

final report

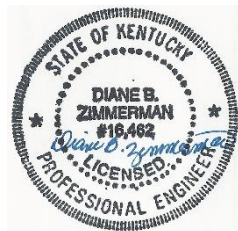
May 6, 2022

Traffic Impact Study

Grocery
KY 22 at KY 1694
Louisville, KY

Prepared for

Louisville Metro Planning Commission
Kentucky Transportation Cabinet



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INTRODUCTION

The development plan for the northeast corner of KY 22 and KY 1694 in Louisville, KY shows a grocery store with two residual tracts. The plan does not contain a building footprint for either tract, Tract 2 is assumed to be a shopping center, and Tract 3 is assumed to have a fast-food restaurant. **Figure 1** displays a map of the site. Access to the development will be from an entrance on KY 22 opposite the LG&E facility and two on KY 1694 – one opposite Glasgow Boulevard, and a right-in/right-out service entrance at the rear. The KY 22 access point will be a $\frac{3}{4}$ access, with no left turn exit. The purpose of this study is to examine the traffic impacts of the development upon the adjacent highway system. For this study the impact area was defined to be the intersections of KY 22 at KY 1694 and at LG&E, and KY 1694 at Glasgow Boulevard and at Worthington Glen Drive/Summit Park Place.

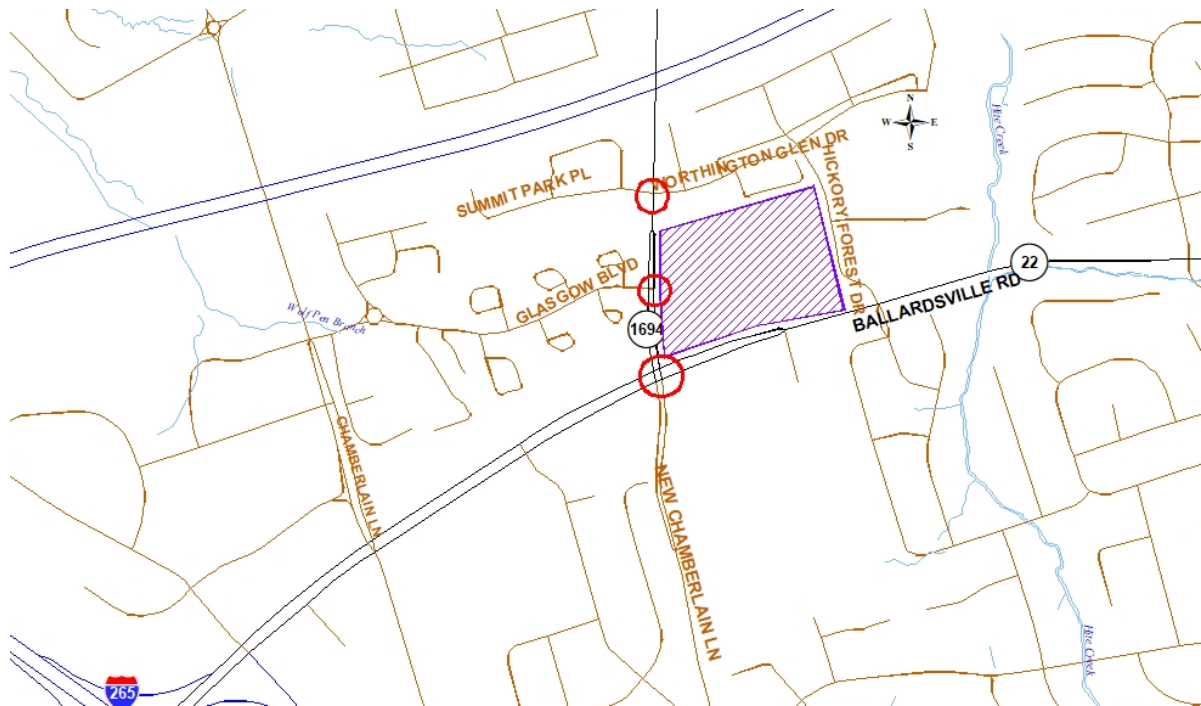


Figure 1. Site Map

EXISTING CONDITIONS

KY 22 (Ballardsville Road) is maintained by the Kentucky Transportation Cabinet (KYTC) with an estimated 2021 ADT of 14,600 vehicles per day between KY 1694 and the Oldham County line, as estimated from 2018 count KYTC station 008. The road has four lanes with twelve-foot lanes with curb and gutter. East of the LG&E entrance the road is two lanes. The posted speed limit is 45 mph. There are sidewalks. The intersection with KY 1694 is controlled with a traffic signal. There are dedicated left turn lanes at the intersection. The eastbound approach has dual left turn lanes and the southbound approach has dual right turn lanes.

KY 1694 (Brownsboro Road) is maintained by the Kentucky Transportation Cabinet (KYTC) with an estimated 2021 ADT of 14,100 vehicles per day north of KY 22, as estimated from the turning movement count and applying a K factor of 9.4. The road has four lanes with twelve-foot lanes with curb and gutter. North of the property the road is two lanes. The posted speed limit is 45 mph. There are sidewalks.

Peak hour traffic counts for the intersections were obtained on Tuesday, November 9, 2021 (see Appendix A). The a.m. peak hour occurred between 7:30 and 8:30 and the p.m. peak hour occurred between 4:45 and 5:45 p.m. **Figure 2** illustrates the existing a.m. and p.m. peak hour traffic volumes.

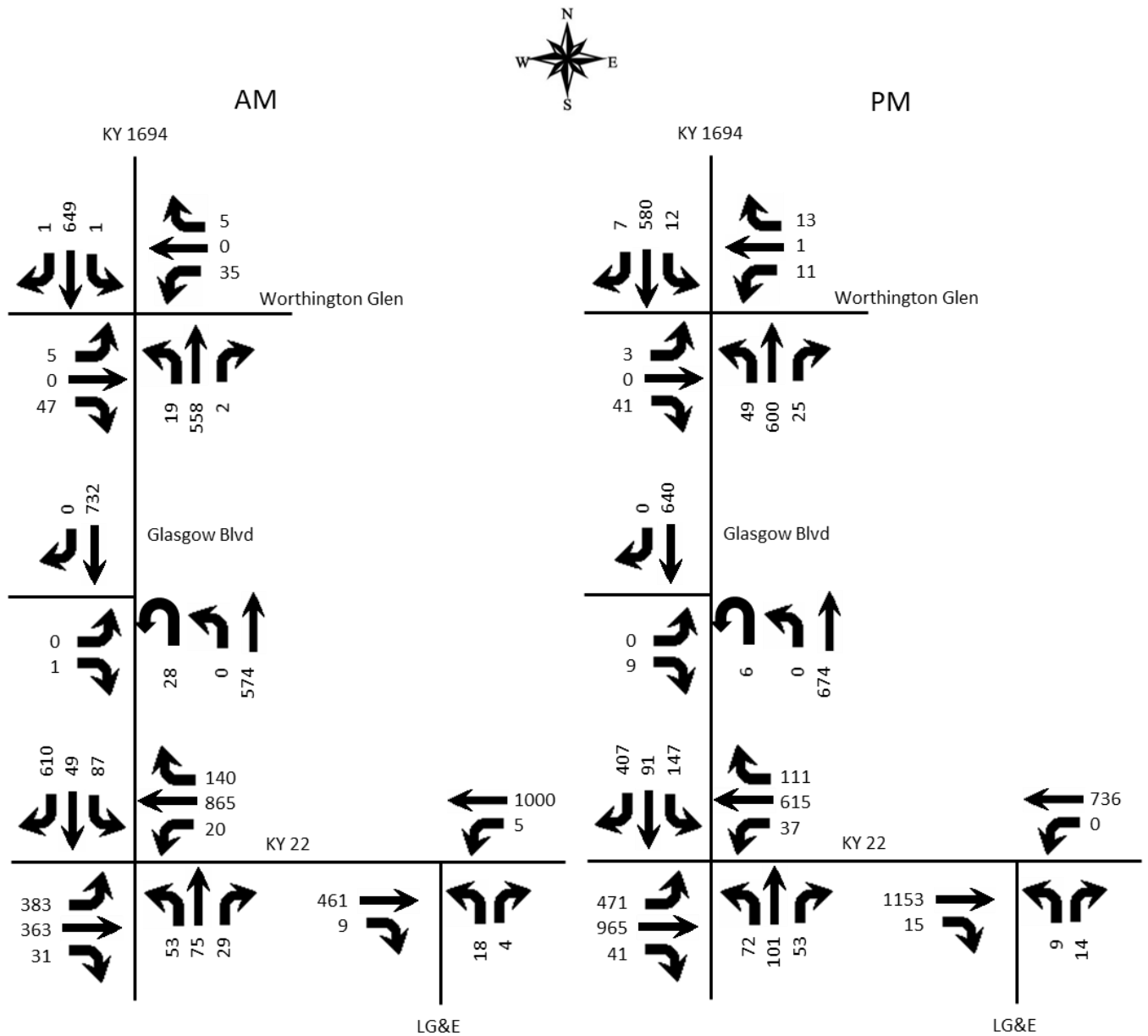


Figure 2. Existing Peak Hour Volumes

FUTURE CONDITIONS

The requested analysis year for this project is 2024. To predict traffic volumes in 2024, 1.4 percent annual growth in traffic was added to the 2021 volumes on KY 22. This growth rate is the determined using the “Fischer Farm with Norton Commons Full Build-Out” study dated December 12, 2019. Additionally, the turning movements to and from KY 1694 used 5.5 percent annual growth. **Figure 3** displays the 2024 No Build volumes.

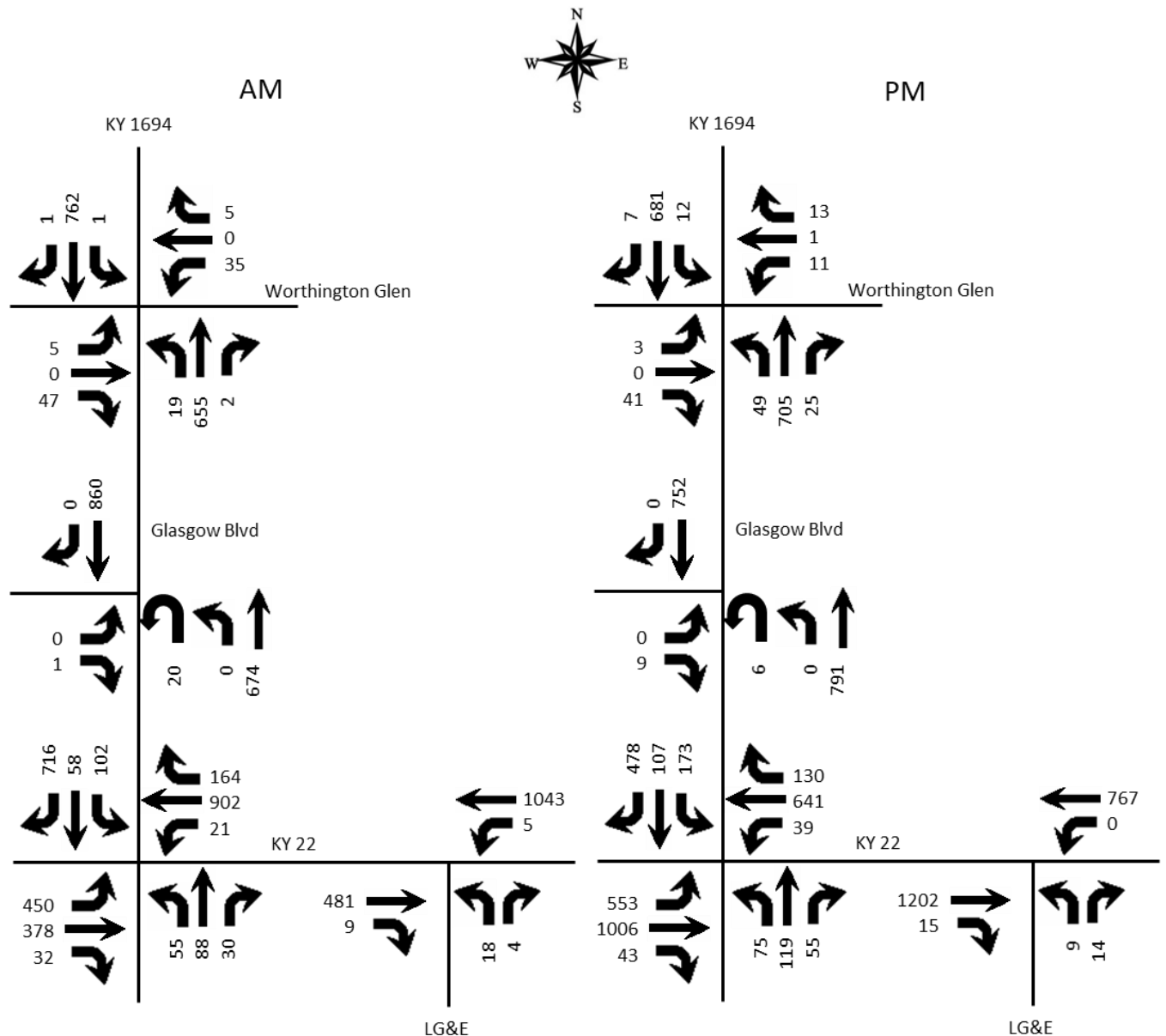


Figure 3. 2024 No Build Peak Hour Volumes

TRIP GENERATION

The Institute of Transportation Engineers Trip Generation Manual, 11th Edition contains trip generation rates for a wide range of developments. The land uses were reviewed and determined to be the best match. The trip generation results are listed in **Table 1**. The primary trips were assigned to the highway network with the percentages shown in **Figure 4**. The pass-by trips are assigned using the existing traffic passing the site. These trips are shown in parenthesis. **Figure 5** shows the trips generated by this development and distributed throughout the road network for the year 2024 during the peak hours. **Figure 6** displays the individual turning movements for the year 2024 for the peak hours when the development is completed.

Table 1. Peak Hour Trips Generated by Site

Land Use	A.M. Peak Hour				P.M. Peak Hour			
	Trips	In	Out	Pass-by	Trips	In	Out	Pass-by
Supermarket (62,101 sf)	178	105	73	0	525	263	262	126
Fast-Food Restaurant (5,000 sf)	223	114	109	112	165	86	79	91
Shopping Center (60,000 sf)	104	64	40	0	311	152	159	124
TOTAL	505	283	222	112	1001	501	500	341

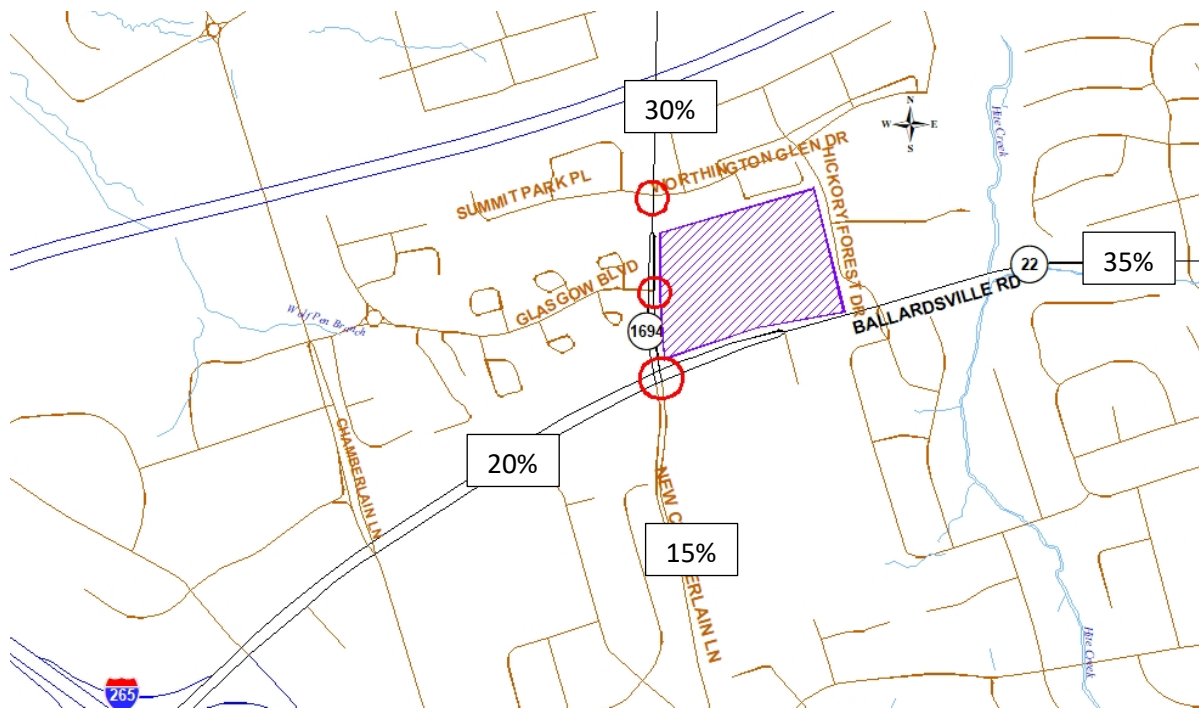


Figure 4. Trip Distribution Percentages

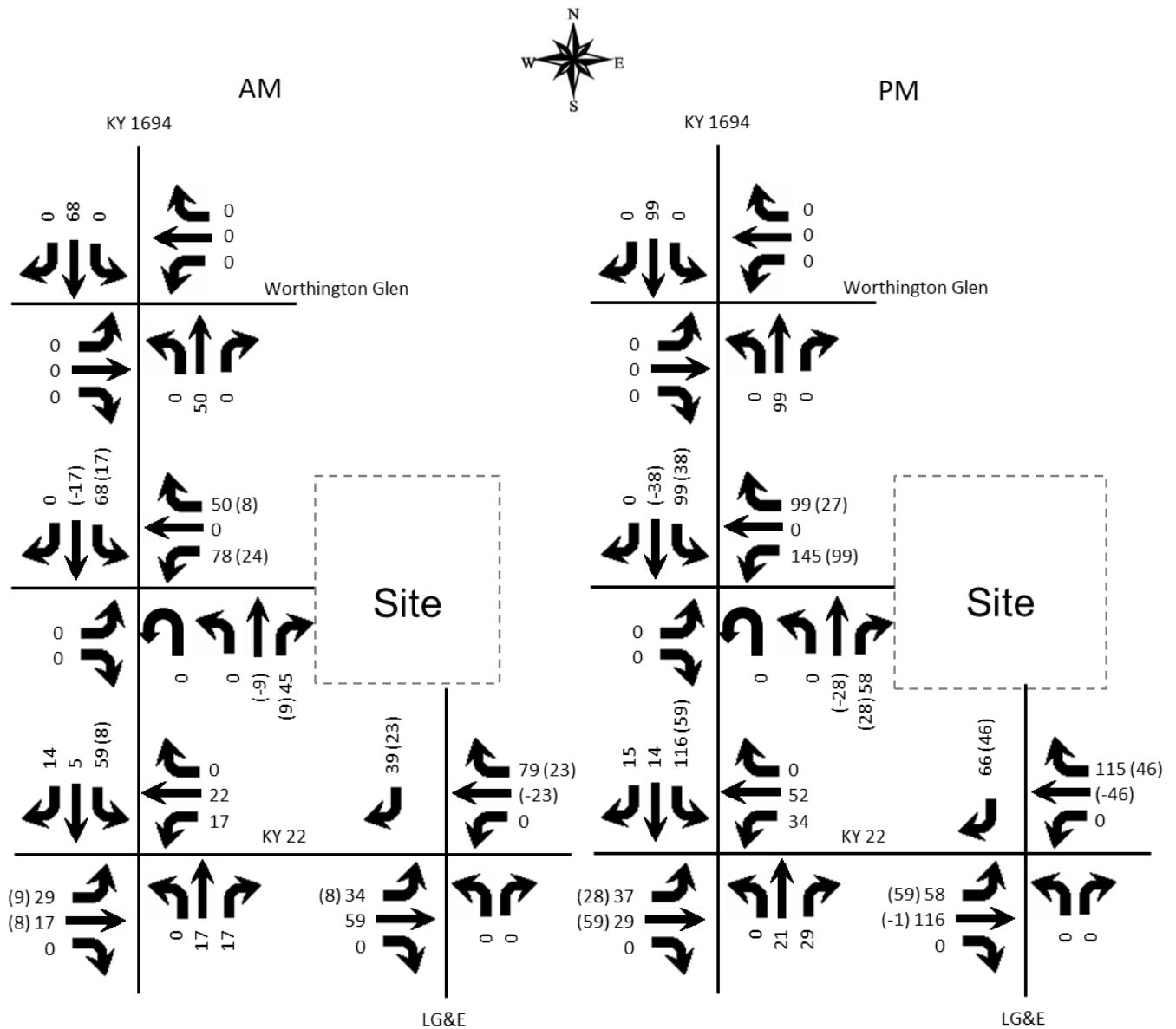


Figure 5. Peak Hour Trips Generated by Site

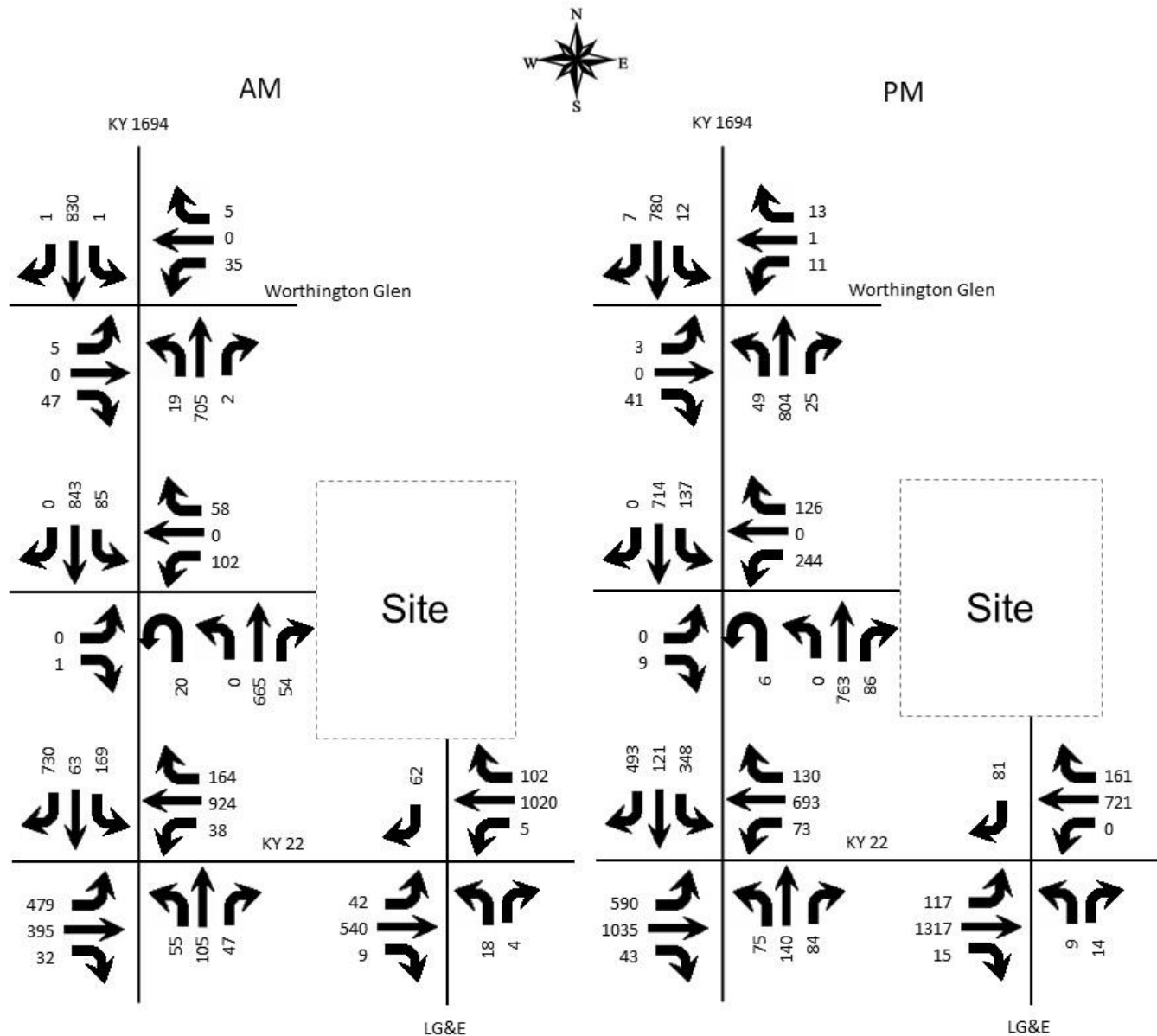


Figure 6. 2024 Peak Hour Build

ANALYSIS

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

To evaluate the impact of the proposed development, the vehicle delays at the intersections were determined using procedures detailed in the Highway Capacity Manual, 6th edition. Future delays and Level of Service were determined

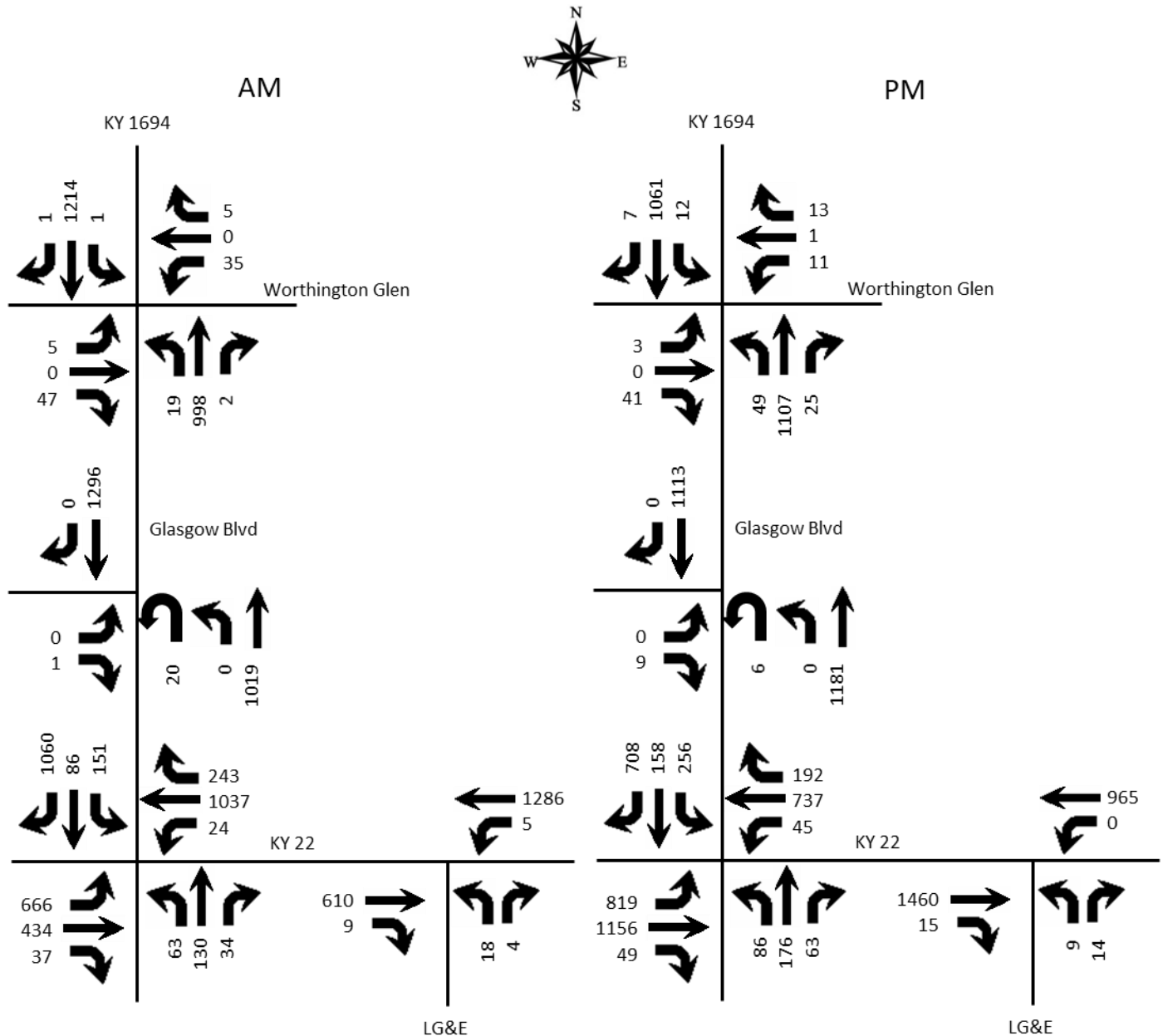
for the intersections using the HCS Streets (version 7.9.5) software. The delays and Level of Service are summarized in **Table 2**. The entrance on KY 22 includes the installation of a traffic signal.

Table 2. Peak Hour Level of Service

	A.M.			P.M.		
Approach	2021 Existing	2024 No Build	2024 Build	2021 Existing	2024 No Build	2024 Build
KY 22 at KY 1694	C 34.8	C 40.3	D 43.4	C 30.1	C 32.9	D 43.0
KY 22 Eastbound	C 33.8	D 40.1	D 43.0	C 25.5	C 28.0	D 38.3
KY 22 Westbound	D 37.6	D 44.1	D 47.2	D 37.4	D 42.4	D 54.4
New Chamberlain Lane Northbound	D 54.2	E 62.5	E 64.0	D 45.4	D 47.9	E 58.1
KY 1694 Southbound	C 27.6	C 31.3	C 34.1	C 26.8	C 27.4	C 35.0
KY 22 at LG&E/Entrance						
KY 22 Eastbound	NA	NA	B 11.8			B 10.9
KY 22 Westbound	A 9.4	A 9.5	A 9.8	B 11.3	B 11.6	B 12.4
LG&E Northbound	C 23.8	D 25.0	F 69.0	C 15.8	C 16.7	E 47.5
Entrance Southbound			C 24.4			C 16.3
KY 1694 at Glasgow Boulevard						
Glasgow Boulevard Eastbound	B 11.8	B 13.3	C 20.5	A 9.9	B 10.3	B 10.1
Entrance Westbound			F 51.4			F 139.7
KY 1694 Northbound	B 14.9	C 17.7	C 17.3	B 11.6	B 12.8	B 12.4
KY 1694 Southbound			B 10.3			B 10.6
KY 1694 at Worthington Glenn						
Summit Park Eastbound	C 15.1	C 17.6	C 19.5	B 12.2	B 13.3	B 14.7
Worthington Glen Westbound	D 27.7	E 38.0	E 45.8	B 13.4	C 15.5	C 18.1
KY 1694 Northbound	A 9.5	B 10.1	B 10.5	A 8.8	A 9.2	A 9.6
KY 1694 Southbound	A 9.0	A 9.4	A 9.7	A 8.8	A 9.2	A 9.6

Key: Level of Service, Delay in seconds per vehicle

The entrances were evaluated for turn lanes using the Kentucky Transportation Cabinet [Highway Design Guidance Manual](#) dated July, 2020. The traffic impact policy requires using volumes for ten years beyond build-out, or 2034. The 2034 volumes were determined applying a 1.4 percent annual growth rate from 2024 to KY 22 and 4.0 percent annual growth to KY 1694. Figure 7 illustrates the 2034 No Build volumes. Figure 8 illustrates the 2034 Build Volumes. Using the volumes in Figure 8, the volume warrant is satisfied for a right turn lane at both entrances. Table 3 summarizes the delay and Level of Service for 2034.



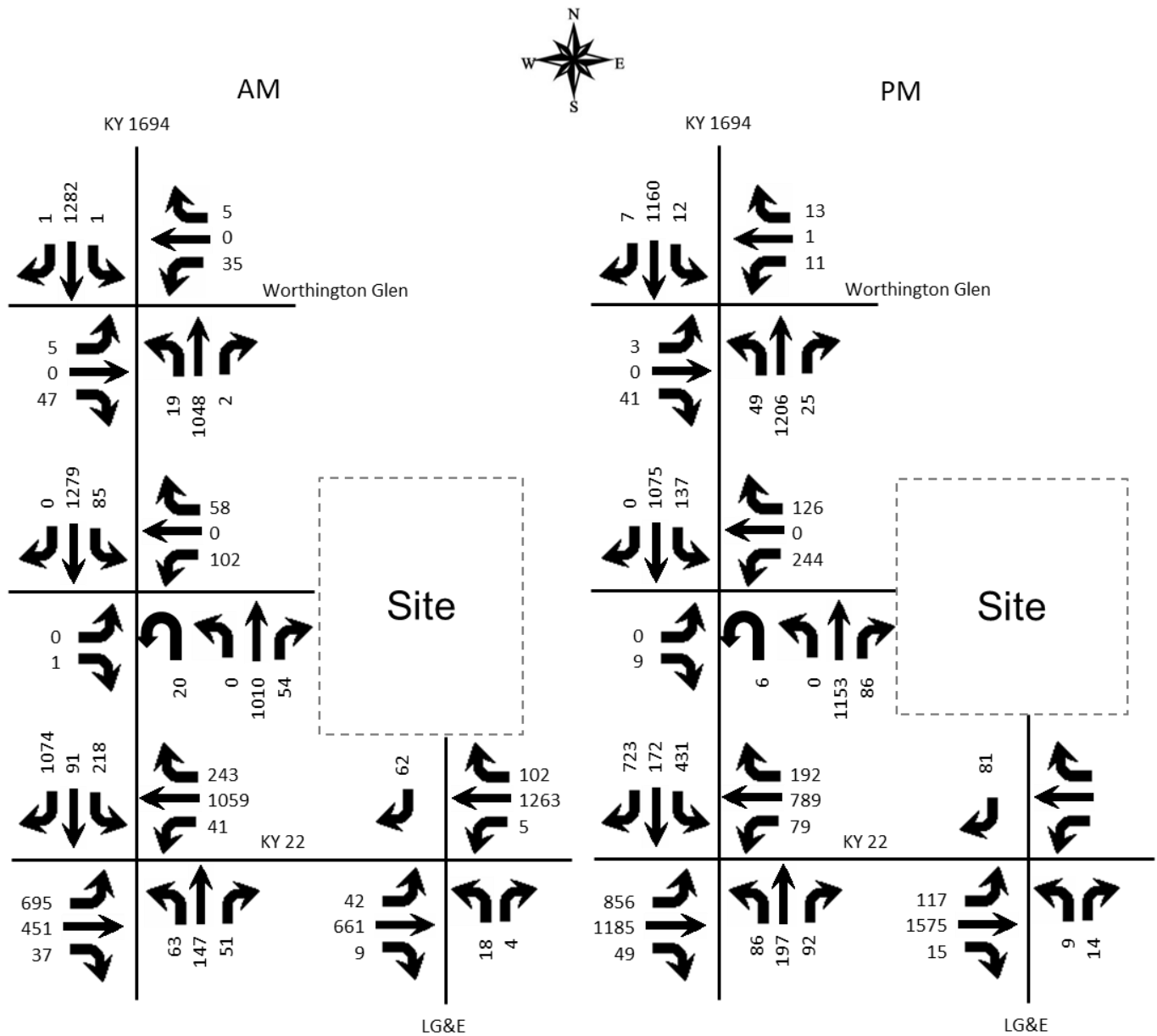


Table 3. Peak Hour Level of Service

	A.M.			P.M.		
Approach	2021 Existing	2034 No Build	2034 Build	2021 Existing	2034 No Build	2034 Build
KY 22 at KY 1694	C 34.8	E 57.8	E 62.7	C 30.1	D 46.7	E 59.3
KY 22 Eastbound	C 33.8	D 51.0	D 52.9	C 25.5	D 41.2	D 51.7
KY 22 Westbound	D 37.6	E 55.3	E 58.0	D 37.4	E 60.2	E 70.1
New Chamberlain Lane Northbound	D 54.2	E 76.5	E 76.8	D 45.4	E 66.5	E 74.9
KY 1694 Southbound	C 27.6	E 61.0	E 69.8	C 26.8	D 36.4	E 55.1
KY 22 at LG&E/Entrance						
KY 22 Eastbound	NA	NA	B 13.9			B 12.3
KY 22 Westbound	A 9.4	B 10.2	B 10.5	B 11.3	B 13.4	B 14.4
LG&E Northbound	C 23.8	D 34.4	F 292.3	C 15.8	C 22.5	F 131.0
Entrance Southbound			E 37.6			C 21.3
KY 1694 at Glasgow Boulevard						
Glasgow Boulevard Eastbound	B 11.8	C 21.4	E 42.5	A 9.9	B 12.0	B 11.8
Entrance Westbound			F 252.0			F 430.3
KY 1694 Northbound	B 14.9	E 36.6	E 35.5	B 11.6	C 18.6	C 17.8
KY 1694 Southbound			B 13.4			B 13.6
KY 1694 at Worthington Glenn						
Summit Park Eastbound	C 15.1	E 46.1	F 55.1	B 12.2	C 20.0	C 22.6
Worthington Glen Westbound	D 27.7	F 251.0	F 390.2	B 13.4	D 31.2	E 39.4
KY 1694 Northbound	A 9.5	B 13.5	B 14.2	A 8.8	B 11.0	B 11.6
KY 1694 Southbound	A 9.0	B 11.4	B 11.8	A 8.8	B 11.0	B 11.6

Key: Level of Service, Delay in seconds per vehicle

CONCLUSIONS

Based upon the volume of traffic generated by the development and the amount of traffic forecasted for the year 2024 and 2034, there will be an impact to the existing highway network. The volume warrants for a right turn lane are met for both entrances. Once a development plan for tract 2 is provided, a connection to Hickory Forrest Drive should be provided. This will provide relief to the entrance opposite Glasgow Boulevard, which is the currently serving all eastbound KY 22 traffic from the site.

APPENDIX

Traffic Counts

Classified Turn Movement Count || All vehicles



www.marrtraffic.com

Jefferson County, KY

Site 1 of 4

New Chamberlain Ln
KY-1694 Brownsboro Rd
SR-22 Brownsboro Rd
SR-22 Ballardsville Rd

Date

Tuesday, November 9, 2021

Weather

Mostly Cloudy
57°F

Lat/Long

38.315524°, -85.561416°

0700 - 0900 (Weekday 2h Session) (11-09-2021)

All vehicles

	Northbound					Southbound					Eastbound					Westbound					Int
	New Chamberlain Ln					KY-1694 Brownsboro Rd					SR-22 Brownsboro Rd					SR-22 Ballardsville Rd					
TIME	1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	Total
0700 - 0715	7	9	0	0	16	14	10	156	0	180	43	60	21	2	126	2	212	14	0	228	550
0715 - 0730	21	14	6	0	41	15	8	144	0	167	61	63	16	2	142	3	213	31	0	247	597
0730 - 0745	9	13	7	0	29	22	9	194	0	225	109	91	6	4	210	3	232	57	0	292	756
0745 - 0800	14	23	6	0	43	26	14	166	0	206	81	96	6	0	183	4	209	26	0	239	671
Hourly Total	51	59	19	0	129	77	41	660	0	778	294	310	49	8	661	12	866	128	0	1006	2574
0800 - 0815	18	12	12	0	42	17	14	136	0	167	96	85	7	2	190	7	188	24	0	219	618
0815 - 0830	12	27	4	0	43	22	12	114	0	148	91	91	12	0	194	6	236	33	0	275	660
0830 - 0845	15	20	8	0	43	29	24	160	0	213	127	81	9	0	217	6	190	36	0	232	705
0845 - 0900	23	26	2	0	51	30	23	135	0	188	115	72	8	0	195	2	190	38	0	230	664
Hourly Total	68	85	26	0	179	98	73	545	0	716	429	329	36	2	796	21	804	131	0	956	2647
Grand Total	119	144	45	0	308	175	114	1205	0	1494	723	639	85	10	1457	33	1670	259	0	1962	5221
Approach %	38.64	46.75	14.61	0.00	-	11.71	7.63	80.66	0.00	-	49.62	43.86	5.83	0.69	-	1.68	85.12	13.20	0.00	-	
Intersection %	2.28	2.76	0.86	0.00	5.90	3.35	2.18	23.08	0.00	28.62	13.85	12.24	1.63	0.19	27.91	0.63	31.99	4.96	0.00	37.58	
PHF	0.74	0.69	0.60	0.00	0.91	0.84	0.88	0.79	0.00	0.83	0.86	0.95	0.65	0.38	0.93	0.71	0.92	0.61	0.00	0.88	0.89

1600 - 1800 (Weekday 2h Session) (11-09-2021)

All vehicles

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	New Chamberlain Ln					KY-1694 Brownsboro Rd					SR-22 Brownsboro Rd					SR-22 Ballardsville Rd					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
1600 - 1615	14	17	19	0	50	49	30	131	0	210	118	239	37	22	416	13	117	28	0	158	834
1615 - 1630	14	26	15	0	55	24	15	82	1	122	107	183	10	1	301	11	140	24	0	175	653
1630 - 1645	26	16	15	0	57	35	25	123	0	183	113	203	17	1	334	9	128	21	1	159	733
1645 - 1700	23	27	14	0	64	33	29	92	0	154	99	237	6	1	343	6	158	29	0	193	754
Hourly Total	77	86	63	0	226	141	99	428	1	669	437	862	70	25	1394	39	543	102	1	685	2974
1700 - 1715	14	27	11	0	52	39	22	105	0	166	124	246	10	1	381	7	146	27	0	180	779
1715 - 1730	24	25	14	0	63	40	25	111	0	176	124	228	13	1	366	11	134	37	0	182	787
1730 - 1745	11	22	14	0	47	35	15	99	0	149	119	254	12	2	387	13	177	18	0	208	791
1745 - 1800	16	14	10	0	40	25	12	103	0	140	141	198	9	1	349	14	139	21	0	174	703
Hourly Total	65	88	49	0	202	139	74	418	0	631	508	926	44	5	1483	45	596	103	0	744	3060
Grand Total	142	174	112	0	428	280	173	846	1	1300	945	1788	114	30	2877	84	1139	205	1	1429	6034
Approach %	33.18	40.65	26.17	0.00	-	21.54	13.31	65.08	0.08	-	32.85	62.15	3.96	1.04	-	5.88	79.71	14.35	0.07	-	-
Intersection %	2.35	2.88	1.86	0.00	7.09	4.64	2.87	14.02	0.02	21.54	15.66	29.63	1.89	0.50	47.68	1.39	18.88	3.40	0.02	23.68	-
PHF	0.75	0.94	0.95	0.00	0.88	0.92	0.78	0.92	0.00	0.92	0.94	0.95	0.79	0.63	0.95	0.71	0.87	0.75	0.00	0.92	0.98

KY 22 at KY 1694
Traffic Impact Study

Classified Turn Movement Count || All vehicles

Jefferson County, KY



Site 2 of 4

Driveway

SR-22 Ballardsville Rd (West)
SR-22 Ballardsville Rd (East)

Date

Tuesday, November 9, 2021

Lat/Long

38.316179°, -85.558969°

Weather

Mostly Cloudy
57°F

0700 - 0900 (Weekday 2h Session) (11-09-2021)

All vehicles

TIME	Northbound			
	Driveway			
	Left 2.1	Right 2.2	U-Turn 2.3	App Total
0700 - 0715	2	2	0	4
0715 - 0730	5	11	0	16
0730 - 0745	1	2	0	3
0745 - 0800	5	0	0	5
Hourly Total	13	15	0	28
0800 - 0815	4	1	0	5
0815 - 0830	8	1	0	9
0830 - 0845	2	2	0	4
0845 - 0900	0	0	0	0
Hourly Total	14	4	0	18
Grand Total	27	19	0	46
Approach %	58.70	41.30	0.00	-
Intersection %	0.95	0.67	0.00	1.62
PHF	0.56	0.50	0.00	0.61

Eastbound				Westbound			
SR-22 Ballardsville Rd (West)				SR-22 Ballardsville Rd (East)			
Thru 2.4	Right 2.5	U-Turn 2.6	App Total	Left 2.7	Thru 2.8	U-Turn 2.9	App Total
73	7	1	81	4	224	0	228
79	5	0	84	1	244	0	245
122	2	0	124	2	282	0	284
121	5	0	126	1	231	0	232
395	19	1	415	8	981	0	989
106	1	2	109	1	218	1	220
112	1	0	113	0	269	0	269
117	0	0	117	0	233	0	233
102	1	1	104	0	229	1	230
437	3	3	443	1	949	2	952
832	22	4	858	9	1930	2	1941
96.97	2.56	0.47	-	0.46	99.43	0.10	-
29.24	0.77	0.14	30.16	0.32	67.84	0.07	68.22
0.94	0.45	0.25	0.94	0.50	0.89	0.25	0.88
							0.91

1600 - 1800 (Weekday 2h Session) (11-09-2021)

All vehicles

TIME	Northbound			
	Driveway			
	Left 2.1	Right 2.2	U-Turn 2.3	App Total
1600 - 1615	0	0	0	0
1615 - 1630	0	3	0	3
1630 - 1645	1	0	0	1
1645 - 1700	2	2	0	4
Hourly Total	3	5	0	8
1700 - 1715	1	0	0	1
1715 - 1730	4	9	0	13
1730 - 1745	2	3	0	5
1745 - 1800	1	4	0	5
Hourly Total	8	16	0	24
Grand Total	11	21	0	32
Approach %	34.38	65.63	0.00	-
Intersection %	0.30	0.58	0.00	0.88
PHF	0.56	0.39	0.00	0.44

Eastbound				Westbound			
SR-22 Ballardsville Rd (West)				SR-22 Ballardsville Rd (East)			
Thru 2.4	Right 2.5	U-Turn 2.6	App Total	Left 2.7	Thru 2.8	U-Turn 2.9	App Total
294	2	0	296	3	156	0	159
223	0	1	224	0	173	0	173
244	3	2	249	0	177	0	177
275	3	0	278	0	175	0	175
1036	8	3	1047	3	681	0	684
284	9	1	294	0	164	0	164
288	3	0	291	0	194	0	194
306	0	0	306	0	203	0	203
235	5	2	242	0	169	0	169
1113	17	3	1133	0	730	0	730
2149	25	6	2180	3	1411	0	1414
98.58	1.15	0.28	-	0.21	99.79	0.00	-
59.27	0.69	0.17	60.12	0.08	38.91	0.00	39.00
0.94	0.42	0.25	0.96	0.00	0.91	0.00	0.91
							0.94

KY 22 at KY 1694
Traffic Impact Study

Classified Turn Movement Count || All vehicles

Jefferson County, KY



Site 3 of 4

KY-1694 Brownsboro Rd (South)
KY-1694 Brownsboro Rd (North)
Glasgow Blvd

Date

Tuesday, November 9, 2021

Weather

Mostly Cloudy
57°F

Lat/Long

38.316981°, -85.561542°

0700 - 0900 (Weekday 2h Session) (11-09-2021)

All vehicles

TIME	Northbound KY-1694 Brownsboro Rd (South)				Southbound KY-1694 Brownsboro Rd (North)				Eastbound Glasgow Blvd				Int Total
	Left 3.1	Thru 3.2	U-Turn 3.3	App Total	Thru 3.4	Right 3.5	U-Turn 3.6	App Total	Left 3.7	Right 3.8	U-Turn 3.9	App Total	
0700 - 0715	2	57	2	61	174	0	0	174	0	1	0	1	236
0715 - 0730	1	104	2	107	165	1	0	166	0	0	0	0	273
0730 - 0745	0	169	3	172	236	0	0	236	0	0	0	0	408
0745 - 0800	0	135	3	138	198	0	0	198	0	0	0	0	336
Hourly Total	3	465	10	478	773	1	0	774	0	1	0	1	1253
0800 - 0815	0	118	10	128	151	0	0	151	0	1	0	1	280
0815 - 0830	0	152	4	156	147	0	0	147	0	0	0	0	303
0830 - 0845	0	181	6	187	211	0	0	211	0	0	0	0	398
0845 - 0900	1	170	8	179	171	0	0	171	1	2	0	3	353
Hourly Total	1	621	28	650	680	0	0	680	1	3	0	4	1334
Grand Total	4	1086	38	1128	1453	1	0	1454	1	4	0	5	2587
Approach %	0.35	96.28	3.37	-	99.93	0.07	0.00	-	20.00	80.00	0.00	-	
Intersection %	0.15	41.98	1.47	43.60	56.17	0.04	0.00	56.20	0.04	0.15	0.00	0.19	
PHF	0.25	0.86	0.70	0.87	0.81	0.00	0.00	0.81	0.25	0.38	0.00	0.33	0.84

1600 - 1800 (Weekday 2h Session) (11-09-2021)

All vehicles

TIME	Northbound KY-1694 Brownsboro Rd (South)				Southbound KY-1694 Brownsboro Rd (North)				Eastbound Glasgow Blvd				Int Total
	Left 3.1	Thru 3.2	U-Turn 3.3	App Total	Thru 3.4	Right 3.5	U-Turn 3.6	App Total	Left 3.7	Right 3.8	U-Turn 3.9	App Total	
1600 - 1615	1	161	0	162	207	1	0	208	1	0	0	1	371
1615 - 1630	2	162	1	165	125	1	0	126	0	0	0	0	291
1630 - 1645	0	148	5	153	176	0	0	176	0	0	0	0	329
1645 - 1700	0	158	1	159	161	0	0	161	0	2	0	2	322
Hourly Total	3	629	7	639	669	2	0	671	1	2	0	3	1313
1700 - 1715	0	173	3	176	159	0	0	159	0	0	0	0	335
1715 - 1730	0	173	1	174	163	0	0	163	0	3	0	3	340
1730 - 1745	0	170	1	171	157	0	0	157	0	4	0	4	332
1745 - 1800	1	164	1	166	129	1	0	130	0	2	0	2	298
Hourly Total	1	680	6	687	608	1	0	609	0	9	0	9	1305
Grand Total	4	1309	13	1326	1277	3	0	1280	1	11	0	12	2618
Approach %	0.30	98.72	0.98	-	99.77	0.23	0.00	-	8.33	91.67	0.00	-	
Intersection %	0.15	50.00	0.50	50.65	48.78	0.11	0.00	48.89	0.04	0.42	0.00	0.46	
PHF	0.00	0.97	0.50	0.97	0.98	0.00	0.00	0.98	0.00	0.56	0.00	0.56	0.98

KY 22 at KY 1694
Traffic Impact Study

Classified Turn Movement Count || All vehicles

Jefferson County, KY



Site 4 of 4

KY-1694 Brownsboro Rd (South)
KY-1694 Brownsboro Rd (North)
Summit Park PL
Worthington Glen Dr

Date

Tuesday, November 9, 2021

Weather

Mostly Cloudy
57°F

Lat/Long

38.318591°, -85.561502°

0700 - 0900 (Weekday 2h Session) (11-09-2021)

All vehicles

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	KY-1694 Brownsboro Rd (South)					KY-1694 Brownsboro Rd (North)					Summit Park PL					Worthington Glen Dr					
	Left 4.1	Thru 4.2	Right 4.3	U-Turn 4.4	App Total	Left 4.5	Thru 4.6	Right 4.7	U-Turn 4.8	App Total	Left 4.9	Thru 4.10	Right 4.11	U-Turn 4.12	App Total	Left 4.13	Thru 4.14	Right 4.15	U-Turn 4.16	App Total	
0700 - 0715	2	53	1	0	56	0	160	0	0	160	0	0	10	0	10	7	0	1	0	8	234
0715 - 0730	3	100	0	0	103	0	153	1	0	154	0	0	7	0	7	5	0	2	0	7	271
0730 - 0745	4	168	0	0	172	0	216	0	0	216	1	0	12	0	13	7	0	3	0	10	411
0745 - 0800	4	126	1	0	131	1	174	1	0	176	1	0	13	0	14	12	0	1	0	13	334
Hourly Total	13	447	2	0	462	1	703	2	0	706	2	0	42	0	44	31	0	7	0	38	1250
0800 - 0815	5	118	0	0	123	0	132	0	0	132	2	0	11	0	13	7	0	0	0	7	275
0815 - 0830	6	146	1	0	153	0	127	0	0	127	1	0	11	0	12	9	0	1	0	10	302
0830 - 0845	1	179	1	0	181	0	197	1	0	198	2	0	13	0	15	2	0	4	0	6	400
0845 - 0900	0	168	0	1	169	2	161	2	0	165	3	0	4	0	7	4	0	4	0	8	349
Hourly Total	12	611	2	1	626	2	617	3	0	622	8	0	39	0	47	22	0	9	0	31	1326
Grand Total	25	1058	4	1	1088	3	1320	5	0	1328	10	0	81	0	91	53	0	16	0	69	2576
Approach %	2.30	97.24	0.37	0.09	-	0.23	99.40	0.38	0.00	-	10.99	0.00	89.01	0.00	-	76.81	0.00	23.19	0.00	-	-
Intersection %	0.97	41.07	0.16	0.04	42.24	0.12	51.24	0.19	0.00	51.55	0.39	0.00	3.14	0.00	3.53	2.06	0.00	0.62	0.00	2.68	-
PHF	0.50	0.85	0.50	0.25	0.86	0.25	0.78	0.38	0.00	0.79	0.67	0.00	0.75	0.00	0.78	0.61	0.00	0.56	0.00	0.78	0.83

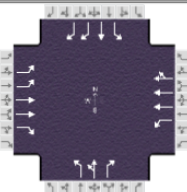
1600 - 1800 (Weekday 2h Session) (11-09-2021)

All vehicles

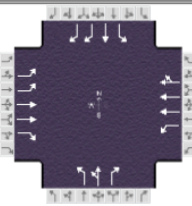
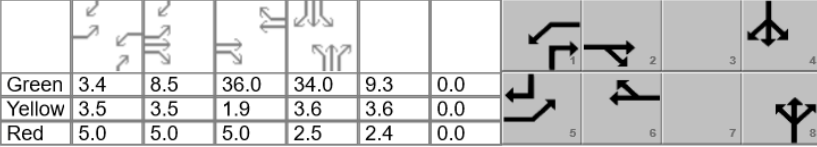
TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	KY-1694 Brownsboro Rd (South)					KY-1694 Brownsboro Rd (North)					Summit Park PL					Worthington Glen Dr					
	Left 4.1	Thru 4.2	Right 4.3	U-Turn 4.4	App Total	Left 4.5	Thru 4.6	Right 4.7	U-Turn 4.8	App Total	Left 4.9	Thru 4.10	Right 4.11	U-Turn 4.12	App Total	Left 4.13	Thru 4.14	Right 4.15	U-Turn 4.16	App Total	
1600 - 1615	9	148	6	0	163	4	201	4	0	209	1	0	5	0	6	4	0	2	0	6	384
1615 - 1630	11	142	9	0	162	4	118	0	0	122	0	0	5	0	5	3	0	1	0	4	293
1630 - 1645	14	127	4	0	145	4	167	2	0	173	0	0	10	0	10	3	0	4	0	7	335
1645 - 1700	14	144	5	0	163	5	139	2	0	146	0	0	12	0	12	2	1	3	0	6	327
Hourly Total	48	561	24	0	633	17	625	8	0	650	1	0	32	0	33	12	1	10	0	23	1339
1700 - 1715	9	157	8	0	174	2	142	2	0	146	3	0	12	0	15	3	0	4	0	7	342
1715 - 1730	13	151	4	0	168	3	153	2	0	158	0	0	7	0	7	5	0	2	0	7	340
1730 - 1745	13	148	8	0	169	2	146	1	0	149	1	0	10	0	11	1	0	4	0	5	334
1745 - 1800	18	135	12	0	165	4	120	4	0	128	0	0	7	0	7	3	0	0	0	3	303
Hourly Total	53	591	32	0	676	11	561	9	0	581	4	0	36	0	40	12	0	10	0	22	1319
Grand Total	101	1152	56	0	1309	28	1186	17	0	1231	5	0	68	0	73	24	1	20	0	45	2658
Approach %	7.72	88.01	4.28	0.00	-	2.27	96.34	1.38	0.00	-	6.85	0.00	93.15	0.00	-	53.33	2.22	44.44	0.00	-	
Intersection %	3.80	43.34	2.11	0.00	49.25	1.05	44.62	0.64	0.00	46.31	0.19	0.00	2.56	0.00	2.75	0.90	0.04	0.75	0.00	1.69	
PHF	0.89	0.92	0.66	0.00	0.93	0.70	0.90	1.00	0.00	0.90	0.25	0.00	0.85	0.00	0.73	0.65	0.25	0.81	0.00	0.96	0.98

HCS Reports

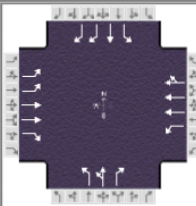
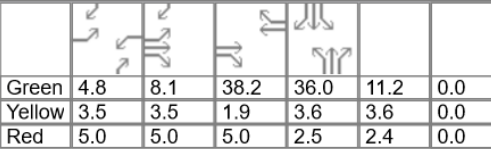
HCS7 Signalized Intersection Results Summary

General Information						Intersection Information															
Agency				Diane B Zimmerman Traffic				Duration, h		0.250											
Analyst		Diane Zimmerman		Analysis Date		Dec 12, 2021		Area Type		Other											
Jurisdiction						Time Period		AM Peak		PHF								0.90			
Urban Street		KY 22		Analysis Year		2021		Analysis Period		1> 7:30											
Intersection		KY 1694		File Name		KY 22 AM.xus															
Project Description				Grocery																	
Demand Information				EB			WB			NB			SB								
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R						
Demand (v), veh/h				383	363	31	20	865	140	53	75	29	87	49	610						
Signal Information																					
Cycle, s	109.4	Reference Phase	2																		
Offset, s	0	Reference Point	End																		
Uncoordinated	Yes	Simult. Gap E/W	On	Green	3.0	5.9	30.6	26.5	7.5	0.0											
				Yellow	3.5	3.5	1.9	3.6	3.6	0.0											
Force Mode	Fixed	Simult. Gap N/S	On	Red	5.0	5.0	5.0	2.5	2.4	0.0											
Timer Results				EBL		EBT		WBL		WBT		NBL		NBT		SBL		SBT			
Assigned Phase				5		2		1		6				8				4			
Case Number				2.0		3.0		2.0		4.0				9.0				9.0			
Phase Duration, s				25.8		51.8		11.5		37.5				13.5				32.6			
Change Period, (Y+R c), s				8.5		6.9		8.5		6.9				6.0				6.1			
Max Allow Headway (MAH), s				5.6		4.1		4.6		4.1				4.6				4.3			
Queue Clearance Time (g s), s				14.0		9.9		3.3		22.5				6.8				22.7			
Green Extension Time (g e), s				3.2		8.1		0.0		8.0				0.7				3.7			
Phase Call Probability				1.00		1.00		0.49		1.00				1.00				1.00			
Max Out Probability				0.00		0.00		0.00		0.01				0.00				0.05			
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				399	378	32	22	762	355	59	83	32	97	54	678						
Adjusted Saturation Flow Rate (s), veh/h/ln				1730	1738	1447	1810	1856	1720	1541	1856	1434	1697	1900	1414						
Queue Service Time (g s), s				12.0	7.9	1.5	1.3	20.4	20.5	4.1	4.8	2.3	5.0	2.4	20.7						
Cycle Queue Clearance Time (g c), s				12.0	7.9	1.5	1.3	20.4	20.5	4.1	4.8	2.3	5.0	2.4	20.7						
Green Ratio (g/C)				0.16	0.41	0.41	0.03	0.28	0.28	0.07	0.07	0.10	0.24	0.24	0.40						
Capacity (c), veh/h				548	1430	595	49	1039	481	105	127	137	411	460	1133						
Volume-to-Capacity Ratio (X)				0.727	0.264	0.054	0.453	0.734	0.737	0.558	0.656	0.235	0.235	0.118	0.598						
Back of Queue (Q), ft/ln (95 th percentile)				227	148	24.6	31.5	362.1	338.7	88.5	112.5	42.3	99.6	51	279.7						
Back of Queue (Q), veh/ln (95 th percentile)				8.9	5.7	0.9	1.3	14.1	13.5	3.1	4.4	1.5	3.7	2.0	11.1						
Queue Storage Ratio (RQ) (95 th percentile)				0.41	0.15	0.04	0.18	0.36	0.35	0.44	0.23	0.21	0.66	0.12	0.66						
Uniform Delay (d 1), s/veh				43.9	21.3	19.4	52.5	35.8	35.8	49.4	49.8	45.9	33.4	32.4	25.9						
Incremental Delay (d 2), s/veh				2.9	0.1	0.0	7.7	1.0	2.2	5.5	6.8	1.1	0.3	0.1	0.5						
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	0.0						
Control Delay (d), s/veh				46.8	21.4	19.5	60.2	36.8	38.0	54.9	56.6	46.9	33.7	32.5	26.4						
Level of Service (LOS)				D	C	B	E	D	D	D	E	D	C	C	C						
Approach Delay, s/veh / LOS				33.8		C		37.6		D		54.2		D		27.6		C			
Intersection Delay, s/veh / LOS				34.8						C											
Multimodal Results				EB			WB			NB			SB								
Pedestrian LOS Score / LOS				2.11 B			2.44 B			2.48 B			2.74 C								
Bicycle LOS Score / LOS				1.20 A			1.11 A			0.78 A			1.86 B								

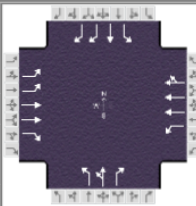
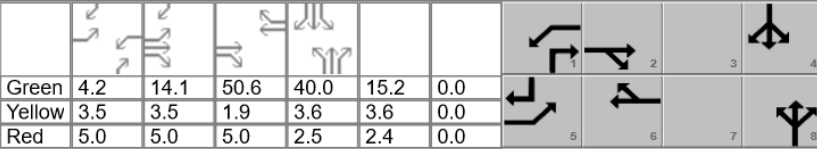
HCS7 Signalized Intersection Results Summary

General Information						Intersection Information											
Agency		Diane B Zimmerman Traffic				Duration, h		0.250									
Analyst		Diane Zimmerman		Analysis Date		Dec 12, 2021		Area Type		Other							
Jurisdiction				Time Period		AM Peak		PHF		0.90							
Urban Street		KY 22		Analysis Year		2024 No Build		Analysis Period		1> 7:30							
Intersection		KY 1694		File Name		KY 24 NB AM.xus											
Project Description		Grocery															
Demand Information						EB			WB			NB			SB		
Approach Movement						L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h						450	378	32	21	902	164	55	88	30	102	58	716
Signal Information																	
Cycle, s		127.2	Reference Phase		2												
Offset, s		0	Reference Point		End												
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						5	2	1	6		8		4				
Case Number						2.0	3.0	2.0	4.0		9.0		9.0				
Phase Duration, s						28.9	59.9	11.9	42.9		15.3		40.1				
Change Period, (Y+R c), s						8.5	6.9	8.5	6.9		6.0		6.1				
Max Allow Headway (MAH), s						5.6	4.1	4.6	4.1		4.6		4.3				
Queue Clearance Time (g s), s						16.9	10.5	3.6	27.6		8.6		30.6				
Green Extension Time (g e), s						3.4	8.5	0.0	8.3		0.7		3.3				
Phase Call Probability						1.00	1.00	0.56	1.00		1.00		1.00				
Max Out Probability						0.00	0.00	0.00	0.01		0.00		0.37				
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						423	355	30	23	811	374	61	98	33	113	64	796
Adjusted Saturation Flow Rate (s), veh/h/ln						1730	1738	1447	1810	1856	1706	1541	1856	1434	1697	1900	1414
Queue Service Time (g s), s						14.9	8.5	1.6	1.6	25.5	25.6	4.9	6.6	2.7	6.7	3.3	28.6
Cycle Queue Clearance Time (g c), s						14.9	8.5	1.6	1.6	25.5	25.6	4.9	6.6	2.7	6.7	3.3	28.6
Green Ratio (g/C)						0.16	0.42	0.42	0.03	0.28	0.28	0.07	0.07	0.10	0.27	0.27	0.43
Capacity (c), veh/h						554	1450	603	48	1051	483	113	136	143	453	508	1209
Volume-to-Capacity Ratio (X)						0.763	0.245	0.050	0.485	0.771	0.773	0.540	0.718	0.232	0.250	0.127	0.658
Back of Queue (Q), ft/ln (95 th percentile)						273.8	163.2	27	38.7	444.2	411.6	105.7	155.5	51	134.4	69.2	371.9
Back of Queue (Q), veh/ln (95 th percentile)						10.8	6.3	1.0	1.5	17.4	16.5	3.7	6.1	1.8	5.1	2.8	14.8
Queue Storage Ratio (RQ) (95 th percentile)						0.50	0.16	0.05	0.22	0.44	0.42	0.53	0.31	0.25	0.90	0.16	0.88
Uniform Delay (d 1), s/veh						51.2	24.1	22.1	61.2	41.9	41.9	57.0	57.8	52.8	36.7	35.4	29.1
Incremental Delay (d 2), s/veh						3.5	0.1	0.0	8.8	1.2	2.7	4.8	8.2	1.0	0.3	0.1	1.0
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	0.0
Control Delay (d), s/veh						54.7	24.2	22.2	70.0	43.1	44.6	61.7	66.0	53.8	37.0	35.5	30.1
Level of Service (LOS)						D	C	C	E	D	D	E	E	D	D	D	C
Approach Delay, s/veh / LOS						40.1	D		44.1	D		62.5	E		31.3	C	
Intersection Delay, s/veh / LOS						40.3						D					
Multimodal Results						EB			WB			NB			SB		
Pedestrian LOS Score / LOS						2.11	B		2.45	B		2.48	B		2.74	C	
Bicycle LOS Score / LOS						1.28	A		1.15	A		0.80	A		2.09	B	

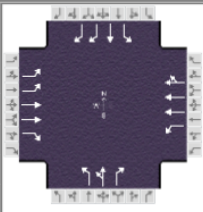
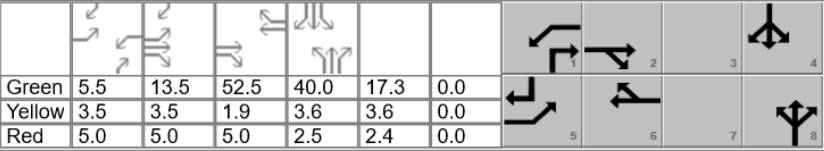
HCS7 Signalized Intersection Results Summary

General Information					Intersection Information															
Agency		Diane B Zimmerman Traffic					Duration, h		0.250											
Analyst		Diane Zimmerman		Analysis Date		Dec 12, 2021		Area Type									Other			
Jurisdiction				Time Period		AM Peak		PHF									0.90			
Urban Street		KY 22		Analysis Year		2024 Build		Analysis Period									1> 7:30			
Intersection		KY 1694		File Name		KY 24 B AM No ent sig.xus														
Project Description		Grocery																		
Demand Information					EB			WB			NB			SB						
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R				
Demand (v), veh/h					479	395	32	38	924	164	55	105	47	169	63	730				
Signal Information																				
Cycle, s	134.3	Reference Phase	2																	
Offset, s	0	Reference Point	End																	
Uncoordinated	Yes	Simult. Gap E/W	On																	
Force Mode	Fixed	Simult. Gap N/S	On																	
					Green	4.8	8.1	38.2	36.0	11.2	0.0									
					Yellow	3.5	3.5	1.9	3.6	3.6	0.0									
					Red	5.0	5.0	5.0	2.5	2.4	0.0									
Timer Results					EBL		EBT		WBL		WBT		NBL		NBT		SBL		SBT	
Assigned Phase					5		2		1		6				8				4	
Case Number					2.0		3.0		2.0		4.0				9.0				9.0	
Phase Duration, s					29.9		61.7		13.3		45.1				17.2				42.1	
Change Period, (Y+R c), s					8.5		6.9		8.5		6.9				6.0				6.1	
Max Allow Headway (MAH), s					5.6		4.1		4.6		4.1				4.6				4.3	
Queue Clearance Time (g s), s					18.0		11.0		5.1		29.7				10.3				33.0	
Green Extension Time (g e), s					3.4		8.7		0.1		8.4				0.9				3.0	
Phase Call Probability					1.00		1.00		0.79		1.00				1.00				1.00	
Max Out Probability					0.00		0.00		0.00		0.02				0.00				0.62	
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					428	353	29	42	827	382	61	117	52	188	70	811				
Adjusted Saturation Flow Rate (s), veh/h/ln					1730	1738	1447	1810	1856	1709	1541	1856	1434	1697	1900	1414				
Queue Service Time (g s), s					16.0	9.0	1.6	3.1	27.6	27.7	5.1	8.3	4.5	12.3	3.8	31.0				
Cycle Queue Clearance Time (g c), s					16.0	9.0	1.6	3.1	27.6	27.7	5.1	8.3	4.5	12.3	3.8	31.0				
Green Ratio (g/C)					0.16	0.41	0.41	0.04	0.28	0.28	0.08	0.08	0.12	0.27	0.27	0.43				
Capacity (c), veh/h					552	1420	591	64	1056	486	129	155	171	455	510	1209				
Volume-to-Capacity Ratio (X)					0.775	0.248	0.048	0.657	0.783	0.785	0.475	0.754	0.306	0.413	0.137	0.671				
Back of Queue (Q), ft/ln (95 th percentile)					290.3	175.2	27.7	74.5	477	441.9	108.8	195.3	83.7	237.5	80	401.6				
Back of Queue (Q), veh/ln (95 th percentile)					11.4	6.7	1.0	3.0	18.6	17.7	3.8	7.6	3.0	8.9	3.2	15.9				
Queue Storage Ratio (RQ) (95 th percentile)					0.53	0.18	0.05	0.43	0.81	0.77	0.54	0.39	0.42	1.58	0.19	0.94				
Uniform Delay (d 1), s/veh					54.2	26.2	24.0	64.1	44.3	44.4	58.9	60.3	54.2	40.5	37.4	30.9				
Incremental Delay (d 2), s/veh					3.7	0.1	0.0	12.9	1.3	2.8	3.3	8.6	1.2	0.6	0.1	1.3				
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	0.0				
Control Delay (d), s/veh					58.0	26.3	24.0	77.0	45.6	47.2	62.1	68.9	55.4	41.1	37.5	32.1				
Level of Service (LOS)					E	C	C	E	D	D	E	E	E	D	D	C				
Approach Delay, s/veh / LOS					43.0	D		47.2	D		64.0	E		34.1	C					
Intersection Delay, s/veh / LOS					43.1							D								
Multimodal Results					EB			WB			NB			SB						
Pedestrian LOS Score / LOS					2.12	B		2.45	B		2.48	B		2.74	C					
Bicycle LOS Score / LOS					1.32	A		1.18	A		0.87	A		2.25	B					

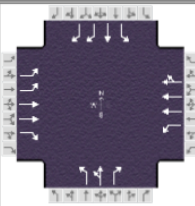
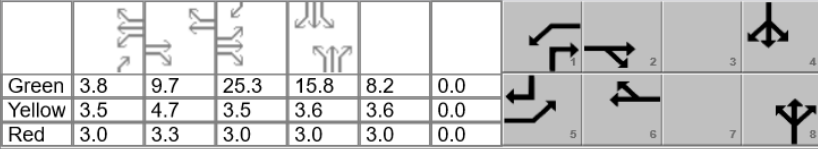
HCS7 Signalized Intersection Results Summary

General Information						Intersection Information											
Agency		Diane B Zimmerman Traffic				Duration, h		0.250									
Analyst		Diane Zimmerman		Analysis Date		Dec 12, 2021		Area Type		Other							
Jurisdiction				Time Period		AM Peak		PHF		0.90							
Urban Street		KY 22		Analysis Year		2034 No Build		Analysis Period		1> 7:30							
Intersection		KY 1694		File Name		KY 34 NB AM.xus											
Project Description		Grocery															
Demand Information						EB			WB			NB			SB		
Approach Movement						L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h						666	434	37	24	1037	243	63	130	34	151	86	1060
Signal Information																	
Cycle, s	160.1	Reference Phase	2	Green	4.2		14.1	50.6	40.0	15.2	0.0	1	2	3	4		
Offset, s	0	Reference Point	End	Yellow	3.5		3.5	1.9	3.6	3.6	0.0	5	6	7	8		
Uncoordinated	Yes	Simult. Gap E/W	On	Red	5.0		5.0	5.0	2.5	2.4	0.0						
Force Mode	Fixed	Simult. Gap N/S	On														
Timer Results						EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase						5	2	1	6		8		4				
Case Number						2.0	3.0	2.0	4.0		9.0		9.0				
Phase Duration, s						35.3	80.1	12.7	57.5		21.2		46.1				
Change Period, (Y+R c), s						8.5	6.9	8.5	6.9		6.0		6.1				
Max Allow Headway (MAH), s						5.6	4.1	4.6	4.1		4.6		4.3				
Queue Clearance Time (g s), s						23.2	10.5	4.3	41.3		14.2		43.0				
Green Extension Time (g e), s						3.6	10.4	0.1	9.3		0.9		0.0				
Phase Call Probability						1.00	1.00	0.69	1.00		1.00		1.00				
Max Out Probability						0.02	0.00	0.00	0.11		0.00		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						474	309	26	27	981	442	70	144	38	168	96	1178
Adjusted Saturation Flow Rate (s), veh/h/ln						1730	1738	1447	1810	1856	1672	1541	1856	1434	1697	1900	1414
Queue Service Time (g s), s						21.2	8.5	1.6	2.3	39.3	39.3	6.9	12.2	3.8	13.2	6.4	41.0
Cycle Queue Clearance Time (g c), s						21.2	8.5	1.6	2.3	39.3	39.3	6.9	12.2	3.8	13.2	6.4	41.0
Green Ratio (g/C)						0.17	0.46	0.46	0.03	0.32	0.32	0.09	0.09	0.12	0.25	0.25	0.42
Capacity (c), veh/h						579	1591	662	47	1174	529	146	176	173	424	475	1215
Volume-to-Capacity Ratio (X)						0.819	0.194	0.040	0.565	0.835	0.835	0.479	0.822	0.218	0.396	0.201	0.969
Back of Queue (Q), ft/ln (95 th percentile)						370.8	167.1	28.2	56.2	658.6	602.5	147.4	268.3	71.7	256	138.2	855.1
Back of Queue (Q), veh/ln (95 th percentile)						14.6	6.4	1.0	2.2	25.7	24.1	5.1	10.5	2.6	9.6	5.5	33.9
Queue Storage Ratio (RQ) (95 th percentile)						0.67	0.17	0.05	0.32	0.66	0.62	0.74	0.54	0.36	1.71	0.33	2.01
Uniform Delay (d 1), s/veh						64.3	25.8	24.0	77.1	50.8	50.8	68.7	71.1	63.6	50.0	47.4	44.6
Incremental Delay (d 2), s/veh						4.6	0.1	0.0	12.2	2.8	6.1	2.9	10.8	0.8	0.6	0.2	18.9
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	0.0
Control Delay (d), s/veh						68.9	25.9	24.0	89.3	53.7	56.9	71.6	82.0	64.3	50.6	47.6	63.5
Level of Service (LOS)						E	C	C	F	D	E	E	F	E	D	D	E
Approach Delay, s/veh / LOS						51.0	D		55.3	E		76.5	E		61.0	E	
Intersection Delay, s/veh / LOS						57.8						E					
Multimodal Results						EB			WB			NB			SB		
Pedestrian LOS Score / LOS						2.12	B		2.46	B		2.49	B		2.75	C	
Bicycle LOS Score / LOS						1.53	B		1.28	A		0.90	A		2.87	C	

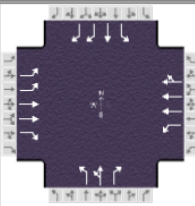
HCS7 Signalized Intersection Results Summary

General Information					Intersection Information											
Agency		Diane B Zimmerman Traffic					Duration, h		0.250							
Analyst		Diane Zimmerman		Analysis Date		Dec 12, 2021		Area Type							Other	
Jurisdiction				Time Period		AM Peak		PHF							0.90	
Urban Street		KY 22		Analysis Year		2034 Build		Analysis Period							1> 7:30	
Intersection		KY 1694		File Name		KY 34 B AM.xus										
Project Description		Grocery														
Demand Information					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h					695	451	37	41	1059	243	63	147	51	218	91	1074
Signal Information																
Cycle, s	164.7	Reference Phase	2													
Offset, s	0	Reference Point	End													
Uncoordinated	Yes	Simult. Gap E/W	On													
Force Mode	Fixed	Simult. Gap N/S	On													
					Green	5.5	13.5	52.5	40.0	17.3	0.0					
					Yellow	3.5	3.5	1.9	3.6	3.6	0.0					
					Red	5.0	5.0	5.0	2.5	2.4	0.0					
Timer Results					EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase					5	2	1	6		8		4				
Case Number					2.0	3.0	2.0	4.0		9.0		9.0				
Phase Duration, s					35.9	81.4	14.0	59.4		23.3		46.1				
Change Period, (Y+R c), s					8.5	6.9	8.5	6.9		6.0		6.1				
Max Allow Headway (MAH), s					5.6	4.1	4.6	4.1		4.6		4.3				
Queue Clearance Time (g s), s					23.9	10.8	6.1	43.2		16.2		43.0				
Green Extension Time (g e), s					3.6	10.7	0.1	9.3		1.0		0.0				
Phase Call Probability					1.00	1.00	0.88	1.00		1.00		1.00				
Max Out Probability					0.02	0.01	0.00	0.14		0.01		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					475	308	25	46	997	450	70	163	57	242	101	1193
Adjusted Saturation Flow Rate (s), veh/h/ln					1730	1738	1447	1810	1856	1675	1541	1856	1434	1697	1900	1414
Queue Service Time (g s), s					21.9	8.8	1.6	4.1	41.2	41.2	7.0	14.2	5.8	20.8	7.0	41.0
Cycle Queue Clearance Time (g c), s					21.9	8.8	1.6	4.1	41.2	41.2	7.0	14.2	5.8	20.8	7.0	41.0
Green Ratio (g/C)					0.17	0.45	0.45	0.03	0.32	0.32	0.10	0.10	0.14	0.24	0.24	0.42
Capacity (c), veh/h					576	1572	654	60	1183	534	162	195	198	412	461	1192
Volume-to-Capacity Ratio (X)					0.824	0.196	0.039	0.758	0.842	0.842	0.433	0.839	0.286	0.588	0.219	1.001
Back of Queue (Q), ft/ln (95 th percentile)					382.1	174.3	28.3	102	689.9	632.9	149.1	302.8	109.8	375.9	152.9	937.6
Back of Queue (Q), veh/ln (95 th percentile)					15.0	6.7	1.0	4.1	26.9	25.3	5.2	11.8	3.9	14.1	6.1	37.2
Queue Storage Ratio (RQ) (95 th percentile)					0.69	0.17	0.05	0.58	1.17	1.10	0.75	0.61	0.55	2.51	0.36	2.21
Uniform Delay (d 1), s/veh					66.3	27.1	25.2	79.0	52.3	52.3	69.2	72.4	63.7	55.1	49.9	47.7
Incremental Delay (d 2), s/veh					4.8	0.1	0.0	20.6	3.3	6.9	2.2	11.0	0.9	2.2	0.2	26.3
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	0.0
Control Delay (d), s/veh					71.1	27.2	25.2	99.6	55.6	59.2	71.4	83.3	64.7	57.3	50.1	74.0
Level of Service (LOS)					E	C	C	F	E	E	E	F	E	E	D	F
Approach Delay, s/veh / LOS					52.9		D	58.0		E	76.8		E	69.8		E
Intersection Delay, s/veh / LOS					62.7					E						
Multimodal Results					EB			WB			NB			SB		
Pedestrian LOS Score / LOS					2.12		B	2.46		B	2.49		B	2.75		C
Bicycle LOS Score / LOS					1.57		B	1.31		A	0.97		A	3.02		C

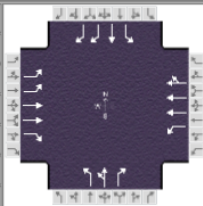
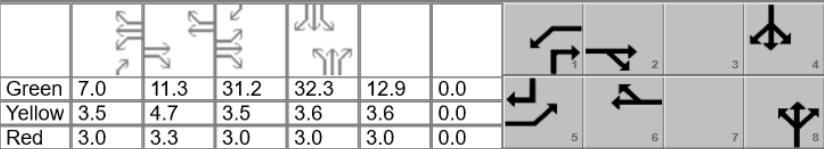
HCS7 Signalized Intersection Results Summary

General Information						Intersection Information											
Agency		Diane B. Zimmerman Traffic				Duration, h		0.250									
Analyst		Diane Zimmerman		Analysis Date		Dec 13, 2021		Area Type		Other							
Jurisdiction				Time Period		PM Peak		PHF		0.98							
Urban Street		KY 22		Analysis Year		2021		Analysis Period		1> 4:45							
Intersection		KY 1694		File Name		KY 22 PM.xus											
Project Description		Grocery															
Demand Information						EB			WB			NB			SB		
Approach Movement						L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h						471	965	41	37	615	111	72	101	53	147	91	407
Signal Information																	
Cycle, s		96.9	Reference Phase		2												
Offset, s		0	Reference Point		End												
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						5	2	1	6		8		4				
Case Number						2.0	3.0	2.0	4.0		9.0		9.0				
Phase Duration, s						31.8	49.4	10.3	28.0		14.8		22.4				
Change Period, (Y+R c), s						8.0	8.0	6.5	8.0		6.6		6.6				
Max Allow Headway (MAH), s						4.4	4.4	4.5	4.0		4.6		4.8				
Queue Clearance Time (g s), s						13.9	23.7	4.0	14.3		7.1		12.0				
Green Extension Time (g e), s						9.8	10.8	0.1	3.0		1.0		3.8				
Phase Call Probability						1.00	1.00	0.64	1.00		1.00		1.00				
Max Out Probability						0.08	0.01	0.00	0.00		0.00		0.00				
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						488	999	42	38	504	237	73	103	54	150	93	415
Adjusted Saturation Flow Rate (s), veh/h/ln						1743	1781	1547	1810	1870	1722	1753	1885	1497	1725	1870	1403
Queue Service Time (g s), s						11.9	21.7	1.6	2.0	12.0	12.3	3.9	5.1	3.2	7.7	4.2	10.0
Cycle Queue Clearance Time (g c), s						11.9	21.7	1.6	2.0	12.0	12.3	3.9	5.1	3.2	7.7	4.2	10.0
Green Ratio (g/C)						0.25	0.43	0.43	0.04	0.21	0.21	0.08	0.08	0.12	0.16	0.16	0.41
Capacity (c), veh/h						856	1523	662	72	772	355	148	159	185	281	305	1145
Volume-to-Capacity Ratio (X)						0.570	0.656	0.064	0.527	0.653	0.666	0.498	0.649	0.292	0.534	0.305	0.363
Back of Queue (Q), ft/ln (95 th percentile)						193.3	305.4	24.4	45	230.2	220	82.6	117.1	57.9	157.5	89.4	144.6
Back of Queue (Q), veh/ln (95 th percentile)						7.7	12.0	0.9	1.8	9.1	8.8	3.2	4.6	2.2	6.0	3.5	5.7
Queue Storage Ratio (RQ) (95 th percentile)						0.35	0.31	0.04	0.26	0.23	0.22	0.41	0.23	0.29	1.05	0.21	0.34
Uniform Delay (d 1), s/veh						32.1	22.1	16.3	45.7	35.3	35.4	42.4	43.0	38.6	37.2	35.7	19.9
Incremental Delay (d 2), s/veh						0.6	0.3	0.0	7.0	0.9	2.2	3.1	5.3	1.0	1.9	0.7	0.2
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	0.0
Control Delay (d), s/veh						32.7	22.4	16.4	52.7	36.2	37.6	45.5	48.3	39.6	39.1	36.4	20.2
Level of Service (LOS)						C	C	B	D	D	D	D	D	D	D	D	C
Approach Delay, s/veh / LOS						25.5	C			37.4	D	45.4	D	26.8	C		
Intersection Delay, s/veh / LOS						30.1						C					
Multimodal Results						EB			WB			NB			SB		
Pedestrian LOS Score / LOS						2.10	B			2.44	B	2.47	B	2.73	C		
Bicycle LOS Score / LOS						1.73	B			0.92	A	0.87	A	1.57	B		

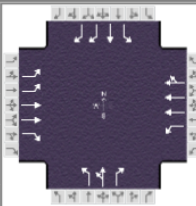
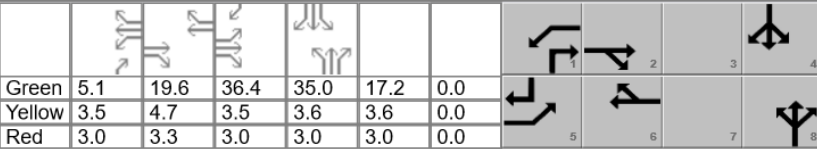
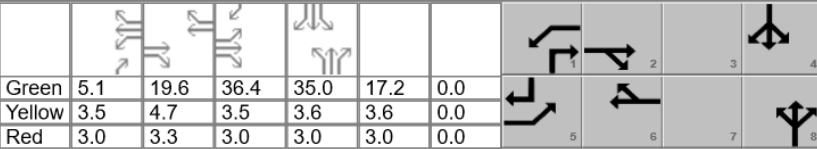
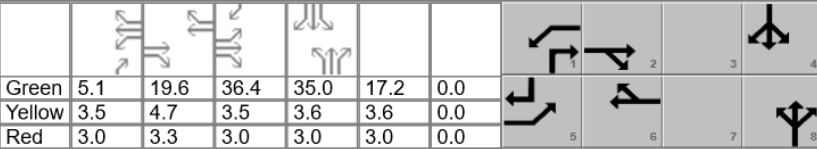
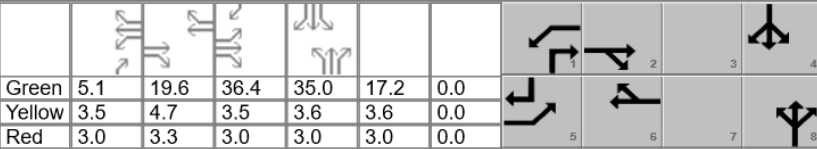
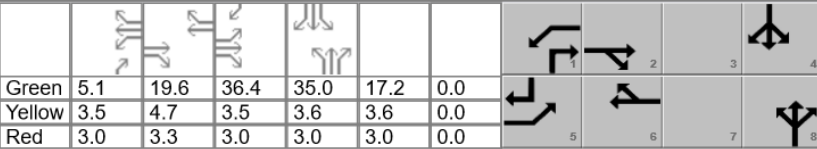
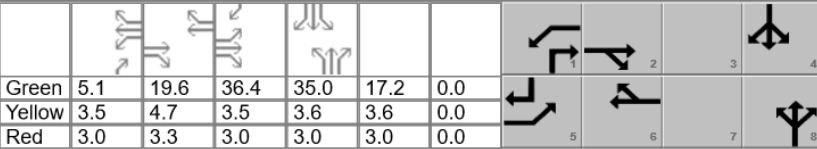
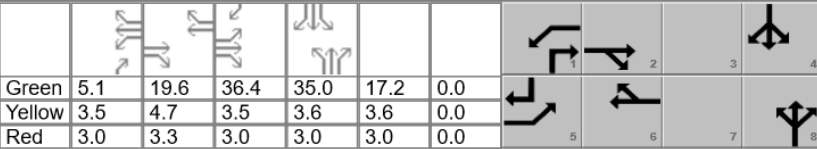
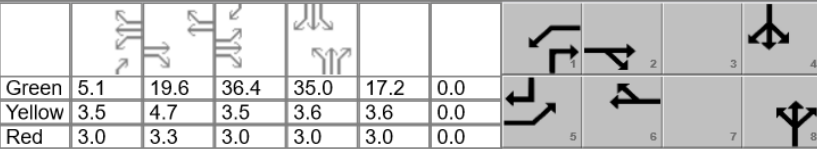
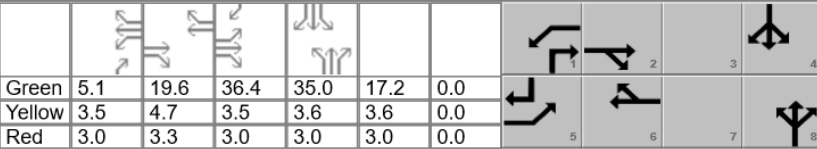
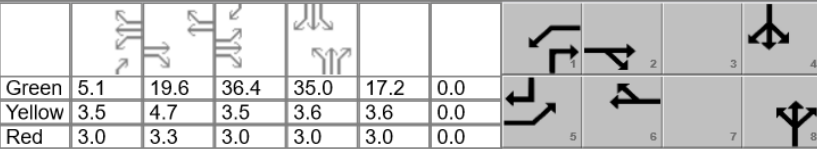
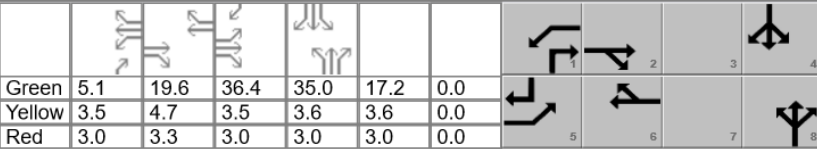
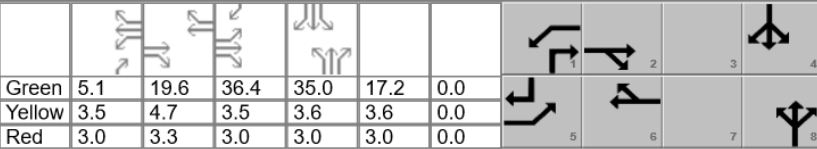
HCS7 Signalized Intersection Results Summary

General Information						Intersection Information										
Agency		Diane B. Zimmerman Traffic				Duration, h		0.250								
Analyst		Diane Zimmerman		Analysis Date		Dec 13, 2021		Area Type		Other						
Jurisdiction				Time Period		PM Peak		PHF		0.98						
Urban Street		KY 22		Analysis Year		2024 No Build		Analysis Period		1> 4:45						
Intersection		KY 1694		File Name		KY 24 NB PM.xus										
Project Description		Grocery														
Demand Information				EB			WB			NB			SB			
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R	
Demand (v), veh/h				553	1006	43	39	641	130	75	119	55	173	107	478	
Signal Information																
Cycle, s	103.6	Reference Phase	2													
Offset, s	0	Reference Point	End													
Uncoordinated	Yes	Simult. Gap E/W	On		Green	4.1	9.4	27.3	19.0	9.6	0.0					
Force Mode	Fixed	Simult. Gap N/S	On		Yellow	3.5	4.7	3.5	3.6	3.6	0.0					
				Red	3.0	3.3	3.0	3.0	3.0	0.0						
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT					
Assigned Phase				5	2	1	6		8		4					
Case Number				2.0	3.0	2.0	4.0		9.0		9.0					
Phase Duration, s				33.8	51.2	10.6	28.0		16.2		25.6					
Change Period, (Y+R c), s				8.0	8.0	6.5	8.0		6.6		6.6					
Max Allow Headway (MAH), s				4.5	4.5	4.5	4.0		4.6		4.8					
Queue Clearance Time (g s), s				15.9	24.3	4.2	16.3		8.5		14.4					
Green Extension Time (g e), s				9.8	11.0	0.1	3.3		1.1		4.5					
Phase Call Probability				1.00	1.00	0.68	1.00		1.00		1.00					
Max Out Probability				0.10	0.01	0.00	0.00		0.00		0.00					
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				528	961	41	40	537	250	77	121	56	177	109	488	
Adjusted Saturation Flow Rate (s), veh/h/ln				1743	1781	1547	1810	1870	1707	1753	1885	1497	1725	1870	1403	
Queue Service Time (g s), s				13.9	22.3	1.6	2.2	14.0	14.3	4.3	6.5	3.5	9.7	5.3	12.4	
Cycle Queue Clearance Time (g c), s				13.9	22.3	1.6	2.2	14.0	14.3	4.3	6.5	3.5	9.7	5.3	12.4	
Green Ratio (g/C)				0.25	0.42	0.42	0.04	0.19	0.19	0.09	0.09	0.13	0.18	0.18	0.43	
Capacity (c), veh/h				868	1485	645	72	723	330	163	175	199	316	343	1212	
Volume-to-Capacity Ratio (X)				0.608	0.647	0.064	0.554	0.743	0.757	0.469	0.692	0.282	0.559	0.319	0.402	
Back of Queue (Q), ft/ln (95 th percentile)				221.9	320.2	26.4	51.1	265.3	253.2	90.8	148.3	63.9	196.9	110.9	180.7	
Back of Queue (Q), veh/ln (95 th percentile)				8.8	12.6	1.0	2.0	10.4	10.1	3.5	5.9	2.4	7.5	4.4	7.1	
Queue Storage Ratio (RQ) (95 th percentile)				0.40	0.32	0.05	0.29	0.27	0.26	0.45	0.30	0.32	1.31	0.26	0.43	
Uniform Delay (d 1), s/veh				34.5	24.1	18.1	48.9	39.4	39.5	44.6	45.6	40.5	38.5	36.7	20.2	
Incremental Delay (d 2), s/veh				0.7	0.3	0.0	7.8	1.5	3.6	2.5	5.8	0.9	1.9	0.6	0.3	
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	0.0	
Control Delay (d), s/veh				35.2	24.4	18.1	56.7	40.9	43.1	47.1	51.4	41.4	40.4	37.4	20.5	
Level of Service (LOS)				D	C	B	E	D	D	D	D	D	D	D	C	
Approach Delay, s/veh / LOS				28.0		C	42.4		D	47.9		D	27.4		C	
Intersection Delay, s/veh / LOS				32.9					C							
Multimodal Results				EB			WB			NB			SB			
Pedestrian LOS Score / LOS				2.10		B	2.45		B	2.47		B	2.73		C	
Bicycle LOS Score / LOS				1.84		B	0.94		A	0.91		A	1.76		B	

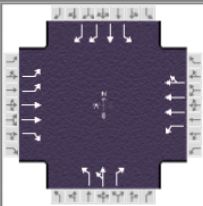
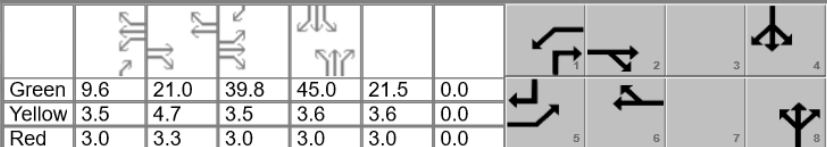
HCS7 Signalized Intersection Results Summary

General Information						Intersection Information													
Agency		Diane B. Zimmerman Traffic				Duration, h		0.250											
Analyst		Diane Zimmerman		Analysis Date		Dec 13, 2021		Area Type								Other			
Jurisdiction				Time Period		PM Peak		PHF								0.98			
Urban Street		KY 22		Analysis Year		2024 Build		Analysis Period								1> 4:45			
Intersection		KY 1694		File Name		KY 24 B PM No ent sig.xus													
Project Description		Grocery																	
Demand Information				EB			WB			NB			SB						
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R				
Demand (v), veh/h				590	1035	43	73	693	130	75	140	84	348	121	493				
Signal Information																			
Cycle, s	128.9	Reference Phase	2																
Offset, s	0	Reference Point	End																
Uncoordinated	Yes	Simult. Gap E/W	On																
Force Mode	Fixed	Simult. Gap N/S	On																
				Green	7.0	11.3	31.2	32.3	12.9	0.0									
				Yellow	3.5	4.7	3.5	3.6	3.6	0.0									
				Red	3.0	3.3	3.0	3.0	3.0	0.0									
Timer Results				EBL		EBT		WBL		WBT		NBL		NBT		SBL		SBT	
Assigned Phase				5		2		1		6				8				4	
Case Number				2.0		3.0		2.0		4.0				9.0				9.0	
Phase Duration, s				37.7		57.0		13.5		32.8				19.5				38.9	
Change Period, (Y+R c), s				8.0		8.0		6.5		8.0				6.6				6.6	
Max Allow Headway (MAH), s				4.5		4.5		4.5		4.0				4.6				4.7	
Queue Clearance Time (g s), s				20.3		31.1		7.2		21.2				11.5				27.1	
Green Extension Time (g e), s				9.3		10.9		0.2		3.5				1.4				5.1	
Phase Call Probability				1.00		1.00		0.93		1.00				1.00				1.00	
Max Out Probability				0.16		0.03		0.00		0.00				0.00				0.13	
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				541	949	39	74	573	267	77	143	86	355	123	503				
Adjusted Saturation Flow Rate (s), veh/h/ln				1743	1781	1547	1810	1870	1717	1753	1885	1497	1725	1870	1403				
Queue Service Time (g s), s				18.3	29.1	2.1	5.2	18.9	19.2	5.3	9.5	6.6	25.1	6.8	14.7				
Cycle Queue Clearance Time (g c), s				18.3	29.1	2.1	5.2	18.9	19.2	5.3	9.5	6.6	25.1	6.8	14.7				
Green Ratio (g/C)				0.23	0.38	0.38	0.05	0.19	0.19	0.10	0.10	0.15	0.25	0.25	0.48				
Capacity (c), veh/h				803	1354	588	98	721	331	176	189	232	432	469	1349				
Volume-to-Capacity Ratio (X)				0.674	0.701	0.067	0.758	0.795	0.807	0.434	0.754	0.370	0.821	0.263	0.373				
Back of Queue (Q), ft/ln (95 th percentile)				288.3	423.3	35.5	122.6	347.1	330.7	113	214.5	123	446.4	145.9	213.1				
Back of Queue (Q), veh/ln (95 th percentile)				11.4	16.7	1.4	4.9	13.7	13.2	4.4	8.5	4.6	17.0	5.7	8.4				
Queue Storage Ratio (RQ) (95 th percentile)				0.52	0.42	0.06	0.70	0.59	0.57	0.57	0.43	0.62	2.98	0.34	0.50				
Uniform Delay (d 1), s/veh				45.3	33.8	25.5	60.3	49.7	49.9	54.7	56.6	49.0	45.7	38.8	21.2				
Incremental Delay (d 2), s/veh				1.1	0.4	0.0	13.3	2.0	4.7	2.0	7.1	1.2	7.0	0.4	0.2				
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	0.0				
Control Delay (d), s/veh				46.4	34.3	25.5	73.6	51.8	54.5	56.7	63.7	50.1	52.7	39.2	21.4				
Level of Service (LOS)				D	C	C	E	D	D	E	E	D	D	D	C				
Approach Delay, s/veh / LOS				38.3		D	54.4		D	58.1		E	35.0		C				
Intersection Delay, s/veh / LOS				43.0						D									
Multimodal Results				EB			WB			NB			SB						
Pedestrian LOS Score / LOS				2.12		B	2.46		B	2.48		B	2.74		C				
Bicycle LOS Score / LOS				1.89		B	0.99		A	0.99		A	2.11		B				

HCS7 Signalized Intersection Results Summary

General Information						Intersection Information									
Agency		Diane B. Zimmerman Traffic				Duration, h		0.250							
Analyst		Diane Zimmerman		Analysis Date		Dec 13, 2021		Area Type		Other					
Jurisdiction				Time Period		PM Peak		PHF		0.98					
Urban Street		KY 22		Analysis Year		2034 No Build		Analysis Period		1> 4:45					
Intersection		KY 1694		File Name		KY 34 NB PM.xus									
Project Description		Grocery													
Demand Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				819	1156	49	45	737	192	86	176	63	256	158	708
Signal Information															
Cycle, s	147.5	Reference Phase	2												
Offset, s	0	Reference Point	End												
Uncoordinated	Yes	Simult. Gap E/W	On												
Force Mode	Fixed	Simult. Gap N/S	On												
				Green	5.1	19.6	36.4	35.0	17.2	0.0					
				Yellow	3.5	4.7	3.5	3.6	3.6	0.0					
				Red	3.0	3.3	3.0	3.0	3.0	0.0					
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase				5	2	1	6		8		4				
Case Number				2.0	3.0	2.0	4.0		9.0		9.0				
Phase Duration, s				42.9	70.5	11.6	39.2		23.8		41.6				
Change Period, (Y+R c), s				8.0	8.0	6.5	8.0		6.6		6.6				
Max Allow Headway (MAH), s				4.6	4.6	4.5	4.0		4.6		4.8				
Queue Clearance Time (g s), s				26.4	29.7	5.7	27.0		15.7		29.0				
Green Extension Time (g e), s				8.5	11.3	0.1	4.1		1.4		5.9				
Phase Call Probability				1.00	1.00	0.85	1.00		1.00		1.00				
Max Out Probability				0.29	0.03	0.00	0.00		0.00		0.24				
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				619	874	37	46	653	295	88	180	64	261	161	722
Adjusted Saturation Flow Rate (s), veh/h/ln				1743	1781	1547	1810	1870	1671	1753	1885	1497	1725	1870	1403
Queue Service Time (g s), s				24.4	27.7	2.1	3.7	24.6	25.0	6.9	13.7	5.6	20.1	10.6	27.0
Cycle Queue Clearance Time (g c), s				24.4	27.7	2.1	3.7	24.6	25.0	6.9	13.7	5.6	20.1	10.6	27.0
Green Ratio (g/C)				0.24	0.42	0.42	0.03	0.21	0.21	0.12	0.12	0.15	0.24	0.24	0.47
Capacity (c), veh/h				825	1510	656	62	792	354	205	220	227	409	443	1329
Volume-to-Capacity Ratio (X)				0.750	0.579	0.056	0.735	0.824	0.834	0.428	0.815	0.283	0.639	0.364	0.544
Back of Queue (Q), ft/ln (95 th percentile)				375.2	408.6	35.9	90.6	437.4	405.9	146.7	289	105.3	361.8	221.9	355.8
Back of Queue (Q), veh/ln (95 th percentile)				14.9	16.1	1.4	3.6	17.2	16.2	5.7	11.5	3.9	13.8	8.7	14.0
Queue Storage Ratio (RQ) (95 th percentile)				0.68	0.41	0.07	0.52	0.44	0.41	0.73	0.58	0.53	2.41	0.52	0.84
Uniform Delay (d 1), s/veh				52.4	32.5	25.1	70.7	55.6	55.8	60.7	63.7	55.6	50.7	47.1	27.6
Incremental Delay (d 2), s/veh				1.9	0.2	0.0	18.1	2.2	5.2	1.7	8.5	0.8	2.0	0.6	0.4
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	0.0
Control Delay (d), s/veh				54.3	32.7	25.1	88.7	57.8	60.9	62.4	72.2	56.4	52.7	47.7	28.0
Level of Service (LOS)				D	C	C	F	E	E	E	E	E	D	D	C
Approach Delay, s/veh / LOS				41.2		D	60.2		E	66.5		E	36.4		D
Intersection Delay, s/veh / LOS				46.7						D					
Multimodal Results				EB			WB			NB			SB		
Pedestrian LOS Score / LOS				2.12		B	2.46		B	2.49		B	2.75		C
Bicycle LOS Score / LOS				2.19		B	1.03		A	1.03		A	2.38		B

HCS7 Signalized Intersection Results Summary

General Information						Intersection Information									
Agency		Diane B. Zimmerman Traffic				Duration, h		0.250							
Analyst		Diane Zimmerman		Analysis Date		Dec 13, 2021		Area Type		Other					
Jurisdiction				Time Period		PM Peak		PHF		0.98					
Urban Street		KY 22		Analysis Year		2034 Build		Analysis Period		1> 4:45					
Intersection		KY 1694		File Name		KY 34 B PM No ent sig.xus									
Project Description		Grocery													
Demand Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				856	1185	49	79	789	192	86	197	92	431	172	723
Signal Information															
Cycle, s	171.0	Reference Phase	2												
Offset, s	0	Reference Point	End												
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				5	2	1	6		8		4				
Case Number				2.0	3.0	2.0	4.0		9.0		9.0				
Phase Duration, s				46.3	75.3	16.1	45.0		28.1		51.6				
Change Period, (Y+R c), s				8.0	8.0	6.5	8.0		6.6		6.6				
Max Allow Headway (MAH), s				4.6	4.6	4.5	4.0		4.6		4.7				
Queue Clearance Time (g s), s				31.1	35.4	9.5	32.6		19.9		45.1				
Green Extension Time (g e), s				7.2	11.1	0.2	4.4		1.6		0.0				
Phase Call Probability				1.00	1.00	0.98	1.00		1.00		1.00				
Max Out Probability				0.44	0.05	0.00	0.00		0.00		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				626	867	36	81	689	312	88	201	94	440	176	738
Adjusted Saturation Flow Rate (s), veh/h/ln				1743	1781	1547	1810	1870	1681	1753	1885	1497	1725	1870	1403
Queue Service Time (g s), s				29.1	33.4	2.5	7.5	30.2	30.6	7.9	17.9	9.4	43.1	13.1	31.3
Cycle Queue Clearance Time (g c), s				29.1	33.4	2.5	7.5	30.2	30.6	7.9	17.9	9.4	43.1	13.1	31.3
Green Ratio (g/C)				0.22	0.39	0.39	0.06	0.22	0.22	0.13	0.13	0.18	0.26	0.26	0.49
Capacity (c), veh/h				781	1401	609	101	810	364	220	237	272	454	492	1366
Volume-to-Capacity Ratio (X)				0.802	0.619	0.059	0.796	0.850	0.859	0.398	0.848	0.345	0.969	0.357	0.540
Back of Queue (Q), ft/ln (95 th percentile)				446.6	493.9	43.6	176.3	526.8	488.9	168.8	360	176.2	813.7	262.9	409.3
Back of Queue (Q), veh/ln (95 th percentile)				17.7	19.4	1.7	7.1	20.7	19.6	6.5	14.3	6.6	31.1	10.3	16.1
Queue Storage Ratio (RQ) (95 th percentile)				0.81	0.49	0.08	1.01	0.89	0.84	0.84	0.72	0.88	5.42	0.62	0.96
Uniform Delay (d 1), s/veh				62.8	41.6	32.2	79.8	64.3	64.5	68.8	73.2	61.1	62.3	51.3	30.5
Incremental Delay (d 2), s/veh				3.3	0.4	0.0	15.5	2.6	5.9	1.4	9.7	0.9	34.3	0.5	0.5
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	0.0
Control Delay (d), s/veh				66.1	42.0	32.2	95.3	67.0	70.4	70.2	82.9	62.0	96.7	51.8	31.0
Level of Service (LOS)				E	D	C	F	E	E	E	F	E	F	D	C
Approach Delay, s/veh / LOS				51.7	D		70.1	E		74.9	E		55.1	E	
Intersection Delay, s/veh / LOS				59.3						E					
Multimodal Results				EB			WB			NB			SB		
Pedestrian LOS Score / LOS				2.13	B		2.47	B		2.49	B		2.75	C	
Bicycle LOS Score / LOS				2.25	B		1.08	A		1.12	A		2.72	C	

HCS7 Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	KY 22 at LGE							
Agency/Co.	Diane B Zimmerman Traffic Engineering							Jurisdiction								
Date Performed	12/16/2021							East/West Street	KY 22							
Analysis Year	2021							North/South Street	LG&E							
Time Analyzed	AM Peak							Peak Hour Factor	0.91							
Intersection Orientation	East-West							Analysis Time Period (hrs)	0.25							
Project Description	Grocery															
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	1	1	0		0	1	0		0	0	0
Configuration			T	TR		L	T				LR					
Volume (veh/h)			461	9	0	5	1000			18		4				
Percent Heavy Vehicles (%)					3	40				44		0				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage					Left Only								1			
Critical and Follow-up Headways																
Base Critical Headway (sec)						4.1					7.5		6.9			
Critical Headway (sec)						4.90					7.68		6.90			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.60					3.94		3.30			
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)						5					24					
Capacity, c (veh/h)						821					216					
v/c Ratio						0.01					0.11					
95% Queue Length, Q ₉₅ (veh)						0.0					0.4					
Control Delay (s/veh)						9.4					23.8					
Level of Service (LOS)						A					C					
Approach Delay (s/veh)					0.0				23.8							
Approach LOS									C							

HCS7 Two-Way Stop-Control Report																	
General Information									Site Information								
Analyst	DBZ								Intersection	KY 22 at LGE							
Agency/Co.	Diane B Zimmerman Traffic Engineering								Jurisdiction								
Date Performed	12/16/2021								East/West Street	KY 22							
Analysis Year	2024								North/South Street	LG&E							
Time Analyzed	AM Peak No Build								Peak Hour Factor	0.91							
Intersection Orientation	East-West								Analysis Time Period (hrs)	0.25							
Project Description	Grocery																
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	1	1	0		0	1	0		0	0	0	
Configuration			T	TR		L	T				LR						
Volume (veh/h)			481	9	0	5	1043			18		4					
Percent Heavy Vehicles (%)					3	40				44		0					
Proportion Time Blocked																	
Percent Grade (%)									0								
Right Turn Channelized																	
Median Type Storage					Left Only								1				
Critical and Follow-up Headways																	
Base Critical Headway (sec)						4.1					7.5		6.9				
Critical Headway (sec)						4.90					7.68		6.90				
Base Follow-Up Headway (sec)						2.2					3.5		3.3				
Follow-Up Headway (sec)						2.60					3.94		3.30				
Delay, Queue Length, and Level of Service																	
Flow Rate, v (veh/h)						5					24						
Capacity, c (veh/h)						803					204						
v/c Ratio						0.01					0.12						
95% Queue Length, Q ₉₅ (veh)						0.0					0.4						
Control Delay (s/veh)						9.5					25.0						
Level of Service (LOS)						A					D						
Approach Delay (s/veh)					0.0				25.0								
Approach LOS									D								

HCS7 Two-Way Stop-Control Report																
General Information									Site Information							
Analyst	DBZ				Intersection				KY 22 at LGE							
Agency/Co.	Diane B Zimmerman Traffic Engineering				Jurisdiction											
Date Performed	5/6/22				East/West Street				KY 22							
Analysis Year	2024				North/South Street				LG&E							
Time Analyzed	AM Peak Build				Peak Hour Factor				0.91							
Intersection Orientation	East-West				Analysis Time Period (hrs)				0.25							
Project Description	Grocery															
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	2	0	0	1	1	1		0	1	0		0	0	1
Configuration		L	T	TR		L	T	R			LR					R
Volume (veh/h)		42	540	9	0	5	1020	102		18		4				62
Percent Heavy Vehicles (%)		0			3	40				44		0				0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized					No								No			
Median Type Storage					Left Only								1			
Critical and Follow-up Headways																
Base Critical Headway (sec)		4.1				4.1				7.5		6.9				6.2
Critical Headway (sec)		4.10				4.90				8.38		6.90				6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5		3.3				3.3
Follow-Up Headway (sec)		2.20				2.60				3.94		3.30				3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		46				5					24					68
Capacity, c (veh/h)		572				751					79					253
v/c Ratio		0.08				0.01					0.30					0.27
95% Queue Length, Q ₉₅ (veh)		0.3				0.0					1.1					1.1
Control Delay (s/veh)		11.8				9.8					69.0					24.4
Level of Service (LOS)		B				A					F					C
Approach Delay (s/veh)	0.8				0.0				69.0				24.4			
Approach LOS									F				C			

HCS7 Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	KY 22 at LGE							
Agency/Co.	Diane B Zimmerman Traffic Engineering							Jurisdiction								
Date Performed	12/16/2021							East/West Street	KY 22							
Analysis Year	2034							North/South Street	LG&E							
Time Analyzed	AM Peak No Build							Peak Hour Factor	0.91							
Intersection Orientation	East-West							Analysis Time Period (hrs)	0.25							
Project Description	Grocery															
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	1	1	0		0	1	0		0	0	0
Configuration			T	TR		L	T				LR					
Volume (veh/h)			610	9	0	5	1286			18		4				
Percent Heavy Vehicles (%)					3	40				44		0				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage					Left Only								1			
Critical and Follow-up Headways																
Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.90				7.68		6.90				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.60				3.94		3.30				
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)						5					24					
Capacity, c (veh/h)						694					146					
v/c Ratio						0.01					0.17					
95% Queue Length, Q ₉₅ (veh)						0.0					0.6					
Control Delay (s/veh)						10.2					34.4					
Level of Service (LOS)						B					D					
Approach Delay (s/veh)					0.0				34.4							
Approach LOS									D							

HCS7 Two-Way Stop-Control Report																
General Information									Site Information							
Analyst	DBZ								Intersection	KY 22 at LGE						
Agency/Co.	Diane B Zimmerman Traffic Engineering								Jurisdiction							
Date Performed	5/6/22								East/West Street	KY 22						
Analysis Year	2034								North/South Street	LG&E						
Time Analyzed	AM Peak Build								Peak Hour Factor	0.91						
Intersection Orientation	East-West								Analysis Time Period (hrs)	0.25						
Project Description	Grocery															
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	2	0	0	1	1	1		0	1	0		0	0	1
Configuration		L	T	TR		L	T	R			LR					R
Volume (veh/h)		42	661	9	0	5	1263	102		18		4				62
Percent Heavy Vehicles (%)		0			3	40				44		0				0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized					No								No			
Median Type Storage					Left Only								1			
Critical and Follow-up Headways																
Base Critical Headway (sec)		4.1				4.1				7.5		6.9				6.2
Critical Headway (sec)		4.10				4.90				8.38		6.90				6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5		3.3				3.3
Follow-Up Headway (sec)		2.20				2.60				3.94		3.30				3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		46				5					24					68
Capacity, c (veh/h)		453				655					30					177
v/c Ratio		0.10				0.01					0.80					0.39
95% Queue Length, Q ₉₅ (veh)		0.3				0.0					2.7					1.7
Control Delay (s/veh)		13.9				10.5					292.3					37.6
Level of Service (LOS)		B				B					F					E
Approach Delay (s/veh)	0.8				0.0				292.3				37.6			
Approach LOS									F				E			

HCS7 Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	KY 22 at LGE							
Agency/Co.	Diane B Zimmerman Traffic Engineering							Jurisdiction								
Date Performed	12/16/2021							East/West Street	KY 22							
Analysis Year	2021							North/South Street	LG&E							
Time Analyzed	PM Peak							Peak Hour Factor	0.94							
Intersection Orientation	East-West							Analysis Time Period (hrs)	0.25							
Project Description	Grocery															
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	1	1	0		0	1	0		0	0	0
Configuration			T	TR		L	T				LR					
Volume (veh/h)			1153	15	0	0	736			9		14				
Percent Heavy Vehicles (%)					3	0				22		0				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage					Left Only								1			
Critical and Follow-up Headways																
Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.10				7.24		6.90				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.72		3.30				
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)						0					24					
Capacity, c (veh/h)						567					357					
v/c Ratio						0.00					0.07					
95% Queue Length, Q ₉₅ (veh)						0.0					0.2					
Control Delay (s/veh)						11.3					15.8					
Level of Service (LOS)						B					C					
Approach Delay (s/veh)					0.0				15.8							
Approach LOS									C							

HCS7 Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	KY 22 at LGE							
Agency/Co.	Diane B Zimmerman Traffic Engineering							Jurisdiction								
Date Performed	12/16/2021							East/West Street	KY 22							
Analysis Year	2024							North/South Street	LG&E							
Time Analyzed	PM Peak No Build							Peak Hour Factor	0.94							
Intersection Orientation	East-West							Analysis Time Period (hrs)	0.25							
Project Description	Grocery															
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	1	1	0		0	1	0		0	0	0
Configuration			T	TR		L	T				LR					
Volume (veh/h)			1202	15	0	0	767			9		14				
Percent Heavy Vehicles (%)					3	0				22		0				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage					Left Only								1			
Critical and Follow-up Headways																
Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.10				7.24		6.90				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.72		3.30				
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)						0					24					
Capacity, c (veh/h)						542					333					
v/c Ratio						0.00					0.07					
95% Queue Length, Q ₉₅ (veh)						0.0					0.2					
Control Delay (s/veh)						11.6					16.7					
Level of Service (LOS)						B					C					
Approach Delay (s/veh)					0.0				16.7							
Approach LOS									C							

HCS7 Two-Way Stop-Control Report																	
General Information									Site Information								
Analyst	DBZ								Intersection	KY 22 at LGE							
Agency/Co.	Diane B Zimmerman Traffic Engineering								Jurisdiction								
Date Performed	5/6/2022								East/West Street	KY 22							
Analysis Year	2024								North/South Street	LG&E							
Time Analyzed	PM Peak Build								Peak Hour Factor	0.94							
Intersection Orientation	East-West								Analysis Time Period (hrs)	0.25							
Project Description	Grocery																
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	2	0	0	1	1	1		0	1	0		0	0	1	
Configuration		L	T	TR		L	T	R			LR					R	
Volume (veh/h)		117	1317	15	0	0	721	161		9		14				81	
Percent Heavy Vehicles (%)		0			3	0				22		0				0	
Proportion Time Blocked																	
Percent Grade (%)										0				0			
Right Turn Channelized						No								No			
Median Type Storage		Left Only								1							
Critical and Follow-up Headways																	
Base Critical Headway (sec)		4.1				4.1				7.5		6.9				6.2	
Critical Headway (sec)		4.10				4.10				7.94		6.90				6.20	
Base Follow-Up Headway (sec)		2.2				2.2				3.5		3.3				3.3	
Follow-Up Headway (sec)		2.20				2.20				3.72		3.30				3.30	
Delay, Queue Length, and Level of Service																	
Flow Rate, v (veh/h)		124				0				24						86	
Capacity, c (veh/h)		739				487				109						405	
v/c Ratio		0.17				0.00				0.23						0.21	
95% Queue Length, Q ₉₅ (veh)		0.6				0.0				0.8						0.8	
Control Delay (s/veh)		10.9				12.4				47.5						16.3	
Level of Service (LOS)		B				B				E						C	
Approach Delay (s/veh)		0.9				0.0				47.5				16.3			
Approach LOS										E				C			

HCS7 Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	KY 22 at LGE							
Agency/Co.	Diane B Zimmerman Traffic Engineering							Jurisdiction								
Date Performed	12/16/2021							East/West Street	KY 22							
Analysis Year	2034							North/South Street	LG&E							
Time Analyzed	PM Peak No Build							Peak Hour Factor	0.94							
Intersection Orientation	East-West							Analysis Time Period (hrs)	0.25							
Project Description	Grocery															
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	1	1	0		0	1	0		0	0	0
Configuration			T	TR		L	T				LR					
Volume (veh/h)			1460	15	0	0	965			9		14				
Percent Heavy Vehicles (%)					3	0				22		0				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized																
Median Type Storage					Left Only								1			
Critical and Follow-up Headways																
Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.10				7.24		6.90				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.20				3.72		3.30				
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)						0					24					
Capacity, c (veh/h)						426					230					
v/c Ratio						0.00					0.11					
95% Queue Length, Q ₉₅ (veh)						0.0					0.4					
Control Delay (s/veh)						13.4					22.5					
Level of Service (LOS)						B					C					
Approach Delay (s/veh)					0.0				22.5							
Approach LOS									C							

HCS7 Two-Way Stop-Control Report																
General Information									Site Information							
Analyst	DBZ								Intersection	KY 22 at LGE						
Agency/Co.	Diane B Zimmerman Traffic Engineering								Jurisdiction							
Date Performed	5/6/2022								East/West Street	KY 22						
Analysis Year	2034								North/South Street	LG&E						
Time Analyzed	PM Peak Build								Peak Hour Factor	0.94						
Intersection Orientation	East-West								Analysis Time Period (hrs)	0.25						
Project Description	Grocery															
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	2	0	0	1	1	1		0	1	0		0	0	1
Configuration		L	T	TR		L	T	R			LR					R
Volume (veh/h)		117	1575	15	0	0	919	161		9		14				81
Percent Heavy Vehicles (%)		0			3	0				22		0				0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized					No								No			
Median Type Storage					Left Only								1			
Critical and Follow-up Headways																
Base Critical Headway (sec)		4.1				4.1				7.5		6.9				6.2
Critical Headway (sec)		4.10				4.10				7.94		6.90				6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5		3.3				3.3
Follow-Up Headway (sec)		2.20				2.20				3.72		3.30				3.30
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)		124				0					24					86
Capacity, c (veh/h)		615				382					50					307
v/c Ratio		0.20				0.00					0.49					0.28
95% Queue Length, Q ₉₅ (veh)		0.8				0.0					1.8					1.1
Control Delay (s/veh)		12.3				14.4					131.0					21.3
Level of Service (LOS)		B				B					F					C
Approach Delay (s/veh)	0.8				0.0				131.0				21.3			
Approach LOS									F				C			

HCS7 Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	KY 1694 at Glasgow Blvd							
Agency/Co.	Diane B Zimmerman Traffic Engineering							Jurisdiction								
Date Performed	12/13/2021							East/West Street	Glasgow Blvd							
Analysis Year	2021							North/South Street	KY 1694							
Time Analyzed	AM Peak							Peak Hour Factor	0.81							
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25							
Project Description	Grocery															
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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	2	0	0	0	2	0
Configuration			LR							L	T				T	TR
Volume (veh/h)		1		1					20	0	574				732	0
Percent Heavy Vehicles (%)		0		0					0	0						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage					Left Only								1			
Critical and Follow-up Headways																
Base Critical Headway (sec)		7.5		6.9					6.4	4.1						
Critical Headway (sec)		6.80		6.90					6.40	4.10						
Base Follow-Up Headway (sec)		3.5		3.3					2.5	2.2						
Follow-Up Headway (sec)		3.50		3.30					2.50	2.20						
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)			2							25						
Capacity, c (veh/h)			532							388						
v/c Ratio			0.00							0.06						
95% Queue Length, Q ₉₅ (veh)			0.0							0.2						
Control Delay (s/veh)			11.8							14.9						
Level of Service (LOS)			B							B						
Approach Delay (s/veh)	11.8								0.5							
Approach LOS	B															

HCS7 Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	KY 1694 at Glasgow Blvd							
Agency/Co.	Diane B Zimmerman Traffic Engineering							Jurisdiction								
Date Performed	12/13/2021							East/West Street	Glasgow Blvd							
Analysis Year	2024							North/South Street	KY 1694							
Time Analyzed	AM Peak No Build							Peak Hour Factor	0.81							
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25							
Project Description	Grocery															
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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	2	0	0	0	2	0
Configuration			LR							L	T				T	TR
Volume (veh/h)		1		1					20	0	674				860	0
Percent Heavy Vehicles (%)		0		0					0	0						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage					Left Only								1			
Critical and Follow-up Headways																
Base Critical Headway (sec)		7.5		6.9					6.4	4.1						
Critical Headway (sec)		6.80		6.90					6.40	4.10						
Base Follow-Up Headway (sec)		3.5		3.3					2.5	2.2						
Follow-Up Headway (sec)		3.50		3.30					2.50	2.20						
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)			2							25						
Capacity, c (veh/h)			436							308						
v/c Ratio			0.01							0.08						
95% Queue Length, Q ₉₅ (veh)			0.0							0.3						
Control Delay (s/veh)			13.3							17.7						
Level of Service (LOS)			B							C						
Approach Delay (s/veh)	13.3								0.5							
Approach LOS	B															

HCS7 Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	KY 1694 at Glasgow Blvd							
Agency/Co.	Diane B Zimmerman Traffic Engineering							Jurisdiction								
Date Performed	5/6/2022							East/West Street	Glasgow Blvd							
Analysis Year	2024							North/South Street	KY 1694							
Time Analyzed	AM Peak Build							Peak Hour Factor	0.81							
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25							
Project Description	Grocery															
Lanes																
Major Street: North-South																
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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		1	0	1	0	1	2	1	0	1	2	0
Configuration			LR			L		R		L	T	R		L	T	TR
Volume (veh/h)		1		1		102		58	20	0	655	54	0	85	843	0
Percent Heavy Vehicles (%)		0		0		0		0	0	0			3	0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized					No				No							
Median Type Storage	Left Only								1							
Critical and Follow-up Headways																
Base Critical Headway (sec)		7.5		6.9		7.5		6.9	6.4	4.1				4.1		
Critical Headway (sec)		7.50		6.90		7.50		6.90	6.40	4.10				4.10		
Base Follow-Up Headway (sec)		3.5		3.3		3.5		3.3	2.5	2.2				2.2		
Follow-Up Headway (sec)		3.50		3.30		3.50		3.30	2.50	2.20				2.20		
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)			2			126		72		25				105		
Capacity, c (veh/h)			235			166		601		317				780		
v/c Ratio			0.01			0.76		0.12		0.08				0.13		
95% Queue Length, Q ₉₅ (veh)			0.0			4.8		0.4		0.3				0.5		
Control Delay (s/veh)			20.5			73.9		11.8		17.3				10.3		
Level of Service (LOS)			C			F		B		C				B		
Approach Delay (s/veh)	20.5				51.4				0.5				0.9			
Approach LOS	C				F											

HCS7 Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	KY 1694 at Glasgow Blvd							
Agency/Co.	Diane B Zimmerman Traffic Engineering							Jurisdiction								
Date Performed	12/13/2021							East/West Street	Glasgow Blvd							
Analysis Year	2034							North/South Street	KY 1694							
Time Analyzed	AM Peak No Build							Peak Hour Factor	0.81							
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25							
Project Description	Grocery															
Lanes																
Major Street: North-South																
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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	2	0	0	0	2	0
Configuration			LR							L	T				T	TR
Volume (veh/h)		1		1					20	0	1019				1295	0
Percent Heavy Vehicles (%)		0		0					0	0						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage					Left Only								1			
Critical and Follow-up Headways																
Base Critical Headway (sec)		7.5		6.9					6.4	4.1						
Critical Headway (sec)		6.80		6.90					6.40	4.10						
Base Follow-Up Headway (sec)		3.5		3.3					2.5	2.2						
Follow-Up Headway (sec)		3.50		3.30					2.50	2.20						
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)			2							25						
Capacity, c (veh/h)			222							138						
v/c Ratio			0.01							0.18						
95% Queue Length, Q ₉₅ (veh)			0.0							0.6						
Control Delay (s/veh)			21.4							36.6						
Level of Service (LOS)			C							E						
Approach Delay (s/veh)	21.4								0.7							
Approach LOS	C															

HCS7 Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	KY 1694 at Glasgow Blvd							
Agency/Co.	Diane B Zimmerman Traffic Engineering							Jurisdiction								
Date Performed	5/6/2022							East/West Street	Glasgow Blvd							
Analysis Year	2034							North/South Street	KY 1694							
Time Analyzed	AM Peak Build							Peak Hour Factor	0.81							
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25							
Project Description	Grocery															
Lanes																
Major Street: North-South																
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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		1	0	1	0	1	2	1	0	1	2	0
Configuration			LR			L		R		L	T	R		L	T	TR
Volume (veh/h)		1		1		102		58	20	0	1010	54	0	85	1279	0
Percent Heavy Vehicles (%)		0		0		0		0	0	0			3	0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized					No				No							
Median Type Storage					Left Only								1			
Critical and Follow-up Headways																
Base Critical Headway (sec)		7.5		6.9		7.5		6.9	6.4	4.1				4.1		
Critical Headway (sec)		7.50		6.90		7.50		6.90	6.40	4.10				4.10		
Base Follow-Up Headway (sec)		3.5		3.3		3.5		3.3	2.5	2.2				2.2		
Follow-Up Headway (sec)		3.50		3.30		3.50		3.30	2.50	2.20				2.20		
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)			2			126		72		25				105		
Capacity, c (veh/h)			98			81		434		143				533		
v/c Ratio			0.03			1.55		0.17		0.17				0.20		
95% Queue Length, Q ₉₅ (veh)			0.1			10.2		0.6		0.6				0.7		
Control Delay (s/veh)			42.5			386.7		14.9		35.5				13.4		
Level of Service (LOS)			E			F		B		E				B		
Approach Delay (s/veh)	42.5				252.0				0.7				0.8			
Approach LOS	E				F											

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HCS7 Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	KY 1694 at Glasgow Blvd							
Agency/Co.	Diane B Zimmerman Traffic Engineering							Jurisdiction								
Date Performed	12/13/2021							East/West Street	Glasgow Blvd							
Analysis Year	2021							North/South Street	KY 1694							
Time Analyzed	PM Peak							Peak Hour Factor	0.98							
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25							
Project Description	Grocery															
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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	2	0	0	0	2	0
Configuration			LR							L	T				T	TR
Volume (veh/h)		1		9					6	0	674				640	0
Percent Heavy Vehicles (%)		0		0					0	0						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage					Left Only								1			
Critical and Follow-up Headways																
Base Critical Headway (sec)		7.5		6.9					6.4	4.1						
Critical Headway (sec)		6.80		6.90					6.40	4.10						
Base Follow-Up Headway (sec)		3.5		3.3					2.5	2.2						
Follow-Up Headway (sec)		3.50		3.30					2.50	2.20						
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)			10						6							
Capacity, c (veh/h)			750						553							
v/c Ratio			0.01						0.01							
95% Queue Length, Q ₉₅ (veh)			0.0						0.0							
Control Delay (s/veh)			9.9						11.6							
Level of Service (LOS)			A						B							
Approach Delay (s/veh)	9.9								0.1							
Approach LOS	A															

HCS7 Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	KY 1694 at Glasgow Blvd							
Agency/Co.	Diane B Zimmerman Traffic Engineering							Jurisdiction								
Date Performed	12/13/2021							East/West Street	Glasgow Blvd							
Analysis Year	2024							North/South Street	KY 1694							
Time Analyzed	PM Peak No Build							Peak Hour Factor	0.98							
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25							
Project Description	Grocery															
Lanes																
Major Street: North-South																
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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	2	0	0	0	2	0
Configuration			LR							L	T				T	TR
Volume (veh/h)		1		9					6	0	791				752	0
Percent Heavy Vehicles (%)		0		0					0	0						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage					Left Only								1			
Critical and Follow-up Headways																
Base Critical Headway (sec)		7.5		6.9					6.4	4.1						
Critical Headway (sec)		6.80		6.90					6.40	4.10						
Base Follow-Up Headway (sec)		3.5		3.3					2.5	2.2						
Follow-Up Headway (sec)		3.50		3.30					2.50	2.20						
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)			10							6						
Capacity, c (veh/h)			689							468						
v/c Ratio			0.01							0.01						
95% Queue Length, Q ₉₅ (veh)			0.0							0.0						
Control Delay (s/veh)			10.3							12.8						
Level of Service (LOS)			B							B						
Approach Delay (s/veh)	10.3								0.1							
Approach LOS	B															

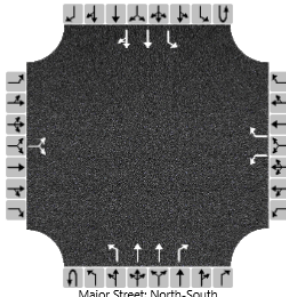
HCS7 Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	KY 1694 at Glasgow Blvd							
Agency/Co.	Diane B Zimmerman Traffic Engineering							Jurisdiction								
Date Performed	5/6/2022							East/West Street	Glasgow Blvd							
Analysis Year	2024							North/South Street	KY 1694							
Time Analyzed	PM Peak Build							Peak Hour Factor	0.98							
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25							
Project Description	Grocery															
Lanes																
Major Street: North-South																
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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		1	0	1	0	1	2	1	0	1	2	0
Configuration			LR			L		R		L	T	R		L	T	TR
Volume (veh/h)		1		9		244		126	6	0	763	86	0	137	714	0
Percent Heavy Vehicles (%)		0		0		0		0	0	0			3	0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized					No				No							
Median Type Storage	Left Only								1							
Critical and Follow-up Headways																
Base Critical Headway (sec)		7.5		6.9		7.5		6.9	6.4	4.1				4.1		
Critical Headway (sec)		7.50		6.90		7.50		6.90	6.40	4.10				4.10		
Base Follow-Up Headway (sec)		3.5		3.3		3.5		3.3	2.5	2.2				2.2		
Follow-Up Headway (sec)		3.50		3.30		3.50		3.30	2.50	2.20				2.20		
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)			10			249		129		6				140		
Capacity, c (veh/h)			709			195		615		495				786		
v/c Ratio			0.01			1.28		0.21		0.01				0.18		
95% Queue Length, Q ₉₅ (veh)			0.0			13.6		0.8		0.0				0.6		
Control Delay (s/veh)			10.1			205.5		12.4		12.4				10.6		
Level of Service (LOS)			B			F		B		B				B		
Approach Delay (s/veh)	10.1				139.7				0.1				1.7			
Approach LOS	B				F											

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HCS7 Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	KY 1694 at Glasgow Blvd							
Agency/Co.	Diane B Zimmerman Traffic Engineering							Jurisdiction								
Date Performed	12/13/2021							East/West Street	Glasgow Blvd							
Analysis Year	2034							North/South Street	KY 1694							
Time Analyzed	PM Peak No Build							Peak Hour Factor	0.98							
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25							
Project Description	Grocery															
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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	2	0	0	0	2	0
Configuration			LR							L	T				T	TR
Volume (veh/h)		1		9					6	0	1181				1113	0
Percent Heavy Vehicles (%)		0		0					0	0						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type Storage					Left Only								1			
Critical and Follow-up Headways																
Base Critical Headway (sec)		7.5		6.9					6.4	4.1						
Critical Headway (sec)		6.80		6.90					6.40	4.10						
Base Follow-Up Headway (sec)		3.5		3.3					2.5	2.2						
Follow-Up Headway (sec)		3.50		3.30					2.50	2.20						
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)			10							6						
Capacity, c (veh/h)			524							271						
v/c Ratio			0.02							0.02						
95% Queue Length, Q ₉₅ (veh)			0.1							0.1						
Control Delay (s/veh)			12.0							18.6						
Level of Service (LOS)			B							C						
Approach Delay (s/veh)	12.0								0.1							
Approach LOS	B															

HCS7 Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection				KY 1694 at Glasgow Blvd				
Agency/Co.	Diane B Zimmerman Traffic Engineering							Jurisdiction								
Date Performed	5/6/2022							East/West Street				Glasgow Blvd				
Analysis Year	2034							North/South Street				KY 1694				
Time Analyzed	PM Peak Build							Peak Hour Factor				0.98				
Intersection Orientation	North-South							Analysis Time Period (hrs)				0.25				
Project Description	Grocery															
Lanes																
 Major Street: North-South																
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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		1	0	1	0	1	2	1	0	1	2	0
Configuration			LR			L		R		L	T	R		L	T	TR
Volume (veh/h)		1		9		244		126	6	0	1153	86	0	137	1075	0
Percent Heavy Vehicles (%)		0		0		0		0	0	0			3	0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized					No				No							
Median Type Storage	Left Only								1							
Critical and Follow-up Headways																
Base Critical Headway (sec)		7.5		6.9		7.5		6.9	6.4	4.1				4.1		
Critical Headway (sec)		7.50		6.90		7.50		6.90	6.40	4.10				4.10		
Base Follow-Up Headway (sec)		3.5		3.3		3.5		3.3	2.5	2.2				2.2		
Follow-Up Headway (sec)		3.50		3.30		3.50		3.30	2.50	2.20				2.20		
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)			10			249		129		6				140		
Capacity, c (veh/h)			539			112		457		287				557		
v/c Ratio			0.02			2.23		0.28		0.02				0.25		
95% Queue Length, Q ₉₅ (veh)			0.1			21.5		1.1		0.1				1.0		
Control Delay (s/veh)			11.8			644.2		15.9		17.8				13.6		
Level of Service (LOS)			B			F		C		C				B		
Approach Delay (s/veh)	11.8				430.3				0.1				1.5			
Approach LOS	B				F											

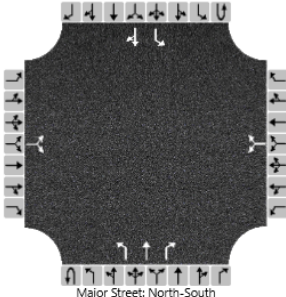
HCS7 Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	KY 1694 at Worthington Gl							
Agency/Co.	Diane B Zimmerman Traffic Engineering							Jurisdiction								
Date Performed	12/16/2021							East/West Street	Worthington Glen							
Analysis Year	2021							North/South Street	KY 1694							
Time Analyzed	AM Peak							Peak Hour Factor	0.80							
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25							
Project Description	Grocery															
Lanes																
Major Street: North-South																
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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	1	0	1	1	0
Configuration			LR				LR			L	T	R		L		TR
Volume (veh/h)		5		47		35		5		19	558	2		1	649	1
Percent Heavy Vehicles (%)		0		0		0		1		0				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized									No							
Median Type Storage					Left Only								1			
Critical and Follow-up Headways																
Base Critical Headway (sec)		7.1		6.2		7.1		6.2		4.1				4.1		
Critical Headway (sec)		7.10		6.20		7.10		6.21		4.10				4.10		
Base Follow-Up Headway (sec)		3.5		3.3		3.5		3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50		3.30		3.50		3.31		2.20				2.20		
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)			65				50			24				1		
Capacity, c (veh/h)			423				208			823				906		
v/c Ratio			0.15				0.24			0.03				0.00		
95% Queue Length, Q ₉₅ (veh)			0.5				0.9			0.1				0.0		
Control Delay (s/veh)			15.1				27.7			9.5				9.0		
Level of Service (LOS)			C				D			A				A		
Approach Delay (s/veh)	15.1				27.7				0.3				0.0			
Approach LOS	C				D											

HCS7 Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	KY 1694 at Worthington Gl							
Agency/Co.	Diane B Zimmerman Traffic Engineering							Jurisdiction								
Date Performed	12/16/2021							East/West Street	Worthington Glen							
Analysis Year	2024							North/South Street	KY 1694							
Time Analyzed	AM Peak No Build							Peak Hour Factor	0.80							
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25							
Project Description	Grocery															
Lanes																
Major Street: North-South																
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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	1	0	1	1	0
Configuration			LR				LR			L	T	R		L		TR
Volume (veh/h)		5		47		35		5		19	655	2		1	762	1
Percent Heavy Vehicles (%)		0		0		0		1		0				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized									No							
Median Type Storage					Left Only								1			
Critical and Follow-up Headways																
Base Critical Headway (sec)		7.1		6.2		7.1		6.2		4.1				4.1		
Critical Headway (sec)		7.10		6.20		7.10		6.21		4.10				4.10		
Base Follow-Up Headway (sec)		3.5		3.3		3.5		3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50		3.30		3.50		3.31		2.20				2.20		
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)			65				50			24				1		
Capacity, c (veh/h)			351				158			729				817		
v/c Ratio			0.19				0.32			0.03				0.00		
95% Queue Length, Q ₉₅ (veh)			0.7				1.3			0.1				0.0		
Control Delay (s/veh)			17.6				38.0			10.1				9.4		
Level of Service (LOS)			C				E			B				A		
Approach Delay (s/veh)	17.6				38.0				0.3				0.0			
Approach LOS	C				E											

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Worthington AM NB 24.xtw

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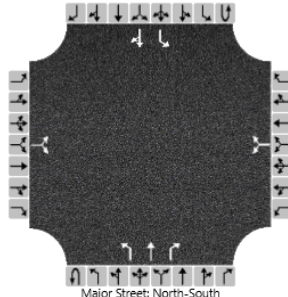
HCS7 Two-Way Stop-Control Report																			
General Information								Site Information											
Analyst	DBZ							Intersection	KY 1694 at Worthington Gl										
Agency/Co.	Diane B Zimmerman Traffic Engineering							Jurisdiction											
Date Performed	5/6/2022							East/West Street	Worthington Glen										
Analysis Year	2024							North/South Street	KY 1694										
Time Analyzed	AM Peak Build							Peak Hour Factor	0.80										
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25										
Project Description	Grocery																		
Lanes																			
 Major Street: North-South																			
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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6			
Number of Lanes		0	1	0		0	1	0	0	1	1	1	0	1	1	0			
Configuration			LR				LR			L	T	R		L		TR			
Volume (veh/h)		5		47		35		5		19	705	2		1	830	1			
Percent Heavy Vehicles (%)		0		0		0		1		0				0					
Proportion Time Blocked																			
Percent Grade (%)		0				0													
Right Turn Channelized											No								
Median Type Storage						Left Only										1			
Critical and Follow-up Headways																			
Base Critical Headway (sec)		7.1		6.2		7.1		6.2		4.1				4.1					
Critical Headway (sec)		7.10		6.20		7.10		6.21		4.10				4.10					
Base Follow-Up Headway (sec)		3.5		3.3		3.5		3.3		2.2				2.2					
Follow-Up Headway (sec)		3.50		3.30		3.50		3.31		2.20				2.20					
Delay, Queue Length, and Level of Service																			
Flow Rate, v (veh/h)			65				50			24				1					
Capacity, c (veh/h)			313				137			677				774					
v/c Ratio			0.21				0.37			0.04				0.00					
95% Queue Length, Q ₉₅ (veh)			0.8				1.5			0.1				0.0					
Control Delay (s/veh)			19.5				45.8			10.5				9.7					
Level of Service (LOS)			C				E			B				A					
Approach Delay (s/veh)		19.5				45.8					0.3				0.0				
Approach LOS		C				E													

HCS7 Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection				KY 1694 at Worthington Gl				
Agency/Co.	Diane B Zimmerman Traffic Engineering							Jurisdiction								
Date Performed	12/16/2021							East/West Street				Worthington Glen				
Analysis Year	2034							North/South Street				KY 1694				
Time Analyzed	AM Peak No Build							Peak Hour Factor				0.80				
Intersection Orientation	North-South							Analysis Time Period (hrs)				0.25				
Project Description	Grocery															
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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	1	0	1	1	0
Configuration			LR				LR			L	T	R		L		TR
Volume (veh/h)		5		47		35		5		19	998	2		1	1214	1
Percent Heavy Vehicles (%)		0		0		0		1		0				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized									No							
Median Type Storage	Left Only								1							
Critical and Follow-up Headways																
Base Critical Headway (sec)		7.1		6.2		7.1		6.2		4.1				4.1		
Critical Headway (sec)		7.10		6.20		7.10		6.21		4.10				4.10		
Base Follow-Up Headway (sec)		3.5		3.3		3.5		3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50		3.30		3.50		3.31		2.20				2.20		
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)			65				50			24				1		
Capacity, c (veh/h)			150				51			445				564		
v/c Ratio			0.43				0.99			0.05				0.00		
95% Queue Length, Q ₉₅ (veh)			1.9				4.3			0.2				0.0		
Control Delay (s/veh)			46.1				251.0			13.5				11.4		
Level of Service (LOS)			E				F			B				B		
Approach Delay (s/veh)	46.1				251.0				0.3				0.0			
Approach LOS	E				F											

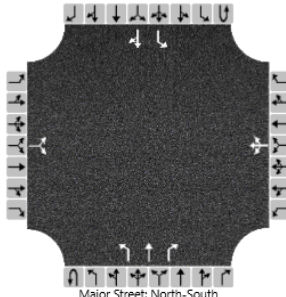
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HCS7 Two-Way Stop-Control Report																
General Information									Site Information							
Analyst	DBZ								Intersection				KY 1694 at Worthington Gl			
Agency/Co.	Diane B Zimmerman Traffic Engineering								Jurisdiction							
Date Performed	5/6/2022								East/West Street				Worthington Glen			
Analysis Year	2034								North/South Street				KY 1694			
Time Analyzed	AM Peak Build								Peak Hour Factor				0.80			
Intersection Orientation	North-South								Analysis Time Period (hrs)				0.25			
Project Description	Grocery															
Lanes																
 Major Street: North-South																
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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	1	0	1	1	0
Configuration			LR				LR			L	T	R		L		TR
Volume (veh/h)		5		47		35		5		19	1048	2		1	1282	1
Percent Heavy Vehicles (%)		0		0		0		1		0				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized									No							
Median Type Storage	Left Only								1							
Critical and Follow-up Headways																
Base Critical Headway (sec)		7.1		6.2		7.1		6.2		4.1				4.1		
Critical Headway (sec)		7.10		6.20		7.10		6.21		4.10				4.10		
Base Follow-Up Headway (sec)		3.5		3.3		3.5		3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50		3.30		3.50		3.31		2.20				2.20		
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)			65				50			24				1		
Capacity, c (veh/h)			134				40			413				534		
v/c Ratio			0.49				1.26			0.06				0.00		
95% Queue Length, Q ₉₅ (veh)			2.2				5.0			0.2				0.0		
Control Delay (s/veh)			55.1				390.2			14.2				11.8		
Level of Service (LOS)			F				F			B				B		
Approach Delay (s/veh)	55.1				390.2				0.3				0.0			
Approach LOS	F				F											

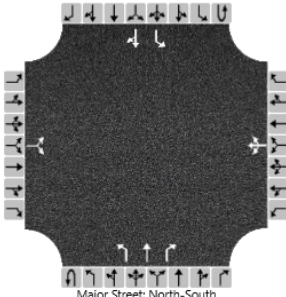
HCS7 Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	KY 1694 at Worthington Gl							
Agency/Co.	Diane B Zimmerman Traffic Engineering							Jurisdiction								
Date Performed	12/16/2021							East/West Street	Worthington Glen							
Analysis Year	2021							North/South Street	KY 1694							
Time Analyzed	PM Peak							Peak Hour Factor	0.98							
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25							
Project Description	Grocery															
Lanes																
Major Street: North-South																
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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	1	0	1	1	0
Configuration			LR				LTR			L	T	R		L		TR
Volume (veh/h)		3		41		11	1	13		49	600	25		12	580	7
Percent Heavy Vehicles (%)		0		0		0	1	1		0				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized									No							
Median Type Storage					Left Only								1			
Critical and Follow-up Headways																
Base Critical Headway (sec)		7.1		6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10		6.20		7.10	6.51	6.21		4.10				4.10		
Base Follow-Up Headway (sec)		3.5		3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50		3.30		3.50	4.01	3.31		2.20				2.20		
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)			45				26			50				12		
Capacity, c (veh/h)			545				453			988				956		
v/c Ratio			0.08				0.06			0.05				0.01		
95% Queue Length, Q ₉₅ (veh)			0.3				0.2			0.2				0.0		
Control Delay (s/veh)			12.2				13.4			8.8				8.8		
Level of Service (LOS)			B				B			A				A		
Approach Delay (s/veh)	12.2				13.4				0.6				0.2			
Approach LOS	B				B											

HCS7 Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection				KY 1694 at Worthington Gl				
Agency/Co.	Diane B Zimmerman Traffic Engineering							Jurisdiction								
Date Performed	12/16/2021							East/West Street				Worthington Glen				
Analysis Year	2024							North/South Street				KY 1694				
Time Analyzed	PM Peak No Build							Peak Hour Factor				0.98				
Intersection Orientation	North-South							Analysis Time Period (hrs)				0.25				
Project Description	Grocery															
Lanes																
 Major Street: North-South																
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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	1	0	1	1	0
Configuration			LR				LTR			L	T	R		L		TR
Volume (veh/h)		3		41		11	1	13		49	705	25		12	681	7
Percent Heavy Vehicles (%)		0		0		0	1	1		0				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized									No							
Median Type Storage	Left Only								1							
Critical and Follow-up Headways																
Base Critical Headway (sec)		7.1		6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10		6.20		7.10	6.51	6.21		4.10				4.10		
Base Follow-Up Headway (sec)		3.5		3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50		3.30		3.50	4.01	3.31		2.20				2.20		
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)			45				26			50				12		
Capacity, c (veh/h)			476				368			905				872		
v/c Ratio			0.09				0.07			0.06				0.01		
95% Queue Length, Q ₉₅ (veh)			0.3				0.2			0.2				0.0		
Control Delay (s/veh)			13.3				15.5			9.2				9.2		
Level of Service (LOS)			B				C			A				A		
Approach Delay (s/veh)	13.3				15.5				0.6				0.2			
Approach LOS	B				C											

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HCS7 Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	KY 1694 at Worthington Gl							
Agency/Co.	Diane B Zimmerman Traffic Engineering							Jurisdiction								
Date Performed	5/6/2022							East/West Street	Worthington Glen							
Analysis Year	2024							North/South Street	KY 1694							
Time Analyzed	PM Peak Build							Peak Hour Factor	0.98							
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25							
Project Description	Grocery															
Lanes																
 Major Street: North-South																
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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	1	0	1	1	0
Configuration			LR				LTR			L	T	R		L		TR
Volume (veh/h)		3		41		11	1	13		49	804	25		12	780	7
Percent Heavy Vehicles (%)		0		0		0	1	1		0				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized									No							
Median Type Storage					Left Only								1			
Critical and Follow-up Headways																
Base Critical Headway (sec)		7.1		6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10		6.20		7.10	6.51	6.21		4.10				4.10		
Base Follow-Up Headway (sec)		3.5		3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50		3.30		3.50	4.01	3.31		2.20				2.20		
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)			45				26			50				12		
Capacity, c (veh/h)			417				300			830				800		
v/c Ratio			0.11				0.08			0.06				0.02		
95% Queue Length, Q ₉₅ (veh)			0.4				0.3			0.2				0.0		
Control Delay (s/veh)			14.7				18.1			9.6				9.6		
Level of Service (LOS)			B				C			A				A		
Approach Delay (s/veh)	14.7				18.1				0.5				0.1			
Approach LOS	B				C											

HCS7 Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	KY 1694 at Worthington Gl							
Agency/Co.	Diane B Zimmerman Traffic Engineering							Jurisdiction								
Date Performed	12/16/2021							East/West Street	Worthington Glen							
Analysis Year	2034							North/South Street	KY 1694							
Time Analyzed	PM Peak No Build							Peak Hour Factor	0.98							
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25							
Project Description	Grocery															
Lanes																
Major Street: North-South																
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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	1	0	1	1	0
Configuration			LR				LTR			L	T	R		L		TR
Volume (veh/h)		3		41		11	1	13		49	1107	25		12	1061	7
Percent Heavy Vehicles (%)		0		0		0	1	1		0				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized									No							
Median Type Storage					Left Only								1			
Critical and Follow-up Headways																
Base Critical Headway (sec)		7.1		6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10		6.20		7.10	6.51	6.21		4.10				4.10		
Base Follow-Up Headway (sec)		3.5		3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50		3.30		3.50	4.01	3.31		2.20				2.20		
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)			45				26			50				12		
Capacity, c (veh/h)			285				163			648				612		
v/c Ratio			0.16				0.16			0.08				0.02		
95% Queue Length, Q ₉₅ (veh)			0.6				0.5			0.3				0.1		
Control Delay (s/veh)			20.0				31.2			11.0				11.0		
Level of Service (LOS)			C				D			B				B		
Approach Delay (s/veh)	20.0				31.2				0.5				0.1			
Approach LOS	C				D											

HCS7 Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	KY 1694 at Worthington Gl							
Agency/Co.	Diane B Zimmerman Traffic Engineering							Jurisdiction								
Date Performed	5/6/22							East/West Street	Worthington Glen							
Analysis Year	2034							North/South Street	KY 1694							
Time Analyzed	PM Peak Build							Peak Hour Factor	0.98							
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25							
Project Description	Grocery															
Lanes																
Major Street: North-South																
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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	1	0	1	1	0
Configuration			LR				LTR			L	T	R		L		TR
Volume (veh/h)		3		41		11	1	13		49	1206	25		12	1160	7
Percent Heavy Vehicles (%)		0		0		0	1	1		0				0		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized									No							
Median Type Storage					Left Only								1			
Critical and Follow-up Headways																
Base Critical Headway (sec)		7.1		6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10		6.20		7.10	6.51	6.21		4.10				4.10		
Base Follow-Up Headway (sec)		3.5		3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50		3.30		3.50	4.01	3.31		2.20				2.20		
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)			45				26			50				12		
Capacity, c (veh/h)			249				130			593				561		
v/c Ratio			0.18				0.20			0.08				0.02		
95% Queue Length, Q ₉₅ (veh)			0.6				0.7			0.3				0.1		
Control Delay (s/veh)			22.6				39.4			11.6				11.6		
Level of Service (LOS)			C				E			B				B		
Approach Delay (s/veh)	22.6				39.4				0.4				0.1			
Approach LOS	C				E											