final report

November 25, 2019

Traffic Impact Study Addendum

Fischer Farm Schuler Lane Prospect, KY 40059

Prepared for

Louisville Metro Planning Commission Oldham County Planning Commission





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INTRODUCTION

This addendum has been prepared to address a concern of Norton Commons about trip generation of Norton Commons in the Traffic Impact Study for the Fischer Farm, dated November 8, 2019. The preliminary subdivision plan for the Fischer Farm on Schuler Lane in Louisville, KY shows 58 single-family lots and 115 garden-style lots. **Figure 1** displays a map of the site. Access to the subdivision will be from an entrance on Schuler Lane. The purpose of this study is to examine the traffic impacts of the development upon the adjacent highway system. For this study, the impact area was defined to be the intersections of KY 1694 with Schuler Lane, Worthington Lane/YMCA entrance, and Stone School Road/Norton Commons Boulevard.



FUTURE CONDITIONS

The project completion date of Fischer Farm is 2024. An annual growth rate of 2.0 percent was applied to the through volumes on KY 1694. The based upon the timing of Norton Commons between 2015 and 2019, the current estimated completion of Norton Commons is 2029. Norton Commons has provided the information below as the status of the development for 2019. 50% of the available future development was included in 2024. **Figure 2** displays the Norton Commons traffic distribution. **Figure 3** displays the 2024 No Build peak hour volumes.

Norton Commons Summary of Entitlements and Current Completion as of October 1, 2019

Entitlements at Full Completion

- 2880 Dwelling Units
- 560,000 Square Feet of Retail, Commercial plus Civic Uses

Current Completion of Entitlements

- 1432 Dwelling Units (291 rental MF, 91 for sale MF, 1050 single family)
- 260,712 SF Retail Office Service
- Civic Uses 278,269 SF
 St. Mary Academy K-8. 600 students at capacity, 62,226 SF
 Norton Commons Elementary PreSch-5, 650 student capacity, 85,420 SF
 Vanguard Early Learning Academy, 443 students, 30,608 SF
 St. Bernadette Church, 1200 seats, 33,172 SF
 YMCA, 47,013 SF, 2000 visits daily, 47,063 SF
 Worthington Fire Station, 19,750 SF fire headquarters

Remain to Completion of Entitlements

- 1448 Dwelling Units (660 MF, 788 single family)
- 131,832 SF Retail
- 167,456 SF Office and Service

Trip Generation was calculated using ITE <u>Trip Generation Manual, 10th Edition</u>. The internal capture percentages were calculated for the entire Norton Commons development and applied to the remaining land to be developed. For the external trips 5% will go north toward Schuler Lane and 38% will go south toward KY 22 using the existing seven access points along KY 1694. The remaining trips will utilize Chamberlain Lane. This distribution is derived from the <u>Traffic and Air Quality Impact Study</u> for Norton Commons, dated December 1999.

Table 1. Peak Hour Trips Generated by Norton Commons for 2024

AM Peak Hour

						Т	otal Tri	ps		Intern	al Trips	6	Ext	ernal T	rips
Land use	ITE Code	Intensity	Rate/EQ	% IN	% Out	In	Out	Total	In	Out	Total	%	In	Out	Total
Multi-Family	220	330 units	Ln(T) = 0.95Ln(X) - 0.51	0.23	0.77	34	114	148	1	1	2	1.4%	33	113	146
Shopping Center	820	68,168 sf	T = 0.50(X) + 151.78	0.62	0.38	115	71	186	9	7	16	8.8%	106	64	170
Single Family	210	394 units	T = 0.71(X) + 4.80	0.25	0.75	72	213	285	1	2	3	1.1%	71	211	281
Office	710	192,544 sf	T = 0.94(X) + 26.49	0.86	0.14	178	29	207	2	5	7	3.2%	176	24	201
		Total				399	427	826	13	15	28	3.4%	385	412	798

						То	otal Tri	ps		Intern	al Trips		Ext	ernal T	rips
Land use	ITE Code	Intensity				In	Out	Total	In	Out	Total	%	In	Out	Total
Multi-Family	220	330 units	Ln(T) = 0.89Ln(X) - 0.02	0.63	0.37	108	63	171	17	7	24	14.0%	91	56	147
Shopping Center	820	65,916 sf	Ln(T) = 0.74Ln(X) + 2.89	0.48	0.52	192	207	399	35	58	93	23.2%	157	149	307
Single Family	210	394 units	Ln(T) = 0.96Ln(X) + 0.20	0.63	0.37	239	140	379	38	15	54	14.2%	201	125	325
Office	710	83,728 sf	Ln(T) = 0.95Ln(X) + 0.36	0.16	0.84	15	81	96	10	11	21	21.4%	5	70	76
		Total				554	491	1,045	100	91	191	18.2%	454	400	855

PM Peak Hour



Figure 2. 2024 Norton Commons Peak Hour Volumes



Figure 3. 2024 No Build Peak Hour Volumes

TRIP GENERATION

The Institute of Transportation Engineers <u>Trip Generation Manual</u>, 10th Edition contains trip generation rates for a wide range of developments. The land uses of "Single-Family Detached (210)" and "Senior Adult Housing – Detached (251)" were reviewed and determined to be the best match for the housing product proposed. The "Senior Adult Housing – Detached" has a trip generation similar to the local trip generation data for small-lots, as was studied by Neel-Shaffer, Inc in June, 2016. The trip generation results are listed in **Table 1**. The trips were assigned to the highway network with the percentages shown in **Figure 4**. **Figure 5** shows the trips generated by this development and distributed throughout the road network during the peak hours. **Figure 6** displays the individual turning movements for the peak hours when the development is completed.

	A.M. I	Peak	Hour	P.M. F	Peak	Hour
Land Use	Trips	In	Out	Trips	In	Out
Single-Family Detached (58 units)	46	12	34	60	38	22
Senior Adult Housing – Detached (115 units)	45	15	30	54	33	21
TOTAL	91	27	64	114	71	43

Table 2. Peak Hour Trips Generated by Site



Figure 4. Trip Distribution Percentages



Figure 5. Peak Hour Trips Generated by Site



Figure 6. 2024 Build Peak Hour Volumes

ANALYSIS

The qualitative measure of operation for a roadway facility or intersection is evaluated by assigning a "Level of Service". Level of Service is a ranking scale from A through F, "A" is the best operating condition and "F" is the worst. Level of Service results depend upon the facility that is analyzed. In this case, the Level of Service is based upon the total delay experienced for lanes at stop-controlled intersections.

To evaluate the impact of the proposed development, the vehicle delays at the intersections were determined using procedures detailed in the <u>Highway Capacity Manual</u>, 6th edition. Future delays and Level of Service were determined for the intersections using the HCS Streets (version 7.8) software. The delays and Level of Service are summarized in **Table 2**.

		A.M.			P.M.	
Approach	2019	2024	2024	2019	2024	2024
Αφρισαεί	Existing	No Build	Build	Existing	No Build	Build
KY 1694 at Schuler Lane						
Schuler Lane Easthound	A	В	В	A	А	В
	9.9	10.3	10.5	9.4	9.7	10.1
KY 1694 Northbound (Left turn)	A	A	А	А	А	А
	7.7	7.8	7.9	7.5	7.6	7.8
KY 1694 at Worthington Lane/YMCA						
YMCA Fastbound	В	С	С	В	С	С
	13.7	18.8	22.0	11.7	15.0	17.2
Worthington Lane Westbound	С	E	F	С	С	D
	21.7	41.4	54.7	16.0	22.1	25.3
KY 1694 Northbound (Left turn)	A	A	В	A	A	А
	8.8	9.7	10.1	7.9	8.4	8.6
KY 1694 Southbound (Left turn)	A	A	A	А	А	А
	8.4	9.1	9.2	8.0	8.5	8.8
KY 1694 at Stone School Road/Norton Commons						
Norton Commons Boulevard Eastbound	С	С	С	С	С	С
	15.9	19.4	21.8	16.7	17.6	19.3
Stone School Road Westbound	F	F	F	D	F	F
	147.6	397.5	473.9	28.9	70.1	96.7
KY 1694 Northbound (Left turn)	A	A	A	A	A	A
	8.6	9.5	9.7	8.2	8.8	8.9
KY 1694 Southbound (Left turn)	A	A	A	A	A	A
	8.5	9.2	9.3	8.9	9.6	9.9

Key: Level of Service, Delay in seconds per vehicle

A traffic shed analysis of this project shows that the traffic from this development will utilize in Oldham County KY 1694. The Major Thoroughfare Plan reported that in 2003 KY 1694 was operating at Level of Service C or better. The 2003 volume was shown on KY 1694 as 1,260 and the 2019 ADT is estimated at 3,200 vehicles per day.

The intersection of KY 1694 at Schuler Lane was evaluated for turn lanes using the Kentucky Transportation Cabinet <u>Highway Design Guidance Manual</u> dated March, 2017. Using the volumes in Figure 6, a no turn lanes will be required at the intersection. The KYTC worksheet is included in the appendix. The capacity analysis demonstrates a single exit lane provides desirable levels of service (B) for Shuler Lane.

CONCLUSIONS

At the Stone School Road approach to KY 1694, drivers are experiencing significant delays currently and those delays will increase in 2024. The four hours of data collected for this study indicate there is sufficient traffic to meet the traffic signal warrant. Louisville Metro Public Works should evaluate with the Kentucky Transportation Cabinet installing a traffic signal at this intersection to reduce the delay. Schuler Lane will be widened to meet the Oldham County road standard of 22 feet.

Based upon the volume of traffic generated by the development and the amount of traffic forecasted for the year 2024, there will be an impact to the existing highway network. The only improvement required is the widening of Schuler Lane to 22 feet.

APPENDIX

HCS REPORTS

		Н	CS7	Two-	-Way	' Stoj	o-Co	ntrol	Rep	ort						
General Information	_	_	_	_	_	_	Site	Inform	natio	n	_	_	_	_	_	_
Analyst	DBZ						Inters	ection			Schul	er Ln at	KY 1694			
Agency/Co.	Diane	B Zimm	ierman T	raffic En	gineerin	g	Jurisd	liction								
Date Performed	10/29	/2019			-	-	East/	Nest Str	eet		Schul	er Lane				
Analysis Year	2019						North	/South	Street		KY 16	i94				
Time Analyzed	AM P	eak					Peak	Hour Fac	ctor		0.90					
Intersection Orientation	North	-South					Analy	sis Time	Period (hrs)	0.25					
Project Description	Fische	er Farm														
Lanes																
				J 4 4 5 4 4 5 4 5 4 5 5 5 5 5 5 5 5 5 5	A n Maio	1 1 4 Y	th-South	7447477								
Vehicle Volumes and Adju	ustme	nts														
Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		3		10						14	161				180	0
Percent Heavy Vehicles (%)		33		0						7						
Proportion Time Blocked																
Percent Grade (%)			D													
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.73		6.20						4.17						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.80		3.30						2.26						
Delay, Queue Length, and	Leve	l of Se	ervice													
Flow Rate, v (veh/h)			14							16						
Capacity, c (veh/h)			746							1343						
v/c Ratio			0.02							0.01						
95% Queue Length, Q ₉₅ (veh)			0.1							0.0						
Control Delay (s/veh)			9.9							7.7						
Level of Service (LOS)			А							A						
Approach Delay (s/veh)		9	.9							0	.7					
Approach LOS		,	4													
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		Н	CS7	Two-	-Way	' Stoj	p-Co	ntrol	Rep	ort						
General Information		_	_	_	_	_	Site	Inform	natio	n	_	_	_	_	_	_
Analyst	DBZ						Inters	section			Schul	er Ln at	KY 1694			
Agency/Co.	Diane	e B Zimm	nerman T	Fraffic En	gineerin	g	Juriso	liction								
Date Performed	11/25	5/19					East/	West Str	eet		Schul	er Lane				
Analysis Year	2024						North	n/South :	Street		KY 16	594				
Time Analyzed	AM P	eak No I	Build				Peak	Hour Fa	ctor		0.90					
Intersection Orientation	North	n-South					Analy	sis Time	Period (hrs)	0.25					
Project Description	Fische	er Farm /	Addendu	ım												
Lanes																
				J 4 4 4 4 4 4 4	ค. Major	1 1 r Street: No	rth-South	ビネ キスキ ド に								
Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		3		10						14	199				218	0
Percent Heavy Vehicles (%)		33		0						7						
Proportion Time Blocked																
Percent Grade (%)			0													
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.73		6.20						4.17						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.80		3.30						2.26						
Delay, Queue Length, and	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)			14							16						
Capacity, c (veh/h)			692							1295						
v/c Ratio			0.02							0.01						
95% Queue Length, Q₂₅ (veh)			0.1							0.0						
Control Delay (s/veh)			10.3							7.8						
Level of Service (LOS)			В							A						
Approach Delay (s/veh)		1().3							0).6					
Approach LOS			В													
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		Н	CS7	Two	-Way	' Sto	p-Co	ntrol	Rep	ort						
General Information	_	_	_	_	_	_	Site	Infor	natio	n	_	_	_	_	_	_
Analyst	DBZ						Inters	section			Schul	er Ln at	KY 1694			
Agency/Co.	Diane	e B Zimm	nerman 1	Fraffic En	gineerin	g	Jurisc	diction								
Date Performed	11/25	5/19					East/	West Str	eet		Schul	er Lane				
Analysis Year	2024						North	n/South	Street		KY 16	594				
Time Analyzed	AM P	eak Build	d				Peak	Hour Fa	ctor		0.90					
Intersection Orientation	North	n-South					Analy	/sis Time	Period	(hrs)	0.25					
Project Description	Fisch	er Farm /	Addendu	um												
Lanes																
				J 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	ח ה Majo	1 • Street: No	rth-South	しょ キアキャイ								
Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		9		68						38	199				218	3
Percent Heavy Vehicles (%)		11		1						5						
Proportion Time Blocked																
Percent Grade (%)			0													
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.51		6.21						4.15						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.60		3.31						2.25						
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)			86							42						
Capacity, c (veh/h)			735							1303						
v/c Ratio			0.12							0.03						
95% Queue Length, Q₅₅ (veh)			0.4							0.1						
Control Delay (s/veh)			10.5							7.9						
Level of Service (LOS)			В							A						
Approach Delay (s/veh)		- 1().5							- 1	.5					
Approach LOS			В													
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		Н	CS7	Two	-Way	v Sto	p-Co	ntrol	Rep	ort						
General Information		_	_	_	_	_	Site	Infor	natio	n	_	_	_	_	_	_
Analyst	DBZ						Inters	section			Schul	er Ln at	KY 1694			
Agency/Co.	Diane	e B Zimm	nerman	Traffic En	gineerin	ıg	Juriso	diction								
Date Performed	10/29	9/2019					East/	West Str	eet		Schul	er Lane				
Analysis Year	2019						North	n/South	Street		KY 16	594				
Time Analyzed	PM P	eak					Peak	Hour Fa	ctor		0.87					
Intersection Orientation	North	n-South					Analy	/sis Time	Period ((hrs)	0.25					
Project Description	Fisch	er Farm														
Lanes																
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Vehicle Volumes and Adj	iustme	nts														
Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U L T R					L	T	R	U	L	Т	R	U	L	T	R
Priority		10	11	12		7	8	9	10	1	2	3	40	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		1		6						19	197				134	2
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)			0													
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)			8							22						
Capacity, c (veh/h)			831							1436						
v/c Ratio			0.01							0.02						
95% Queue Length, Q ₉₅ (veh)			0.0							0.0						
Control Delay (s/veh)			9.4							7.5						
Level of Service (LOS)			A							A						
Approach Delay (s/veh)		9	.4							C	.8					
Approach LOS		1	A													
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		Н	CS7	Two	-Way	' Sto	p-Co	ntrol	Rep	ort						
General Information		_	_	_	_	_	Site	Infor	natio	n	_	_	_	_	_	_
Analyst	DBZ						Inter	section			Schul	ler Ln at	KY 1694	ļ		
Agency/Co.	Diane	e B Zimm	nerman 1	Fraffic En	gineerin	g	Juriso	diction								
Date Performed	11/25	5/19					East/	West Str	eet		Schul	ler Lane				
Analysis Year	2024						Nort	n/South	Street		KY 16	594				
Time Analyzed	PM P	eak No E	Build				Peak	Hour Fa	ctor		0.87					
Intersection Orientation	North	n-South					Analy	/sis Time	Period ([hrs)	0.25					
Project Description	Fisch	er Farm /	Addendu	um												
Lanes	-															
				144747 1477	A n Majo	1 1 1 1 1 1 1 1 1	rth-South	744747								
Vehicle Volumes and Ad	justme	nts														
Approach		Eastb	ound	_		West	bound	_		North	bound	_		South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority		10	11	12		7	8	9	10	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		1		6						19	238				171	2
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)			0													
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						
Delay, Queue Length, an	d Leve	l of Se	ervice	1												
Flow Rate, v (veh/h)			8							22						
Capacity, c (veh/h)			776							1386						
v/c Batio			0.01							0.02						
Vicitatio			0.0							0.0						
95% Queue Length, Q ₉₅ (veh)										7.6						
95% Queue Length, Q ₉₅ (veh) Control Delay (s/veh)			9.7							7.0						
95% Queue Length, Q ₉₅ (veh) Control Delay (s/veh) Level of Service (LOS)			9.7 A							7.6 A						
95% Queue Length, Q ₉₅ (veh) Control Delay (s/veh) Level of Service (LOS) Approach Delay (s/veh)		9	9.7 A .7							7.6 A	.7					

		Н	ICS7	Two	-Way	' Stoj	p-Co	ntrol	Rep	ort						
General Information							Site	Inforr	natio	n						
Analyst	DBZ						Inters	ection			Schul	ler Ln at	KY 1694	Ļ		
Agency/Co.	Diane	e B Zimm	nerman 1	Fraffic En	gineerin	g	Juriso	liction								
Date Performed	11/25	5/19			-	-	East/	West Stre	eet		Schul	er Lane				
Analysis Year	2024						North	n/South :	Street		KY 16	594				
Time Analyzed	PM P	eak Build	t				Peak	Hour Fac	ctor		0.87					
Intersection Orientation	North	n-South					Analy	sis Time	Period (hrs)	0.25					
Project Description	Fisch	er Farm /	Addendu	um												
Lanes	-															
				14474PC	<mark>គ</mark> ា _{Majo}	1 1 + Y 1 Street: No	th-South	しょすどやとい								
Vehicle Volumes and Ad	justme	nts														
Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority		10	11	12		7	8	9	10	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		5		45						83	238				171	9
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)			0													
Right Turn Channelized																
Median Type Storage				Undi	vided											
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)	Τ		57							95						
Capacity, c (veh/h)			757							1376						
v/c Ratio			0.08							0.07						
95% Queue Length, Q ₉₅ (veh)			0.2							0.2						
Control Delay (s/veh)			10.1							7.8						
Lovel of Service (LOS)			В							A						
Level of Service (LOS)			-	-	-	-				-	-					
Approach Delay (s/veh)		1(0.1							2	2.5					

		Н	ICS7	Two	-Way	/ Stoj	o-Co	ntrol	Rep	ort						
General Information							Site	Inforr	natio	n						
Analyst	DBZ						Inters	ection			Wort	hington	at KY 16	94		
Agency/Co.	Diane	e B Zimn	nerman 1	Fraffic En	gineerir	ıg	Jurisc	liction								
Date Performed	10/29	9/2019					East/	West Stre	eet		Wort	hington/	YMCA			
Analysis Year	2019						North	n/South S	Street		KY 16	i94				
Time Analyzed	AM P	eak					Peak	Hour Fac	tor		0.77					
Intersection Orientation	North	n-South					Analy	sis Time	Period (hrs)	0.25					
Project Description	Fisch	er Farm														
Lanes																
				14 4 4 4 4 4 4	ብ ካ _{Majo}	11 1 + Y r Street: No	th-South	14 #Y1 P P								
Vehicle Volumes and Ad	justme	nts														
Approach	\top	Eastl	ound			West	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	1	0	1	1	0	0	1	1	0
Configuration			LTR			LT		R		L		TR		L		TR
Volume (veh/h)		2	2	44		59	12	107		79	323	10		26	381	13
Percent Heavy Vehicles (%)		0	0	2		2	0	2		1				8		
Proportion Time Blocked																
Percent Grade (%)			0				0									
Right Turn Channelized						١	lo									
Median Type Storage				Left	Only								1			
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10	6.50	6.22		7.12	6.50	6.22		4.11				4.18		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.00	3.32		3.52	4.00	3.32		2.21				2.27		
Delay, Queue Length, an	d Leve	l of S	ervice													
Flow Rate, v (veh/h)			62			92		139		103				34		
Capacity, c (veh/h)			476			207		628		1059				1096		
1 20 0 00			0.13			0.45		0.22		0.10				0.03		
v/c Ratio			0.4	1		2.1		0.8		0.3				0.1		
v/c Ratio 95% Queue Length, Q ₉₅ (veh)			0.4		<u> </u>					-						-
v/c Ratio 95% Queue Length, Q₅ (veh) Control Delay (s/veh)			13.7			35.7		12.3		8.8				8.4		
v/c Ratio 95% Queue Length, Q ₉₅ (veh) Control Delay (s/veh) Level of Service (LOS)			0.4 13.7 B			35.7 E		12.3 B		8.8 A				8.4 A		
v/c Ratio 95% Queue Length, Q ₉₅ (veh) Control Delay (s/veh) Level of Service (LOS) Approach Delay (s/veh)		1.	0.4 13.7 B 3.7			35.7 E 2	1.7	12.3 B		8.8 A 1	.7			8.4 A	.5	

		Н	CS7	Two-	-Way	' Stop	o-Co	ntrol	Rep	ort						
General Information							Site	Inforr	natio	n						
Analyst	DBZ						Inters	ection			Worth	hington	at KY 16	94		
Agency/Co.	Diane	B Zimm	nerman 1	raffic En	gineerin	g	Jurisd	liction								
Date Performed	11/25	5/19			-	-	East/	West Stre	eet		Worth	hington/	YMCA			
Analysis Year	2024						North	n/South S	Street		KY 16	594				
Time Analyzed	AM P	eak No I	Build				Peak	Hour Fac	tor		0.77					
Intersection Orientation	North	-South					Analy	sis Time	Period (hrs)	0.25					
Project Description	Fisch	er Farm /	Addendu	ım												
Lanes	-															
				$J \neq J \neq J \neq J$	ብ ግ Majo	ት ት ተ ትዮ የ Street: Nor	th-South									
Vehicle Volumes and Adju	ustme	nts														
Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	1	0	1	1	0	0	1	1	0
Configuration			LTR			LT		R		L		TR		L		TR
Volume (veh/h)		2	2	44		59	12	107		79	488	10		26	562	13
Percent Heavy Vehicles (%)		0	0	2		2	0	2		1				8		
Proportion Time Blocked																
Percent Grade (%)			0				0									
Right Turn Channelized						Ν	lo									
Median Type Storage				Left	Only								1			
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10	6.50	6.22		7.12	6.50	6.22		4.11				4.18		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.00	3.32		3.52	4.00	3.32		2.21				2.27		
Delay, Queue Length, and	l Leve	l of Se	ervice													
Flow Rate, v (veh/h)			62			92		139		103				34		
Capacity, c (veh/h)			322			131		475		866				911		
v/c Ratio			0.19			0.70		0.29		0.12				0.04		
95% Queue Length, Q ₉₅ (veh)			0.7			3.9		1.2		0.4				0.1		
Control Delay (s/veh)			18.8			80.3		15.7		9.7				9.1		
Level of Service (LOS)			С			F		С		A				A		
Approach Delay (s/veh)		18	3.8			4	1.4			1	.3			0	.4	
Approach LOS			с				E									
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		Н	CS7	Two-	-Way	Stop	o-Co	ntrol	Rep	ort						
General Information		_	_	_	_	_	Site	Inforr	natio	n	_		_	_	_	
Analyst	DBZ						Inters	ection			Wort	hington	at KY 16	94		
Agency/Co.	Diane	e B Zimm	nerman T	raffic En	gineerin	g	Juriso	liction								
Date Performed	11/25	5/19			_	_	East/	West Stre	eet		Wort	hington/	ΎΜСΑ			
Analysis Year	2024						North	n/South :	Street		KY 16	594				
Time Analyzed	AM P	eak Build	t				Peak	Hour Fac	tor		0.77					
Intersection Orientation	North	n-South					Analy	sis Time	Period (hrs)	0.25					
Project Description	Fische	er Farm /	Addendu	ım												
Lanes																
				14 4 4 4 4 4 4	<mark>ค</mark> า. _{Majo}	1 Street: Nor	th-South	141X415								
Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	1	0	1	1	0	0	1	1	0
Configuration			LTR			LT		R		L		TR		L		TR
Volume (veh/h)		3	2	44		59	12	107		79	511	10		26	617	16
Percent Heavy Vehicles (%)		0	0	2		2	0	2		1				8		
Proportion Time Blocked																
Percent Grade (%)			0				0									
Right Turn Channelized						Ν	lo									
Median Type Storage				Left	Only								1			
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10	6.50	6.22		7.12	6.50	6.22		4.11				4.18		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.00	3.32		3.52	4.00	3.32		2.21				2.27		
Delay, Queue Length, and	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)			64			92		139		103				34		
Capacity, c (veh/h)			275			112		457		812				887		
v/c Ratio			0.23			0.82		0.30		0.13				0.04		
95% Queue Length, Q₂₅ (veh)			0.9			4.8		1.3		0.4				0.1		
Control Delay (s/veh)			22.0			112.7		16.3		10.1				9.2		
Level of Service (LOS)			С			F		С		В				A		
Approach Delay (s/veh)		22	2.0			54	4.7			1	.3			C	0.4	
Approach LOS		(c				F									
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		H	CS/	Iwo-	-way	Siop	J-C0	ntroi	кер	ort						
General Information		_	_	_	_	_	Site	Inforr	natio	n	_	_	_	_	_	_
Analyst	DBZ						Inters	ection			Worth	hington	at KY 16	94		
Agency/Co.	Diane	B Zimm	ierman T	raffic En	gineerin	g	Jurisd	liction								
Date Performed	10/29	/2019				-	East/\	West Stre	et		Worth	nington/	YMCA			
Analysis Year	2019						North	/South S	Street		KY 16	94				
Time Analyzed	PM P	eak					Peak	Hour Fac	tor		0.87					
Intersection Orientation	North	n-South					Analy	sis Time	Period (hrs)	0.25					
Proiect Description	Fisch	er Farm														
Lanes																
				J 4 4 4 4 4 4	۹ 'n _{Major}	4 5 1 7 1 9 7 Street: Nor	th-South	141X411								
Vehicle Volumes and Ad	justme	nts														
Approach		Eastb	ound			West	oound			North	bound			South	bound	
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	1	0	1	1	0	0	1	1	0
Configuration			LTR			LT		R		L		TR		L		TR
Volume (veh/h)		7	8	76		35	11	26		100	258	22		30	173	23
Percent Heavy Vehicles (%)		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Percent Grade (%)			D				0									
Right Turn Channelized						Ν	lo									
Median Type Storage				Left	Only								1			
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		7.1	6.5	6.2		71	6.5	6.2		4.1				4.1		
			0.5	0.2		1.1	6.5	0.2						-		
Critical Headway (sec)		7.10	6.50	6.20		7.10	6.50	6.20		4.10				4.10		
Critical Headway (sec) Base Follow-Up Headway (sec)		7.10 3.5	6.50 4.0	6.20 3.3		7.10 3.5	6.5 6.50 4.0	6.20 3.3		4.10 2.2				4.10 2.2		
Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec)		7.10 3.5 3.50	6.50 4.0 4.00	6.20 3.3 3.30		7.10 3.5 3.50	6.5 6.50 4.0 4.00	6.20 3.3 3.30		4.10 2.2 2.20				4.10 2.2 2.20		
Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an	d Leve	7.10 3.5 3.50	6.50 4.0 4.00	6.20 3.3 3.30		7.10 3.5 3.50	6.50 4.0 4.00	6.20 3.3 3.30		4.10 2.2 2.20				4.10 2.2 2.20		
Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h)	d Leve	7.10 3.5 3.50	6.50 4.0 4.00 ervice	6.20 3.3 3.30		7.10 3.5 3.50 53	6.50 4.0 4.00	6.20 3.3 3.30 30		4.10 2.2 2.20 115				4.10 2.2 2.20 34		
Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h)	d Leve	7.10 3.5 3.50	6.50 4.0 4.00 ervice 105 641	6.20 3.3 3.30		7.10 3.5 3.50 53 305	6.50 4.0 4.00	6.20 3.3 3.30 30 736		4.10 2.2 2.20 115 1355				4.10 2.2 2.20 34 1249		
Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio	d Leve	7.10 3.5 3.50	6.50 4.0 4.00 ervice 105 641 0.16	6.20 3.3 3.30		7.10 3.5 3.50 53 305 0.17	6.50 4.0 4.00	6.20 3.3 3.30 30 736 0.04		4.10 2.2 2.20 115 1355 0.08				4.10 2.2 2.20 34 1249 0.03		
Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q ₉₅ (veh)	d Leve	7.10 3.5 3.50	6.50 4.0 4.00 ervice 105 641 0.16 0.6	6.20 3.3 3.30		7.10 3.5 3.50 53 305 0.17 0.6	6.50 4.0 4.00	6.20 3.3 3.30 30 736 0.04 0.1		4.10 2.2 2.20 115 1355 0.08 0.3				4.10 2.2 2.20 34 1249 0.03 0.1		
Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q ₉₅ (veh) Control Delay (s/veh)	d Leve	7.10 3.5 3.50	6.50 4.0 4.00 ervice 105 641 0.16 0.6 11.7	6.20 3.3 3.30		7.1 7.10 3.5 3.50 53 305 0.17 0.6 19.3	6.5 6.50 4.0 4.00	6.20 3.3 3.30 30 736 0.04 0.1 10.1		4.10 2.2 2.20 115 1355 0.08 0.3 7.9				4.10 2.2 2.20 34 1249 0.03 0.1 8.0		
Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q ₉₅ (veh) Control Delay (s/veh) Level of Service (LOS)	d Leve	7.10 3.5 3.50	6.50 4.0 4.00 ervice 105 641 0.16 0.6 111.7 B	6.20 3.3 3.30		7.10 3.5 3.50 53 305 0.17 0.6 19.3 C	6.5 6.50 4.0 4.00	6.20 3.3 3.30 30 736 0.04 0.1 10.1 B		4.10 2.2 2.20 115 1355 0.08 0.3 7.9 A				4.10 2.2 2.20 34 1249 0.03 0.1 8.0 A		
Critical Headway (sec) Base Follow-Up Headway (sec) Follow-Up Headway (sec) Delay, Queue Length, an Flow Rate, v (veh/h) Capacity, c (veh/h) v/c Ratio 95% Queue Length, Q₀₅ (veh) Control Delay (s/veh) Level of Service (LOS) Approach Delay (s/veh)	d Leve	7.10 3.5 3.50	6.50 4.0 4.00 ervice 105 641 0.16 0.6 11.7 B	6.20 3.3 3.30		7.1 7.10 3.5 3.50 53 305 0.17 0.6 19.3 C	6.5 6.50 4.0 4.00	6.20 3.3 3.30 30 736 0.04 0.1 10.1 B		4.10 2.2 2.20 115 1355 0.08 0.3 7.9 A 2	.1			4.10 2.2 2.20 34 1249 0.03 0.1 8.0 A 1	.1	

		Н	CS7	Two-	-Way	' Stoj	o-Co	ntrol	Rep	ort						
General Information		_	_	_	_	_	Site	Inforr	natio	n	_	_	_	_	_	
Analyst	DBZ						Inters	ection			Wort	hington	at KY 16	94		
Agency/Co.	Diane	e B Zimm	nerman 1	Fraffic En	gineerin	g	Jurisc	liction				-				
Date Performed	11/25	5/19			-	-	East/	West Stre	eet		Wort	hington/	үмса			
Analysis Year	2024						North	n/South :	Street		KY 16	594				
Time Analyzed	PM P	eak No E	Build				Peak	Hour Fac	tor		0.87					
Intersection Orientation	North	n-South					Analy	sis Time	Period ((hrs)	0.25					
Project Description	Fisch	er Farm /	Addendu	um												
Lanes																
				J 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	<mark>ค</mark> า. _{Majo}	ን ት ዓምም r Streett No	th-South									
Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority		10	11	12		7	8	9	10	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	1	0	1	1	0	0	1	1	0
Configuration			LTR			LT		R		L		TR		L		TR
Volume (veh/h)		7	8	76		35	11	26		100	433	22		30	328	23
Percent Heavy Vehicles (%)		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Percent Grade (%)			0				0									
Right Turn Channelized						٩	lo									
Median Type Storage				Left	Only								1			
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10	6.50	6.20		7.10	6.50	6.20		4.10				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.00	3.30		3.50	4.00	3.30		2.20				2.20		
Delay, Queue Length, an	d Leve	l of S	ervice													
Flow Rate, v (veh/h)	Τ		105			53		30		115				34		
Capacity, c (veh/h)			463			209		567		1166				1054		
v/c Ratio			0.23			0.25		0.05		0.10				0.03		
95% Queue Length, Q ₉₅ (veh)			0.9			1.0		0.2		0.3				0.1		
Control Delay (s/veh)			15.0			28.0		11.7		8.4				8.5		
Level of Service (LOS)			С			D		В		A				A		
Approach Delay (s/veh)		1:	5.0			2	2.1			1	.5			0	.7	
Approach LOS		(С				С									
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		Н	CS7	Two	-Way	' Stoj	o-Co	ntrol	Rep	ort						
General Information							Site	Inform	natio	n						
Analyst	DBZ						Inters	ection			Worth	hington	at KY 16	94		
Agency/Co.	Diane	e B Zimm	nerman 1	Traffic En	gineerin	g	Jurisc	liction				-				
Date Performed	11/25	5/19					East/	West Stre	eet		Wort	hington/	YMCA			
Analysis Year	2024						North	n/South !	Street		KY 16	594				
Time Analyzed	PM P	eak Build	d				Peak	Hour Fac	tor		0.87					
Intersection Orientation	North	n-South					Analy	sis Time	Period ((hrs)	0.25					
Project Description	Fische	er Farm /	Addendu	ım												
Lanes																
				14 4 4 4 4 4 4	ብ ኪ _{Majo}	ት ት ተትዮ	th-South	リオキスキャル								
Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	1	0	1	1	0	0	1	1	0
Configuration			LTR			LT		R		L		TR		L		TR
Volume (veh/h)		10	8	76		35	11	26		100	504	22		30	365	25
Percent Heavy Vehicles (%)		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Percent Grade (%)			0				0									
Right Turn Channelized						Ν	lo									
Median Type Storage				Left	Only								1			
Critical and Follow-up He	eadwa	ys														
Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10	6.50	6.20		7.10	6.50	6.20		4.10				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.00	3.30		3.50	4.00	3.30		2.20				2.20		
Delay, Queue Length, an	d Leve	l of S	ervice													
Flow Rate, v (veh/h)			108			53		30		115				34		
Capacity, c (veh/h)			402			182		510		1123				983		
v/c Ratio			0.27			0.29		0.06		0.10				0.04		
95% Queue Length, Q ₉₅ (veh)			1.1			1.1		0.2		0.3				0.1		
Control Delay (s/veh)			17.2			32.6		12.5		8.6				8.8		
Level of Service (LOS)			С			D		В		A				А		
Approach Delay (s/veh)		1	7.2			2	5.3			1	.4			0	.6	
Approach LOS			С				D									
Copyright © 2019 University of Florida	a. All Righ	ts Reser	ved.	H	CSTMUT YMCA	WSC Ver A PM 24	sion 7.8. B.xtw	5				Gen	erated: 1	1/25/20	19 1:38:3	35 PM

		Н	CS7	Two	-Way	' Stop	o-Co	ntrol	Rep	ort						
General Information		_	_	_	_	_	Site	Inforr	natio	n	_	_	_	_	_	_
Analyst	DBZ						Inters	section			Stone	e School,	/Norton	Commo		
Agency/Co.	Diane	e B Zimm	nerman T	Fraffic En	gineerin	g	Juriso	diction								
Date Performed	10/29	9/2019					East/	West Stre	eet		Stone	e School,	/Norton	Commo		
Analysis Year	2019						North	n/South S	Street		KY 16	594				
Time Analyzed	AM P	eak					Peak	Hour Fac	tor		0.87					
Intersection Orientation	North	n-South					Analy	/sis Time	Period (hrs)	0.25					
Project Description	Fisch	er Farm														
Lanes																
				14 4 7 4 4 7 1 4 1 7 4 4 7	ח ז _{Majo}	ን ት ዓምም	th-South	14 4 4 4 4 4								
Vehicle Volumes and Ad	justme	nts														
Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	1	0	0	1	1	0
Configuration		LT		R		LT		R		L		TR		L		TR
Volume (veh/h)		5	5	16		242	42	11		16	435	49		2	462	34
Percent Heavy Vehicles (%)		0	0	0		1	0	0		0				0		
Proportion Time Blocked																
Percent Grade (%)			0				0									
Right Turn Channelized		Ν	lo			Ν	lo									
Median Type Storage				Left	Only								1			
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10	6.50	6.20		7.11	6.50	6.20		4.10				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.00	3.30		3.51	4.00	3.30		2.20				2.20		
Delay, Queue Length, an	d Leve	l of Se	ervice	•												
Flow Rate, v (veh/h)		11		18		326		13		18				2		
Capacity, c (veh/h)		221		538		276		554		1012				1024		
v/c Ratio		0.05		0.03		1.18		0.02		0.02				0.00		
95% Queue Length, Q ₉₅ (veh)		0.2		0.1		14.7		0.1		0.1				0.0		
Control Delay (s/veh)		22.2		11.9		152.9		11.6		8.6				8.5		
Level of Service (LOS)		С		В		F		В		A				A		
									-							
Approach Delay (s/veh)		15	5.9			14	7.6			0).3			C	.0	_

an Traffic	: Engi	ineering	3	Site I Inters Jurisd East/V North Peak I Analy	ection iction Vest Stre /South S Hour Fac sis Time	nation et Greet	۱ 	Stone	School/	Norton	Commo		
an Traffic ndum	c Engi	ineering	9	Inters Jurisd East/V North Peak Analy	ection iction Vest Stre /South S Hour Fac sis Time	et Street		Stone	School/	Norton	Commo		
ndum	c Engi	ineering	9	Jurisd East/V North Peak I Analy	iction Vest Stre /South S Hour Fac sis Time	et Street		Channel					
ndum				East/\ North Peak I Analy	Vest Stre /South S Hour Fac sis Time	et Street	_	Channel					
ndum 4				North Peak I Analy	/South S Hour Fac sis Time	treet		Stone	School/	Norton	Commo		
ndum 				Peak Analy	Hour Fac sis Time			KY 16	94				
ndum				Analy	sis Time	tor		0.87					
ndum						Period (ł	nrs)	0.25					
1 t n		nn: Major	ĵîîîî Îret:Nor	1 P C th-South	5 4 4 7 4 P 7								
ł			West	oound			North	bound			South	bound	
R	2	U	L	Т	R	U	L	Т	R	U	L	Т	R
I 12	2		7	8	9	1U	1	2	3	4U	4	5	6
1			0	1	1	0	1	1	1	0	1	1	0
R	2		LT		R		L	Т	R		L		TR
32	2		242	42	11		31	611	49		2	651	34
0)		1	0	0		0				0		
			(D									
			N	lo			N	0					
L	.eft O	Dnly							1	1			
5 6.2	2		7.1	6.5	6.2		4.1				4.1		
0 6.2	20		7.11	6.50	6.20		4.10				4.10		
J 3.3	3		3.5	4.0	3.3		2.2				2.2		
0 3.3	30		3.51	4.00	3.30		2.20				2.20		
ce													
37	7		326		13		36				2		
40)5		184		441		841				862		
0.0	09		1.77		0.03		0.04				0.00		
0.3	3		23.1		0.1		0.1				0.0		
14.	.8		412.3		13.4		9.5				9.2		
В	3		F		В		А				А		
			39	7.5			0.	.4			0	.0	
				F									
	3 40 0.0 14 E	37 405 0.09 0.3 14.8 B	37 405 0.09 0.3 14.8 B B HCS TIM TV	37 326 405 184 0.09 1.77 0.3 23.1 14.8 412.3 B F 39 39 HCS™TWSC Ver	37 326 405 184 0.09 1.77 0.3 23.1 14.8 412.3 B F 397.5 F	37 326 13 405 184 441 0.09 1.77 0.03 0.3 23.1 0.1 14.8 412.3 13.4 B F B 397.5 5 HCSTMI TWSC Version 7.8.5 Stone AM 24 NB stw	37 326 13 405 184 441 0.09 1.77 0.03 0.3 23.1 0.1 14.8 412.3 13.4 B F B 397.5 5 HCS TWI TWSC Version 7.8.5 Stone AM 24 NB xtw	37 326 13 36 405 184 441 841 0.09 1.77 0.03 0.04 0.3 23.1 0.1 0.1 14.8 412.3 13.4 9.5 B F B A	37 326 13 36 405 184 441 841 0.09 1.77 0.03 0.04 0.3 23.1 0.1 0.1 14.8 412.3 13.4 9.5 B F B A	37 326 13 36 405 184 441 841 1 0.09 1.77 0.03 0.04 1 0.3 23.1 0.1 0.1 1 14.8 412.3 13.4 9.5 1 B F B A 1	37 326 13 36 405 184 441 841 0.09 1.77 0.03 0.04 0.3 23.1 0.1 0.1 14.8 412.3 13.4 9.5 B F B A - HCS™TWSC Version 7.8.5 Stone AM 24 NB.xtw	37 326 13 36 2 405 184 441 841 862 0.09 1.77 0.03 0.04 0.00 0.3 23.1 0.1 0.1 0.0 14.8 412.3 13.4 9.5 9.2 B F B A A F 0.4 HCS™TWSC Version 7.8.5 Stone AM 24 NB.xtw	37 326 13 36 2 405 184 441 841 862 0.09 1.77 0.03 0.04 0.00 0.3 23.1 0.1 0.1 0.0 14.8 412.3 13.4 9.5 9.2 B F B A A

		Н	CS7	Two	-Way	/ Stoj	o-Co	ntrol	Rep	ort						
General Information		_	_	_	_	_	Site	Inforr	natio	n	_	_	_	_	_	_
Analyst	DBZ						Inters	ection			Stone	e School,	/Norton	Commo		
Agency/Co.	Diane	e B Zimm	nerman 1	Fraffic En	gineerin	ıg	Jurisc	liction								
Date Performed	11/25	5/19					East/	West Stre	eet		Stone	e School,	/Norton	Commo		
Analysis Year	2024						North	n/South S	Street		KY 16	i94				
Time Analyzed	AM P	eak Build	d				Peak	Hour Fac	tor		0.87					
Intersection Orientation	North	n-South					Analy	sis Time	Period (hrs)	0.25					
Project Description	Fisch	er Farm A	Addendu	ım												
Lanes																
				14 + Y + Y	ח ה _{Majo}	11 14 r Street: Noi	C ↑ ♪ C th-South									
Vehicle Volumes and Adj	justme	nts														
Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	1	1	0	1	1	0
Configuration		LT		R		LT		R		L	Т	R		L		TR
Volume (veh/h)		6	5	32		242	42	11		31	633	49		2	703	37
Percent Heavy Vehicles (%)		0	0	0		1	0	0		0				0		
Proportion Time Blocked																
Percent Grade (%)		(0				0									
Right Turn Channelized		N	lo			Ν	lo			١	lo					
Median Type Storage				Left	Only								1			
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10	6.50	6.20		7.11	6.50	6.20		4.10				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.00	3.30		3.51	4.00	3.30		2.20				2.20		
Delay, Queue Length, an	d Leve	l of Se	ervice	•												
Flow Rate, v (veh/h)		13		37		326		13		36				2		
Capacity, c (veh/h)		116		373		168		427		796				843		
v/c Ratio		0.11		0.10		1.94		0.03		0.04				0.00		
95% Queue Length Q., (veh)		0.4		0.3		24.8		0.1		0.1				0.0		
5576 Quede Length, Qgs (Ven)		39.6		15.7		491.7		13.7		9.7				9.3		
Control Delay (s/veh)														-		
Control Delay (s/veh) Level of Service (LOS)		E		С		F		В		A				Α		
Control Delay (s/veh) Level of Service (LOS) Approach Delay (s/veh)		E 21	1.8	С		F 47	3.9	В		A	.4			A (0.0	

		H	CS7	Two	-Way	Stop	o-Co	ntrol	Rep	ort						
General Information							Site	Inforr	natio	n						
Analyst	DBZ						Inters	ection			Stone	e School,	/Norton	Commo		
Agency/Co.	Diane	e B Zimm	erman 1	Traffic En	gineerin	g	Jurisc	liction								
Date Performed	10/29	9/2019			-	-	East/	West Stre	eet		Stone	e School,	/Norton	Commo		
Analysis Year	2019						North	n/South S	Street		KY 16	594				
Time Analyzed	PM P	eak					Peak	Hour Fac	tor		0.97					
Intersection Orientation	North	n-South					Analy	sis Time	Period (hrs)	0.25					
Project Description	Fisch	er Farm														
Lanes																
				14 + Y + F (ח ה _{Majo}	1 Street No	th-South									
Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority		10	11	12		7	8	9	10	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	1	0	0	1	1	0
Configuration		LT		R		LT		R		L		TR		L		TR
Volume (veh/h)		11	25	39		133	13	6		35	378	214		12	351	20
Percent Heavy Vehicles (%)		0	3	4		1	0	0		3				7		
Proportion Time Blocked																
Percent Grade (%)		. (D				0									
Right Turn Channelized		N	lo			Ν	lo									
Median Type Storage				Left	Only								1			
Critical and Follow-up Ho	eadwa	ys														
Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10	6.53	6.24		7.11	6.50	6.20		4.13				4.17		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.03	3.34		3.51	4.00	3.30		2.23				2.26		
Delay, Queue Length, and	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		37		40		151		6		36				12		
Capacity, c (veh/h)		234		669		293		575		1171				945		
v/c Ratio		0.16		0.06		0.51		0.01		0.03				0.01		
95% Queue Length, Q ₉₅ (veh)		0.6		0.2		2.7		0.0		0.1				0.0		
Control Delay (s/veh)		23.2		10.7		29.6		11.3		8.2				8.9		
Level of Service (LOS)		С		В		D		В		А				А		
		16	5.7			25	8.9			C	.5			C).3	
Approach Delay (s/ven)														_		

		Н	CS7	Two-	-Way	' Stoj	o-Co	ntrol	Rep	ort						
General Information							Site	Inforr	natio	n						
Analyst	DBZ						Inters	ection			Stone	School	/Norton	Commo		
Agency/Co.	Diane	e B Zimm	ierman T	Fraffic En	gineerin	q	Jurisd	liction								
Date Performed	11/25	5/19			-	-	East/	West Stre	eet		Stone	e School	/Norton	Commo		
Analysis Year	2024	-					North	/South :	Street		KY 16	i94				
Time Analyzed	PM P	eak No B	Build				Peak	Hour Fac	tor		0.97					
Intersection Orientation	North	n-South					Analy	sis Time	Period (hrs)	0.25					
Project Description	Fisch	er Farm A	Addendu	um												
Lanes																
				$J \neq \downarrow $	ብ ኪ Majo	1 1 • Street: Noi	↑ th-South	14 + 7 * r								
Vehicle Volumes and Adj	ustme	nts														
Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	1	1	0	1	1	0
Configuration		LT		R		LT		R		L	Т	R		L		TR
Volume (veh/h)		11	25	54		133	13	6		53	575	214		12	525	20
Percent Heavy Vehicles (%)		0	3	4		1	0	0		3				7		
Proportion Time Blocked																
Percent Grade (%)		(D				0									
Right Turn Channelized		N	lo			١	lo			١	١o					
Median Type Storage				Left	Only								1			
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10	6.53	6.24		7.11	6.50	6.20		4.13				4.17		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.03	3.34		3.51	4.00	3.30		2.23				2.26		
Delay, Queue Length, and	Leve	l of Se	ervice													
Flow Rate, v (veh/h)	<u> </u>	37		56		151		6		55				12		
Capacity, c (veh/h)		216		530		189		509		1004				792		
v/c Ratio		0.17		0.11		0.80		0.01		0.05				0.02		
95% Queue Length, Q₅₅ (veh)		0.6		0.4		5.5		0.0		0.2				0.0		
Control Delay (s/veh)		25.1		12.6		72.5		12.2		8.8				9.6		
Level of Service (LOS)		D		В		F		В		A				А		
Approach Delay (s/veh)		17	7.6			7	0.1			C	0.6			0	.2	
Approach LOS		(c				F									
Copyright © 2019 University of Florida	. All Righ	ts Reserv	/ed.	Н	iCS ចារា T Stone	WSC Ver PM 24 N	sion 7.8. IB.xtw	5				Gene	erated: 1	1/25/20	19 5:18:4	10 PM

		Н	CS7	Two	-Way	' Stoj	o-Co	ntrol	Rep	ort						
General Information		_	_	_	_	_	Site	Inforr	natio	n	_	_	_	_	_	
Analyst	DBZ						Inters	ection			Stone	e School,	/Norton	Commo		
Agency/Co.	Diane	e B Zimm	nerman 1	Fraffic En	gineerin	g	Jurisc	liction								
Date Performed	11/25	5/19					East/	West Stre	eet		Stone	e School,	/Norton	Commo		
Analysis Year	2024						North	n/South :	Street		KY 16	594				
Time Analyzed	PM P	eak Build	ł				Peak	Hour Fac	tor		0.97					
Intersection Orientation	North	n-South					Analy	sis Time	Period (hrs)	0.25					
Project Description	Fisch	er Farm /	Addendu	um												
Lanes																
				J 4 1 7 4 1 7	A T Majo	1 t street: Nor	ſ ↑ ♪ ſ th-South	1447197								
Vehicle Volumes and Ad	justme	nts														
Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U	L	Т	R	U	L	Т	R	U	L	Т	R	U	L	Т	R
Priority		10	11	12		7	8	9	10	1	2	3	40	4	5	6
Number of Lanes		0	1	1		0	1	1	0	1	1	1	0	1	1	0
Configuration		LT		R		ιτ		R		L	Т	R		L		TR
Volume (veh/h)		14	25	54		133	13	6		53	633	214		12	560	22
Percent Heavy Vehicles (%)		0	3	4		1	0	0		3				7		
Proportion Time Blocked																
Percent Grade (%)			0				0									
Right Turn Channelized		Ν	10			1	10			Ν	No					
Median Type Storage				Left	Only								1			
Critical and Follow-up H	eadwa	ys														
Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10	6.53	6.24		7.11	6.50	6.20		4.13				4.17		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.03	3.34		3.51	4.00	3.30		2.23				2.26		
Delay, Queue Length, an	d Leve	l of Se	ervice													
Flow Rate, v (veh/h)		40		56		151		6		55				12		
Capacity, c (veh/h)		196		505		167		471		972				752		
v/c Ratio		0.21		0.11		0.90		0.01		0.06				0.02		
95% Queue Length, Q ₉₅ (veh)		0.7		0.4		6.5		0.0	_	0.2				0.1		
Lovel of Service (LOS)		28.1		13.0 P		100.2		12./		8.9				9.9		-
Approach Dolay (s/ych)	-	1/	12	В		F 0	6.7	В	-		15			A	12	
		1	о.о С			9	5.7 F			U				(
	AIL D:!	to Date				WCC M		5				C	orota di A	1/25/22	10 5-22 3	21.014

