

**September 2, 2021**

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

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

**Existing 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 intersection LOS and queuing at North Druid Hills at Birch Road in the existing and proposed building conditions and the potential impacts on the operation of this intersection by the proposed relocated Chick-fil-a restaurant.

Traffic count data for this project was originally 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. Additional peak hour turning movement counts were recollected at the Birch Rd intersection on Tuesday August 10<sup>th</sup>, 2021, after the school year had started. 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. Previous collected volumes at the Chick-fila driveways have not been adjusted for collection during the summer when school was not in session.

**Proposed Traffic Volumes**

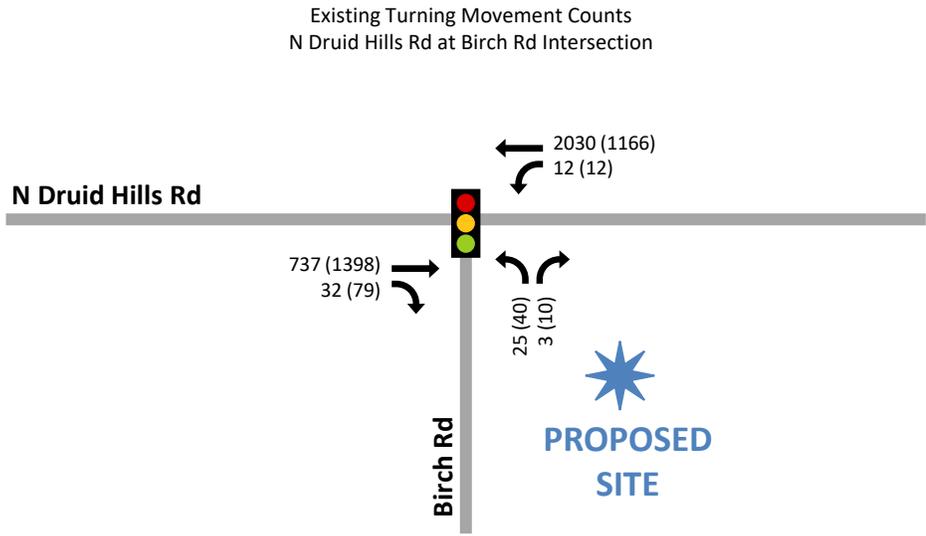
For the proposed traffic volumes, the existing Chick-fil-a trips were distributed to the Birch Rd intersection and the proposed right-in-right-out driveway on North Druid Hills Rd. Chick-fil-a estimates the new site location to generate 10% more trips, so this growth factor is applied to the redistributed trips. The proposed peak hour volumes at the Birch Road intersection are provided in Figures 2 and 3.

# Figure 1: Existing Traffic Volumes

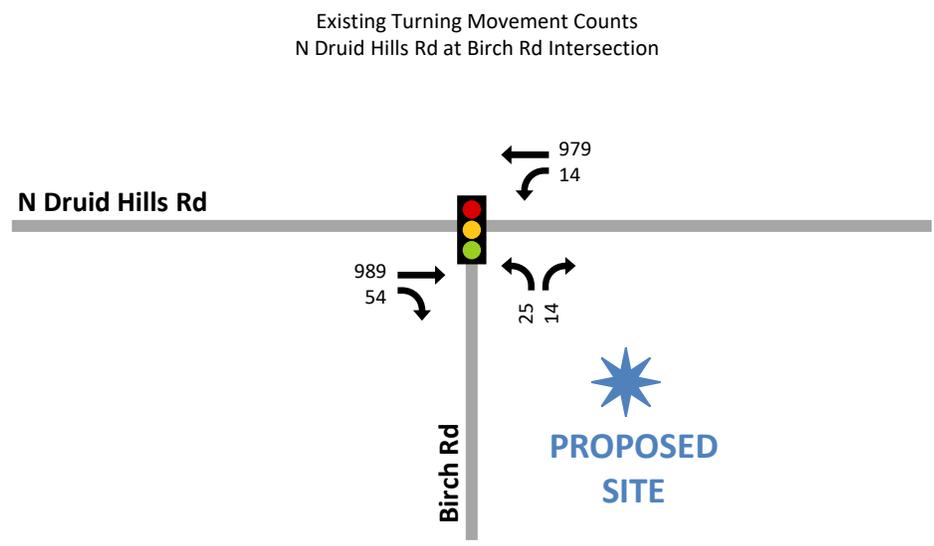
## (##) → AM (PM) Traffic Volumes



NOT TO SCALE



## (##) → MD Traffic Volumes (midday)



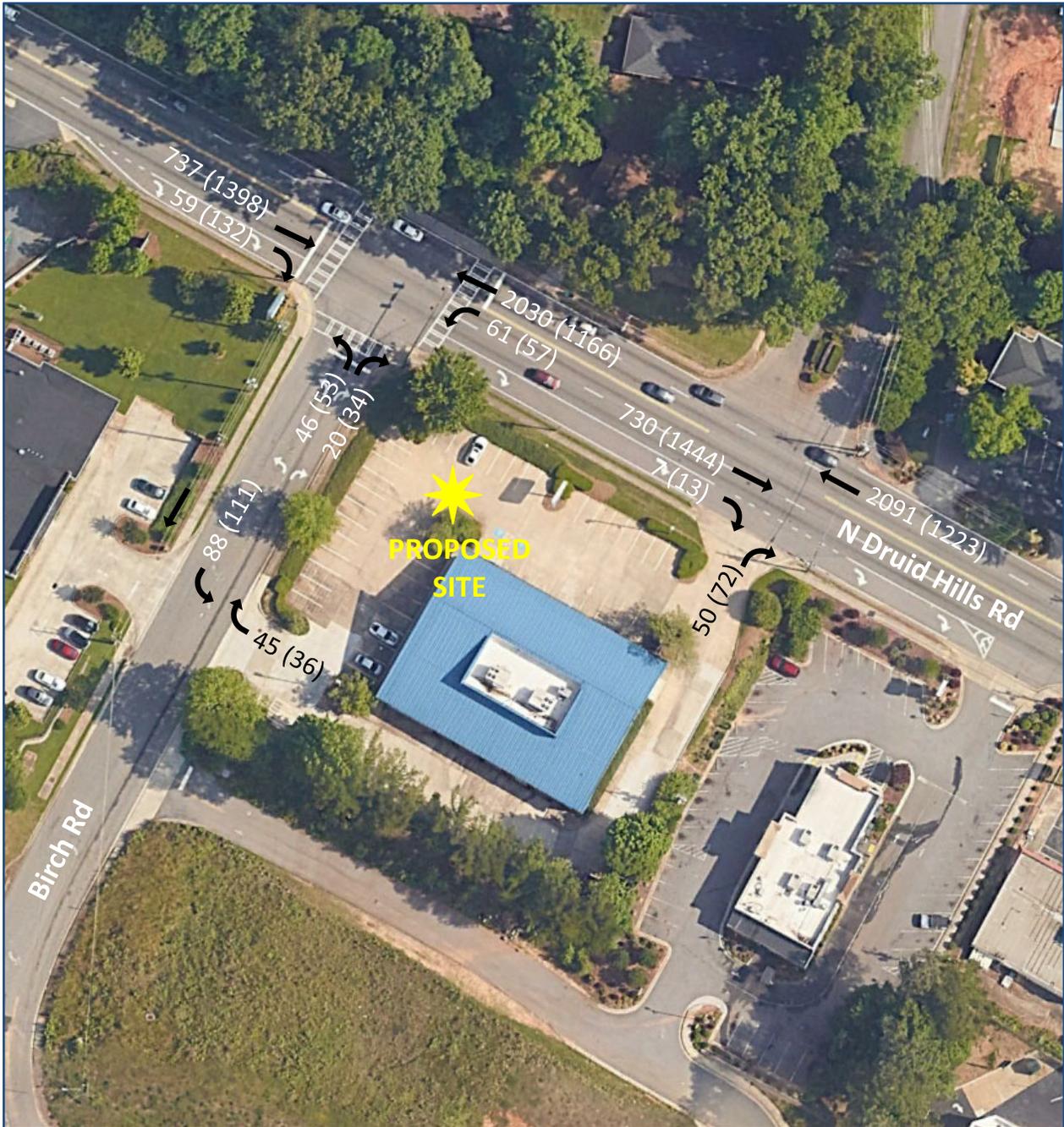
# Figure 2: Projected Peak Hour Volumes

## (##) → AM (PM) Traffic Volumes

Volumes updated 8/10/2021  
 AM peak hour of Birch Rd intersection 7:30-8:30am  
 PM peak hour of Birch Rd intersection 5:00-6:00pm



AM (PM) Peak Hour Turning movement counts – Birch Rd + Proposed Chick-fil-a site on North Druid Hills Rd



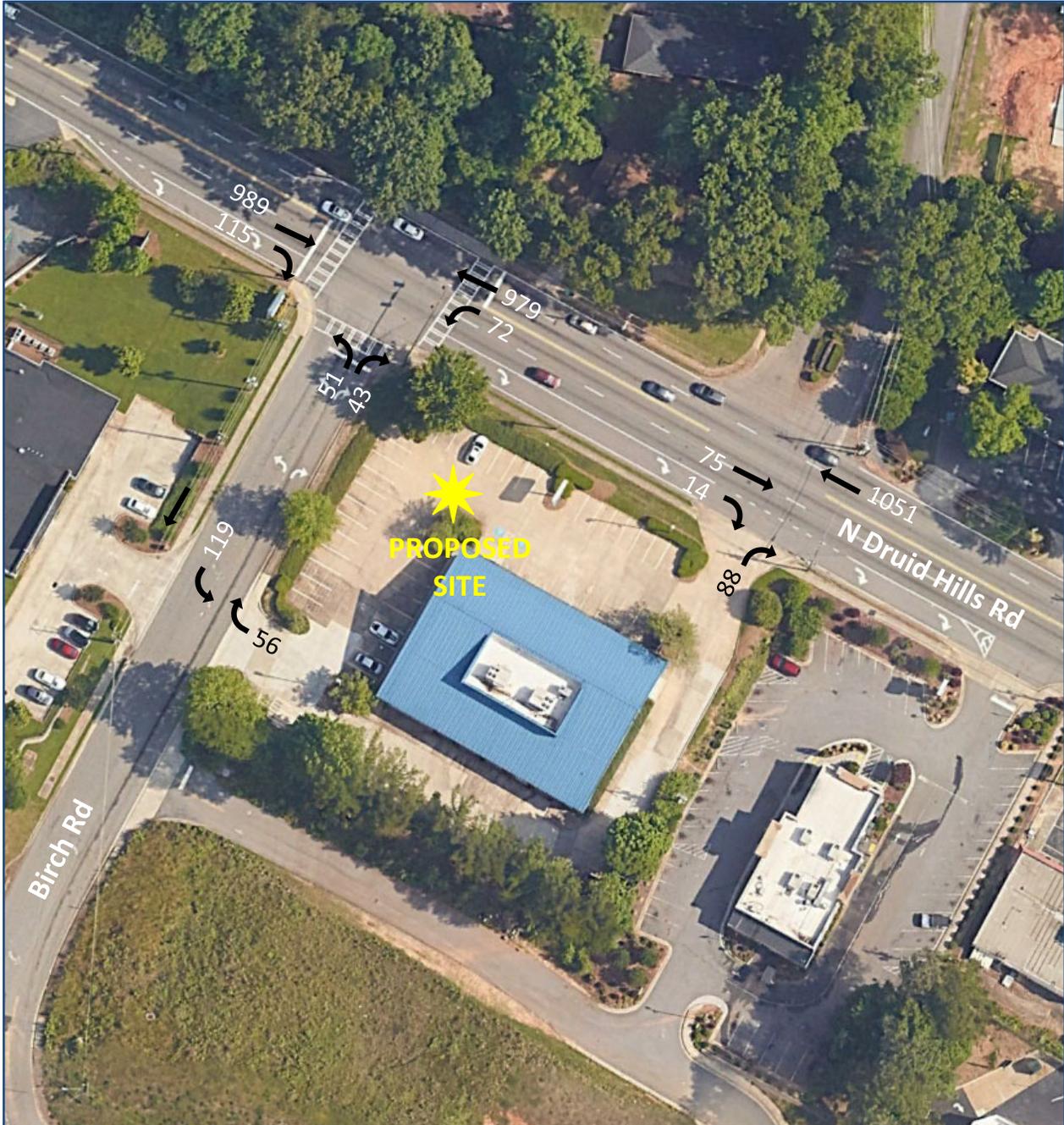
# Figure 3: Projected Peak Hour Volumes

## (##) → MD Traffic Volumes

Volumes updated 8/10/2021  
MD peak hour of Birch Rd intersection 1:00-2:00pm



AM (PM) Peak Hour Turning movement counts – Birch Rd + Proposed Chick-fil-a site on North Druid Hills Rd



### Existing Conditions Capacity Analysis

Existing traffic volumes were entered into a *Synchro* 10 model to perform capacity analysis of existing conditions for the AM, MD and PM peak periods. The results of the capacity analysis are shown by lane group movement in Table 1. Average vehicular delays and level-of service, as defined by the Highway Capacity Manual (HCM) 6<sup>th</sup> Edition are presented, and 95<sup>th</sup> percentile queues from *SimTraffic 10* are shown. Full *Synchro* output reports are included Appendix B. The signal timings for the intersection at Birch Rd were not available at the time of this analysis. The timings were estimated to be actuated coordinated with a 140-second cycle length with a side street split time of 25 seconds. These estimated timings were used for both the existing and proposed conditions analysis. For the purposes of this analysis North Druid H

**Table 1: Existing Conditions Capacity Analysis**

Intersection	Control	Lane Group Movement	AM Peak Hour			MD Peak Hour			PM Peak Hour		
			Delay (s)	LOS	95 <sup>th</sup> % Queue (ft)	Delay (s)	LOS	95 <sup>th</sup> % Queue (ft)	Delay (s)	LOS	95 <sup>th</sup> % Queue (ft)
North Druid Hills Rd at Birch Rd	Signal Control	EBT	1.1	A	59	1.4	A	81	2.0	A	131
		EBR	0.8	A	10	0.9	A	12	1.0	A	33
		WBL	4.4	A	157	1.7	A	112	2.1	A	198
		WBT	4.9	A	130	1.7	A	59	2.2	A	148
		NBL	74.5	E	67	71.1	E	61	78.1	E	74
		NBR	66.6	E	5	68.5	E	13	66.6	E	13
		Intersection	4.4	A	-	2.8	A	-	3.5	A	-

The intersection of Birch Rd at North Druid Hills Rd (with estimated timings) is shown to operate at LOS A during the AM, MD and PM peak periods. Under these conditions the NB approaches from Birch Rd are shown to operate at LOS E. This approach LOS for the minor street is a result of the coordinated operation on the mainline.

In the existing conditions the shared WBT/L lane is shown to have 95<sup>th</sup> percentile queuing of 157-ft in the AM peak period, 112-ft in the MD peak period and 198-ft in the PM peak period. These queuing lengths are equivalent to approximately 5-8 vehicles queuing per cycle.

### Build Conditions Capacity Analysis

The proposed redistributed traffic volumes were also entered into a *Synchro* 10 model to perform capacity analysis of existing conditions for the AM, MD and PM peak periods. The results of the capacity analysis are shown by lane group movement in Table 2. Average vehicular delays and level-of service, as defined by the Highway Capacity Manual (HCM) 6<sup>th</sup> Edition are presented, and 95<sup>th</sup> percentile queues from *SimTraffic 10* are shown. Full *Synchro* output reports are included Appendix B. The estimated signal timings for the intersection at Birch Rd remained the same as the existing conditions analysis.

**Table 2: Build Conditions Capacity Analysis**

Intersection	Control	Lane Group Movement	AM Peak Hour			MD Peak Hour			PM Peak Hour		
			Delay (s)	LOS	95 <sup>th</sup> % Queue (ft)	Delay (s)	LOS	95 <sup>th</sup> % Queue (ft)	Delay (s)	LOS	95 <sup>th</sup> % Queue (ft)
North Druid Hills Rd at Birch Rd	Signal Control	EBT	1.3	A	85	1.7	A	92	2.2	A	125
		EBR	1.0	A	23	1.2	A	35	1.2	A	35
		WBL	6.6	A	262	2.4	A	207	3.0	A	289
		WBT	5.9	A	220	2.5	A	165	3.0	A	259
		NBL	77.9	E	95	75.6	E	88	76.1	E	90
		NBR	68.6	E	13	75.5	E	25	70.4	E	32
		Intersection	6.5	A	-	5.1	A	-	4.7	A	-

The intersection of Birch Rd at North Druid Hills Rd (with estimated timings) is shown to continue operate at LOS A during the AM, MD and PM peak periods with minor increases to the overall intersection delay. Under these conditions the NB approaches from Birch Rd continue to operate at LOS E with minor increases in delay and queuing.

In the build conditions the shared WBT/L lane is shown to have 95<sup>th</sup> percentile queuing of 262-ft in the AM peak period, 207-ft in the MD peak period and 289-ft in the PM peak period. These queuing lengths are equivalent to approximately 9-12 vehicles queuing per cycle.

### Conclusions and Recommendations

The increased turning movement volumes at the Birch Rd intersection generated by the Chick-fil-a relocation contribute to minor increases in delay and queuing at the intersection approaches. The overall intersection continues to operate at the same LOS A as in the existing conditions with minor increases to overall delay. The Birch Rd minor street approach also continues to operate at the same level of service as it does in the existing conditions. The shared WBT/L lane on North Druid Hills demonstrates increases in queuing equivalent to approximately 100-ft or 4 vehicles per cycle during the peak hour build conditions.

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**

# National Data & Surveying Services Intersection Turning Movement Count

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

**Project ID:** 21-180213-001  
**Date:** 8/10/2021

## Data - Total

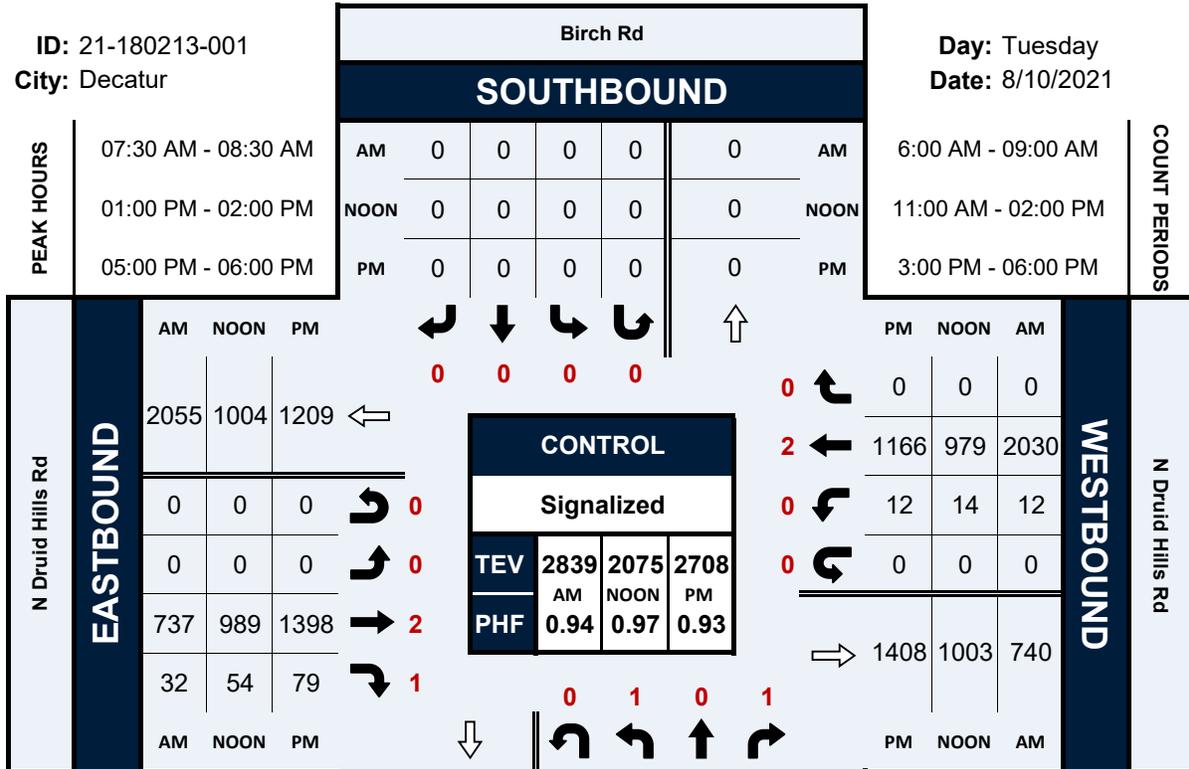
NS/EW Streets:	Birch Rd				Birch Rd				N Druid Hills Rd				N Druid Hills Rd				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	1 NL	0 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	2 ET	1 ER	0 EU	0 WL	2 WT	0 WR	0 WU	TOTAL
6:00 AM	1	0	0	0	0	0	0	0	0	58	2	0	0	211	0	0	272
6:15 AM	1	0	0	0	0	0	0	0	0	98	3	0	4	287	0	0	393
6:30 AM	0	0	0	0	0	0	0	0	0	99	0	0	0	362	0	0	461
6:45 AM	3	0	0	0	0	0	0	0	0	107	4	0	3	419	0	0	536
7:00 AM	1	0	0	0	0	0	0	0	0	127	4	0	0	405	0	0	537
7:15 AM	3	0	0	0	0	0	0	0	0	153	2	0	2	443	0	0	603
7:30 AM	2	0	2	0	0	0	0	0	0	192	9	0	2	549	0	0	756
7:45 AM	7	0	0	0	0	0	0	0	0	181	9	0	5	535	0	0	737
8:00 AM	4	0	0	0	0	0	0	0	0	167	7	0	3	475	0	0	656
8:15 AM	12	0	1	0	0	0	0	0	0	197	7	0	2	471	0	0	690
8:30 AM	6	0	0	0	0	0	0	0	0	191	9	0	1	525	0	0	732
8:45 AM	3	0	0	0	0	0	0	0	0	159	6	0	3	480	0	0	651
<b>TOTAL VOLUMES :</b>	43	0	3	0	0	0	0	0	0	1729	62	0	25	5162	0	0	7024
<b>APPROACH %'s :</b>	93.48%	0.00%	6.52%	0.00%					0.00%	96.54%	3.46%	0.00%	0.48%	99.52%	0.00%	0.00%	
<b>PEAK HR :</b>	07:30 AM - 08:30 AM																
<b>PEAK HR VOL :</b>	25	0	3	0	0	0	0	0	0	737	32	0	12	2030	0	0	2839
<b>PEAK HR FACTOR :</b>	0.521	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.935	0.889	0.000	0.600	0.924	0.000	0.000	0.939
	0.538																
	0.942																
	0.926																
NOON	1 NL	0 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	2 ET	1 ER	0 EU	0 WL	2 WT	0 WR	0 WU	TOTAL
11:00 AM	8	0	2	0	0	0	0	0	0	192	7	0	5	263	0	0	477
11:15 AM	7	0	2	0	0	0	0	0	0	231	10	0	1	236	0	0	487
11:30 AM	6	0	2	0	0	0	0	0	0	195	7	0	4	245	0	0	459
11:45 AM	12	0	2	0	0	0	0	0	0	215	7	0	6	270	0	0	512
12:00 PM	7	0	5	0	0	0	0	0	0	215	11	0	2	222	0	0	462
12:15 PM	5	0	5	0	0	0	0	0	0	211	8	0	4	240	0	0	473
12:30 PM	6	0	2	0	0	0	0	0	0	243	5	1	6	261	0	1	525
12:45 PM	8	0	3	0	0	0	0	0	0	225	11	0	2	255	0	0	504
1:00 PM	6	0	3	0	0	0	0	0	0	252	19	0	3	226	0	0	509
1:15 PM	5	0	2	0	0	0	0	0	0	251	9	0	3	232	0	0	502
1:30 PM	8	0	1	0	0	0	0	0	0	247	12	0	4	256	0	0	528
1:45 PM	6	0	8	0	0	0	0	0	0	239	14	0	4	265	0	0	536
<b>TOTAL VOLUMES :</b>	84	0	37	0	0	0	0	0	0	2716	120	1	44	2971	0	1	5974
<b>APPROACH %'s :</b>	69.42%	0.00%	30.58%	0.00%					0.00%	95.73%	4.23%	0.04%	1.46%	98.51%	0.00%	0.03%	
<b>PEAK HR :</b>	01:00 PM - 02:00 PM																
<b>PEAK HR VOL :</b>	25	0	14	0	0	0	0	0	0	989	54	0	14	979	0	0	2075
<b>PEAK HR FACTOR :</b>	0.781	0.000	0.438	0.000	0.000	0.000	0.000	0.000	0.000	0.981	0.711	0.000	0.875	0.924	0.000	0.000	0.968
	0.696																
	0.962																
	0.923																
PM	1 NL	0 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	2 ET	1 ER	0 EU	0 WL	2 WT	0 WR	0 WU	TOTAL
3:00 PM	7	0	3	0	0	0	0	0	0	342	17	0	1	238	0	0	608
3:15 PM	8	0	1	0	0	0	0	0	0	379	9	0	4	249	0	0	650
3:30 PM	11	0	6	0	0	0	0	0	0	403	20	0	2	191	0	0	633
3:45 PM	11	0	7	0	0	0	0	0	0	354	16	0	3	223	0	0	614
4:00 PM	15	0	3	0	0	0	0	0	0	343	17	0	6	227	0	0	611
4:15 PM	7	0	1	0	0	0	0	0	0	330	23	0	4	302	0	0	667
4:30 PM	11	0	4	0	0	0	0	0	0	331	23	0	3	234	0	1	607
4:45 PM	15	0	6	0	0	0	0	0	0	352	24	0	1	239	0	0	637
5:00 PM	14	0	3	0	0	0	0	0	0	317	29	0	6	254	0	0	623
5:15 PM	8	0	4	0	0	0	0	0	0	350	16	0	1	263	0	0	642
5:30 PM	9	0	1	0	0	0	0	0	0	381	17	0	1	322	0	0	731
5:45 PM	12	0	2	0	0	0	0	0	0	350	17	0	4	327	0	0	712
<b>TOTAL VOLUMES :</b>	128	0	41	0	0	0	0	0	0	4232	228	0	36	3069	0	1	7735
<b>APPROACH %'s :</b>	75.74%	0.00%	24.26%	0.00%					0.00%	94.89%	5.11%	0.00%	1.16%	98.81%	0.00%	0.03%	
<b>PEAK HR :</b>	05:00 PM - 06:00 PM																
<b>PEAK HR VOL :</b>	43	0	10	0	0	0	0	0	0	1398	79	0	12	1166	0	0	2708
<b>PEAK HR FACTOR :</b>	0.768	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.917	0.681	0.000	0.500	0.891	0.000	0.000	0.926
	0.779																
	0.928																
	0.890																

# Birch Rd & N Druid Hills Rd

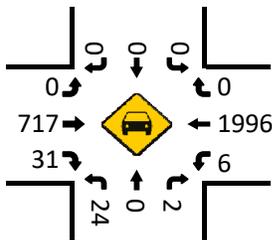
## Peak Hour Turning Movement Count

ID: 21-180213-001  
 City: Decatur

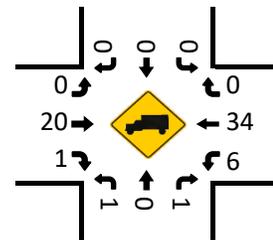
Day: Tuesday  
 Date: 8/10/2021



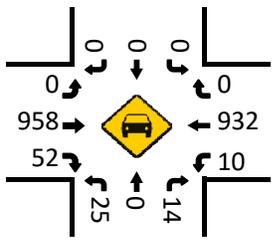
**Cars (AM)**



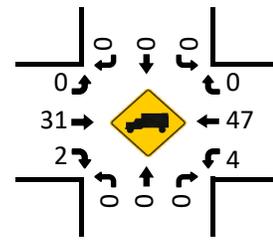
**HT (AM)**



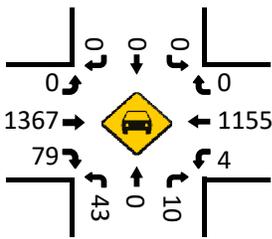
**Cars (NOON)**



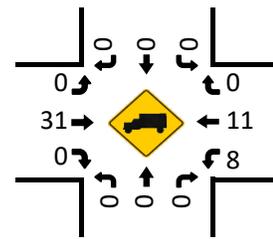
**HT (NOON)**



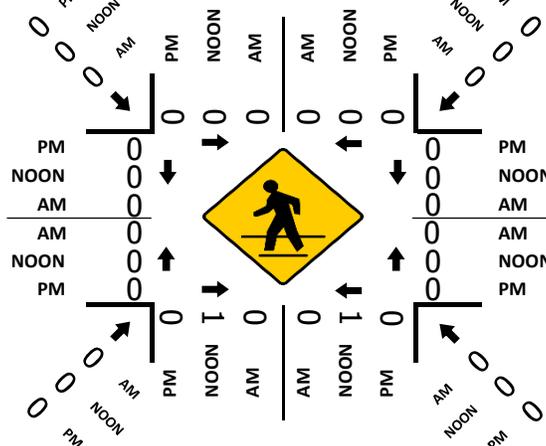
**Cars (PM)**



**HT (PM)**



**Pedestrians (Crosswalks)**



# 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

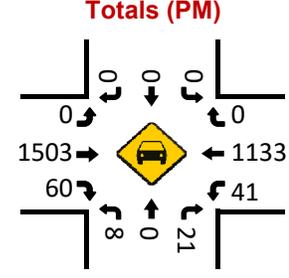
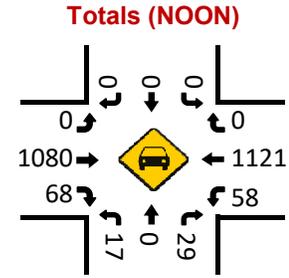
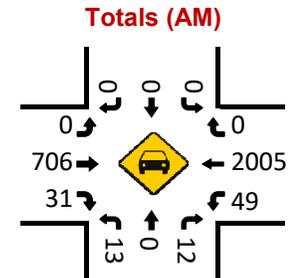
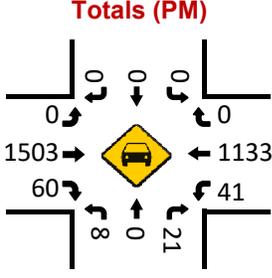
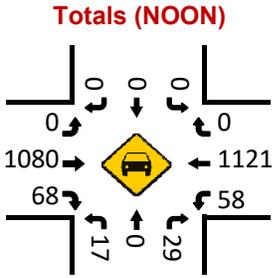
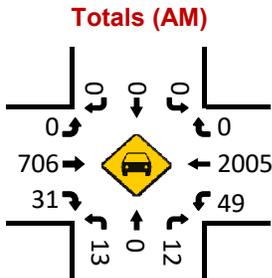
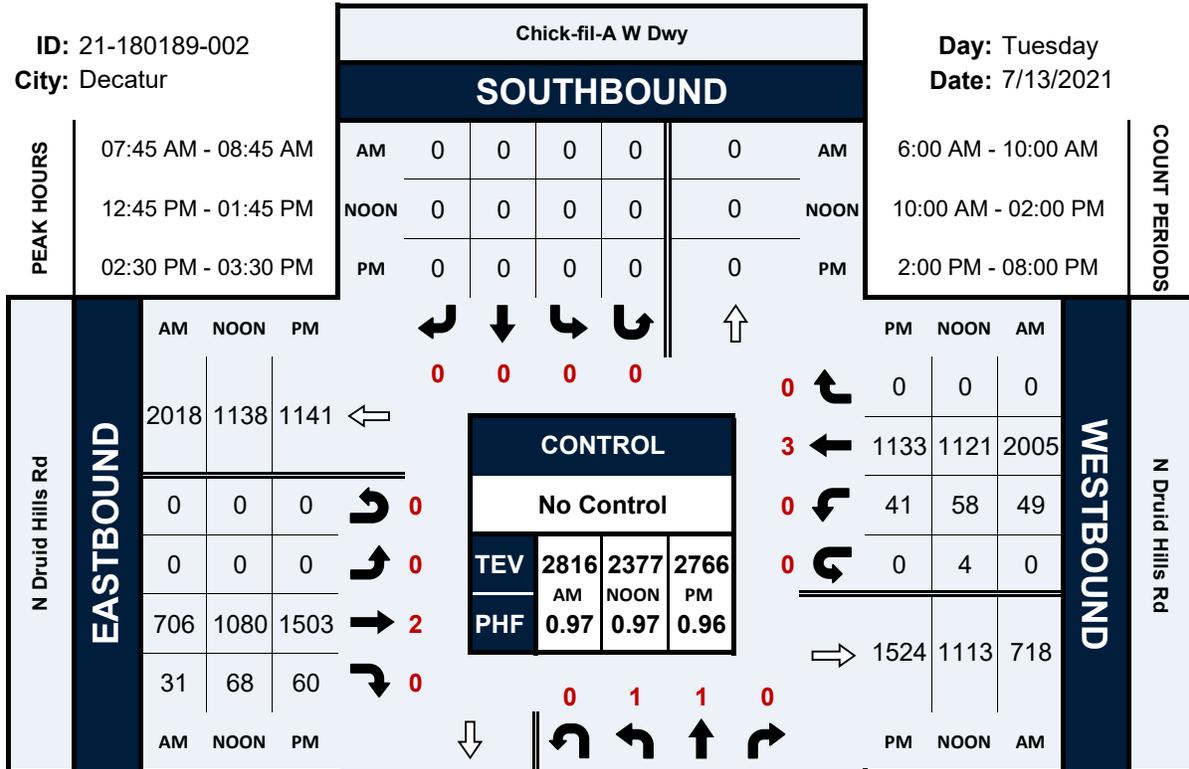
NS/EW Streets:	Chick-fil-A W Dwy				Chick-fil-A W Dwy				N Druid Hills Rd				N Druid Hills Rd				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	1 NL	1 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	2 ET	0 ER	0 EU	0 WL	3 WT	0 WR	0 WU	
6:00 AM	0	0	0	0	0	0	0	0	0	47	0	0	9	187	0	0	243
6:15 AM	1	0	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>	NL 45	NT 0	NR 43	NU 0	SL 0	ST 0	SR 0	SU 0	EL 0	ET 2354	ER 133	EU 0	WL 211	WT 6299	WR 0	WU 0	TOTAL 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>	<b>07:45 AM - 08:45 AM</b>																
<b>PEAK HR VOL :</b>	13	0	12	0	0	0	0	0	0	706	31	0	49	2005	0	0	TOTAL 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																
NOON	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	TOTAL
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>	NL 59	NT 0	NR 97	NU 0	SL 0	ST 0	SR 0	SU 0	EL 0	ET 3815	ER 226	EU 0	WL 237	WT 4236	WR 0	WU 6	TOTAL 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>	<b>12:45 PM - 01:45 PM</b>																
<b>PEAK HR VOL :</b>	17	0	29	0	0	0	0	0	0	1080	68	0	58	1121	0	4	TOTAL 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																
PM	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	TOTAL
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>	NL 43	NT 0	NR 94	NU 0	SL 0	ST 0	SR 0	SU 0	EL 0	ET 8439	ER 291	EU 2	WL 213	WT 5958	WR 0	WU 2	TOTAL 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>	<b>02:30 PM - 03:30 PM</b>																
<b>PEAK HR VOL :</b>	8	0	21	0	0	0	0	0	0	1503	60	0	41	1133	0	0	TOTAL 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																

# 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



# 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

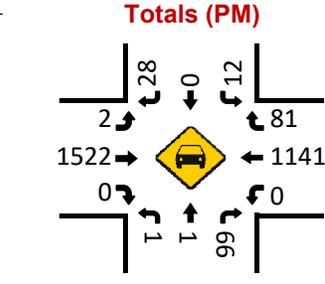
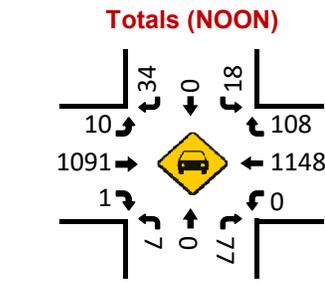
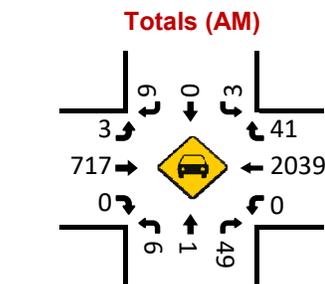
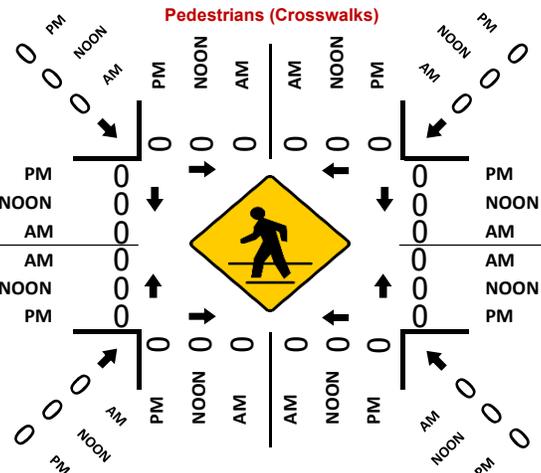
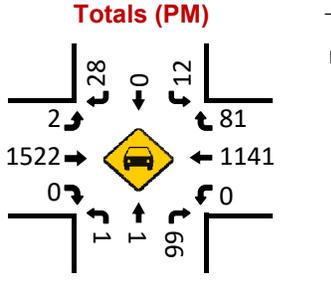
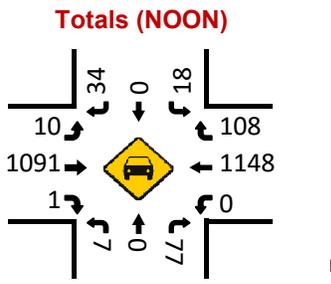
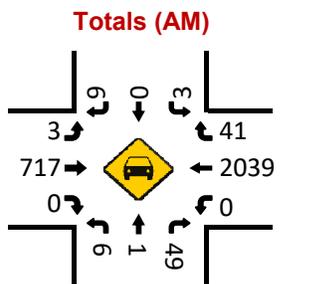
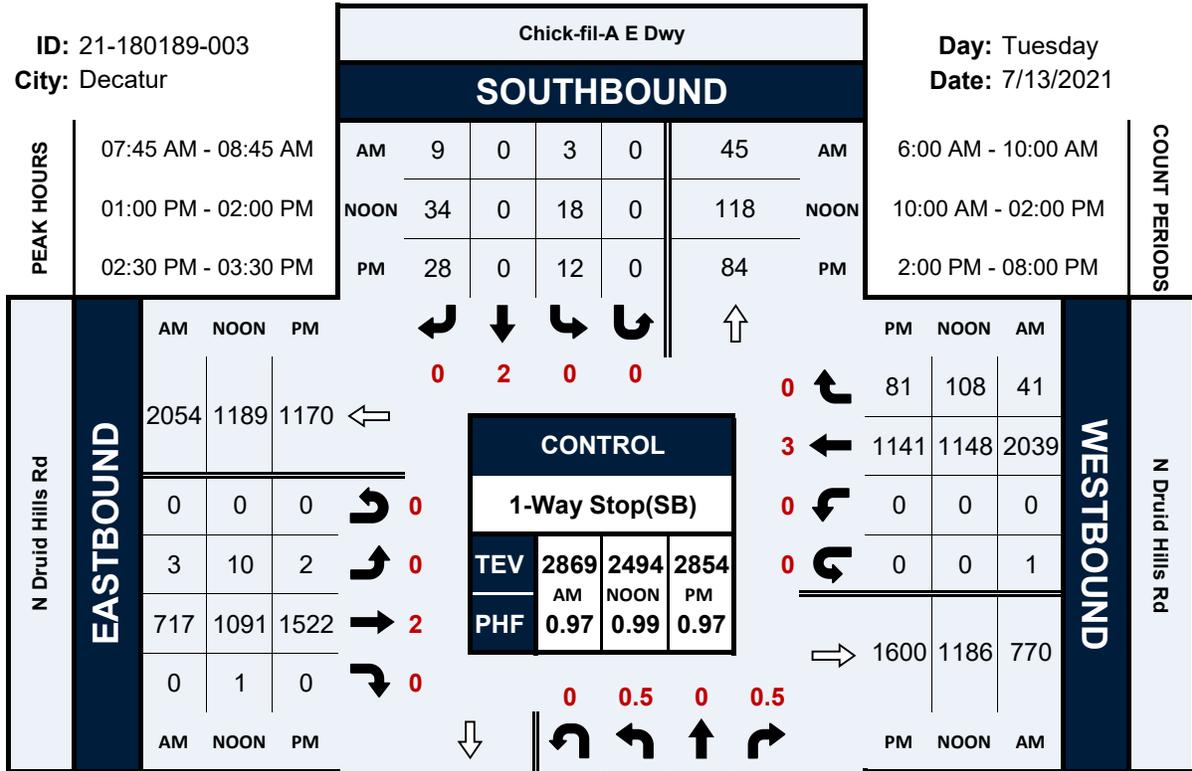
NS/EW Streets:	Chick-fil-A E Dwy				Chick-fil-A E Dwy				N Druid Hills Rd				N Druid Hills Rd				
<b>AM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
6:00 AM	1	0	5	0	0	0	0	0	0	48	0	0	0	199	1	0	254
6:15 AM	2	1	9	0	0	0	0	0	0	76	0	0	0	274	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>TOTAL</b>
<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				
<b>NOON</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	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>TOTAL</b>
<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				
<b>PM</b>	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	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>TOTAL</b>
<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				

# 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



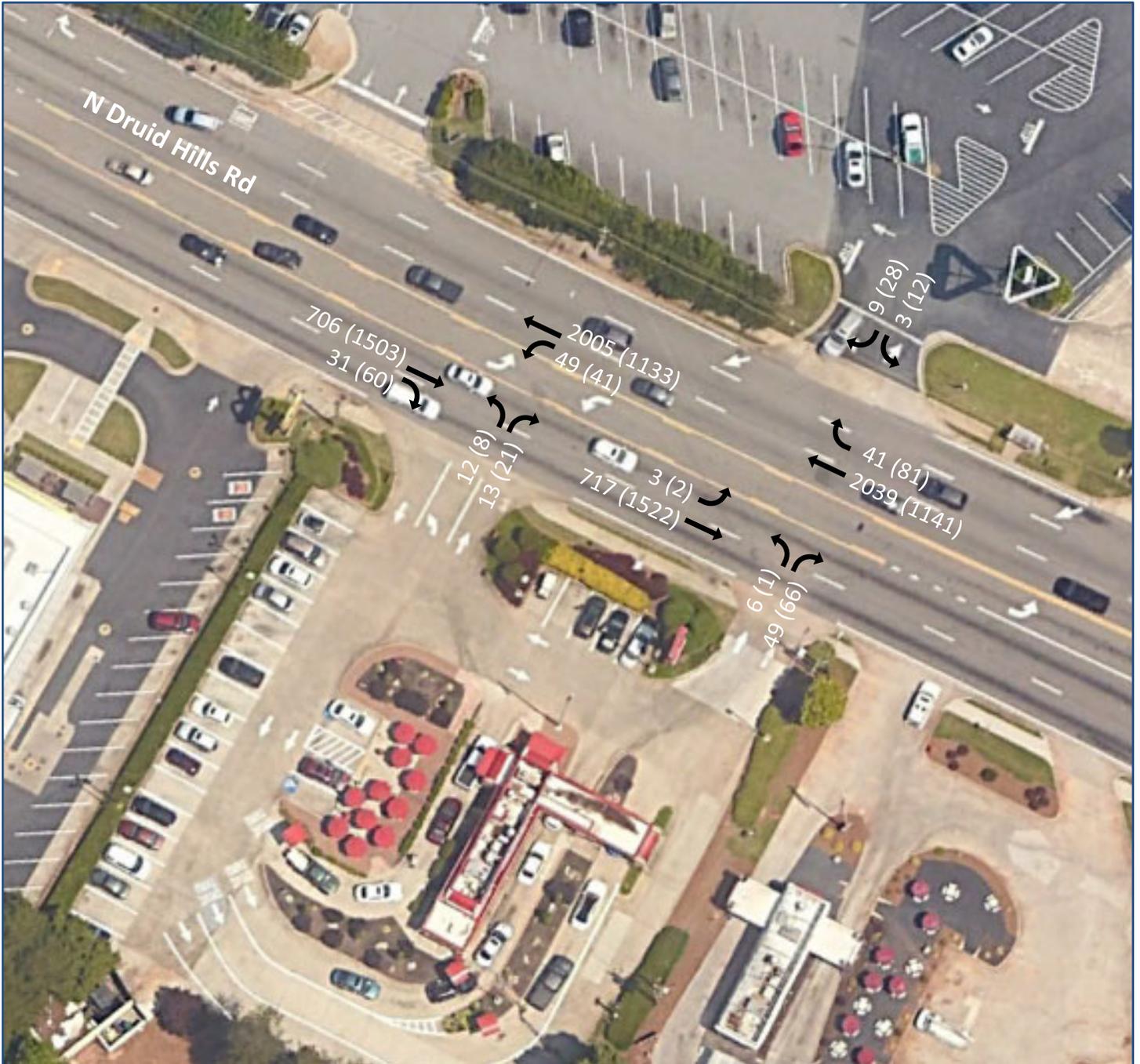
# Figure 1: Peak Hour Turning Movement Counts

## (##) → AM (PM) Traffic Volumes

AM peak hour of driveways 7:45-8:45am  
 PM peak hour of driveways 2:30-3:30pm



AM (PM) Peak Hour Turning movement counts – Existing Chick-fil-a Driveways on North Druid Hills Rd



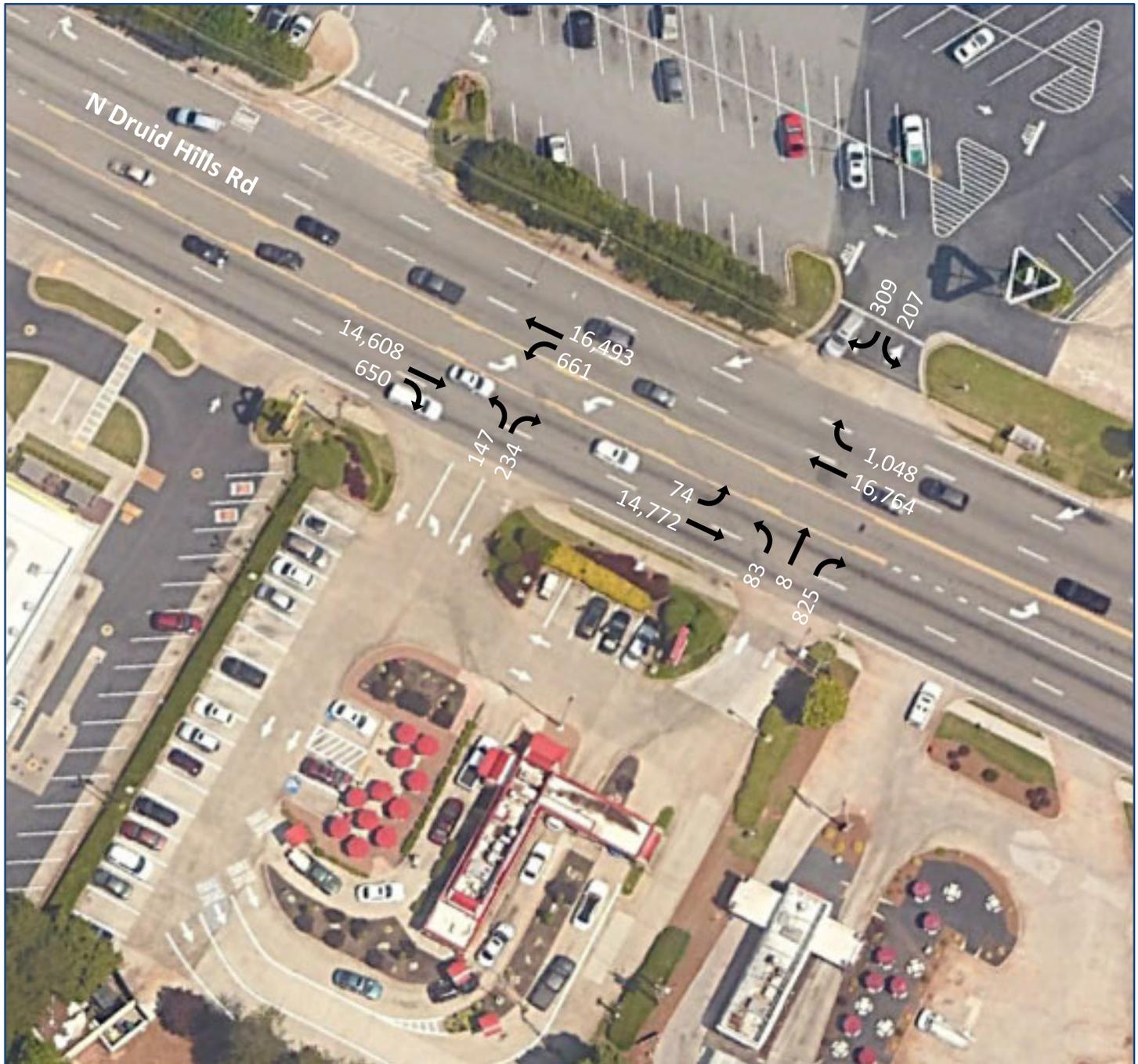
# Figure 2: 14-Hour Turning Movement Counts

## (##) → AM (PM) Traffic Volumes

14-hour counts collected 6:00am to 8:00pm



Total 14-hour Turning movement counts – Existing Chick-fil-a Driveways on North Druid Hills Rd



**Appendix B: Synchro Analysis**

# HCM 6th Signalized Intersection Summary

## 1: Birch Rd & North Druid Hills

08/16/2021



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑	↑	↑
Traffic Volume (veh/h)	737	32	12	2030	25	3
Future Volume (veh/h)	737	32	12	2030	25	3
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	801	35	13	2207	27	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3195	1425	34	3113	53	47
Arrive On Green	0.90	0.90	0.90	0.90	0.03	0.03
Sat Flow, veh/h	3647	1585	9	3548	1781	1585
Grp Volume(v), veh/h	801	35	1191	1029	27	3
Grp Sat Flow(s),veh/h/ln	1777	1585	1854	1617	1781	1585
Q Serve(g_s), s	4.1	0.3	0.0	24.7	2.1	0.3
Cycle Q Clear(g_c), s	4.1	0.3	24.8	24.7	2.1	0.3
Prop In Lane		1.00	0.01		1.00	1.00
Lane Grp Cap(c), veh/h	3195	1425	1693	1454	53	47
V/C Ratio(X)	0.25	0.02	0.70	0.71	0.51	0.06
Avail Cap(c_a), veh/h	3195	1425	1693	1454	254	226
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.9	0.7	2.0	2.0	66.9	66.1
Incr Delay (d2), s/veh	0.2	0.0	2.5	2.9	7.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	3.1	2.9	1.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	1.1	0.8	4.4	4.9	74.5	66.6
LnGrp LOS	A	A	A	A	E	E
Approach Vol, veh/h	836			2220	30	
Approach Delay, s/veh	1.1			4.7	73.7	
Approach LOS	A			A	E	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		130.9		9.1		130.9
Change Period (Y+Rc), s		5.0		5.0		5.0
Max Green Setting (Gmax), s		110.0		20.0		110.0
Max Q Clear Time (g_c+I1), s		26.8		4.1		6.1
Green Ext Time (p_c), s		43.5		0.0		6.4
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			4.4			
HCM 6th LOS			A			

Intersection: 1: Birch Rd & North Druid Hills

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	T	T	R	LT	T	L	R
Maximum Queue (ft)	96	52	22	205	179	90	12
Average Queue (ft)	17	5	1	59	44	24	1
95th Queue (ft)	59	26	10	157	130	67	5
Link Distance (ft)	804	804		1048	1048	311	311
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			85				
Storage Blk Time (%)		0					
Queuing Penalty (veh)		0					

Network Summary

Network wide Queuing Penalty: 0

# HCM 6th Signalized Intersection Summary

## 1: Birch Rd & North Druid Hills

08/16/2021



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑	↑	↑
Traffic Volume (veh/h)	989	54	14	979	25	14
Future Volume (veh/h)	989	54	14	979	25	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1075	59	15	1064	27	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3177	1417	48	3037	61	55
Arrive On Green	0.89	0.89	0.89	0.89	0.03	0.03
Sat Flow, veh/h	3647	1585	24	3482	1781	1585
Grp Volume(v), veh/h	1075	59	569	510	27	15
Grp Sat Flow(s),veh/h/ln	1777	1585	1804	1617	1781	1585
Q Serve(g_s), s	6.4	0.6	0.0	6.8	2.1	1.3
Cycle Q Clear(g_c), s	6.4	0.6	6.5	6.8	2.1	1.3
Prop In Lane		1.00	0.03		1.00	1.00
Lane Grp Cap(c), veh/h	3177	1417	1639	1446	61	55
V/C Ratio(X)	0.34	0.04	0.35	0.35	0.44	0.27
Avail Cap(c_a), veh/h	3177	1417	1639	1446	254	226
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	1.1	0.8	1.1	1.1	66.3	65.9
Incr Delay (d2), s/veh	0.3	0.1	0.6	0.7	4.9	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.1	0.9	0.9	1.0	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	1.4	0.9	1.7	1.8	71.1	68.5
LnGrp LOS	A	A	A	A	E	E
Approach Vol, veh/h	1134			1079	42	
Approach Delay, s/veh	1.4			1.8	70.2	
Approach LOS	A			A	E	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		130.2		9.8		130.2
Change Period (Y+Rc), s		5.0		5.0		5.0
Max Green Setting (Gmax), s		110.0		20.0		110.0
Max Q Clear Time (g_c+I1), s		8.8		4.1		8.4
Green Ext Time (p_c), s		8.7		0.1		10.0
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			2.8			
HCM 6th LOS			A			

Intersection: 1: Birch Rd & North Druid Hills

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	T	T	R	LT	T	L	R
Maximum Queue (ft)	109	76	21	146	109	84	25
Average Queue (ft)	27	14	2	41	13	23	2
95th Queue (ft)	81	51	12	112	59	61	13
Link Distance (ft)	804	804		1048	1048	311	311
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			85				
Storage Blk Time (%)		0					
Queuing Penalty (veh)		0					

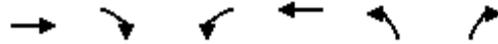
Network Summary

Network wide Queuing Penalty: 0

# HCM 6th Signalized Intersection Summary

## 1: Birch Rd & North Druid Hills

08/16/2021



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑	↑	↑
Traffic Volume (veh/h)	1398	79	12	1166	43	10
Future Volume (veh/h)	1398	79	12	1166	43	10
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1520	86	13	1267	47	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3164	1411	39	3029	68	61
Arrive On Green	0.89	0.89	0.89	0.89	0.04	0.04
Sat Flow, veh/h	3647	1585	14	3488	1781	1585
Grp Volume(v), veh/h	1520	86	676	604	47	11
Grp Sat Flow(s),veh/h/ln	1777	1585	1800	1617	1781	1585
Q Serve(g_s), s	11.5	0.9	0.0	9.2	3.6	0.9
Cycle Q Clear(g_c), s	11.5	0.9	8.7	9.2	3.6	0.9
Prop In Lane		1.00	0.02		1.00	1.00
Lane Grp Cap(c), veh/h	3164	1411	1629	1439	68	61
V/C Ratio(X)	0.48	0.06	0.41	0.42	0.69	0.18
Avail Cap(c_a), veh/h	3164	1411	1629	1439	254	226
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	1.5	0.9	1.3	1.3	66.5	65.2
Incr Delay (d2), s/veh	0.5	0.1	0.8	0.9	11.6	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.1	1.3	1.3	1.9	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	2.0	1.0	2.1	2.2	78.1	66.6
LnGrp LOS	A	A	A	A	E	E
Approach Vol, veh/h	1606			1280	58	
Approach Delay, s/veh	1.9			2.2	75.9	
Approach LOS	A			A	E	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		129.6		10.4		129.6
Change Period (Y+Rc), s		5.0		5.0		5.0
Max Green Setting (Gmax), s		110.0		20.0		110.0
Max Q Clear Time (g_c+I1), s		11.2		5.6		13.5
Green Ext Time (p_c), s		11.9		0.1		19.1
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			3.5			
HCM 6th LOS			A			

Intersection: 1: Birch Rd & North Druid Hills

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	T	T	R	LT	T	L	R
Maximum Queue (ft)	159	158	52	278	240	85	25
Average Queue (ft)	56	36	7	72	43	37	2
95th Queue (ft)	131	103	33	198	148	74	13
Link Distance (ft)	804	804		1048	1048	311	311
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			85				
Storage Blk Time (%)		1					
Queuing Penalty (veh)		1					

Network Summary

Network wide Queuing Penalty: 1

# HCM 6th Signalized Intersection Summary

## 1: Birch Rd & North Druid Hills

08/16/2021



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑	↑	↑
Traffic Volume (veh/h)	737	59	61	2030	46	20
Future Volume (veh/h)	737	59	61	2030	46	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	801	64	66	2207	50	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3157	1408	95	2898	72	64
Arrive On Green	0.89	0.89	0.89	0.89	0.04	0.04
Sat Flow, veh/h	3647	1585	77	3347	1781	1585
Grp Volume(v), veh/h	801	64	1220	1053	50	22
Grp Sat Flow(s),veh/h/ln	1777	1585	1722	1617	1781	1585
Q Serve(g_s), s	4.5	0.7	12.8	29.2	3.9	1.9
Cycle Q Clear(g_c), s	4.5	0.7	32.8	29.2	3.9	1.9
Prop In Lane		1.00	0.05		1.00	1.00
Lane Grp Cap(c), veh/h	3157	1408	1557	1436	72	64
V/C Ratio(X)	0.25	0.05	0.78	0.73	0.70	0.34
Avail Cap(c_a), veh/h	3157	1408	1557	1436	254	226
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	1.1	0.9	2.6	2.5	66.3	65.4
Incr Delay (d2), s/veh	0.2	0.1	4.0	3.4	11.5	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.1	5.3	4.4	2.0	0.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	1.3	1.0	6.6	5.9	77.9	68.6
LnGrp LOS	A	A	A	A	E	E
Approach Vol, veh/h	865			2273	72	
Approach Delay, s/veh	1.3			6.2	75.0	
Approach LOS	A			A	E	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		129.4		10.6		129.4
Change Period (Y+Rc), s		5.0		5.0		5.0
Max Green Setting (Gmax), s		110.0		20.0		110.0
Max Q Clear Time (g_c+I1), s		34.8		5.9		6.5
Green Ext Time (p_c), s		45.3		0.1		6.5
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			6.5			
HCM 6th LOS			A			

Intersection: 1: Birch Rd & North Druid Hills

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	T	T	R	LT	T	L	R
Maximum Queue (ft)	101	56	32	304	278	111	23
Average Queue (ft)	32	11	5	127	86	41	2
95th Queue (ft)	85	44	23	262	220	95	13
Link Distance (ft)	804	804		1048	1048	311	311
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			85				
Storage Blk Time (%)		0					
Queuing Penalty (veh)		0					

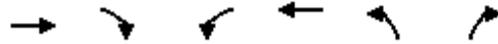
Network Summary

Network wide Queuing Penalty: 0

# HCM 6th Signalized Intersection Summary

## 1: Birch Rd & North Druid Hills

08/16/2021



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑	↑	↑
Traffic Volume (veh/h)	989	115	72	979	51	43
Future Volume (veh/h)	989	115	72	979	51	43
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1075	125	78	1064	55	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3139	1400	184	2460	81	72
Arrive On Green	0.88	0.88	0.88	0.88	0.05	0.05
Sat Flow, veh/h	3647	1585	175	2870	1781	1585
Grp Volume(v), veh/h	1075	125	521	621	55	47
Grp Sat Flow(s),veh/h/ln	1777	1585	1343	1617	1781	1585
Q Serve(g_s), s	7.1	1.4	0.0	10.2	4.3	4.1
Cycle Q Clear(g_c), s	7.1	1.4	6.3	10.2	4.3	4.1
Prop In Lane		1.00	0.15		1.00	1.00
Lane Grp Cap(c), veh/h	3139	1400	1216	1428	81	72
V/C Ratio(X)	0.34	0.09	0.43	0.43	0.68	0.66
Avail Cap(c_a), veh/h	3139	1400	1216	1428	254	226
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	1.4	1.0	1.3	1.5	65.8	65.8
Incr Delay (d2), s/veh	0.3	0.1	1.1	1.0	9.7	9.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.2	1.3	1.6	2.2	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	1.7	1.2	2.4	2.5	75.6	75.5
LnGrp LOS	A	A	A	A	E	E
Approach Vol, veh/h	1200			1142	102	
Approach Delay, s/veh	1.6			2.5	75.5	
Approach LOS	A			A	E	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		128.7		11.3		128.7
Change Period (Y+Rc), s		5.0		5.0		5.0
Max Green Setting (Gmax), s		110.0		20.0		110.0
Max Q Clear Time (g_c+I1), s		12.2		6.3		9.1
Green Ext Time (p_c), s		11.1		0.2		10.4
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			5.1			
HCM 6th LOS			A			

Intersection: 1: Birch Rd & North Druid Hills

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	T	T	R	LT	T	L	R
Maximum Queue (ft)	104	78	47	275	230	110	38
Average Queue (ft)	37	16	11	104	52	40	7
95th Queue (ft)	92	55	35	207	165	88	25
Link Distance (ft)	804	804		1048	1048	311	311
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			85				
Storage Blk Time (%)		0					
Queuing Penalty (veh)		0					

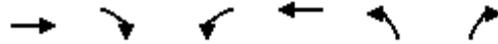
Network Summary

Network wide Queuing Penalty: 0

# HCM 6th Signalized Intersection Summary

## 1: Birch Rd & North Druid Hills

08/16/2021



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑		↑↑	↑	↑
Traffic Volume (veh/h)	1398	132	57	1166	53	34
Future Volume (veh/h)	1398	132	57	1166	53	34
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1520	143	62	1267	58	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	3135	1398	122	2489	83	74
Arrive On Green	0.88	0.88	0.88	0.88	0.05	0.05
Sat Flow, veh/h	3647	1585	106	2907	1781	1585
Grp Volume(v), veh/h	1520	143	608	721	58	37
Grp Sat Flow(s),veh/h/ln	1777	1585	1311	1617	1781	1585
Q Serve(g_s), s	12.3	1.6	0.0	13.3	4.5	3.2
Cycle Q Clear(g_c), s	12.3	1.6	8.0	13.3	4.5	3.2
Prop In Lane		1.00	0.10		1.00	1.00
Lane Grp Cap(c), veh/h	3135	1398	1185	1426	83	74
V/C Ratio(X)	0.48	0.10	0.51	0.51	0.70	0.50
Avail Cap(c_a), veh/h	3135	1398	1185	1426	254	226
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	1.7	1.1	1.4	1.8	65.8	65.2
Incr Delay (d2), s/veh	0.5	0.1	1.6	1.3	10.3	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.2	1.6	2.1	2.3	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	2.2	1.2	3.0	3.0	76.1	70.4
LnGrp LOS	A	A	A	A	E	E
Approach Vol, veh/h	1663			1329	95	
Approach Delay, s/veh	2.2			3.0	73.9	
Approach LOS	A			A	E	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		128.5		11.5		128.5
Change Period (Y+Rc), s		5.0		5.0		5.0
Max Green Setting (Gmax), s		110.0		20.0		110.0
Max Q Clear Time (g_c+I1), s		15.3		6.5		14.3
Green Ext Time (p_c), s		15.6		0.2		19.7
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			4.7			
HCM 6th LOS			A			

Intersection: 1: Birch Rd & North Druid Hills

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	T	T	R	LT	T	L	R
Maximum Queue (ft)	132	128	48	317	280	104	48
Average Queue (ft)	56	31	11	150	104	43	10
95th Queue (ft)	125	87	35	289	259	90	32
Link Distance (ft)	804	804		1048	1048	311	311
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			85				
Storage Blk Time (%)		1	0				
Queuing Penalty (veh)		1	0				

Network Summary

Network wide Queuing Penalty: 1