.3	14.7		
07:45 Volume	4	25	12	41	1	0	5	6	12	96	1	109	84	3	13	100	256
Peak Factor																	0.916
High Int.	08:00 AM				08:15 AM				07:30 AM				07:45 AM				
Volume	3	32	15	50	0	2	5	7	13	104	0	117	84	3	13	100	
Peak Factor	0.820								0.786				0.893				



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Start Time	Farrington Road Southbound				McGhee Road Westbound				Farrington Road Northbound				Lystra Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour From 12:00 PM to 06:15 PM - Peak 1 of 1																	
Intersection 04:45 PM	19	336	242	597	1	6	15	22	67	99	1	167	71	0	50	121	907
Volume Percent	3.2	56.3	40.5		4.5	27.3	68.2		40.1	59.3	0.6		58.7	0.0	41.3		
05:15 Volume	6	108	75	189	0	1	2	3	23	27	0	50	16	0	11	27	269
Peak Factor																	
High Int. 05:15 PM					04:45 PM				05:15 PM				05:30 PM				0.843
Volume	6	108	75	189	1	1	6	8	23	27	0	50	17	0	19	36	
Peak Factor	0.790								0.688				0.835				0.840



APPENDIX B

CAPACITY ANALYSIS CALCULATIONS

EXISTING (2006) PEAK HOUR CONDITIONS

Lanes, Volumes, Timings
1: Lystra Church Road & Farrington Road

Synchro 5 Report
Flex Space and Storage Facility

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)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	1		0	1		0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frnt		0.877			0.908						0.957	
Flt Protected	0.950				0.996		0.950			0.950		
Satd. Flow (prot)	1770	1634	0	0	1685	0	1770	1863	0	1770	1783	0
Flt Permitted	0.741				0.985		0.605			0.522		
Satd. Flow (perm)	1380	1634	0	0	1666	0	1127	1863	0	972	1783	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		54			17						30	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1576			1880			1049			1063	
Travel Time (s)		19.5			23.3			13.0			13.2	
Volume (vph)	274	11	49	2	5	15	50	367	1	10	110	44
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%	
Adj. Flow (vph)	304	12	54	2	6	17	56	408	1	11	122	49
Lane Group Flow (vph)	304	66	0	0	25	0	56	409	0	11	171	0
Turn Type	Perm			Perm			pm+pt			Perm		
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		5	2		6	6	
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	13.0		13.0	13.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	20.0		20.0	20.0	
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	14.0	90.0	0.0	76.0	76.0	0.0
Total Split (%)	25%	25%	0%	25%	25%	0%	12%	75%	0%	63%	63%	0%
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	None	None		None	None		None	Min		Min	Min	
Act Effct Green (s)	25.3	25.3			25.3		24.1	23.6		16.0	16.0	
Actuated g/C Ratio	0.43	0.43			0.43		0.37	0.40		0.27	0.27	

Existing (2006) AM Peak Hour
Timing Plan:

Lanes, Volumes, Timings
1: Lystra Church Road & Farrington Road

Lane Group												
v/c Ratio	0.51	0.09			0.03		0.11	0.55		0.04	0.34	
Uniform Delay, d1	13.9	2.0			3.5		10.4	12.9		17.4	15.4	
Delay	15.0	5.6			8.0		10.8	13.3		19.1	16.4	
LOS	B	A			A		B	B		B	B	
Approach Delay		13.3			8.0			13.0			16.6	
Approach LOS		B			A			B			B	
Queue Length 50th (ft)	89	3			2		12	106		3	46	
Queue Length 95th (ft)	170	25			15		29	174		14	94	
Internal Link Dist (ft)		1496			1800			969			983	
50th Up Block Time (%)												
95th Up Block Time (%)												
Turn Bay Length (ft)												
50th Bay Block Time %												
95th Bay Block Time %												
Queuing Penalty (veh)												

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 59.1
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.55
 Intersection Signal Delay: 13.6
 Intersection Capacity Utilization 53.4%

Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 1: Lystra Church Road & Farrington Road

ø2				ø4							
90 s				30 s							
ø5		ø6		ø8							
14 s		76 s		30 s							

Lanes, Volumes, Timings
1: Lystra Church Road & Farrington Road

Synchro 5 Report
Flex Space and Storage Facility

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)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	1		0	1		0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.850			0.908			0.999			0.937	
Flt Protected	0.950				0.998		0.950			0.950		
Satd. Flow (prot)	1770	1583	0	0	1688	0	1770	1861	0	1770	1745	0
Flt Permitted	0.741				0.993		0.271			0.685		
Satd. Flow (perm)	1380	1583	0	0	1680	0	505	1861	0	1276	1745	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		540			17			1			53	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1576			1880			1049			1063	
Travel Time (s)		19.5			23.3			13.0			13.2	
Volume (vph)	71	0	50	1	6	15	67	99	1	19	336	242
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%	
Adj. Flow (vph)	79	0	56	1	7	17	74	110	1	21	373	269
Lane Group Flow (vph)	79	56	0	0	25	0	74	111	0	21	642	0
Turn Type	Perm			Perm			pm+pt			Perm		
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		5	2		6	6	
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	13.0		13.0	13.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	20.0		20.0	20.0	
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	14.0	90.0	0.0	76.0	76.0	0.0
Total Split (%)	25%	25%	0%	25%	25%	0%	12%	75%	0%	63%	63%	0%
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	None	None		None	None		None	Min		Min	Min	
Act Effct Green (s)	12.9	12.9			12.9		58.0	62.1		53.4	53.4	
Actuated g/C Ratio	0.16	0.16			0.16		0.71	0.81		0.70	0.70	

Existing (2006) PM Peak Hour
Timing Plan:

Lanes, Volumes, Timings
 1: Lystra Church Road & Farrington Road

Synchro 5 Report
 Flex Space and Storage Facility

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.36	0.08			0.09		0.14	0.07		0.02	0.52	
Uniform Delay, d1	33.7	0.0			10.2		2.3	2.4		5.8	8.0	
Delay	26.0	0.0			17.0		3.9	3.4		9.7	10.4	
LOS	C	A			B		A	A		A	B	
Approach Delay		15.2			17.0			3.6			10.4	
Approach LOS		B			B			A			B	
Queue Length 50th (ft)	27	0			3		8	12		4	184	
Queue Length 95th (ft)	81	0			25		24	32		16	343	
Internal Link Dist (ft)		1496			1800			969			983	
50th Up Block Time (%)												
95th Up Block Time (%)												
Turn Bay Length (ft)												
50th Bay Block Time %												
95th Bay Block Time %												
Queuing Penalty (veh)												

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 76.5
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.52
 Intersection Signal Delay: 9.9
 Intersection Capacity Utilization 65.4%
 Intersection LOS: A
 ICU Level of Service B

Splits and Phases: 1: Lystra Church Road & Farrington Road

90 s	30 s
14 s	30 s
76 s	

Existing (2006) PM Peak Hour
 Timing Plan:

APPENDIX C

CAPACITY ANALYSIS CALCULATIONS

COMBINED (2008) PEAK HOUR CONDITIONS

Lanes, Volumes, Timings
1: Lystra Church Road & Farrington Road

Synchro 5 Report
Flex Space and Storage Facility

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)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	1		0	1		0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.899			0.932			0.992			0.956	
Flt Protected	0.950				0.990		0.950			0.950		
Satd. Flow (prot)	1770	1675	0	0	1719	0	1770	1848	0	1770	1781	0
Flt Permitted	0.732				0.945		0.588			0.482		
Satd. Flow (perm)	1364	1675	0	0	1641	0	1095	1848	0	898	1781	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		60			19			6			30	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1576			120			1049			360	
Travel Time (s)		19.5			1.5			13.0			4.5	
Volume (vph)	316	26	54	7	10	17	55	421	25	13	122	50
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%	
Adj. Flow (vph)	351	29	60	8	11	19	61	468	28	14	136	56
Lane Group Flow (vph)	351	89	0	0	38	0	61	496	0	14	192	0
Turn Type	Perm			Perm			pm+pt			Perm		
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		5	2		6	6	
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	13.0		13.0	13.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	20.0		20.0	20.0	
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	14.0	90.0	0.0	76.0	76.0	0.0
Total Split (%)	25%	25%	0%	25%	25%	0%	12%	75%	0%	63%	63%	0%
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	None	None		None	None		None	Min		Min	Min	
Act Effct Green (s)	25.4	25.4			25.4		24.8	24.3		16.6	16.6	
Actuated g/C Ratio	0.42	0.42			0.42		0.38	0.41		0.28	0.28	

Combined (2008) AM Peak Hour
Timing Plan:

Lanes, Volumes, Timings
 1: Lystra Church Road & Farrington Road

Lane Group												
v/c Ratio	0.61	0.12			0.05		0.12	0.66		0.06	0.37	
Uniform Delay, d1	15.0	3.7			5.7		10.3	13.3		17.3	15.8	
Delay	16.6	6.5			8.9		10.7	13.9		19.0	16.7	
LOS	B	A			A		B	B		B	B	
Approach Delay		14.6			8.9			13.5			16.8	
Approach LOS		B			A			B			B	
Queue Length 50th (ft)	108	7			4		13	134		4	53	
Queue Length 95th (ft)	#223	34			22		31	218		17	105	
Internal Link Dist (ft)		1496			40			969			280	
50th Up Block Time (%)												
95th Up Block Time (%)												
Turn Bay Length (ft)												
50th Bay Block Time %												
95th Bay Block Time %												
Queuing Penalty (veh)												

Intersection Summary










Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 59.8
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay: 14.3
 Intersection LOS: B
 Intersection Capacity Utilization 75.8%
 ICU Level of Service C
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Lystra Church Road & Farrington Road

90 s	30 s
14 s	30 s
76 s	

HCM Unsignalized Intersection Capacity Analysis
2: Site Drive 1 & Farrington Road










Synchro 5 Report
Flex Space and Storage Facility

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	1	1	723	30	10	183
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	1	1	803	33	11	203
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)			360			
pX, platoon unblocked	0.85	0.85			0.85	
vC, conflicting volume	1046	820			837	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1053	789			809	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			98	
cM capacity (veh/h)	211	334			698	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	2	837	214			
Volume Left	1	0	11			
Volume Right	1	33	0			
cSH	258	1700	698			
Volume to Capacity	0.01	0.49	0.02			
Queue Length (ft)	1	0	1			
Control Delay (s)	19.1	0.0	0.7			
Lane LOS	C		A			
Approach Delay (s)	19.1	0.0	0.7			
Approach LOS	C					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization		56.0%		ICU Level of Service		A

Combined (2008) AM Peak Hour
Timing Plan:

HCM Unsignalized Intersection Capacity Analysis
 3: McGhee Road & Site Drive 2










Synchro 5 Report
 Flex Space and Storage Facility

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	16	49	31	0	0	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	18	54	34	0	0	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		120				
pX, platoon unblocked						
vC, conflicting volume	34				124	34
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	34				124	34
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	100
cM capacity (veh/h)	1577				861	1039
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	72	34	2			
Volume Left	18	0	0			
Volume Right	0	0	2			
cSH	1577	1700	1039			
Volume to Capacity	0.01	0.02	0.00			
Queue Length (ft)	1	0	0			
Control Delay (s)	1.9	0.0	8.5			
Lane LOS	A		A			
Approach Delay (s)	1.9	0.0	8.5			
Approach LOS			A			
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization		15.7%		ICU Level of Service		A

Combined (2008) AM Peak Hour
 Timing Plan:

HCM Unsignalized Intersection Capacity Analysis
 4: McGhee Road & Site Drive 3







Synchro 5 Report
 Flex Space and Storage Facility

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	23	26	25	0	0	6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	26	29	28	0	0	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		400				
pX, platoon unblocked						
vC, conflicting volume	28				108	28
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	28				108	28
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	99
cM capacity (veh/h)	1586				875	1047
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	54	28	7			
Volume Left	26	0	0			
Volume Right	0	0	7			
cSH	1586	1700	1047			
Volume to Capacity	0.02	0.02	0.01			
Queue Length (ft)	1	0	0			
Control Delay (s)	3.5	0.0	8.5			
Lane LOS	A		A			
Approach Delay (s)	3.5	0.0	8.5			
Approach LOS			A			
Intersection Summary						
Average Delay			2.8			
Intersection Capacity Utilization		15.0%		ICU Level of Service		A

Combined (2008) AM Peak Hour
 Timing Plan:

HCM Unsignalized Intersection Capacity Analysis
 5: McGhee Road & Site Drive 4

Synchro 5 Report
 Flex Space and Storage Facility

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	↙
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	2	24	24	0	0	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	2	27	27	0	0	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		580				
pX, platoon unblocked						
vC, conflicting volume	27				58	27
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	27				58	27
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1587				948	1049
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	29	27	1			
Volume Left	2	0	0			
Volume Right	0	0	1			
cSH	1587	1700	1049			
Volume to Capacity	0.00	0.02	0.00			
Queue Length (ft)	0	0	0			
Control Delay (s)	0.6	0.0	8.4			
Lane LOS	A		A			
Approach Delay (s)	0.6	0.0	8.4			
Approach LOS			A			
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization		15.0%		ICU Level of Service		A

Combined (2008) AM Peak Hour
 Timing Plan:

Lanes, Volumes, Timings
1: Lystra Church Road & Farrington Road

Synchro 5 Report
Flex Space and Storage Facility

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)	0		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	1		0	1		0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.859			0.975			0.990			0.937	
Flt Protected	0.950				0.978		0.950			0.950		
Satd. Flow (prot)	1770	1600	0	0	1776	0	1770	1844	0	1770	1745	0
Flt Permitted	0.650				0.835		0.224			0.670		
Satd. Flow (perm)	1211	1600	0	0	1517	0	417	1844	0	1248	1745	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		61			9			7			53	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1576			120			1049			360	
Travel Time (s)		19.5			1.5			13.0			4.5	
Volume (vph)	82	4	55	48	38	20	74	114	8	22	375	272
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%	
Adj. Flow (vph)	91	4	61	53	42	22	82	127	9	24	417	302
Lane Group Flow (vph)	91	65	0	0	117	0	82	136	0	24	719	0
Turn Type	Perm			Perm			pm+pt			Perm		
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		5	2		6	6	
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	13.0		13.0	13.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		14.0	20.0		20.0	20.0	
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	14.0	90.0	0.0	76.0	76.0	0.0
Total Split (%)	25%	25%	0%	25%	25%	0%	12%	75%	0%	63%	63%	0%
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	None	None		None	None		None	Min		Min	Min	
Act Effct Green (s)	15.1	15.1			15.1		59.5	60.4		52.1	52.1	
Actuated g/C Ratio	0.17	0.17			0.17		0.66	0.72		0.62	0.62	

Combined (2008) PM Peak Hour
Timing Plan:

Lanes, Volumes, Timings
 1: Lystra Church Road & Farrington Road

Synchro 5 Report
 Flex Space and Storage Facility

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.43	0.20			0.43		0.19	0.10		0.03	0.65	
Uniform Delay, d1	32.9	1.9			30.2		3.4	3.3		7.1	10.7	
Delay	30.0	10.3			27.1		4.9	4.1		9.9	12.3	
LOS	C	B			C		A	A		A	B	
Approach Delay		21.8			27.1			4.4			12.2	
Approach LOS		C			C			A			B	
Queue Length 50th (ft)	36	2			43		10	16		5	238	
Queue Length 95th (ft)	105	39			120		29	43		19	450	
Internal Link Dist (ft)		1496			40			969			280	
50th Up Block Time (%)					13%						1%	
95th Up Block Time (%)					55%						19%	
Turn Bay Length (ft)												
50th Bay Block Time %												
95th Bay Block Time %												
Queuing Penalty (veh)					40						66	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 84.3
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.65
 Intersection Signal Delay: 13.5
 Intersection Capacity Utilization 71.9%
 Intersection LOS: B
 ICU Level of Service C










Splits and Phases: 1: Lystra Church Road & Farrington Road

90 s	30 s
14 s	30 s
76 s	

Combined (2008) PM Peak Hour
 Timing Plan:

HCM Unsignalized Intersection Capacity Analysis
 2: Site Drive 1 & Farrington Road







Synchro 5 Report
 Flex Space and Storage Facility

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	10	12	207	9	3	659
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	11	13	230	10	3	732
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)			360			
pX, platoon unblocked	0.96	0.96			0.96	
vC, conflicting volume	974	235			240	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	973	206			211	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	98			100	
cM capacity (veh/h)	269	804			1310	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	24	240	736			
Volume Left	11	0	3			
Volume Right	13	10	0			
cSH	422	1700	1310			
Volume to Capacity	0.06	0.14	0.00			
Queue Length (ft)	5	0	0			
Control Delay (s)	14.1	0.0	0.1			
Lane LOS	B		A			
Approach Delay (s)	14.1	0.0	0.1			
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			52.5%	ICU Level of Service		A

Combined (2008) PM Peak Hour
 Timing Plan:

HCM Unsignalized Intersection Capacity Analysis
 3: McGhee Road & Site Drive 2







Synchro 5 Report
 Flex Space and Storage Facility

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↖	↗
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	29	84	0	0	21
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	6	32	93	0	0	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		120				
pX, platoon unblocked						
vC, conflicting volume	93				137	93
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	93				137	93
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	98
cM capacity (veh/h)	1501				854	964
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	38	93	23			
Volume Left	6	0	0			
Volume Right	0	0	23			
cSH	1501	1700	964			
Volume to Capacity	0.00	0.05	0.02			
Queue Length (ft)	0	0	2			
Control Delay (s)	1.1	0.0	8.8			
Lane LOS	A		A			
Approach Delay (s)	1.1	0.0	8.8			
Approach LOS			A			
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization		16.6%		ICU Level of Service		A

Combined (2008) PM Peak Hour
 Timing Plan:

HCM Unsignalized Intersection Capacity Analysis
4: McGhee Road & Site Drive 3










Synchro 5 Report
Flex Space and Storage Facility

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	24	26	0	0	58
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	6	27	29	0	0	64
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		400				
pX, platoon unblocked						
vC, conflicting volume	29				67	29
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	29				67	29
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	94
cM capacity (veh/h)	1584				935	1046
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	32	29	64			
Volume Left	6	0	0			
Volume Right	0	0	64			
cSH	1584	1700	1046			
Volume to Capacity	0.00	0.02	0.06			
Queue Length (ft)	0	0	5			
Control Delay (s)	1.3	0.0	8.7			
Lane LOS	A		A			
Approach Delay (s)	1.3	0.0	8.7			
Approach LOS			A			
Intersection Summary						
Average Delay			4.8			
Intersection Capacity Utilization			15.7%	ICU Level of Service		A

Combined (2008) PM Peak Hour
Timing Plan:

HCM Unsignalized Intersection Capacity Analysis
 5: McGhee Road & Site Drive 4

Synchro 5 Report
 Flex Space and Storage Facility

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	2	22	24	0	0	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	2	24	27	0	0	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)		580				
pX, platoon unblocked						
vC, conflicting volume	27				56	27
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	27				56	27
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1587				951	1049
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	27	27	2			
Volume Left	2	0	0			
Volume Right	0	0	2			
cSH	1587	1700	1049			
Volume to Capacity	0.00	0.02	0.00			
Queue Length (ft)	0	0	0			
Control Delay (s)	0.6	0.0	8.4			
Lane LOS	A		A			
Approach Delay (s)	0.6	0.0	8.4			
Approach LOS			A			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			15.0%	ICU Level of Service		A

Combined (2008) PM Peak Hour
 Timing Plan: