

**July 26, 2021**

Mrs. Patrece Keeter  
 Dekalb County Public Works  
 Transportation Division  
 1300 Commerce Drive  
 Decatur, GA 30030

**Turn Lane Warrant Memo:  
 North Druid Hills Road at Birch Road Chick-fil-a Relocation Turn Lane Warrant Analysis – Decatur, GA**

**Traffic Volumes**

The existing Chick-fil-a restaurant located at 3905 N Druid Hills Rd in Decatur, GA, is proposing to relocate to the southeast corner of Birch Road at N Druid Hills Rd intersection. The proposed site location was previously occupied by a Pier 1 Imports retail store. This memo analyzes the need for a westbound left turn lane on N Druid Hills Rd for inbound traffic onto Birch Road. The data analyzed is based on the existing conditions traffic data.

Traffic count data for this project was collected on Tuesday July 13, 2021. Peak hour turning movement counts were collected at the intersections of Birch Road at N Druid Hills Rd and N Druid Hills Rd at both existing Chick-fil-a driveway locations. 24-HR Bi-directional counts were also collected for the locations of Birch Road and North Druid Hills Rd on Tuesday July 13, 2021. Listed below in Table 1 are the ADT volumes collected on July 13, 2021.

**Table 1: Daily Traffic Volumes**

Road	Location	Direction	Daily Approach Traffic	Daily Two-Way Traffic
North Druid Hills Rd	East of N Druid Hills Ct	EB	15,945	33,742
		WB	17,797	
Birch Road	South of North Druid Hills Rd	NB	639	1,559
		SB	920	

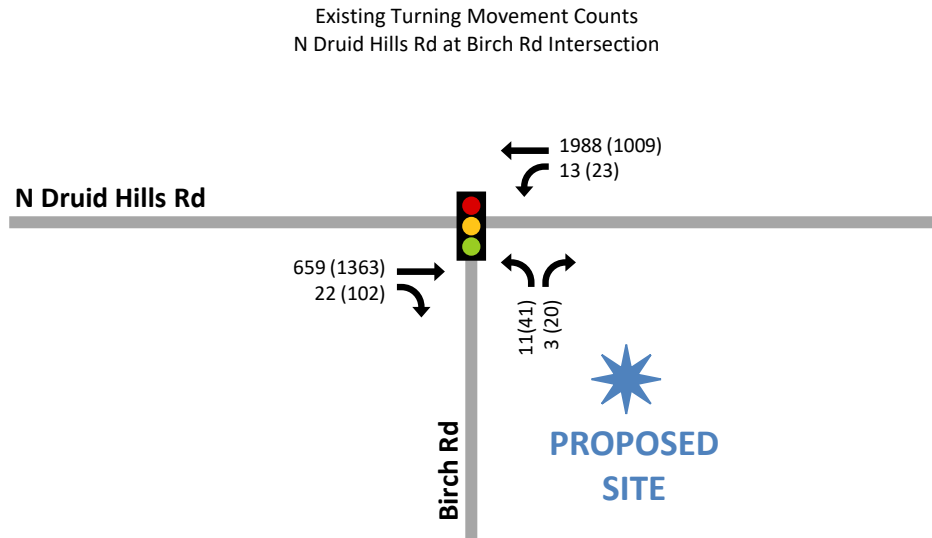
Peak hour turning movement counts were also collected at the Birch Rd at N Druid Hills Rd intersection. Turning movement counts at both existing Chick-fil-a driveway locations were collected from 6:00 am to 8:00 pm. The peak hour volumes at the Birch Rd intersection are provided in Figure 1. The full set of traffic data is provided in Appendix A. Collected volumes have not been adjusted for collection during the summer when school is not in session.

# Figure 1: Existing Traffic Volumes

## (##) → AM (PM) Traffic Volumes



NOT TO SCALE



### Trip Generation & Data Collection

Typically, to estimate the trips that are anticipated to be generated by a proposed development a trip generation for the development is calculated using equations contained in the Institute of Transportation Engineers' (ITE) latest *Trip Generation Manual*, 10<sup>th</sup> Ed, 2017. In this case we have collected traffic volumes at both existing site driveway locations, servicing the existing Chick-fil-a facility, over a 14-hour period. This traffic data is expected to be representative of the traffic generated by this existing Chick-fil-a restaurant location on a typical weekday and can be utilized to provide some insight into volume demand, trip generation rates and traffic patterns associated with fast food restaurants in this area. The traffic count data for the existing Chick-fil-a is also provided in Appendix A.

### Turn Lane Warrant Analysis:

Turn lane warrants were assessed per the *Georgia Department of Transportation Regulations for Driveway & Encroachment Control*. Turn lane warrants that were analyzed were left turn from the major road approach for the existing conditions.

North Druid Hills Rd at Birch Road was evaluated for conditions as a four-lane road, ADT greater than 10,000 vpd and a roadway at 40 mph:

- Total daily inbound volumes on Birch Road at 920 vpd.
- A Left-turn lane is required if there are 250 left turning vehicles (LTV) per day.
- At 30-50% distribution for inbound lefts from N Druid Hills Rd onto Birch Rd there are expected to be more than 250 LTV per day.
- A westbound Left-turn lane is *Warranted* at N Druid Hills Rd and Birch Rd in the existing conditions.

In addition to GDOT requirements, turn lane warrants were also analyzed for the need for a left turn lane, in the existing conditions, from N Druid Hills Rd onto Birch Rd per NCHRP Report 457: Evaluating Intersection Improvement recommendations which evaluates the necessity of a turn lane comparing the amount of turning movements with advancing and opposing volumes. Turn lane warrants that were analyzed were the westbound left-turn from major road.

- Westbound Left-turn Lane: *Warranted (PM peak period)* in the existing conditions.

The full turn-lane warrant analysis sheets are attached in Appendix B to this memo.

### Conclusions and Recommendations

As a result of this analysis, it is determined that a westbound left-turn lane on North Druid Hills Rd at Birch Rd is warranted in the existing traffic conditions. The relocation of the Chick-fil-a restaurant to the southeast corner of the N Druid Hills Rd at Birch Rd intersection would be expected to add additional volumes to the already warranted left-turn lane at this intersection.

Please contact me or Jack Johnson at 770-368-1399 if you have any questions or need additional information.

Sincerely,



**FORESITE GROUP, LLC**

Stevie Berryman  
Project Manager

**Appendix A: Traffic Counts**

# VOLUME

N Druid Hills Rd E/O N Druid Woods Ct

Day: Tuesday  
Date: 7/13/2021

City: Decatur  
Project #: GA21\_180190\_001

DAILY TOTALS					NB	SB						Total
					0	0						33,742
							15,945			17,797		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			28	22	50	12:00			201	228	429	
00:15			23	19	42	12:15			236	259	495	
00:30			28	26	54	12:30			240	235	475	
00:45			36	115	22	89	12:45		263	940	239	961
01:00			42	32	74	13:00			242	239	481	
01:15			32	21	53	13:15			215	261	476	
01:30			27	21	48	13:30			246	278	524	
01:45			29	130	16	90	13:45		250	953	249	1027
02:00			30	9	39	14:00			281	224	505	
02:15			26	16	42	14:15			305	244	549	
02:30			31	16	47	14:30			362	283	645	
02:45			23	110	10	51	14:45		319	1267	259	1010
03:00			23	11	34	15:00			356	249	605	
03:15			19	13	32	15:15			344	286	630	
03:30			16	11	27	15:30			357	237	594	
03:45			16	74	23	58	15:45		332	1389	236	1008
04:00			14	11	25	16:00			341	273	614	
04:15			16	28	44	16:15			337	275	612	
04:30			15	45	60	16:30			339	236	575	
04:45			12	57	46	130	16:45		341	1358	245	1029
05:00			19	59	78	17:00			343	245	588	
05:15			22	83	105	17:15			311	243	554	
05:30			31	131	162	17:30			326	254	580	
05:45			49	121	159	432	17:45		355	1335	232	974
06:00			46	166	212	18:00			344	237	581	
06:15			72	259	331	18:15			330	212	542	
06:30			80	301	381	18:30			323	230	553	
06:45			103	301	324	1050	18:45		269	1266	217	896
07:00			102	347	449	19:00			268	170	438	
07:15			113	384	497	19:15			267	194	461	
07:30			148	437	585	19:30			255	179	434	
07:45			157	520	505	1673	19:45		232	1022	149	692
08:00			169	479	648	20:00			231	142	373	
08:15			163	482	645	20:15			214	113	327	
08:30			160	427	587	20:30			161	136	297	
08:45			177	669	441	1829	20:45		182	788	139	530
09:00			188	343	531	21:00			147	123	270	
09:15			164	354	518	21:15			102	111	213	
09:30			154	330	484	21:30			110	129	239	
09:45			185	691	319	1346	21:45		125	484	118	481
10:00			157	237	394	22:00			135	85	220	
10:15			183	241	424	22:15			133	76	209	
10:30			195	263	458	22:30			138	84	222	
10:45			175	710	231	972	22:45		98	504	75	320
11:00			193	229	422	23:00			83	52	135	
11:15			214	235	449	23:15			82	55	137	
11:30			216	261	477	23:30			74	45	119	
11:45			207	830	229	954	23:45		72	311	43	195
<b>TOTALS</b>			4328	8674	13002	<b>TOTALS</b>			11617	9123	20740	
<b>SPLIT %</b>			33.3%	66.7%	38.5%	<b>SPLIT %</b>			56.0%	44.0%	61.5%	

DAILY TOTALS					NB	SB						Total
					0	0						33,742
							15,945			17,797		

AM Peak Hour			11:45	07:30	07:45	PM Peak Hour			15:00	14:30	14:30
AM Pk Volume			884	1903	2542	PM Pk Volume			1389	1077	2458
Pk Hr Factor			0.921	0.942	0.960	Pk Hr Factor			0.973	0.941	0.953
7 - 9 Volume	0	0	1189	3502	4691	4 - 6 Volume	0	0	2693	2003	4696
7 - 9 Peak Hour			08:00	07:30	07:45	4 - 6 Peak Hour			16:15	16:00	16:00
7 - 9 Pk Volume	0	0	669	1903	2542	4 - 6 Pk Volume	0	0	1360	1029	2387
Pk Hr Factor	0.000	0.000	0.945	0.942	0.960	Pk Hr Factor	0.000	0.000	0.991	0.935	0.972

# VOLUME

Birch Rd S/O N Druid Hills Rd

Day: Tuesday  
Date: 7/13/2021

City: Decatur  
Project #: GA21\_180190\_002

DAILY TOTALS					NB	SB	EB	WB	Total		
					639	920	0	0	1,559		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	0	8			8	12:00	18	16			34
00:15	5	0			5	12:15	14	22			36
00:30	0	0			0	12:30	16	13			29
00:45	1	6	0	8	14	12:45	8	56	20	71	127
01:00	0	0			0	13:00	11	9			20
01:15	2	2			4	13:15	21	19			40
01:30	2	2			4	13:30	14	20			34
01:45	0	4	0	4	8	13:45	16	62	22	70	132
02:00	0	0			0	14:00	12	16			28
02:15	1	0			1	14:15	16	13			29
02:30	0	0			0	14:30	14	22			36
02:45	0	1	0		1	14:45	11	53	9	60	113
03:00	0	0			0	15:00	14	10			24
03:15	0	0			0	15:15	9	24			33
03:30	1	0			1	15:30	9	17			26
03:45	0	1	0		1	15:45	17	49	43	94	143
04:00	0	0			0	16:00	14	31			45
04:15	0	0			0	16:15	18	28			46
04:30	0	0			0	16:30	7	28			35
04:45	0	1	1		1	16:45	28	67	31	118	185
05:00	0	1			1	17:00	18	33			51
05:15	1	0			1	17:15	19	41			60
05:30	0	1			1	17:30	15	32			47
05:45	1	2	9	11	13	17:45	12	64	24	130	194
06:00	3	6			9	18:00	16	22			38
06:15	3	7			10	18:15	12	26			38
06:30	2	4			6	18:30	8	24			32
06:45	7	15	4	21	36	18:45	8	44	9	81	125
07:00	5	4			9	19:00	15	7			22
07:15	6	6			12	19:15	10	14			24
07:30	6	2			8	19:30	15	15			30
07:45	1	18	12	24	42	19:45	7	47	6	42	89
08:00	2	7			9	20:00	9	12			21
08:15	6	10			16	20:15	8	4			12
08:30	13	9			22	20:30	1	5			6
08:45	10	31	6	32	63	20:45	2	20	8	29	49
09:00	4	5			9	21:00	5	4			9
09:15	3	7			10	21:15	3	1			4
09:30	5	4			9	21:30	2	2			4
09:45	13	25	7	23	48	21:45	1	11	1	8	19
10:00	6	7			13	22:00	1	2			3
10:15	8	10			18	22:15	2	3			5
10:30	4	10			14	22:30	0	3			3
10:45	4	22	11	38	60	22:45	1	4	1	9	13
11:00	9	11			20	23:00	0	3			3
11:15	11	8			19	23:15	1	1			2
11:30	7	10			17	23:30	0	1			1
11:45	9	36	11	40	76	23:45	0	1	1	6	7
<b>TOTALS</b>	<b>161</b>	<b>202</b>			<b>363</b>	<b>TOTALS</b>	<b>478</b>	<b>718</b>			<b>1196</b>
<b>SPLIT %</b>	<b>44.4%</b>	<b>55.6%</b>			<b>23.3%</b>	<b>SPLIT %</b>	<b>40.0%</b>	<b>60.0%</b>			<b>76.7%</b>

DAILY TOTALS					NB	SB	EB	WB	Total
					639	920	0	0	1,559

AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	16:45	16:45			16:45
AM Pk Volume	57	62			119	PM Pk Volume	80	137			217
Pk Hr Factor	0.792	0.705			0.826	Pk Hr Factor	0.714	0.835			0.904
7 - 9 Volume	49	56	0	0	105	4 - 6 Volume	131	248	0	0	379
7 - 9 Peak Hour	08:00	07:45			08:00	4 - 6 Peak Hour	16:45	16:45			16:45
7 - 9 Pk Volume	31	38	0	0	63	4 - 6 Pk Volume	80	137	0	0	217
Pk Hr Factor	0.596	0.792	0.000	0.000	0.716	Pk Hr Factor	0.714	0.835	0.000	0.000	0.904

# National Data & Surveying Services Intersection Turning Movement Count

**Location:** Birch Rd & N Druid Hills Rd  
**City:** Decatur  
**Control:** Signalized

**Project ID:** 21-180189-001  
**Date:** 7/13/2021

## Data - Totals

NS/EW Streets:	Birch Rd				Birch Rd				N Druid Hills Rd				N Druid Hills Rd				TOTAL
<b>AM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
	1	0	1	0	0	0	0	0	0	2	1	0	0	2	0	0	
6:30 AM	2	0	0	0	0	0	0	0	0	81	0	0	2	314	0	0	399
6:45 AM	5	0	2	0	0	0	0	0	0	103	3	0	3	334	0	0	450
7:00 AM	4	0	1	0	0	0	0	0	0	103	3	0	1	356	0	0	468
7:15 AM	5	0	1	0	0	0	0	0	0	117	1	0	1	402	0	0	527
7:30 AM	4	0	1	0	0	0	0	0	0	151	3	0	2	464	0	0	625
7:45 AM	0	0	1	0	0	0	0	0	0	166	10	0	3	522	0	0	702
8:00 AM	2	0	0	0	0	0	0	0	0	171	3	0	4	515	0	0	695
8:15 AM	5	0	1	0	0	0	0	0	0	171	6	0	4	487	0	0	674
<b>TOTAL VOLUMES :</b>	27	0	7	0	0	0	0	0	0	1063	29	0	20	3394	0	0	4540
<b>APPROACH %'s :</b>	79.41%	0.00%	20.59%	0.00%						0.00%	97.34%	2.66%	0.00%	0.59%	99.41%	0.00%	0.00%
<b>PEAK HR :</b>	07:30 AM - 08:30 AM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	11	0	3	0	0	0	0	0	0	659	22	0	13	1988	0	0	2696
<b>PEAK HR FACTOR :</b>	0.550	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.963	0.550	0.000	0.813	0.952	0.000	0.000	0.960
	0.583																
	0.962																
	0.953																
<b>PM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
	1	0	1	0	0	0	0	0	0	2	1	0	0	2	0	0	
4:00 PM	7	0	6	0	0	0	0	0	0	347	30	0	4	244	0	0	638
4:15 PM	11	0	4	0	0	0	0	0	0	328	23	0	8	276	0	0	650
4:30 PM	5	0	3	0	0	0	0	0	0	340	23	0	5	257	0	0	633
4:45 PM	18	0	7	0	0	0	0	0	0	348	26	0	6	232	0	0	637
5:00 PM	12	0	6	0	0	0	0	0	0	337	26	0	7	235	0	0	623
5:15 PM	15	0	3	0	0	0	0	0	0	304	35	0	5	257	0	0	619
5:30 PM	14	0	2	0	0	0	0	0	0	330	28	0	4	234	0	0	612
5:45 PM	8	0	2	0	0	0	0	0	0	379	19	0	1	218	0	0	627
<b>TOTAL VOLUMES :</b>	90	0	33	0	0	0	0	0	0	2713	210	0	40	1953	0	0	5039
<b>APPROACH %'s :</b>	73.17%	0.00%	26.83%	0.00%						0.00%	92.82%	7.18%	0.00%	2.01%	97.99%	0.00%	0.00%
<b>PEAK HR :</b>	04:00 PM - 05:00 PM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	41	0	20	0	0	0	0	0	0	1363	102	0	23	1009	0	0	2558
<b>PEAK HR FACTOR :</b>	0.569	0.000	0.714	0.000	0.000	0.000	0.000	0.000	0.000	0.979	0.850	0.000	0.719	0.914	0.000	0.000	0.984
	0.610																
	0.971																
	0.908																



# National Data & Surveying Services **Intersection Turning Movement Count**

**Location:** Chick-fil-A W Dwy & N Druid Hills Rd  
**City:** Decatur  
**Control:** No Control

**Project ID:** 21-180189-002  
**Date:** 7/13/2021

## Data - Totals

NS/EW Streets:	Chick-fil-A W Dwy				Chick-fil-A W Dwy				N Druid Hills Rd				N Druid Hills Rd				
<b>AM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	1 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	2 ET	0 ER	0 EU	0 WL	3 WT	0 WR	0 WU	
6:00 AM	0	0	0	0	0	0	0	0	0	47	0	0	9	187	0	0	243
6:15 AM	1	0	1	0	0	0	0	0	0	76	7	0	6	274	0	0	365
6:30 AM	2	0	1	0	0	0	0	0	0	83	3	0	15	315	0	0	419
6:45 AM	4	0	3	0	0	0	0	0	0	112	5	0	11	339	0	0	474
7:00 AM	1	0	3	0	0	0	0	0	0	107	4	0	19	363	0	0	497
7:15 AM	3	0	0	0	0	0	0	0	0	125	6	0	10	404	0	0	548
7:30 AM	4	0	2	0	0	0	0	0	0	167	15	0	16	470	0	0	674
7:45 AM	3	0	2	0	0	0	0	0	0	171	10	0	6	526	0	0	718
8:00 AM	5	0	4	0	0	0	0	0	0	177	10	0	16	517	0	0	729
8:15 AM	4	0	3	0	0	0	0	0	0	177	1	0	10	497	0	0	692
8:30 AM	1	0	3	0	0	0	0	0	0	181	10	0	17	465	0	0	677
8:45 AM	3	0	5	0	0	0	0	0	0	183	12	0	17	477	0	0	697
9:00 AM	3	0	4	0	0	0	0	0	0	191	10	0	13	363	0	0	584
9:15 AM	3	0	4	0	0	0	0	0	0	181	10	0	16	386	0	0	600
9:30 AM	5	0	5	0	0	0	0	0	0	168	17	0	20	365	0	0	580
9:45 AM	3	0	3	0	0	0	0	0	0	208	13	0	10	351	0	0	588
<b>TOTAL VOLUMES :</b>	45	0	43	0	0	0	0	0	0	2354	133	0	211	6299	0	0	9085
<b>APPROACH %'s :</b>	51.14%	0.00%	48.86%	0.00%					0.00%	94.65%	5.35%	0.00%	3.24%	96.76%	0.00%	0.00%	
<b>PEAK HR :</b>	07:45 AM - 08:45 AM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	13	0	12	0	0	0	0	0	0	706	31	0	49	2005	0	0	2816
<b>PEAK HR FACTOR :</b>	0.650	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.975	0.775	0.000	0.721	0.953	0.000	0.000	0.966
			0.694							0.965				0.963			

NS/EW Streets:	Chick-fil-A W Dwy				Chick-fil-A W Dwy				N Druid Hills Rd				N Druid Hills Rd				
<b>NOON</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	1 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	2 ET	0 ER	0 EU	0 WL	3 WT	0 WR	0 WU	
10:00 AM	6	0	7	0	0	0	0	0	0	172	7	0	16	259	0	0	467
10:15 AM	7	0	3	0	0	0	0	0	0	187	17	0	10	259	0	0	483
10:30 AM	4	0	4	0	0	0	0	0	0	226	9	0	13	277	0	0	533
10:45 AM	3	0	4	0	0	0	0	0	0	196	10	0	12	258	0	0	483
11:00 AM	2	0	2	0	0	0	0	0	0	220	10	0	18	230	0	0	482
11:15 AM	5	0	6	0	0	0	0	0	0	228	14	0	13	259	0	1	526
11:30 AM	3	0	7	0	0	0	0	0	0	254	15	0	15	281	0	0	575
11:45 AM	1	0	9	0	0	0	0	0	0	232	14	0	24	247	0	0	527
12:00 PM	3	0	7	0	0	0	0	0	0	229	10	0	16	250	0	1	516
12:15 PM	2	0	5	0	0	0	0	0	0	258	16	0	12	278	0	0	571
12:30 PM	3	0	6	0	0	0	0	0	0	259	16	0	22	237	0	0	543
12:45 PM	4	0	7	0	0	0	0	0	0	291	17	0	11	268	0	3	601
1:00 PM	3	0	7	0	0	0	0	0	0	266	18	0	18	269	0	1	582
1:15 PM	9	0	10	0	0	0	0	0	0	273	18	0	10	294	0	0	614
1:30 PM	1	0	5	0	0	0	0	0	0	250	15	0	19	290	0	0	580
1:45 PM	3	0	8	0	0	0	0	0	0	274	20	0	8	280	0	0	593
<b>TOTAL VOLUMES :</b>	59	0	97	0	0	0	0	0	0	3815	226	0	237	4236	0	6	8676
<b>APPROACH %'s :</b>	37.82%	0.00%	62.18%	0.00%					0.00%	94.41%	5.59%	0.00%	5.29%	94.57%	0.00%	0.13%	
<b>PEAK HR :</b>	12:45 PM - 01:45 PM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	17	0	29	0	0	0	0	0	0	1080	68	0	58	1121	0	4	2377
<b>PEAK HR FACTOR :</b>	0.472	0.000	0.725	0.000	0.000	0.000	0.000	0.000	0.000	0.928	0.944	0.000	0.763	0.953	0.000	0.333	0.968
			0.605							0.932				0.957			

NS/EW Streets:	Chick-fil-A W Dwy				Chick-fil-A W Dwy				N Druid Hills Rd				N Druid Hills Rd				
<b>PM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	1 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	2 ET	0 ER	0 EU	0 WL	3 WT	0 WR	0 WU	
2:00 PM	3	0	5	0	0	0	0	0	0	318	8	0	18	225	0	0	577
2:15 PM	1	0	10	0	0	0	0	0	0	328	15	0	10	272	0	0	636
2:30 PM	2	0	8	0	0	0	0	0	0	392	15	0	14	289	0	0	720
2:45 PM	1	0	8	0	0	0	0	0	0	355	14	0	9	273	0	0	660
3:00 PM	2	0	1	0	0	0	0	0	0	367	16	0	8	271	0	0	665
3:15 PM	3	0	4	0	0	0	0	0	0	389	15	0	10	300	0	0	721
3:30 PM	2	0	5	0	0	0	0	0	0	356	8	0	12	252	0	1	636
3:45 PM	1	0	1	0	0	0	0	0	0	378	13	0	7	247	0	0	647
4:00 PM	2	0	3	0	0	0	0	0	0	391	10	0	4	284	0	0	694
4:15 PM	1	0	5	0	0	0	0	0	0	373	9	1	9	287	0	0	685
4:30 PM	0	0	4	0	0	0	0	0	0	366	12	1	9	249	0	0	641
4:45 PM	4	0	3	0	0	0	0	0	0	381	9	0	4	258	0	0	659
5:00 PM	2	0	4	0	0	0	0	0	0	394	9	0	7	277	0	0	693
5:15 PM	1	0	4	0	0	0	0	0	0	352	16	0	8	270	0	0	651
5:30 PM	2	0	4	0	0	0	0	0	0	374	8	0	5	257	0	0	650
5:45 PM	0	0	0	0	0	0	0	0	0	394	13	0	4	256	0	0	667
6:00 PM	0	0	3	0	0	0	0	0	0	369	12	0	4	238	0	0	626
6:15 PM	2	0	3	0	0	0	0	0	0	353	10	0	7	234	0	0	609
6:30 PM	4	0	4	0	0	0	0	0	0	378	14	0	6	241	0	0	647
6:45 PM	3	0	2	0	0	0	0	0	0	322	11	0	14	229	0	0	581
7:00 PM	1	0	3	0	0	0	0	0	0	290	19	0	14	179	0	0	506
7:15 PM	3	0	2	0	0	0	0	0	0	286	10	0	6	208	0	0	515
7:30 PM	3	0	6	0	0	0	0	0	0	276	13	0	13	193	0	1	505
7:45 PM	0	0	2	0	0	0	0	0	0	257	12	0	11	169	0	0	451
<b>TOTAL VOLUMES :</b>	43	0	94	0	0	0	0	0	0	8439	291	2	213	5958	0	2	15042
<b>APPROACH %'s :</b>	31.39%	0.00%	68.61%	0.00%					0.00%	96.64%	3.33%	0.02%	3.45%	96.52%	0.00%	0.03%	
<b>PEAK HR :</b>	02:30 PM - 03:30 PM																<b>TOTAL</b>
<b>PEAK HR VOL :</b>	8	0	21	0	0	0	0	0	0	1503	60	0	41	1133	0	0	2766
<b>PEAK HR FACTOR :</b>	0.667	0.000	0.656	0.000	0.000	0.000	0.000	0.000	0.000	0.959	0.938	0.000	0.732	0.944	0.000	0.000	0.959
			0.725							0.960				0.947			

# National Data & Surveying Services Intersection Turning Movement Count

**Location:** Chick-fil-A E Dwy & N Druid Hills Rd  
**City:** Decatur  
**Control:** 1-Way Stop(SB)

**Project ID:** 21-180189-003  
**Date:** 7/13/2021

## Data - Totals

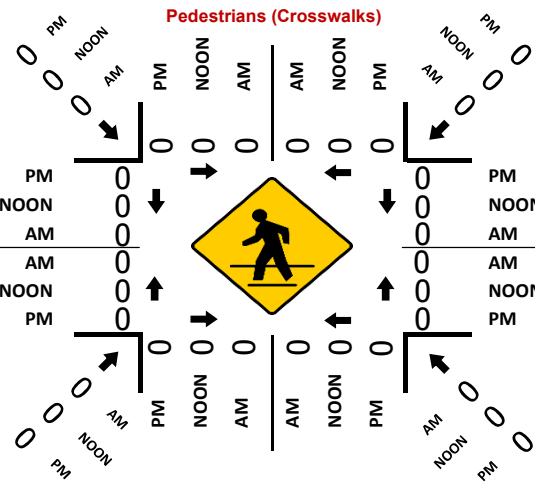
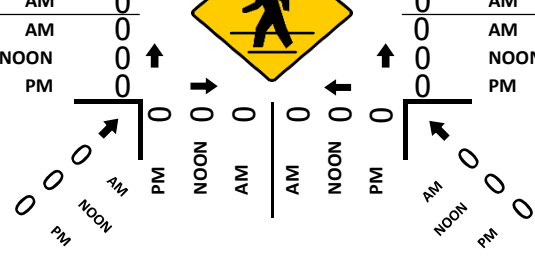
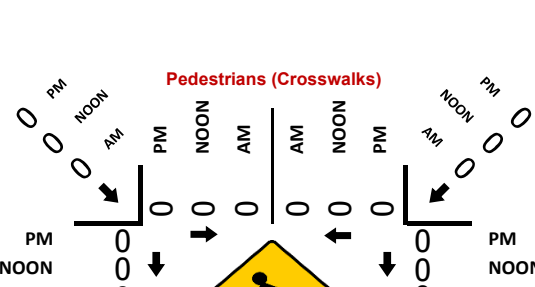
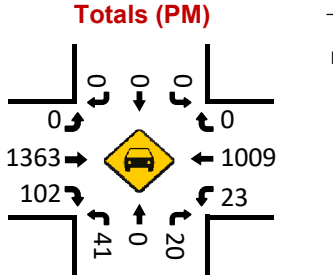
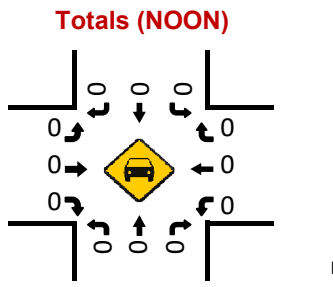
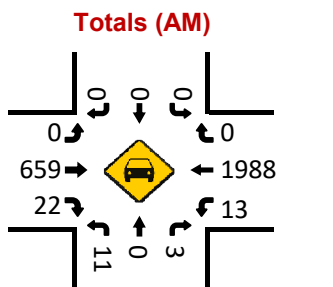
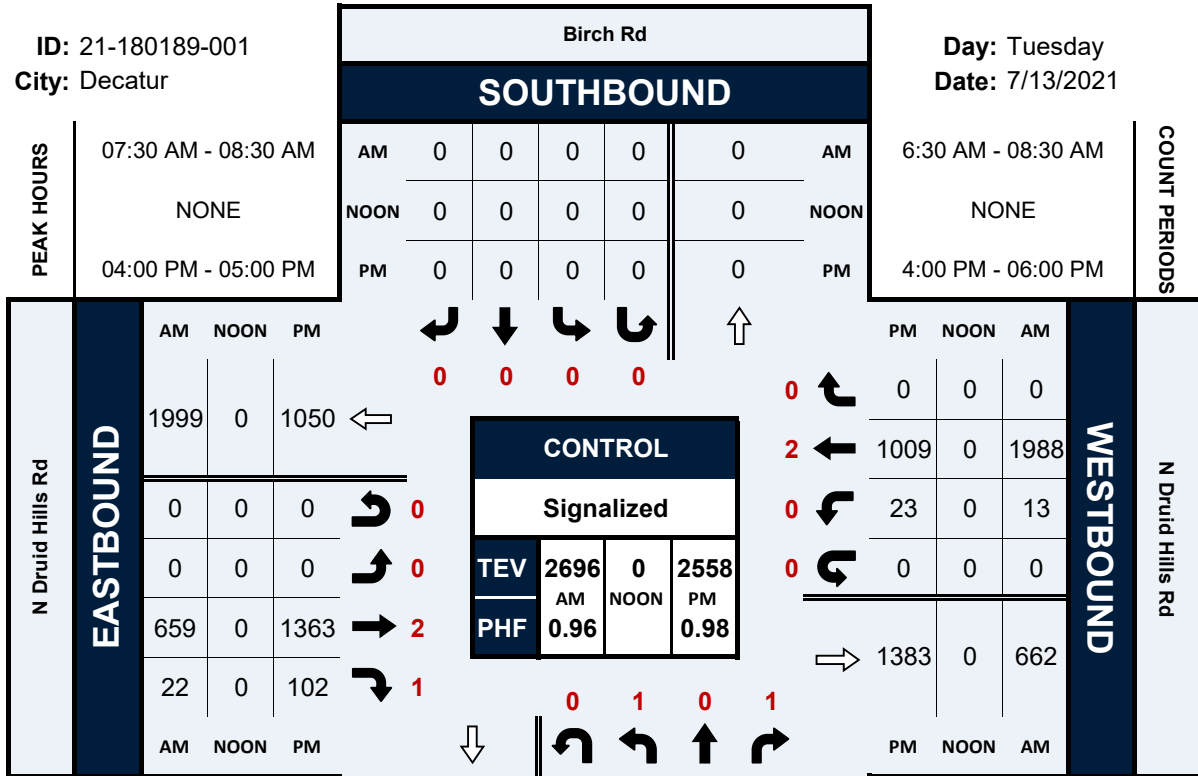
NS/EW Streets:	Chick-fil-A E Dwy				Chick-fil-A E Dwy				N Druid Hills Rd				N Druid Hills Rd				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	0.5 NL	0 NT	0.5 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	2 ET	0 ER	0 EU	0 WL	3 WT	0 WR	0 WU	TOTAL
6:00 AM	1	0	5	0	0	0	0	0	0	48	0	0	0	199	1	0	254
6:15 AM	2	1	9	0	0	0	0	0	0	76	0	0	0	274	0	0	362
6:30 AM	2	0	8	0	0	0	2	0	0	85	0	0	0	334	3	0	434
6:45 AM	2	0	9	0	1	0	1	0	1	111	0	0	0	339	6	0	470
7:00 AM	4	0	9	0	0	0	2	0	2	110	0	0	0	376	8	1	512
7:15 AM	4	0	13	0	0	0	0	0	0	126	0	0	0	420	6	0	569
7:30 AM	3	0	12	0	0	0	3	0	2	163	0	0	0	470	8	1	662
7:45 AM	1	0	14	0	2	0	5	0	1	176	0	0	0	526	9	0	734
8:00 AM	3	1	10	0	1	0	3	0	0	181	0	0	0	529	12	0	740
8:15 AM	1	0	9	0	0	0	0	0	1	179	0	0	0	504	10	1	705
8:30 AM	1	0	16	0	0	0	1	0	1	181	0	0	0	480	10	0	690
8:45 AM	2	0	13	0	0	0	2	0	1	188	0	0	0	491	15	0	712
9:00 AM	2	0	18	0	2	0	6	0	0	196	0	0	0	367	16	0	607
9:15 AM	2	1	15	0	2	0	4	0	0	185	0	0	0	396	16	0	621
9:30 AM	3	0	10	0	2	0	5	1	2	170	0	0	0	381	8	0	582
9:45 AM	1	0	19	0	2	0	3	0	4	208	0	0	0	353	21	0	611
<b>TOTAL VOLUMES :</b>	34	3	189	0	12	0	37	1	15	2383	0	0	0	6439	149	3	9265
<b>APPROACH %'s :</b>	15.04%	1.33%	83.63%	0.00%	24.00%	0.00%	74.00%	2.00%	0.63%	99.37%	0.00%	0.00%	0.00%	97.69%	2.26%	0.05%	
<b>PEAK HR :</b>	07:45 AM - 08:45 AM																
<b>PEAK HR VOL :</b>	6	1	49	0	3	0	9	0	3	717	0	0	0	2039	41	1	2869
<b>PEAK HR FACTOR :</b>	0.500	0.250	0.766	0.000	0.375	0.000	0.450	0.000	0.750	0.990	0.000	0.000	0.000	0.964	0.854	0.250	0.969
	0.824 0.429 0.989 0.962																
NOON	0.5 NL	0 NT	0.5 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	2 ET	0 ER	0 EU	0 WL	3 WT	0 WR	0 WU	TOTAL
10:00 AM	1	0	17	0	5	0	2	0	0	174	1	0	0	271	21	0	492
10:15 AM	2	0	13	0	3	0	5	0	1	193	0	0	0	262	19	0	498
10:30 AM	4	1	16	0	7	0	8	0	2	228	0	0	0	278	17	0	561
10:45 AM	4	0	13	0	6	0	3	0	0	200	0	0	0	263	13	0	502
11:00 AM	2	0	8	0	3	0	7	0	1	214	0	0	0	239	26	0	500
11:15 AM	1	0	22	0	1	0	5	0	3	236	0	2	0	274	17	0	561
11:30 AM	2	0	21	0	5	0	6	0	1	261	0	0	0	279	18	0	593
11:45 AM	0	1	21	0	1	0	10	1	2	239	0	0	0	261	21	0	557
12:00 PM	4	0	13	0	7	0	2	0	2	233	0	0	0	268	32	0	561
12:15 PM	2	0	28	0	4	0	7	1	3	262	0	0	0	274	28	1	610
12:30 PM	2	0	15	0	6	0	7	0	1	264	0	0	0	251	21	0	567
12:45 PM	2	0	15	0	3	0	15	0	4	289	0	0	0	264	21	0	613
1:00 PM	2	0	18	0	2	0	10	0	3	279	0	0	0	277	25	0	616
1:15 PM	2	0	21	0	4	0	9	0	2	274	0	0	0	292	22	0	626
1:30 PM	2	0	20	0	6	0	10	0	2	260	0	0	0	304	28	0	632
1:45 PM	1	0	18	0	6	0	5	0	3	278	1	0	0	275	33	0	620
<b>TOTAL VOLUMES :</b>	33	2	279	0	69	0	111	2	30	3884	2	2	0	4332	362	1	9109
<b>APPROACH %'s :</b>	10.51%	0.64%	88.85%	0.00%	37.91%	0.00%	60.99%	1.10%	0.77%	99.13%	0.05%	0.05%	0.00%	92.27%	7.71%	0.02%	
<b>PEAK HR :</b>	01:00 PM - 02:00 PM																
<b>PEAK HR VOL :</b>	7	0	77	0	18	0	34	0	10	1091	1	0	0	1148	108	0	2494
<b>PEAK HR FACTOR :</b>	0.875	0.000	0.917	0.000	0.750	0.000	0.850	0.000	0.833	0.978	0.250	0.000	0.000	0.944	0.818	0.000	0.987
	0.913 0.813 0.977 0.946																
PM	0.5 NL	0 NT	0.5 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	2 ET	0 ER	0 EU	0 WL	3 WT	0 WR	0 WU	TOTAL
2:00 PM	0	0	20	0	4	0	8	0	1	320	0	0	0	231	19	1	604
2:15 PM	0	1	12	0	6	0	10	0	2	338	0	0	0	275	18	0	662
2:30 PM	0	0	12	0	4	0	8	0	1	399	0	0	0	294	13	0	731
2:45 PM	0	1	14	0	4	0	7	0	1	360	0	0	0	272	19	0	678
3:00 PM	0	0	20	0	2	0	6	0	0	370	0	0	0	281	28	0	707
3:15 PM	1	0	20	0	2	0	7	0	0	393	0	0	0	294	21	0	738
3:30 PM	0	0	19	0	6	0	10	0	2	360	0	0	0	255	14	0	666
3:45 PM	0	0	16	0	1	0	4	0	5	367	0	0	0	250	31	0	674
4:00 PM	1	0	18	0	7	0	11	0	3	399	0	0	0	281	25	0	745
4:15 PM	1	0	10	0	7	0	2	0	1	377	0	0	0	288	28	0	714
4:30 PM	0	0	12	0	7	0	7	0	1	366	0	0	0	251	28	0	672
4:45 PM	0	0	9	0	6	0	9	0	1	390	0	0	0	261	16	0	692
5:00 PM	1	0	12	0	6	0	6	0	3	393	0	0	0	269	24	0	714
5:15 PM	0	0	15	0	8	0	5	0	1	346	0	0	0	273	29	0	677
5:30 PM	0	0	15	0	1	0	14	0	1	374	0	0	0	252	25	0	682
5:45 PM	1	0	14	0	8	0	4	0	0	403	0	0	0	251	21	0	702
6:00 PM	1	0	9	0	6	0	7	0	1	366	0	0	0	240	25	0	655
6:15 PM	0	0	11	0	6	0	9	0	1	356	0	0	0	226	23	0	632
6:30 PM	1	0	17	0	4	0	6	0	1	385	0	0	0	245	34	0	693
6:45 PM	1	0	13	0	8	0	4	0	0	324	0	0	0	233	27	0	610
7:00 PM	2	0	16	0	4	0	0	0	0	287	0	0	0	191	18	0	518
7:15 PM	2	1	20	0	8	0	6	0	1	293	0	0	0	217	24	0	572
7:30 PM	2	0	16	0	4	0	4	0	2	281	0	0	0	190	14	0	513
7:45 PM	2	0	17	0	7	0	7	0	0	258	0	0	0	173	13	0	477
<b>TOTAL VOLUMES :</b>	16	3	357	0	126	0	161	0	29	8505	0	0	0	5993	537	1	15728
<b>APPROACH %'s :</b>	4.26%	0.80%	94.95%	0.00%	43.90%	0.00%	56.10%	0.00%	0.34%	99.66%	0.00%	0.00%	0.00%	91.76%	8.22%	0.02%	
<b>PEAK HR :</b>	02:30 PM - 03:30 PM																
<b>PEAK HR VOL :</b>	1	1	66	0	12	0	28	0	2	1522	0	0	0	1141	81	0	2854
<b>PEAK HR FACTOR :</b>	0.250	0.250	0.825	0.000	0.750	0.000	0.875	0.000	0.500	0.954	0.000	0.000	0.000	0.970	0.723	0.000	0.967
	0.810 0.833 0.953 0.970																

# Birch Rd & N Druid Hills Rd

## Peak Hour Turning Movement Count

ID: 21-180189-001  
City: Decatur

Day: Tuesday  
Date: 7/13/2021

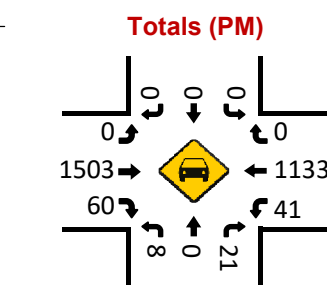
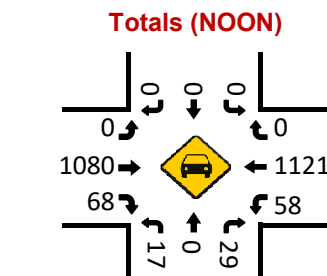
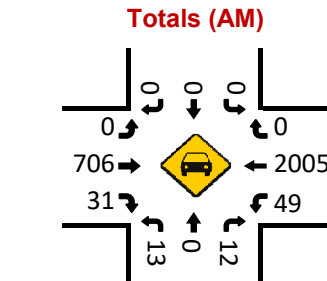
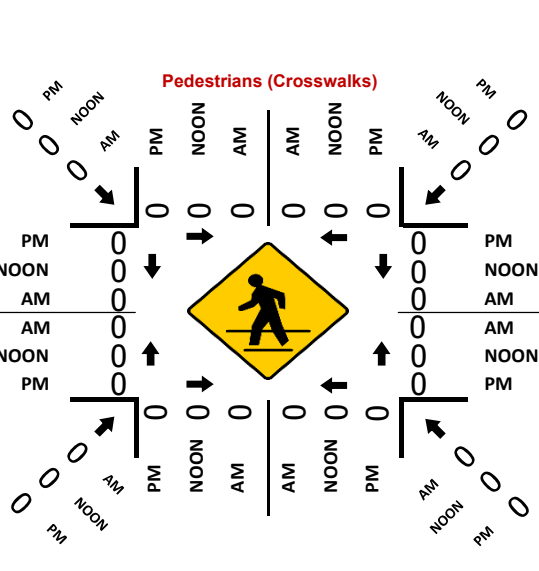
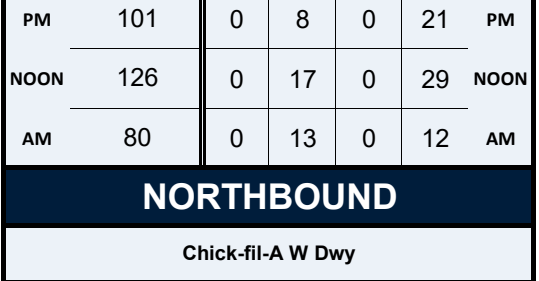
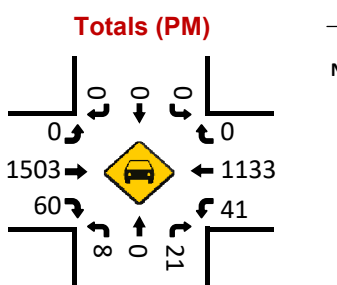
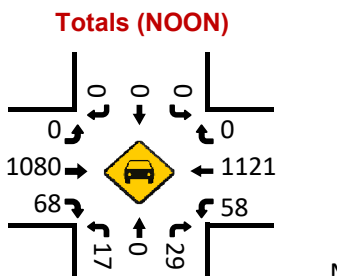
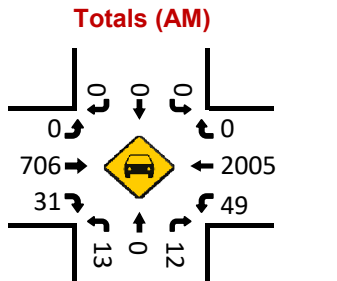
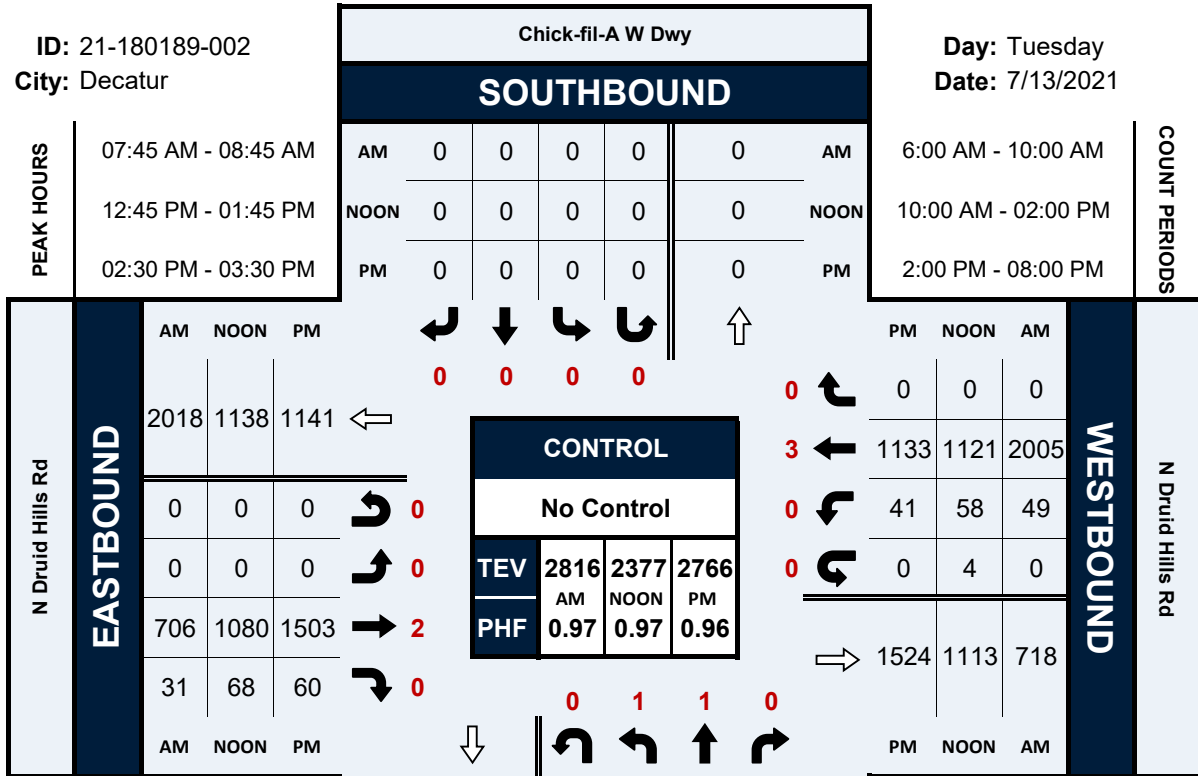


# Chick-fil-A W Dwy & N Druid Hills Rd

## Peak Hour Turning Movement Count

ID: 21-180189-002  
City: Decatur

Day: Tuesday  
Date: 7/13/2021

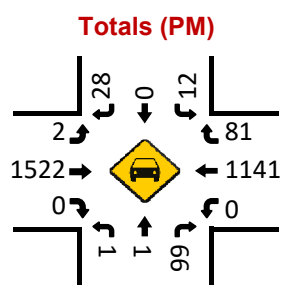
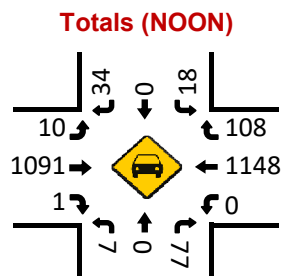
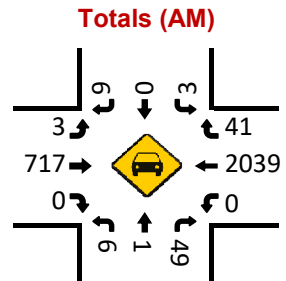
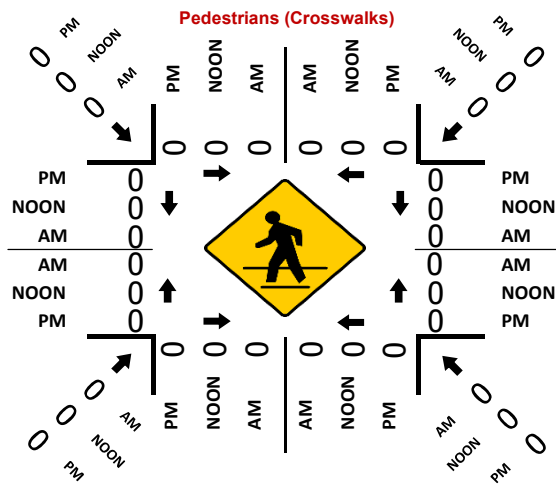
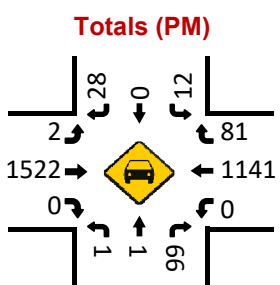
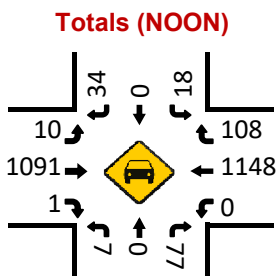
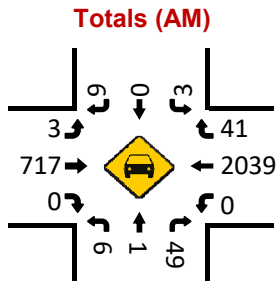
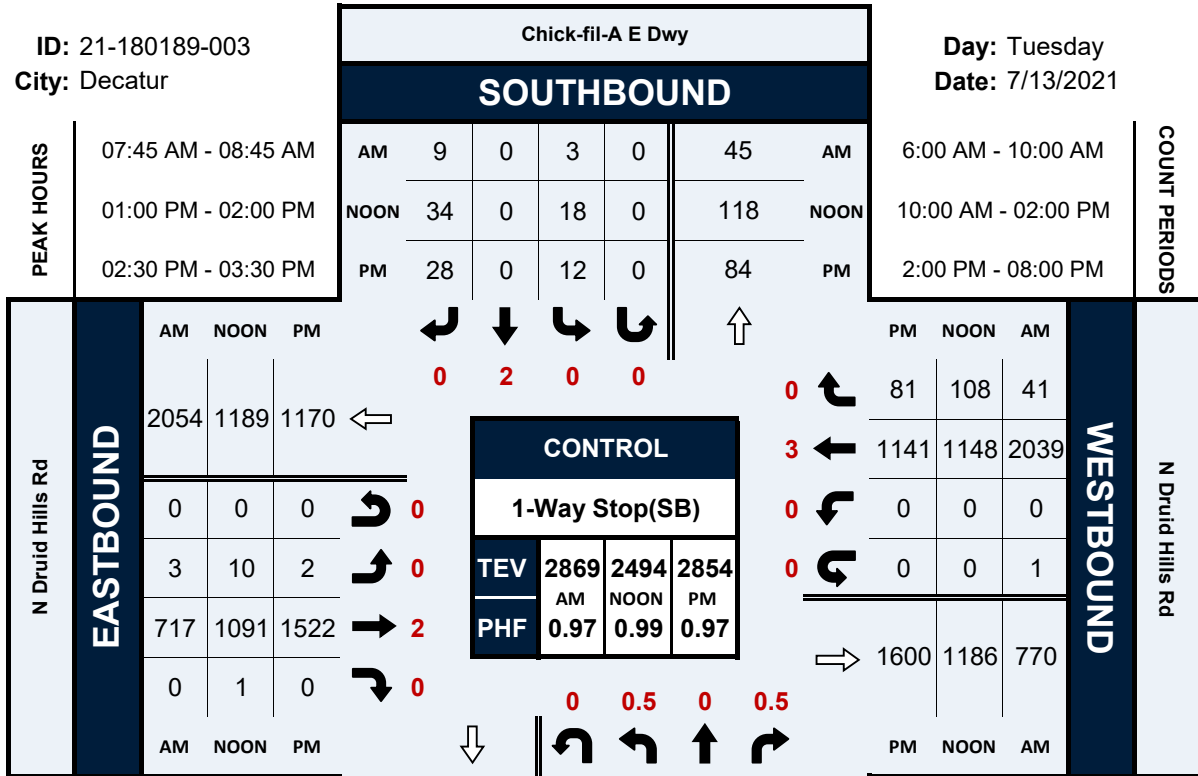


# Chick-fil-A E Dwy & N Druid Hills Rd

## Peak Hour Turning Movement Count

ID: 21-180189-003  
City: Decatur

Day: Tuesday  
Date: 7/13/2021



## **Appendix B: Turn Lane Warrant Worksheets**

Note: This warrant is being applied to a 4-phase signal that controls the minor street approach but the main line left (N Druid Hills) is not signalized (protected phase) and still makes a permissive left turn when there are acceptable gaps in traffic.

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

4-lane roadway

INPUT

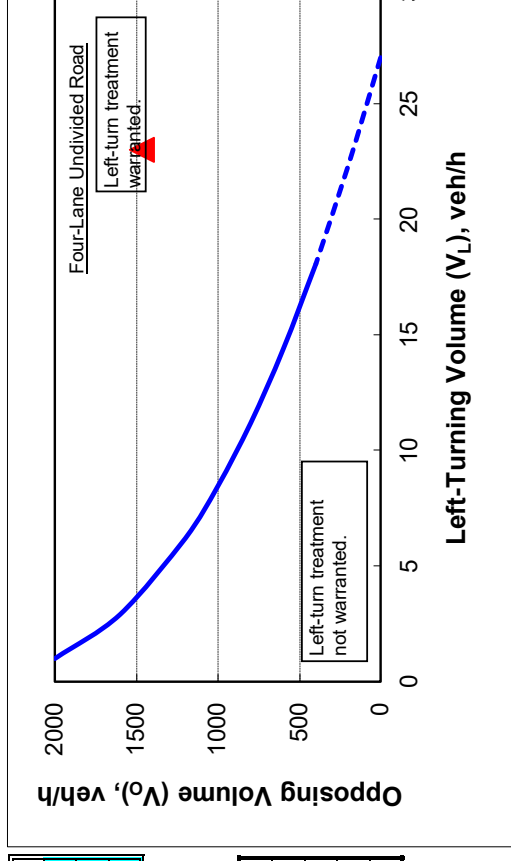
Variable	Value
Left-turning volume ( $V_L$ ), veh/h:	23
Advancing volume ( $V_A$ ), veh/h:	1032
Opposing volume ( $V_O$ ), veh/h:	1465

OUTPUT

Variable	Message
Opposing volume ( $V_O$ ) check:	O.K.
Combined volume ( $V_A$ and $V_O$ ) check:	O.K.
<b>Guidance for determining the need for a major-road left-turn bay:</b>	
Left-turn treatment warranted.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	4.0
Critical headway, s:	6.0



Note: When  $V_O < 400$  veh/h (dashed line), a left-turn lane is not normally warranted unless the advancing volume ( $V_A$ ) in the same direction as the left-turning traffic exceeds 400 veh/h ( $V_A > 400$  veh/h).