

Traffic Impact Study Report

XEBC Tucker Station

Louisville, Jefferson Co., KY

Prepared For:

Sabak, Wilson & Lingo, Inc.

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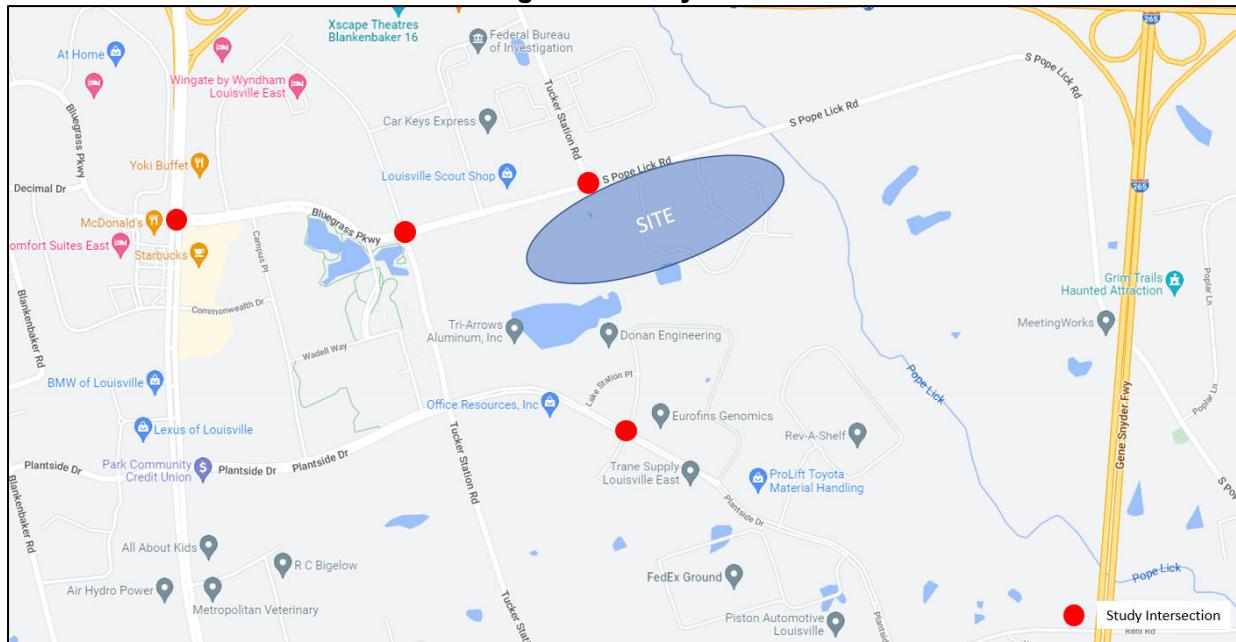
INTRODUCTION

The purpose of this document is to summarize the scope and terms for a Traffic Impact Study of a proposed industrial development in Jefferson County, KY. The development is to be located on the south side of S. Pope Lick Road and Tucker Station Road and is to consist of 5 warehousing buildings totaling 1,010,800 s.f of gross floor area. Two access points along Tucker Station Road and S. Pope Lick Road are proposed with a connection to the south to Plantside Drive via Schutte Station Place. This study will evaluate the proposed access points, as well as the intersections listed below.

- Schutte Station at Plantside Drive
- Tucker Station at S. Pope Lick Road
- Tucker Station at Bluegrass Parkway / Lakefront Place
- Bluegrass Parkway at Blankenbaker

Figure 1 shows the proposed site and study intersections. **Appendix A** contains a site plan of the proposed development. The scope of this study is based on a review of existing travel patterns in the area and discussions with Louisville Metro Planning and Design Services.

Figure 1: Study Area



EXISTING CONDITIONS

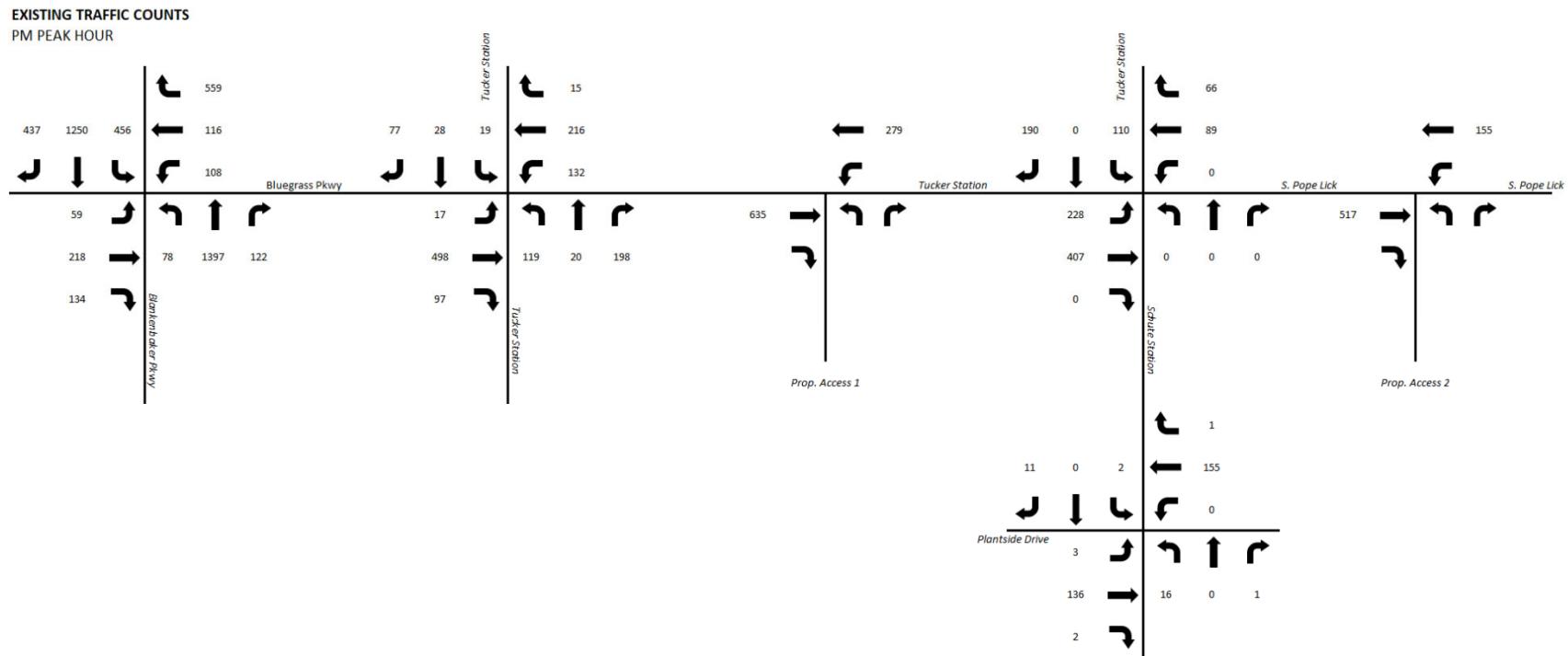
S. Pope Lick Road is a two-lane roadway with a posted speed of 35 mph. The intersection of S. Pope Lick Road at Tucker Station Road is a T' intersection with all-way stop control. No Auxiliary turn lanes are present at the intersection.

AM and PM turning movement counts were collected on Thursday May 19, 2022 between 7-9 a.m. and 4-6 p.m. at the study intersections. Full turn movement count data is provided in **Appendix B**. AM and PM peak hour traffic volumes are summarized in **Figures 2 and 3**.

Figure 2: AM Peak Hour Turning Movement Counts



Figure 3: PM Peak Hour Turning Movement Counts



TRAFFIC FORECASTING

Historic traffic counts were not available for S. Pope Lick Road or Tucker Station Road; however, counts were available for Bluegrass Parkway at station 056L91, which is immediately west of the study area. Based on this data, historic traffic patterns indicate a growth rate of 0.43 percent per year. An average growth rate of 0.5% was used for projecting traffic volumes to the year of opening, 2023 and the design year of 2033. **Appendix D** contains the historic traffic data and output from the KYTC Traffic forecasting spreadsheet.

In addition to the background traffic growth rate, trip generation from the recently approved residential development on S. Pope Lick was also added to the network for the No Build traffic condition. **Figures 4 and 5** show the AM and PM trip generation associated with this development. AM and PM peak hour volumes for 2023 No Build and 2033 No Build traffic volumes are summarized in **Figures 6, 7, 8 and 9**.

Figure 4: AM Peak S. Pope Lick Residential Development Trip Generation

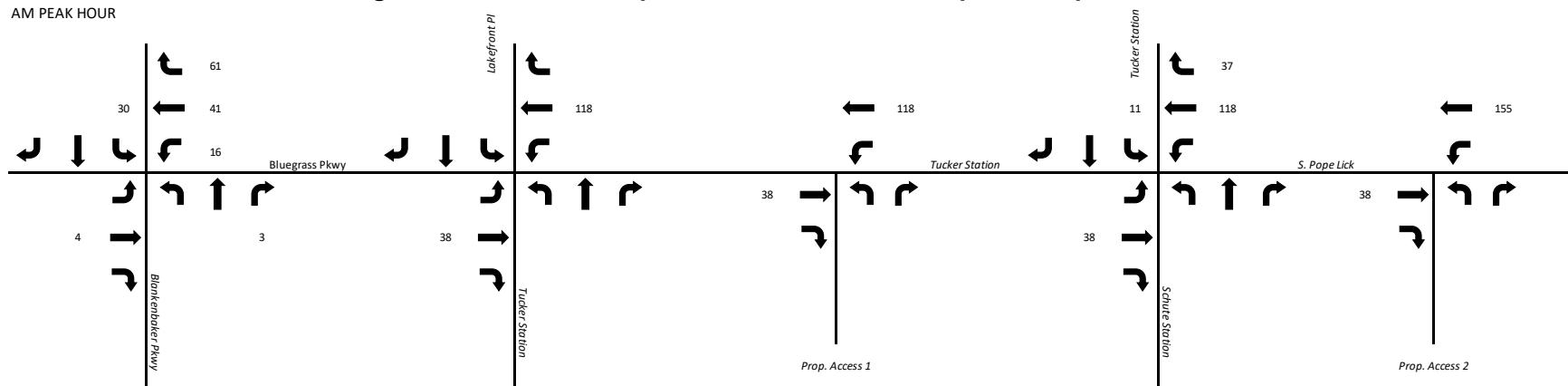


Figure 5: AM Peak S. Pope Lick Residential Development Trip Generation

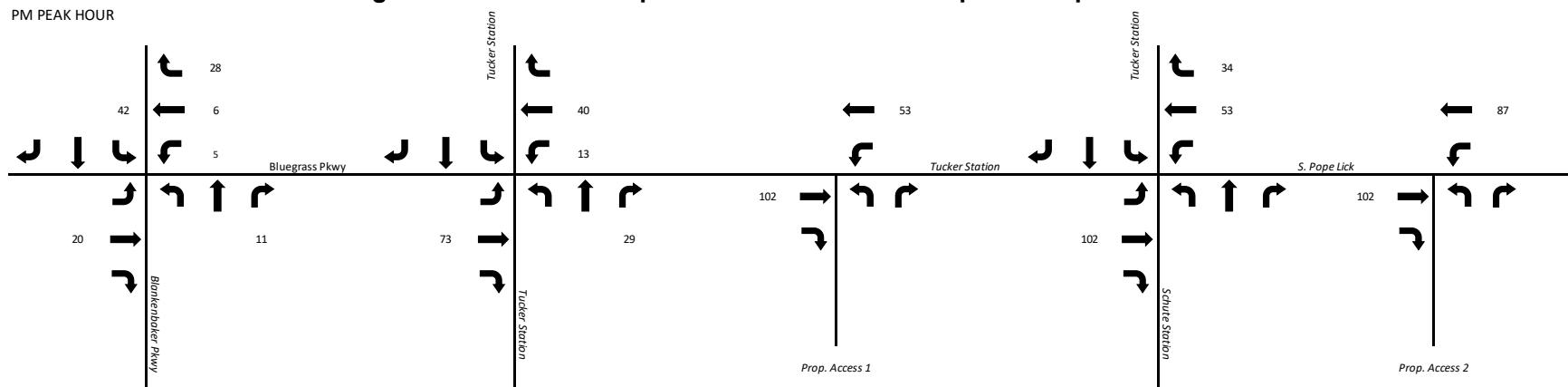


Figure 6: AM Peak 2023 No Build Traffic Volumes

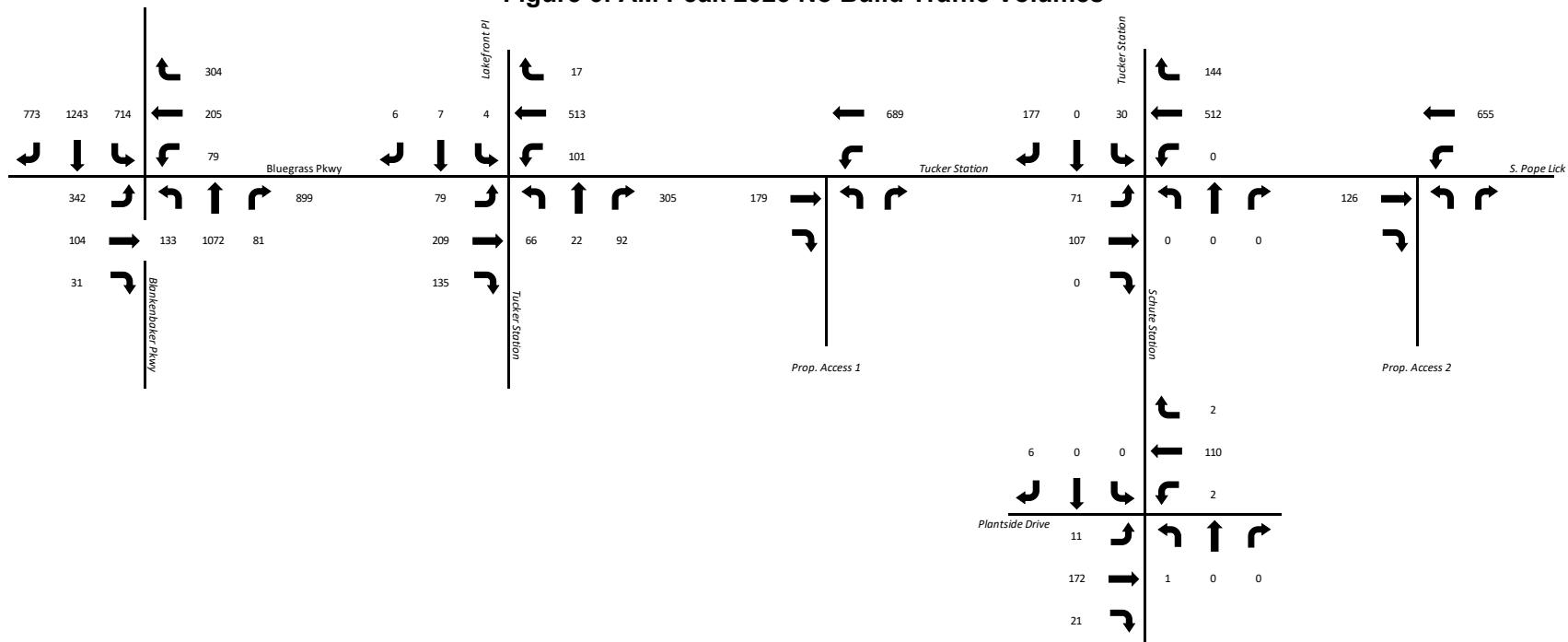


Figure 7: PM Peak 2023 No Build Traffic Volumes

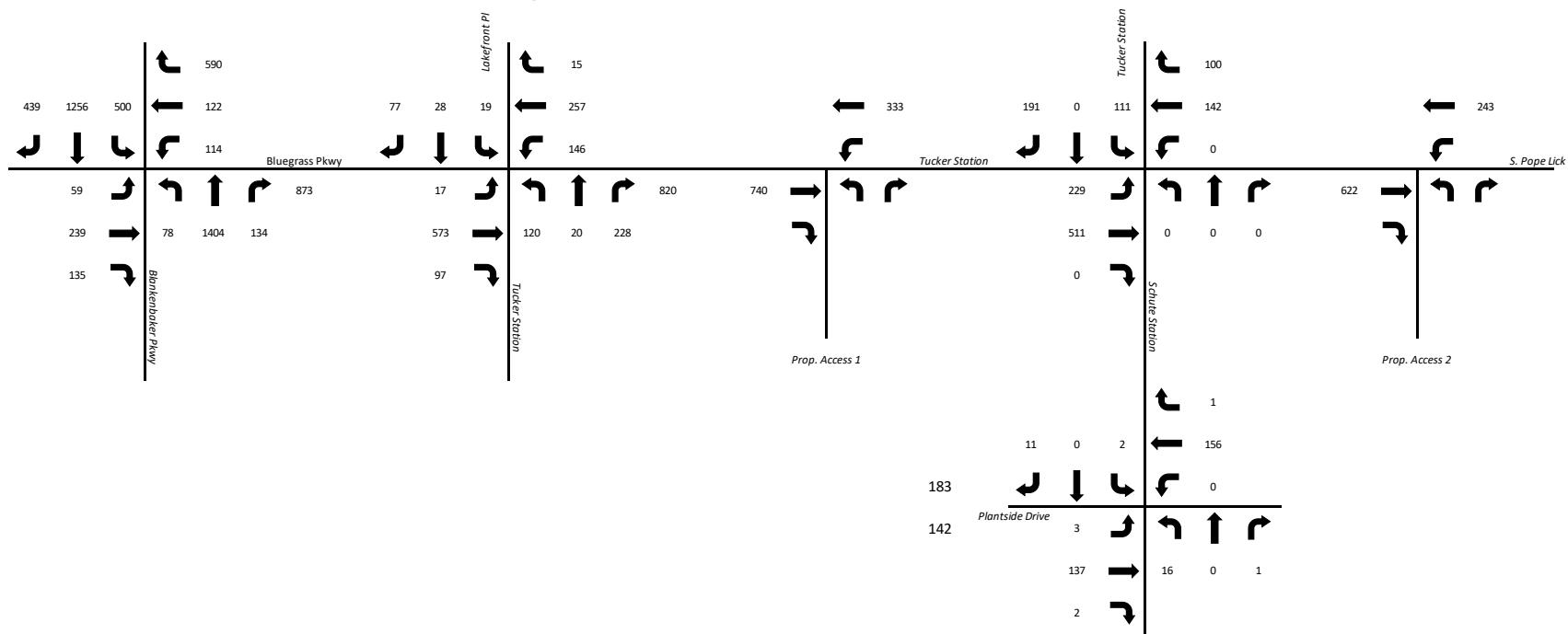


Figure 8: AM Peak 2033 No Build Traffic Volumes

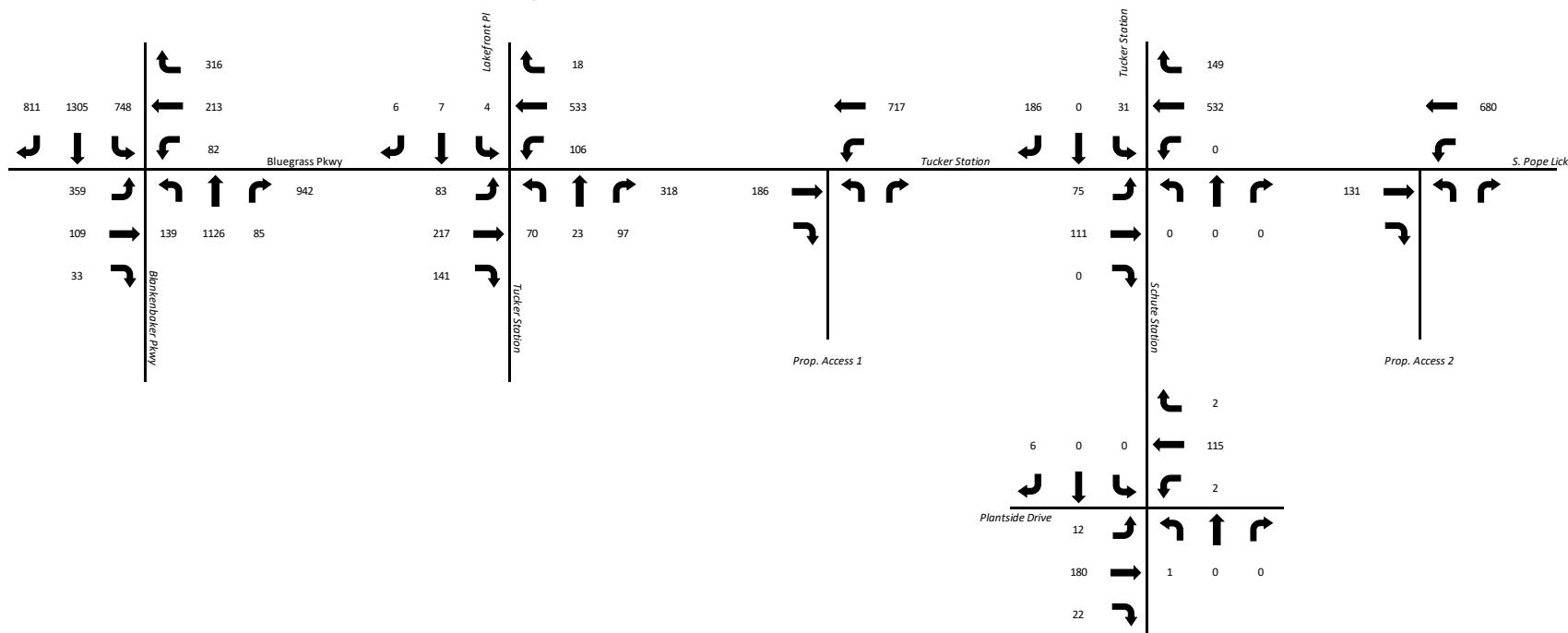
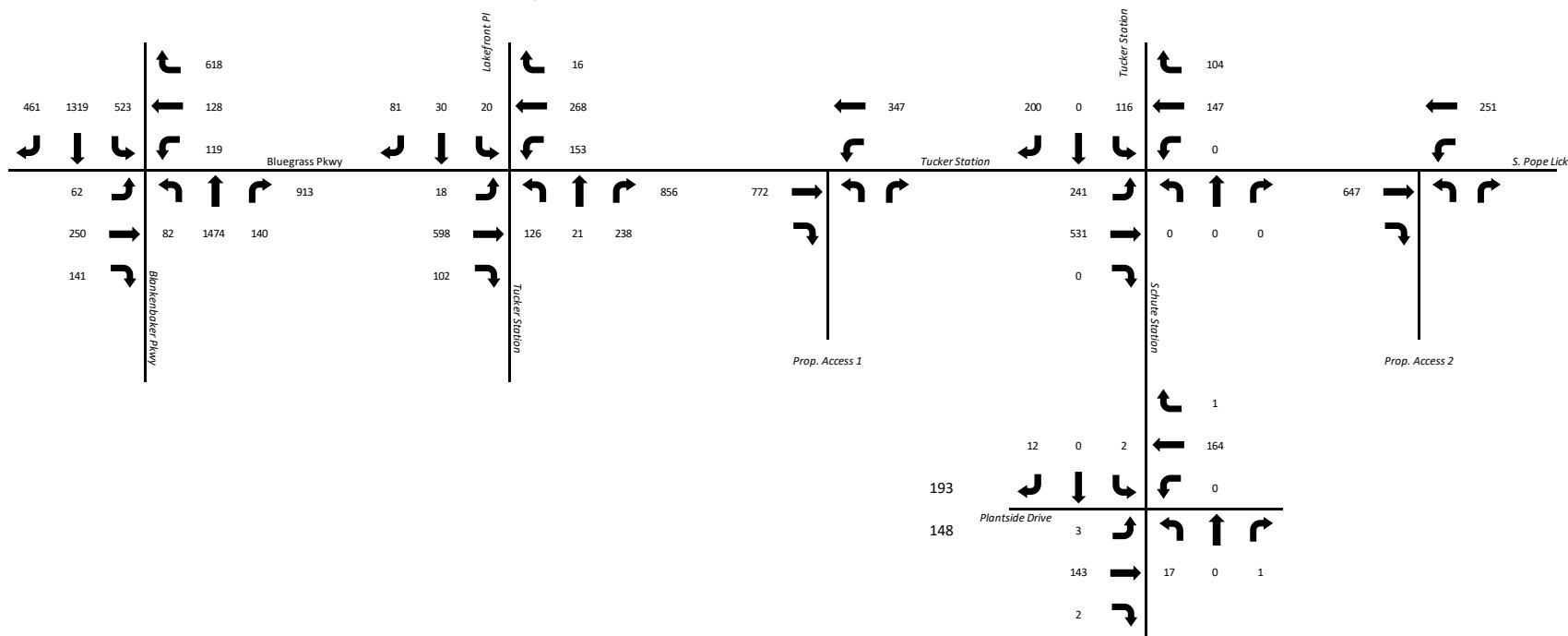


Figure 9: PM Peak 2033 No Build Traffic Volumes



TRIP GENERATION

Trip Generation was conducted in accordance with the ITE Trip Generation Web Based App, 11th edition. Trip Generation utilized **ITE Land Use Code 130 Industrial Park**. This land use provides a higher trip generation than strictly warehousing or distribution land uses in the event some manufacturing or other industrial use was housed in the development. Based on this land use and the 1M s.f. gross floor area, the development is expected to generate 414 and 405 trips per hour during the AM and PM peak hours of the development. **Table 1** summarizes the trip generation for each proposed tract and **Appendix C** contains output from the ITE Trip Generation Manual.

Table 1: Trip Generation

Land Use	ITE Code	Ind. Var.	Units	AM Peak			Saturday		
				Total	Entering	Exiting	Total	Entering	Exiting
Total				414	359	55	405	85	320
Tract 1	130	196.5	units	81	70	11	79	17	62
Tract 2	130	210	units	86	75	11	84	18	66
Tract 3	130	146.9	units	60	52	8	59	12	47
Tract 4	130	146.9	units	60	52	8	59	12	47
Tract 5	130	310.5	units	127	110	17	124	26	98

TRIP DISTRIBUTION METHODOLOGY

Generated trips were distributed onto the roadway network based on recorded travel patterns on Commerce Parkway and the proposed configuration of the development roadway layout. Total roadway volumes at the approaches to the study area were determined and trips distributed consistently with these total volumes. **Figure 10** shows the area wide trip distributions. The final entering and exiting trip distribution is shown in **Figures 11 and 12**. **Figures 13, 14, 15 and 16** show the final build traffic volumes for AM and PM peak hour turning movement for 2023 and 2033.

Figure 10: Area-wide Origin-Destination Trip Distribution



Figure 9: Entering Trip Distribution

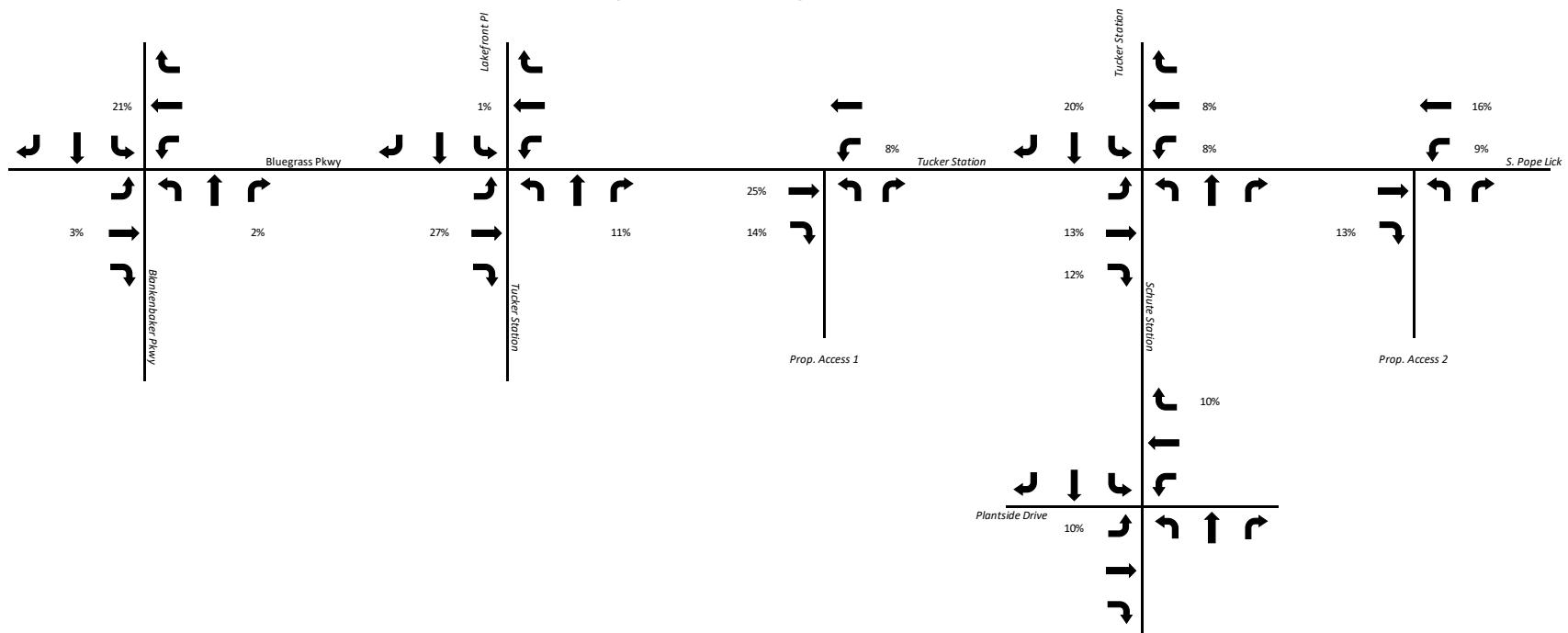


Figure 10: Exiting Trip Distribution

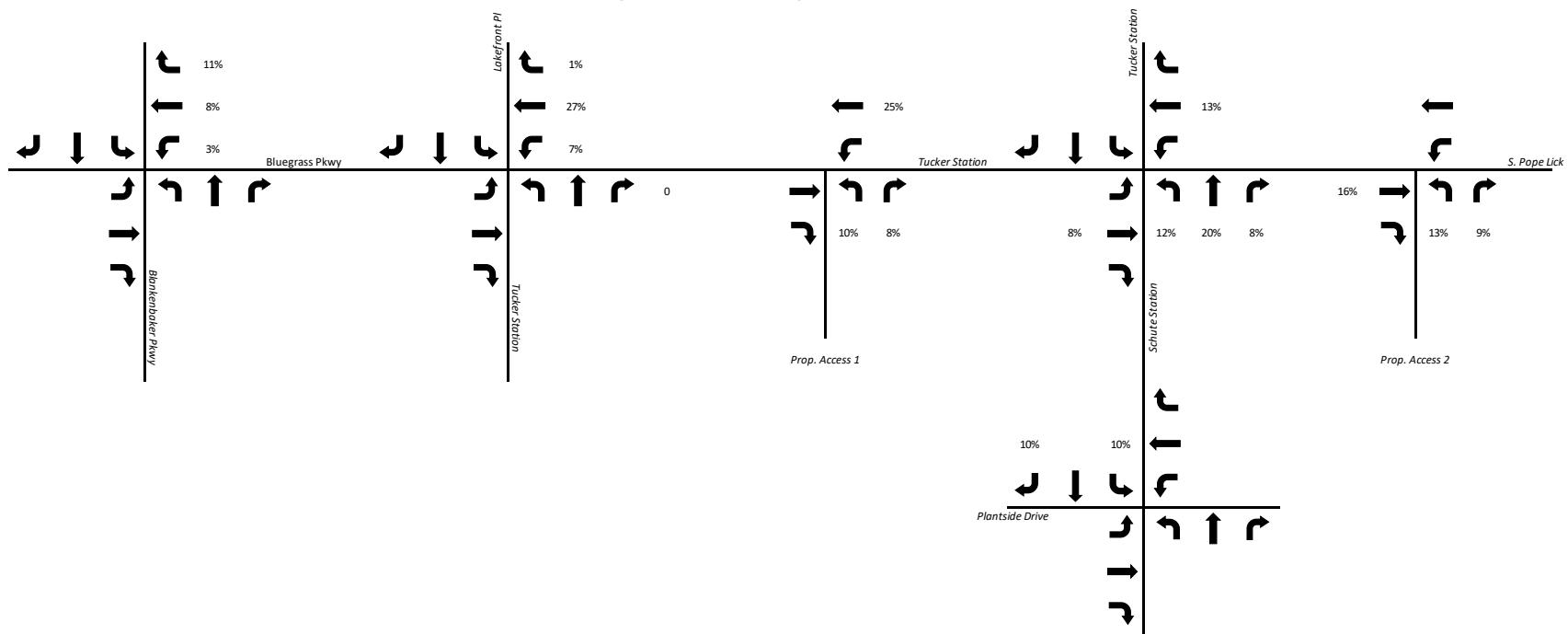


Figure 11: AM Peak Hour 2023 Build

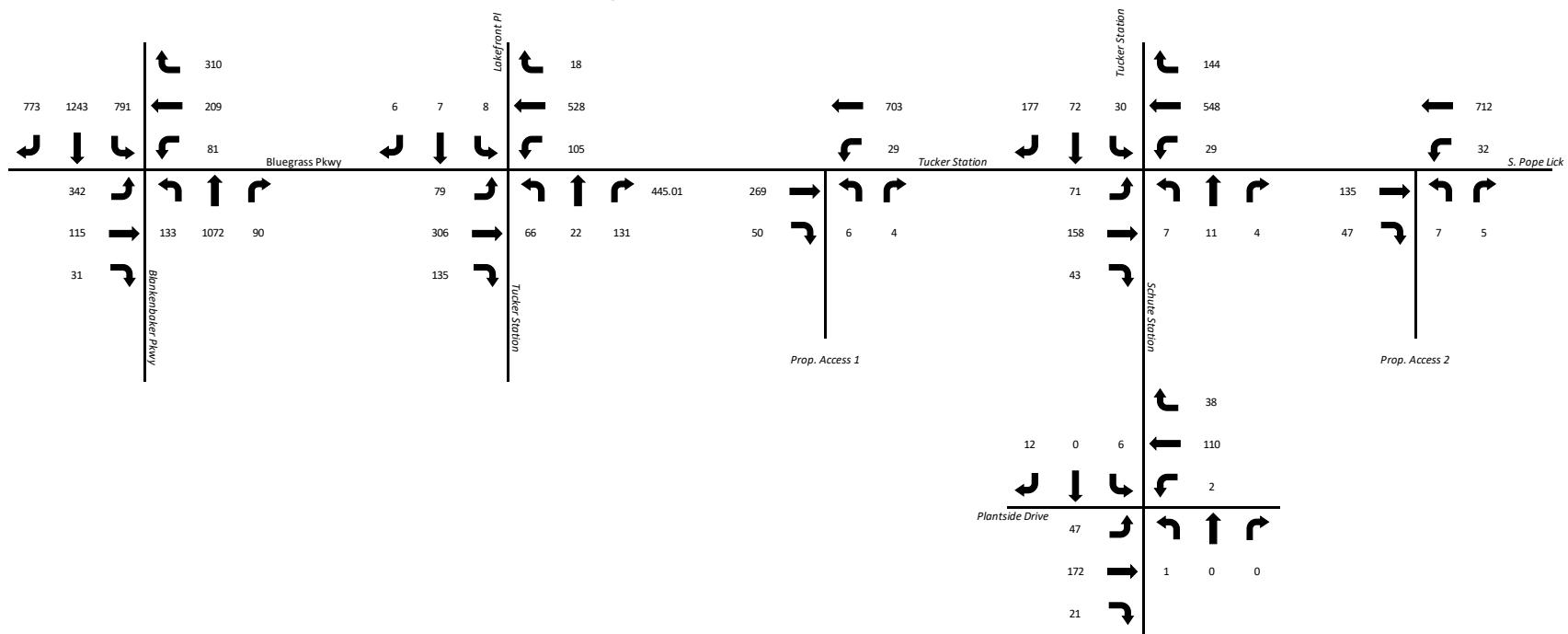


Figure 12: PM Peak Hour 2023 Build

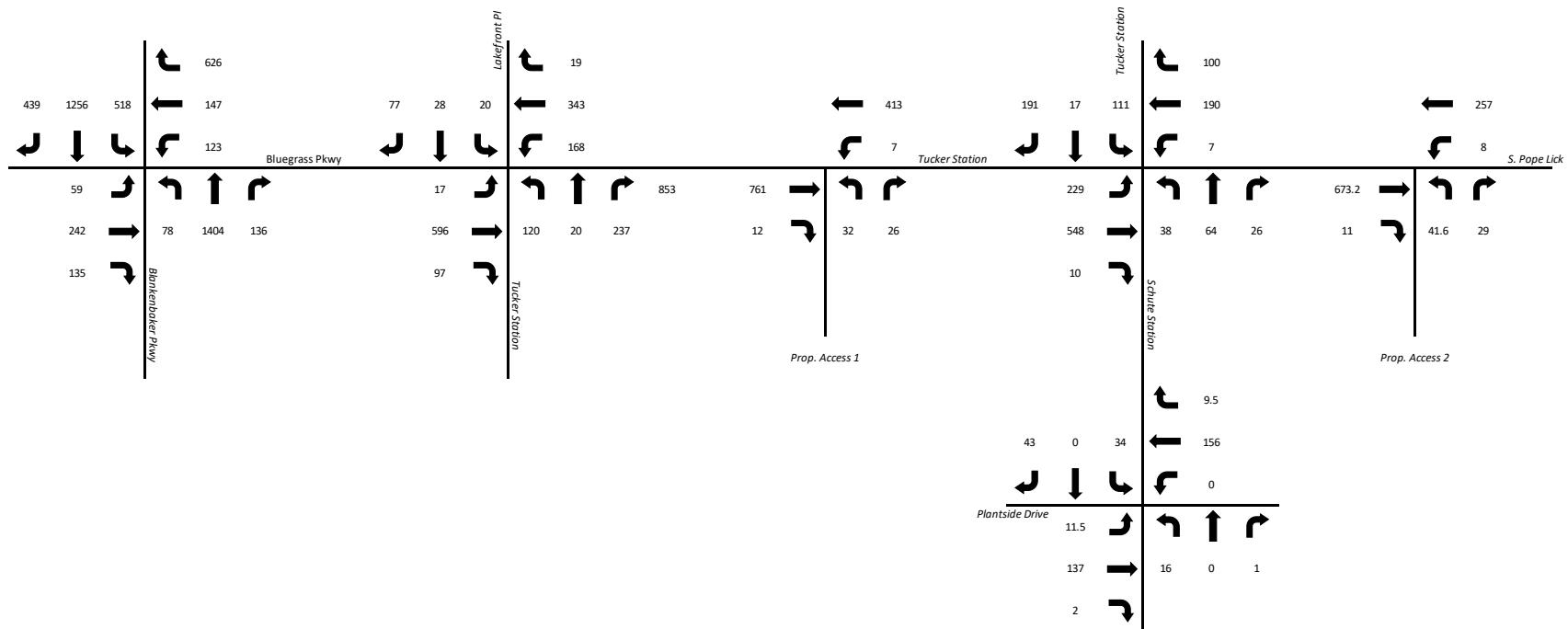


Figure 13: AM Peak Hour 2033 Build

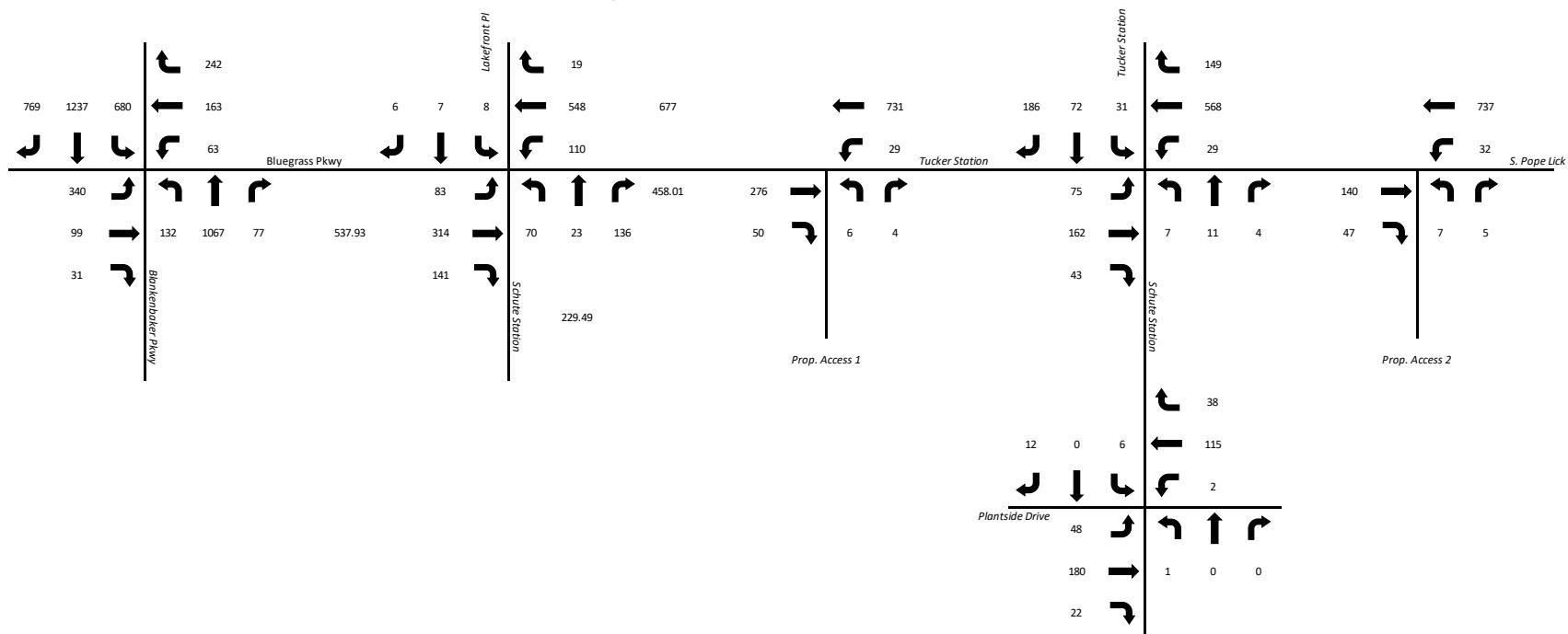


Figure 14: PM Peak Hour 2033 Build



CAPACITY ANALYSIS

Capacity analysis for the no build and build scenarios was completed for the study intersections during the AM and PM peak hours using HCM methodologies as applied Synchro Capacity Software version 10. **Tables 2 and 3** summarize the AM and PM peak hour LOS, and delay for the No Build and Build scenarios. Full capacity analysis output is provided in **Appendix E**.

As can be seen from the capacity analysis, all access points and the intersection of Schute Station Road and Plantside Drive are shown to operate at acceptable levels of service during all scenarios evaluated. Minimal changes in delay and operations are anticipated at Blankenbaker Parkway and Bluegrass Parkway.

Eastbound Tucker Station Road at S. Pope Lick Road is shown to operate at or over capacity under the 2023 demand for the westbound direction in the AM peak and for the eastbound direction for the PM peak. The proposed auxiliary turn lanes on these approaches decreases approach delay during the PM peak, but still experiences higher delays under the AM peak demand.

At the intersection of Bluegrass Parkway and Tucker Station Road/Lakeside Place, the existing configuration is shown to operate under capacity for both the No Build and Build conditions under the AM conditions. In the PM peak period, the northbound approach is shown to operate at LOS F for both the No Build and Build conditions.

Signalization of the intersections of Tucker Station Road at S. Pope Lick Road and Tucker Station at Bluegrass Parkway is shown to improve operations under all conditions as summarized in **Table 4**.

Table 2: AM Peak Capacity Analysis Summary

AM PEAK HOUR		2023 No Build		2023 Build		2033 No Build		2033 Build	
		LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Blankenbaker Pkwy at Bluegrass Pkwy	Intersection	E	57.6	E	57.6	E	61.2	E	64.0
	eastbound (Bluegrass)	E	79.0	F	85.8	E	73.7	E	74.3
	westbound (Bluegrass)	F	95.4	F	91.8	F	157.2	F	162.9
	northbound (Blankenbaker)	D	48.9	E	57.9	D	54.4	D	54.6
	southbound (Blankenbaker)	D	49.8	D	45.3	D	41.7	D	45.5
Bluegrass Pkwy at Tucker Station	Intersection	--	--	--	--	--	--	--	--
	eastbound (Bluegrass)	A	1.8	A	1.4	A	1.8	A	1.5
	westbound (Tucker Station)	A	1.6	A	1.7	A	1.6	A	1.7
	northbound (Tucker Station)	D	27.2	D	32.7	D	33.3	E	42.0
	southbound (Lakeside Pl)	C	23.7	D	32.2	D	25.9	E	36.2
S. Pope Lick Rd at Access Point 1	Intersection			--	--			--	--
	westbound (left turn)			A	0.7			A	0.7
	northbound (Access 1)			C	17.7			C	18.3
S. Pope Lick Road at Tucker Station Road	Intersection	D	31.2	F	85.9	E	38.4	F	99.3
	eastbound (Tucker Station)	B	11.1	B	12.6	B	11.5	B	12.8
	westbound (S. Pope Lick)	E	42.7	F	142.2	F	54.1	F	165.7
	northbound (Shute Station)	--	--	B	10.8	--	--	B	10.8
	southbound (Tuckjer Station)	B	11.7	C	17.6	B	12.2	C	18.3
S. Pope Lick Rd at Access Point 2	Intersection			--	--			--	--
	westbound (left turn)			A	0.7			A	0.7
	northbound (Access 1)			C	15.4			C	15.8
Schute Station at Plantside Drive	Intersection	--	--	--	--	--	--	--	--
	eastbound LT (Plantside)	A	0.5	A	1.6	A	0.5	A	1.6
	westbound LT (Plantside)	A	0.1	A	0.1	A	0.1	A	0.1
	northbound	B	10.7	B	11.8	B	10.9	B	11.9
	southbound	A	8.7	A	9.7	A	8.7	A	9.8

Table 3: PM Peak Capacity Analysis Summary

PM PEAK HOUR		2023 No Build		2023 Build		2033 No Build		2033 Build	
		LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Blankenbaker Pkwy at Bluegrass Pkwy	Intersection	F	117.6	F	130.5	F	123.2	F	131.9
	eastbound (Bluegrass)	F	277.1	F	395.4	F	309.9	F	314.5
	westbound (Bluegrass)	F	307.3	F	334.9	F	294.2	F	320.2
	northbound (Blankenbaker)	D	54.9	E	72.7	E	58.3	E	58.4
	southbound (Blankenbaker)	E	61.0	D	37.9	E	70.0	E	74.0
Bluegrass Pkwy at Tucker Station	Intersection	--	--	--	--	--	--	--	--
	eastbound (Bluegrass)	A	0.2	A	0.2	A	0.2	A	0.2
	westbound (Tucker Station)	A	3.5	A	3.2	A	3.5	A	3.3
	northbound (Tucker Station)	F	107.8	F	189.7	F	162.3	F	273.7
	southbound (Lakeside PI)	E	37.4	F	65.7	F	51.8	F	105.6
S. Pope Lick Rd at Access Point 1	Intersection			--	--			--	--
	westbound (left turn)			A	0.4			A	0.3
	northbound (Access 1)			C	19.1			D	25.4
S. Pope Lick Road at Tucker Station Road	Intersection	F	84.8	F	61.6	F	102.1	F	72.1
	eastbound (Tucker Station)	F	136.4	C	98.6	F	165.9	F	116.7
	westbound (S. Pope Lick)	B	12.8	B	22.6	B	13.3	C	24.3
	northbound (Shute Station)	--	--	D	13.1	--	--	B	13.3
	southbound (Tuckjer Station)	C	16.1	C	26.0	C	16.9	D	28.6
S. Pope Lick Rd at Access Point 2	Intersection			--	--			--	--
	westbound (left turn)			A	0.4			A	0.4
	northbound (Access 1)			C	19.1			C	19.9
Schute Station at Plantside Drive	Intersection	--	--	--	--	--	--	--	--
	eastbound LT (Plantside)	A	0.2	A	0.7	A	0.2	A	0.6
	westbound LT (Plantside)	A	0.0	A	0.0	A	0.0	A	0.0
	northbound	B	10.3	B	10.8	B	10.5	B	10.9
	southbound	A	9.1	B	10.1	A	9.1	B	10.2

Table 4: Signalized Capacity Analysis Summary

PM PEAK HOUR		2023 AM		2023 PM		2033 AM		2033 PM	
		LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Bluegrass Pkwy at Tucker Station	Intersection	A	5.6	A	9.4	A	6.7	B	10.2
	eastbound (Bluegrass)	A	4.9	A	9.2	A	5.0	B	10.4
	westbound (Tucker Station)	A	5.3	A	7.2	A	7.4	A	7.3
	northbound (Tucker Station)	A	7.5	B	13.3	A	8.5	B	14.4
	southbound (Lakeside PI)	A	6.7	A	8.0	A	7.5	A	8.1
S. Pope Lick Road at Tucker Station Road	Intersection	A	7.7	A	9.4	A	8.1	A	10.0
	eastbound (Tucker Station)	A	6.3	B	11.4	A	6.6	B	12.1
	westbound (S. Pope Lick)	A	7.0	A	5.8	A	7.3	A	5.9
	northbound (Shute Station)	A	9.9	A	8.2	A	10.4	A	8.5
	southbound (Tuckjer Station)	B	10.7	A	8.5	A	11.3	A	9.0

TURN LANE WARRANT ANALYSIS


Auxiliary turn lane warrant analysis was conducted for all proposed access points in accordance with KYTC Auxiliary Turn Lane policy, as applied by the Warrant Calcs Interactive excel spreadsheet provided on the KYTC Division of Design website. Based on this analysis, a left turn lane is warranted at the two proposed access points based on AM peak hour demand. Right turn lanes are not warranted at any access point for either AM and PM peak periods. Output from the warrant analysis is provided in **Appendix F**.

RECOMMENDATIONS

Dedicated left-turn lanes are recommended to improve operations at the intersection of Tucker Station Road and S. Pope Lick Road. Signalization should be considered for the intersections of Tucker Station Road at Bluegrass Parkway and Tucker Station Road at S. Pope Lick Road.

Left turn auxiliary lanes are recommended at the proposed access points on Tucker Station Road and S. Pope Lick Road.

APPENDIX A: DEVELOPMENT PLAN



SABAK, WILSON & LINGO, INC.

ENGINEERS, LANDSCAPE ARCHITECTS & PLANNERS
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LOUISVILLE, KENTUCKY
40202

(502) 584 - 6277

XEBEC TUCKER STATION
1525, 1531, 1601, 1701, 1705, & 1711 TUCKER STATION ROAD; 12600, 12604, 12800, 12850, & 1704 S. POPE LICK ROAD; & HOLLOWAY ISON DRIVE
LOUISVILLE, KY 40299
TAX BLOCK 3672, LOTS 1, 3, & 7; TAX BLOCK 39, LOTS 205, 262, 410, 438, & 471; TAX BLOCK 40, LOTS 306, 363, 364, & 365
YEREC PURSHUITS LLC

PROJECT TITLE	REF ID:	
NO.	1"	
LE:	06/03/	
E:		
WING NO:		
D	D	F

APPENDIX B: TRAFFIC DATA

Cummins Consulting Services, LLC

swcummins@ccsdata.com 859-361-2589

"2022 ... Data Collection simplified"

Partly Sunny
Schools in Session

File Name : Plantside_Drive_at_Schutte_Station_Place_05-19-2022
Site Code : Site 2 - Thursday
Start Date : 5/19/2022
Page No : 1

Groups Printed- Cars - Buses - Trucks

	Schutte Station Place From North					Plantside Drive From East					Schutte Station Place From South					Plantside Drive From West					
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
Start Time																					
07:00 AM	0	0	1	0	1	0	23	0	0	23	0	0	0	0	0	5	29	0	0	34	58
07:15 AM	0	0	0	0	0	1	14	0	0	15	1	0	0	0	1	3	28	7	0	38	54
07:30 AM	0	0	4	0	4	0	25	0	0	25	0	0	0	0	0	3	44	4	0	51	80
07:45 AM	0	0	1	0	1	1	27	0	0	28	0	0	0	0	0	0	43	6	0	49	78
Total	0	0	6	0	6	2	89	0	0	91	1	0	0	0	1	11	144	17	0	172	270
08:00 AM	0	0	1	0	1	1	25	2	0	28	0	0	0	0	0	5	38	9	0	52	81
08:15 AM	0	0	0	0	0	0	32	0	0	32	1	0	0	0	1	3	46	2	0	51	84
08:30 AM	0	0	1	0	1	0	17	0	0	17	0	0	0	0	0	1	43	0	0	44	62
08:45 AM	0	0	0	0	0	0	29	1	0	30	0	0	0	0	0	3	37	1	0	41	71
Total	0	0	2	0	2	1	103	3	0	107	1	0	0	0	1	12	164	12	0	188	298
04:00 PM	0	0	0	0	0	0	45	1	0	46	4	0	1	0	5	0	35	1	0	36	87
04:15 PM	2	0	3	0	5	0	35	0	0	35	1	0	0	0	1	1	42	0	0	43	84
04:30 PM	0	0	3	0	3	0	46	0	0	46	5	0	0	0	5	2	31	1	0	34	88
04:45 PM	0	0	5	0	5	0	29	0	0	29	6	0	0	0	6	0	28	0	0	28	68
Total	2	0	11	0	13	0	155	1	0	156	16	0	1	0	17	3	136	2	0	141	327
05:00 PM	0	0	1	0	1	0	53	0	0	53	1	0	1	0	2	0	31	0	0	31	87
05:15 PM	0	0	1	0	1	0	21	0	0	21	1	0	0	0	1	1	39	0	0	40	63
05:30 PM	0	0	3	0	3	0	39	0	0	39	3	0	0	0	3	0	50	0	0	50	95
05:45 PM	0	0	3	0	3	0	30	0	0	30	1	0	0	0	1	1	45	0	0	46	80
Total	0	0	8	0	8	0	143	0	0	143	6	0	1	0	7	2	165	0	0	167	325
Grand Total	2	0	27	0	29	3	490	4	0	497	24	0	2	0	26	28	609	31	0	668	1220
Apprch %	6.9	0	93.1	0	0	0.6	98.6	0.8	0	92.3	0	7.7	0	0	4.2	91.2	4.6	0	0	0	0
Total %	0.2	0	2.2	0	2.4	0.2	40.2	0.3	0	40.7	2	0	0.2	0	2.1	2.3	49.9	2.5	0	54.8	0
Cars	2	0	22	0	24	3	426	2	0	431	22	0	2	0	24	22	491	30	0	543	1022
% Cars	100	0	81.5	0	82.8	100	86.9	50	0	86.7	91.7	0	100	0	92.3	78.6	80.6	96.8	0	81.3	83.8
Buses	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
% Buses	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0	0.2	0	0	0.1	0.2
Trucks	0	0	5	0	5	0	63	2	0	65	2	0	0	0	2	6	117	1	0	124	196
% Trucks	0	0	18.5	0	17.2	0	12.9	50	0	13.1	8.3	0	0	0	7.7	21.4	19.2	3.2	0	18.6	16.1

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swcummins@ccsdata.com 859-361-2589

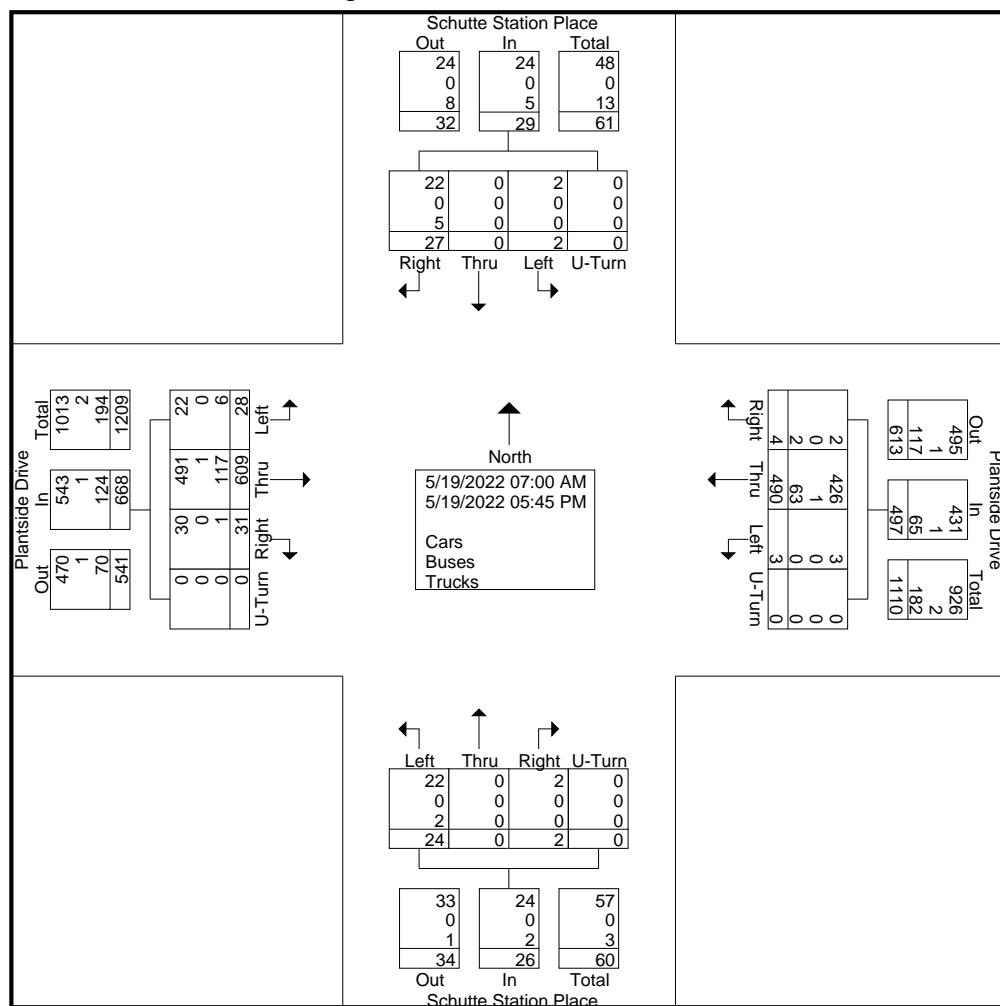
"2022 ... Data Collection simplified"

File Name : Plantside_Drive_at_Schutte_Station_Place_05-19-2022

Site Code : Site 2 - Thursday

Start Date : 5/19/2022

Page No : 2



Cummins Consulting Services, LLC

swcummins@ccsdata.com 859-361-2589

"2022 ... Data Collection simplified"

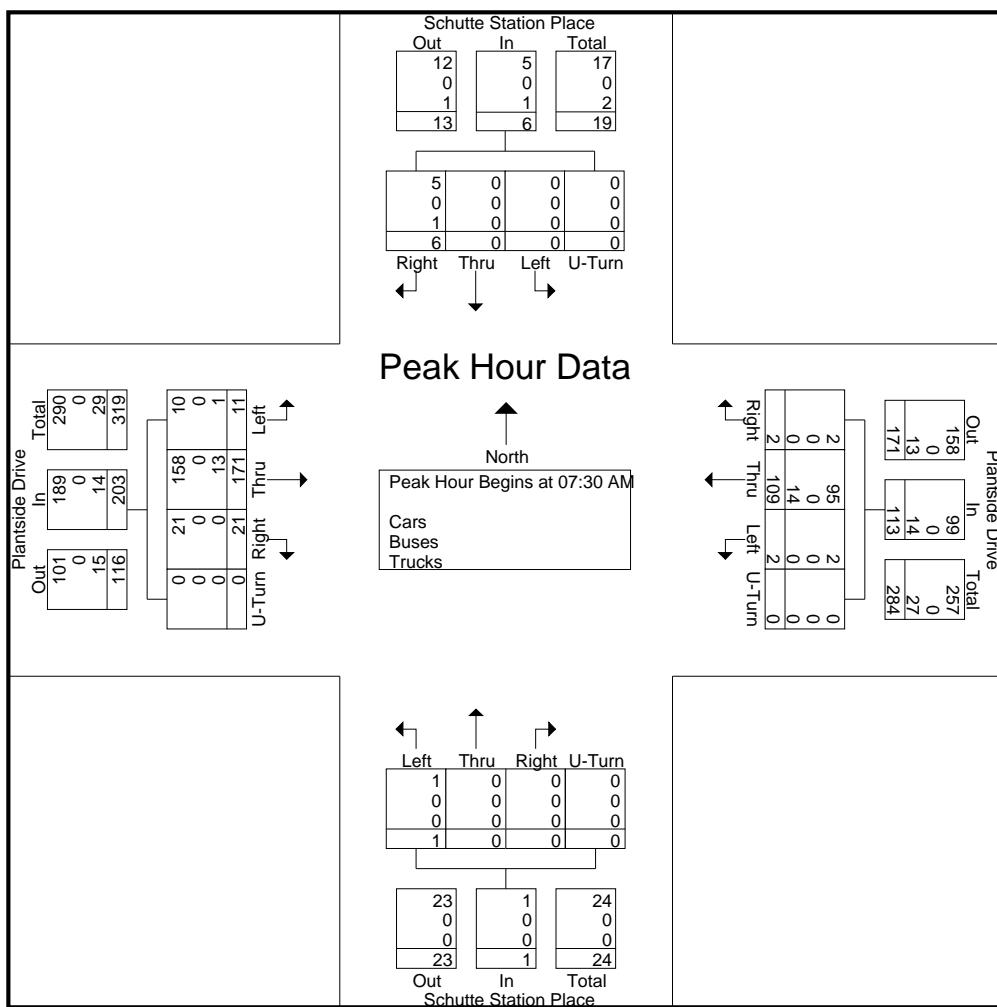
File Name : Plantside_Drive_at_Schutte_Station_Place_05-19-2022

Site Code : Site 2 - Thursday

Start Date : 5/19/2022

Page No : 3

	Schutte Station Place From North					Plantside Drive From East					Schutte Station Place From South					Plantside Drive From West						
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total	
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 07:30 AM																						
07:30 AM	0	0	4	0	4	0	25	0	0	25	0	0	0	0	0	3	44	4	0	51	80	
07:45 AM	0	0	1	0	1	1	27	0	0	28	0	0	0	0	0	0	43	6	0	49	78	
08:00 AM	0	0	1	0	1	1	25	2	0	28	0	0	0	0	0	5	38	9	0	52	81	
08:15 AM	0	0	0	0	0	0	32	0	0	32	1	0	0	0	1	3	46	2	0	51	84	
Total Volume	0	0	6	0	6	2	109	2	0	113	1	0	0	0	1	11	171	21	0	203	323	
% App. Total	0	0	100	0	1.8	96.5	1.8	0	100	0	0	0	0	0	5.4	84.2	10.3	0	0	0	0	
PHF	.000	.000	.375	.000	.375	.500	.852	.250	.000	.883	.250	.000	.000	.000	.250	.550	.929	.583	.000	.976	.961	
Cars	0	0	5	0	5	2	95	2	0	99	1	0	0	0	1	10	158	21	0	189	294	
% Cars	0	0	83.3	0	83.3	100	87.2	100	0	87.6	100	0	0	0	100	90.9	92.4	100	0	93.1	91.0	
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Trucks	0	0	1	0	1	0	14	0	0	14	0	0	0	0	0	0	1	13	0	0	14	29
% Trucks	0	0	16.7	0	16.7	0	12.8	0	0	12.4	0	0	0	0	0	9.1	7.6	0	0	6.9	9.0	



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"2022 ... Data Collection simplified"

File Name : Plantside_Drive_at_Schutte_Station_Place_05-19-2022

Site Code : Site 2 - Thursday

Start Date : 5/19/2022

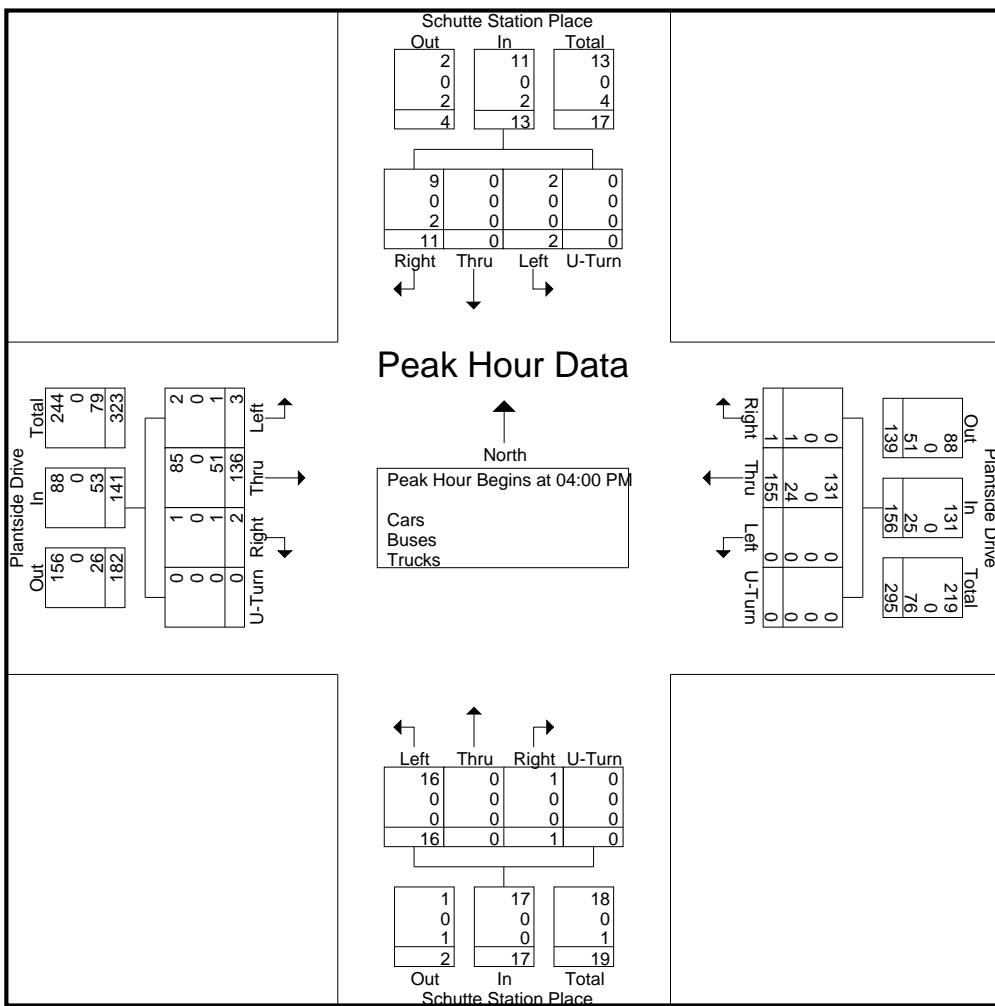
Page No : 4

	Schutte Station Place From North					Plantside Drive From East					Schutte Station Place From South					Plantside Drive From West					
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total

Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:00 PM

04:00 PM	0	0	0	0	0	0	45	1	0	46	4	0	1	0	5	0	35	1	0	36	87
04:15 PM	2	0	3	0	5	0	35	0	0	35	1	0	0	0	1	1	42	0	0	43	84
04:30 PM	0	0	3	0	3	0	46	0	0	46	5	0	0	0	5	2	31	1	0	34	88
04:45 PM	0	0	5	0	5	0	29	0	0	29	6	0	0	0	6	0	28	0	0	28	68
Total Volume	2	0	11	0	13	0	155	1	0	156	16	0	1	0	17	3	136	2	0	141	327
% App. Total	15.4	0	84.6	0		0	99.4	0.6	0		94.1	0	5.9	0		2.1	96.5	1.4	0		
PHF	.250	.000	.550	.000	.650	.000	.842	.250	.000	.848	.667	.000	.250	.000	.708	.375	.810	.500	.000	.820	.929
Cars	2	0	9	0	11	0	131	0	0	131	16	0	1	0	17	2	85	1	0	88	247
% Cars	100	0	81.8	0	84.6	0	84.5	0	0	84.0	100	0	100	0	100	66.7	62.5	50.0	0	62.4	75.5
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Trucks	0	0	2	0	2	0	24	1	0	25	0	0	0	0	0	1	51	1	0	53	80
% Trucks	0	0	18.2	0	15.4	0	15.5	100	0	16.0	0	0	0	0	0	33.3	37.5	50.0	0	37.6	24.5



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"2022 ... Data Collection simplified"

Partly Sunny
Schools in Session

File Name : Tucker_Station_Road_at_Pope_Lick_Road_05-19-2022
Site Code : Site 3 - Thursday
Start Date : 5/19/2022
Page No : 1

Groups Printed- Cars - Buses - Trucks

	Tucker Station Road From North				Pope Lick Road From East				Pope Lick Road From West				Int. Total
	Left	Right	U-Turn	App. Total	Thru	Right	U-Turn	App. Total	Left	Thru	U-Turn	App. Total	
Start Time													
07:00 AM	6	17	0	23	38	20	0	58	15	8	0	23	104
07:15 AM	6	40	0	46	86	19	0	105	13	13	0	26	177
07:30 AM	7	38	0	45	84	24	0	108	22	17	0	39	192
07:45 AM	3	53	0	56	122	31	0	153	20	21	0	41	250
Total	22	148	0	170	330	94	0	424	70	59	0	129	723
08:00 AM	3	45	0	48	100	32	0	132	16	18	0	34	214
08:15 AM	3	38	0	41	68	18	0	86	15	16	0	31	158
08:30 AM	7	31	0	38	48	18	0	66	23	15	0	38	142
08:45 AM	6	20	0	26	46	11	0	57	14	5	0	19	102
Total	19	134	0	153	262	79	0	341	68	54	0	122	616
04:00 PM	22	42	0	64	20	14	0	34	45	86	0	131	229
04:15 PM	30	36	0	66	16	12	0	28	42	67	0	109	203
04:30 PM	22	36	0	58	17	9	0	26	37	111	1	149	233
04:45 PM	30	47	0	77	14	19	0	33	54	104	0	158	268
Total	104	161	0	265	67	54	0	121	178	368	1	547	933
05:00 PM	31	47	0	78	20	16	0	36	64	121	0	185	299
05:15 PM	20	45	0	65	21	21	0	42	62	93	0	155	262
05:30 PM	29	51	0	80	34	10	0	44	48	89	1	138	262
05:45 PM	21	42	0	63	18	11	0	29	38	65	0	103	195
Total	101	185	0	286	93	58	0	151	212	368	1	581	1018
Grand Total	246	628	0	874	752	285	0	1037	528	849	2	1379	3290
Apprch %	28.1	71.9	0		72.5	27.5	0		38.3	61.6	0.1		
Total %	7.5	19.1	0	26.6	22.9	8.7	0	31.5	16	25.8	0.1	41.9	
Cars	243	618	0	861	738	279	0	1017	518	839	2	1359	3237
% Cars	98.8	98.4	0	98.5	98.1	97.9	0	98.1	98.1	98.8	100	98.5	98.4
Buses	2	1	0	3	0	3	0	3	2	2	0	4	10
% Buses	0.8	0.2	0	0.3	0	1.1	0	0.3	0.4	0.2	0	0.3	0.3
Trucks	1	9	0	10	14	3	0	17	8	8	0	16	43
% Trucks	0.4	1.4	0	1.1	1.9	1.1	0	1.6	1.5	0.9	0	1.2	1.3

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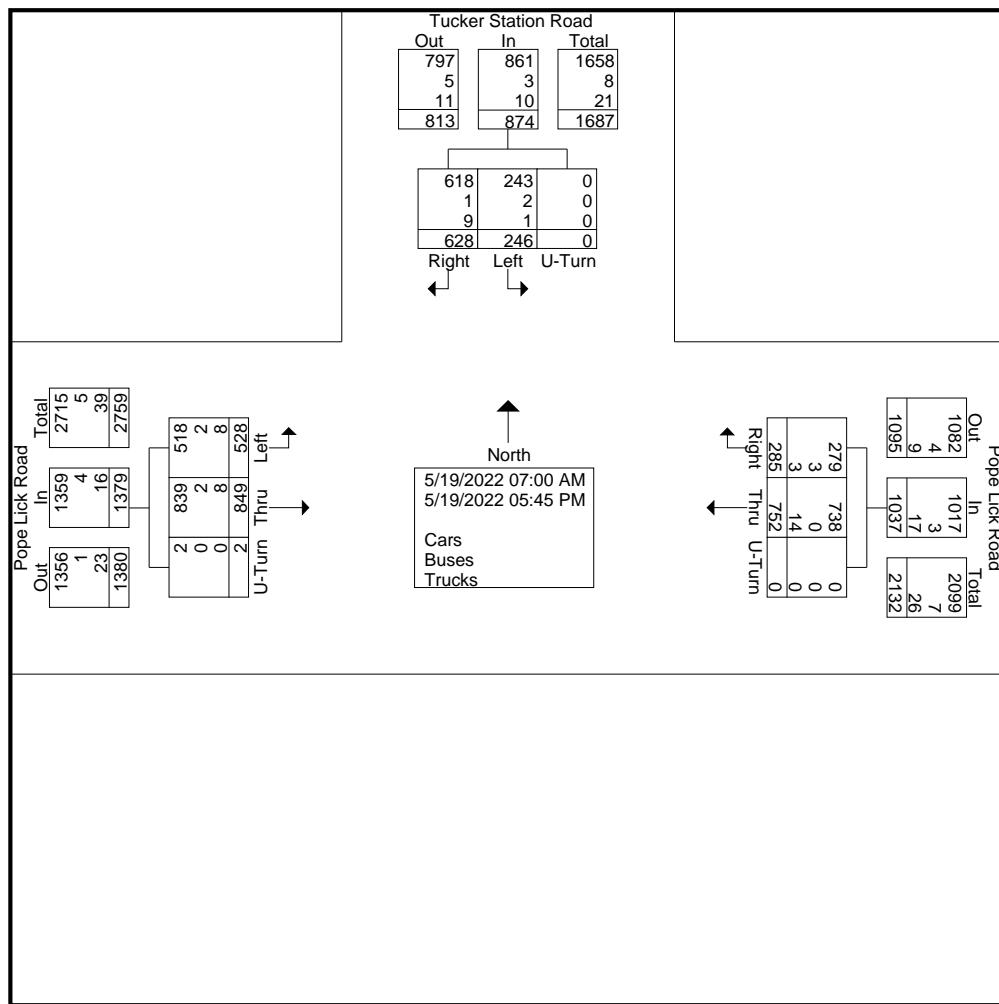
"2022 ... Data Collection simplified"

File Name : Tucker_Station_Road_at_Pope_Lick_Road_05-19-2022

Site Code : Site 3 - Thursday

Start Date : 5/19/2022

Page No : 2



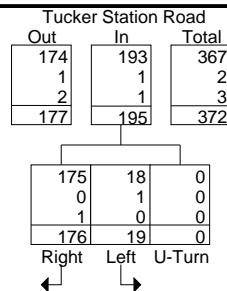
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"2022 ... Data Collection simplified"

"2022 ... Data Collection simplified"

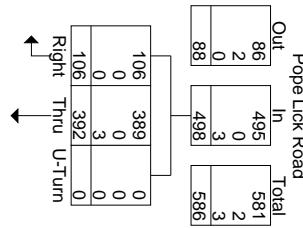
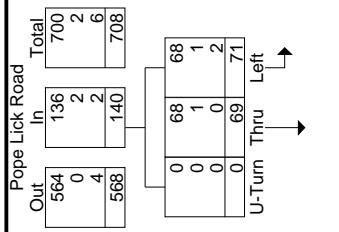
2022 ... Data Collection Simplified

File Name : Tucker_Station_Road_at_Pope_Lick_Road_05-19-2022
Site Code : Site 3 - Thursday
Start Date : 5/19/2022
Page No : 3

	Tucker Station Road From North				Pope Lick Road From East				Pope Lick Road From West				
Start Time	Left	Right	U-Turn	App. Total	Thru	Right	U-Turn	App. Total	Left	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:15 AM													
07:15 AM	6	40	0	46	86	19	0	105	13	13	0	26	177
07:30 AM	7	38	0	45	84	24	0	108	22	17	0	39	192
07:45 AM	3	53	0	56	122	31	0	153	20	21	0	41	250
08:00 AM	3	45	0	48	100	32	0	132	16	18	0	34	214
Total Volume	19	176	0	195	392	106	0	498	71	69	0	140	833
% App. Total	9.7	90.3	0		78.7	21.3	0		50.7	49.3	0		
PHF	.679	.830	.000	.871	.803	.828	.000	.814	.807	.821	.000	.854	.833
Cars	18	175	0	193	389	106	0	495	68	68	0	136	824
% Cars	94.7	99.4	0	99.0	99.2	100	0	99.4	95.8	98.6	0	97.1	98.9
Buses	1	0	0	1	0	0	0	0	1	1	0	2	3
% Buses	5.3	0	0	0.5	0	0	0	0	1.4	1.4	0	1.4	0.4
Trucks	0	1	0	1	3	0	0	3	2	0	0	2	6
% Trucks	0	0.6	0	0.5	0.8	0	0	0.6	2.8	0	0	1.4	0.7



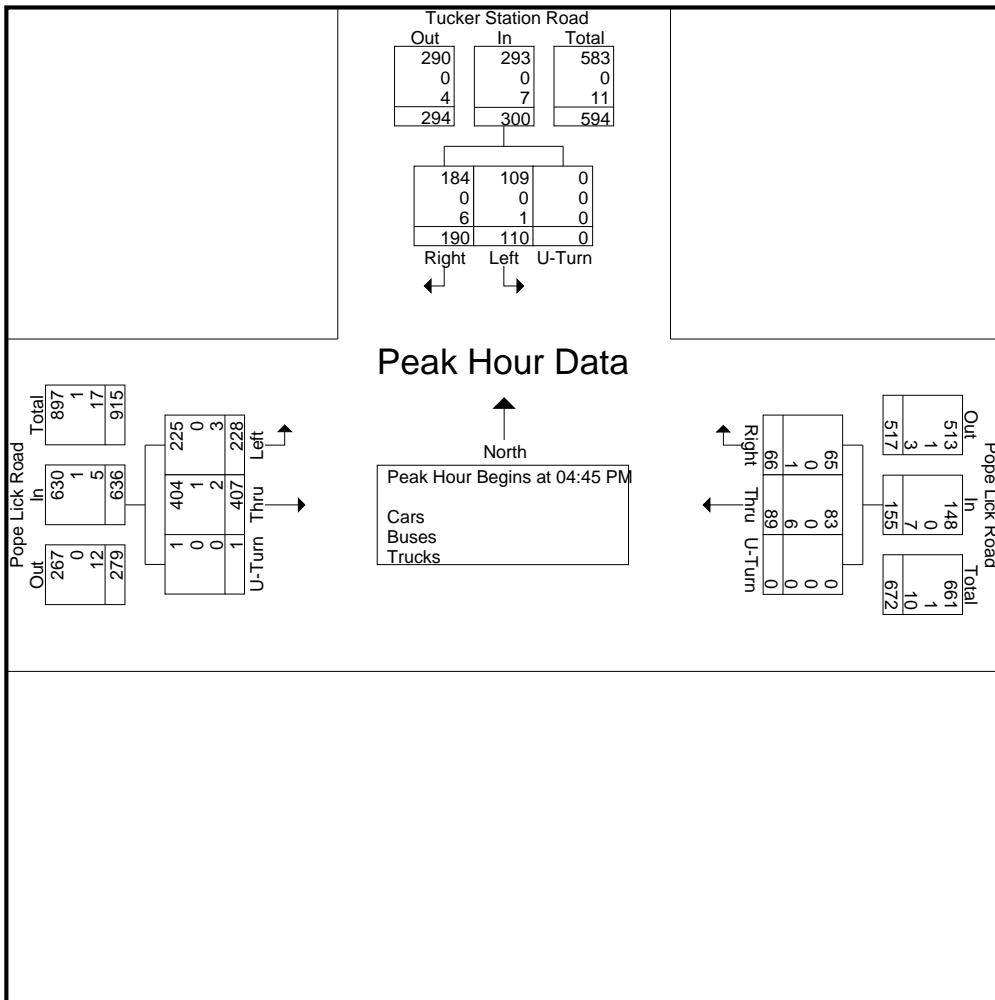
Peak Hour Data



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"2022 ... Data Collection simplified"

File Name : Tucker_Station_Road_at_Pope_Lick_Road_05-19-2022
Site Code : Site 3 - Thursday
Start Date : 5/19/2022
Page No : 4

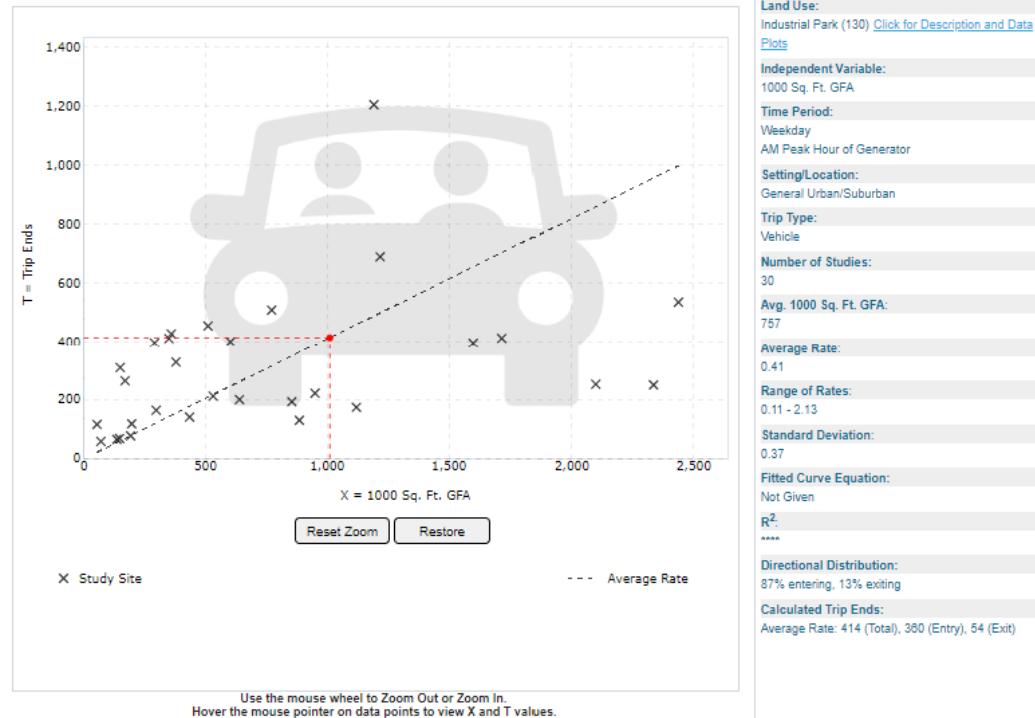
	Tucker Station Road From North				Pope Lick Road From East				Pope Lick Road From West				Int. Total	
	Start Time	Left	Right	U-Turn	App. Total	Thru	Right	U-Turn	App. Total	Left	Thru	U-Turn	App. Total	
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1														
Peak Hour for Entire Intersection Begins at 04:45 PM														
04:45 PM	30	47	0	77		14	19	0	33	54	104	0	158	268
05:00 PM	31	47	0	78		20	16	0	36	64	121	0	185	299
05:15 PM	20	45	0	65		21	21	0	42	62	93	0	155	262
05:30 PM	29	51	0	80		34	10	0	44	48	89	1	138	262
Total Volume	110	190	0	300		89	66	0	155	228	407	1	636	1091
% App. Total	36.7	63.3	0			57.4	42.6	0		35.8	64	0.2		
PHF	.887	.931	.000	.938		.654	.786	.000	.881	.891	.841	.250	.859	.912
Cars	109	184	0	293		83	65	0	148	225	404	1	630	1071
% Cars	99.1	96.8	0	97.7		93.3	98.5	0	95.5	98.7	99.3	100	99.1	98.2
Buses	0	0	0	0		0	0	0	0	0	1	0	1	1
% Buses	0	0	0	0		0	0	0	0	0	0.2	0	0.2	0.1
Trucks	1	6	0	7		6	1	0	7	3	2	0	5	19
% Trucks	0.9	3.2	0	2.3		6.7	1.5	0	4.5	1.3	0.5	0	0.8	1.7



APPENDIX C: TRIP GENERATION DATA

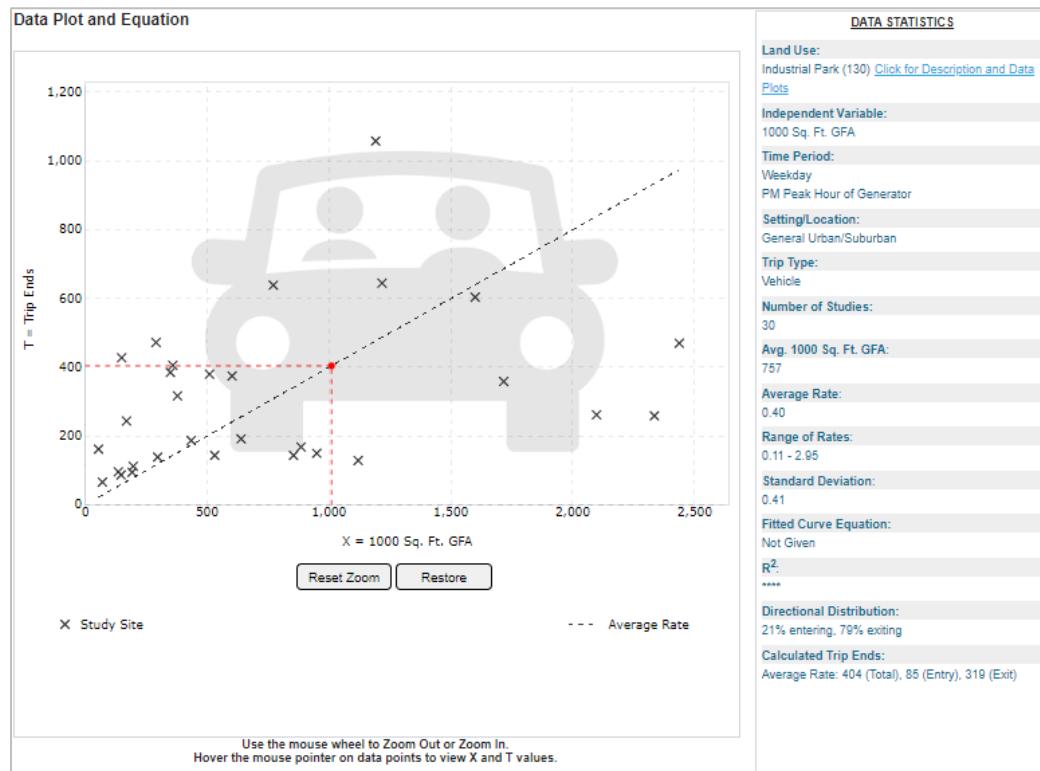
ITE Land Use Code 210 Single Family Residential (AM Peak)

Data Plot and Equation



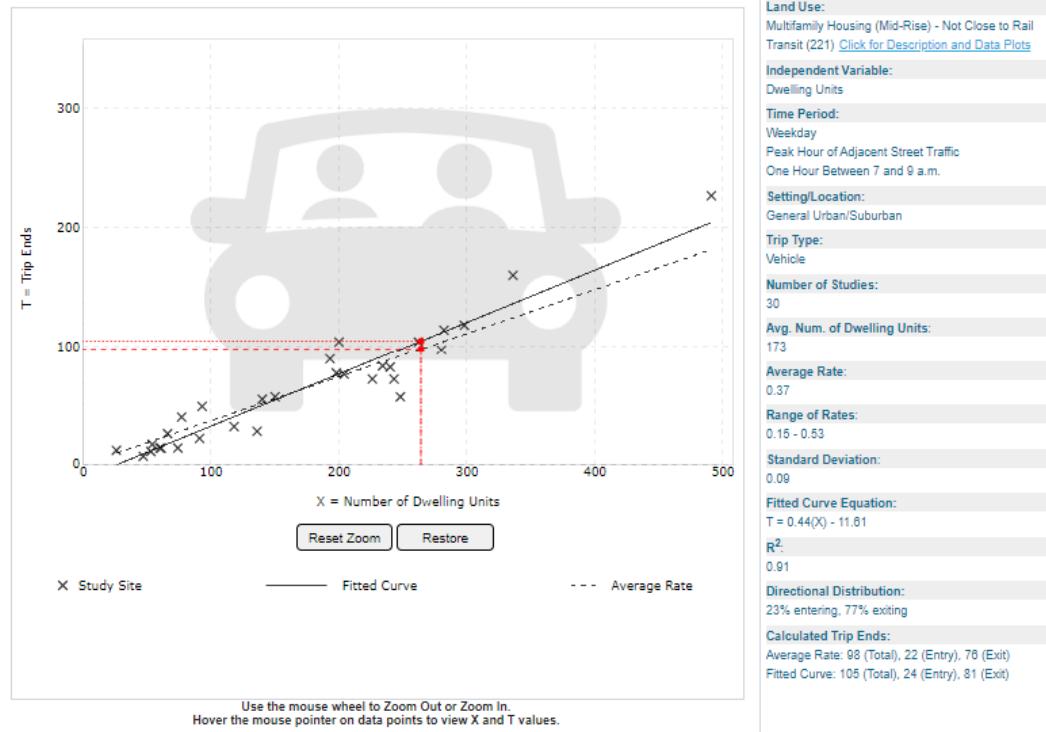
ITE Land Use Code 210 Single Family Residential (PM Peak)

Data Plot and Equation



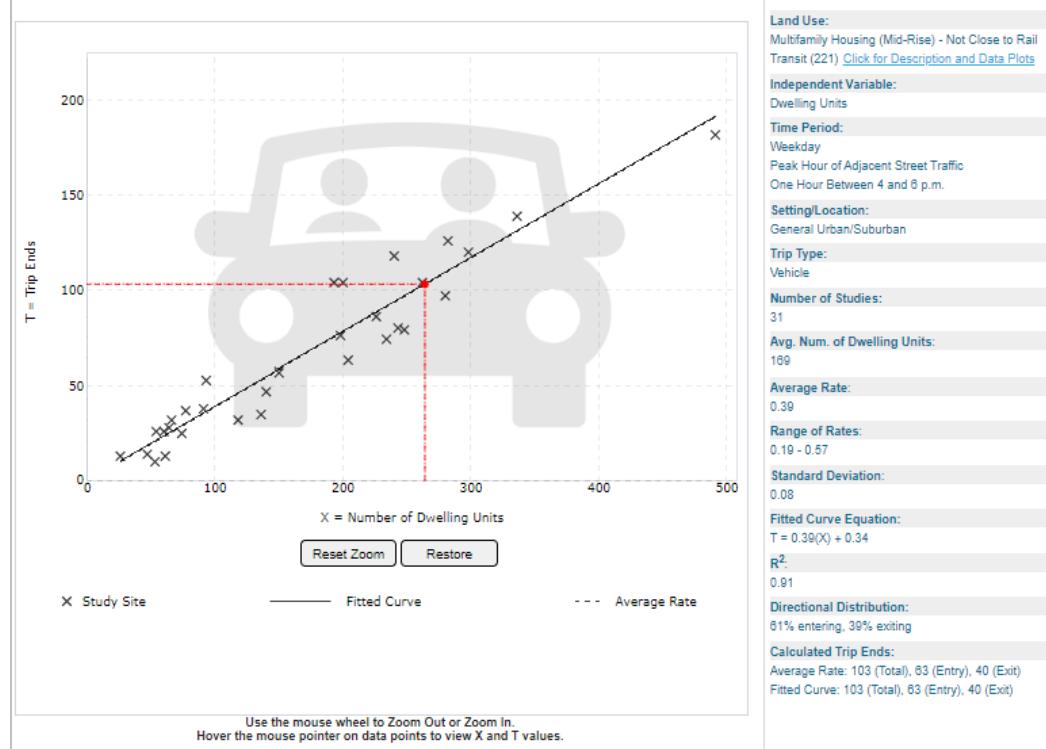
ITE Land Use Code 221 Multi Family Housing (AM Peak)

Data Plot and Equation



ITE Land Use Code 221 Multi Family Housing (PM Peak)

Data Plot and Equation



APPENDIX D: TRAFFIC FORECASTING REPORT (EXCERPT)

Count Year	2022	Number of Counts	4
Opening Year	2023		
Design Year	2043	Growth Rate	0.43%
Years Back	15		

KYTC Traffic Count Station #1		KYTC Traffic Count Station #2		KYTC Traffic Count Station #3	
STA ID	056L91	STA ID	XXXXXX	STA ID	XXXXXX
Year	AADT	Paste Count Data Here		Paste Count Data Here	
2022					
2021					
2020					
2019					
2018	7155				
2017					
2016					
2015	6939				
2014	7634				
2013	6701				

Historical Traffic Volume Summary

Station Details:

Sta ID:	056L91
Sta Type:	Full Coverage
Map:	MapIt
District:	5
County:	Jefferson
Route:	056-CS-1002H -000
Route Desc:	BLUEGRASS PKWY

Begin MP:	2.4740
Begin Desc:	KY 913 (BLANKENBAKER PKWY)
End Mp:	2.9270
End Desc:	TUCKER STATION ROAD
Impact Year:	
Year Added:	2012

Newest Count:

AADT:	7155
Year:	2018
% Single:	
% Combo:	
K Factor:	13
D Factor:	66

Definitions:

Sta. ID - Three digit county number + station number

MP - milepoint

Impact Year – year of significant change to traffic pattern within station segment

AADT – Annual Average Daily Traffic – the annualized average 24-hour volume of vehicles on a segment of roadway

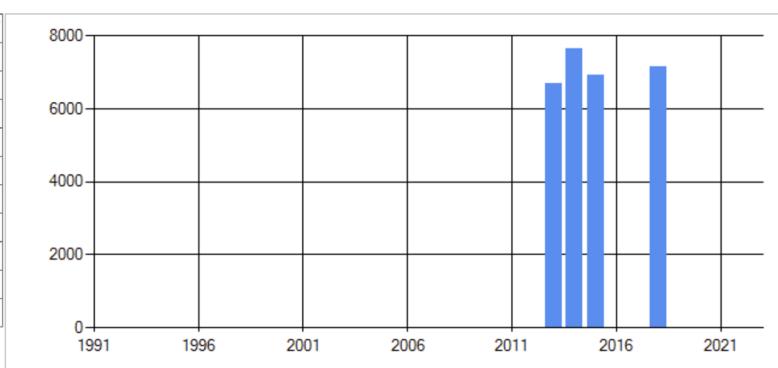
% Single – single unit truck volume as a percentage of the AADT

% Combo – combination truck volume as a percentage of the AADT

K Factor – peak hour volume as a percentage of the AADT

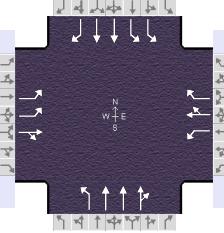
D Factor – percentage of peak hour volume flowing in the peak direction

Year	AADT	Year	AADT	Year	AADT
2022		2012		2002	
2021		2011		2001	
2020		2010		2000	
2019		2009		1999	
2018	7155	2008		1998	
2017		2007		1997	
2016		2006		1996	
2015	6939	2005		1995	
2014	7634	2004		1994	
2013	6701	2003		1993	

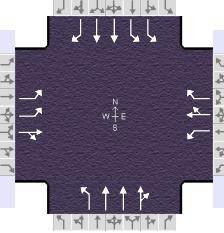


APPENDIX E: CAPACITY ANALYSIS OUTPUT

HCS Signalized Intersection Results Summary

General Information									Intersection Information				
Agency					Duration, h			0.250					
Analyst		Analysis Date		2/20/2023	Area Type			Other					
Jurisdiction		Time Period		PHF	0.92								
Urban Street	Blankenbaker Pkwy	Analysis Year	2023		Analysis Period			1 > 7:00					
Intersection	Bluegrass Parkway at Bl...	File Name	2023_AM_NB.xus										
Project Description		2023 AM No Build											
Demand Information				EB		WB		NB		SB			
Approach Movement				L	T	R	L	T	R	L	T	R	
Demand (v), veh/h				342	104	31	79	205	304	133	1072	81	
											714	1243	773
Signal Information													
Cycle, s	150.0	Reference Phase	2										
Offset, s	0	Reference Point	End	Green	16.0	14.0	52.0	29.0	19.0	0.0	1	2	
Uncoordinated	No	Simult. Gap E/W	Off	Yellow	4.0	4.0	4.0	4.0	4.0	0.0	3	4	
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0	0.0	0.0	5	6	
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT		
Assigned Phase					4			8	5	2	1	6	
Case Number						10.0		9.0	2.0	4.0	2.0	3.0	
Phase Duration, s						23.0		33.0	20.0	56.0	38.0	74.0	
Change Period, (Y+R _c), s						4.0		4.0	4.0	4.0	4.0	4.0	
Max Allow Headway (MAH), s						3.1		3.2	3.1	0.0	3.1	0.0	
Queue Clearance Time (g _s), s						17.5		31.0	13.6		34.9		
Green Extension Time (g _e), s						0.2		0.0	0.1	0.0	0.0	0.0	
Phase Call Probability						1.00		1.00	1.00		1.00		
Max Out Probability						1.00		1.00	1.00		1.00		
Movement Group Results				EB		WB		NB		SB			
Approach Movement				L	T	R	L	T	R	L	T	R	
Assigned Movement				7	4	14	3	8	18	5	2	12	
Adjusted Flow Rate (v), veh/h				372	147		86	223	330	145	846	407	
Adjusted Saturation Flow Rate (s), veh/h/ln				1757	1825		1810	1900	1610	1810	1900	1829	
Queue Service Time (g _s), s				15.5	11.5		6.0	16.1	29.0	11.6	28.1	28.1	
Cycle Queue Clearance Time (g _c), s				15.5	11.5		6.0	16.1	29.0	11.6	28.1	28.1	
Green Ratio (g/C)				0.13	0.13		0.19	0.19	0.19	0.11	0.35	0.35	
Capacity (c), veh/h				445	231		350	367	311	193	1317	634	
Volume-to-Capacity Ratio (X)				0.835	0.635		0.245	0.607	1.061	0.749	0.642	0.643	
Back of Queue (Q), ft/ln (95 th percentile)													
Back of Queue (Q), veh/ln (95 th percentile)				12.6	10.2		5.2	13.2	25.4	10.8	19.6	19.5	
Queue Storage Ratio (RQ) (95 th percentile)				0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	
Uniform Delay (d ₁), s/veh				64.0	62.2		51.2	55.3	60.5	65.1	41.2	41.2	
Incremental Delay (d ₂), s/veh				16.7	12.6		1.7	7.3	68.2	23.1	2.4	5.0	
Initial Queue Delay (d ₃), s/veh				0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Control Delay (d), s/veh				80.7	74.8		52.9	62.5	128.7	88.2	43.6	46.1	
Level of Service (LOS)				F	E		D	E	F	F	D	D	
Approach Delay, s/veh / LOS				79.0	E		95.4	F		48.9	D		
Intersection Delay, s/veh / LOS						57.6				E			
Multimodal Results				EB		WB		NB		SB			
Pedestrian LOS Score / LOS				2.47	B		2.76	C		2.30	B		
Bicycle LOS Score / LOS				1.34	A		1.54	B		1.26	A		

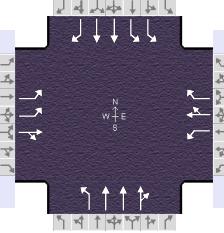
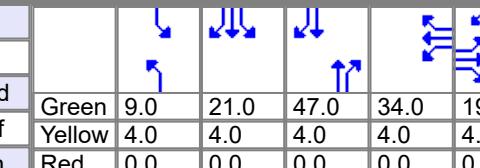
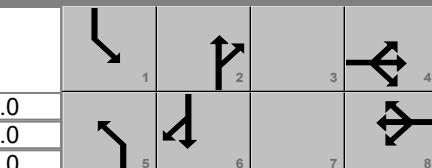
HCS Signalized Intersection Results Summary

General Information									Intersection Information				
Agency					Duration, h			0.250					
Analyst		Analysis Date		2/20/2023	Area Type			Other					
Jurisdiction		Time Period		PHF	0.92								
Urban Street	Blankenbaker Pkwy	Analysis Year	2023		Analysis Period			1 > 7:00					
Intersection	Bluegrass Parkway at Bl...	File Name	2023_AM_PostBuild.xus										
Project Description		2023 AM Post Build											
Demand Information				EB		WB		NB		SB			
Approach Movement				L	T	R	L	T	R	L	T	R	
Demand (v), veh/h				342	115	31	81	209	310	133	1072	90	
											791	1243	
											773		
Signal Information													
Cycle, s	150.0	Reference Phase	2										
Offset, s	0	Reference Point	End	Green	13.0	22.0	47.0	30.0	18.0	0.0	1	2	
Uncoordinated	No	Simult. Gap E/W	Off	Yellow	4.0	4.0	4.0	4.0	4.0	0.0	3	4	
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0	0.0	0.0	5	6	
Timer Results				EBL		EBT		WBL		WBT			
Assigned Phase						4				8			
Case Number						10.0				9.0			
Phase Duration, s						22.0				34.0			
Change Period, (Y+R _c), s						4.0				4.0			
Max Allow Headway (MAH), s						3.1				3.2			
Queue Clearance Time (g _s), s						17.6				32.0			
Green Extension Time (g _e), s						0.1				0.0			
Phase Call Probability						1.00				1.00			
Max Out Probability						1.00				1.00			
Movement Group Results				EB		WB		NB		SB			
Approach Movement				L	T	R	L	T	R	L	T	R	
Assigned Movement				7	4	14	3	8	18	5	2	12	
Adjusted Flow Rate (v), veh/h				372	159		88	227	337	145	854	409	
Adjusted Saturation Flow Rate (s), veh/h/ln				1757	1830		1810	1900	1610	1810	1900	1822	
Queue Service Time (g _s), s				15.6	12.5		6.1	16.3	30.0	11.9	29.8	29.9	
Cycle Queue Clearance Time (g _c), s				15.6	12.5		6.1	16.3	30.0	11.9	29.8	29.9	
Green Ratio (g/C)				0.12	0.12		0.20	0.20	0.20	0.09	0.31	0.31	
Capacity (c), veh/h				422	220		362	380	322	157	1191	571	
Volume-to-Capacity Ratio (X)				0.882	0.723		0.243	0.598	1.046	0.922	0.717	0.717	
Back of Queue (Q), ft/ln (95 th percentile)													
Back of Queue (Q), veh/ln (95 th percentile)				13.0	11.3		5.3	13.3	25.3	12.4	20.9	20.9	
Queue Storage Ratio (RQ) (95 th percentile)				0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	
Uniform Delay (d ₁), s/veh				65.0	63.6		50.5	54.5	60.0	68.0	45.6	45.6	
Incremental Delay (d ₂), s/veh				22.4	18.6		1.6	6.8	62.8	53.6	3.7	7.6	
Initial Queue Delay (d ₃), s/veh				0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Control Delay (d), s/veh				87.3	82.2		52.0	61.3	122.8	121.6	49.3	53.2	
Level of Service (LOS)				F	F		D	E	F	F	D	D	
Approach Delay, s/veh / LOS				85.8	F		91.8	F		57.9	E	45.3	
Intersection Delay, s/veh / LOS							57.6				E		
Multimodal Results				EB		WB		NB		SB			
Pedestrian LOS Score / LOS				2.47	B		2.76	C		2.30	B	2.11	
Bicycle LOS Score / LOS				1.36	A		1.56	B		1.26	A	3.00	

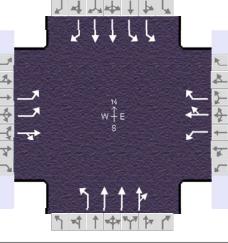
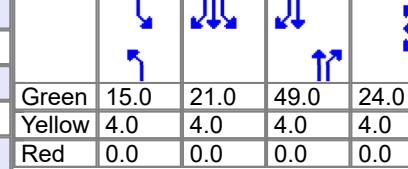
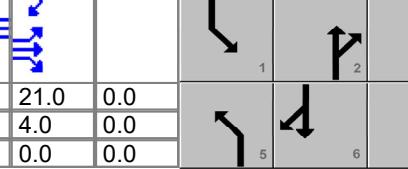
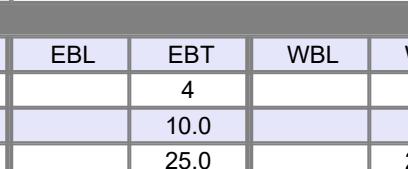
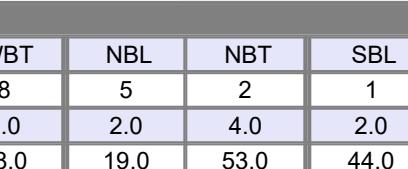
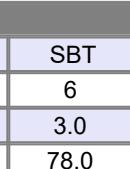
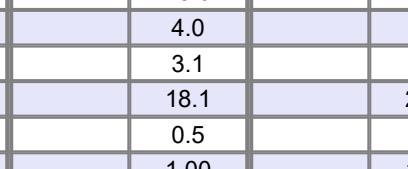
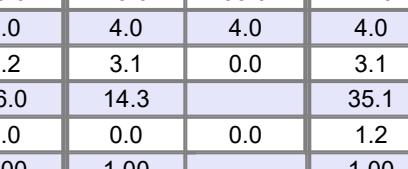
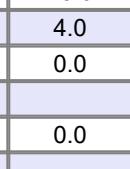
HCS Signalized Intersection Results Summary

General Information									Intersection Information				
Agency					Duration, h			0.250					
Analyst		Analysis Date		2/20/2023	Area Type			Other					
Jurisdiction		Time Period		PHF	0.92								
Urban Street	Blankenbaker Pkwy	Analysis Year	2023		Analysis Period			1 > 7:00					
Intersection	Bluegrass Parkway at Bl...	File Name	2023_PM_NB.xus										
Project Description		2023 PM No Build											
Demand Information				EB		WB		NB		SB			
Approach Movement				L	T	R	L	T	R	L	T	R	
Demand (v), veh/h				59	239	135	114	122	590	78	1404	134	
Signal Information													
Cycle, s	170.0	Reference Phase	2										
Offset, s	0	Reference Point	End	Green	14.0	7.0	64.0	39.0	26.0	0.0			
Uncoordinated	No	Simult. Gap E/W	Off	Yellow	4.0	4.0	4.0	4.0	4.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0	0.0	0.0			
Timer Results				EBL		EBT		WBL		WBT			
Assigned Phase						4				8		5	
Case Number						10.0				2.0		4.0	
Phase Duration, s						30.0		43.0		18.0		68.0	
Change Period, (Y+R _c), s						4.0		4.0		4.0		4.0	
Max Allow Headway (MAH), s						3.1		3.3		3.1		0.0	
Queue Clearance Time (g _s), s						28.0		41.0		9.7		27.0	
Green Extension Time (g _e), s						0.0		0.0		0.0		0.0	
Phase Call Probability						1.00		1.00		1.00		1.00	
Max Out Probability						1.00		1.00		0.18		1.00	
Movement Group Results				EB		WB		NB		SB			
Approach Movement				L	T	R	L	T	R	L	T	R	
Assigned Movement				7	4	14	3	8	18	5	2	12	
Adjusted Flow Rate (v), veh/h				64	407		124	133	641	85	1132	540	
Adjusted Saturation Flow Rate (s), veh/h/ln				1757	1784		1810	1900	1610	1810	1900	1812	
Queue Service Time (g _s), s				2.7	26.0		9.6	9.8	39.0	7.7	45.0	45.0	
Cycle Queue Clearance Time (g _c), s				2.7	26.0		9.6	9.8	39.0	7.7	45.0	45.0	
Green Ratio (g/C)				0.15	0.15		0.23	0.23	0.23	0.08	0.38	0.38	
Capacity (c), veh/h				537	273		415	436	369	149	1431	682	
Volume-to-Capacity Ratio (X)				0.119	1.490		0.298	0.304	1.736	0.569	0.791	0.792	
Back of Queue (Q), ft/ln (95 th percentile)													
Back of Queue (Q), veh/ln (95 th percentile)				2.2	45.8		8.2	8.6	79.2	7.5	29.8	29.7	
Queue Storage Ratio (RQ) (95 th percentile)				0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	
Uniform Delay (d ₁), s/veh				62.1	72.0		54.2	54.3	65.5	75.1	47.1	47.1	
Incremental Delay (d ₂), s/veh				0.5	238.9		1.8	1.8	342.4	14.8	4.5	9.1	
Initial Queue Delay (d ₃), s/veh				0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Control Delay (d), s/veh				62.6	310.9		56.0	56.1	407.9	89.9	51.6	56.2	
Level of Service (LOS)				E	F		E	E	F	F	D	E	
Approach Delay, s/veh / LOS				277.1	F		307.3	F		54.9	D	61.0	
Intersection Delay, s/veh / LOS						117.6				F			
Multimodal Results				EB		WB		NB		SB			
Pedestrian LOS Score / LOS				2.48	B		2.76	C		2.30	B	2.12	
Bicycle LOS Score / LOS				1.26	A		1.97	B		1.45	A	2.46	

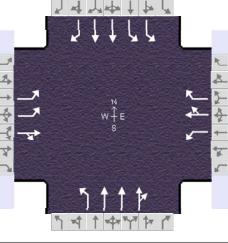
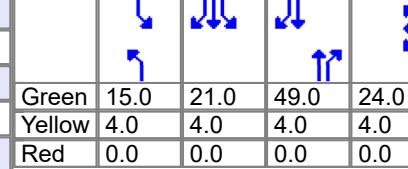
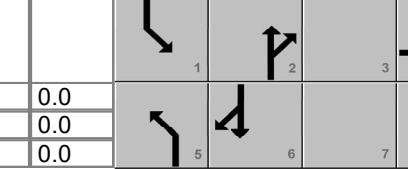
HCS Signalized Intersection Results Summary

General Information									Intersection Information									
Agency								Duration, h		0.250								
Analyst		Analysis Date			2/20/2023			Area Type		Other								
Jurisdiction		Time Period			PHF			0.92										
Urban Street	Blankenbaker Pkwy		Analysis Year		2023		Analysis Period		1 > 7:00									
Intersection		File Name			2023_PM_PostBuild.xus													
Project Description		2023 PM Post Build																
Demand Information				EB		WB		NB		SB								
Approach Movement				L	T	R	L	T	R	L	T	R						
Demand (v), veh/h				59	242	135	123	147	626	78	1404	136						
Signal Information																		
Cycle, s	150.0	Reference Phase			2													
Offset, s	0	Reference Point			End													
Uncoordinated	No	Simult. Gap E/W			Off													
Force Mode	Fixed	Simult. Gap N/S			On													
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT							
Assigned Phase						4			8	5	2	1	6					
Case Number						10.0			9.0	2.0	4.0	2.0	3.0					
Phase Duration, s						23.0			38.0	13.0	51.0	38.0	76.0					
Change Period, (Y+R _c), s						4.0			4.0	4.0	4.0	4.0	4.0					
Max Allow Headway (MAH), s						3.1			3.3	3.1	0.0	3.1	0.0					
Queue Clearance Time (g _s), s						21.0			36.0	8.9	24.1							
Green Extension Time (g _e), s						0.0			0.0	0.0	0.0	1.1	0.0					
Phase Call Probability						1.00			1.00	1.00	1.00							
Max Out Probability						1.00			1.00	1.00	0.02							
Movement Group Results				EB		WB		NB		SB								
Approach Movement				L	T	R	L	T	R	L	T	R						
Assigned Movement				7	4	14	3	8	18	5	2	12	1	6	16			
Adjusted Flow Rate (v), veh/h				64	410			134	160	680	85	1133	541	563	1365	477		
Adjusted Saturation Flow Rate (s), veh/h/ln				1757	1785			1810	1900	1610	1810	1900	1811	1757	1809	1610		
Queue Service Time (g _s), s				2.4	19.0			9.3	10.7	34.0	6.9	43.8	43.8	22.1	47.3	24.8		
Cycle Queue Clearance Time (g _c), s				2.4	19.0			9.3	10.7	34.0	6.9	43.8	43.8	22.1	47.3	24.8		
Green Ratio (g/C)				0.13	0.13			0.23	0.23	0.23	0.06	0.31	0.31	0.23	0.48	0.61		
Capacity (c), veh/h				445	226			410	431	365	109	1191	567	797	1736	977		
Volume-to-Capacity Ratio (X)				0.144	1.812			0.326	0.371	1.864	0.781	0.952	0.953	0.707	0.786	0.488		
Back of Queue (Q), ft/ln (95 th percentile)																		
Back of Queue (Q), veh/ln (95 th percentile)				2.0	51.0			7.9	9.2	84.8	7.9	31.3	32.1	15.6	28.8	19.0		
Queue Storage Ratio (RQ) (95 th percentile)				0.00	0.00			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Uniform Delay (d ₁), s/veh				58.3	65.5			48.4	49.0	58.0	69.5	50.4	50.4	53.4	32.6	16.5		
Incremental Delay (d ₂), s/veh				0.7	382.5			2.1	2.4	399.3	41.6	16.8	27.8	5.2	3.7	1.7		
Initial Queue Delay (d ₃), s/veh				0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Control Delay (d), s/veh				58.9	448.0			50.5	51.4	457.3	111.1	67.2	78.2	58.7	36.2	18.2		
Level of Service (LOS)				E	F			D	D	F	F	E	E	E	D	B		
Approach Delay, s/veh / LOS				395.4	F			334.9	F			72.7	E	37.9		D		
Intersection Delay, s/veh / LOS				130.5						F								
Multimodal Results				EB		WB		NB		SB								
Pedestrian LOS Score / LOS				2.47	B	2.76	C	2.30	B	2.11	B							
Bicycle LOS Score / LOS				1.27	A	2.09	B	1.45	A	2.47	B							

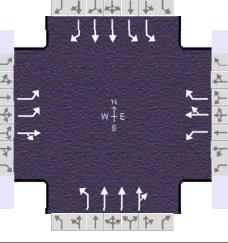
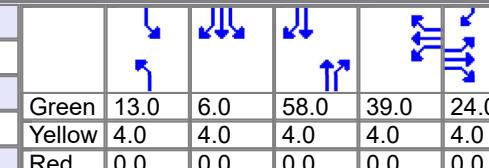
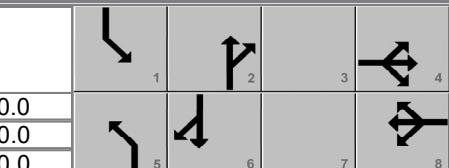
HCS Signalized Intersection Results Summary

General Information						Intersection Information							
Agency						Duration, h	0.250						
Analyst				Analysis Date	2/20/2023		Area Type		Other				
Jurisdiction				Time Period			PHF		0.92				
Urban Street	Blankenbaker Pkwy			Analysis Year	2023		Analysis Period		1 > 7:00				
Intersection	Bluegrass Parkway at Bl...			File Name	2033_AM_NB-2.xus								
Project Description	2033 AM No Build												
Demand Information				EB		WB		NB		SB			
Approach Movement				L	T	R	L	T	R	L	T	R	
Demand (v), veh/h				359	109	33	82	213	316	139	1126	85	
Signal Information													
Cycle, s	150.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	Off										
Force Mode	Fixed	Simult. Gap N/S	On										
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT		
Assigned Phase					4			8	5	2	1	6	
Case Number					10.0			9.0	2.0	4.0	2.0	3.0	
Phase Duration, s					25.0			28.0	19.0	53.0	44.0	78.0	
Change Period, (Y+R _c), s					4.0			4.0	4.0	4.0	4.0	4.0	
Max Allow Headway (MAH), s					3.1			3.2	3.1	0.0	3.1	0.0	
Queue Clearance Time (g _s), s					18.1			26.0	14.3		35.1		
Green Extension Time (g _e), s					0.5			0.0	0.0	0.0	1.2	0.0	
Phase Call Probability					1.00			1.00	1.00		1.00		
Max Out Probability					1.00			1.00	1.00		0.45		
Movement Group Results				EB		WB		NB		SB			
Approach Movement				L	T	R	L	T	R	L	T	R	
Assigned Movement				7	4	14	3	8	18	5	2	12	
Adjusted Flow Rate (v), veh/h				390	154		89	232	343	151	889	428	
Adjusted Saturation Flow Rate (s), veh/h/ln				1757	1824		1810	1900	1610	1810	1900	1829	
Queue Service Time (g _s), s				16.1	11.9		6.5	17.5	24.0	12.3	30.8	30.8	
Cycle Queue Clearance Time (g _c), s				16.1	11.9		6.5	17.5	24.0	12.3	30.8	30.8	
Green Ratio (g/C)				0.14	0.14		0.16	0.16	0.16	0.10	0.33	0.33	
Capacity (c), veh/h				492	255		290	304	258	181	1241	597	
Volume-to-Capacity Ratio (X)				0.793	0.605		0.308	0.762	1.333	0.835	0.716	0.716	
Back of Queue (Q), ft/ln (95 th percentile)													
Back of Queue (Q), veh/ln (95 th percentile)				12.7	10.3		5.8	14.9	34.0	11.9	21.4	21.5	
Queue Storage Ratio (RQ) (95 th percentile)				0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	
Uniform Delay (d ₁), s/veh				62.4	60.6		55.7	60.3	63.0	66.3	44.4	44.4	
Incremental Delay (d ₂), s/veh				12.4	10.2		2.7	16.4	174.0	34.4	3.6	7.2	
Initial Queue Delay (d ₃), s/veh				0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Control Delay (d), s/veh				74.8	70.8		58.4	76.7	237.0	100.7	47.9	51.6	
Level of Service (LOS)				E	E		E	E	F	F	D	D	
Approach Delay, s/veh / LOS				73.7	E		157.2	F		54.4	D		
Intersection Delay, s/veh / LOS							61.2				E		
Multimodal Results				EB		WB		NB		SB			
Pedestrian LOS Score / LOS				2.47	B		2.76	C		2.30	B		
Bicycle LOS Score / LOS				1.39	A		1.58	B		1.29	A		

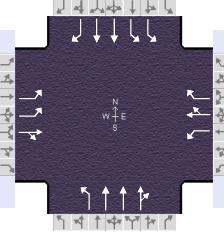
HCS Signalized Intersection Results Summary

General Information						Intersection Information												
Agency					Duration, h		0.250											
Analyst		Analysis Date		2/20/2023		Area Type		Other										
Jurisdiction		Time Period		PHF		0.92												
Urban Street	Blankenbaker Pkwy		Analysis Year	2023		Analysis Period		1 > 7:00										
Intersection	Bluegrass Parkway at Bl...			File Name		2033_AM_PostBuild.xus												
Project Description		2033 AM Post Build																
Demand Information				EB		WB		NB		SB								
Approach Movement				L	T	R	L	T	R	L	T	R						
Demand (v), veh/h				359	120	33	84	217	322	139	1126	94						
Signal Information																		
Cycle, s	150.0	Reference Phase	2															
Offset, s	0	Reference Point	End	Green	15.0	21.0	49.0	24.0	21.0	0.0								
Uncoordinated	No	Simult. Gap E/W	Off	Yellow	4.0	4.0	4.0	4.0	4.0	0.0								
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0	0.0	0.0								
Timer Results				EBL		EBT		WBL		WBT								
Assigned Phase						4		8		5								
Case Number						10.0		9.0		2.0								
Phase Duration, s						25.0		28.0		19.0								
Change Period, (Y+R _c), s						4.0		4.0		4.0								
Max Allow Headway (MAH), s						3.1		3.2		3.1								
Queue Clearance Time (g _s), s						18.1		26.0		14.3								
Green Extension Time (g _e), s						0.5		0.0		0.0								
Phase Call Probability						1.00		1.00		1.00								
Max Out Probability						1.00		1.00		1.00								
Movement Group Results				EB		WB		NB		SB								
Approach Movement				L	T	R	L	T	R	L	T	R						
Assigned Movement				7	4	14	3	8	18	5	2	12						
Adjusted Flow Rate (v), veh/h				390	166		91	236	350	151	896	430						
Adjusted Saturation Flow Rate (s), veh/h/ln				1757	1829		1810	1900	1610	1810	1900	1822						
Queue Service Time (g _s), s				16.1	12.9		6.7	17.9	24.0	12.3	31.2	31.2						
Cycle Queue Clearance Time (g _c), s				16.1	12.9		6.7	17.9	24.0	12.3	31.2	31.2						
Green Ratio (g/C)				0.14	0.14		0.16	0.16	0.16	0.10	0.33	0.33						
Capacity (c), veh/h				492	256		290	304	258	181	1241	595						
Volume-to-Capacity Ratio (X)				0.793	0.649		0.315	0.776	1.359	0.835	0.722	0.722						
Back of Queue (Q), ft/ln (95 th percentile)																		
Back of Queue (Q), veh/ln (95 th percentile)				12.7	11.1		5.9	15.3	35.2	11.9	21.7	21.7						
Queue Storage Ratio (RQ) (95 th percentile)				0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00						
Uniform Delay (d ₁), s/veh				62.4	61.0		55.7	60.4	63.0	66.3	44.5	44.5						
Incremental Delay (d ₂), s/veh				12.4	12.1		2.8	17.5	184.5	34.4	3.7	7.4						
Initial Queue Delay (d ₃), s/veh				0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0						
Control Delay (d), s/veh				74.8	73.1		58.6	77.9	247.5	100.7	48.2	51.9						
Level of Service (LOS)				E	E		E	E	F	F	D	D						
Approach Delay, s/veh / LOS				74.3	E		162.9	F		54.6	D							
Intersection Delay, s/veh / LOS							64.0				E							
Multimodal Results				EB		WB		NB		SB								
Pedestrian LOS Score / LOS				2.47	B		2.76	C		2.30	B							
Bicycle LOS Score / LOS				1.41	A		1.60	B		1.30	A							

HCS Signalized Intersection Results Summary

General Information						Intersection Information													
Agency					Duration, h		0.250												
Analyst		Analysis Date		2/20/2023		Area Type		Other											
Jurisdiction		Time Period		PHF		0.92													
Urban Street	Blankenbaker Pkwy		Analysis Year	2023		Analysis Period		1 > 7:00											
Intersection	Bluegrass Parkway at Bl...			File Name		2033_PM_NB-2.xus													
Project Description		2033 PM Post Build																	
Demand Information				EB		WB		NB		SB									
Approach Movement				L	T	R	L	T	R	L	T	R							
Demand (v), veh/h				62	250	141	119	128	618	82	1474	140							
Signal Information																			
Cycle, s	160.0	Reference Phase	2				1	2	3	4									
Offset, s	0	Reference Point	End	Green	13.0	6.0	58.0	39.0	24.0	0.0									
Uncoordinated	No	Simult. Gap E/W	Off	Yellow	4.0	4.0	4.0	4.0	4.0	0.0									
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0	0.0	0.0									
Timer Results				EBL		EBT		WBL		WBT		NBL		NBT		SBL		SBT	
Assigned Phase						4				8		5		2		1		6	
Case Number						10.0				9.0		2.0		4.0		2.0		3.0	
Phase Duration, s						28.0				43.0		17.0		62.0		27.0		72.0	
Change Period, (Y+R _c), s						4.0				4.0		4.0		4.0		4.0		4.0	
Max Allow Headway (MAH), s						3.1				3.3		3.1		0.0		3.1		0.0	
Queue Clearance Time (g _s), s						26.0				41.0		9.6				25.0			
Green Extension Time (g _e), s						0.0				0.0		0.0		0.0		0.0		0.0	
Phase Call Probability						1.00				1.00		1.00				1.00			
Max Out Probability						1.00				1.00		0.69				1.00			
Movement Group Results				EB			WB			NB			SB						
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	
Assigned Movement				7	4	14	3	8	18	5	2	12	1	6	16				
Adjusted Flow Rate (v), veh/h				67	425		129	139	672	89	1187	567	568	1434	501				
Adjusted Saturation Flow Rate (s), veh/h/ln				1757	1784		1810	1900	1610	1810	1900	1812	1757	1809	1610				
Queue Service Time (g _s), s				2.7	24.0		9.3	9.6	39.0	7.6	46.3	46.5	23.0	60.4	30.7				
Cycle Queue Clearance Time (g _c), s				2.7	24.0		9.3	9.6	39.0	7.6	46.3	46.5	23.0	60.4	30.7				
Green Ratio (g/C)				0.15	0.15		0.24	0.24	0.24	0.08	0.36	0.36	0.14	0.42	0.58				
Capacity (c), veh/h				527	268		441	463	392	147	1378	657	505	1537	926				
Volume-to-Capacity Ratio (X)				0.128	1.588		0.293	0.300	1.712	0.606	0.862	0.863	1.125	0.932	0.541				
Back of Queue (Q), ft/ln (95 th percentile)																			
Back of Queue (Q), veh/ln (95 th percentile)				2.2	49.1		7.9	8.4	80.4	7.6	31.1	31.3	23.6	38.0	23.7				
Queue Storage Ratio (RQ) (95 th percentile)				0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Uniform Delay (d ₁), s/veh				58.9	68.0		49.3	49.4	60.5	71.0	47.3	47.3	68.5	43.8	21.0				
Incremental Delay (d ₂), s/veh				0.5	281.7		1.7	1.7	330.9	17.2	7.3	14.1	79.2	11.7	2.3				
Initial Queue Delay (d ₃), s/veh				0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Control Delay (d), s/veh				59.4	349.7		51.0	51.0	391.4	88.2	54.6	61.4	147.7	55.5	23.2				
Level of Service (LOS)				E	F		D	D	F	F	D	E	F	E	C				
Approach Delay, s/veh / LOS				309.9	F		294.2	F		58.3	E		70.0	E					
Intersection Delay, s/veh / LOS							123.2						F						
Multimodal Results				EB			WB			NB			SB						
Pedestrian LOS Score / LOS				2.47	B		2.76	C		2.30	B		2.12	B					
Bicycle LOS Score / LOS				1.30	A		2.04	B		1.50	B		2.55	C					

HCS Signalized Intersection Results Summary

General Information								Intersection Information									
Agency					Duration, h			0.250									
Analyst		Analysis Date		2/20/2023		Area Type			Other								
Jurisdiction		Time Period			PHF			0.92									
Urban Street	Blankenbaker Pkwy		Analysis Year	2023		Analysis Period			1 > 7:00								
Intersection	Bluegrass Parkway at Bl...			File Name	2033_PM_PostBuild.xus												
Project Description	2033 PM Post Build																
Demand Information				EB		WB		NB		SB							
Approach Movement				L	T	R	L	T	R	L	T	R					
Demand (v), veh/h				59	218	134	108	116	559	78	1397	122					
				456	1250	437											
Signal Information																	
Cycle, s	160.0	Reference Phase	2														
Offset, s	0	Reference Point	End	Green	13.0	6.0	58.0	39.0	24.0	0.0							
Uncoordinated	No	Simult. Gap E/W	Off	Yellow	4.0	4.0	4.0	4.0	4.0	0.0							
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0	0.0	0.0							
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT						
Assigned Phase						4			5		2	1	6				
Case Number						10.0			9.0		2.0	4.0	2.0				
Phase Duration, s						28.0			43.0		17.0	62.0	27.0				
Change Period, (Y+R _c), s						4.0			4.0		4.0	4.0	4.0				
Max Allow Headway (MAH), s						3.2			3.3		3.1	0.0	3.1				
Queue Clearance Time (g _s), s						26.0			41.0		9.2		24.5				
Green Extension Time (g _e), s						0.0			0.0		0.0		0.0				
Phase Call Probability						1.00			1.00		1.00		1.00				
Max Out Probability						1.00			1.00		0.40		1.00				
Movement Group Results				EB		WB		NB		SB							
Approach Movement				L	T	R	L	T	R	L	T	R					
Assigned Movement				7	4	14	3	8	18	5	2	12					
Adjusted Flow Rate (v), veh/h				64	383		117	126	608	85	1116	535					
Adjusted Saturation Flow Rate (s), veh/h/ln				1757	1778		1810	1900	1610	1810	1900	1819					
Queue Service Time (g _s), s				2.5	24.0		8.4	8.6	39.0	7.2	42.4	42.5					
Cycle Queue Clearance Time (g _c), s				2.5	24.0		8.4	8.6	39.0	7.2	42.4	42.5					
Green Ratio (g/C)				0.15	0.15		0.24	0.24	0.24	0.08	0.36	0.36					
Capacity (c), veh/h				527	267		441	463	392	147	1378	659					
Volume-to-Capacity Ratio (X)				0.122	1.434		0.266	0.272	1.548	0.577	0.810	0.811					
Back of Queue (Q), ft/ln (95 th percentile)																	
Back of Queue (Q), veh/ln (95 th percentile)				2.1	41.0		7.2	7.7	67.4	7.2	28.4	28.5					
Queue Storage Ratio (RQ) (95 th percentile)				0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00					
Uniform Delay (d ₁), s/veh				58.9	68.0		48.9	49.0	60.5	70.8	46.0	46.1					
Incremental Delay (d ₂), s/veh				0.5	215.7		1.5	1.4	259.0	15.4	5.3	10.4					
Initial Queue Delay (d ₃), s/veh				0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0					
Control Delay (d), s/veh				59.3	283.7		50.4	50.5	319.5	86.3	51.3	56.5					
Level of Service (LOS)				E	F		D	D	F	F	D	C					
Approach Delay, s/veh / LOS				251.5	F		242.5	F		54.6	D	55.9					
Intersection Delay, s/veh / LOS						101.4					F						
Multimodal Results				EB		WB		NB		SB							
Pedestrian LOS Score / LOS				2.47	B	2.76	C	2.30	B	2.12	B						
Bicycle LOS Score / LOS				1.22	A	1.89	B	1.44	A	2.41	B						

HCS Two-Way Stop-Control Report

General Information				Site Information																														
Analyst	AJK			Intersection				BG Parkway at Tucker Station																										
Agency/Co.	AKE			Jurisdiction				Jefferson County																										
Date Performed	1/11/2023			East/West Street				BG Parkway																										
Analysis Year	2023			North/South Street				Tucker Station																										
Time Analyzed	2033 AM No Build			Peak Hour Factor				0.92																										
Intersection Orientation	East-West				Analysis Time Period (hrs)				0.25																									
Project Description	Xebec Industrial																																	
Lanes																																		
 																																		
Vehicle Volumes and Adjustments																																		
Approach	Eastbound				Westbound				Northbound				Southbound																					
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																		
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12																		
Number of Lanes	0	1	1	1	0	1	1	0	0	1	1	1	0	1	0	0																		
Configuration		L	T	R		L		TR		LT		R			LTR																			
Volume (veh/h)		79	170	134		100	393	17		66	22	92		4	7	6																		
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3																		
Proportion Time Blocked																																		
Percent Grade (%)										0				0																				
Right Turn Channelized	No								No																									
Median Type Storage	Undivided																																	
Critical and Follow-up Headways																																		
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2																		
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23																		
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3																		
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33																		
Delay, Queue Length, and Level of Service																																		
Flow Rate, v (veh/h)		86				109				96			100			18																		
Capacity, c (veh/h)		1109				1223				180			855			211																		
v/c Ratio		0.08				0.09				0.53			0.12			0.09																		
95% Queue Length, Q ₉₅ (veh)		0.3				0.3				2.7			0.4			0.3																		
Control Delay (s/veh)		8.5				8.2				45.5			9.8			23.7																		
Level of Service (LOS)		A				A				E			A			C																		
Approach Delay (s/veh)	1.8				1.6				27.2				23.7																					
Approach LOS	A				A				D				C																					

HCS Two-Way Stop-Control Report

General Information				Site Information																																								
Analyst	AJK			Intersection				BG Parkway at Tucker Station																																				
Agency/Co.	AKE			Jurisdiction				Jefferson County																																				
Date Performed	1/11/2023			East/West Street				BG Parkway																																				
Analysis Year	2023			North/South Street				Tucker Station																																				
Time Analyzed	2033 AM Build				Peak Hour Factor				0.92																																			
Intersection Orientation	East-West				Analysis Time Period (hrs)				0.25																																			
Project Description	Xebec Industrial																																											
Lanes																																												
 																																												
Vehicle Volumes and Adjustments																																												
Approach	Eastbound				Westbound				Northbound				Southbound																															
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																												
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12																												
Number of Lanes	0	1	1	1	0	1	1	0	0	1	1	1	0	1	0	0																												
Configuration		L	T	R		L		TR		LT		R			LTR																													
Volume (veh/h)		79	256	134		103	405	18		66	22	128		8	7	6																												
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3																												
Proportion Time Blocked																																												
Percent Grade (%)										0				0																														
Right Turn Channelized	No								No																																			
Median Type Storage	Undivided																																											
Critical and Follow-up Headways																																												
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2																												
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23																												
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3																												
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33																												
Delay, Queue Length, and Level of Service																																												
Flow Rate, v (veh/h)		86				112				96		139			23																													
Capacity, c (veh/h)		1096				1130				149		758			155																													
v/c Ratio		0.08				0.10				0.64		0.18			0.15																													
95% Queue Length, Q ₉₅ (veh)		0.3				0.3				3.5		0.7			0.5																													
Control Delay (s/veh)		8.6				8.5				64.6		10.8			32.2																													
Level of Service (LOS)		A				A				F		B			D																													
Approach Delay (s/veh)	1.4				1.7				32.7				32.2																															
Approach LOS	A				A				D				D																															

HCS Two-Way Stop-Control Report

General Information				Site Information																																								
Analyst	AJK			Intersection				BG Parkway at Tucker Station																																				
Agency/Co.	AKE			Jurisdiction				Jefferson County																																				
Date Performed	1/11/2023			East/West Street				BG Parkway																																				
Analysis Year	2023			North/South Street				Tucker Station																																				
Time Analyzed	2033 PM No Build				Peak Hour Factor				0.92																																			
Intersection Orientation	East-West				Analysis Time Period (hrs)				0.25																																			
Project Description	Xebec Industrial																																											
Lanes																																												
 																																												
Vehicle Volumes and Adjustments																																												
Approach	Eastbound				Westbound				Northbound				Southbound																															
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																												
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12																												
Number of Lanes	0	1	1	1	0	1	1	0	0	1	1	1	0	1	0	0																												
Configuration		L	T	R		L		TR		LT		R			LTR																													
Volume (veh/h)		17	498	97		132	216	15		119	20	198		19	28	77																												
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3																												
Proportion Time Blocked																																												
Percent Grade (%)										0				0																														
Right Turn Channelized	No								No																																			
Median Type Storage	Undivided																																											
Critical and Follow-up Headways																																												
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2																												
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23																												
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3																												
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33																												
Delay, Queue Length, and Level of Service																																												
Flow Rate, v (veh/h)		18				143				151		215			135																													
Capacity, c (veh/h)		1309				934				119		539			241																													
v/c Ratio		0.01				0.15				1.26		0.40			0.56																													
95% Queue Length, Q ₉₅ (veh)		0.0				0.5				9.8		1.9			3.1																													
Control Delay (s/veh)		7.8				9.6				238.5		16.1			37.4																													
Level of Service (LOS)		A				A				F		C			E																													
Approach Delay (s/veh)	0.2				3.5				107.8				37.4																															
Approach LOS	A				A				F				E																															

HCS Two-Way Stop-Control Report

General Information				Site Information																																								
Analyst	AJK			Intersection				BG Parkway at Tucker Station																																				
Agency/Co.	AKE			Jurisdiction				Jefferson County																																				
Date Performed	1/11/2023			East/West Street				BG Parkway																																				
Analysis Year	2023			North/South Street				Tucker Station																																				
Time Analyzed	2023 PM Build				Peak Hour Factor				0.92																																			
Intersection Orientation	East-West				Analysis Time Period (hrs)				0.25																																			
Project Description	Xebec Industrial																																											
Lanes																																												
 																																												
Vehicle Volumes and Adjustments																																												
Approach	Eastbound				Westbound				Northbound				Southbound																															
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																												
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12																												
Number of Lanes	0	1	1	1	0	1	1	0	0	1	1	1	0	1	0	0																												
Configuration		L	T	R		L		TR		LT		R			LTR																													
Volume (veh/h)		17	518	97		150	288	18		119	20	207		20	28	77																												
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3																												
Proportion Time Blocked																																												
Percent Grade (%)										0				0																														
Right Turn Channelized	No								No																																			
Median Type Storage	Undivided																																											
Critical and Follow-up Headways																																												
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2																												
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23																												
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3																												
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33																												
Delay, Queue Length, and Level of Service																																												
Flow Rate, v (veh/h)		18				163				151		225			136																													
Capacity, c (veh/h)		1221				917				88		524			184																													
v/c Ratio		0.02				0.18				1.72		0.43			0.74																													
95% Queue Length, Q ₉₅ (veh)		0.0				0.6				12.4		2.1			4.7																													
Control Delay (s/veh)		8.0				9.8				447.0		16.9			65.7																													
Level of Service (LOS)		A				A				F		C			F																													
Approach Delay (s/veh)	0.2				3.2				189.7				65.7																															
Approach LOS	A				A				F				F																															

HCS Two-Way Stop-Control Report

General Information				Site Information																																						
Analyst	AJK			Intersection				BG Parkway at Tucker Station																																		
Agency/Co.	AKE			Jurisdiction				Jefferson County																																		
Date Performed	1/11/2023			East/West Street				BG Parkway																																		
Analysis Year	2023			North/South Street				Tucker Station																																		
Time Analyzed	2033 AM No Build			Peak Hour Factor				0.92																																		
Intersection Orientation	East-West			Analysis Time Period (hrs)				0.25																																		
Project Description	Xebec Industrial																																									
Lanes																																										
 Major Street: East-West																																										
Vehicle Volumes and Adjustments																																										
Approach	Eastbound				Westbound				Northbound				Southbound																													
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																										
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12																										
Number of Lanes	0	1	1	1	0	1	1	0	0	1	1	1	0	1	0																											
Configuration		L	T	R		L		TR		LT		R		LTR																												
Volume (veh/h)		83	179	141		106	415	18		70	23	97		4	7	6																										
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3																										
Proportion Time Blocked																																										
Percent Grade (%)													0		0																											
Right Turn Channelized	No												No																													
Median Type Storage	Undivided																																									
Critical and Follow-up Headways																																										
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2																										
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23																										
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3																										
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33																										
Delay, Queue Length, and Level of Service																																										
Flow Rate, v (veh/h)		90				115				101		105		18																												
Capacity, c (veh/h)		1086				1206				163		844		191																												
v/c Ratio		0.08				0.10				0.62		0.12		0.10																												
95% Queue Length, Q ₉₅ (veh)		0.3				0.3				3.4		0.4		0.3																												
Control Delay (s/veh)		8.6				8.3				57.7		9.9		25.9																												
Level of Service (LOS)		A				A				F		A		D																												
Approach Delay (s/veh)	1.8				1.6				33.3				25.9																													
Approach LOS	A				A				D				D																													

HCS Two-Way Stop-Control Report

General Information				Site Information																																						
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Agency/Co.	AKE			Jurisdiction				Jefferson County																																		
Date Performed	1/11/2023			East/West Street				BG Parkway																																		
Analysis Year	2023			North/South Street				Tucker Station																																		
Time Analyzed	2033 AM Build			Peak Hour Factor				0.92																																		
Intersection Orientation	East-West			Analysis Time Period (hrs)				0.25																																		
Project Description	Xebec Industrial																																									
Lanes																																										
   <p style="text-align: center;">Major Street: East-West</p>																																										
Vehicle Volumes and Adjustments																																										
Approach	Eastbound				Westbound				Northbound				Southbound																													
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																										
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12																										
Number of Lanes	0	1	1	1	0	1	1	0	0	1	1	1	0	1	0	0																										
Configuration		L	T	R		L		TR		LT		R		LTR																												
Volume (veh/h)		83	265	141		109	427	19		70	23	133		8	7	6																										
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3																										
Proportion Time Blocked																																										
Percent Grade (%)														0		0																										
Right Turn Channelized	No												No																													
Median Type Storage	Undivided																																									
Critical and Follow-up Headways																																										
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2																										
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23																										
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3																										
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33																										
Delay, Queue Length, and Level of Service																																										
Flow Rate, v (veh/h)		90				118				101		145			23																											
Capacity, c (veh/h)		1073				1113				134		749			138																											
v/c Ratio		0.08				0.11				0.75		0.19			0.17																											
95% Queue Length, Q ₉₅ (veh)		0.3				0.4				4.4		0.7			0.6																											
Control Delay (s/veh)		8.7				8.6				86.4		11.0			36.2																											
Level of Service (LOS)		A				A				F		B			E																											
Approach Delay (s/veh)	1.5				1.7				42.0				36.2																													
Approach LOS	A				A				E				E																													

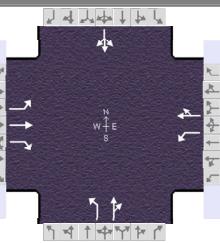
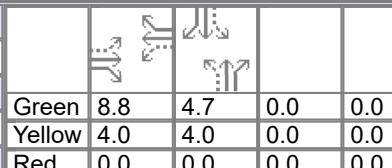
HCS Two-Way Stop-Control Report

General Information				Site Information																																						
Analyst	AJK			Intersection				BG Parkway at Tucker Station																																		
Agency/Co.	AKE			Jurisdiction				Jefferson County																																		
Date Performed	1/11/2023			East/West Street				BG Parkway																																		
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Time Analyzed	2033 PM No Build			Peak Hour Factor				0.92																																		
Intersection Orientation	East-West			Analysis Time Period (hrs)				0.25																																		
Project Description	Xebec Industrial																																									
Lanes																																										
 Major Street: East-West																																										
Vehicle Volumes and Adjustments																																										
Approach	Eastbound				Westbound				Northbound				Southbound																													
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																										
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12																										
Number of Lanes	0	1	1	1	0	1	1	0		0	1	1		0	1	0																										
Configuration		L	T	R		L		TR		LT		R		LTR																												
Volume (veh/h)		18	525	102		139	228	16		126	21	209		20	30	81																										
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3																										
Proportion Time Blocked																																										
Percent Grade (%)														0		0																										
Right Turn Channelized	No												No																													
Median Type Storage	Undivided																																									
Critical and Follow-up Headways																																										
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2																										
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23																										
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3																										
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33																										
Delay, Queue Length, and Level of Service																																										
Flow Rate, v (veh/h)		20				151				160		227			142																											
Capacity, c (veh/h)		1293				906				102		519			210																											
v/c Ratio		0.02				0.17				1.56		0.44			0.68																											
95% Queue Length, Q ₉₅ (veh)		0.0				0.6				12.1		2.2			4.2																											
Control Delay (s/veh)		7.8				9.8				368.6		17.2			51.8																											
Level of Service (LOS)		A				A				F		C			F																											
Approach Delay (s/veh)	0.2				3.5				162.3				51.8																													
Approach LOS	A				A				F				F																													

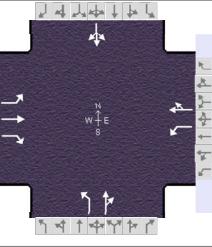
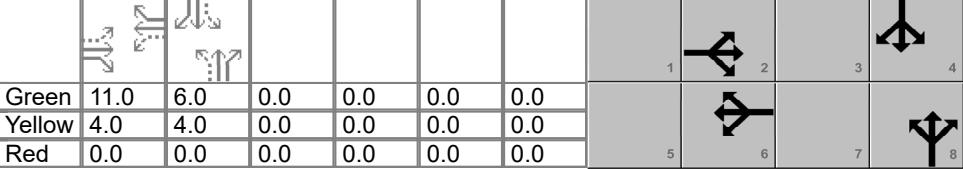
HCS Two-Way Stop-Control Report

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Analyst	AJK			Intersection				BG Parkway at Tucker Station																																		
Agency/Co.	AKE			Jurisdiction				Jefferson County																																		
Date Performed	1/11/2023			East/West Street				BG Parkway																																		
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Time Analyzed	2033 PM Build			Peak Hour Factor				0.92																																		
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Project Description	Xebec Industrial																																									
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 Major Street: East-West																																										
Vehicle Volumes and Adjustments																																										
Approach	Eastbound				Westbound				Northbound				Southbound																													
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																										
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12																										
Number of Lanes	0	1	1	1	0	1	1	0		0	1	1		0	1	0																										
Configuration		L	T	R		L		TR		LT		R		LTR																												
Volume (veh/h)		18	545	102		157	300	19		126	21	218		21	30	81																										
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3																										
Proportion Time Blocked																																										
Percent Grade (%)														0		0																										
Right Turn Channelized	No												No																													
Median Type Storage	Undivided																																									
Critical and Follow-up Headways																																										
Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2																										
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23																										
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3																										
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33																										
Delay, Queue Length, and Level of Service																																										
Flow Rate, v (veh/h)		20				171				160		237			143																											
Capacity, c (veh/h)		1207				890				74		504			158																											
v/c Ratio		0.02				0.19				2.16		0.47			0.91																											
95% Queue Length, Q ₉₅ (veh)		0.0				0.7				14.8		2.5			6.5																											
Control Delay (s/veh)		8.0				10.0				652.4		18.3			105.6																											
Level of Service (LOS)		A				B				F		C			F																											
Approach Delay (s/veh)	0.2				3.3				273.7				105.6																													
Approach LOS	A				A				F				F																													

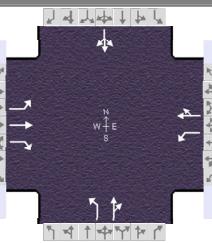
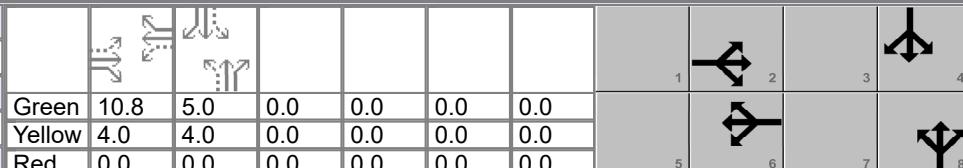
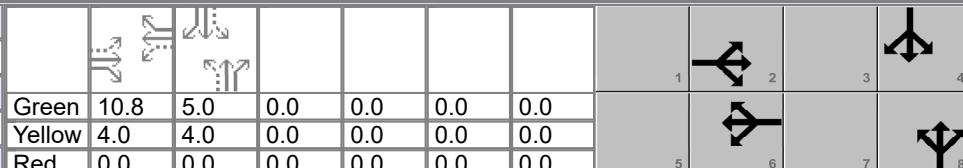
HCS Signalized Intersection Results Summary

General Information								Intersection Information			
Agency									Duration, h	0.250	
Analyst		Analysis Date		2/20/2023		Area Type		Other			
Jurisdiction		Time Period		PHF		0.92					
Urban Street	Bluegrass Parkway		Analysis Year	2023		Analysis Period		1 > 7:00			
Intersection	Bluegrass Parkway at T...		File Name	2023_AM_BuildSig.xus							
Project Description		2023 AM Build									
Demand Information				EB		WB		NB		SB	
Approach Movement				L	T	R	L	T	R	L	T
Demand (v), veh/h				79	256	134	103	405	18	66	22
Signal Information											
Cycle, s	21.5	Reference Phase	2						1	2	
Offset, s	0	Reference Point	End	Green	8.8	4.7	0.0	0.0	0.0	0.0	
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	4.0	0.0	0.0	0.0	0.0	
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0	0.0	0.0	
									5	6	
									7	8	
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase						2		6		8	
Case Number						5.0		6.0		6.0	
Phase Duration, s						12.8		12.8		8.7	
Change Period, (Y+R _c), s						4.0		4.0		4.0	
Max Allow Headway (MAH), s						3.2		3.2		3.2	
Queue Clearance Time (g _s), s						7.8		6.1		3.8	
Green Extension Time (g _e), s						1.0		1.4		0.1	
Phase Call Probability						1.00		1.00		0.79	
Max Out Probability						1.00		0.62		1.00	
Movement Group Results				EB		WB		NB		SB	
Approach Movement				L	T	R	L	T	R	L	T
Assigned Movement				5	2	12	1	6	16	3	8
Adjusted Flow Rate (v), veh/h				86	278	146	112	460		72	163
Adjusted Saturation Flow Rate (s), veh/h/ln				947	1900	1610	1118	1886		1422	1647
Queue Service Time (g _s), s				1.7	2.2	1.3	1.7	4.1		0.9	1.8
Cycle Queue Clearance Time (g _c), s				5.8	2.2	1.3	3.8	4.1		1.1	1.8
Green Ratio (g/C)				0.41	0.41	0.41	0.41	0.41		0.22	0.22
Capacity (c), veh/h				541	777	659	679	771		632	361
Volume-to-Capacity Ratio (X)				0.159	0.358	0.221	0.165	0.596		0.114	0.452
Back of Queue (Q), ft/ln (95 th percentile)											
Back of Queue (Q), veh/ln (95 th percentile)				0.3	0.3	0.1	0.2	0.6		0.2	0.6
Queue Storage Ratio (RQ) (95 th percentile)				0.00	0.00	0.00	0.00	0.00		0.00	0.00
Uniform Delay (d ₁), s/veh				7.2	4.4	4.1	5.7	5.0		7.1	7.3
Incremental Delay (d ₂), s/veh				0.1	0.1	0.1	0.0	0.3		0.0	0.3
Initial Queue Delay (d ₃), s/veh				0.0	0.0	0.0	0.0	0.0		0.0	0.0
Control Delay (d), s/veh				7.3	4.5	4.2	5.8	5.2		7.1	7.6
Level of Service (LOS)				A	A	A	A	A		A	A
Approach Delay, s/veh / LOS				4.9		A	5.3		A	7.5	
Intersection Delay, s/veh / LOS							5.6			A	
Multimodal Results				EB		WB		NB		SB	
Pedestrian LOS Score / LOS				1.85		B	1.63		B	1.87	
Bicycle LOS Score / LOS				1.33		A	1.43		A	0.87	

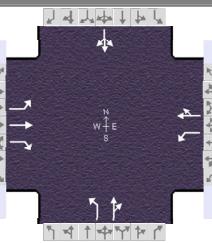
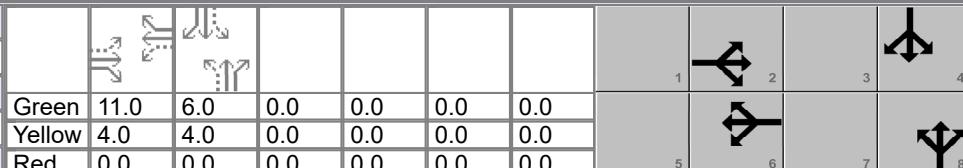
HCS Signalized Intersection Results Summary

General Information								Intersection Information				
Agency						Duration, h		0.250				
Analyst		Analysis Date		2/20/2023		Area Type		Other				
Jurisdiction		Time Period		PHF		0.92						
Urban Street	Bluegrass Parkway		Analysis Year	2023		Analysis Period		1 > 7:00				
Intersection	Bluegrass Parkway at T...		File Name	2023_PM_BuildSig.xus								
Project Description		2023 PM Build										
Demand Information				EB		WB		NB		SB		
Approach Movement				L	T	R	L	T	R	L	T	R
Demand (v), veh/h				17	596	97	168	343	19	120	20	237
										20	28	77
Signal Information												
Cycle, s	25.0	Reference Phase	2	1	2	3	4					
Offset, s	0	Reference Point	End	5	6	7	8					
Uncoordinated	Yes	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	
Assigned Phase					2		6		8		4	
Case Number					5.0		6.0		6.0		8.0	
Phase Duration, s					15.0		15.0		10.0		10.0	
Change Period, (Y+R _c), s					4.0		4.0		4.0		4.0	
Max Allow Headway (MAH), s					3.3		3.3		3.3		3.3	
Queue Clearance Time (g _s), s					9.2		13.0		8.0		6.1	
Green Extension Time (g _e), s					0.8		0.0		0.0		0.0	
Phase Call Probability					1.00		1.00		0.98		0.98	
Max Out Probability					1.00		1.00		1.00		1.00	
Movement Group Results				EB		WB		NB		SB		
Approach Movement				L	T	R	L	T	R	L	T	R
Assigned Movement				5	2	12	1	6	16	3	8	18
Adjusted Flow Rate (v), veh/h				18	648	105	183	393		130	279	
Adjusted Saturation Flow Rate (s), veh/h/ln				1006	1900	1610	796	1882		1299	1630	
Queue Service Time (g _s), s				0.3	7.2	1.0	3.8	3.7		1.9	3.9	
Cycle Queue Clearance Time (g _c), s				4.0	7.2	1.0	11.0	3.7		6.0	3.9	
Green Ratio (g/C)				0.44	0.44	0.44	0.44	0.44		0.24	0.24	
Capacity (c), veh/h				582	836	708	408	828		389	391	
Volume-to-Capacity Ratio (X)				0.032	0.775	0.149	0.448	0.475		0.335	0.714	
Back of Queue (Q), ft/ln (95 th percentile)												
Back of Queue (Q), veh/ln (95 th percentile)				0.1	3.1	0.2	1.3	0.8		0.9	2.3	
Queue Storage Ratio (RQ) (95 th percentile)				0.00	0.00	0.00	0.00	0.00		0.00	0.00	
Uniform Delay (d ₁), s/veh				6.4	5.9	4.2	11.3	5.0		11.7	8.7	
Incremental Delay (d ₂), s/veh				0.0	4.2	0.0	0.3	0.2		0.2	5.2	
Initial Queue Delay (d ₃), s/veh				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (d), s/veh				6.4	10.1	4.2	11.6	5.1		11.9	14.0	
Level of Service (LOS)				A	B	A	B	A		B	B	
Approach Delay, s/veh / LOS				9.2		A	7.2		A	13.3		B
Intersection Delay, s/veh / LOS							9.4				A	
Multimodal Results				EB		WB		NB		SB		
Pedestrian LOS Score / LOS				1.85		B	1.63		B	1.88		B
Bicycle LOS Score / LOS				1.76		B	1.44		A	1.16		A

HCS Signalized Intersection Results Summary

General Information								Intersection Information				
Agency						Duration, h		0.250				
Analyst		Analysis Date		2/20/2023		Area Type		Other				
Jurisdiction		Time Period		PHF		0.92						
Urban Street	Bluegrass Parkway		Analysis Year	2023		Analysis Period		1 > 7:00				
Intersection	Bluegrass Parkway at T...		File Name	2033_AM_BuildSig.xus								
Project Description	2033 AM Build											
Demand Information				EB		WB		NB		SB		
Approach Movement				L	T	R	L	T	R	L	T	R
Demand (v), veh/h				83	314	141	110	548	19	70	23	136
Signal Information												
Cycle, s	23.9	Reference Phase	2									
Offset, s	0	Reference Point	End	Green	10.8	5.0	0.0	0.0	0.0	0.0		
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	4.0	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0	0.0	0.0		
Timer Results					EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase						2		6		8		4
Case Number						5.0		6.0		6.0		8.0
Phase Duration, s						14.8		14.8		9.0		9.0
Change Period, (Y+R _c), s						4.0		4.0		4.0		4.0
Max Allow Headway (MAH), s						3.3		3.3		3.2		3.2
Queue Clearance Time (g _s), s						10.7		8.3		4.2		2.2
Green Extension Time (g _e), s						0.2		1.1		0.1		0.2
Phase Call Probability						1.00		1.00		0.83		0.83
Max Out Probability						1.00		1.00		1.00		0.65
Movement Group Results				EB		WB		NB		SB		
Approach Movement				L	T	R	L	T	R	L	T	R
Assigned Movement				5	2	12	1	6	16	3	8	18
Adjusted Flow Rate (v), veh/h				90	341	153	120	616		76	173	
Adjusted Saturation Flow Rate (s), veh/h/ln				819	1900	1610	1056	1889		1422	1647	
Queue Service Time (g _s), s				2.4	2.8	1.4	2.0	6.3		1.1	2.2	
Cycle Queue Clearance Time (g _c), s				8.7	2.8	1.4	4.9	6.3		1.3	2.2	
Green Ratio (g/C)				0.45	0.45	0.45	0.45	0.45		0.21	0.21	
Capacity (c), veh/h				458	864	732	656	859		586	346	
Volume-to-Capacity Ratio (X)				0.197	0.395	0.209	0.182	0.718		0.130	0.500	
Back of Queue (Q), ft/ln (95 th percentile)												
Back of Queue (Q), veh/ln (95 th percentile)				0.4	0.4	0.2	0.3	1.9		0.3	0.8	
Queue Storage Ratio (RQ) (95 th percentile)				0.00	0.00	0.00	0.00	0.00		0.00	0.00	
Uniform Delay (d ₁), s/veh				8.8	4.3	3.9	5.9	5.3		8.1	8.3	
Incremental Delay (d ₂), s/veh				0.1	0.1	0.1	0.0	2.4		0.0	0.4	
Initial Queue Delay (d ₃), s/veh				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Control Delay (d), s/veh				8.9	4.4	4.0	6.0	7.7		8.1	8.7	
Level of Service (LOS)				A	A	A	A	A		A	A	
Approach Delay, s/veh / LOS				5.0		A	7.4		A	8.5		7.5
Intersection Delay, s/veh / LOS							6.7			A		
Multimodal Results				EB		WB		NB		SB		
Pedestrian LOS Score / LOS				1.85		B	1.62		B	1.88		B
Bicycle LOS Score / LOS				1.45		A	1.70		B	0.90		A

HCS Signalized Intersection Results Summary

General Information								Intersection Information										
Agency									Duration, h	0.250								
Analyst		Analysis Date		2/20/2023		Area Type		Other										
Jurisdiction		Time Period		PHF		0.92												
Urban Street	Bluegrass Parkway		Analysis Year	2023		Analysis Period		1 > 7:00										
Intersection	Bluegrass Parkway at T...		File Name	2033_PM_BuildSig.xus														
Project Description		2033 PM Build																
Demand Information				EB		WB		NB		SB								
Approach Movement				L	T	R	L	T	R	L	T	R						
Demand (v), veh/h				18	621	102	175	354	20	126	21	247						
Signal Information																		
Cycle, s	25.0	Reference Phase	2															
Offset, s	0	Reference Point	End	Green	11.0	6.0	0.0	0.0	0.0	0.0								
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	4.0	0.0	0.0	0.0	0.0								
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0	0.0	0.0								
Timer Results					EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT						
Assigned Phase						2		6		8		4						
Case Number						5.0		6.0		6.0		8.0						
Phase Duration, s						15.0		15.0		10.0		10.0						
Change Period, (Y+R _c), s						4.0		4.0		4.0		4.0						
Max Allow Headway (MAH), s						3.3		3.3		3.3		3.3						
Queue Clearance Time (g _s), s						9.7		13.0		8.0		6.3						
Green Extension Time (g _e), s						0.7		0.0		0.0		0.0						
Phase Call Probability						1.00		1.00		0.98		0.98						
Max Out Probability						1.00		1.00		1.00		1.00						
Movement Group Results				EB		WB		NB		SB								
Approach Movement				L	T	R	L	T	R	L	T	R						
Assigned Movement				5	2	12	1	6	16	3	8	18						
Adjusted Flow Rate (v), veh/h				20	675	111	190	407		137	291							
Adjusted Saturation Flow Rate (s), veh/h/ln				994	1900	1610	776	1882		1291	1630							
Queue Service Time (g _s), s				0.4	7.7	1.0	3.3	3.9		1.7	4.1							
Cycle Queue Clearance Time (g _c), s				4.2	7.7	1.0	11.0	3.9		6.0	4.1							
Green Ratio (g/C)				0.44	0.44	0.44	0.44	0.44		0.24	0.24							
Capacity (c), veh/h				572	836	708	390	828		376	391							
Volume-to-Capacity Ratio (X)				0.034	0.807	0.156	0.488	0.491		0.364	0.745							
Back of Queue (Q), ft/ln (95 th percentile)																		
Back of Queue (Q), veh/ln (95 th percentile)				0.1	3.7	0.2	1.4	0.8		1.0	2.7							
Queue Storage Ratio (RQ) (95 th percentile)				0.00	0.00	0.00	0.00	0.00		0.00	0.00							
Uniform Delay (d ₁), s/veh				6.5	6.1	4.2	11.6	5.0		12.0	8.8							
Incremental Delay (d ₂), s/veh				0.0	5.5	0.0	0.4	0.2		0.2	6.7							
Initial Queue Delay (d ₃), s/veh				0.0	0.0	0.0	0.0	0.0		0.0	0.0							
Control Delay (d), s/veh				6.5	11.6	4.2	12.0	5.2		12.2	15.5							
Level of Service (LOS)				A	B	A	B	A		B	B							
Approach Delay, s/veh / LOS				10.4		B	7.3	A		14.4	B	8.1						
Intersection Delay, s/veh / LOS							10.2				B							
Multimodal Results				EB		WB		NB		SB								
Pedestrian LOS Score / LOS				1.85		B	1.63		B	1.88	B	2.07						
Bicycle LOS Score / LOS				1.82		B	1.47		A	1.19	A	0.72						

HCS Two-Way Stop-Control Report

General Information				Site Information																																						
Analyst	AJK			Intersection				Prop Access #1 Tucker Station																																		
Agency/Co.	AKE			Jurisdiction				Jefferson County																																		
Date Performed	2/20/2023			East/West Street				Tucker Station Rd																																		
Analysis Year	2023			North/South Street				Prop. Access 1																																		
Time Analyzed	2023 AM Build			Peak Hour Factor				0.92																																		
Intersection Orientation	East-West			Analysis Time Period (hrs)				0.25																																		
Project Description	Xebec Development																																									
Lanes																																										
   <p>Major Street: East-West</p>																																										
Vehicle Volumes and Adjustments																																										
Approach	Eastbound				Westbound				Northbound				Southbound																													
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																										
Priority	1U	1	2	3	4U	4	5	6	7	8	9		10	11	12																											
Number of Lanes	0	0	1	0	0	0	1	0	1	0	1		0	0	0																											
Configuration				TR		LT				L		R																														
Volume (veh/h)			269	50		29	703			6		4																														
Percent Heavy Vehicles (%)						3				3		3																														
Proportion Time Blocked																																										
Percent Grade (%)										0																																
Right Turn Channelized										No																																
Median Type Storage	Undivided																																									
Critical and Follow-up Headways																																										
Base Critical Headway (sec)						4.1				7.1		6.2																														
Critical Headway (sec)						4.13				6.43		6.23																														
Base Follow-Up Headway (sec)						2.2				3.5		3.3																														
Follow-Up Headway (sec)						2.23				3.53		3.33																														
Delay, Queue Length, and Level of Service																																										
Flow Rate, v (veh/h)						32				7		4																														
Capacity, c (veh/h)						1207				209		719																														
v/c Ratio						0.03				0.03		0.01																														
95% Queue Length, Q ₉₅ (veh)						0.1				0.1		0.0																														
Control Delay (s/veh)						8.1	0.4			22.8		10.0																														
Level of Service (LOS)						A	A			C		B																														
Approach Delay (s/veh)	0.7				17.7																																					
Approach LOS	A				C																																					

HCS Two-Way Stop-Control Report

General Information				Site Information																																						
Analyst	AJK			Intersection				Prop Access 2 Tucker Station																																		
Agency/Co.	AKE			Jurisdiction				Jefferson County																																		
Date Performed	2/20/2023			East/West Street				Tucker Station Rd																																		
Analysis Year	2023			North/South Street				Prop. Access 2																																		
Time Analyzed	2023 PM Build			Peak Hour Factor				0.92																																		
Intersection Orientation	East-West			Analysis Time Period (hrs)				0.25																																		
Project Description	Xebec Development																																									
Lanes																																										
   <p>Major Street: East-West</p>																																										
Vehicle Volumes and Adjustments																																										
Approach	Eastbound				Westbound				Northbound				Southbound																													
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																										
Priority	1U	1	2	3	4U	4	5	6	7	8	9		10	11	12																											
Number of Lanes	0	0	1	0	0	0	1	0	1	0	1		0	0	0																											
Configuration				TR		LT				L		R																														
Volume (veh/h)			673	11		8	257		42		29																															
Percent Heavy Vehicles (%)						3			3		3																															
Proportion Time Blocked																																										
Percent Grade (%)										0																																
Right Turn Channelized										No																																
Median Type Storage	Undivided																																									
Critical and Follow-up Headways																																										
Base Critical Headway (sec)						4.1				7.1		6.2																														
Critical Headway (sec)						4.13				6.43		6.23																														
Base Follow-Up Headway (sec)						2.2				3.5		3.3																														
Follow-Up Headway (sec)						2.23				3.53		3.33																														
Delay, Queue Length, and Level of Service																																										
Flow Rate, v (veh/h)						9				46		32																														
Capacity, c (veh/h)						859				253		416																														
v/c Ratio						0.01				0.18		0.08																														
95% Queue Length, Q ₉₅ (veh)						0.0				0.6		0.2																														
Control Delay (s/veh)						9.2	0.1			22.3		14.4																														
Level of Service (LOS)						A	A			C		B																														
Approach Delay (s/veh)	0.4				19.1																																					
Approach LOS	A				C																																					

HCS Two-Way Stop-Control Report

General Information				Site Information																																						
Analyst	AJK			Intersection				Prop Access #1 Tucker Station																																		
Agency/Co.	AKE			Jurisdiction				Jefferson County																																		
Date Performed	2/20/2023			East/West Street				Tucker Station Rd																																		
Analysis Year	2023			North/South Street				Prop. Access 1																																		
Time Analyzed	2033 AM Build			Peak Hour Factor				0.92																																		
Intersection Orientation	East-West			Analysis Time Period (hrs)				0.25																																		
Project Description	Xebec Development																																									
Lanes																																										
   <p>Major Street: East-West</p>																																										
Vehicle Volumes and Adjustments																																										
Approach	Eastbound				Westbound				Northbound				Southbound																													
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																										
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12																										
Number of Lanes	0	0	1	0	0	0	1	0	1	0	1		0	0	0																											
Configuration				TR		LT				L		R																														
Volume (veh/h)			276	50		29	731			6		4																														
Percent Heavy Vehicles (%)						3				3		3																														
Proportion Time Blocked																																										
Percent Grade (%)										0																																
Right Turn Channelized										No																																
Median Type Storage	Undivided																																									
Critical and Follow-up Headways																																										
Base Critical Headway (sec)						4.1				7.1		6.2																														
Critical Headway (sec)						4.13				6.43		6.23																														
Base Follow-Up Headway (sec)						2.2				3.5		3.3																														
Follow-Up Headway (sec)						2.23				3.53		3.33																														
Delay, Queue Length, and Level of Service																																										
Flow Rate, v (veh/h)						32				7		4																														
Capacity, c (veh/h)						1199				198		712																														
v/c Ratio						0.03				0.03		0.01																														
95% Queue Length, Q ₉₅ (veh)						0.1				0.1		0.0																														
Control Delay (s/veh)						8.1	0.4			23.8		10.1																														
Level of Service (LOS)						A	A			C		B																														
Approach Delay (s/veh)						0.7			18.3																																	
Approach LOS						A			C																																	

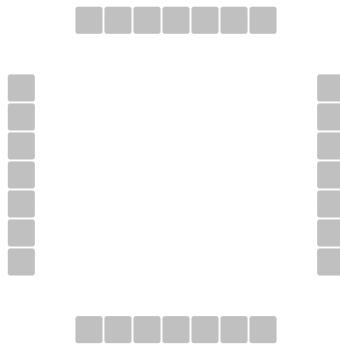
HCS Two-Way Stop-Control Report

General Information				Site Information																																						
Analyst	AJK			Intersection				Prop Access #1 Tucker Station																																		
Agency/Co.	AKE			Jurisdiction				Jefferson County																																		
Date Performed	2/20/2023			East/West Street				Tucker Station Rd																																		
Analysis Year	2023			North/South Street				Prop. Access 1																																		
Time Analyzed	2033 PM Build			Peak Hour Factor				0.92																																		
Intersection Orientation	East-West			Analysis Time Period (hrs)				0.25																																		
Project Description	Xebec Development																																									
Lanes																																										
   <p style="text-align: center;">Major Street: East-West</p>																																										
Vehicle Volumes and Adjustments																																										
Approach	Eastbound				Westbound				Northbound				Southbound																													
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																										
Priority	1U	1	2	3	4U	4	5	6	7	8	9		10	11	12																											
Number of Lanes	0	0	1	0	0	0	1	0	1	0	1		0	0	0																											
Configuration				TR		LT				L		R																														
Volume (veh/h)			793	12		7	427			32		26																														
Percent Heavy Vehicles (%)						3				3		3																														
Proportion Time Blocked																																										
Percent Grade (%)										0																																
Right Turn Channelized										No																																
Median Type Storage	Undivided																																									
Critical and Follow-up Headways																																										
Base Critical Headway (sec)						4.1				7.1		6.2																														
Critical Headway (sec)						4.13				6.43		6.23																														
Base Follow-Up Headway (sec)						2.2				3.5		3.3																														
Follow-Up Headway (sec)						2.23				3.53		3.33																														
Delay, Queue Length, and Level of Service																																										
Flow Rate, v (veh/h)						8				35		28																														
Capacity, c (veh/h)						767				163		350																														
v/c Ratio						0.01				0.21		0.08																														
95% Queue Length, Q ₉₅ (veh)						0.0				0.8		0.3																														
Control Delay (s/veh)						9.7	0.1			32.9		16.2																														
Level of Service (LOS)						A	A			D		C																														
Approach Delay (s/veh)	0.3				25.4																																					
Approach LOS	A				D																																					

HCS All-Way Stop Control Report

General Information		Site Information	
Analyst	AJK	Intersection	Tucker Station at S. Pope Lick
Agency/Co.	AKE	Jurisdiction	Jefferson
Date Performed	2/20/2023	East/West Street	S. Pope Lick
Analysis Year	2023	North/South Street	Tucker Station
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	2023 AM No Build		
Project Description	Xebec Development		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	71	107		512	144					30		177
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT			TR						LR		
Flow Rate, v (veh/h)	193			713						225		
Percent Heavy Vehicles	2			2						2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20						3.20		
Initial Degree of Utilization, x	0.172			0.634						0.200		
Final Departure Headway, hd (s)	5.64			4.79						5.66		
Final Degree of Utilization, x	0.303			0.948						0.354		
Move-Up Time, m (s)	2.0			2.0						2.0		
Service Time, ts (s)	3.64			2.79						3.66		

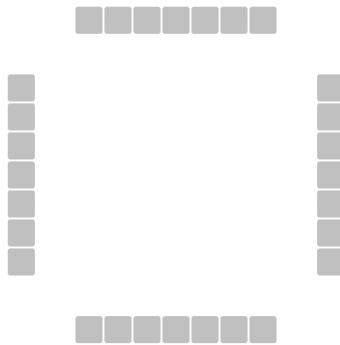
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	193			713						225		
Capacity	639			752						636		
95% Queue Length, Q ₉₅ (veh)	1.3			14.1						1.6		
Control Delay (s/veh)	11.1			42.7						11.7		
Level of Service, LOS	B			E						B		
Approach Delay (s/veh)	11.1			42.7						11.7		
Approach LOS	B			E						B		
Intersection Delay, s/veh LOS	31.2						D					

HCS All-Way Stop Control Report

General Information		Site Information	
Analyst	AJK	Intersection	Tucker Station at S. Pope Lick
Agency/Co.	AKE	Jurisdiction	Jefferson
Date Performed	2/20/2023	East/West Street	S. Pope Lick
Analysis Year	2023	North/South Street	Tucker Station
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	2023 AM Build		
Project Description	Xebec Development		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	71	158	43	29	548	144	7	11	4	30	72	177
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		L	TR		LTR		
Flow Rate, v (veh/h)	77	218		32	752		8	16		303		
Percent Heavy Vehicles	2	2		2	2		2	2		2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20	3.20		3.20	3.20		3.20	3.20		3.20		
Initial Degree of Utilization, x	0.069	0.194		0.028	0.669		0.007	0.014		0.270		
Final Departure Headway, hd (s)	7.06	6.42		6.66	6.01		8.31	7.64		6.62		
Final Degree of Utilization, x	0.151	0.389		0.058	1.255		0.018	0.035		0.558		
Move-Up Time, m (s)	2.3	2.3		2.3	2.3		2.3	2.3		2.0		
Service Time, ts (s)	4.76	4.12		4.36	3.71		6.01	5.34		4.62		

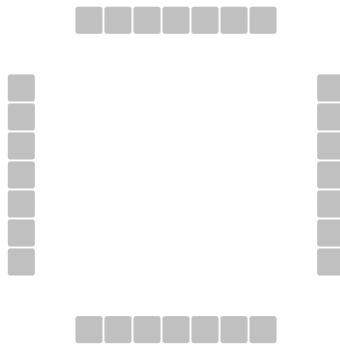
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	77	218		32	752		8	16		303		
Capacity	510	561		541	599		433	471		544		
95% Queue Length, Q ₉₅ (veh)	0.5	1.8		0.2	28.9		0.1	0.1		3.4		
Control Delay (s/veh)	11.0	13.2		9.8	147.7		11.2	10.6		17.6		
Level of Service, LOS	B	B		A	F		B	B		C		
Approach Delay (s/veh)	12.6			142.2			10.8			17.6		
Approach LOS	B			F			B			C		
Intersection Delay, s/veh LOS	85.9						F					

HCS All-Way Stop Control Report

General Information		Site Information	
Analyst	AJK	Intersection	Tucker Station at S. Pope Lick
Agency/Co.	AKE	Jurisdiction	Jefferson
Date Performed	2/20/2023	East/West Street	S. Pope Lick
Analysis Year	2023	North/South Street	Tucker Station
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	2023 PM No Build		
Project Description	Xebec Development		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	229	511		142	100					111		191
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT			TR						LR		
Flow Rate, v (veh/h)	804			263						328		
Percent Heavy Vehicles	2			2						2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20						3.20		
Initial Degree of Utilization, x	0.715			0.234						0.292		
Final Departure Headway, hd (s)	5.51			5.73						6.01		
Final Degree of Utilization, x	1.231			0.419						0.548		
Move-Up Time, m (s)	2.0			2.0						2.0		
Service Time, ts (s)	3.51			3.73						4.01		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	804			263						328		
Capacity	653			628						599		
95% Queue Length, Q ₉₅ (veh)	29.2			2.1						3.3		
Control Delay (s/veh)	136.4			12.8						16.1		
Level of Service, LOS	F			B						C		
Approach Delay (s/veh)	136.4			12.8						16.1		
Approach LOS	F			B						C		
Intersection Delay, s/veh LOS	84.8						F					

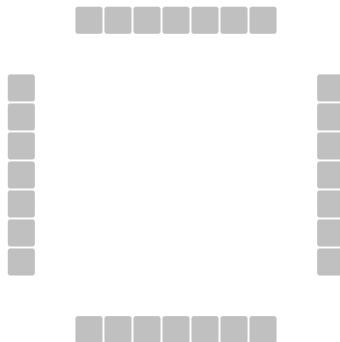
HCS All-Way Stop Control Report

General Information			Site Information																											
Analyst	AJK			Intersection			Tucker Station at S. Pope Lick																							
Agency/Co.	AKE			Jurisdiction			Jefferson																							
Date Performed	2/20/2023			East/West Street			S. Pope Lick																							
Analysis Year	2023			North/South Street			Tucker Station																							
Analysis Time Period (hrs)	0.25			Peak Hour Factor			0.92																							
Time Analyzed	2023 PM Build																													
Project Description	Xebec Development																													
Lanes																														
																														
Vehicle Volume and Adjustments																														
Approach	Eastbound			Westbound			Northbound			Southbound																				
Movement	L	T	R	L	T	R	L	T	R	L	T																			
Volume	229	548	10	7	190	100	38	64	26	111	17																			
% Thrus in Shared Lane																														
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2																			
Configuration	L	TR		L	TR		L	TR		LTR																				
Flow Rate, v (veh/h)	249	607		8	315		41	98		347																				
Percent Heavy Vehicles	2	2		2	2		2	2		2																				
Departure Headway and Service Time																														
Initial Departure Headway, hd (s)	3.20	3.20		3.20	3.20		3.20	3.20		3.20																				
Initial Degree of Utilization, x	0.221	0.539		0.007	0.280		0.037	0.087		0.308																				
Final Departure Headway, hd (s)	7.65	7.12		8.17	7.43		8.92	8.23		7.33																				
Final Degree of Utilization, x	0.529	1.200		0.017	0.650		0.102	0.224		0.706																				
Move-Up Time, m (s)	2.3	2.3		2.3	2.3		2.3	2.3		2.0																				
Service Time, ts (s)	5.35	4.82		5.87	5.13		6.62	5.93		5.33																				
Capacity, Delay and Level of Service																														
Flow Rate, v (veh/h)	249	607		8	315		41	98		347																				
Capacity	471	505		441	485		403	437		491																				
95% Queue Length, Q ₉₅ (veh)	3.0	22.7		0.1	4.6		0.3	0.8		5.5																				
Control Delay (s/veh)	18.6	131.5		11.0	22.9		12.6	13.3		26.0																				
Level of Service, LOS	C	F		B	C		B	B		D																				
Approach Delay (s/veh)	98.6			22.6			13.1			26.0																				
Approach LOS	F			C			B			D																				
Intersection Delay, s/veh LOS	61.6						F																							

HCS All-Way Stop Control Report

General Information		Site Information	
Analyst	AJK	Intersection	Tucker Station at S. Pope Lick
Agency/Co.	AKE	Jurisdiction	Jefferson
Date Performed	2/20/2023	East/West Street	S. Pope Lick
Analysis Year	2023	North/South Street	Tucker Station
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	2033 AM No Build		
Project Description	Xebec Development		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	75	111		532	149					31		186
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT			TR						LR		
Flow Rate, v (veh/h)	202			740						236		
Percent Heavy Vehicles	2			2						2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20						3.20		
Initial Degree of Utilization, x	0.180			0.658						0.210		
Final Departure Headway, hd (s)	5.74			4.85						5.77		
Final Degree of Utilization, x	0.323			0.998						0.378		
Move-Up Time, m (s)	2.0			2.0						2.0		
Service Time, ts (s)	3.74			2.85						3.77		

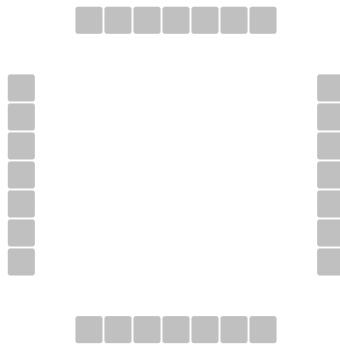
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	202			740						236		
Capacity	627			742						624		
95% Queue Length, Q ₉₅ (veh)	1.4			16.6						1.8		
Control Delay (s/veh)	11.5			54.1						12.2		
Level of Service, LOS	B			F						B		
Approach Delay (s/veh)	11.5			54.1						12.2		
Approach LOS	B			F						B		
Intersection Delay, s/veh LOS	38.4						E					

HCS All-Way Stop Control Report

General Information		Site Information	
Analyst	AJK	Intersection	Tucker Station at S. Pope Lick
Agency/Co.	AKE	Jurisdiction	Jefferson
Date Performed	2/20/2023	East/West Street	S. Pope Lick
Analysis Year	2023	North/South Street	Tucker Station
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	2033 AM Build		
Project Description	Xebec Development		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	75	162	43	29	568	149	7	11	4	31	72	186
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		L	TR		LTR		
Flow Rate, v (veh/h)	82	223		32	779		8	16		314		
Percent Heavy Vehicles	2	2		2	2		2	2		2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20	3.20		3.20	3.20		3.20	3.20		3.20		
Initial Degree of Utilization, x	0.072	0.198		0.028	0.693		0.007	0.014		0.279		
Final Departure Headway, hd (s)	7.12	6.47		6.72	6.07		8.37	7.69		6.63		
Final Degree of Utilization, x	0.161	0.401		0.059	1.314		0.018	0.035		0.579		
Move-Up Time, m (s)	2.3	2.3		2.3	2.3		2.3	2.3		2.0		
Service Time, ts (s)	4.82	4.17		4.42	3.77		6.07	5.39		4.63		

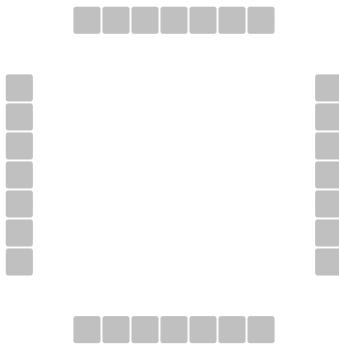
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	82	223		32	779		8	16		314		
Capacity	506	556		536	593		430	468		543		
95% Queue Length, Q ₉₅ (veh)	0.6	1.9		0.2	32.3		0.1	0.1		3.7		
Control Delay (s/veh)	11.2	13.4		9.8	172.0		11.2	10.7		18.3		
Level of Service, LOS	B	B		A	F		B	B		C		
Approach Delay (s/veh)	12.8			165.7			10.8			18.3		
Approach LOS	B			F			B			C		
Intersection Delay, s/veh LOS	99.3						F					

HCS All-Way Stop Control Report

General Information		Site Information	
Analyst	AJK	Intersection	Tucker Station at S. Pope Lick
Agency/Co.	AKE	Jurisdiction	Jefferson
Date Performed	2/20/2023	East/West Street	S. Pope Lick
Analysis Year	2023	North/South Street	Tucker Station
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	2033 PM No Build		
Project Description	Xebec Development		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	241	531		147	104					116		200
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT			TR						LR		
Flow Rate, v (veh/h)	839			273						343		
Percent Heavy Vehicles	2			2						2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20						3.20		
Initial Degree of Utilization, x	0.746			0.243						0.305		
Final Departure Headway, hd (s)	5.59			5.80						6.04		
Final Degree of Utilization, x	1.303			0.439						0.576		
Move-Up Time, m (s)	2.0			2.0						2.0		
Service Time, ts (s)	3.59			3.80						4.04		

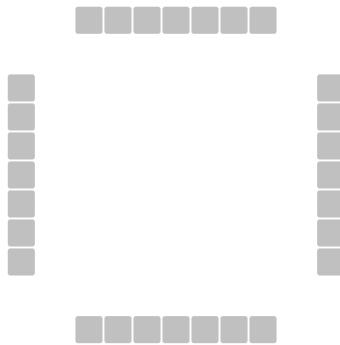
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	839			273						343		
Capacity	644			621						596		
95% Queue Length, Q ₉₅ (veh)	33.7			2.2						3.7		
Control Delay (s/veh)	165.9			13.3						16.9		
Level of Service, LOS	F			B						C		
Approach Delay (s/veh)	165.9			13.3						16.9		
Approach LOS	F			B						C		
Intersection Delay, s/veh LOS	102.1						F					

HCS All-Way Stop Control Report

General Information		Site Information							
Analyst	AJK	Intersection		Tucker Station at S. Pope Lick					
Agency/Co.	AKE	Jurisdiction		Jefferson					
Date Performed	2/20/2023	East/West Street		S. Pope Lick					
Analysis Year	2023	North/South Street		Tucker Station					
Analysis Time Period (hrs)	0.25	Peak Hour Factor		0.92					
Time Analyzed	2033 PM Build								
Project Description	Xebec Development								

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	241	568	10	7	195	104	38	64	26	116	17	200
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	L	TR		L	TR		L	TR		LTR		
Flow Rate, v (veh/h)	262	628		8	325		41	98		362		
Percent Heavy Vehicles	2	2		2	2		2	2		2		

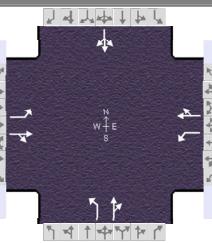
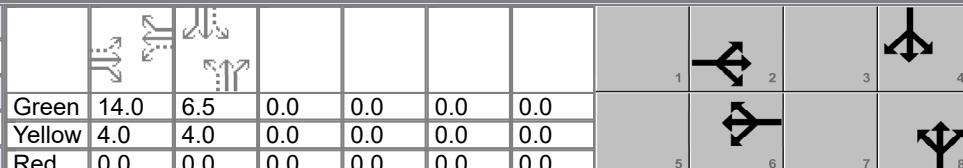
Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20	3.20		3.20	3.20		3.20	3.20		3.20		
Initial Degree of Utilization, x	0.233	0.558		0.007	0.289		0.037	0.087		0.322		
Final Departure Headway, hd (s)	7.77	7.25		8.26	7.52		9.03	8.34		7.37		
Final Degree of Utilization, x	0.565	1.265		0.017	0.679		0.104	0.227		0.741		
Move-Up Time, m (s)	2.3	2.3		2.3	2.3		2.3	2.3		2.0		
Service Time, ts (s)	5.47	4.95		5.96	5.22		6.73	6.04		5.37		

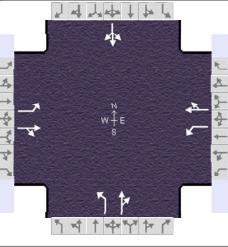
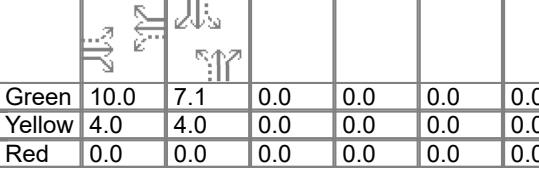
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	262	628		8	325		41	98		362		
Capacity	463	497		436	479		399	432		488		
95% Queue Length, Q ₉₅ (veh)	3.4	25.6		0.1	5.0		0.3	0.9		6.2		
Control Delay (s/veh)	20.1	157.0		11.1	24.7		12.8	13.5		28.6		
Level of Service, LOS	C	F		B	C		B	B		D		
Approach Delay (s/veh)	116.7			24.3			13.3			28.6		
Approach LOS	F			C			B			D		
Intersection Delay, s/veh LOS	72.1						F					

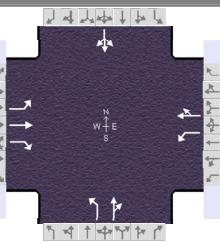
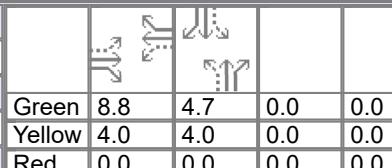
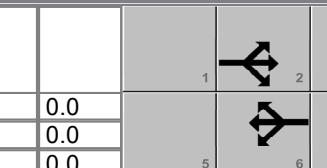
HCS Signalized Intersection Results Summary

General Information								Intersection Information												
Agency									Duration, h	0.250										
Analyst		Analysis Date		2/20/2023		Area Type		Other												
Jurisdiction		Time Period		PHF		0.92														
Urban Street	Tucker Station	Analysis Year	2023	Analysis Period		1 > 7:00														
Intersection	S. Pope Lick at Tucker...	File Name		2023_AM_BuildSig.xus																
Project Description		2023 AM Build																		
Demand Information				EB		WB		NB		SB										
Approach Movement				L	T	R	L	T	R	L	T	R								
Demand (v), veh/h				71	158	43	29	548	144	7	11	4								
Signal Information																				
Cycle, s	28.5	Reference Phase	2																	
Offset, s	0	Reference Point	End	Green	14.0	6.5	0.0	0.0	0.0	0.0										
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	4.0	0.0	0.0	0.0	0.0										
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0	0.0	0.0										
Timer Results					EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT								
Assigned Phase						2		6		8		4								
Case Number						6.0		6.0		6.0		8.0								
Phase Duration, s						18.0		18.0		10.5		10.5								
Change Period, (Y+R _c), s						4.0		4.0		4.0		4.0								
Max Allow Headway (MAH), s						3.3		3.3		3.3		3.3								
Queue Clearance Time (g _s), s						15.1		12.1		7.0		6.9								
Green Extension Time (g _e), s						0.0		1.9		0.0		0.2								
Phase Call Probability						1.00		1.00		0.93		0.93								
Max Out Probability						1.00		0.04		1.00		1.00								
Movement Group Results				EB		WB		NB		SB										
Approach Movement				L	T	R	L	T	R	L	T	R								
Assigned Movement				5	2	12	1	6	16	3	8	18								
Adjusted Flow Rate (v), veh/h				77	218		32	752		8	16									
Adjusted Saturation Flow Rate (s), veh/h/ln				722	1830		1181	1831		1126	1813									
Queue Service Time (g _s), s				2.9	2.0		0.5	10.1		0.2	0.2									
Cycle Queue Clearance Time (g _c), s				13.1	2.0		2.4	10.1		5.0	0.2									
Green Ratio (g/C)				0.49	0.49		0.49	0.49		0.23	0.23									
Capacity (c), veh/h				351	899		753	900		318	414									
Volume-to-Capacity Ratio (X)				0.220	0.243		0.042	0.835		0.024	0.039									
Back of Queue (Q), ft/ln (95 th percentile)																				
Back of Queue (Q), veh/ln (95 th percentile)				0.6	0.4		0.1	2.5		0.1	0.1									
Queue Storage Ratio (RQ) (95 th percentile)				0.00	0.00		0.00	0.00		0.00	0.00									
Uniform Delay (d ₁), s/veh				11.9	4.2		4.9	6.3		12.7	8.6									
Incremental Delay (d ₂), s/veh				0.1	0.1		0.0	0.8		0.0	0.0									
Initial Queue Delay (d ₃), s/veh				0.0	0.0		0.0	0.0		0.0	0.0									
Control Delay (d), s/veh				12.0	4.2		4.9	7.1		12.8	8.6									
Level of Service (LOS)				B	A		A	A		B	A									
Approach Delay, s/veh / LOS				6.3		A	7.0		A	9.9		10.7								
Intersection Delay, s/veh / LOS							7.7			A										
Multimodal Results				EB		WB		NB		SB										
Pedestrian LOS Score / LOS				1.85		B	1.62		B	1.88		B								
Bicycle LOS Score / LOS				0.98		A	1.78		B	0.53		A								

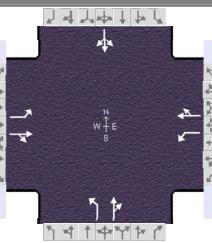
HCS Signalized Intersection Results Summary

General Information								Intersection Information												
Agency									Duration, h	0.250										
Analyst		Analysis Date		2/20/2023		Area Type		Other												
Jurisdiction		Time Period		PHF		0.92														
Urban Street	Tucker Station	Analysis Year	2023	Analysis Period		1 > 7:00														
Intersection	S. Pope Lick at Tucker...	File Name		2023_PM_BuildSig.xus																
Project Description		2023 PM Build																		
Demand Information				EB		WB		NB		SB										
Approach Movement				L	T	R	L	T	R	L	T	R								
Demand (v), veh/h				229	548	10	7	190	100	38	64	26								
Signal Information																				
Cycle, s	25.2	Reference Phase	2																	
Offset, s	0	Reference Point	End	Green	10.0	7.1	0.0	0.0	0.0	0.0										
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	4.0	0.0	0.0	0.0	0.0										
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0	0.0	0.0										
Timer Results				EBL		EBT		WBL		WBT		NBL		NBT		SBL		SBT		
Assigned Phase						2				6				8				4		
Case Number						6.0				6.0				6.0				8.0		
Phase Duration, s						14.0				14.0				11.1				11.1		
Change Period, (Y+R _c), s						4.0				4.0				4.0				4.0		
Max Allow Headway (MAH), s						3.2				3.2				3.3				3.3		
Queue Clearance Time (g _s), s						10.7				9.3				8.0				7.2		
Green Extension Time (g _e), s						0.0				0.7				0.0				0.2		
Phase Call Probability						1.00				1.00				0.97				0.97		
Max Out Probability						1.00				0.02				1.00				1.00		
Movement Group Results				EB			WB			NB			SB							
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R					
Assigned Movement				5	2	12	1	6	16	3	8	18	7	4	14					
Adjusted Flow Rate (v), veh/h				249	607		8	315		41	98				347					
Adjusted Saturation Flow Rate (s), veh/h/ln				1081	1894		827	1789		1173	1806				1544					
Queue Service Time (g _s), s				5.5	7.1		0.2	3.2		0.8	1.0				3.9					
Cycle Queue Clearance Time (g _c), s				8.7	7.1		7.3	3.2		6.0	1.0				5.2					
Green Ratio (g/C)				0.40	0.40		0.40	0.40		0.28	0.28				0.28					
Capacity (c), veh/h				579	756		382	714		378	512				630					
Volume-to-Capacity Ratio (X)				0.430	0.802		0.020	0.441		0.109	0.191				0.550					
Back of Queue (Q), ft/ln (95 th percentile)																				
Back of Queue (Q), veh/ln (95 th percentile)				1.2	3.9		0.0	0.8		0.3	0.4				1.6					
Queue Storage Ratio (RQ) (95 th percentile)				0.00	0.00		0.00	0.00		0.00	0.00				0.00					
Uniform Delay (d ₁), s/veh				8.7	6.7		9.9	5.5		11.1	6.8				8.3					
Incremental Delay (d ₂), s/veh				0.2	5.8		0.0	0.2		0.0	0.1				0.3					
Initial Queue Delay (d ₃), s/veh				0.0	0.0		0.0	0.0		0.0	0.0				0.0					
Control Delay (d), s/veh				8.9	12.5		9.9	5.7		11.1	6.9				8.5					
Level of Service (LOS)				A	B		A	A		B	A				A					
Approach Delay, s/veh / LOS				11.4		B	5.8		A	8.2		A	8.5		A					
Intersection Delay, s/veh / LOS							9.4					A								
Multimodal Results				EB			WB			NB			SB							
Pedestrian LOS Score / LOS				1.86		B	1.63		B	1.87		B	1.87		B					
Bicycle LOS Score / LOS				1.90		B	1.02		A	0.72		A	1.06		A					

HCS Signalized Intersection Results Summary

General Information								Intersection Information			
Agency									Duration, h	0.250	
Analyst		Analysis Date		2/20/2023		Area Type		Other			
Jurisdiction		Time Period		PHF		0.92					
Urban Street	Bluegrass Parkway		Analysis Year	2023		Analysis Period		1 > 7:00			
Intersection	Bluegrass Parkway at T...		File Name	2033_AM_BuildSig.xus							
Project Description		2033 AM Build									
Demand Information				EB		WB		NB		SB	
Approach Movement				L	T	R	L	T	R	L	T
Demand (v), veh/h				79	256	134	103	405	18	66	22
Signal Information											
Cycle, s	21.5	Reference Phase	2				1	2	3		
Offset, s	0	Reference Point	End	Green	8.8	4.7	0.0	0.0	0.0	0.0	
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	4.0	0.0	0.0	0.0	0.0	
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0	0.0	0.0	
								5	6	7	
										8	
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase						2		6		8	
Case Number						5.0		6.0		6.0	
Phase Duration, s						12.8		12.8		8.7	
Change Period, (Y+R _c), s						4.0		4.0		4.0	
Max Allow Headway (MAH), s						3.2		3.2		3.2	
Queue Clearance Time (g _s), s						7.8		6.1		3.8	
Green Extension Time (g _e), s						1.0		1.4		0.1	
Phase Call Probability						1.00		1.00		0.79	
Max Out Probability						1.00		0.62		1.00	
Movement Group Results				EB		WB		NB		SB	
Approach Movement				L	T	R	L	T	R	L	T
Assigned Movement				5	2	12	1	6	16	3	8
Adjusted Flow Rate (v), veh/h				86	278	146	112	460		72	163
Adjusted Saturation Flow Rate (s), veh/h/ln				947	1900	1610	1118	1886		1422	1647
Queue Service Time (g _s), s				1.7	2.2	1.3	1.7	4.1		0.9	1.8
Cycle Queue Clearance Time (g _c), s				5.8	2.2	1.3	3.8	4.1		1.1	1.8
Green Ratio (g/C)				0.41	0.41	0.41	0.41	0.41		0.22	0.22
Capacity (c), veh/h				541	777	659	679	771		632	361
Volume-to-Capacity Ratio (X)				0.159	0.358	0.221	0.165	0.596		0.114	0.452
Back of Queue (Q), ft/ln (95 th percentile)											
Back of Queue (Q), veh/ln (95 th percentile)				0.3	0.3	0.1	0.2	0.6		0.2	0.6
Queue Storage Ratio (RQ) (95 th percentile)				0.00	0.00	0.00	0.00	0.00		0.00	0.00
Uniform Delay (d ₁), s/veh				7.2	4.4	4.1	5.7	5.0		7.1	7.3
Incremental Delay (d ₂), s/veh				0.1	0.1	0.1	0.0	0.3		0.0	0.0
Initial Queue Delay (d ₃), s/veh				0.0	0.0	0.0	0.0	0.0		0.0	0.0
Control Delay (d), s/veh				7.3	4.5	4.2	5.8	5.2		7.1	7.6
Level of Service (LOS)				A	A	A	A	A		A	A
Approach Delay, s/veh / LOS				4.9		A	5.3		A	7.5	
Intersection Delay, s/veh / LOS							5.6			A	
Multimodal Results				EB		WB		NB		SB	
Pedestrian LOS Score / LOS				1.85		B	1.63		B	1.87	
Bicycle LOS Score / LOS				1.33		A	1.43		A	0.87	

HCS Signalized Intersection Results Summary

General Information								Intersection Information				
Agency									Duration, h	0.250		
Analyst		Analysis Date		2/20/2023		Area Type		Other				
Jurisdiction		Time Period		PHF		0.92						
Urban Street	Tucker Station	Analysis Year	2023	Analysis Period		1 > 7:00						
Intersection	S. Pope Lick at Tucker...	File Name	2033_PM_BuildSig.xus									
Project Description		2033 PM Build										
Demand Information				EB		WB		NB		SB		
Approach Movement				L	T	R	L	T	R	L	T	R
Demand (v), veh/h				241	568	10	7	195	104	38	64	26
Signal Information												
Cycle, s	26.4	Reference Phase	2									
Offset, s	0	Reference Point	End	Green	10.7	7.6	0.0	0.0	0.0	0.0		
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	4.0	0.0	0.0	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0	0.0	0.0		
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	
Assigned Phase						2				8		4
Case Number						6.0				6.0		8.0
Phase Duration, s						14.7				11.6		11.6
Change Period, (Y+R _c), s						4.0				4.0		4.0
Max Allow Headway (MAH), s						3.2				3.3		3.3
Queue Clearance Time (g _s), s						11.6				8.6		7.7
Green Extension Time (g _e), s						0.0				0.0		0.2
Phase Call Probability						1.00				0.97		0.97
Max Out Probability						1.00				1.00		1.00
Movement Group Results				EB		WB		NB		SB		
Approach Movement				L	T	R	L	T	R	L	T	R
Assigned Movement				5	2	12	1	6	16	3	8	18
Adjusted Flow Rate (v), veh/h				262	628		8	325		41	98	
Adjusted Saturation Flow Rate (s), veh/h/ln				1072	1894		810	1788		1163	1806	
Queue Service Time (g _s), s				6.2	7.8		0.2	3.5		0.9	1.1	
Cycle Queue Clearance Time (g _c), s				9.6	7.8		8.0	3.5		6.6	1.1	
Green Ratio (g/C)				0.41	0.41		0.41	0.41		0.29	0.29	
Capacity (c), veh/h				568	771		364	728		360	524	
Volume-to-Capacity Ratio (X)				0.461	0.815		0.021	0.446		0.115	0.187	
Back of Queue (Q), ft/ln (95 th percentile)												
Back of Queue (Q), veh/ln (95 th percentile)				1.4	4.5		0.0	0.9		0.3	0.4	
Queue Storage Ratio (RQ) (95 th percentile)				0.00	0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d ₁), s/veh				9.2	6.9		10.5	5.7		11.7	7.0	
Incremental Delay (d ₂), s/veh				0.2	6.3		0.0	0.2		0.1	0.1	
Initial Queue Delay (d ₃), s/veh				0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh				9.4	13.2		10.5	5.8		11.8	7.1	
Level of Service (LOS)				A	B		B	A		B	A	
Approach Delay, s/veh / LOS				12.1	B		5.9	A		8.5	A	
Intersection Delay, s/veh / LOS							10.0				A	
Multimodal Results				EB		WB		NB		SB		
Pedestrian LOS Score / LOS				1.86	B		1.63	B		1.87	B	
Bicycle LOS Score / LOS				1.96	B		1.04	A		0.72	A	

HCS Two-Way Stop-Control Report

General Information				Site Information																																						
Analyst	AJK			Intersection				Prop Access 2 at Tucker Station																																		
Agency/Co.	AKE			Jurisdiction				Jefferson County																																		
Date Performed	2/20/2023			East/West Street				S. Pope Lick																																		
Analysis Year	2023			North/South Street				Prop. Access 2																																		
Time Analyzed	2023 AM Build			Peak Hour Factor				0.92																																		
Intersection Orientation	East-West			Analysis Time Period (hrs)				0.25																																		
Project Description	Xebec Development																																									
Lanes																																										
 Major Street: East-West																																										
Vehicle Volumes and Adjustments																																										
Approach	Eastbound				Westbound				Northbound				Southbound																													
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																										
Priority	1U	1	2	3	4U	4	5	6	7	8	9		10	11	12																											
Number of Lanes	0	0	1	0	0	0	1	0	1	0	1		0	0	0																											
Configuration				TR		LT				L		R																														
Volume (veh/h)			135	47		32	712			7		5																														
Percent Heavy Vehicles (%)						3				3		3																														
Proportion Time Blocked																																										
Percent Grade (%)										0																																
Right Turn Channelized										No																																
Median Type Storage	Undivided																																									
Critical and Follow-up Headways																																										
Base Critical Headway (sec)						4.1				7.1		6.2																														
Critical Headway (sec)						4.13				6.43		6.23																														
Base Follow-Up Headway (sec)						2.2				3.5		3.3																														
Follow-Up Headway (sec)						2.23				3.53		3.33																														
Delay, Queue Length, and Level of Service																																										
Flow Rate, v (veh/h)						35				8		5																														
Capacity, c (veh/h)						1369				251		869																														
v/c Ratio						0.03				0.03		0.01																														
95% Queue Length, Q ₉₅ (veh)						0.1				0.1		0.0																														
Control Delay (s/veh)						7.7	0.3			19.8		9.2																														
Level of Service (LOS)						A	A			C		A																														
Approach Delay (s/veh)							0.7			15.4																																
Approach LOS							A			C																																

HCS Two-Way Stop-Control Report

General Information				Site Information																																						
Analyst	AJK			Intersection				Prop Access 2 Tucker Station																																		
Agency/Co.	AKE			Jurisdiction				Jefferson County																																		
Date Performed	2/20/2023			East/West Street				S. Pope Lick																																		
Analysis Year	2023			North/South Street				Prop. Access 2																																		
Time Analyzed	2023 PM Build			Peak Hour Factor				0.92																																		
Intersection Orientation	East-West			Analysis Time Period (hrs)				0.25																																		
Project Description	Xebec Development																																									
Lanes																																										
   <p style="text-align: center;">Major Street: East-West</p>																																										
Vehicle Volumes and Adjustments																																										
Approach	Eastbound				Westbound				Northbound				Southbound																													
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																										
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12																										
Number of Lanes	0	0	1	0	0	0	1	0	1	0	1		0	0	0																											
Configuration				TR		LT				L		R																														
Volume (veh/h)			673	11		8	257			42		29																														
Percent Heavy Vehicles (%)						3				3		3																														
Proportion Time Blocked																																										
Percent Grade (%)											0																															
Right Turn Channelized											No																															
Median Type Storage	Undivided																																									
Critical and Follow-up Headways																																										
Base Critical Headway (sec)						4.1				7.1		6.2																														
Critical Headway (sec)						4.13				6.43		6.23																														
Base Follow-Up Headway (sec)						2.2				3.5		3.3																														
Follow-Up Headway (sec)						2.23				3.53		3.33																														
Delay, Queue Length, and Level of Service																																										
Flow Rate, v (veh/h)						9				46		32																														
Capacity, c (veh/h)						859				253		416																														
v/c Ratio						0.01				0.18		0.08																														
95% Queue Length, Q ₉₅ (veh)						0.0				0.6		0.2																														
Control Delay (s/veh)						9.2	0.1			22.3		14.4																														
Level of Service (LOS)						A	A			C		B																														
Approach Delay (s/veh)	0.4				19.1																																					
Approach LOS	A				C																																					

HCS Two-Way Stop-Control Report

General Information				Site Information																																						
Analyst	AJK			Intersection				Prop Access 2 Tucker Station																																		
Agency/Co.	AKE			Jurisdiction				Jefferson County																																		
Date Performed	2/20/2023			East/West Street				S. Pope Lick																																		
Analysis Year	2023			North/South Street				Prop. Access 2																																		
Time Analyzed	2033 AM Build			Peak Hour Factor				0.92																																		
Intersection Orientation	East-West			Analysis Time Period (hrs)				0.25																																		
Project Description	Xebec Development																																									
Lanes																																										
   <p>Major Street: East-West</p>																																										
Vehicle Volumes and Adjustments																																										
Approach	Eastbound				Westbound				Northbound				Southbound																													
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																										
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12																										
Number of Lanes	0	0	1	0	0	0	1	0	1	0	1		0	0	0																											
Configuration				TR		LT				L		R																														
Volume (veh/h)			140	47		32	737			7		5																														
Percent Heavy Vehicles (%)						3				3		3																														
Proportion Time Blocked																																										
Percent Grade (%)										0																																
Right Turn Channelized										No																																
Median Type Storage	Undivided																																									
Critical and Follow-up Headways																																										
Base Critical Headway (sec)						4.1				7.1		6.2																														
Critical Headway (sec)						4.13				6.43		6.23																														
Base Follow-Up Headway (sec)						2.2				3.5		3.3																														
Follow-Up Headway (sec)						2.23				3.53		3.33																														
Delay, Queue Length, and Level of Service																																										
Flow Rate, v (veh/h)						35				8		5																														
Capacity, c (veh/h)						1362				240		863																														
v/c Ratio						0.03				0.03		0.01																														
95% Queue Length, Q ₉₅ (veh)						0.1				0.1		0.0																														
Control Delay (s/veh)						7.7	0.4			20.5		9.2																														
Level of Service (LOS)						A	A			C		A																														
Approach Delay (s/veh)					0.7				15.8																																	
Approach LOS					A				C																																	

HCS Two-Way Stop-Control Report

General Information				Site Information																																						
Analyst	AJK			Intersection				Prop Access 2 Tucker Station																																		
Agency/Co.	AKE			Jurisdiction				Jefferson County																																		
Date Performed	2/20/2023			East/West Street				S. Pope Lick																																		
Analysis Year	2023			North/South Street				Prop. Access 2																																		
Time Analyzed	2033 PM Build			Peak Hour Factor				0.92																																		
Intersection Orientation	East-West			Analysis Time Period (hrs)				0.25																																		
Project Description	Xebec Development																																									
Lanes																																										
   <p>Major Street: East-West</p>																																										
Vehicle Volumes and Adjustments																																										
Approach	Eastbound				Westbound				Northbound				Southbound																													
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																										
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12																										
Number of Lanes	0	0	1	0	0	0	1	0	1	0	1		0	0	0																											
Configuration				TR		LT				L		R																														
Volume (veh/h)			698	11		8	265			42		29																														
Percent Heavy Vehicles (%)						3				3		3																														
Proportion Time Blocked																																										
Percent Grade (%)										0																																
Right Turn Channelized										No																																
Median Type Storage	Undivided																																									
Critical and Follow-up Headways																																										
Base Critical Headway (sec)						4.1				7.1		6.2																														
Critical Headway (sec)						4.13				6.43		6.23																														
Base Follow-Up Headway (sec)						2.2				3.5		3.3																														
Follow-Up Headway (sec)						2.23				3.53		3.33																														
Delay, Queue Length, and Level of Service																																										
Flow Rate, v (veh/h)						9				46		32																														
Capacity, c (veh/h)						840				241		402																														
v/c Ratio						0.01				0.19		0.08																														
95% Queue Length, Q ₉₅ (veh)						0.0				0.7		0.3																														
Control Delay (s/veh)						9.3	0.1			23.4		14.7																														
Level of Service (LOS)						A	A			C		B																														
Approach Delay (s/veh)						0.4			19.9																																	
Approach LOS						A			C																																	

HCS Two-Way Stop-Control Report

General Information				Site Information																																						
Analyst	AJK			Intersection				Schutte Station at Plantside Dr																																		
Agency/Co.	AKE			Jurisdiction				Jefferson Co																																		
Date Performed	2/20/2023			East/West Street				Plantside Dr.																																		
Analysis Year	2023			North/South Street				Schutte Station																																		
Time Analyzed	2023 AM No Build			Peak Hour Factor				0.92																																		
Intersection Orientation	East-West			Analysis Time Period (hrs)				0.25																																		
Project Description	Xebec Development																																									
Lanes																																										
  Major Street: East-West																																										
Vehicle Volumes and Adjustments																																										
Approach	Eastbound				Westbound				Northbound				Southbound																													
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																										
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12																										
Number of Lanes	0	0	2	0	0	0	2	0	0	1	0	0	0	1	0	0																										
Configuration		LT		TR		LT		TR		LTR				LTR																												
Volume (veh/h)		11	172	21		2	110	2	1	0	0		0	0	0	6																										
Percent Heavy Vehicles (%)		3				3			3	3	3		3	3	3																											
Proportion Time Blocked																																										
Percent Grade (%)									0				0																													
Right Turn Channelized																																										
Median Type Storage	Undivided																																									
Critical and Follow-up Headways																																										
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9																										
Critical Headway (sec)		4.16				4.16				7.56	6.56	6.96		7.56	6.56	6.96																										
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3																										
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33																										
Delay, Queue Length, and Level of Service																																										
Flow Rate, v (veh/h)		12				2				1				7																												
Capacity, c (veh/h)		1456				1351				630				988																												
v/c Ratio		0.01				0.00				0.00				0.01																												
95% Queue Length, Q ₉₅ (veh)		0.0				0.0				0.0				0.0																												
Control Delay (s/veh)		7.5	0.1			7.7	0.0			10.7				8.7																												
Level of Service (LOS)		A	A			A	A			B				A																												
Approach Delay (s/veh)	0.5			0.1				10.7				8.7																														
Approach LOS	A			A				B				A																														

HCS Two-Way Stop-Control Report

General Information				Site Information																																								
Analyst	AJK			Intersection				Schutte Station at Plantside Dr																																				
Agency/Co.	AKE			Jurisdiction				Jefferson Co																																				
Date Performed	2/20/2023			East/West Street				Plantside Dr.																																				
Analysis Year	2023			North/South Street				Schutte Station																																				
Time Analyzed	2023 AM Build				Peak Hour Factor				0.92																																			
Intersection Orientation	East-West				Analysis Time Period (hrs)				0.25																																			
Project Description	Xebec Development																																											
Lanes																																												
   <p>Major Street: East-West</p>																																												
Vehicle Volumes and Adjustments																																												
Approach	Eastbound				Westbound				Northbound				Southbound																															
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																												
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12																												
Number of Lanes	0	0	2	0	0	0	2	0	0	1	0	0	0	1	0	0																												
Configuration		LT		TR		LT		TR			LTR				LTR																													
Volume (veh/h)		47	172	21		2	110	38		1	0	0		6	0	12																												
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3																												
Proportion Time Blocked																																												
Percent Grade (%)										0				0																														
Right Turn Channelized																																												
Median Type Storage	Undivided																																											
Critical and Follow-up Headways																																												
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9																												
Critical Headway (sec)		4.16				4.16				7.56	6.56	6.96		7.56	6.56	6.96																												
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3																												
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33																												
Delay, Queue Length, and Level of Service																																												
Flow Rate, v (veh/h)		51				2				1				20																														
Capacity, c (veh/h)		1408				1351				534				778																														
v/c Ratio		0.04				0.00				0.00				0.03																														
95% Queue Length, Q ₉₅ (veh)		0.1				0.0				0.0				0.1																														
Control Delay (s/veh)		7.7	0.2			7.7	0.0			11.8				9.7																														
Level of Service (LOS)		A	A			A	A			B				A																														
Approach Delay (s/veh)	1.6				0.1				11.8				9.7																															
Approach LOS	A				A				B				A																															

HCS Two-Way Stop-Control Report

General Information				Site Information																														
Analyst	AJK			Intersection				Schutte Station at Plantside Dr																										
Agency/Co.	AKE			Jurisdiction				Jefferson Co																										
Date Performed	2/20/2023			East/West Street				Plantside Dr.																										
Analysis Year	2023			North/South Street				Schutte Station																										
Time Analyzed	2023 PM No Build			Peak Hour Factor				0.92																										
Intersection Orientation	East-West				Analysis Time Period (hrs)				0.25																									
Project Description	Xebec Development																																	
Lanes																																		
 																																		
Major Street: East-West																																		
Vehicle Volumes and Adjustments																																		
Approach	Eastbound				Westbound				Northbound				Southbound																					
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																		
Priority	1U	1	2	3	4U	4	5	6	7	8	9		10	11	12																			
Number of Lanes	0	0	2	0	0	0	2	0	0	1	0		0	1	0																			
Configuration		LT		TR		LT		TR		LTR				LTR																				
Volume (veh/h)		3	137	2		0	156	1	16	0	1		2	0	11																			
Percent Heavy Vehicles (%)		3				3			3	3	3		3	3	3																			
Proportion Time Blocked																																		
Percent Grade (%)									0				0																					
Right Turn Channelized																																		
Median Type Storage	Undivided																																	
Critical and Follow-up Headways																																		
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9																		
Critical Headway (sec)		4.16				4.16				7.56	6.56	6.96		7.56	6.56	6.96																		
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3																		
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33																		
Delay, Queue Length, and Level of Service																																		
Flow Rate, v (veh/h)		3				0				18				14																				
Capacity, c (veh/h)		1397				1420				692				897																				
v/c Ratio		0.00				0.00				0.03				0.02																				
95% Queue Length, Q ₉₅ (veh)		0.0				0.0				0.1				0.0																				
Control Delay (s/veh)		7.6	0.0			7.5	0.0			10.3				9.1																				
Level of Service (LOS)		A	A			A	A			B				A																				
Approach Delay (s/veh)	0.2			0.0				10.3				9.1																						
Approach LOS	A			A				B				A																						

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	AJK	Intersection	Schutte Station at Plantside Dr
Agency/Co.	AKE	Jurisdiction	Jefferson Co
Date Performed	2/20/2023	East/West Street	Plantside Dr.
Analysis Year	2023	North/South Street	Schutte Station
Time Analyzed	2023 PM Build	Peak Hour Factor	0.92
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Xebec Development		

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1			4.1			7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)		4.16			4.16			7.56	6.56	6.96		7.56	6.56	6.96
Base Follow-Up Headway (sec)		2.2			2.2			3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23			2.23			3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		13			0				18			84
Capacity, c (veh/h)		1385			1420				642			785
v/c Ratio		0.01			0.00				0.03			0.11
95% Queue Length, Q ₉₅ (veh)		0.0			0.0				0.1			0.4
Control Delay (s/veh)		7.6	0.1		7.5	0.0			10.8			10.1
Level of Service (LOS)		A	A		A	A			B			B
Approach Delay (s/veh)		0.7			0.0			10.8			10.1	
Approach LOS		A			A			B			B	

HCS Two-Way Stop-Control Report

General Information				Site Information																																						
Analyst	AJK			Intersection				Schutte Station at Plantside Dr																																		
Agency/Co.	AKE			Jurisdiction				Jefferson Co																																		
Date Performed	2/20/2023			East/West Street				Plantside Dr.																																		
Analysis Year	2023			North/South Street				Schutte Station																																		
Time Analyzed	2033 AM No Build			Peak Hour Factor				0.92																																		
Intersection Orientation	East-West			Analysis Time Period (hrs)				0.25																																		
Project Description	Xebec Development																																									
Lanes																																										
 Major Street: East-West																																										
Vehicle Volumes and Adjustments																																										
Approach	Eastbound				Westbound				Northbound				Southbound																													
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																										
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12																										
Number of Lanes	0	0	2	0	0	0	2	0	0	1	0	0	0	1	0	0																										
Configuration		LT		TR		LT		TR			LTR				LTR																											
Volume (veh/h)		12	180	22		2	115	2		1	0	0		0	0	6																										
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3																										
Proportion Time Blocked																																										
Percent Grade (%)													0		0																											
Right Turn Channelized																																										
Median Type Storage	Undivided																																									
Critical and Follow-up Headways																																										
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9																										
Critical Headway (sec)		4.16				4.16				7.56	6.56	6.96		7.56	6.56	6.96																										
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3																										
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33																										
Delay, Queue Length, and Level of Service																																										
Flow Rate, v (veh/h)		13				2				1				7																												
Capacity, c (veh/h)		1449				1340				615				984																												
v/c Ratio		0.01				0.00				0.00				0.01																												
95% Queue Length, Q ₉₅ (veh)		0.0				0.0				0.0				0.0																												
Control Delay (s/veh)		7.5	0.1			7.7	0.0			10.9				8.7																												
Level of Service (LOS)		A	A			A	A			B				A																												
Approach Delay (s/veh)	0.5			0.1				10.9				8.7																														
Approach LOS	A			A				B				A																														

HCS Two-Way Stop-Control Report

General Information				Site Information																																						
Analyst	AJK			Intersection				Schutte Station at Plantside Dr																																		
Agency/Co.	AKE			Jurisdiction				Jefferson Co																																		
Date Performed	2/20/2023			East/West Street				Plantside Dr.																																		
Analysis Year	2023			North/South Street				Schutte Station																																		
Time Analyzed	2033 AM Build			Peak Hour Factor				0.92																																		
Intersection Orientation	East-West			Analysis Time Period (hrs)				0.25																																		
Project Description	Xebec Development																																									
Lanes																																										
   <p>Major Street: East-West</p>																																										
Vehicle Volumes and Adjustments																																										
Approach	Eastbound				Westbound				Northbound				Southbound																													
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																										
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12																										
Number of Lanes	0	0	2	0	0	0	2	0	0	1	0	0	0	1	0	0																										
Configuration		LT		TR		LT		TR			LTR				LTR																											
Volume (veh/h)		48	180	22		2	115	38		1	0	0		6	0	12																										
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3																										
Proportion Time Blocked																																										
Percent Grade (%)																0																										
Right Turn Channelized																																										
Median Type Storage	Undivided																																									
Critical and Follow-up Headways																																										
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9																										
Critical Headway (sec)		4.16				4.16				7.56	6.56	6.96		7.56	6.56	6.96																										
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3																										
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33																										
Delay, Queue Length, and Level of Service																																										
Flow Rate, v (veh/h)		52				2				1					20																											
Capacity, c (veh/h)		1402				1340				521					769																											
v/c Ratio		0.04				0.00				0.00					0.03																											
95% Queue Length, Q ₉₅ (veh)		0.1				0.0				0.0					0.1																											
Control Delay (s/veh)		7.7	0.2			7.7	0.0			11.9					9.8																											
Level of Service (LOS)		A	A			A	A			B					A																											
Approach Delay (s/veh)	1.6			0.1				11.9				9.8																														
Approach LOS	A			A				B				A																														

HCS Two-Way Stop-Control Report

General Information				Site Information																														
Analyst	AJK			Intersection				Schutte Station at Plantside Dr																										
Agency/Co.	AKE			Jurisdiction				Jefferson Co																										
Date Performed	2/20/2023			East/West Street				Plantside Dr.																										
Analysis Year	2023			North/South Street				Schutte Station																										
Time Analyzed	2033 PM No Build			Peak Hour Factor				0.92																										
Intersection Orientation	East-West				Analysis Time Period (hrs)				0.25																									
Project Description	Xebec Development																																	
Lanes																																		
 																																		
Vehicle Volumes and Adjustments																																		
Approach	Eastbound				Westbound				Northbound				Southbound																					
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																		
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12																		
Number of Lanes	0	0	2	0	0	0	2	0	0	1	0		0	1	0																			
Configuration		LT		TR		LT		TR			LTR				LTR																			
Volume (veh/h)		3	143	2		0	164	1		17	0	1		2	0	12																		
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3																		
Proportion Time Blocked																																		
Percent Grade (%)										0				0																				
Right Turn Channelized																																		
Median Type Storage	Undivided																																	
Critical and Follow-up Headways																																		
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9																		
Critical Headway (sec)		4.16				4.16				7.56	6.56	6.96		7.56	6.56	6.96																		
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3																		
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33																		
Delay, Queue Length, and Level of Service																																		
Flow Rate, v (veh/h)		3				0				20				15																				
Capacity, c (veh/h)		1386				1412				678				893																				
v/c Ratio		0.00				0.00				0.03				0.02																				
95% Queue Length, Q ₉₅ (veh)		0.0				0.0				0.1				0.1																				
Control Delay (s/veh)		7.6	0.0			7.5	0.0			10.5				9.1																				
Level of Service (LOS)		A	A			A	A			B				A																				
Approach Delay (s/veh)	0.2			0.0				10.5				9.1																						
Approach LOS	A			A				B				A																						

HCS Two-Way Stop-Control Report

General Information				Site Information																																								
Analyst	AJK			Intersection				Schutte Station at Plantside Dr																																				
Agency/Co.	AKE			Jurisdiction				Jefferson Co																																				
Date Performed	2/20/2023			East/West Street				Plantside Dr.																																				
Analysis Year	2023			North/South Street				Schutte Station																																				
Time Analyzed	2033 PM Build				Peak Hour Factor				0.92																																			
Intersection Orientation	East-West				Analysis Time Period (hrs)				0.25																																			
Project Description	Xebec Development																																											
Lanes																																												
 																																												
Vehicle Volumes and Adjustments																																												
Approach	Eastbound				Westbound				Northbound				Southbound																															
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																												
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12																												
Number of Lanes	0	0	2	0	0	0	2	0	0	1	0		0	1	0																													
Configuration		LT		TR		LT		TR		LTR				LTR																														
Volume (veh/h)		12	143	2		0	164	10		17	0	1		34	0	44																												
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3																												
Proportion Time Blocked																																												
Percent Grade (%)										0				0																														
Right Turn Channelized																																												
Median Type Storage	Undivided																																											
Critical and Follow-up Headways																																												
Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5	6.5	6.9																												
Critical Headway (sec)		4.16				4.16				7.56	6.56	6.96		7.56	6.56	6.96																												
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3																												
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33																												
Delay, Queue Length, and Level of Service																																												
Flow Rate, v (veh/h)		13				0				20				85																														
Capacity, c (veh/h)		1375				1412				630				776																														
v/c Ratio		0.01				0.00				0.03				0.11																														
95% Queue Length, Q ₉₅ (veh)		0.0				0.0				0.1				0.4																														
Control Delay (s/veh)		7.6	0.1			7.5	0.0			10.9				10.2																														
Level of Service (LOS)		A	A			A	A			B				B																														
Approach Delay (s/veh)	0.6				0.0				10.9				10.2																															
Approach LOS	A				A				B				B																															

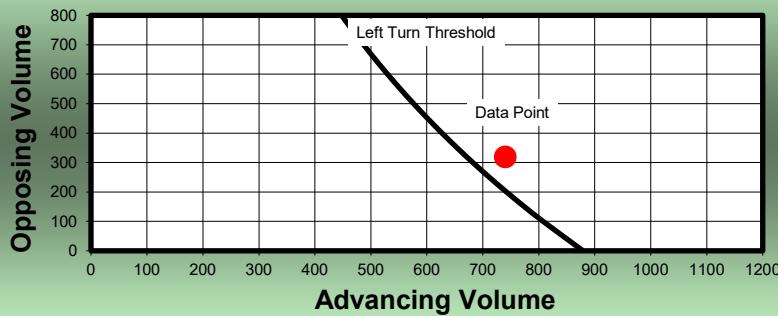
APPENDIX F: AUXILLIARY TURN LANE WARRANTS

Access Point 1 (AM Peak) Westbound Left Turn Lane Warrants

Input Fields

Left Turn Volume (vph)	29	Speed Limit (mph)	35
Advancing Volume (vph)	732	No. of through lanes	1
Opposing Volume (vph)	319	Percent Heavy Vehicles (decimal percent)	0.05

Left Turn Lane Warrants



Left Turn Lane WARRANTED

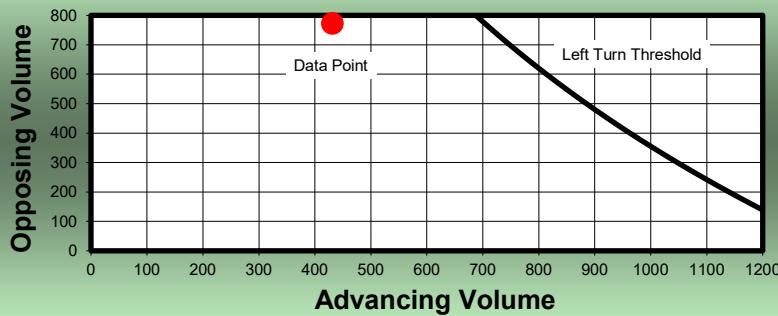
Note: This spreadsheet is intended to supplement the guidance provided in the Auxiliary Turn Lane policy outlined in the KYTC Highway Design Manual. This policy should be fully reviewed and understood prior to using this application.

Access Point 1 (PM Peak) Westbound Left Turn Lane Warrants

Input Fields

Left Turn Volume (vph)	7	Speed Limit (mph)	35
Advancing Volume (vph)	420	No. of through lanes	1
Opposing Volume (vph)	773	Percent Heavy Vehicles (decimal percent)	0.05

Left Turn Lane Warrants



Left Turn Lane NOT Warranted

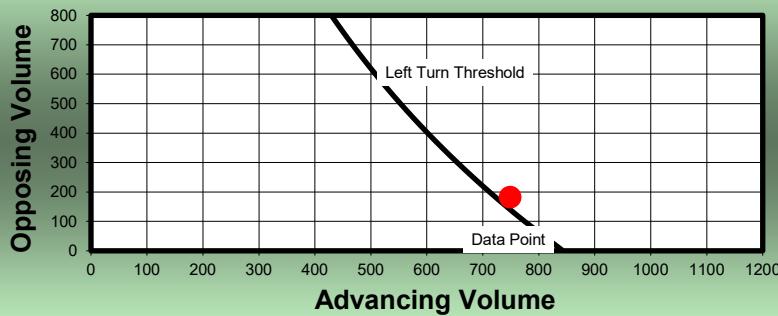
Note: This spreadsheet is intended to supplement the guidance provided in the Auxiliary Turn Lane policy outlined in the KYTC Highway Design Manual. This policy should be fully reviewed and understood prior to using this application.

Access Point 2 (AM Peak) Westbound Left Turn Lane Warrants

Input Fields

Left Turn Volume (vph)	32	Speed Limit (mph)	35
Advancing Volume (vph)	744	No. of through lanes	1
Opposing Volume (vph)	182	Percent Heavy Vehicles (decimal percent)	0.05

Left Turn Lane Warrants



Left Turn Lane WARRANTED

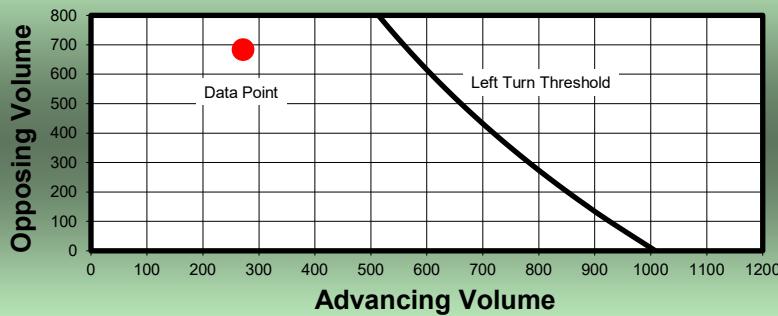
Note: This spreadsheet is intended to supplement the guidance provided in the Auxiliary Turn Lane policy outlined in the KYTC Highway Design Manual. This policy should be fully reviewed and understood prior to using this application.

Access Point 2 (PM Peak) Westbound Left Turn Lane Warrants

Input Fields

Left Turn Volume (vph)	8	Speed Limit (mph)	35
Advancing Volume (vph)	265	No. of through lanes	1
Opposing Volume (vph)	684	Percent Heavy Vehicles (decimal percent)	0.05

Left Turn Lane Warrants



Left Turn Lane NOT Warranted

Note: This spreadsheet is intended to supplement the guidance provided in the Auxiliary Turn Lane policy outlined in the KYTC Highway Design Manual. This policy should be fully reviewed and understood prior to using this application.

Access Point 1 (AM Peak) Eastbound Right Turn Lane Warrants

Input Fields

Right Turn Volume (vph)	47	Speed Limit (mph)	35
Advancing Volume (vph)	187		



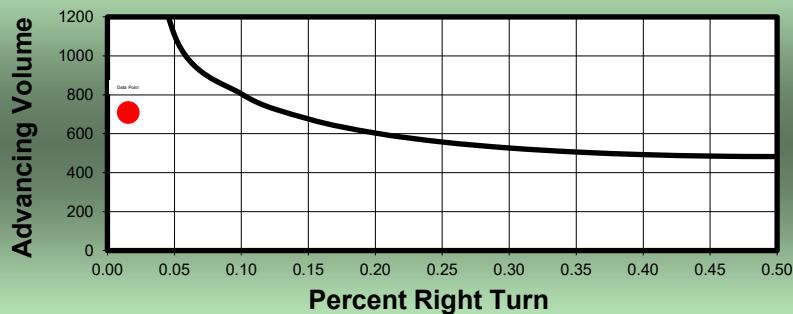
Note: This spreadsheet is intended to supplement the guidance provided in the Auxiliary Turn Lane policy outlined in the KYTC Highway Design Manual. This policy should be fully reviewed and understood prior to using this application.

Access Point 1 (PM Peak) Eastbound Right Turn Lane Warrants

Input Fields

Right Turn Volume (vph)	11	Speed Limit (mph)	35
Advancing Volume (vph)	709		

Right Turn Lane Warrants



Right Turn Lane NOT Warranted

Note: This spreadsheet is intended to supplement the guidance provided in the Auxiliary Turn Lane policy outlined in the KYTC Highway Design Manual. This policy should be fully reviewed and understood prior to using this application.

Access Point 2 (AM Peak) Eastbound Right Turn Lane Warrants

Input Fields

Right Turn Volume (vph)	47	Speed Limit (mph)	35
Advancing Volume (vph)	187		



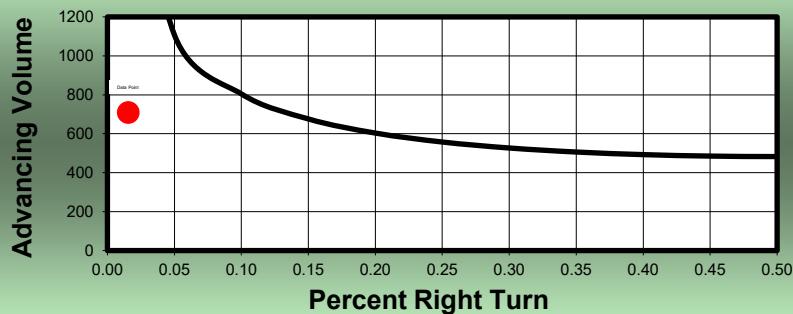
Note: This spreadsheet is intended to supplement the guidance provided in the Auxiliary Turn Lane policy outlined in the KYTC Highway Design Manual. This policy should be fully reviewed and understood prior to using this application.

Access Point 2 (PM Peak) Eastbound Right Turn Lane Warrants

Input Fields

Right Turn Volume (vph)	11	Speed Limit (mph)	35
Advancing Volume (vph)	709		

Right Turn Lane Warrants



Right Turn Lane NOT Warranted

Note: This spreadsheet is intended to supplement the guidance provided in the Auxiliary Turn Lane policy outlined in the KYTC Highway Design Manual. This policy should be fully reviewed and understood prior to using this application.