

final report

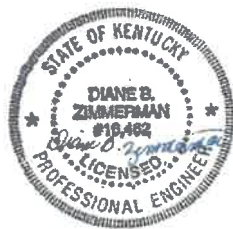
January 15, 2026

Traffic Impact Study

Chick Fil A
9718 Dixie Highway (US 31W)
Louisville, KY

Prepared for

Louisville Metro Planning Commission
Kentucky Transportation Cabinet



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INTRODUCTION

The development plan for a Chick Fil A on Dixie Highway in Louisville, KY shows a 5,304 square foot building with double drive-through lanes. The site is currently occupied by a church. **Figure 1** displays a map of the site. Access to the site will be from an entrance on Dixie Highway and the extension of Fiesta Way to Citation Road. 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 Dixie Highway with Citation Road and the proposed entrance on Dixie Highway.



Figure 1. Site Map

EXISTING CONDITIONS

Dixie Highway, US 31W, is a state-maintained road with an estimated 2025 ADT of 37,200 vehicles per day between Valley Station Road and Greenwood Road, as estimated from the Kentucky Transportation Cabinet at station 651. The road is a four-lane highway with eleven-foot lanes, a paved shoulder, and a two-way left turn lane through the study area. The speed limit is 45 mph. There are sidewalks on the east side of the road and on the west side at the bus stop. The intersection with Citation Road is controlled with a traffic signal. There is a right turn lane on the northbound and westbound approaches. Dixie Highway is a TARC route.

Peak hour traffic counts for the intersections were obtained on Tuesday, November 11, 2025. The a.m. peak was 8:00 to 9:00 and the p.m. peak hour was 4:30 to 5:30. **Figure 2** illustrates the existing a.m. and p.m. peak hour traffic volumes. The Appendix contains the full count data.

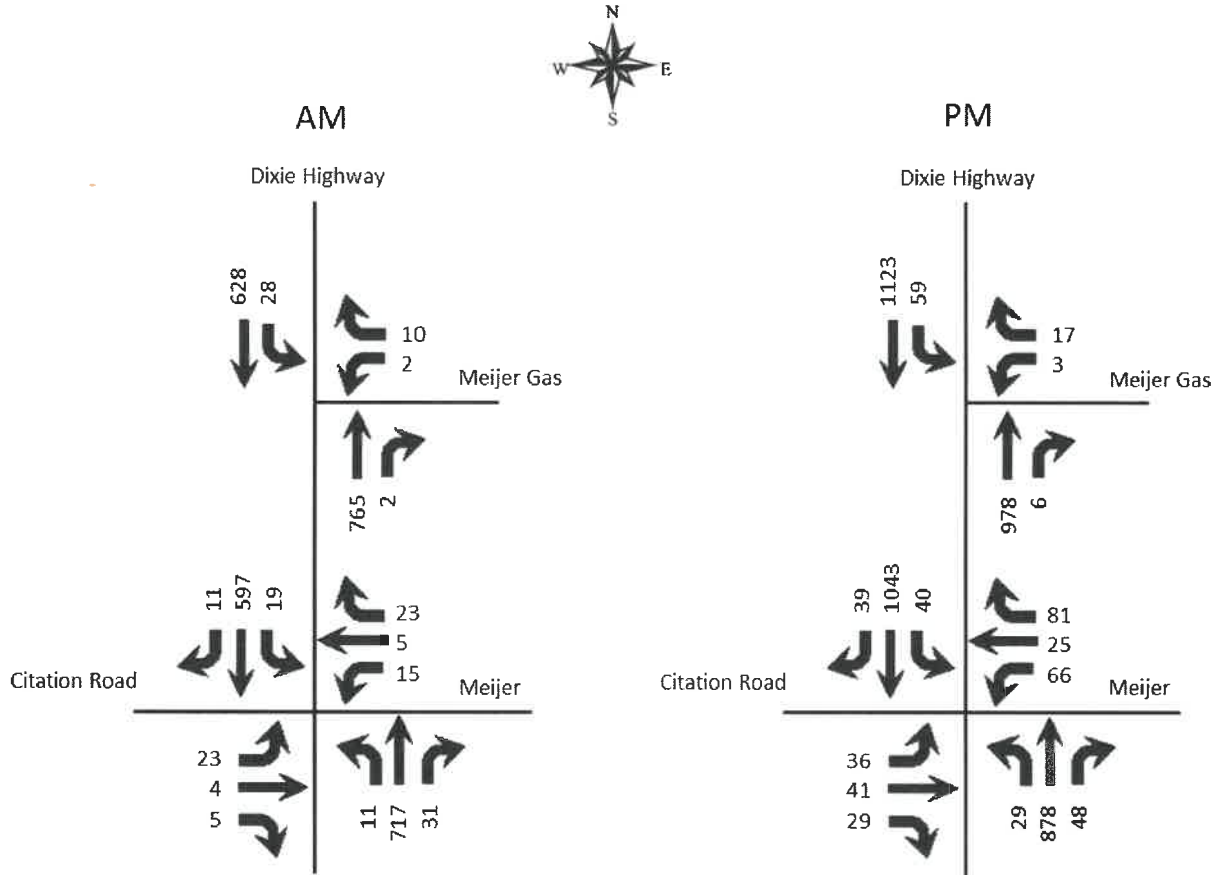


Figure 2. Existing Peak Hour Volumes

FUTURE CONDITIONS

The projected completion year for this development is 2026. Volumes were increased by 0.4 percent annual growth based upon a review of KYTC stations 651, 679, and 680. **Figure 3** illustrates the 2026 traffic volumes without the development.

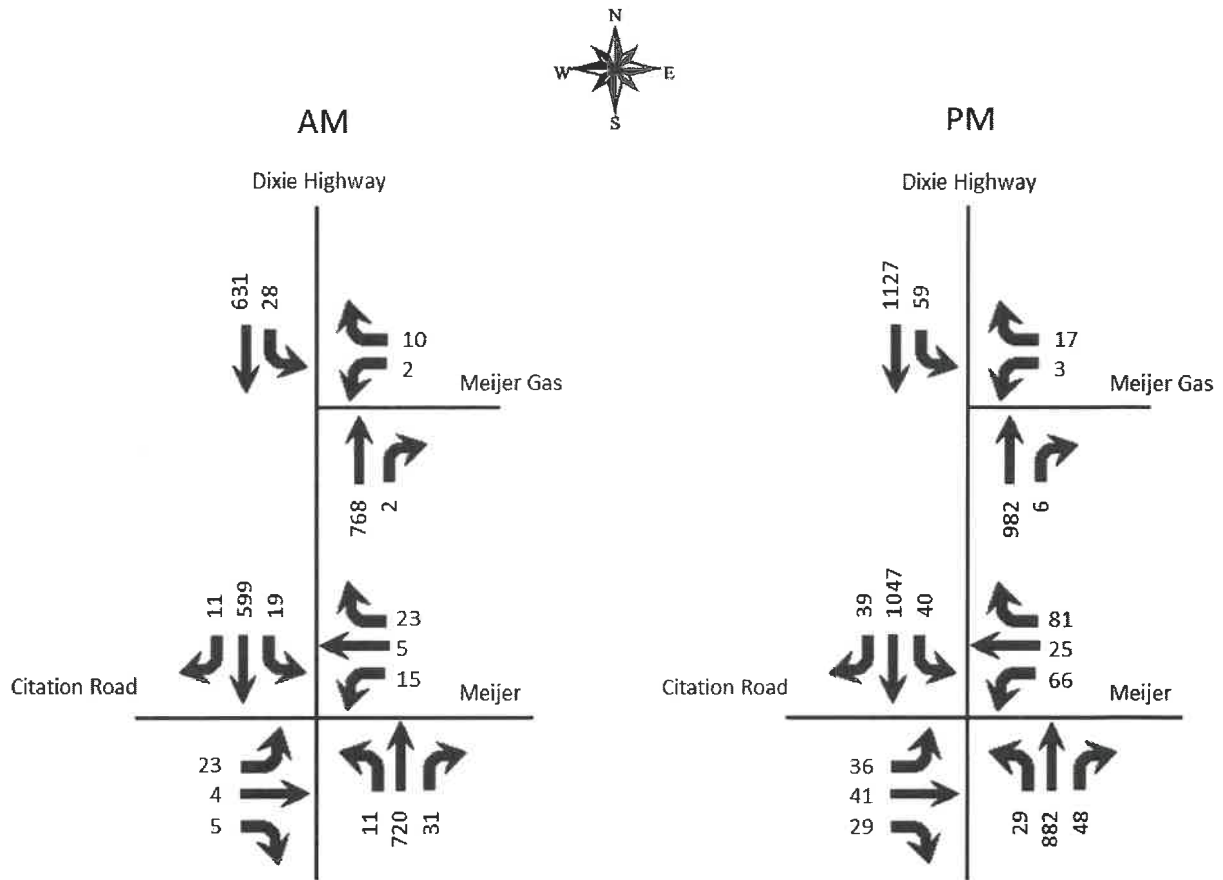


Figure 3. 2026 Peak Hour No Build Volumes

TRIP GENERATION

The Institute of Transportation Engineers Trip Generation Manual, 12th Edition contains trip generation rates for a wide range of developments. The land use of “High-Volume Fast-Food Restaurant (929)” was reviewed and determined to be the best match. The trip generation results are listed in **Table 1**. The trips were assigned to the highway network with the percentages shown in **Figure 4**. Pass-by trips are assigned from the existing traffic flow and are shown in parenthesis. **Figure 5** shows the trips generated by this development and distributed throughout the road network during the peak hours. **Figure 6** displays the individual turning movements for the peak hours when the development is completed.

Table 1. Peak Hour Trips Generated by Site

Land Use	A.M. Peak Hour			P.M. Peak Hour		
	Trips	In	Out	Trips	In	Out
High-Volume Fast-food (5,403 sf)	138	72	66	310	155	155
Pass-by Trips	69	36	33	170	85	85
TOTAL New Trips	69	36	33	140	70	70

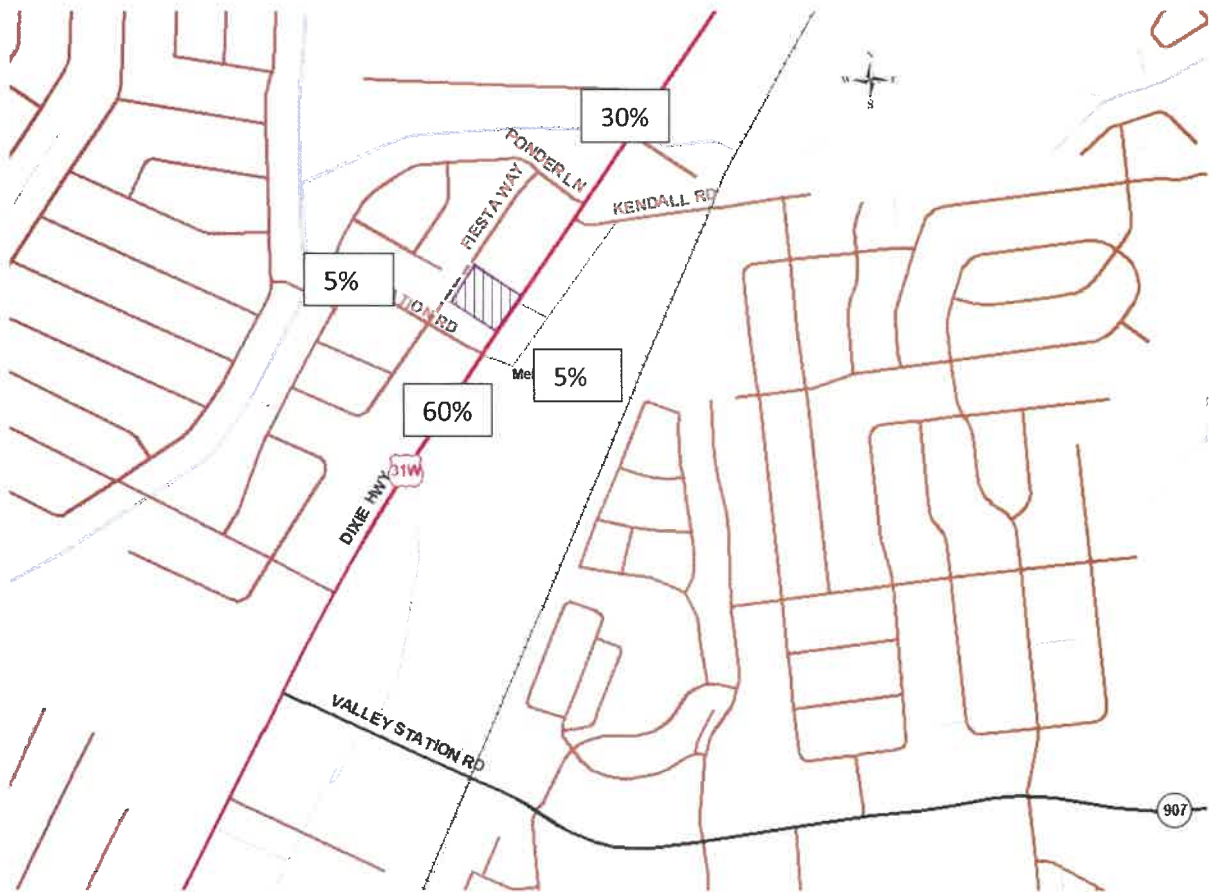


Figure 4. Trip Distribution Percentages

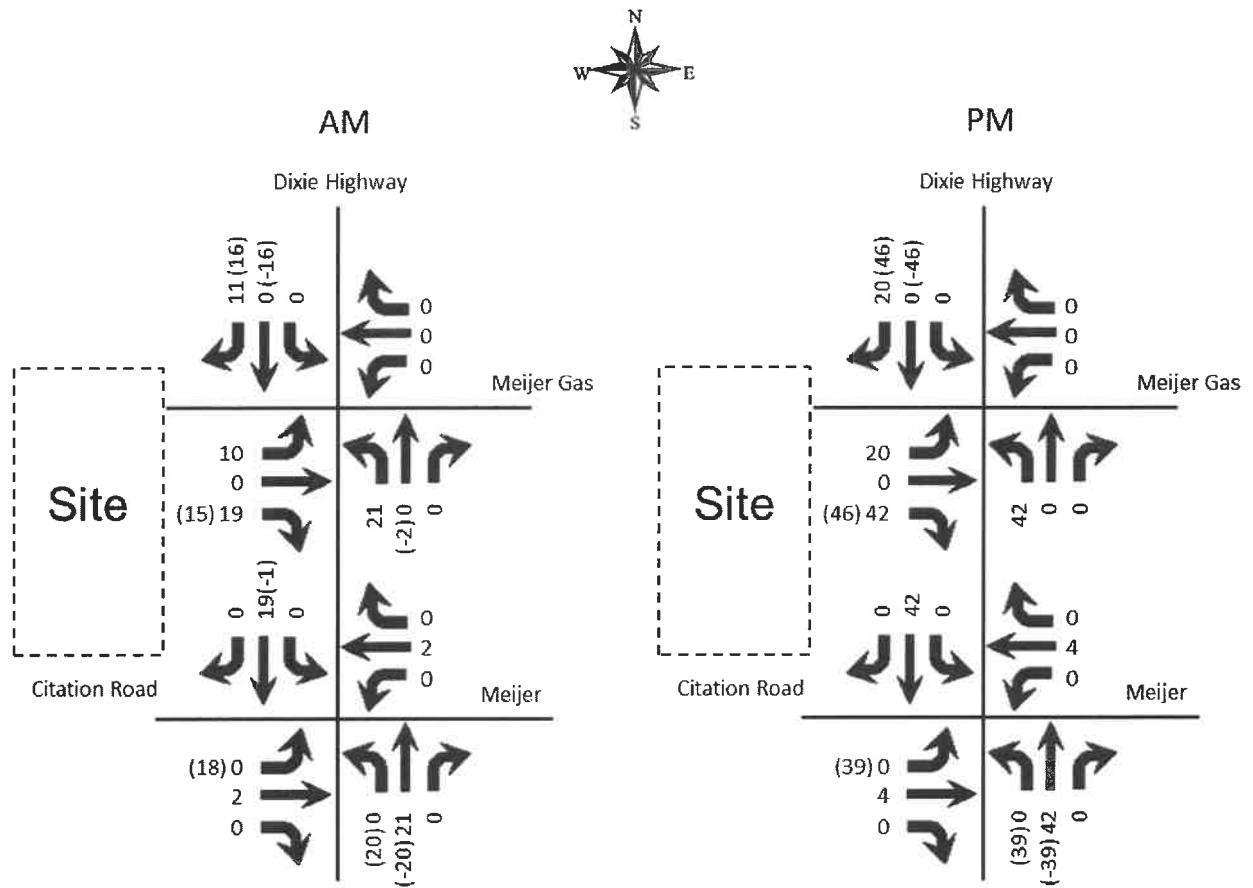


Figure 5. Peak Hour Trips Generated by Site

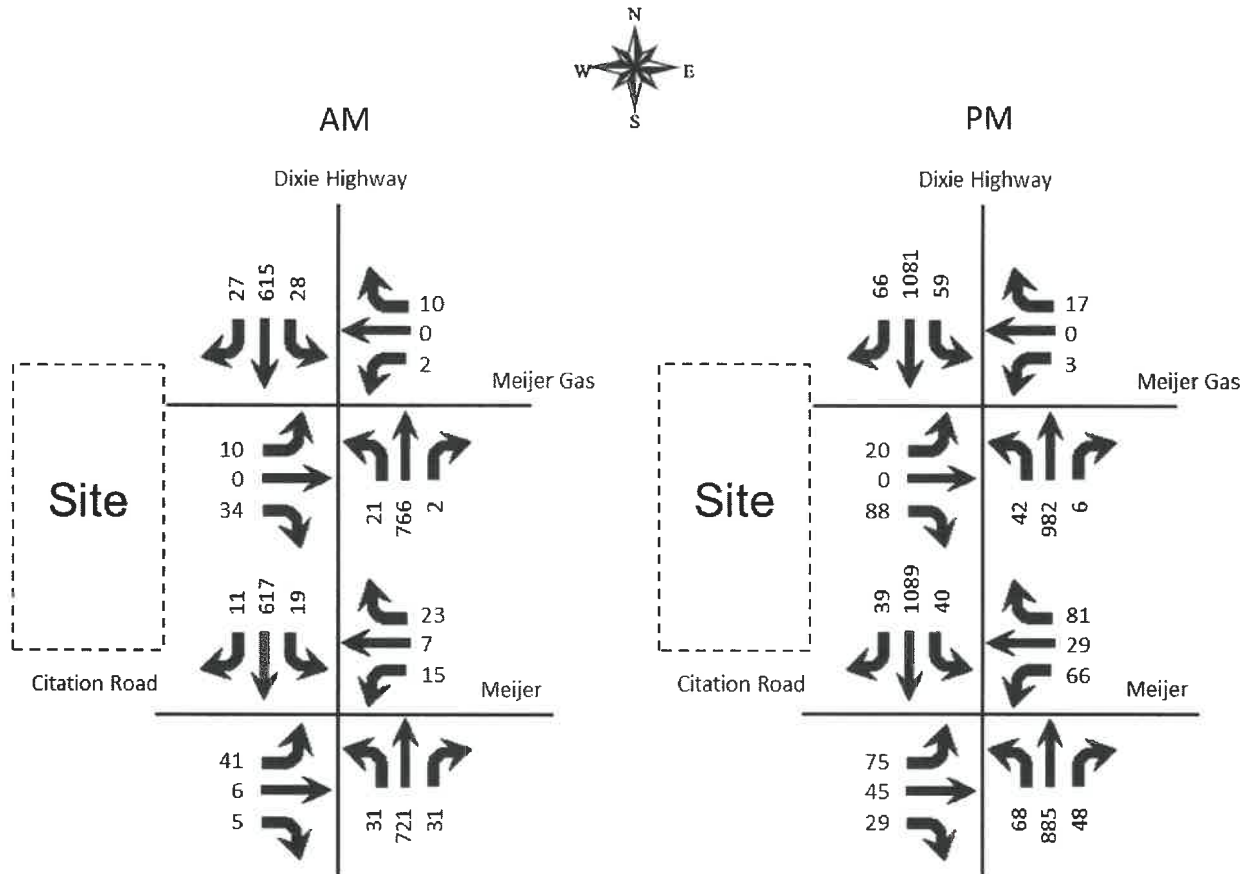


Figure 6. Build 2026 Peak Hour Volumes

ANALYSIS

The qualitative measure of operation for a roadway facility or intersection is evaluated by assigning a “Level of Service”. Level of Service is a ranking scale from A through F, “A” is the best operating condition and “F” is the worst. Level of Service results depend upon the facility that is analyzed. In this case, the Level of Service is based upon the total delay experienced 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, 7th edition. Future delays and Level of Service were determined for the intersections using the HCS Streets and TWSC (version 2026) software. The delays and Level of Service are summarized in **Table 2**.

Table 2. Peak Hour Level of Service

Approach	A.M.			P.M.		
	2025 Existing	2026 No Build	2026 Build	2025 Existing	2026 No Build	2026 Build
Dixie Highway at Citation Road	A 7.6	A 7.6	A 8.9	B 13.7	B 13.7	B 16.0
Citation Road Eastbound	D 54.8	D 54.8	E 56.1	E 55.9	E 55.9	E 57.3
Meijer Driveway Westbound	D 51.9	D 51.9	D 51.7	D 52.0	D 52.0	D 48.8
Dixie Highway Northbound	A 5.5	A 5.5	A 5.6	A 7.9	A 7.9	A 9.2
Dixie Highway Southbound	A 4.8	A 4.8	A 6.0	A 8.7	A 8.7	B 11.6
Dixie Highway at Entrance/Meijer Gas						
Site Driveway Eastbound			B 12.6			C 18.9
Meijer Driveway Westbound	B 12.1	B 12.2	B 12.8	B 13.8	B 13.8	C 15.6
Dixie Highway Northbound			A 9.0			B 11.4
Dixie Highway Southbound	A 9.6	A 9.6	A 9.6	B 10.6	B 10.7	B 10.7

Key: Level of Service, Delay in seconds per vehicle

The entrance was 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 2036. The 2036 volumes were determined applying a 0.4 percent annual growth rate from 2026. **Figure 7** illustrates the 2036 No Build volumes. **Figure 8** illustrates the 2036 Build Volumes. Using the volumes in Figure 8, the volume warrant is satisfied for a right turn lane on Dixie Highway. **Table 3** summarizes the delay and Level of Service for 2035. No additional lane improvements are required.

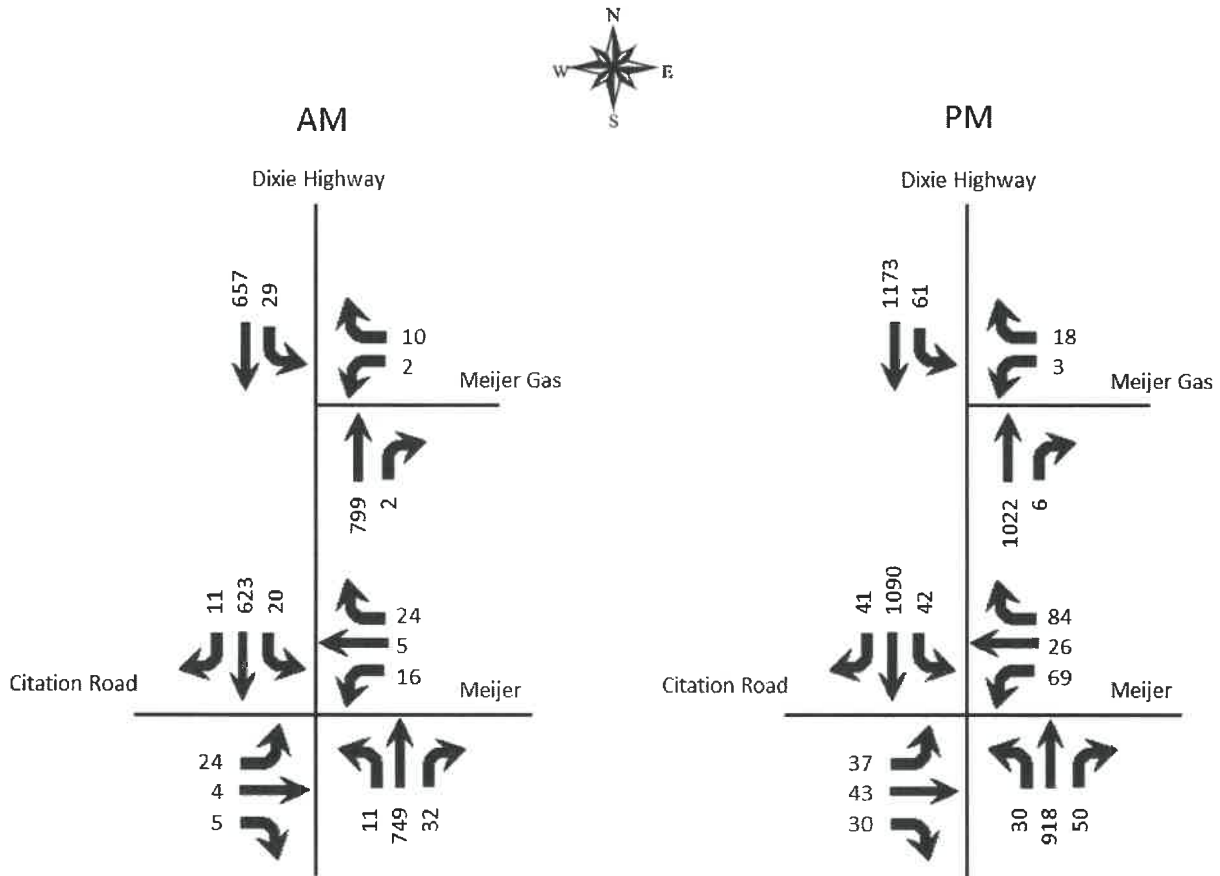


Figure 7. No Build 2036 Peak Hour Volumes

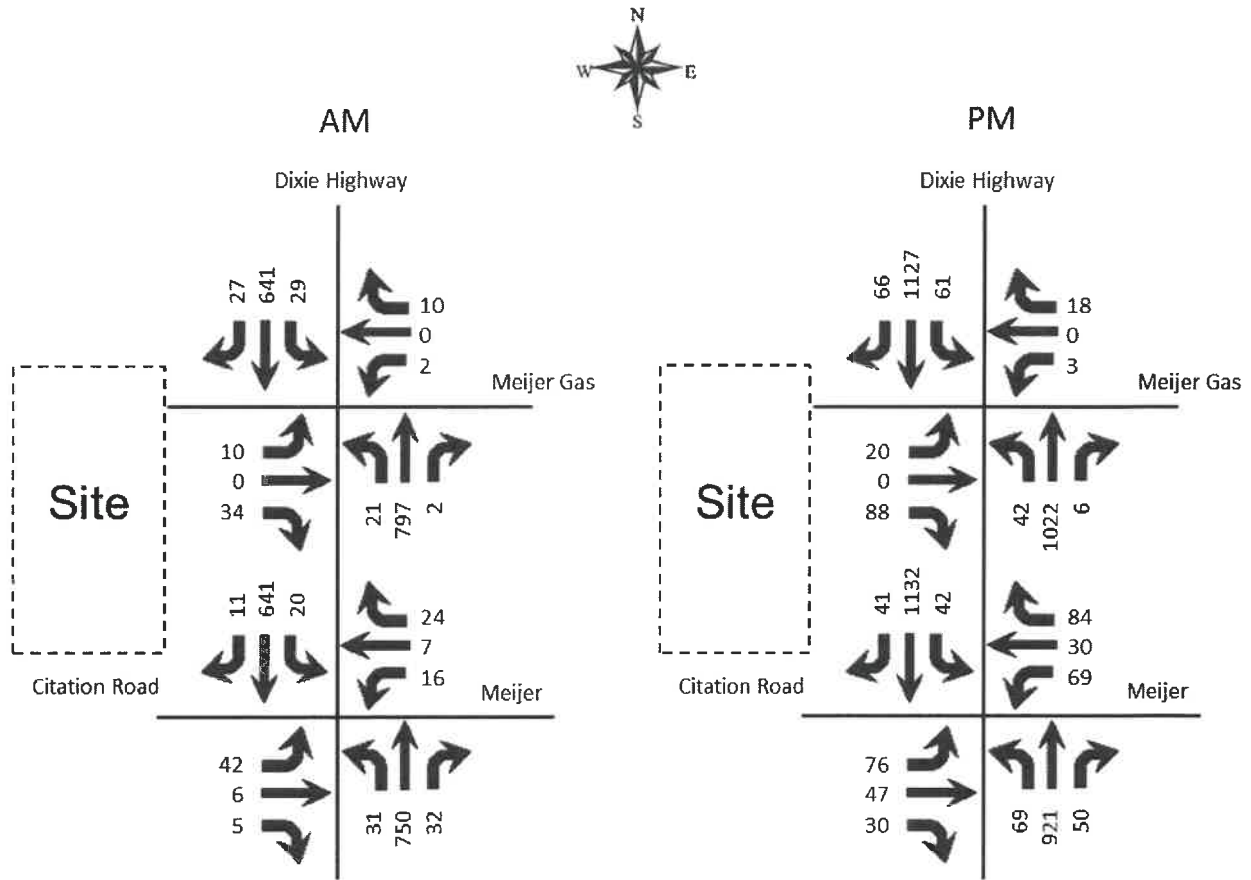


Figure 8. Build 2036 Peak Hour Volumes

Table 3. 2036 Peak Hour Level of Service

Approach	A.M.			P.M.		
	2025 Existing	2036 No Build	2036 Build	2025 Existing	2036 No Build	2036 Build
Dixie Highway at Citation Road	A 7.6	A 7.7	A 8.9	B 13.7	B 14.0	B 16.3
Citation Road Eastbound	D 54.8	D 54.8	E 56.2	E 55.9	E 55.5	E 57.7
Meijer Driveway Westbound	D 51.9	D 51.8	D 51.7	D 52.0	D 51.7	D 48.8
Dixie Highway Northbound	A 5.5	A 5.6	A 5.8	A 7.9	A 8.3	A 9.5
Dixie Highway Southbound	A 4.8	A 4.9	A 6.1	A 8.7	A 9.2	B 12.0

Approach	A.M.			P.M.		
	2025 Existing	2036 No Build	2036 Build	2025 Existing	2036 No Build	2036 Build
Dixie Highway at Entrance/Meijer Gas						
Site Driveway Eastbound			B 12.9			C 19.8
Meijer Driveway Westbound	B 12.1	B 12.4	B 13.0	B 13.8	B 14.1	C 16.0
Dixie Highway Northbound			A 9.1			B 11.7
Dixie Highway Southbound	A 9.6	A 9.7	A 9.7	B 10.6	B 10.9	B 10.9

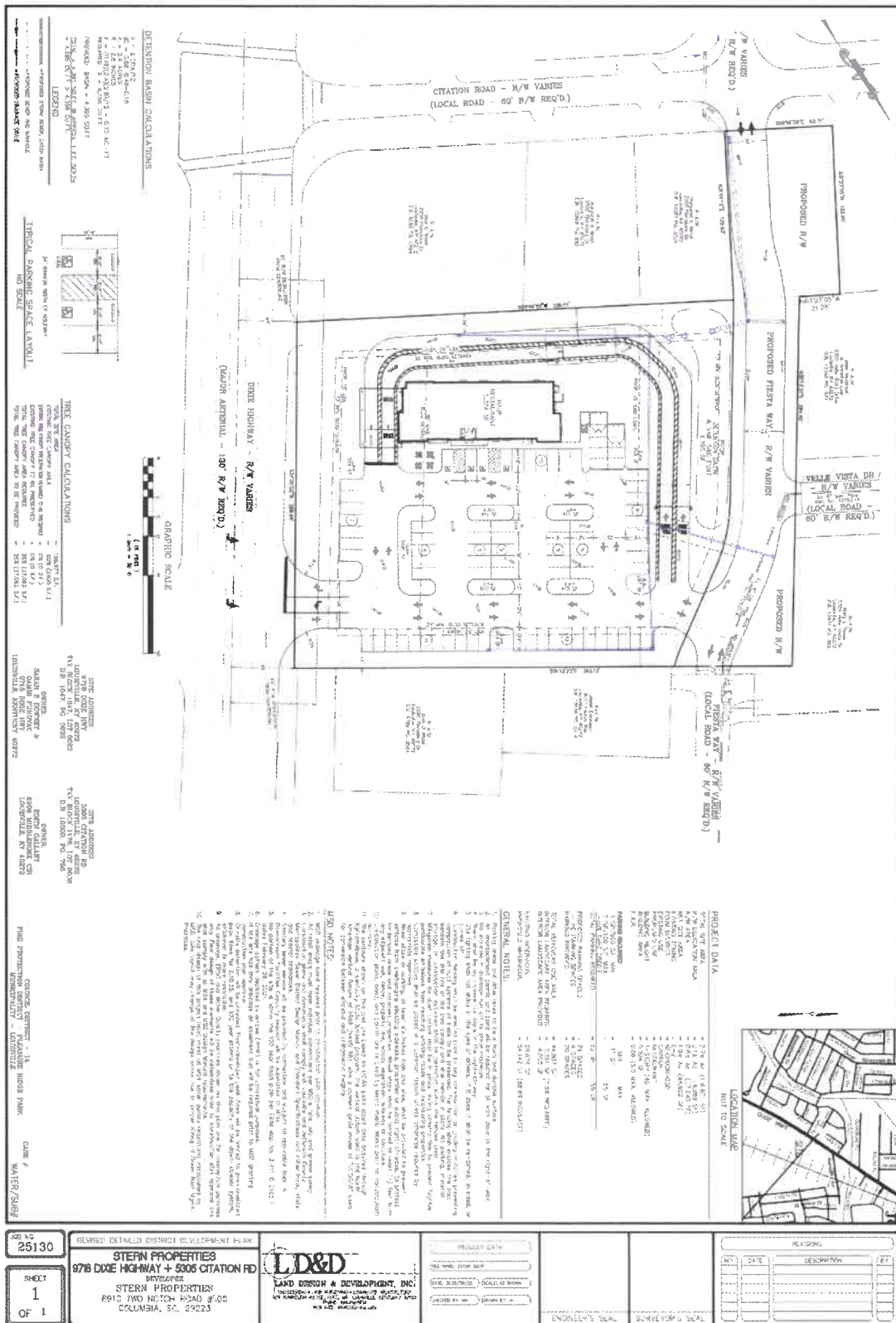
Key: Level of Service, Delay in seconds per vehicle

CONCLUSIONS

Based upon the volume of traffic generated by the development and the amount of traffic forecasted for the year 2026 and 2036, there will be an impact to the existing highway network, with Levels of Service remaining within acceptable ranges. The volume warrant for a right turn lane is met for the entrance on Dixie Highway. No other improvements are required to provide adequate capacity.

APPENDIX

Site Plan



Dixie Highway Chick Fil A
Traffic Impact Study

Traffic Counts



www.marrtraffic.com

Classified Turn Movement Count || All vehicles

Louisville, KY

Site 1

US-60 Dixie Hwy (South)
US-60 Dixie Hwy (North)
Citation Rd
Meijer Driveway

Date

Tuesday, November 11, 2025

Weather

Fair
35°F

Lat/Long

38.113248°, -85.862538°
[Click here for Map](#)

[Click here for Detailed Weather](#)

0700 - 0900 (Weekday 2h Session) (11-11-2025)

All vehicles

TIME	Northbound US-60 Dixie Hwy (South)			Southbound US-60 Dixie Hwy (North)			Eastbound Citation Rd			Westbound Meijer Driveway			U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Int Total							
	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	1.11	1.12																			1.13	1.14	1.15	1.16	1.17	1.18	1.19
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru																			Right	U-Turn	App Total	Left	Thru	Right	U-Turn
0700 - 0715	1	213	4	0	218	4	87	1	0	92	9	1	3	0	13	2	0	1	0	3	326																
0715 - 0730	3	226	5	0	234	3	124	2	0	129	13	3	4	0	20	0	1	6	0	7	390																
0730 - 0745	2	206	7	0	215	2	85	0	0	87	7	4	2	0	13	3	1	5	0	9	324																
0745 - 0800	0	191	3	0	194	4	135	0	0	139	9	1	3	0	13	4	0	6	0	10	356																
Hourly Total	6	836	19	0	861	13	431	3	0	447	38	9	12	0	59	9	2	18	0	29	1396																
0800 - 0815	4	171	3	0	178	6	136	1	0	143	4	0	3	0	7	3	3	6	0	12	340																
0815 - 0830	3	189	7	0	199	3	155	3	0	161	9	1	1	0	11	4	2	3	0	9	380																
0830 - 0845	2	191	9	0	202	4	153	4	0	161	2	2	1	0	5	5	0	8	0	13	381																
0845 - 0900	2	166	12	0	180	6	153	3	0	162	8	1	0	0	9	3	0	6	0	9	360																
Hourly Total	11	717	31	0	759	19	597	11	0	627	23	4	5	0	32	15	5	23	0	43	1461																
Grand Total	17	1553	50	0	1620	32	1028	14	0	1074	61	13	17	0	91	24	7	41	0	72	2857																
Approach %	1.05	95.86	3.09	0.00	-	2.98	95.72	1.30	0.00	-	67.03	14.29	18.68	0.00	-	33.33	9.72	56.94	0.00	-																	
Intersection %	0.60	54.36	1.75	0.00	56.70	1.12	35.98	0.49	0.00	37.59	2.14	0.46	0.60	0.00	3.19	0.84	0.25	1.44	0.00	2.52																	
Heavy Vehicle %	0	4	0	-	4	0	5	0	-	5	0	0	0	-	0	4	0	0	-	1	4																
PHF	0.69	0.94	0.65	0.00	0.94	0.79	0.96	0.69	0.00	0.97	0.64	0.50	0.42	0.00	0.73	0.75	0.42	0.72	0.00	0.83	0.96																
Peak Hour Total	11	717	31	0	759	19	597	11	0	627	23	4	5	0	32	15	5	23	0	43	1461																
Peak Hour HV %	0	5	0	0	5	0	5	0	0	5	0	0	0	0	0	7	0	0	0	2	5																

1600 - 1800 (Weekday 2h Session) (11-11-2025)

All vehicles

TIME	Northbound US-60 Dixie Hwy (South)			Southbound US-60 Dixie Hwy (North)			Eastbound Citation Rd			Westbound Meijer Driveway			U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Int Total							
	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	1.11	1.12														1.13	1.14	1.15	1.16	1.17	1.18	1.19
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru														Right	U-Turn	App Total	Left	Thru	Right	U-Turn
1600 - 1615	4	221	11	0	236	12	267	9	0	288	7	9	0	0	16	20	5	18	0	43	583											
1615 - 1630	9	204	13	0	226	14	259	7	0	280	5	6	7	0	18	16	7	17	0	40	564											
1630 - 1645	5	207	17	0	229	11	272	12	0	295	10	10	4	0	24	20	5	28	0	53	601											
1645 - 1700	7	227	9	0	243	12	243	14	0	269	7	10	7	0	24	11	10	15	0	36	572											
Hourly Total	25	859	50	0	934	49	1041	42	0	1132	29	35	18	0	82	67	27	78	0	172	2320											
1700 - 1715	6	227	9	0	242	9	250	6	0	265	8	10	8	0	26	15	6	25	0	46	579											
1715 - 1730	11	217	13	0	241	8	278	7	0	293	11	11	10	0	32	20	4	13	0	37	603											
1730 - 1745	5	242	15	0	262	13	253	2	0	268	5	9	7	0	21	17	11	18	0	46	597											
1745 - 1800	7	217	14	0	238	17	245	3	0	265	2	5	8	0	15	20	9	19	0	48	566											
Hourly Total	29	908	51	0	983	47	1026	18	0	1091	26	35	33	0	94	72	30	75	0	177	2345											
Grand Total	54	1762	101	0	1917	96	2067	60	0	2223	55	70	51	0	176	139	57	153	0	349	4665											
Approach %	2.82	91.91	5.27	0.00	-	4.32	92.98	2.70	0.00	-	31.25	39.77	28.98	0.00	-	39.83	16.33	43.84	0.00	-												
Intersection %	1.16	37.77	2.17	0.00	41.09	2.06	44.31	1.29	0.00	47.65	1.18	1.50	1.09	0.00	3.77	2.98	1.22	3.28	0.00	7.48												
Heavy Vehicle %	0	1	0	-	1	0	1	0	-	1	0	0	2	-	1	0	0	0	-	0	1											
PHF	0.66	0.97	0.71	0.00	0.98	0.83	0.94	0.70	0.00	0.95	0.82	0.93	0.73	0.00	0.83	0.83	0.63	0.72	0.00	0.81	0.98											
Peak Hour Total	29	878	48	0	955	40	1043	39	0	1122	36	41	29	0	106	66	25	81	0	172	2355											
Peak Hour HV %	0	1	0	0	1	0	1	0	0	1	0	0	3	0	1	0	0	0	0	0	1											

Dixie Highway Chick Fil A Traffic Impact Study

Classified Turn Movement Count || All vehicles



www.martraffic.com

Louisville, KY

Site 2

US-60 Dixie Hwy (South)
US-60 Dixie Hwy (North)
Driveway
Meijer Driveway

Date

Tuesday, November 11, 2025

Weather

Fair
35°F

[Click here for Detailed Weather](#)

Lat/Long

38.114173°, -85.861740°

[Click here for Map](#)

0700 - 0900 (Weekday 2h Session) (11-11-2025)

All vehicles

TIME	Northbound US-60 Dixie Hwy (South)			Southbound US-60 Dixie Hwy (North)			Eastbound Driveway				Westbound Meijer Driveway				Int Total						
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn		App					
	2.1	2.2	2.3	2.4	Total	2.5	2.6	2.7	2.8	Total	2.9	2.10	2.11	2.12		Total	2.13	2.14	2.15	2.16	Total
0700 - 0715	0	220	0	0	220	2	90	0	0	92	1	0	0	0	1	0	0	2	0	2	315
0715 - 0730	0	251	0	0	251	0	128	0	0	128	0	0	0	0	0	2	0	3	0	5	384
0730 - 0745	0	215	0	0	215	4	89	0	0	93	0	0	0	0	0	0	0	3	0	3	311
0745 - 0800	0	205	0	0	205	4	139	0	0	143	0	0	0	0	0	0	2	0	2	350	
Hourly Total	0	891	0	0	891	10	446	0	0	456	1	0	0	0	1	2	0	10	0	12	1360
0800 - 0815	0	180	0	0	180	4	148	1	0	153	0	0	0	0	0	1	0	2	0	3	336
0815 - 0830	0	204	0	0	204	6	155	0	0	161	0	0	0	0	0	0	3	0	3	368	
0830 - 0845	0	204	1	0	205	8	165	0	0	173	0	0	0	0	0	0	2	0	2	380	
0845 - 0900	0	177	1	0	178	10	160	0	0	170	0	0	0	0	0	1	0	3	0	4	352
Hourly Total	0	765	2	0	767	28	628	1	0	657	0	0	0	0	0	2	0	10	0	12	1436
Grand Total	0	1656	2	0	1658	38	1074	1	0	1113	1	0	0	0	1	4	0	20	0	24	2796
Approach %	0.00	99.88	0.12	0.00	-	3.41	96.50	0.09	0.00	-	100.00	0.00	0.00	0.00	-	16.67	0.00	83.33	0.00	-	
Intersection %	0.00	59.23	0.07	0.00	59.30	1.36	38.41	0.04	0.00	39.81	0.04	0.00	0.00	0.00	0.04	0.14	0.00	0.72	0.00	0.86	
Heavy Vehicle %	-	4	0	-	4	0	5	0	-	5	0	-	-	-	0	25	-	0	-	4	4
PHF	0.00	0.94	0.50	0.00	0.94	0.70	0.95	0.25	0.00	0.95	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.83	0.00	0.75	0.94
Peak Hour Total	0	765	2	0	767	28	628	1	0	657	0	0	0	0	0	2	0	10	0	12	1436
Peak Hour HV %	0	5	0	0	5	0	4	0	0	4	0	0	0	0	0	50	0	0	0	8	5

1600 - 1800 (Weekday 2h Session) (11-11-2025)

All vehicles

TIME	Northbound US-60 Dixie Hwy (South)			Southbound US-60 Dixie Hwy (North)			Eastbound Driveway				Westbound Meijer Driveway				Int Total						
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn		App					
	2.1	2.2	2.3	2.4	Total	2.5	2.6	2.7	2.8	Total	2.9	2.10	2.11	2.12		Total	2.13	2.14	2.15	2.16	Total
1600 - 1615	0	246	1	0	247	11	287	0	0	298	0	0	0	0	0	0	0	6	0	6	551
1615 - 1630	0	228	0	0	228	11	278	0	0	289	0	0	0	0	0	1	0	7	0	8	525
1630 - 1645	0	241	0	0	241	12	298	0	0	310	0	0	0	0	0	1	0	3	0	4	555
1645 - 1700	0	244	1	0	245	16	271	0	1	288	0	0	0	0	0	0	0	2	0	2	535
Hourly Total	0	959	2	0	961	50	1134	0	1	1185	0	0	0	0	0	2	0	18	0	20	2166
1700 - 1715	0	258	4	0	262	13	261	0	0	274	0	0	0	0	0	0	0	4	0	4	540
1715 - 1730	0	235	1	0	236	17	293	0	0	310	0	0	0	0	0	2	0	8	0	10	556
1730 - 1745	0	266	2	0	268	11	265	0	0	276	0	0	0	0	0	1	0	1	0	2	546
1745 - 1800	2	236	3	0	241	13	267	0	0	280	0	0	0	0	0	1	0	6	0	7	528
Hourly Total	2	995	10	0	1007	54	1086	0	0	1140	0	0	0	0	0	4	0	19	0	23	2170
Grand Total	2	1954	12	0	1968	104	2220	0	1	2325	0	0	0	0	0	6	0	37	0	43	4336
Approach %	0.10	99.29	0.61	0.00	-	4.47	95.48	0.00	0.04	-	0.00	0.00	0.00	0.00	-	13.95	0.00	86.05	0.00	-	
Intersection %	0.05	45.06	0.28	0.00	45.39	2.40	51.20	0.00	0.02	53.62	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.85	0.00	0.99	
Heavy Vehicle %	0	1	0	-	1	0	1	-	0	1	-	-	-	-	-	0	-	0	-	0	1
PHF	0.00	0.95	0.38	0.00	0.94	0.85	0.94	0.00	0.25	0.95	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.53	0.00	0.50	0.98
Peak Hour Total	0	978	6	0	984	58	1123	0	1	1182	0	0	0	0	0	3	0	17	0	20	2186
Peak Hour HV %	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1

TIS Simplified Traffic Forecast

Count Year	2025	Number of Counts	18
Opening Year	2026	Growth Rate	0.33%
Design Year	2036		
Years Back	15		

KYTC Traffic Count Station #1

STA ID	056651
Paste Count Data Here	
2025	
2024	37047
2023	37718
2022	
2021	
2020	29531
2019	
2018	
2017	34743
2016	
2015	36280
2014	37551
2013	36739
2012	37311
2011	
2010	37400
2009	38400
2008	
2007	
2006	
2005	39300
2004	43300
2003	38100
2002	42300
2001	43500
2000	
1999	

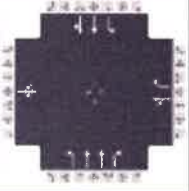
KYTC Traffic Count Station #2

STA ID	056680
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2025	
2024	31326
2023	28523
2022	
2021	
2020	24135
2019	
2018	
2017	
2016	
2015	27400
2014	18958
2013	
2012	26927
2011	
2010	
2009	
2008	
2007	
2006	
2005	
2004	
2003	
2002	
2001	8330
2000	
1997	

KYTC Traffic Count Station #3

STA ID	056679
Paste Count Data Here	
2025	
2024	9651
2023	
2022	
2021	
2020	
2019	
2018	10080
2017	
2016	
2015	9710
2014	
2013	
2012	10151
2011	
2010	
2009	10400
2008	
2007	
2006	10100
2005	
2004	
2003	11700
2002	
2001	
2000	12200
1999	

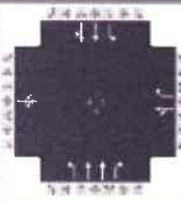
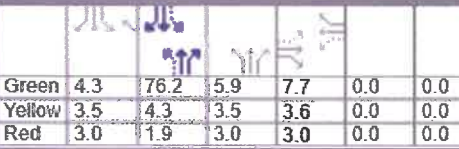

HCS Reports

HCS Signalized Intersection Results Summary																			
General Information						Intersection Information													
Agency	Diane B. Zimmerman Traffic Engineering LLC					Duration, h	0.250												
Analyst	DBZ		Analysis Date	12/31/2025		Area Type	Other												
Jurisdiction			Time Period	AM Peak		PHF	0.96												
Urban Street	Dixie Highway		Analysis Year	2025		Analysis Period	1 > 8:00												
Intersection	Citation Road		File Name	AM 25.xus															
Project Description	Chick Fil A																		
Demand Information				EB			WB			NB			SB						
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R				
Demand (v), veh/h				23	4	5	15	5	23	11	717	31	19	597	11				
Signal Information																			
Cycle, s	120.0	Reference Phase	2																
Offset, s	0	Reference Point	End																
Uncoordinated	No	Simult. Gap E/W	On	Green	4.3	79.6	2.9	7.4	0.0	0.0									
				Yellow	3.5	4.3	3.5	3.6	0.0	0.0									
Force Mode	Fixed	Simult. Gap N/S	On	Red	3.0	1.9	3.0	3.0	0.0	0.0									
Timer Results				EBL		EBT		WBL		WBT		NBL		NBT		SBL		SBT	
Assigned Phase						4				8		5		2		1		6	
Case Number						8.0				7.0		1.3		3.0		1.2		4.0	
Phase Duration, s						14.0				14.0		9.4		95.1		10.8		96.6	
Change Period, (Y+Rc), s						6.6				6.6		6.5		6.5		6.5		6.2	
Max Allow Headway (MAH), s						4.7				4.7		4.5		0.0		4.5		0.0	
Queue Clearance Time (gs), s						4.4				3.6		2.0				2.4			
Green Extension Time (ge), s						0.1				0.1		2.4		0.0		0.0		0.0	
Phase Call Probability						0.93				0.93		0.32				0.48			
Max Out Probability						0.02				0.01		0.57				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				7	4	14	3	8	18	5	2	12	1	6	16				
Adjusted Flow Rate (v), veh/h				33			21 24			11 747 32			20 318 316						
Adjusted Saturation Flow Rate (s), veh/h/ln				1544			1496 1610			1810 1738 1610			1810 1826 1814						
Queue Service Time (gs), s				0.9			0.0 1.6			0.0 8.6 0.6			0.4 6.2 6.2						
Cycle Queue Clearance Time (gc), s				2.4			1.5 1.6			0.0 8.6 0.6			0.4 6.2 6.2						
Green Ratio (g/C)				0.06			0.06 0.10			0.67 0.74 0.74			0.72 0.75 0.75						
Capacity (c), veh/h				147			145 158			624 2568 1189			555 1376 1367						
Volume-to-Capacity Ratio (X)				0.227			0.144 0.152 0.018			0.291 0.027 0.036			0.231 0.231						
Back of Queue (Q), ft/ln (95 th percentile)				45			29 30			4 119 8			6 90 87						
Back of Queue (Q), veh/ln (95 th percentile)				1.8			1.1 1.2			0.2 4.6 0.3			0.2 3.5 3.5						
Queue Storage Ratio (RQ) (95 th percentile)				0.00			0.00 0.00			0.00 0.00 0.00			0.00 0.00 0.00						
Uniform Delay (d1), s/veh				53.9			53.5 49.6			6.6 5.2 4.2			5.4 4.4 4.4						
Incremental Delay (d2), s/veh				0.9			0.5 0.5			0.0 0.3 0.0			0.0 0.4 0.4						
Initial Queue Delay (d3), s/veh				0.0			0.0 0.0			0.0 0.0 0.0			0.0 0.0 0.0						
Control Delay (d), s/veh				54.8			54.0 50.1			6.6 5.5 4.2			5.4 4.8 4.8						
Level of Service (LOS)				D			D D			A A A			A A A						
Approach Delay, s/veh / LOS				54.8		D		51.9		D		5.5		A		4.8		A	
Intersection Delay, s/veh / LOS							7.6						A						
Multimodal Results				EB			WB			NB			SB						
Pedestrian LOS Score / LOS				2.47 B			2.32 B			1.85 B			1.73 B						
Bicycle LOS Score / LOS				0.54 A			0.56 A			1.14 A			1.03 A						

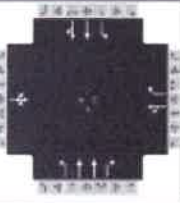
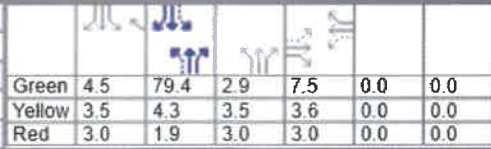
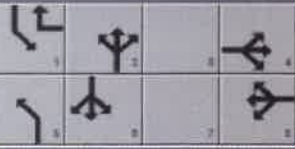
Dixie Highway Chick Fil A
Traffic Impact Study

HCS Signalized Intersection Results Summary															
General Information							Intersection Information								
Agency	Diane B. Zimmerman Traffic Engineering LLC						Duration, h	0.250							
Analyst	DBZ			Analysis Date	12/31/2025			Area Type	Other						
Jurisdiction				Time Period	AM Peak			PHF	0.96						
Urban Street	Dixie Highway			Analysis Year	2025			Analysis Period	1> 8:00						
Intersection	Citation Road			File Name	AM 25.xus										
Project Description	Chick Fil A														
Demand Information															
				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				23	4	5	15	5	23	11	717	31	19	597	11
Signal Information															
Cycle, s	120.0	Reference Phase	2												
Offset, s	0	Reference Point	End												
Uncoordinated	No	Simult. Gap E/W	On	Green	4.3	79.6	2.9	7.4	0.0	0.0					
				Yellow	3.5	4.3	3.5	3.6	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	3.0	1.9	3.0	3.0	0.0	0.0					
Timer Results															
				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase					4		8	5	2	1	6				
Case Number					8.0		7.0	1.3	3.0	1.2	4.0				
Phase Duration, s					14.0		14.0	9.4	95.1	10.8	96.6				
Change Period, (Y+R _c), s					6.6		6.6	6.5	6.5	6.5	6.2				
Max Allow Headway (MAH), s					4.7		4.7	4.5	0.0	4.5	0.0				
Queue Clearance Time (g _s), s					4.4		3.6	2.0		2.4					
Green Extension Time (g _e), s					0.1		0.1	2.4	0.0	0.0	0.0				
Phase Call Probability					0.93		0.93	0.32		0.48					
Max Out Probability					0.02		0.01	0.57		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				7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h				33			21	24	11	747	32	20	318	316	
Adjusted Saturation Flow Rate (s), veh/h/ln				1544			1496	1610	1810	1738	1610	1810	1826	1814	
Queue Service Time (g _s), s				0.9			0.0	1.6	0.0	8.6	0.6	0.4	6.2	6.2	
Cycle Queue Clearance Time (g _c), s				2.4			1.5	1.6	0.0	8.6	0.6	0.4	6.2	6.2	
Green Ratio (g/C)				0.06			0.06	0.10	0.67	0.74	0.74	0.72	0.75	0.75	
Capacity (c), veh/h				147			145	158	624	2568	1189	555	1376	1367	
Volume-to-Capacity Ratio (X)				0.227			0.144	0.152	0.018	0.291	0.027	0.036	0.231	0.231	
Back of Queue (Q), ft/ln (95 th percentile)				45			29	30	4	119	8	6	90	87	
Back of Queue (Q), veh/ln (95 th percentile)				1.8			1.1	1.2	0.2	4.6	0.3	0.2	3.5	3.5	
Queue Storage Ratio (RQ) (95 th percentile)				0.00			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Uniform Delay (d ₁), s/veh				53.9			53.5	49.6	6.6	5.2	4.2	5.4	4.4	4.4	
Incremental Delay (d ₂), s/veh				0.9			0.5	0.5	0.0	0.3	0.0	0.0	0.4	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	
Control Delay (d'), s/veh				54.8			54.0	50.1	6.6	5.5	4.2	5.4	4.8	4.8	
Level of Service (LOS)				D			D	D	A	A	A	A	A	A	
Approach Delay, s/veh / LOS				54.8	D		51.9	D	5.5	A		4.8	A		
Intersection Delay, s/veh / LOS				7.6						A					
Multimodal Results															
				EB			WB			NB			SB		
Pedestrian LOS Score / LOS				2.47	B		2.32	B	1.85	B	1.73	B			
Bicycle LOS Score / LOS				0.54	A		0.56	A	1.14	A	1.03	A			

HCS Signalized Intersection Results Summary

General Information				Intersection Information											
Agency	Diane B. Zimmerman Traffic Engineering LLC			Duration, h	0.250										
Analyst	DBZ	Analysis Date	12/31/2025	Area Type	Other										
Jurisdiction		Time Period	AM Peak	PHF	0.96										
Urban Street	Dixie Highway	Analysis Year	2026 Build	Analysis Period	1> 8:00										
Intersection	Citation Road	File Name	AM 26 B.xus												
Project Description	Chick Fil A														
Demand Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				41	6	5	15	7	23	31	721	31	19	617	11
Signal Information															
Cycle, s	120.0	Reference Phase	2												
Offset, s	0	Reference Point	End												
Uncoordinated	No	Simult. Gap E/W	On	Green	4.3	76.2	5.9	7.7	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	4.3	3.5	3.6	0.0	0.0					
				Red	3.0	1.9	3.0	3.0	0.0	0.0					
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase					4		8	5	2	1	6				
Case Number					8.0		7.0	1.3	3.0	1.2	4.0				
Phase Duration, s					14.3		14.3	12.4	94.8	10.8	93.2				
Change Period, (Y+Rc), s					6.6		6.6	6.5	6.5	6.5	6.2				
Max Allow Headway (MAH), s					4.6		4.6	4.5	0.0	4.5	0.0				
Queue Clearance Time (qs), s					6.1		3.6	2.0		2.4					
Green Extension Time (ge), s					0.2		0.2	2.5	0.0	0.0	0.0				
Phase Call Probability					0.97		0.97	0.66		0.48					
Max Out Probability					0.11		0.01	0.58		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				7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h				54			23 24			32 751 32			20 328 326		
Adjusted Saturation Flow Rate (s), veh/h/in				1518			1528 1610			1810 1738 1610			1810 1826 1814		
Queue Service Time (gs), s				2.5			0.0 1.6			0.0 8.7 0.6			0.4 7.2 7.2		
Cycle Queue Clearance Time (gc), s				4.1			1.5 1.6			0.0 8.7 0.6			0.4 7.2 7.2		
Green Ratio (g/C)				0.06			0.06 0.10			0.67 0.74 0.74			0.69 0.73 0.73		
Capacity (c), veh/h				151			149 162			638 2559 1185			532 1324 1316		
Volume-to-Capacity Ratio (X)				0.358			0.154 0.148			0.051 0.293 0.027			0.037 0.248 0.248		
Back of Queue (Q), ft/in (95 th percentile)				74			32 30			12 122 8			6 113 108		
Back of Queue (Q), veh/in (95 th percentile)				3.0			1.2 1.2			0.5 4.7 0.3			0.3 4.3 4.3		
Queue Storage Ratio (RQ) (95 th percentile)				0.00			0.00 0.00			0.00 0.00 0.00			0.00 0.00 0.00		
Uniform Delay (dt), s/veh				54.4			53.2 49.3			6.9 5.3 4.3			6.4 5.5 5.5		
Incremental Delay (dz), s/veh				1.7			0.6 0.5			0.0 0.3 0.0			0.0 0.4 0.5		
Initial Queue Delay (ds), s/veh				0.0			0.0 0.0			0.0 0.0 0.0			0.0 0.0 0.0		
Control Delay (d), s/veh				56.1			53.8 49.8			6.9 5.6 4.3			6.4 6.0 6.0		
Level of Service (LOS)				E			D D			A A A			A A A		
Approach Delay, s/veh / LOS				56.1 E			51.7 D			5.6 A			6.0 A		
Intersection Delay, s/veh / LOS				8.9						A					
Multimodal Results				EB			WB			NB			SB		
Pedestrian LOS Score / LOS				2.47 B			2.32 B			1.85 B			1.73 B		
Bicycle LOS Score / LOS				0.58 A			0.56 A			1.16 A			1.04 A		

Dixie Highway Chick Fil A
Traffic Impact Study

HCS Signalized Intersection Results Summary														
General Information							Intersection Information							
Agency	Diane B. Zimmerman Traffic Engineering LLC						Duration, h	0.250						
Analyst	DBZ		Analysis Date	12/31/2025			Area Type	Other						
Jurisdiction			Time Period	AM Peak			PHF	0.96						
Urban Street	Dixie Highway		Analysis Year	2036 No Build			Analysis Period	1> 8:00						
Intersection	Citation Road		File Name	AM 36 NB.xus										
Project Description	Chick Fil A													
Demand Information				EB			WB			NB		SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R		
Demand (v), veh/h	24	4	5	16	5	24	11	749	32	20	623	11		
Signal Information														
Cycle, s	120.0	Reference Phase	2	Green	4.5	79.4	2.9	7.5	0.0	0.0				
Offset, s	0	Reference Point	End	Yellow	3.5	4.3	3.5	3.6	0.0	0.0				
Uncoordinated	No	Simult. Gap E/W	On	Red	3.0	1.9	3.0	3.0	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On											
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT			
Assigned Phase				4		8		5		2		1		
Case Number				8.0		7.0		1.3		3.0		1.2		
Phase Duration, s				14.1		14.1		9.4		94.9		11.0		
Change Period, (Y+Rc), s				6.6		6.6		6.5		6.5		6.2		
Max Allow Headway (MAH), s				4.7		4.7		4.5		0.0		4.5		
Queue Clearance Time (gs), s				4.4		3.7		2.0				2.4		
Green Extension Time (ge), s				0.1		0.2		2.6		0.0		0.0		
Phase Call Probability				0.93		0.93		0.32				0.50		
Max Out Probability				0.02		0.01		0.59				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	7	4	14	3	8	18	5	2	12	1	6	16		
Adjusted Flow Rate (v), veh/h	34			22			25		11		780		33	
Adjusted Saturation Flow Rate (s), veh/h/in	1541			1489			1610		1810		1738		1610	
Queue Service Time (gs), s	0.9			0.0			1.7		0.0		9.1		0.7	
Cycle Queue Clearance Time (gc), s	2.4			1.6			1.7		0.0		9.1		0.7	
Green Ratio (g/C)	0.06			0.06			0.10		0.67		0.74		0.74	
Capacity (c), veh/h	148			146			161		610		2562		1187	
Volume-to-Capacity Ratio (X)	0.233			0.150			0.156		0.019		0.305		0.028	
Back of Queue (Q), ft/in (95th percentile)	46			30			32		4		128		9	
Back of Queue (Q), veh/in (95th percentile)	1.8			1.2			1.3		0.2		4.9		0.3	
Queue Storage Ratio (RQ) (95th percentile)	0.00			0.00			0.00		0.00		0.00		0.00	
Uniform Delay (d1), s/veh	53.9			53.5			49.4		6.7		5.4		4.2	
Incremental Delay (d2), s/veh	1.0			0.6			0.5		0.0		0.3		0.0	
Initial Queue Delay (ds), s/veh	0.0			0.0			0.0		0.0		0.0		0.0	
Control Delay (d), s/veh	54.8			54.0			49.9		6.7		5.7		4.3	
Level of Service (LOS)	D			D			D		A		A		A	
Approach Delay, s/veh / LOS	54.8			D			51.8		D		5.6		A	
Intersection Delay, s/veh / LOS				7.7							A			
Multimodal Results				EB			WB			NB		SB		
Pedestrian LOS Score / LOS	2.47			B			2.32		B		1.85		B	
Bicycle LOS Score / LOS	0.54			A			0.56		A		1.17		A	

Dixie Highway Chick Fil A
Traffic Impact Study

HCS Signalized Intersection Results Summary															
General Information						Intersection Information									
Agency	Diane B. Zimmerman Traffic Engineering LLC					Duration, h	0.250								
Analyst	DBZ		Analysis Date	12/31/2025		Area Type	Other								
Jurisdiction			Time Period	AM Peak		PHF	0.96								
Urban Street	Dixie Highway		Analysis Year	2036 Build		Analysis Period	1> 8:00								
Intersection	Citation Road		File Name	AM 36 B.xus											
Project Description	Chick Fil A														
Demand Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				42	6	5	16	7	24	31	750	32	20	641	11
Signal Information															
Cycle, s	120.0	Reference Phase	2												
Offset, s	0	Reference Point	End												
Uncoordinated	No	Simult. Gap E/W	On	Green	4.5	76.0	5.9	7.8	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	4.3	3.5	3.6	0.0	0.0					
				Red	3.0	1.9	3.0	3.0	0.0	0.0					
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase					4		8	5	2		1	6			
Case Number					8.0		7.0	1.3	3.0		1.2	4.0			
Phase Duration, s					14.4		14.4	12.4	94.6		11.0	93.2			
Change Period, (Y+Rc), s					6.6		6.6	6.5	6.5		6.5	6.2			
Max Allow Headway (MAH), s					4.6		4.6	4.5	0.0		4.5	0.0			
Queue Clearance Time (gs), s					6.2		3.7	2.0			2.4				
Green Extension Time (ge), s					0.2		0.2	2.6	0.0		0.0	0.0			
Phase Call Probability					0.97		0.97	0.66			0.50				
Max Out Probability					0.12		0.02	0.60			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				7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h				55			24 25			32 781 33			21 341 339		
Adjusted Saturation Flow Rate (s), veh/h/ln				1516			1521 1610			1810 1738 1610			1810 1826 1815		
Queue Service Time (gs), s				2.5			0.0 1.7			0.0 9.2 0.7			0.4 7.6 7.6		
Cycle Queue Clearance Time (gc), s				4.2			1.6 1.7			0.0 9.2 0.7			0.4 7.6 7.6		
Green Ratio (g/C)				0.06			0.06 0.10			0.67 0.73 0.73			0.69 0.73 0.73		
Capacity (c), veh/h				152			149 164			626 2554 1183			519 1324 1316		
Volume-to-Capacity Ratio (X)				0.364			0.161 0.152			0.052 0.306 0.028			0.040 0.257 0.257		
Back of Queue (Q), ft/ln (95th percentile)				76			33 32			12 130 9			7 117 113		
Back of Queue (Q), veh/ln (95th percentile)				3.0			1.3 1.3			0.5 5.0 0.3			0.3 4.5 4.5		
Queue Storage Ratio (RQ) (95th percentile)				0.00			0.00 0.00			0.00 0.00 0.00			0.00 0.00 0.00		
Uniform Delay (d1), s/veh				54.4			53.2 49.1			7.0 5.5 4.3			6.5 5.6 5.6		
Incremental Delay (d2), s/veh				1.8			0.6 0.5			0.0 0.3 0.0			0.0 0.5 0.5		
Initial Queue Delay (ds), s/veh				0.0			0.0 0.0			0.0 0.0 0.0			0.0 0.0 0.0		
Control Delay (d), s/veh				56.2			53.8 49.6			7.0 5.8 4.4			6.5 6.0 6.0		
Level of Service (LOS)				E			D D			A A A			A A A		
Approach Delay, s/veh / LOS				56.2		E	51.7		D	5.8		A	6.1		A
Intersection Delay, s/veh / LOS				8.9					A						
Multimodal Results				EB			WB			NB			SB		
Pedestrian LOS Score / LOS				2.47		B	2.32		B	1.85		B	1.73		B
Bicycle LOS Score / LOS				0.58		A	0.57		A	1.19		A	1.07		A

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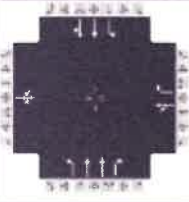

Dixie Highway Chick Fil A
Traffic Impact Study

HCS Signalized Intersection Results Summary															
General Information							Intersection Information								
Agency	Diane B. Zimmerman Traffic Engineering LLC						Duration, h	0.250							
Analyst	DBZ			Analysis Date	12/31/2025			Area Type	Other						
Jurisdiction				Time Period	PM Peak			PHF	0.98						
Urban Street	Dixie Highway			Analysis Year	2025			Analysis Period	1> 4:30						
Intersection	Citation Road			File Name	PM 25.xus										
Project Description	Chick Fil A														
Demand Information															
				EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R			
Demand (v), veh/h	36	41	29	66	25	81	29	878	48	40	1043	39			
Signal Information															
Cycle, s	120.0	Reference Phase	2												
Offset, s	0	Reference Point	End												
Uncoordinated	No	Simult. Gap E/W	On		Green	5.6	71.0	6.7	10.9	0.0	0.0				
Force Mode	Fixed	Simult. Gap N/S	On		Yellow	3.5	4.3	3.5	3.6	0.0	0.0				
					Red	3.0	1.9	3.0	3.0	0.0	0.0				
Timer Results															
				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase				4			8			5			2		
Case Number				8.0			7.0			1.2			3.0		
Phase Duration, s				17.5			17.5			12.1			89.3		
Change Period, (Y+R _c), s				6.6			6.6			6.5			6.2		
Max Allow Headway (MAH), s				4.7			4.7			4.5			0.0		
Queue Clearance Time (g _s), s				9.3			10.2			2.7			2.0		
Green Extension Time (g _e), s				0.8			0.7			0.0			0.0		
Phase Call Probability				1.00			1.00			0.63			0.74		
Max Out Probability				0.22			0.33			0.00			0.60		
Movement Group Results															
				EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R			
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16			
Adjusted Flow Rate (v), veh/h	108			93			83			30			896		
Adjusted Saturation Flow Rate (s), veh/h/in	1689			1365			1610			1810			1795		
Queue Service Time (g _s), s	0.0			0.8			5.5			0.7			12.3		
Cycle Queue Clearance Time (g _c), s	7.3			8.2			5.5			0.7			12.3		
Green Ratio (g/C)	0.09			0.09			0.15			0.66			0.69		
Capacity (c), veh/h	193			175			236			387			2467		
Volume-to-Capacity Ratio (X)	0.560			0.529			0.351			0.077			0.360		
Back of Queue (Q), ft/in (95 th percentile)	150			129			102			11			188		
Back of Queue (Q), veh/in (95 th percentile)	5.9			5.2			4.1			0.4			7.4		
Queue Storage Ratio (RQ) (95 th percentile)	0.00			0.00			0.00			0.00			0.00		
Uniform Delay (d ₁), s/veh	52.9			53.3			46.1			8.5			7.5		
Incremental Delay (d ₂), s/veh	3.0			3.0			1.1			0.1			0.4		
Initial Queue Delay (d ₃), s/veh	0.0			0.0			0.0			0.0			0.0		
Control Delay (d), s/veh	55.9			56.3			47.2			8.6			8.0		
Level of Service (LOS)	E			E			D			A			A		
Approach Delay, s/veh / LOS	55.9			E			52.0			D			7.9		
Intersection Delay, s/veh / LOS				13.7									B		
Multimodal Results															
				EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.47			B			2.31			B			1.64		
Bicycle LOS Score / LOS	0.67			A			0.78			A			1.43		

Dixie Highway Chick Fil A
Traffic Impact Study

HCS Signalized Intersection Results Summary																		
General Information						Intersection Information												
Agency	Diane B. Zimmerman Traffic Engineering LLC					Duration, h	0.250											
Analyst	DBZ		Analysis Date	12/31/2025		Area Type	Other											
Jurisdiction			Time Period	PM Peak		PHF	0.98											
Urban Street	Dixie Highway		Analysis Year	2026 No Build		Analysis Period	1> 4:30											
Intersection	Citation Road		File Name	PM 26 NB.xus														
Project Description	Chick Fil A																	
Demand Information			EB			WB			NB			SB						
Approach Movement			L	T	R	L	T	R	L	T	R	L	T	R				
Demand (v), veh/h			36	41	29	66	25	81	29	882	48	40	1047	39				
Signal Information																		
Cycle, s	120.0	Reference Phase	2															
Offset, s	0	Reference Point	End															
Uncoordinated	No	Simult. Gap E/W	On	Green	5.6	71.0	6.7	10.9	0.0	0.0								
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	4.3	3.5	3.6	0.0	0.0								
				Red	3.0	1.9	3.0	3.0	0.0	0.0								
Timer Results			EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT								
Assigned Phase			4		8		5		2		1		6					
Case Number			8.0		7.0		1.2		3.0		1.3		4.0					
Phase Duration, s			17.5		17.5		12.1		89.3		13.2		90.4					
Change Period, (Y+Rc), s			6.6		6.6		6.5		6.2		6.5		6.5					
Max Allow Headway (MAH), s			4.7		4.7		4.5		0.0		4.5		0.0					
Queue Clearance Time (gs), s			9.3		10.2		2.7		2.0									
Green Extension Time (ge), s			0.8		0.7		0.0		0.0		3.8		0.0					
Phase Call Probability			1.00		1.00		0.63		0.74									
Max Out Probability			0.22		0.33		0.00		0.61									
Movement Group Results			EB			WB			NB			SB						
Approach Movement			L	T	R	L	T	R	L	T	R	L	T	R				
Assigned Movement			7	4	14	3	8	18	5	2	12	1	6	16				
Adjusted Flow Rate (v), veh/h			108			93 83			30 900 49			41 558 551						
Adjusted Saturation Flow Rate (s), veh/h/in			1689			1365 1610			1810 1795 1610			1810 1885 1861						
Queue Service Time (gs), s			0.0			0.8 5.5			0.7 12.3 1.2			0.0 15.2 15.2						
Cycle Queue Clearance Time (gc), s			7.3			8.2 5.5			0.7 12.3 1.2			0.0 15.2 15.2						
Green Ratio (g/C)			0.09			0.09 0.15			0.66 0.69 0.69			0.63 0.70 0.70						
Capacity (c), veh/h			193			175 236			385 2487 1115			521 1318 1301						
Volume-to-Capacity Ratio (X)			0.560			0.529 0.351			0.077 0.362 0.044			0.078 0.423 0.423						
Back of Queue (Q), ft/in (95 th percentile)			150			129 102			11 188 16			18 236 232						
Back of Queue (Q), veh/in (95 th percentile)			5.9			5.2 4.1			0.4 7.5 0.6			0.7 9.4 9.3						
Queue Storage Ratio (RQ) (95 th percentile)			0.00			0.00 0.00			0.00 0.00 0.00			0.00 0.00 0.00						
Uniform Delay (d1), s/veh			52.9			53.3 46.1			8.6 7.6 5.8			8.8 7.7 7.7						
Incremental Delay (d2), s/veh			3.0			3.0 1.1			0.1 0.4 0.1			0.1 1.0 1.0						
Initial Queue Delay (d3), s/veh			0.0			0.0 0.0			0.0 0.0 0.0			0.0 0.0 0.0						
Control Delay (d), s/veh			55.9			56.3 47.2			8.7 8.0 5.9			8.9 8.7 8.7						
Level of Service (LOS)			E			E D			A A A			A A A						
Approach Delay, s/veh / LOS			55.9		E		52.0		D		7.9		A		8.7		A	
Intersection Delay, s/veh / LOS			13.7						B									
Multimodal Results			EB			WB			NB			SB						
Pedestrian LOS Score / LOS			2.47		B		2.31		B		1.96		B		1.64		B	
Bicycle LOS Score / LOS			0.67		A		0.78		A		1.29		A		1.44		A	

HCS Signalized Intersection Results Summary															
General Information							Intersection Information								
Agency	Diane B. Zimmerman Traffic Engineering LLC						Duration, h	0.250							
Analyst	DBZ			Analysis Date	12/31/2025			Area Type	Other						
Jurisdiction				Time Period	PM Peak			PHF	0.98						
Urban Street	Dixie Highway			Analysis Year	2026 Build			Analysis Period	1> 4:30						
Intersection	Citation Road			File Name	PM 26 B.xus										
Project Description	Chick Fil A														
Demand Information															
				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				75	45	29	66	29	81	68	885	48	40	1089	39
Signal Information															
Cycle, s	120.0	Reference Phase	2												
Offset, s	0	Reference Point	End												
Uncoordinated	No	Simult. Gap E/W	On	Green	8.1	65.7	6.7	13.7	0.0	0.0					
				Yellow	3.5	4.3	3.5	3.6	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	3.0	1.9	3.0	3.0	0.0	0.0					
Timer Results															
				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase					4		8	5	2	1	6				
Case Number					8.0		7.0	1.2	3.0	1.3	4.0				
Phase Duration, s					20.3		20.3	14.6	86.5	13.2	85.1				
Change Period, (Y+R_c), s					6.6		6.6	6.5	6.2	6.5	6.5				
Max Allow Headway (MAH), s					4.7		4.7	4.5	0.0	4.5	0.0				
Queue Clearance Time (g_s), s					13.1		10.4	3.8		2.0					
Green Extension Time (g_e), s					0.6		0.8	0.1	0.0	3.9	0.0				
Phase Call Probability					1.00		1.00	0.90		0.74					
Max Out Probability					1.00		0.39	0.00		0.63					
Movement Group Results															
				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h					152			97	83	69	903	49	41	579	572
Adjusted Saturation Flow Rate (s), veh/h/ln					1596			1345	1610	1810	1795	1610	1810	1885	1862
Queue Service Time (g_s), s					2.8			0.0	5.4	1.8	13.3	1.2	0.0	18.3	18.4
Cycle Queue Clearance Time (g_c), s					11.1			8.4	5.4	1.8	13.3	1.2	0.0	18.3	18.4
Green Ratio (g/C)					0.11			0.11	0.17	0.63	0.67	0.67	0.59	0.66	0.66
Capacity (c), veh/h					227			204	273	378	2403	1078	494	1235	1220
Volume-to-Capacity Ratio (X)					0.670			0.475	0.302	0.184	0.376	0.045	0.083	0.469	0.469
Back of Queue (Q), ft/ln (95 th percentile)					211			130	99	29	206	18	20	287	283
Back of Queue (Q), veh/ln (95 th percentile)					8.4			5.2	4.0	1.2	8.2	0.7	0.8	11.4	11.3
Queue Storage Ratio (RQ) (95 th percentile)					0.00			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d₁), s/veh					51.9			50.6	43.6	10.5	8.8	6.8	11.0	10.3	10.3
Incremental Delay (d₂), s/veh					5.4			2.1	0.7	0.3	0.5	0.1	0.1	1.3	1.3
Initial Queue Delay (d₃), s/veh					0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh					57.3			52.7	44.3	10.7	9.2	6.8	11.0	11.6	11.6
Level of Service (LOS)					E			D	D	B	A	A	B	B	B
Approach Delay, s/veh / LOS				57.3	E	48.8	D	9.2	A	11.6	B				
Intersection Delay, s/veh / LOS				16.0						B					
Multimodal Results															
				EB			WB			NB			SB		
Pedestrian LOS Score / LOS				2.46	B	2.31	B	1.96	B	1.65	B				
Bicycle LOS Score / LOS				0.74	A	0.78	A	1.33	A	1.47	A				

HCS Signalized Intersection Results Summary															
General Information						Intersection Information									
Agency	Diane B. Zimmerman Traffic Engineering LLC					Duration, h	0.250								
Analyst	DBZ		Analysis Date	12/31/2025			Area Type	Other							
Jurisdiction			Time Period	PM Peak			PHF	0.98							
Urban Street	Dixie Highway		Analysis Year	2036 No Build			Analysis Period	1> 4:30							
Intersection	Citation Road		File Name	PM 36 NB.xus											
Project Description	Chick Fil A														
Demand Information				EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R			
Demand (v), veh/h	37	43	30	69	26	84	30	918	50	42	1090	41			
Signal Information															
Cycle, s	120.0	Reference Phase	2												
Offset, s	0	Reference Point	End												
Uncoordinated	No	Simult. Gap E/W	On	Green	5.8	70.2	6.8	11.4	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	4.3	3.5	3.6	0.0	0.0					
				Red	3.0	1.9	3.0	3.0	0.0	0.0					
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase					4		8	5	2	1	6				
Case Number					8.0		7.0	1.2	3.0	1.3	4.0				
Phase Duration, s					18.0		18.0	12.3	88.7	13.3	89.8				
Change Period, (Y+Rc), s					6.6		6.6	6.5	6.2	6.5	6.5				
Max Allow Headway (MAH), s					4.7		4.7	4.5	0.0	4.5	0.0				
Queue Clearance Time (gs), s					9.6		10.7	2.7		2.0					
Green Extension Time (ge), s					0.8		0.7	0.0	0.0	3.9	0.0				
Phase Call Probability					1.00		1.00	0.64		0.76					
Max Out Probability					0.28		0.46	0.00		0.63					
Movement Group Results				EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R			
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16			
Adjusted Flow Rate (v), veh/h	112			97			86	31	937	51	43	581	573		
Adjusted Saturation Flow Rate (s), veh/h/ln	1691			1346			1610	1810	1795	1610	1810	1885	1861		
Queue Service Time (gs), s	0.0			1.1			5.7	0.7	13.2	1.2	0.0	16.3	16.4		
Cycle Queue Clearance Time (gc), s	7.6			8.7			5.7	0.7	13.2	1.2	0.0	16.3	16.4		
Green Ratio (g/C)	0.09			0.09			0.15	0.65	0.69	0.69	0.63	0.69	0.69		
Capacity (c), veh/h	200			179			244	369	2467	1107	503	1308	1291		
Volume-to-Capacity Ratio (X)	0.560			0.541			0.351	0.083	0.380	0.046	0.085	0.444	0.444		
Back of Queue (Q), ft/ln (95 th percentile)	155			134			106	12	202	17	20	252	247		
Back of Queue (Q), veh/ln (95 th percentile)	6.1			5.4			4.2	0.5	8.0	0.7	0.8	10.0	9.9		
Queue Storage Ratio (RQ) (95 th percentile)	0.00			0.00			0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Uniform Delay (d1), s/veh	52.6			53.1			45.6	9.0	7.9	6.1	9.5	8.1	8.1		
Incremental Delay (d2), s/veh	2.9			3.0			1.0	0.1	0.4	0.1	0.1	1.1	1.1		
Initial Queue Delay (d3), s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Control Delay (d), s/veh	55.5			56.2			46.6	9.1	8.4	6.1	9.5	9.2	9.2		
Level of Service (LOS)	E			E			D	A	A	A	A	A	A		
Approach Delay, s/veh / LOS	55.5 / E			51.7 / D				8.3 / A			9.2 / A		A		
Intersection Delay, s/veh / LOS	14.0						B								
Multimodal Results				EB			WB			NB			SB		
Pedestrian LOS Score / LOS	2.47 / B			2.31 / B			1.96 / B			1.64 / B			B		
Bicycle LOS Score / LOS	0.67 / A			0.79 / A			1.33 / A			1.48 / A			A		

Dixie Highway Chick Fil A
Traffic Impact Study

HCS Signalized Intersection Results Summary															
General Information							Intersection Information								
Agency	Diane B. Zimmerman Traffic Engineering LLC						Duration, h	0.250							
Analyst	DBZ			Analysis Date	12/31/2025			Area Type	Other						
Jurisdiction				Time Period	PM Peak			PHF	0.98						
Urban Street	Dixie Highway			Analysis Year	2036 Build			Analysis Period	1> 4:30						
Intersection	Citation Road			File Name	PM 36 B.xus										
Project Description	Chick Fil A														
Demand Information				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h				76	47	30	69	30	84	69	921	50	42	1132	41
Signal Information															
Cycle, s	120.0	Reference Phase	2												
Offset, s	0	Reference Point	End												
Uncoordinated	No	Simult. Gap E/W	On	Green	8.1	65.3	6.8	13.9	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	4.3	3.5	3.6	0.0	0.0					
				Red	3.0	1.9	3.0	3.0	0.0	0.0					
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase					4		8	5	2	1	6				
Case Number					8.0		7.0	1.2	3.0	1.3	4.0				
Phase Duration, s					20.5		20.5	14.6	86.1	13.3	84.8				
Change Period (Y+Rc), s					6.6		6.6	6.5	6.2	6.5	6.5				
Max Allow Headway (MAH), s					4.7		4.7	4.5	0.0	4.5	0.0				
Queue Clearance Time (qs), s					13.4		10.9	3.8		2.0					
Green Extension Time (ge), s					0.5		0.8	0.1	0.0	4.1	0.0				
Phase Call Probability					1.00		1.00	0.90		0.76					
Max Out Probability					1.00		0.54	0.01		0.64					
Movement Group Results				EB			WB			NB			SB		
Approach Movement				L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				7	4	14	3	8	18	5	2	12	1	8	16
Adjusted Flow Rate (v), veh/h				156			101	86	70	940	51	43	602	595	
Adjusted Saturation Flow Rate (s), veh/h/ln				1599			1323	1610	1810	1795	1610	1810	1885	1862	
Queue Service Time (gs), s				2.5			0.0	5.6	1.8	14.2	1.3	0.0	19.6	19.6	
Cycle Queue Clearance Time (gc), s				11.4			8.9	5.6	1.8	14.2	1.3	0.0	19.6	19.6	
Green Ratio (g/C)				0.12			0.12	0.17	0.63	0.67	0.67	0.58	0.65	0.65	
Capacity (c), veh/h				231			205	279	364	2391	1072	483	1230	1215	
Volume-to-Capacity Ratio (X)				0.677			0.494	0.307	0.194	0.393	0.048	0.089	0.489	0.490	
Back of Queue (Q), ft/ln (95th percentile)				216			136	102	30	217	19	22	304	299	
Back of Queue (Q), veh/ln (95th percentile)				8.6			5.4	4.1	1.2	8.6	0.8	0.9	12.1	12.0	
Queue Storage Ratio (RQ) (95th percentile)				0.00			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Uniform Delay (dt), s/veh				51.8			50.7	43.3	10.9	9.1	6.9	11.2	10.6	10.6	
Incremental Delay (d2), s/veh				5.9			2.2	0.7	0.3	0.5	0.1	0.1	1.4	1.4	
Initial Queue Delay (d3), s/veh				0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Control Delay (d), s/veh				57.7			52.9	44.1	11.2	9.6	7.0	11.2	12.0	12.0	
Level of Service (LOS)				E			D	D	B	A	A	B	B	B	
Approach Delay, s/veh / LOS				57.7	E	48.8	D	9.5	A	12.0	B				
Intersection Delay, s/veh / LOS				16.3				B							
Multimodal Results				EB			WB			NB			SB		
Pedestrian LOS Score / LOS				2.46	B	2.31	B	1.96	B	1.65	B				
Bicycle LOS Score / LOS				0.75	A	0.80	A	1.35	A	1.51	B				

Dixie Highway Chick Fil A
Traffic Impact Study

HCS Two-Way Stop-Control Report																	
General Information								Site Information									
Analyst	DBZ							Intersection	Dixie at Meijer Gas								
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC							Jurisdiction									
Date Performed	12/30/2025							East/West Street	Meijer Gas								
Analysis Year	2025							North/South Street	Dixie Highway								
Time Analyzed	AM Peak							Peak Hour Factor	0.94								
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25								
Project Description	Dixie Chick Fil A																
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	10	1	2	3	4	5	6		
Number of Lanes		0	0	0		1	0	1		0	0	2	0	0	1	2	0
Configuration						L		R			T	TR		L	T		
Volume (veh/h)						2		10			765	2	0	28	628		
Percent Heavy Vehicles (%)						0		0					0	0			
Proportion Time Blocked																	
Percent Grade (%)								0									
Right Turn Channelized								No									
Median Type Storage						Left Only										1	
Critical and Follow-up Headways																	
Base Critical Headway (sec)								7.5								4.1	
Critical Headway (sec)								6.80								4.10	
Base Follow-Up Headway (sec)								3.5								2.2	
Follow-Up Headway (sec)								3.50								2.20	
Delay, Queue Length, and Level of Service																	
Flow Rate, v (veh/h)								2								30	
Capacity, c (veh/h)								296								821	
v/c Ratio								0.01								0.04	
95% Queue Length, Q ₉₅ (veh)								0.0								0.1	
95% Queue Length, Q ₉₅ (ft)								0.0								2.5	
Control Delay (s/veh)								17.2								9.6	
Level of Service (LOS)								C								A	
Approach Delay (s/veh)								12.1							0.4		
Approach LOS								B							A		

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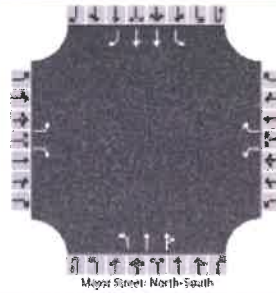
Dixie Highway Chick Fil A
Traffic Impact Study

HCS Two-Way Stop-Control Report																	
General Information								Site Information									
Analyst	DBZ							Intersection	Dixie at Meijer Gas								
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC							Jurisdiction									
Date Performed	12/30/2025							East/West Street	Meijer Gas								
Analysis Year	2026							North/South Street	Dixie Highway								
Time Analyzed	AM Peak No Build							Peak Hour Factor	0.94								
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25								
Project Description	Dixie Chick Fil A																
Lanes																	
Vehicle Volumes and Adjustments																	
Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority		10	11	12		7	8	9	10	1	2	3	4	5	6		
Number of Lanes		0	0	0		1	0	1		0	0	2	0	0	1	2	0
Configuration						L		R			T	TR		L	T		
Volume (veh/h)						2		10			768	2	0	28	631		
Percent Heavy Vehicles (%)						0		0					0	0			
Proportion Time Blocked																	
Percent Grade (%)							0										
Right Turn Channelized							No										
Median Type Storage						Left Only							1				
Critical and Follow-up Headways																	
Base Critical Headway (sec)						7.5		6.9						4.1			
Critical Headway (sec)						6.80		6.90						4.10			
Base Follow-Up Headway (sec)						3.5		3.3						2.2			
Follow-Up Headway (sec)						3.50		3.30						2.20			
Delay, Queue Length, and Level of Service																	
Flow Rate, v (veh/h)						2		11						30			
Capacity, c (veh/h)						295		597						818			
v/c Ratio						0.01		0.02						0.04			
95% Queue Length, Q_{95} (veh)						0.0		0.1						0.1			
95% Queue Length, Q_{95} (ft)						0.0		2.5						2.5			
Control Delay (s/veh)						17.3		11.1						9.6			
Level of Service (LOS)						C		B						A			
Approach Delay (s/veh)						12.2							0.4				
Approach LOS						B							A				

Dixie Highway Chick Fil A
Traffic Impact Study

HCS Two-Way Stop-Control Report			
General Information		Site Information	
Analyst	DBZ	Intersection	Dixie at Entrance
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC	Jurisdiction	
Date Performed	12/30/2025	East/West Street	Entrance Meijer Gas
Analysis Year	2026	North/South Street	Dixie Highway
Time Analyzed	AM Peak Build	Peak Hour Factor	0.94
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Dixie Chick Fil A		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement																	
Priority		10	11	12		7	8	9	10	1	2	3	4	5	6		
Number of Lanes		1	0	1		1	0	1	0	1	2	0	0	1	2	1	
Configuration		L		R		L		R		L	T	TR		L	T	R	
Volume (veh/h)		10		34		2		10	0	21	766	2	0	28	615	27	
Percent Heavy Vehicles (%)		0		0		0		0	0	0			0	0			
Proportion Time Blocked																	
Percent Grade (%)		0				0											
Right Turn Channelized		No				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		4.1				4.1			
Critical Headway (sec)		7.50		6.90		7.50		6.90		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		3.30		2.20				2.20			

Delay, Queue Length, and Level of Service

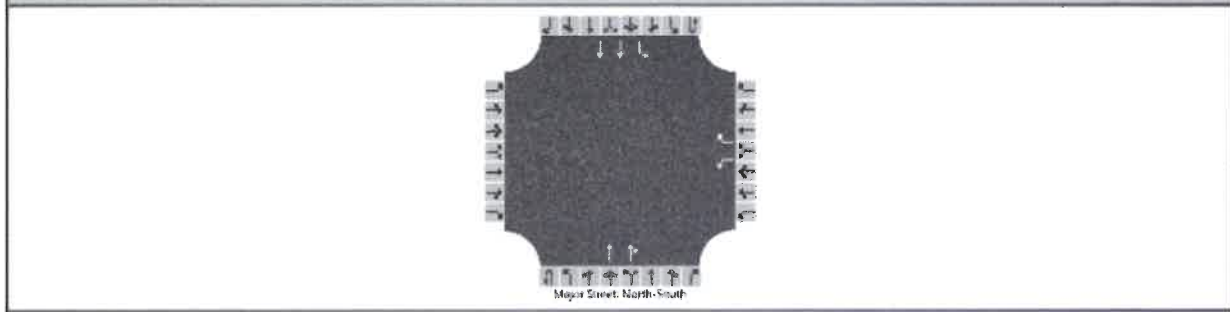
Flow Rate, v (veh/h)		11		36		2		11		22				30			
Capacity, c (veh/h)		260		674		227		598		920				820			
v/c Ratio		0.04		0.05		0.01		0.02		0.02				0.04			
95% Queue Length, Q ₉₅ (veh)		0.1		0.2		0.0		0.1		0.1				0.1			
95% Queue Length, Q ₉₅ (ft)		2.5		5.0		0.0		2.5		2.5				2.5			
Control Delay (s/veh)		19.4		10.6		21.0		11.1		9.0				9.6			
Level of Service (LOS)		C		B		C		B		A				A			
Approach Delay (s/veh)		12.6				12.8				0.2				0.4			
Approach LOS		B				B				A				A			

Dixie Highway Chick Fil A
Traffic Impact Study

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	DBZ	Intersection	Dixie at Meijer Gas
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC	Jurisdiction	
Date Performed	12/30/2025	East/West Street	Meijer Gas
Analysis Year	2036	North/South Street	Dixie Highway
Time Analyzed	AM Peak No Build	Peak Hour Factor	0.94
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Dixie Chick Fil A		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	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	0	0		1	0	1		0	0	2	0	0	1	2	0
Configuration						L		R			T	TR		L	T		
Volume (veh/h)						2		10			799	2		0	29	657	
Percent Heavy Vehicles (%)						0		0						0	0		
Proportion Time Blocked																	
Percent Grade (%)							0										
Right Turn Channelized							No										
Median Type Storage						Left Only										1	

Critical and Follow-up Headways

Base Critical Headway (sec)						7.5		6.9								4.1
Critical Headway (sec)						6.80		6.90								4.10
Base Follow-Up Headway (sec)						3.5		3.3								2.2
Follow-Up Headway (sec)						3.50		3.30								2.20

Delay, Queue Length, and Level of Service

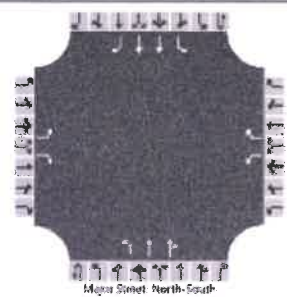
Flow Rate, v (veh/h)						2		11								31
Capacity, c (veh/h)						283		582								795
v/c Ratio						0.01		0.02								0.04
95% Queue Length, Q ₉₅ (veh)						0.0		0.1								0.1
95% Queue Length, Q ₉₅ (ft)						0.0		2.5								2.5
Control Delay (s/veh)						17.8		11.3								9.7
Level of Service (LOS)						C		B								A
Approach Delay (s/veh)						12.4									0.4	
Approach LOS						B									A	

Dixie Highway Chick Fil A
Traffic Impact Study

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	DBZ			Intersection	Dixie at Entrance		
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC			Jurisdiction			
Date Performed	12/30/2025			East/West Street	Entrance Meijer Gas		
Analysis Year	2036			North/South Street	Dixie Highway		
Time Analyzed	AM Peak Build			Peak Hour Factor	0.94		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description	Dixie Chick Fil A						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority		10	11	12		7	8	9	10	1	2	3	4	5	6		
Number of Lanes		1	0	1		1	0	1	0	1	2	0	0	1	2	1	
Configuration		L		R		L		R		L	T	TR		L	T	R	
Volume (veh/h)		10		34		2		10	0	21	797	2	0	29	641	27	
Percent Heavy Vehicles (%)		0		0		0		0	0	0			0	0			
Proportion Time Blocked																	
Percent Grade (%)		0				0											
Right Turn Channelized		No				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		4.1				4.1		
Critical Headway (sec)		7.50		6.90		7.50		6.90		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		3.30		2.20				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		11		36		2		11		22				31			
Capacity, c (veh/h)		248		661		216		583		898				797			
v/c Ratio		0.04		0.05		0.01		0.02		0.02				0.04			
95% Queue Length, Q ₉₅ (veh)		0.1		0.2		0.0		0.1		0.1				0.1			
95% Queue Length, Q ₉₅ (ft)		2.5		5.0		0.0		2.5		2.5				2.5			
Control Delay (s/veh)		20.2		10.8		21.8		11.3		9.1				9.7			
Level of Service (LOS)		C		B		C		B		A				A			
Approach Delay (s/veh)		12.9				13.0				0.2				0.4			
Approach LOS		B				B				A				A			

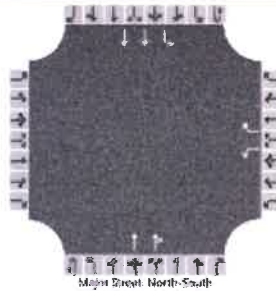
Dixie Highway Chick Fil A
Traffic Impact Study

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	DBZ							Intersection	Dixie at Meijer Gas							
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC							Jurisdiction								
Date Performed	12/30/2025							East/West Street	Meijer Gas							
Analysis Year	2025							North/South Street	Dixie Highway							
Time Analyzed	PM Peak							Peak Hour Factor	0.98							
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25							
Project Description	Dixie Chick Fil A															
Lanes																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
	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	0	0		1	0	1	0	0	2	0	0	1	2	0
Configuration						L		R			T	TR		L	T	
Volume (veh/h)						3		17			978	6	0	59	1123	
Percent Heavy Vehicles (%)						0		0					0	0		
Proportion Time Blocked																
Percent Grade (%)								0								
Right Turn Channelized								No								
Median Type Storage						Left Only							1			
Critical and Follow-up Headways																
Base Critical Headway (sec)						7.5		6.9						4.1		
Critical Headway (sec)						6.80		6.90						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)						3		17						60		
Capacity, c (veh/h)						201		520						696		
v/c Ratio						0.02		0.03						0.09		
95% Queue Length, Q ₉₅ (veh)						0.0		0.1						0.3		
95% Queue Length, Q ₉₅ (ft)						0.0		2.5						7.5		
Control Delay (s/veh)						23.2		12.2						10.6		
Level of Service (LOS)						C		B						B		
Approach Delay (s/veh)						13.8							0.5			
Approach LOS						B							A			

Dixie Highway Chick Fil A
Traffic Impact Study

HCS Two-Way Stop-Control Report			
General Information		Site Information	
Analyst	DBZ	Intersection	Dixie at Meijer Gas
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC	Jurisdiction	
Date Performed	12/30/2025	East/West Street	Meijer Gas
Analysis Year	2026	North/South Street	Dixie Highway
Time Analyzed	PM Peak No Build	Peak Hour Factor	0.98
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Dixie Chick Fil A		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Priority		10	11	12		7	8	9	10	1	2	3	4	5	6		
Number of Lanes		0	0	0		1	0	1		0	0	2	0	0	1	2	0
Configuration						L		R			T	TR		L	T		
Volume (veh/h)						3		17			982	6	0	59	1127		
Percent Heavy Vehicles (%)						0		0					0	0			
Proportion Time Blocked																	
Percent Grade (%)								0									
Right Turn Channelized								No									
Median Type Storage						Left Only										1	

Critical and Follow-up Headways

Base Critical Headway (sec)						7.5	6.9							4.1		
Critical Headway (sec)						6.80	6.90							4.10		
Base Follow-Up Headway (sec)						3.5	3.3							2.2		
Follow-Up Headway (sec)						3.50	3.30							2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						3	17							60		
Capacity, c (veh/h)						200	518							695		
v/c Ratio						0.02	0.03							0.09		
95% Queue Length, Q ₉₅ (veh)						0.0	0.1							0.3		
95% Queue Length, Q ₉₅ (ft)						0.0	2.5							7.5		
Control Delay (s/veh)						23.3	12.2							10.7		
Level of Service (LOS)						C	B							B		
Approach Delay (s/veh)						13.8								0.5		
Approach LOS						B								A		

Dixie Highway Chick Fil A
Traffic Impact Study

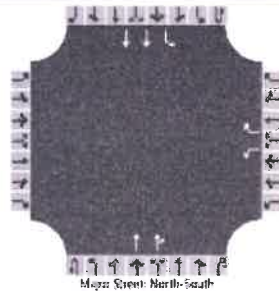
HCS Two-Way Stop-Control Report																	
General Information								Site Information									
Analyst	D8Z							Intersection	Dixie at Entrance								
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC							Jurisdiction									
Date Performed	12/30/2025							East/West Street	Entrance Meijer Gas								
Analysis Year	2026							North/South Street	Dixie Highway								
Time Analyzed	PM Peak							Peak Hour Factor	0.98								
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25								
Project Description	Dixie Chick Fil A																
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	10	1	2	3	4	4	5	6	
Number of Lanes		1	0	1		1	0	1	0	1	2	0	0	1	2	1	
Configuration		L		R		L		R		L	T	TR		L	T	R	
Volume (veh/h)		20		88		3		17	0	42	992	6	0	59	1081	66	
Percent Heavy Vehicles (%)		0		0		0		0	3	0			3	0			
Proportion Time Blocked																	
Percent Grade (%)		0				0											
Right Turn Channelized		No				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		4.1				4.1			
Critical Headway (sec)		7.50		6.90		7.50		6.90		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		3.30		2.20				2.20			
Delay, Queue Length, and Level of Service																	
Flow Rate, v (veh/h)		20		90		3		17		43				60			
Capacity, c (veh/h)		124		483		123		518		604				695			
v/c Ratio		0.16		0.19		0.02		0.03		0.07				0.09			
95% Queue Length, Q ₉₅ (veh)		0.6		0.7		0.1		0.1		0.2				0.3			
95% Queue Length, Q ₉₅ (ft)		15.0		17.5		2.5		2.5		5.0				7.5			
Control Delay (s/veh)		39.6		14.1		35.1		12.2		11.4				10.7			
Level of Service (LOS)		E		B		E		B		B				B			
Approach Delay (s/veh)		18.9				15.6				0.5				0.5			
Approach LOS		C				C				A				A			

Dixie Highway Chick Fil A
Traffic Impact Study

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	DBZ	Intersection	Dixie at Meijer Gas				
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC	Jurisdiction					
Date Performed	12/30/2025	East/West Street	Meijer Gas				
Analysis Year	2036	North/South Street	Dixie Highway				
Time Analyzed	PM Peak No Build	Peak Hour Factor	0.98				
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25				
Project Description	Dixie Chick Fil A						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	10	1	2	3	4	5	6	6
Number of Lanes		0	0	0		1	0	1	0	0	2	0	0	1	2	0
Configuration						L		R			T	TR		L	T	
Volume (veh/h)						3		18			1022	6	0	61	1173	
Percent Heavy Vehicles (%)						0		0					0	0		
Proportion Time Blocked																
Percent Grade (%)								0								
Right Turn Channelized								No								
Median Type { Storage						Left Only										1

Critical and Follow-up Headways

Base Critical Headway (sec)						7.5	6.9							4.1		
Critical Headway (sec)						6.80	6.90							4.10		
Base Follow-Up Headway (sec)						3.5	3.3							2.2		
Follow-Up Headway (sec)						3.50	3.30							2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						3	18							62		
Capacity, c (veh/h)						189	503							671		
v/c Ratio						0.02	0.04							0.09		
95% Queue Length, Q_{95} (veh)						0.0	0.1							0.3		
95% Queue Length, Q_{95} (ft)						0.0	2.5							7.5		
Control Delay (s/veh)						24.3	12.4							10.9		
Level of Service (LOS)						C	B							B		
Approach Delay (s/veh)						14.1								0.5		
Approach LOS						B								A		

Dixie Highway Chick Fil A
Traffic Impact Study

HCS Two-Way Stop-Control Report																	
General Information								Site Information									
Analyst	DBZ							Intersection	Dixie at Entrance								
Agency/Co.	Diane B. Zimmerman Traffic Engineering LLC							Jurisdiction									
Date Performed	12/30/2025							East/West Street	Entrance Meijer Gas								
Analysis Year	2036							North/South Street	Dixie Highway								
Time Analyzed	PM Peak							Peak Hour Factor	0.98								
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25								
Project Description	Dixie Chick Fil A																
Lanes																	
Vehicle Volumes and Adjustments																	
Approach	Eastbound				Westbound				Northbound				Southbound				
	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		1	0	1		1	0	1	0	1	2	0	0	1	2	1	
Configuration		L		R		L		R		L	T	TR		L	T	R	
Volume (veh/h)		20		88		3		18	0	42	1022	6	0	61	1127	65	
Percent Heavy Vehicles (%)		0		0		0		0	3	0			3	0			
Proportion Time Blocked																	
Percent Grade (%)		0				0											
Right Turn Channelized		No				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		4.1				4.1			
Critical Headway (sec)		7.50		6.90		7.50		6.90		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		3.30		2.20				2.20			
Delay, Queue Length, and Level of Service																	
Flow Rate, v (veh/h)		20		90		3		18		43				62			
Capacity, c (veh/h)		115		466		114		503		580				571			
v/c Ratio		0.18		0.19		0.03		0.04		0.07				0.09			
95% Queue Length, Q ₉₅ (veh)		0.5		0.7		0.1		0.1		0.2				0.3			
95% Queue Length, Q ₉₅ (ft)		15.0		17.5		2.5		2.5		5.0				7.5			
Control Delay (s/veh)		43.1		14.6		37.4		12.4		11.7				10.9			
Level of Service (LOS)		E		B		E		B		B				B			
Approach Delay (s/veh)		19.8				16.0				0.5				0.5			
Approach LOS		C				C				A				A			

Dixie Highway entrance

Right Turn Lane Warrants

Input Fields



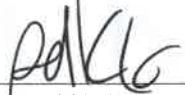
Right Turn Volume (vph) 66 Speed Limit (mph) 45
Advancing Volume (vph) 1193



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

I, Diane Bridwell Zimmerman, certify that this Traffic Impact Study has been prepared under my direct supervision, that I am a Professional Engineer registered in the State of Kentucky and have successfully completed the Traffic Impact Study Requirements training course required by KYTC. Furthermore, I certify that this study has been completed in accordance with the KYTC Traffic Impact Study Requirements and in accordance with engineering standards of practice. The results presented have been determined to be accurate representations of existing and anticipated conditions based on the assumptions and methodologies presented in this report.

Diane Bridwell Zimmerman, Professional Engineer License #16462

 <p>College of Engineering <i>Kentucky Transportation Center</i></p>	 <p>TECHNOLOGY TRANSFER PROGRAM</p>
<p>TRAFFIC IMPACT STUDY COURSE Certificate of Completion (3.5 PDH)</p>	
<p>Diane Zimmerman KY PE License No. 16462</p>	<p>TIM THARPE Tim Tharpe, KYTC Director of Traffic Operations</p>
<p>Completed: 02/18/2022 Expires: 02/18/2026 Company: University of Kentucky</p>	 <p>Adam Kirk, Instructor</p>
<p>The official status of this certificate can be verified with the KYTC Division of Traffic Operations</p>	

Date: **October 12, 2021**

October 12, 2021

September 30, 2021

Time	CFA - St. Matthews	Time	CFA - Middletown Commons	Time	CFA - Springhurst
9:00	9:05 27	9:15	25		
10:00	10:02 29	10:00	26	10:30	12
11:00	11:00 36	11:00	28	11:00	15
12:00	12:11 63	12:00	36	12:00	27
1:00	1:10 52	1:06	39	1:00	31
2:00	2:01 44	2:00	28	2:00	15
3:00	3:05 46	3:02	37	3:00	10
4:00	4:05 27	4:00	29	4:00	19
5:00	5:05 44	5:00	31	5:00	16
6:00	6:00 37	5:04	11	5:04	11
7:00	7:06 46				
8:00	8:10 31				
Average	41.36	29.44	17.33		

Chick Fil A - St. Matthews
5001 Shelbyville Road
Louisville, KY 40207

Chick Fil A - Middletown Commons
13313 Shelbyville Road
Louisville, KY 40223

Chick Fil A - Springhurst
10501 Westport Road
Louisville, KY 40241

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