

Arnold Mill Rd Corridor Study – Appendix



Prepared For:
Cherokee County



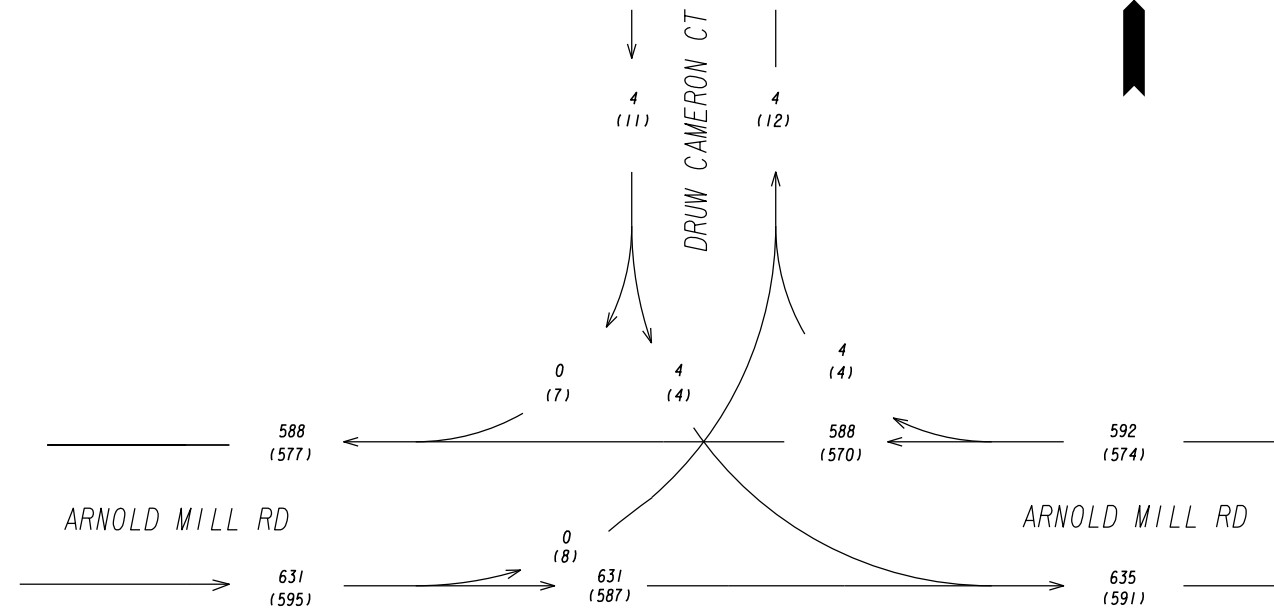
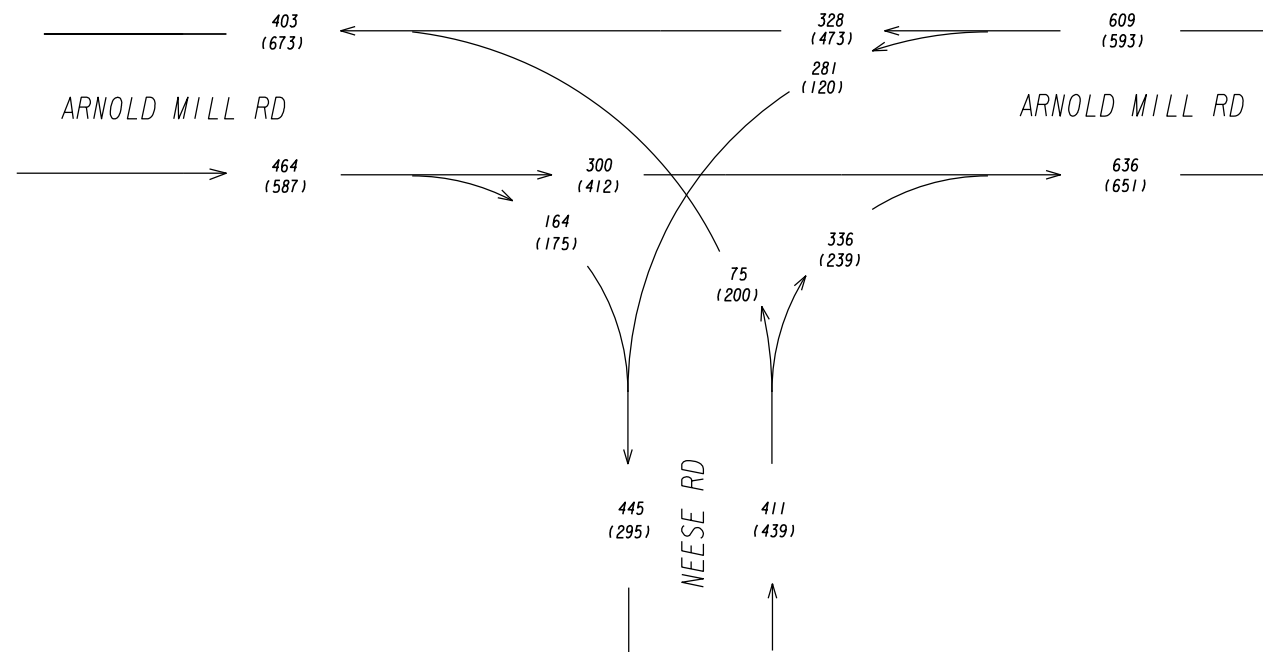
Prepared By:
Lowe Engineers



1/22/2021

Appendix A: Traffic Diagrams and Traffic Count Data





2019 DHV
AM (PM)

NOT TO SCALE

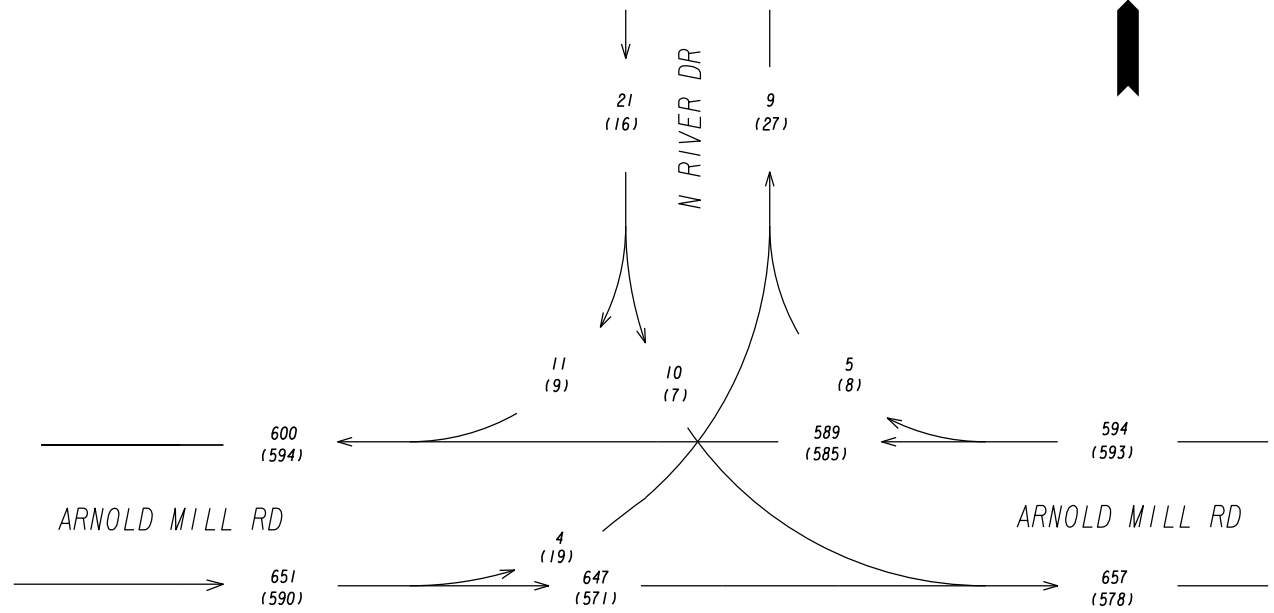
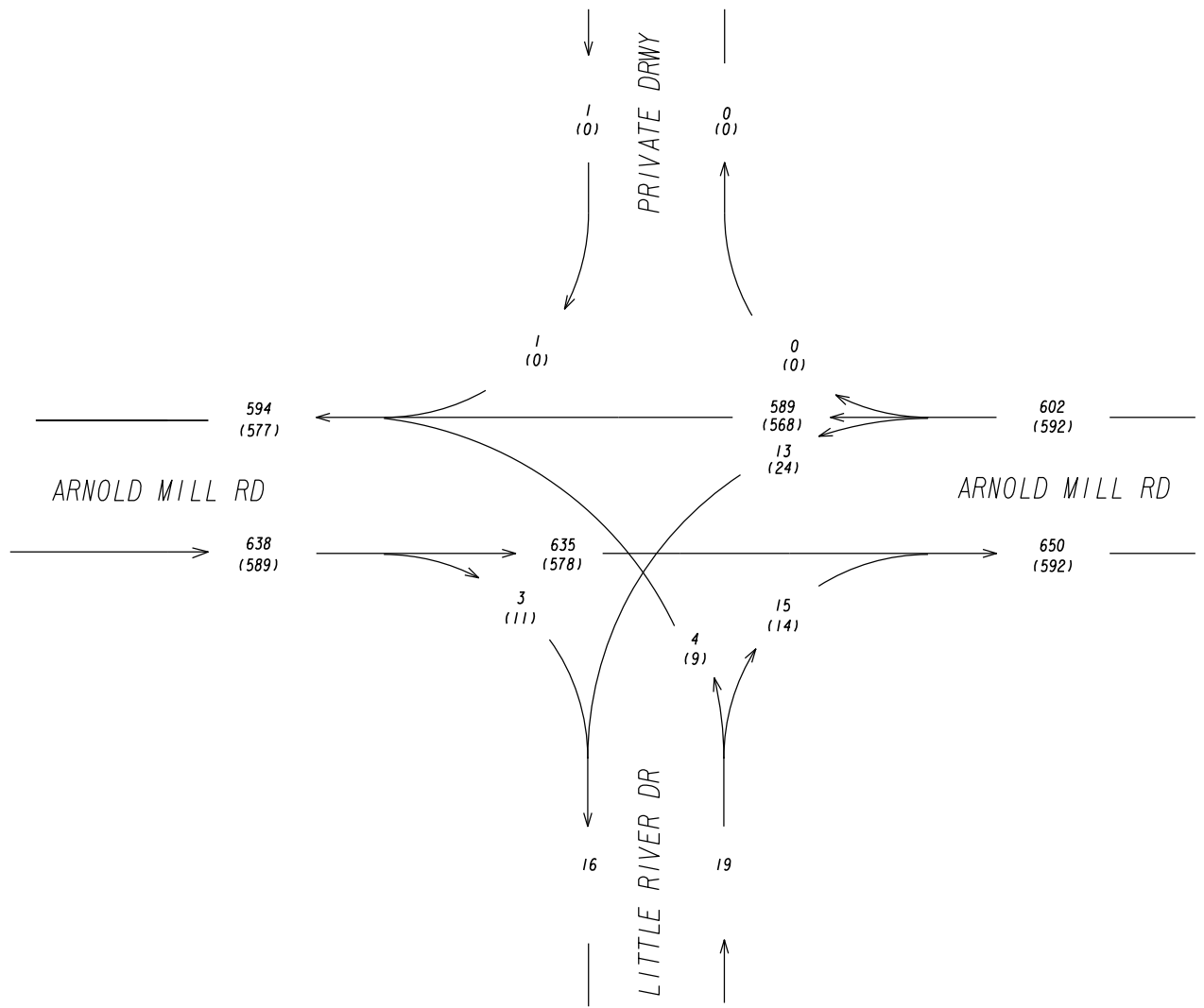
REVISION DATES

No.	Date	Description

TRAFFIC DIAGRAM
ARNOLD MILL RD @ NEESE RD
ARNOLD MILL RD @ DRUW CAMERON CT

CHECKED:	DATE:
BACKCHECKED:	DATE:
CORRECTED:	DATE:
VERIFIED:	DATE:

DRAWING No.
10-0001



2019 DHV
AM (PM)

NOT TO SCALE

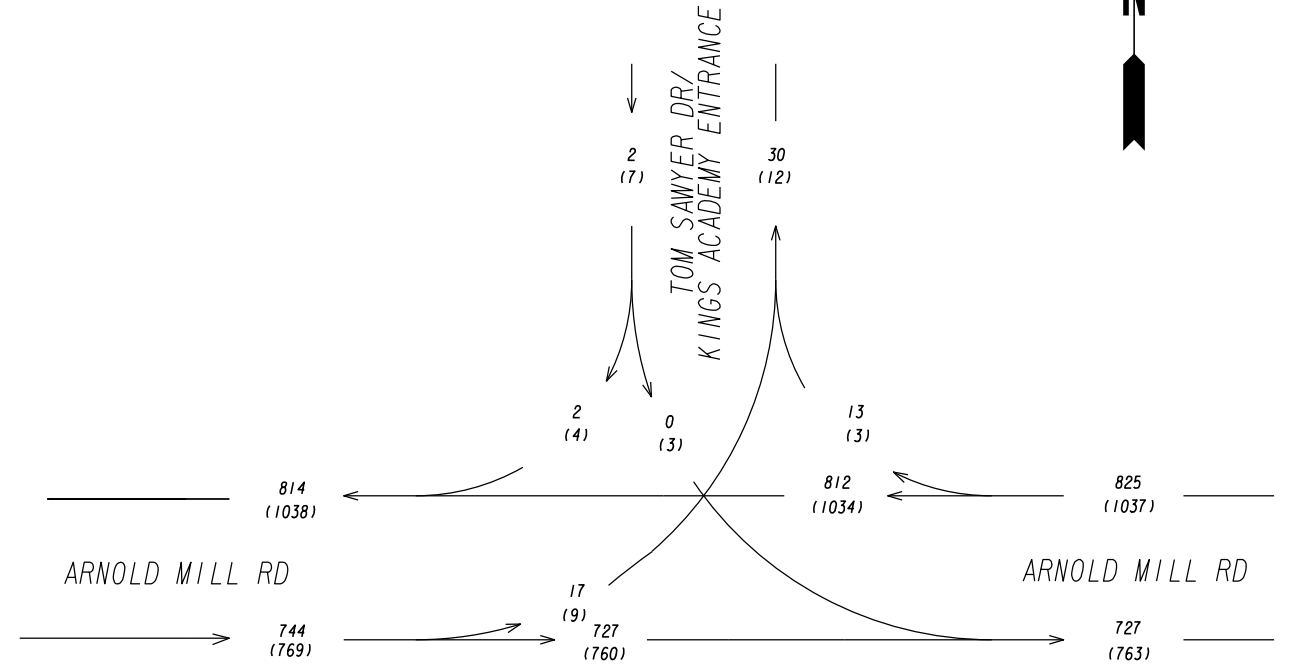
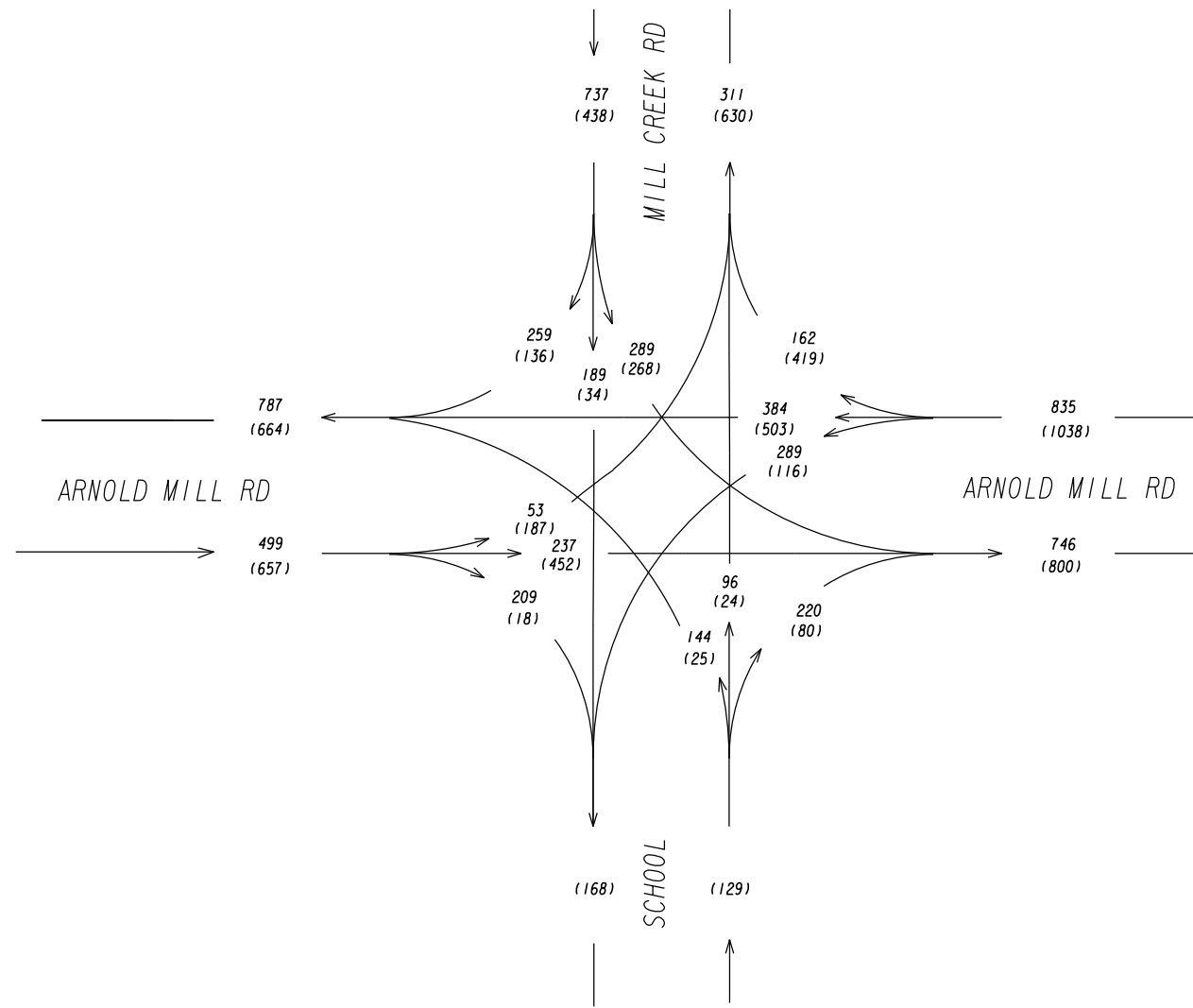
REVISION DATES

No.	Date	Description

TRAFFIC DIAGRAM
ARNOLD MILL RD @ LITTLE RIVER DR
ARNOLD MILL RD @ N RIVER DR

CHECKED:	DATE:
BACKCHECKED:	DATE:
CORRECTED:	DATE:
VERIFIED:	DATE:

DRAWING No.
10-0002



2019 AM (PM)

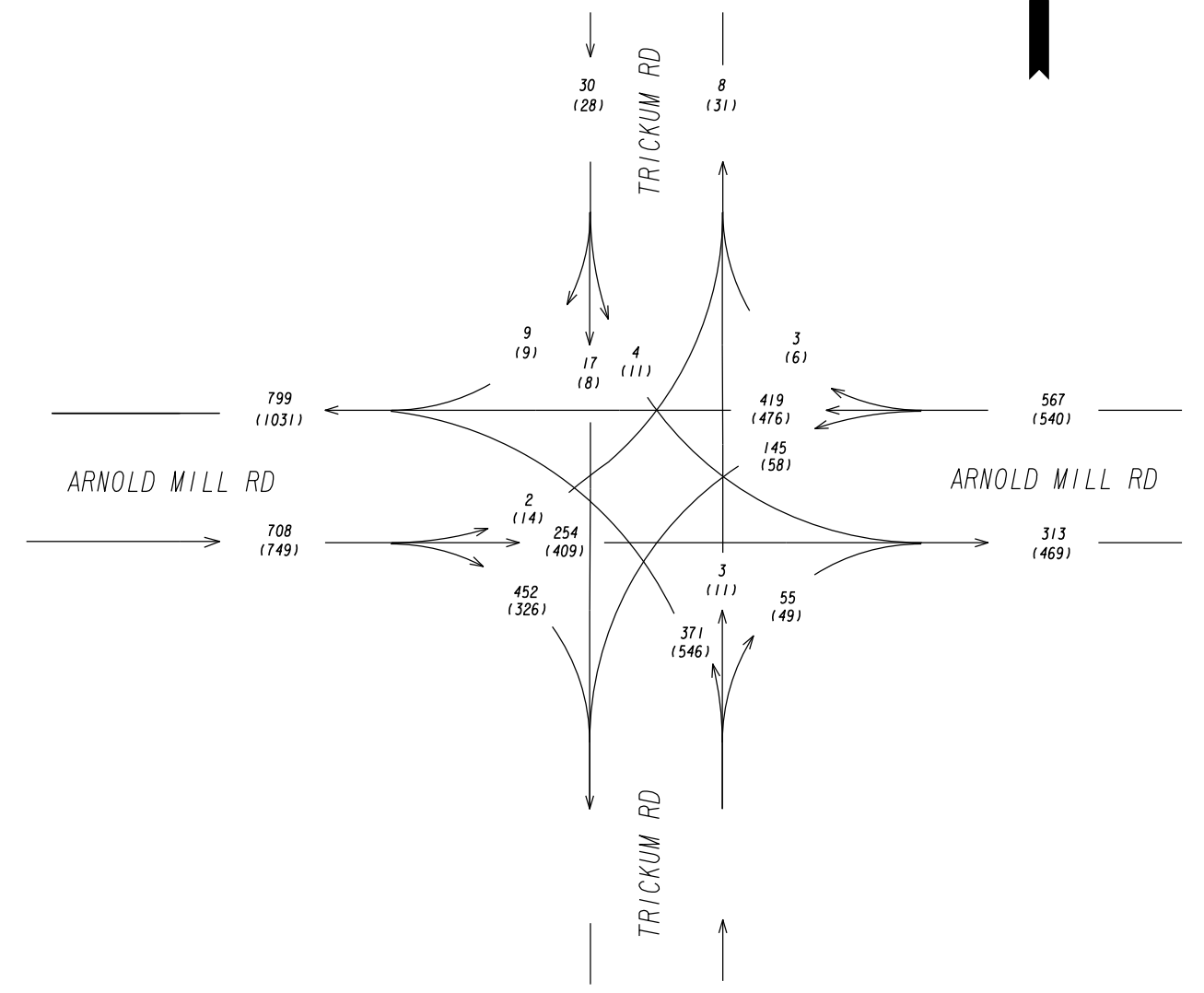
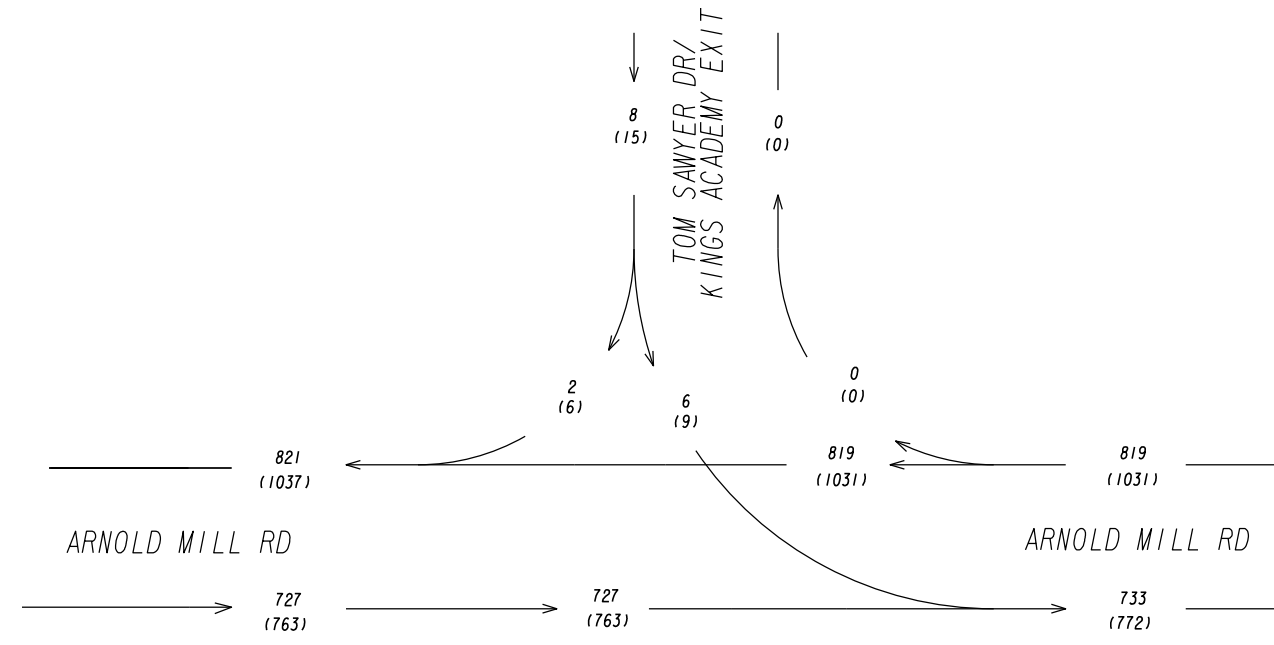
NOT TO SCALE

REVISION DATES

NO.	DATE	DESCRIPTION

TRAFFIC DIAGRAM
ARNOLD MILL RD @ MILL CREEK RD
ARNOLD MILL RD @ TOM SAWYER DR

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	10-0003
CORRECTED:	DATE:	
VERIFIED:	DATE:	



2019 DHV
AM (PM)

NOT TO SCALE

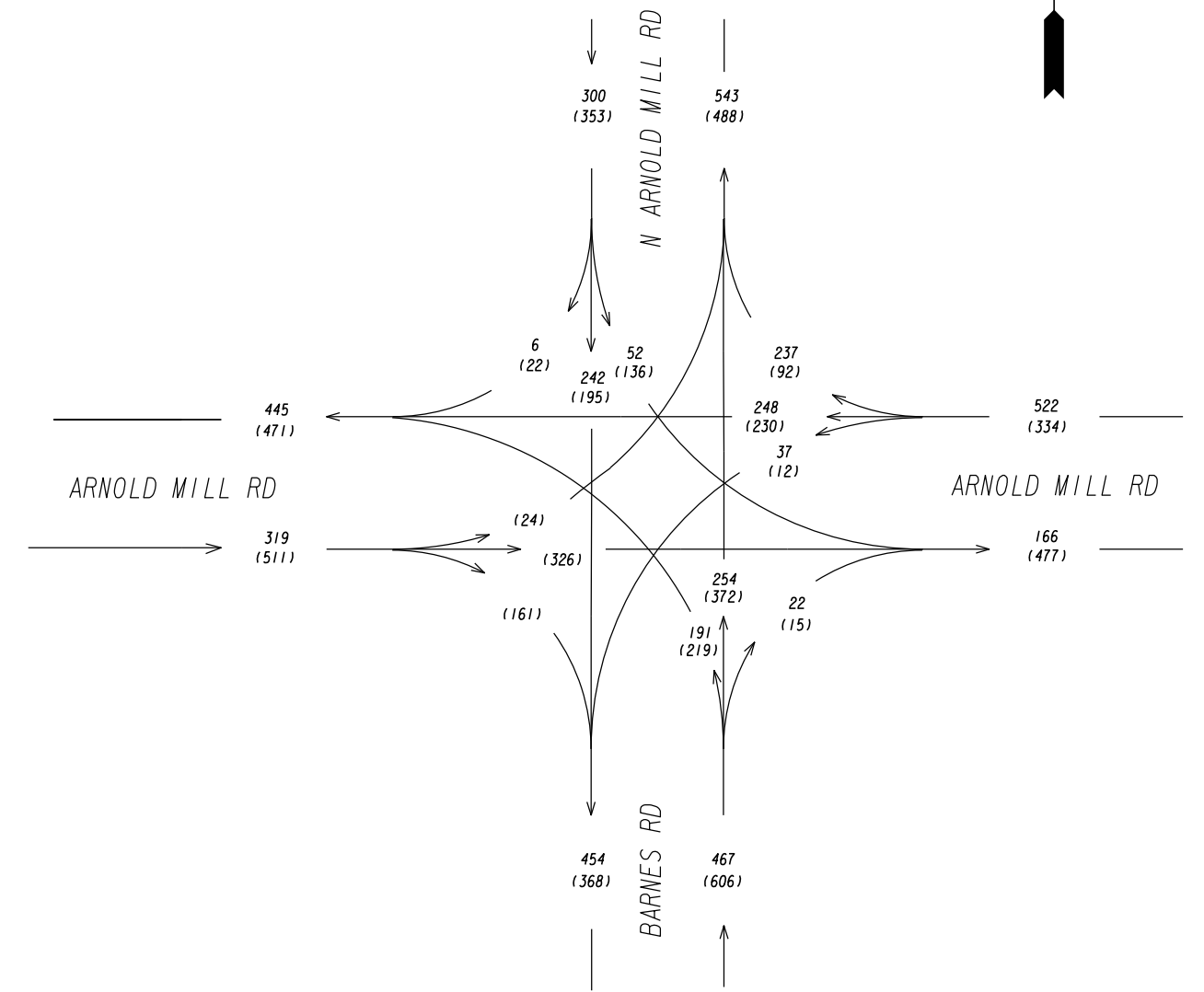
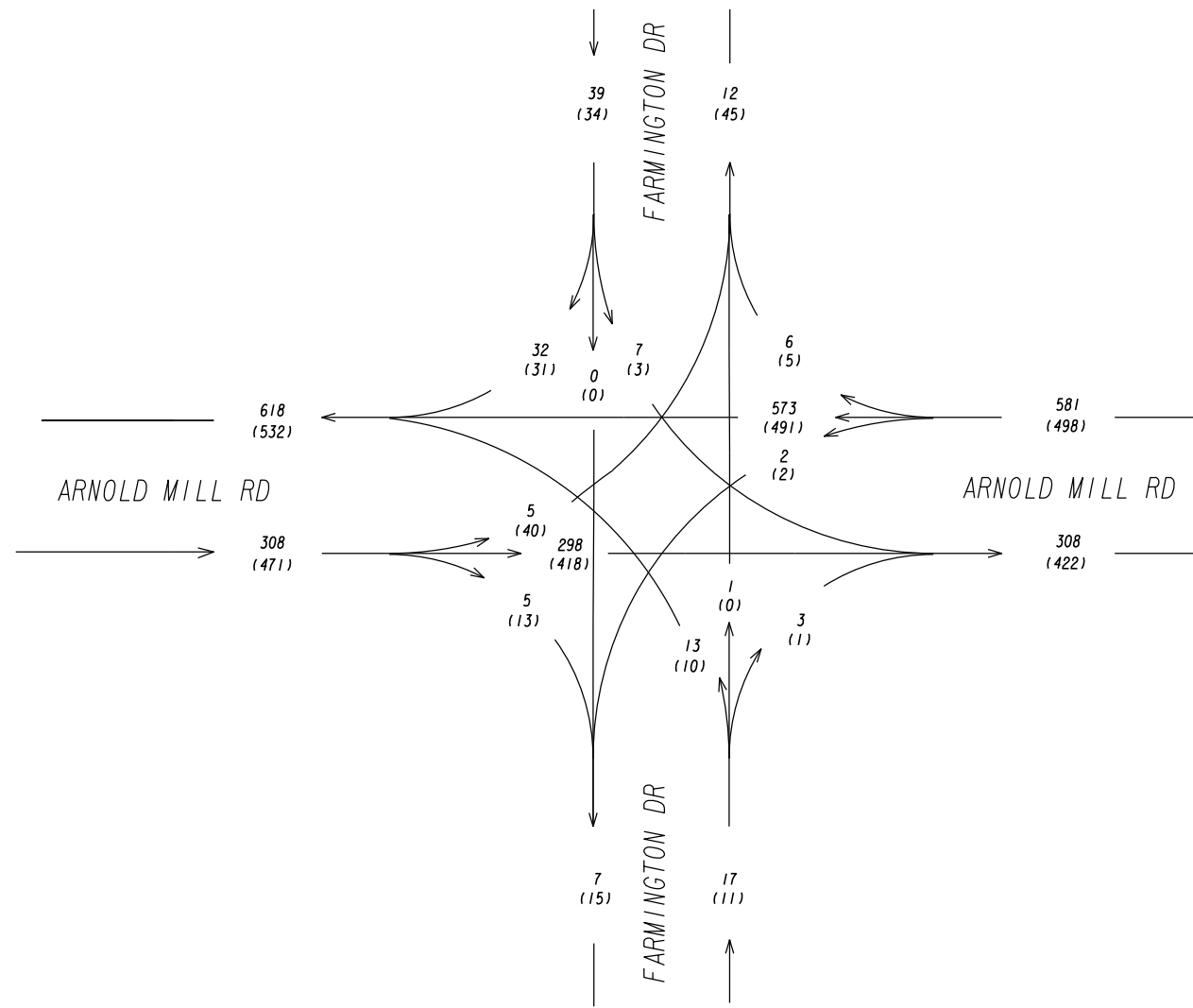
REVISION DATES

No.	DATE	DESCRIPTION

TRAFFIC DIAGRAM
**ARNOLD MILL RD @ TOM SAWYER DR/
 KINGS ACADEMY EXIT**
ARNOLD MILL RD @ TRICKUM RD

CHECKED:	DATE:
BACKCHECKED:	DATE:
CORRECTED:	DATE:
VERIFIED:	DATE:

DRAWING No.
10-0004



2019 DHV
AM (PM)

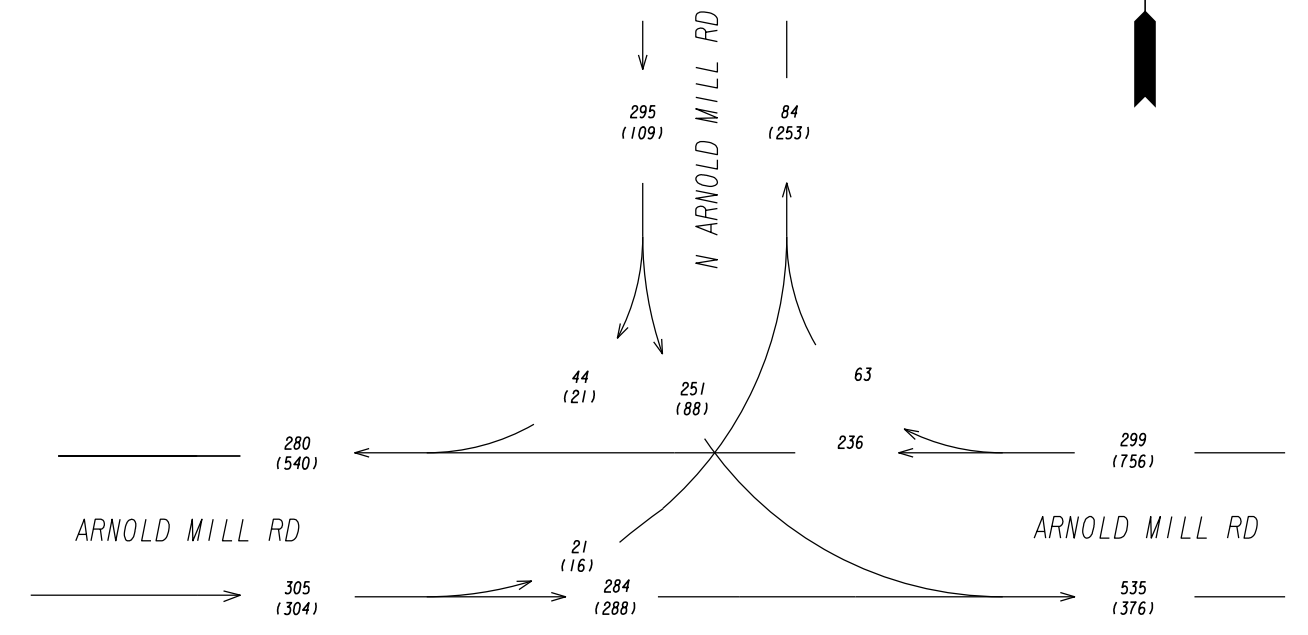
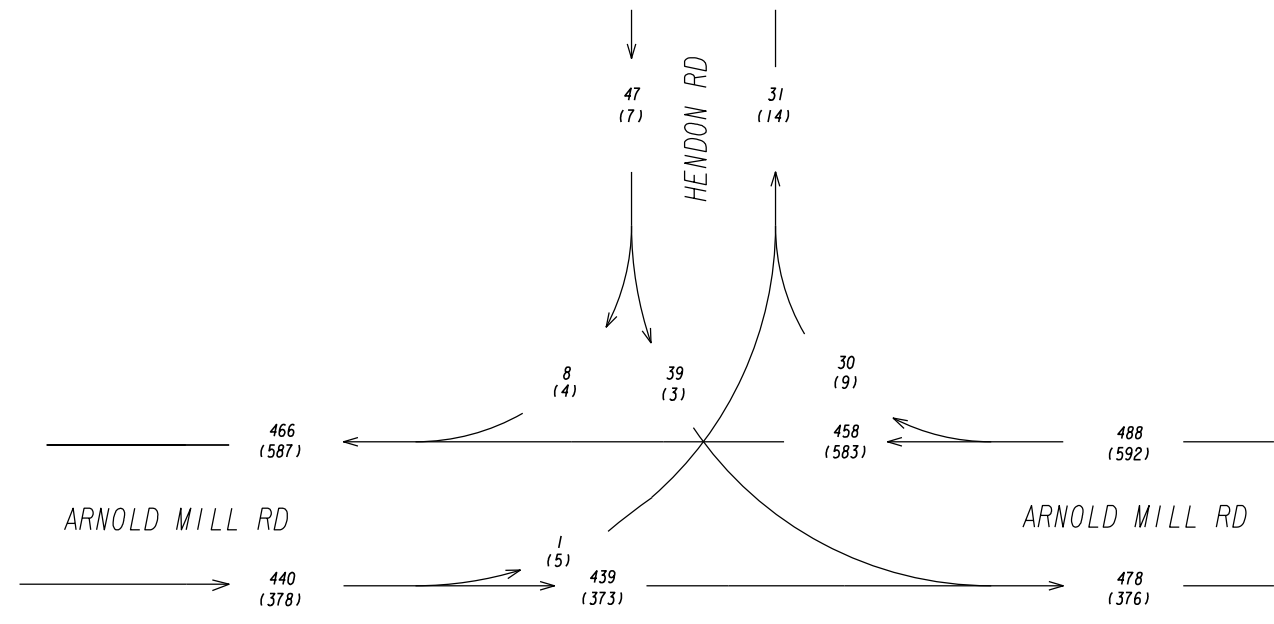
NOT TO SCALE

REVISION DATES

NO.	DATE	DESCRIPTION

TRAFFIC DIAGRAM
ARNOLD MILL RD @ FARMINGTON DR
**ARNOLD MILL RD @ N ARNOLD MILL RD/
 BARNES RD**

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	10-0005
CORRECTED:	DATE:	
VERIFIED:	DATE:	



2019 DHV
AM (PM)

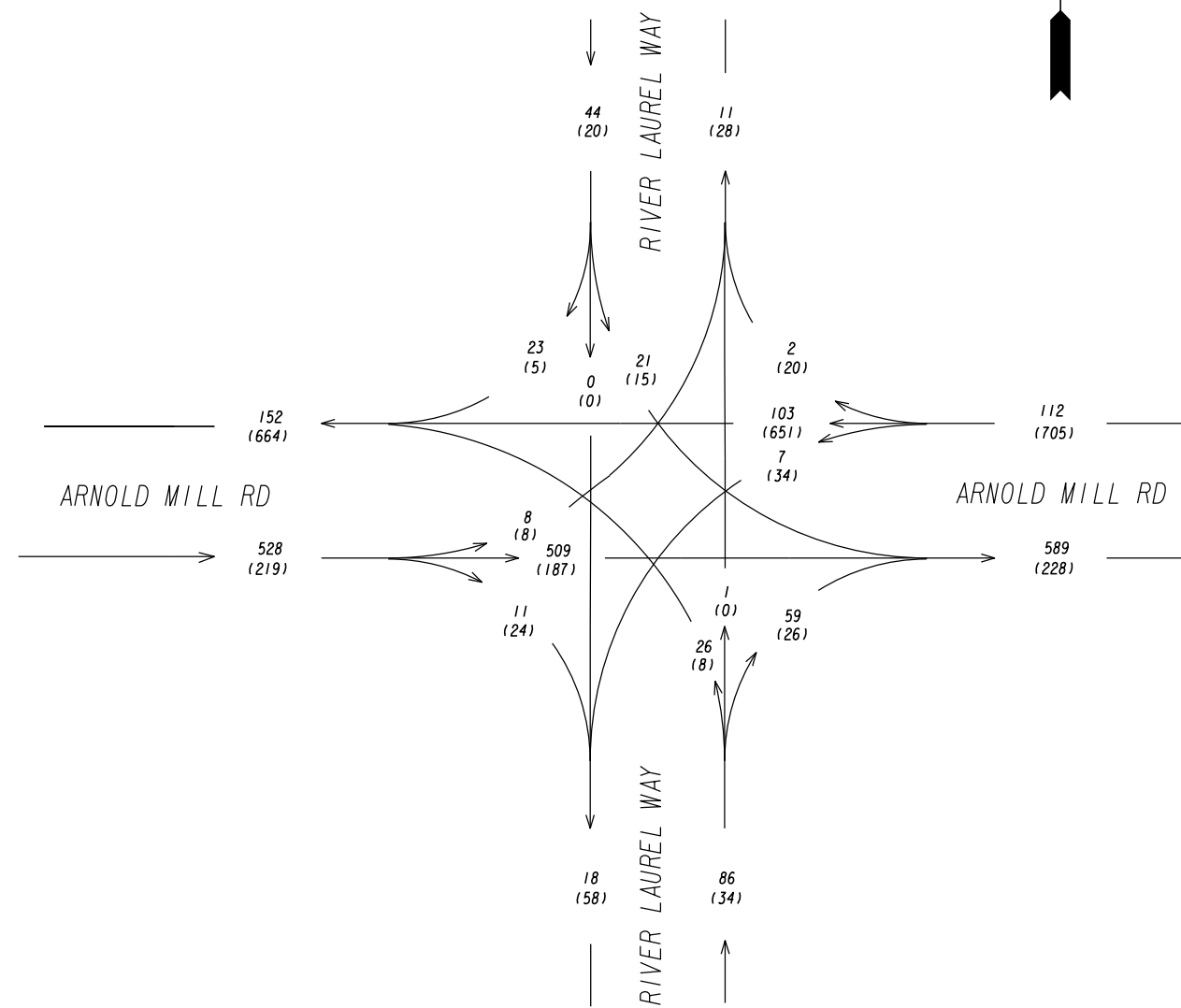
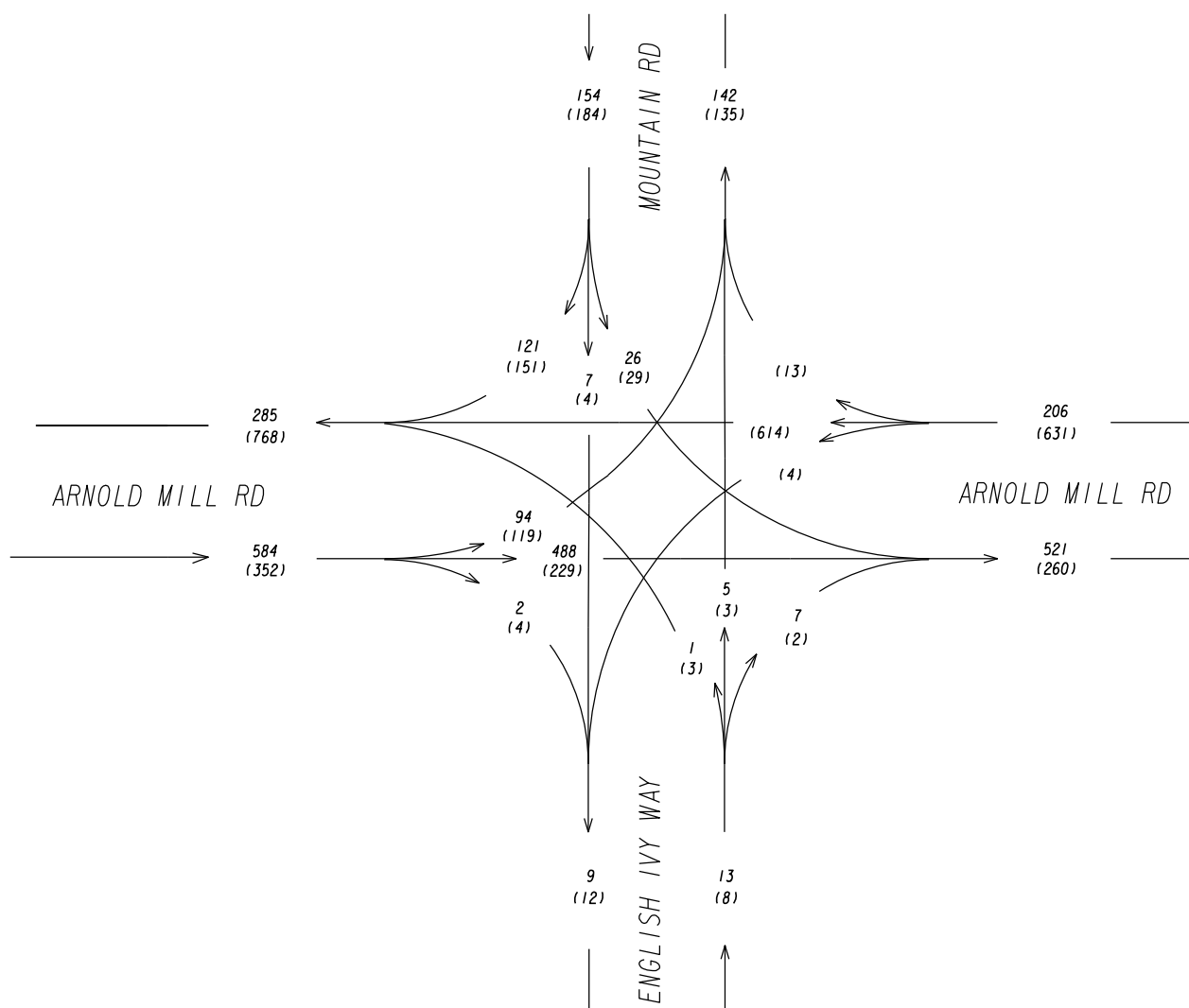
NOT TO SCALE

REVISION DATES

NO.	DATE	DESCRIPTION

TRAFFIC DIAGRAM
ARNOLD MILL RD @ HENDON RD
ARNOLD MILL RD @ N ARNOLD MILL RD

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	10-0006
CORRECTED:	DATE:	
VERIFIED:	DATE:	



2019 DHV
AM (PM)

NOT TO SCALE

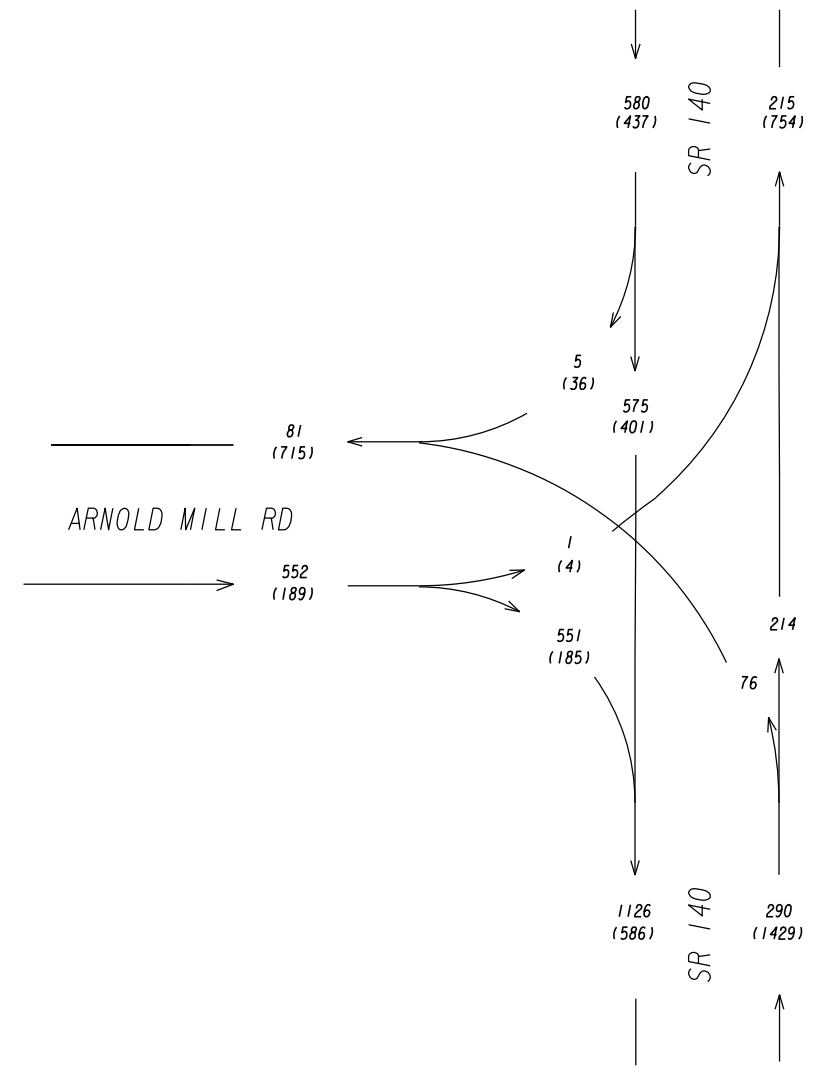
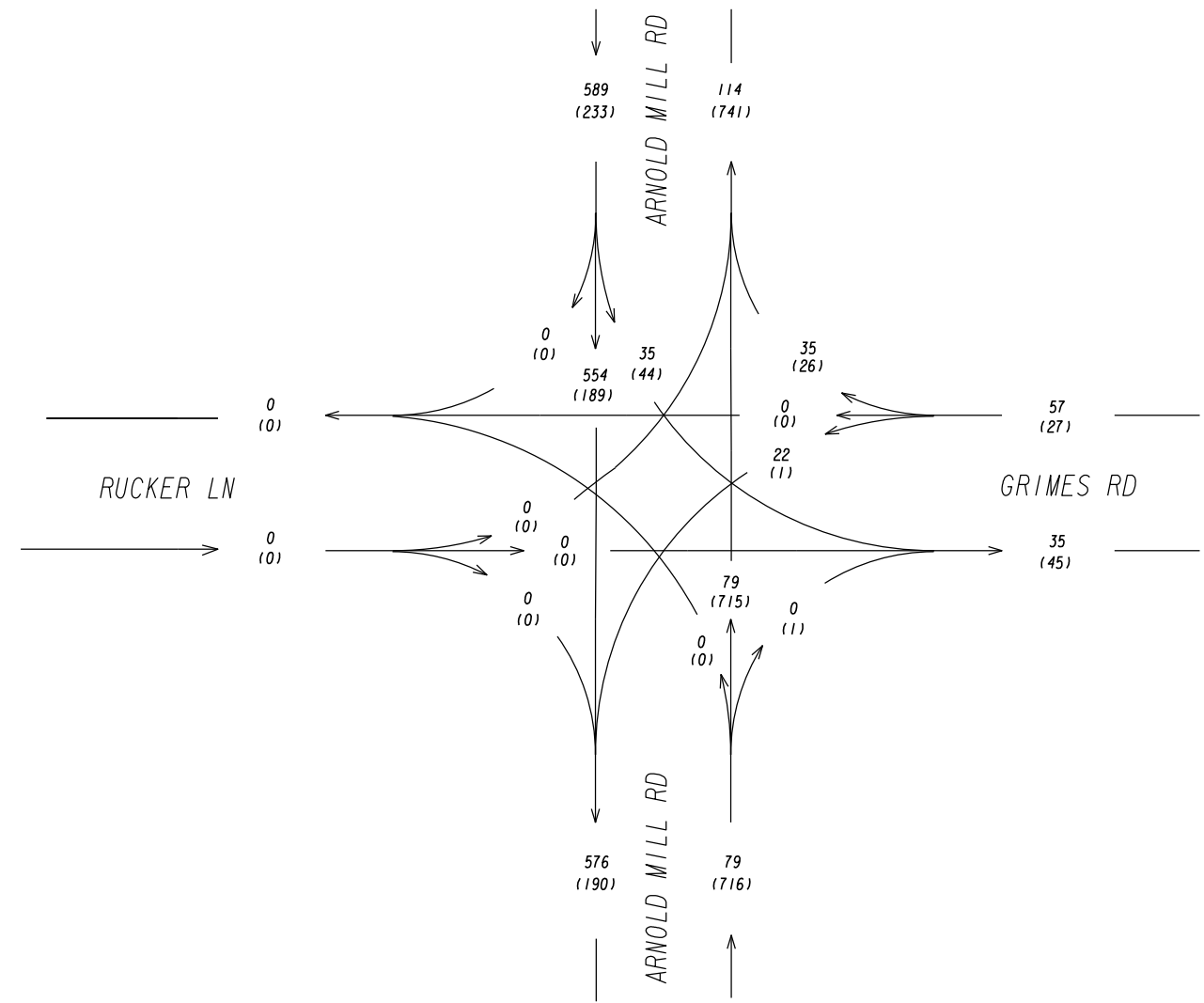
REVISION DATES

No.	Date	Description

TRAFFIC DIAGRAM
ARNOLD MILL RD @ MOUNTAIN RD/
ENGLISH IVY WAY
ARNOLD MILL RD @ RIVER LAUREL WAY

CHECKED:	DATE:
BACKCHECKED:	DATE:
CORRECTED:	DATE:
VERIFIED:	DATE:

DRAWING No.
10-0007



2019 DHV
AM (PM)

NOT TO SCALE

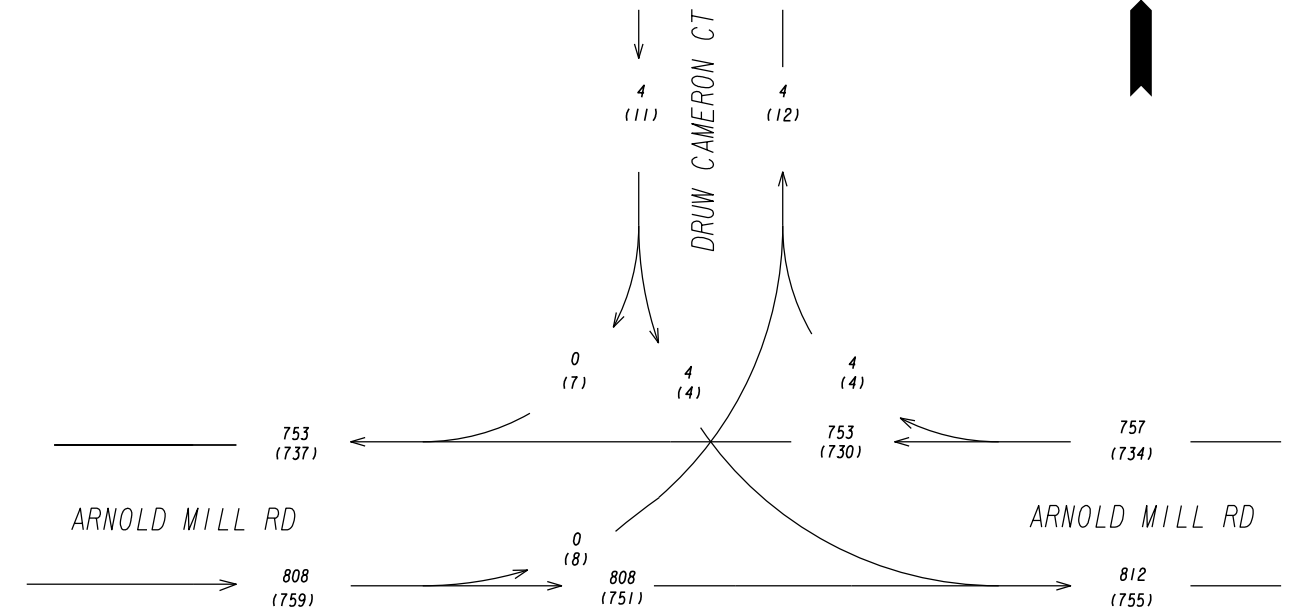
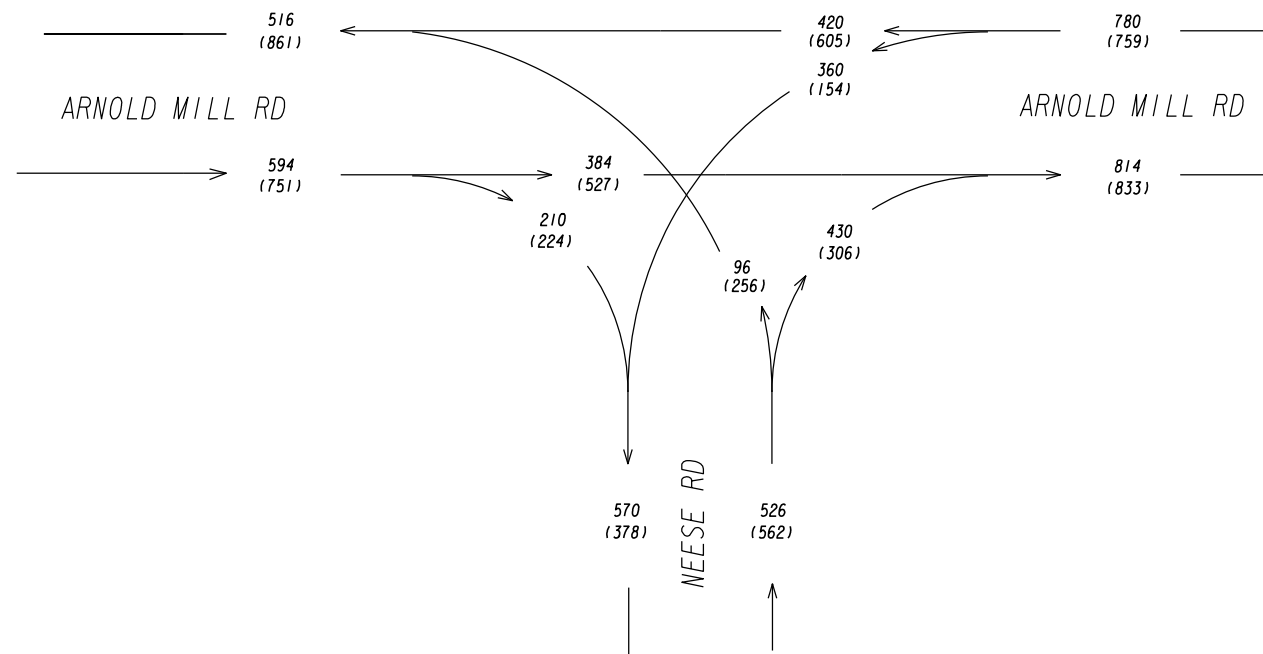
REVISION DATES

NO.	DATE	DESCRIPTION

TRAFFIC DIAGRAM
ARNOLD MILL RD @ RUCKER LN/
GRIMES RD
ARNOLD MILL RD @ SR 140

CHECKED:	DATE:
BACKCHECKED:	DATE:
CORRECTED:	DATE:
VERIFIED:	DATE:

DRAWING No.
10-0008



2029 DHV
AM (PM)

NOT TO SCALE

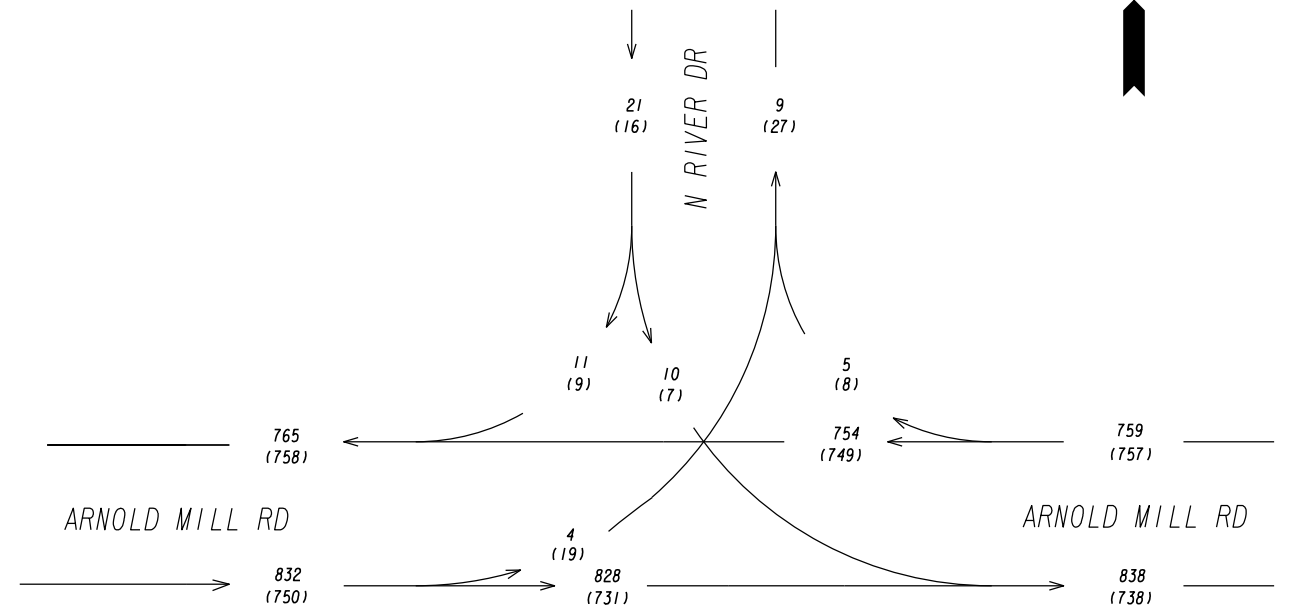
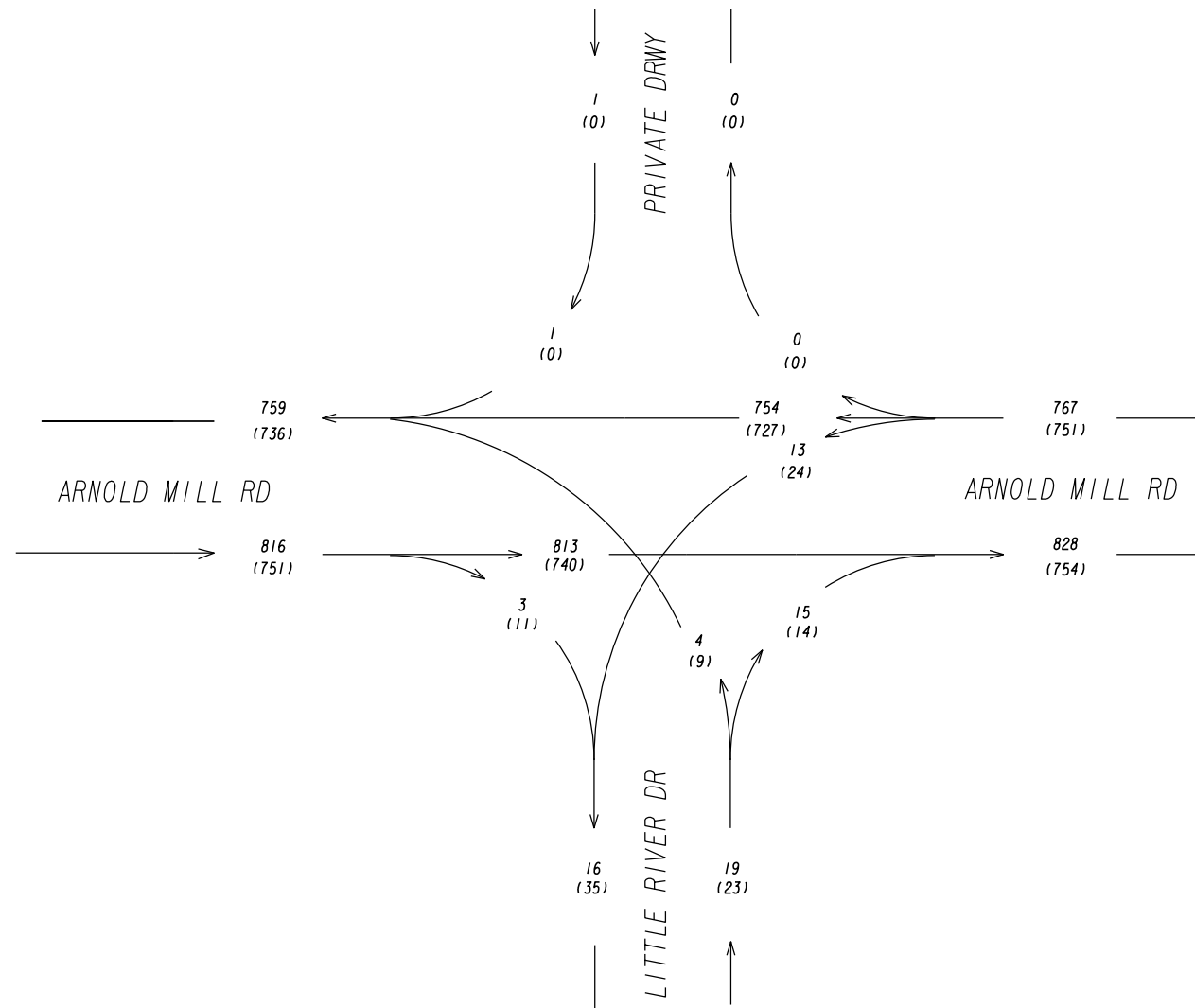
REVISION DATES

No.	Date	Description

TRAFFIC DIAGRAM
ARNOLD MILL RD @ NEESE RD
ARNOLD MILL RD @ DRUW CAMERON CT

CHECKED:	DATE:
BACKCHECKED:	DATE:
CORRECTED:	DATE:
VERIFIED:	DATE:

DRAWING No.
10-0009



2029 DHV
AM (PM)

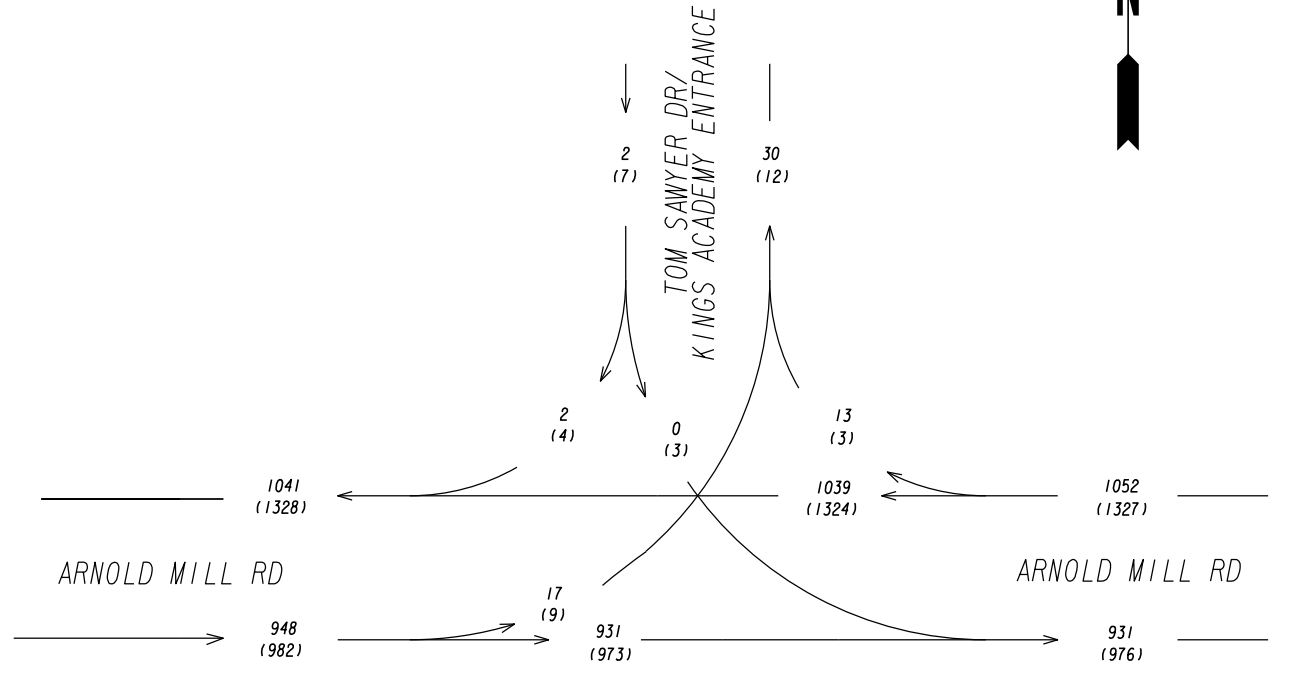
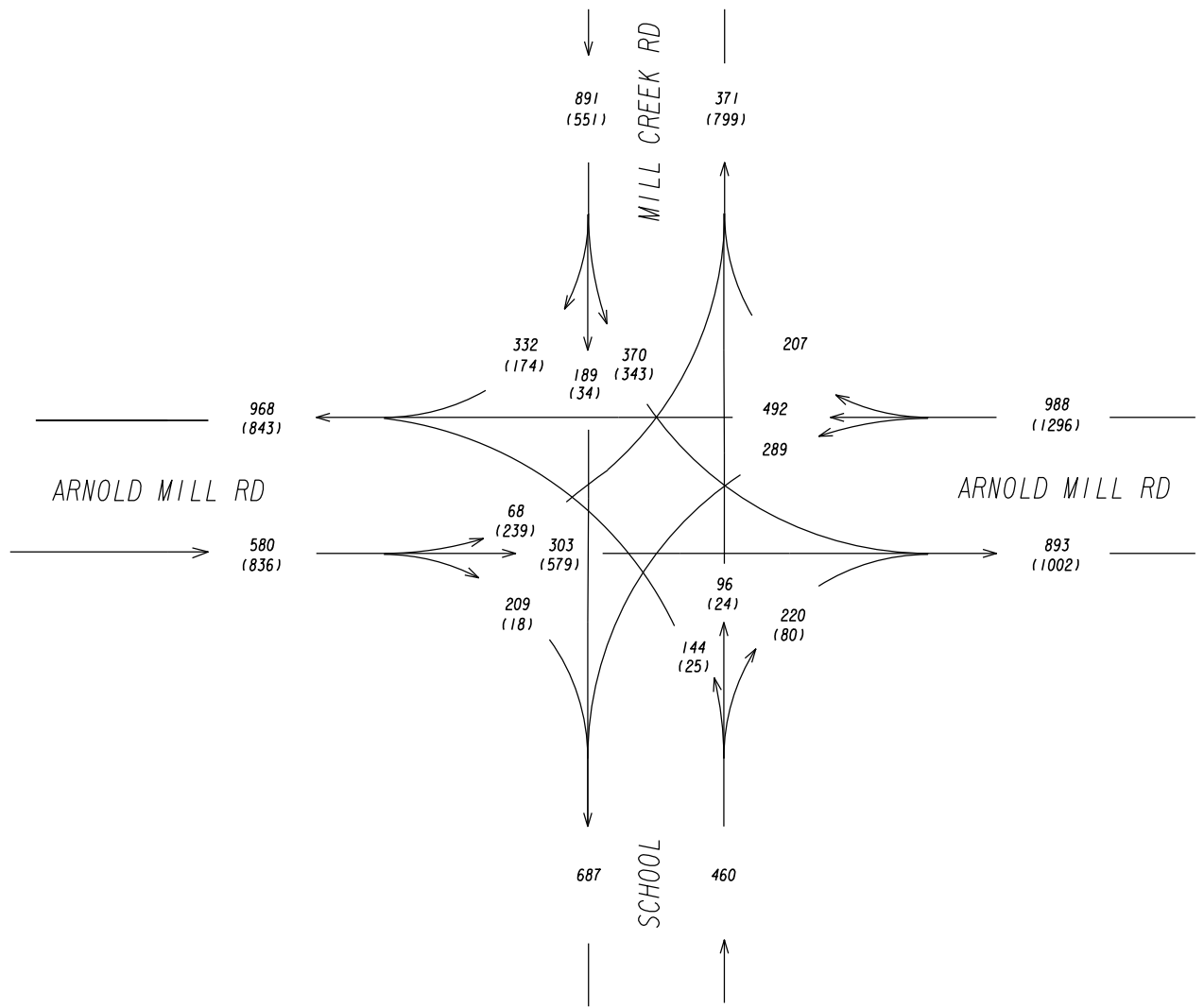
NOT TO SCALE

REVISION DATES

NO.	DATE	DESCRIPTION

TRAFFIC DIAGRAM
ARNOLD MILL RD @ LITTLE RIVER DR
ARNOLD MILL RD @ N RIVER DR

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	10-0010
CORRECTED:	DATE:	
VERIFIED:	DATE:	



2029 AM (PM)

NOT TO SCALE

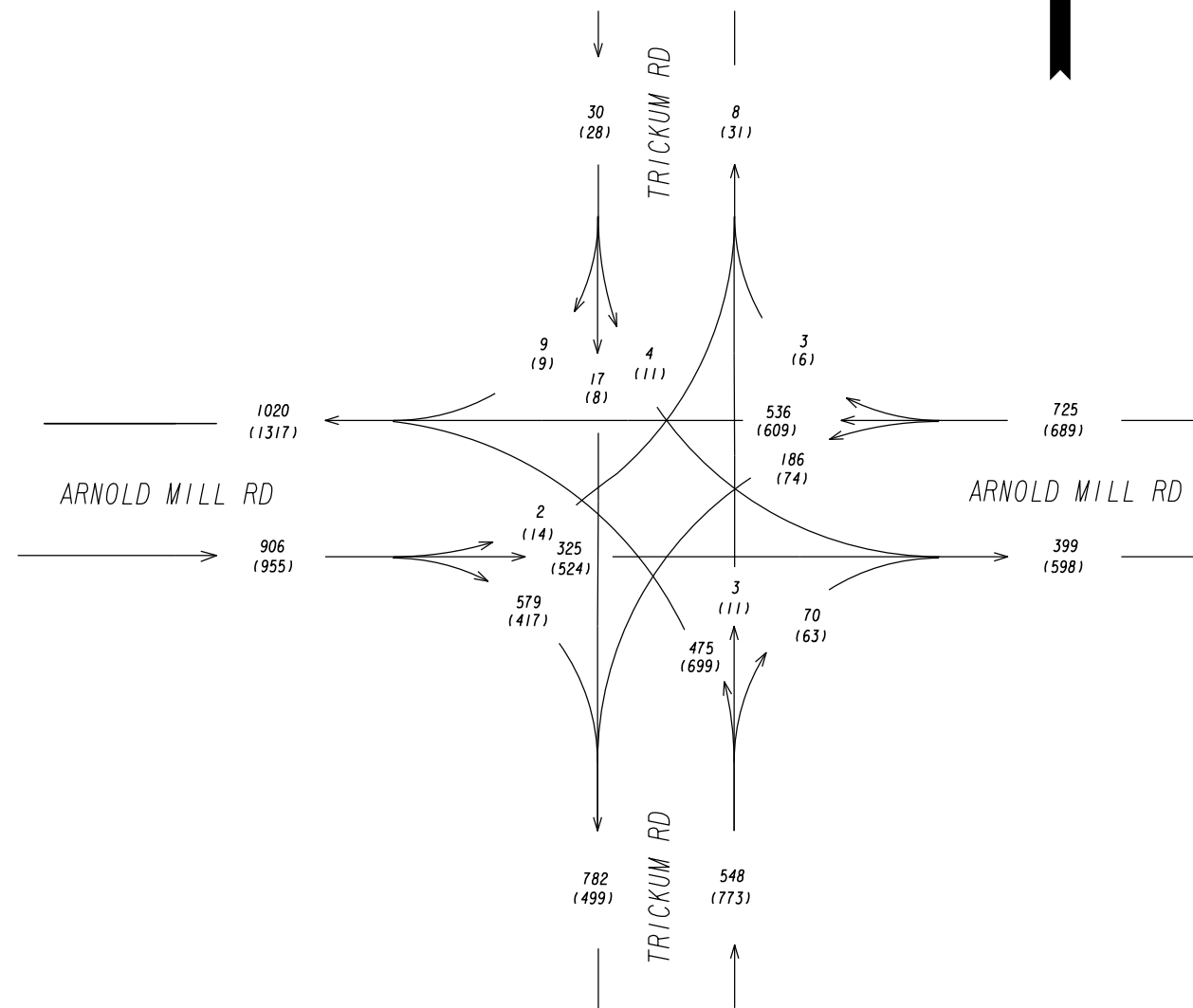
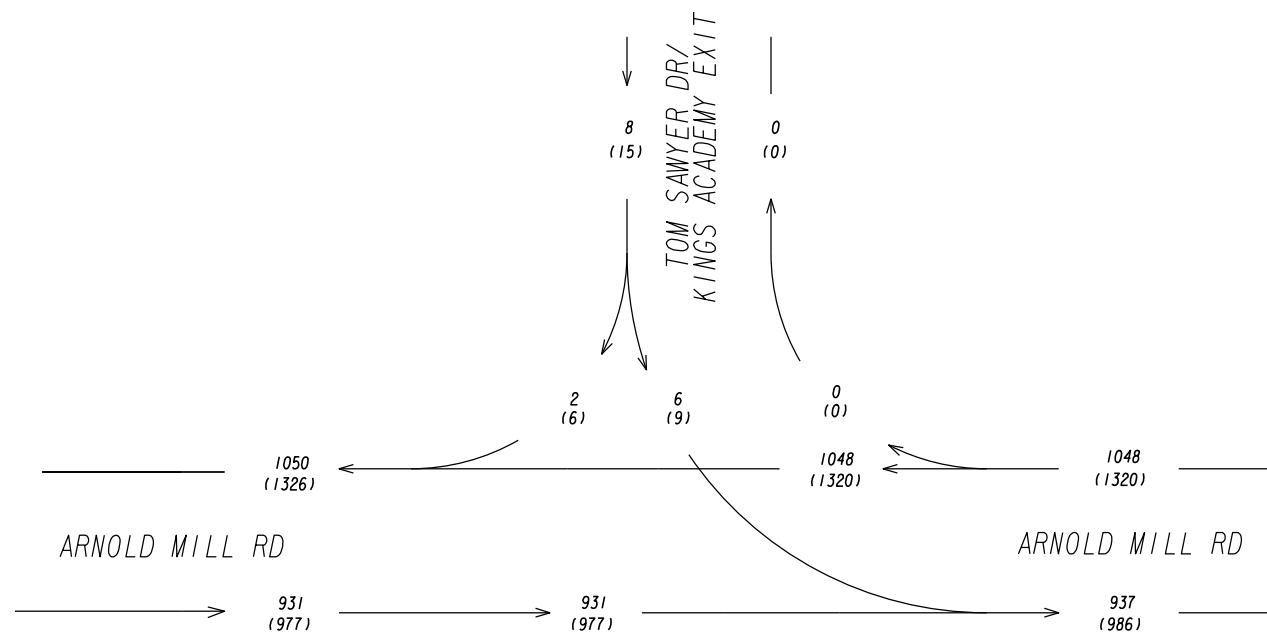
REVISION DATES

NO.	DATE	DESCRIPTION

TRAFFIC DIAGRAM
ARNOLD MILL RD @ MILL CREEK RD
ARNOLD MILL RD @ TOM SAWYER DR

CHECKED:	DATE:
BACKCHECKED:	DATE:
CORRECTED:	DATE:
VERIFIED:	DATE:

DRAWING No.
10-0011



2029 DHV
AM (PM)

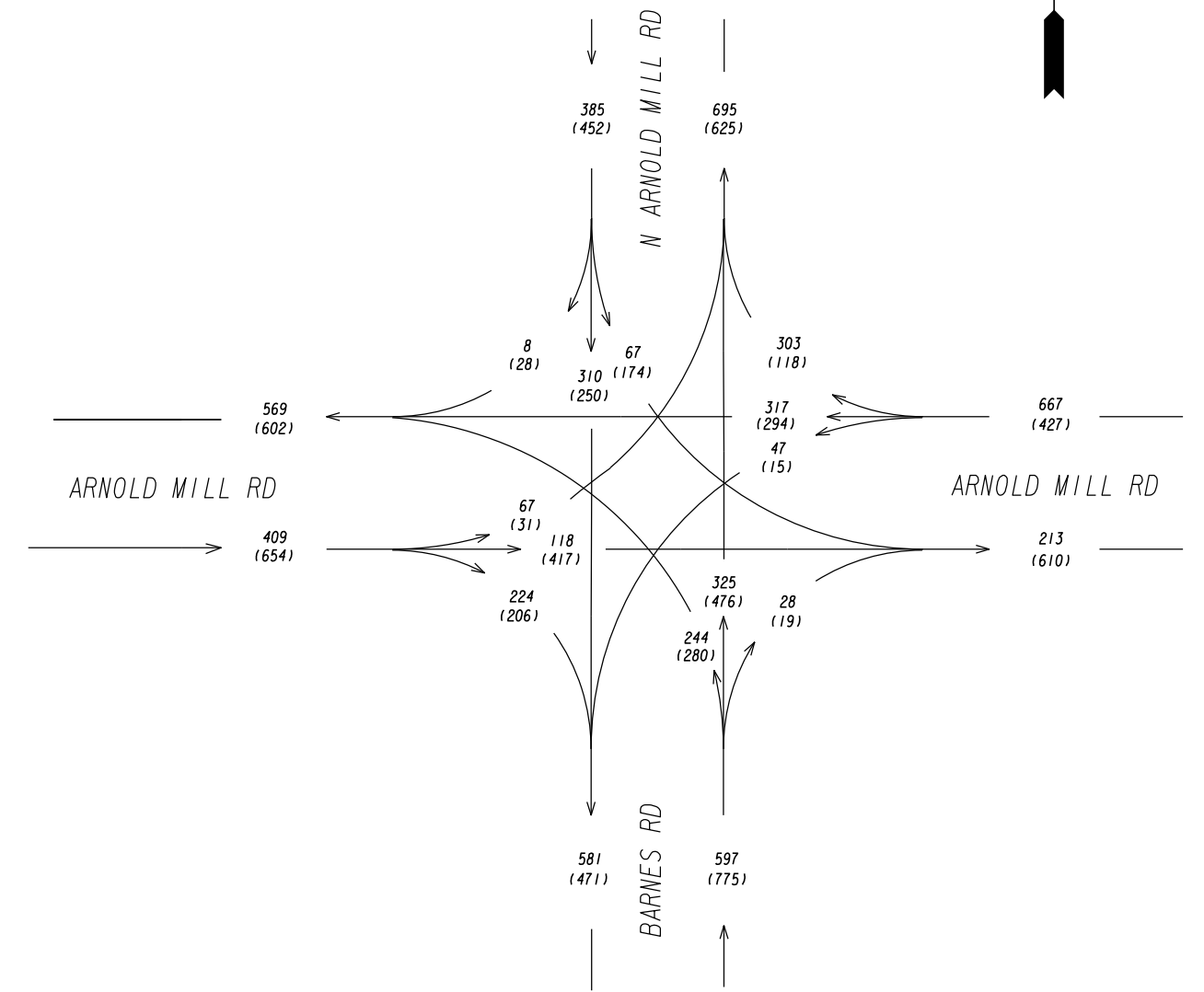
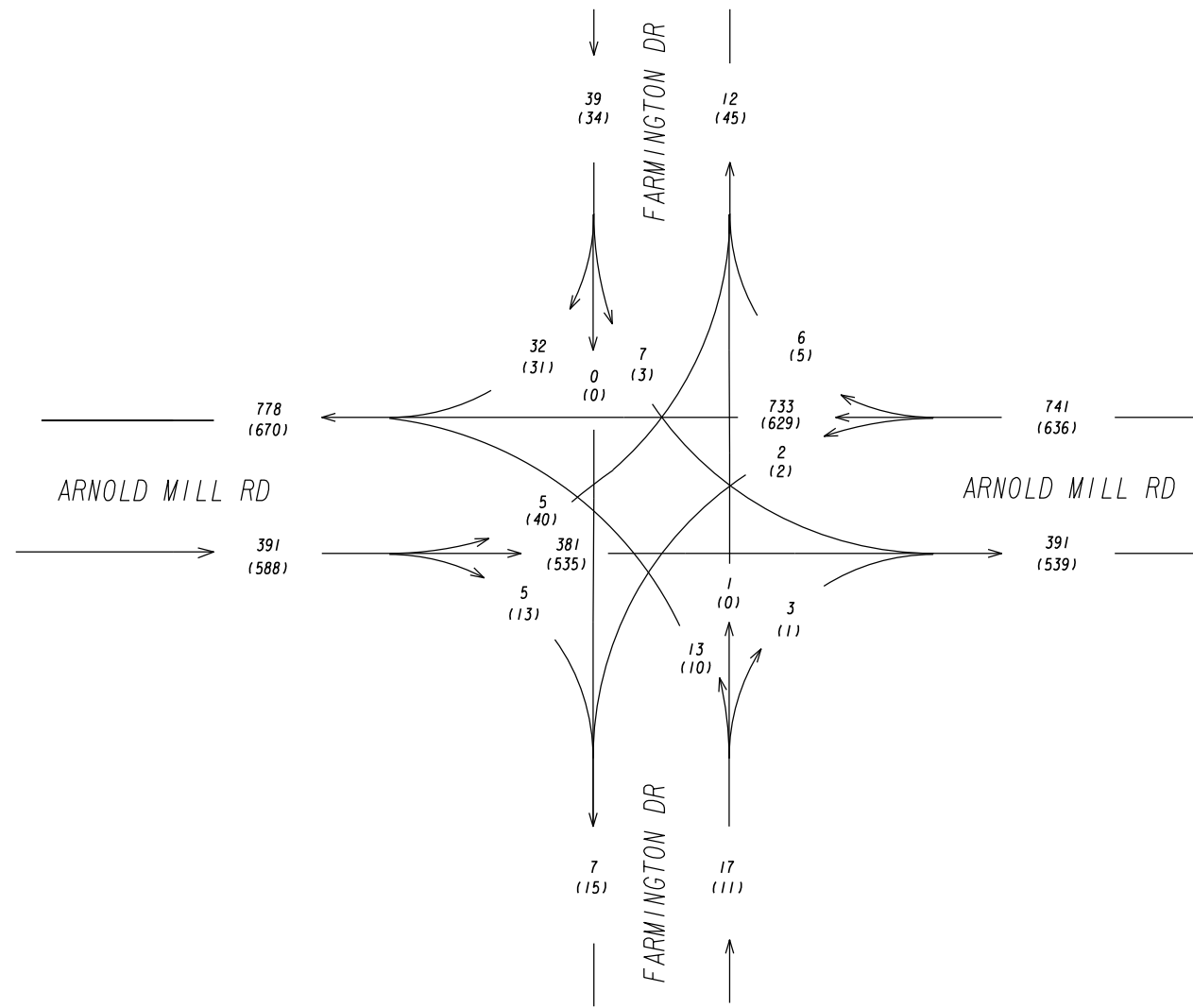
NOT TO SCALE

REVISION DATES

No.	Date	Description

TRAFFIC DIAGRAM
ARNOLD MILL RD @ TOM SAWYER DR/
KINGS ACADEMY EXIT
ARNOLD MILL RD @ TRICKUM RD

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	10-0012
CORRECTED:	DATE:	
VERIFIED:	DATE:	



2029 AM (PM)

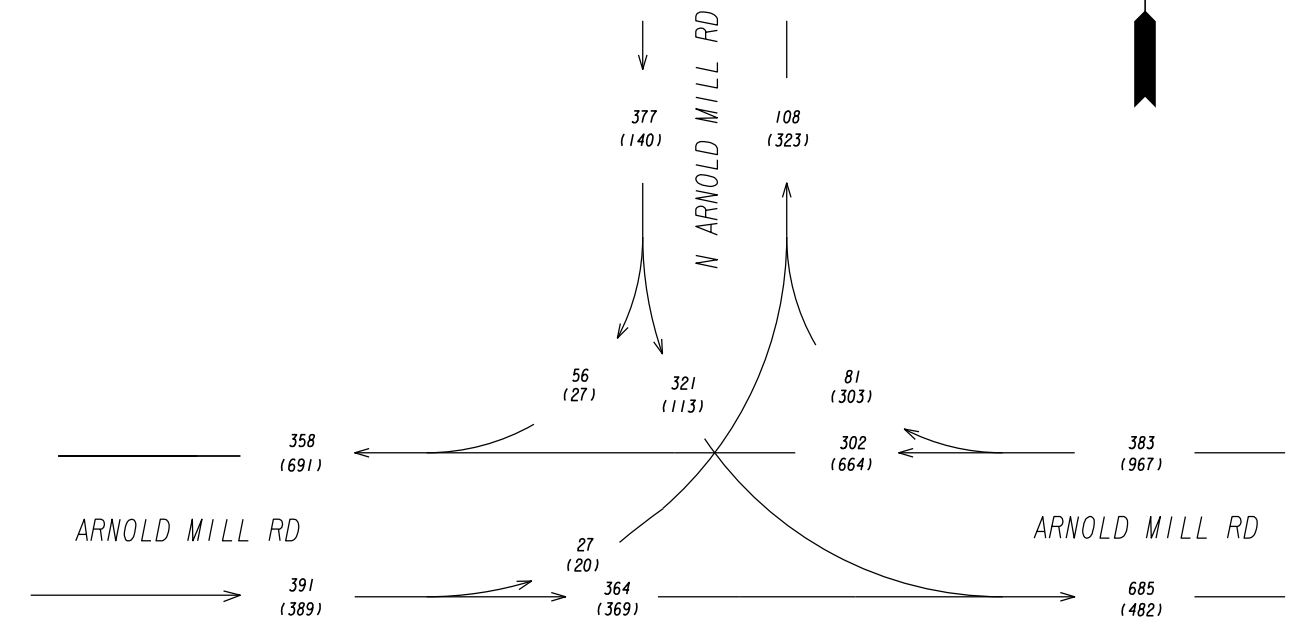
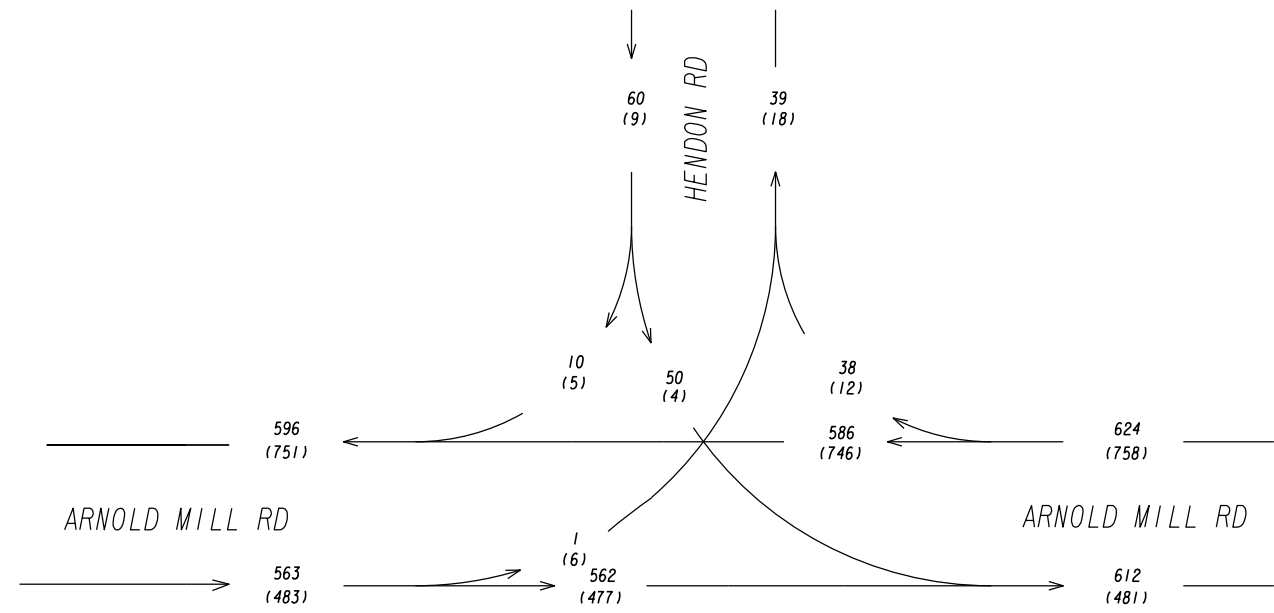
NOT TO SCALE

REVISION DATES

No.	Date	Description

TRAFFIC DIAGRAM
ARNOLD MILL RD @ FARMINGTON DR
ARNOLD MILL RD @ N ARNOLD MILL RD/
BARNES RD

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	10-0013
CORRECTED:	DATE:	
VERIFIED:	DATE:	



2029 DHV
AM (PM)

NOT TO SCALE

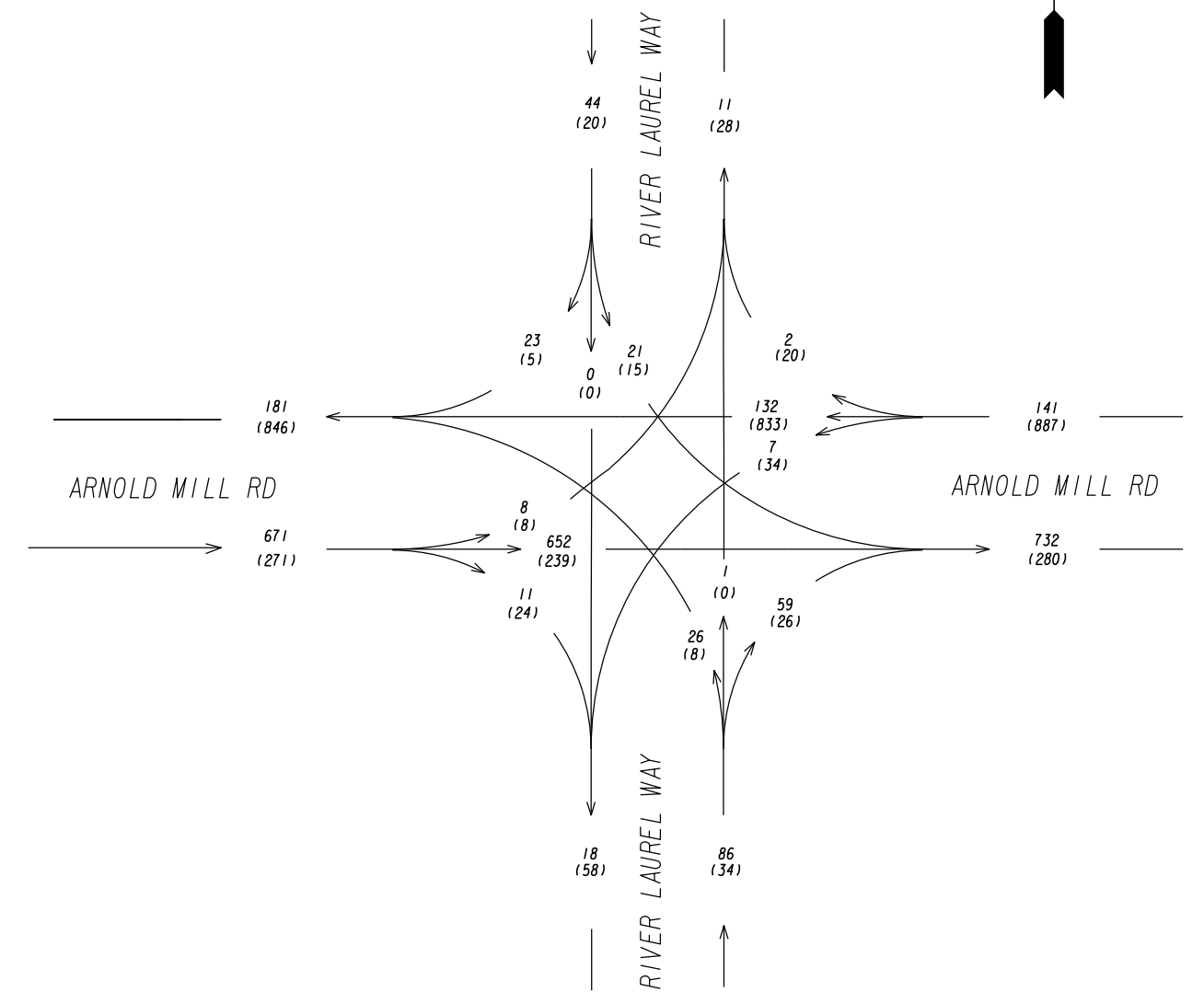
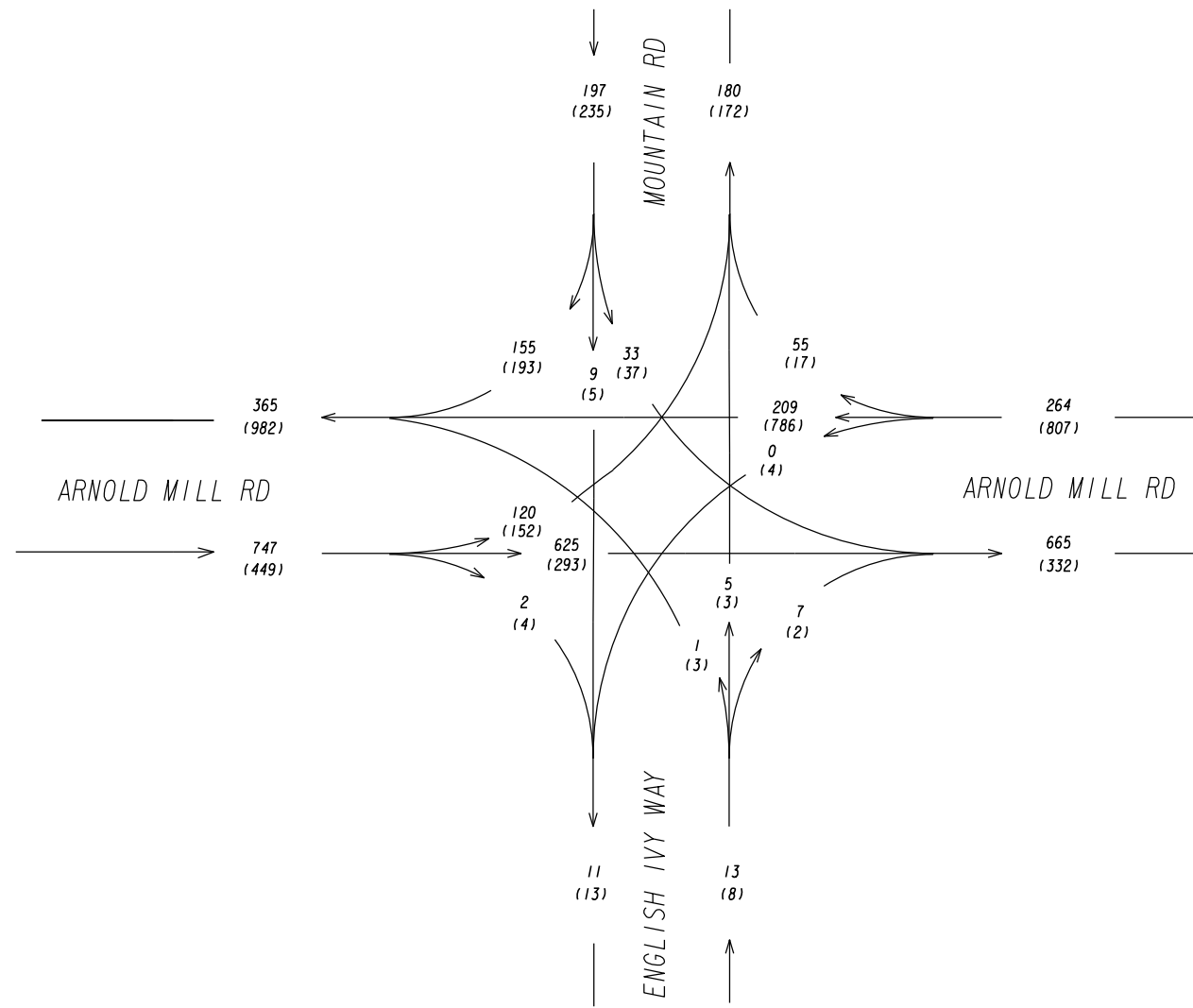
REVISION DATES

No.	Date	Description

TRAFFIC DIAGRAM
ARNOLD MILL RD @ HENDON RD
ARNOLD MILL RD @ N ARNOLD MILL RD

Checked	Date	Checked	Date	Checked	Date	Checked	Date	Checked	Date

DRAWING No.
10-0014



2029 DHV
AM (PM)

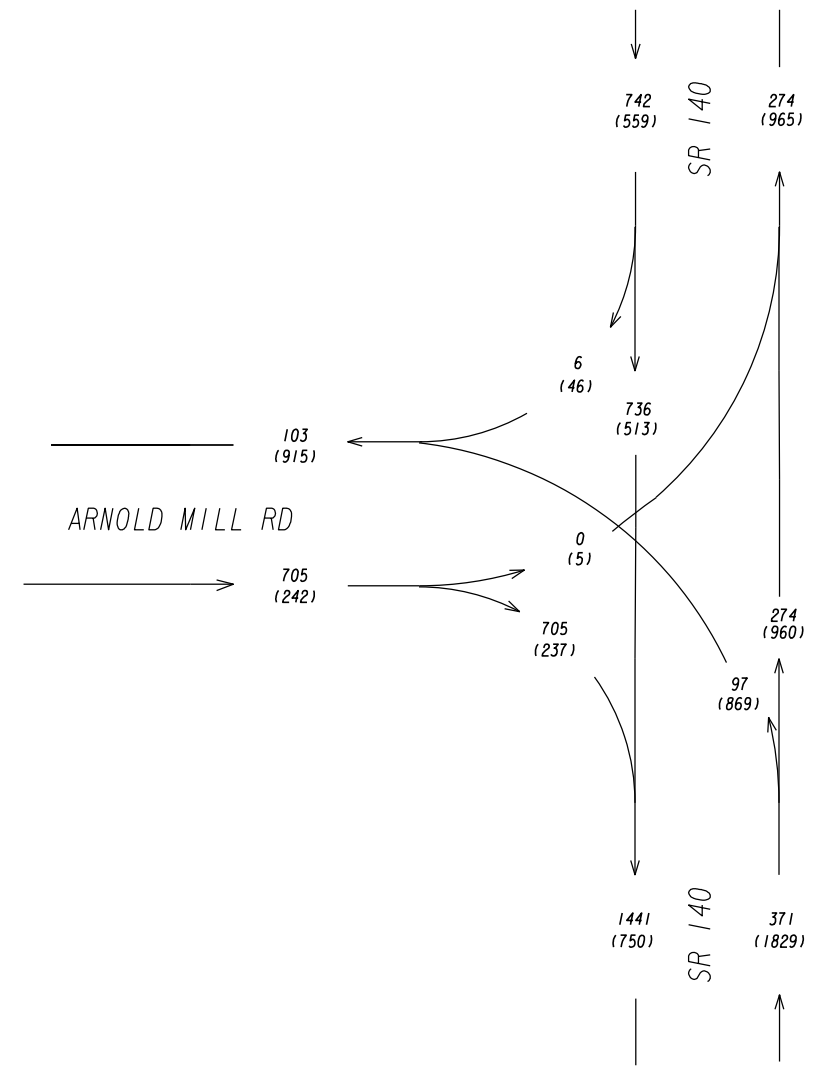
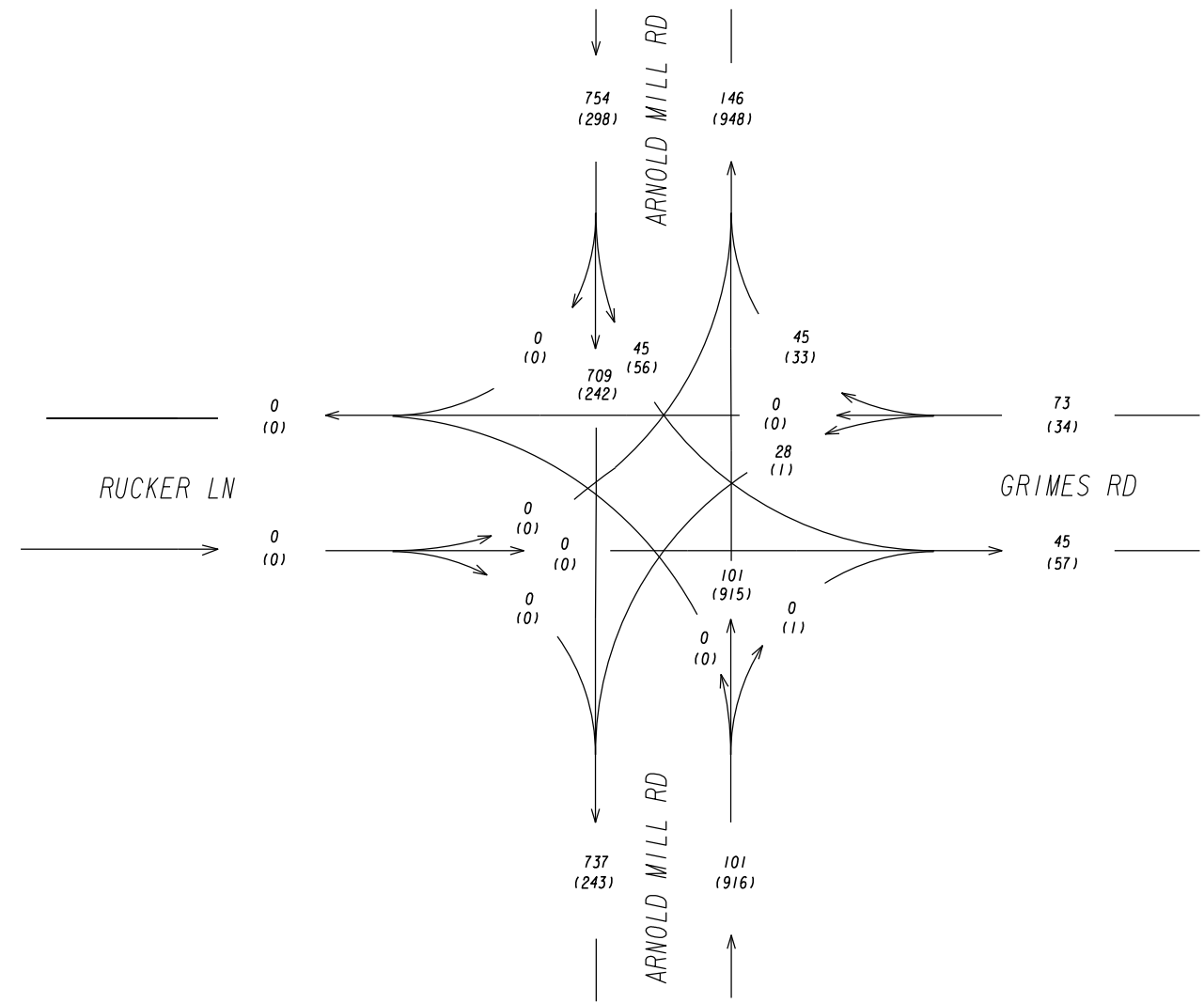
NOT TO SCALE

REVISION DATES

No.	Date	Description

TRAFFIC DIAGRAM
ARNOLD MILL RD @ MOUNTAIN RD/
ENGLISH IVY WAY
ARNOLD MILL RD @ RIVER LAUREL WAY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	10-0015
CORRECTED:	DATE:	
VERIFIED:	DATE:	



2029 DHV
AM (PM)

NOT TO SCALE

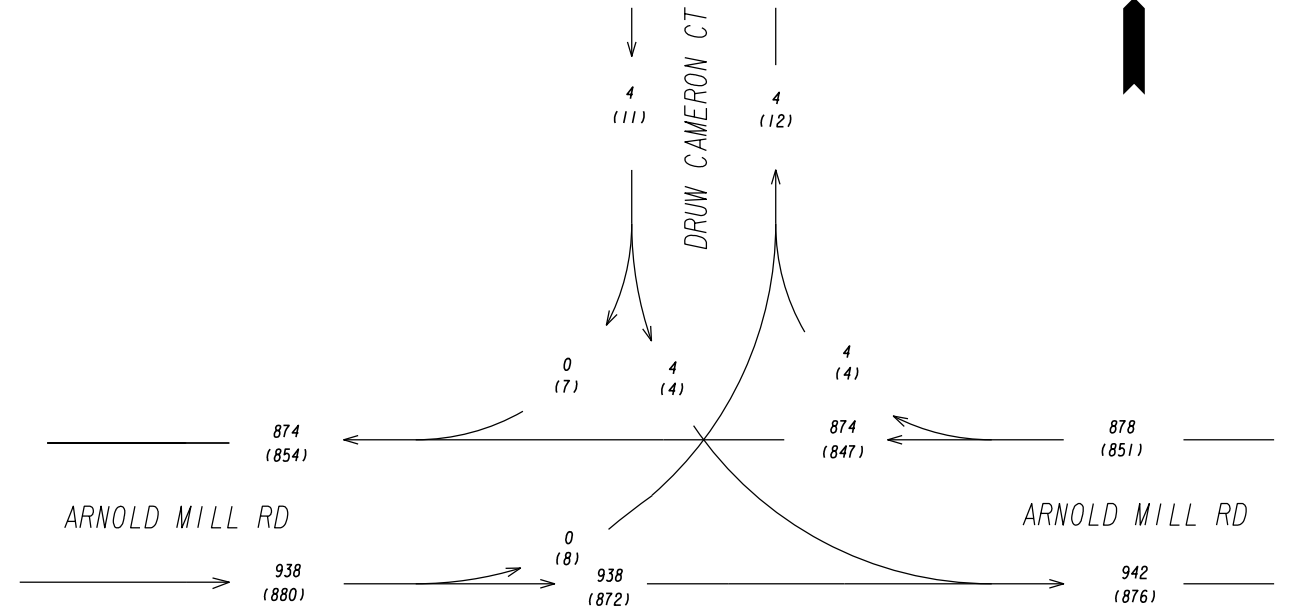
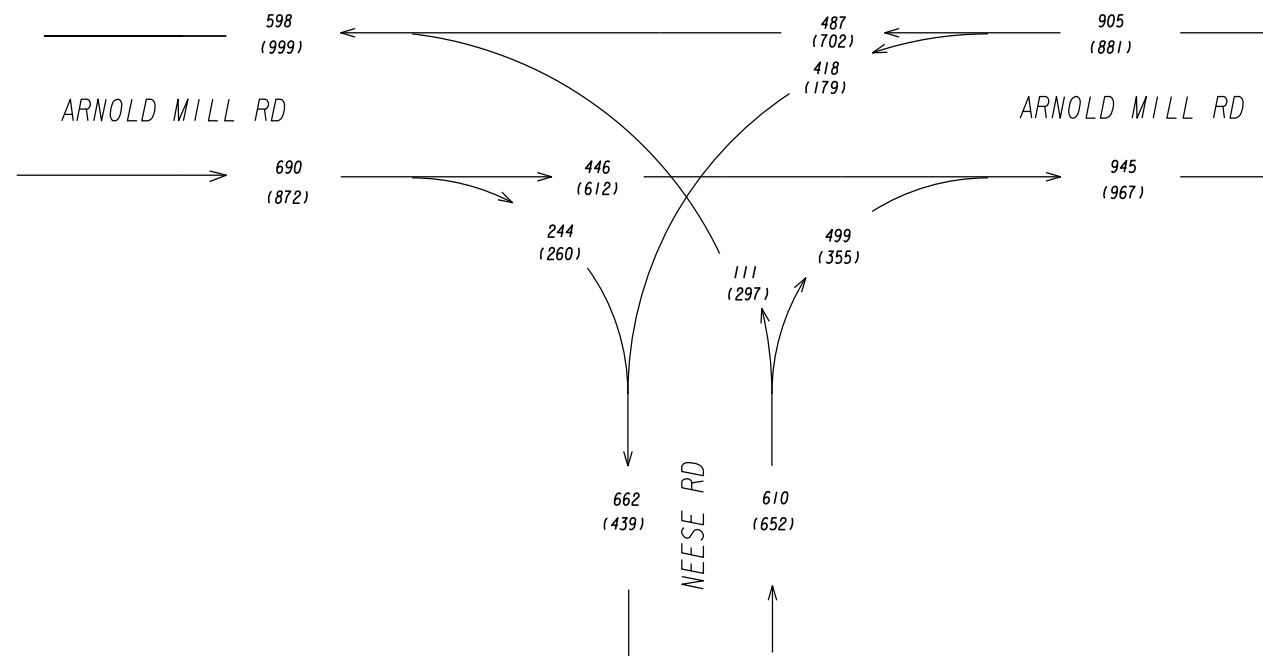
REVISION DATES

No.	Date	Description

TRAFFIC DIAGRAM
ARNOLD MILL RD @ RUCKER LN/
GRIMES RD
ARNOLD MILL RD @ SR 140

CHECKED:	DATE:
BACKCHECKED:	DATE:
CORRECTED:	DATE:
VERIFIED:	DATE:

DRAWING No.
10-0016



2039 DHV
AM (PM)

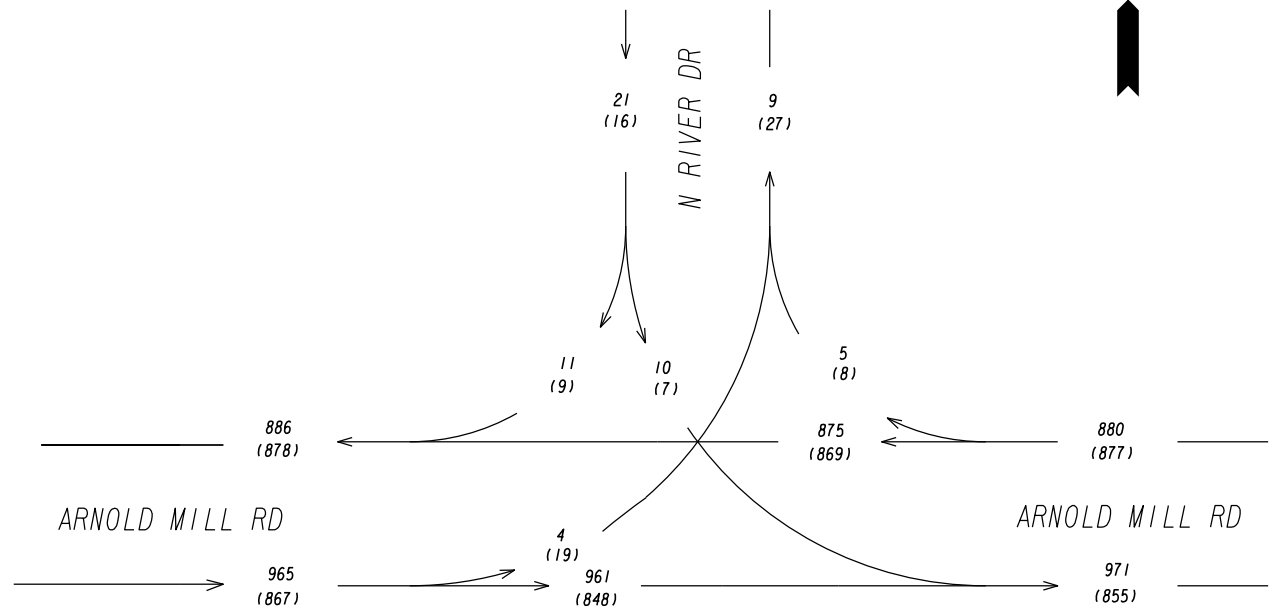
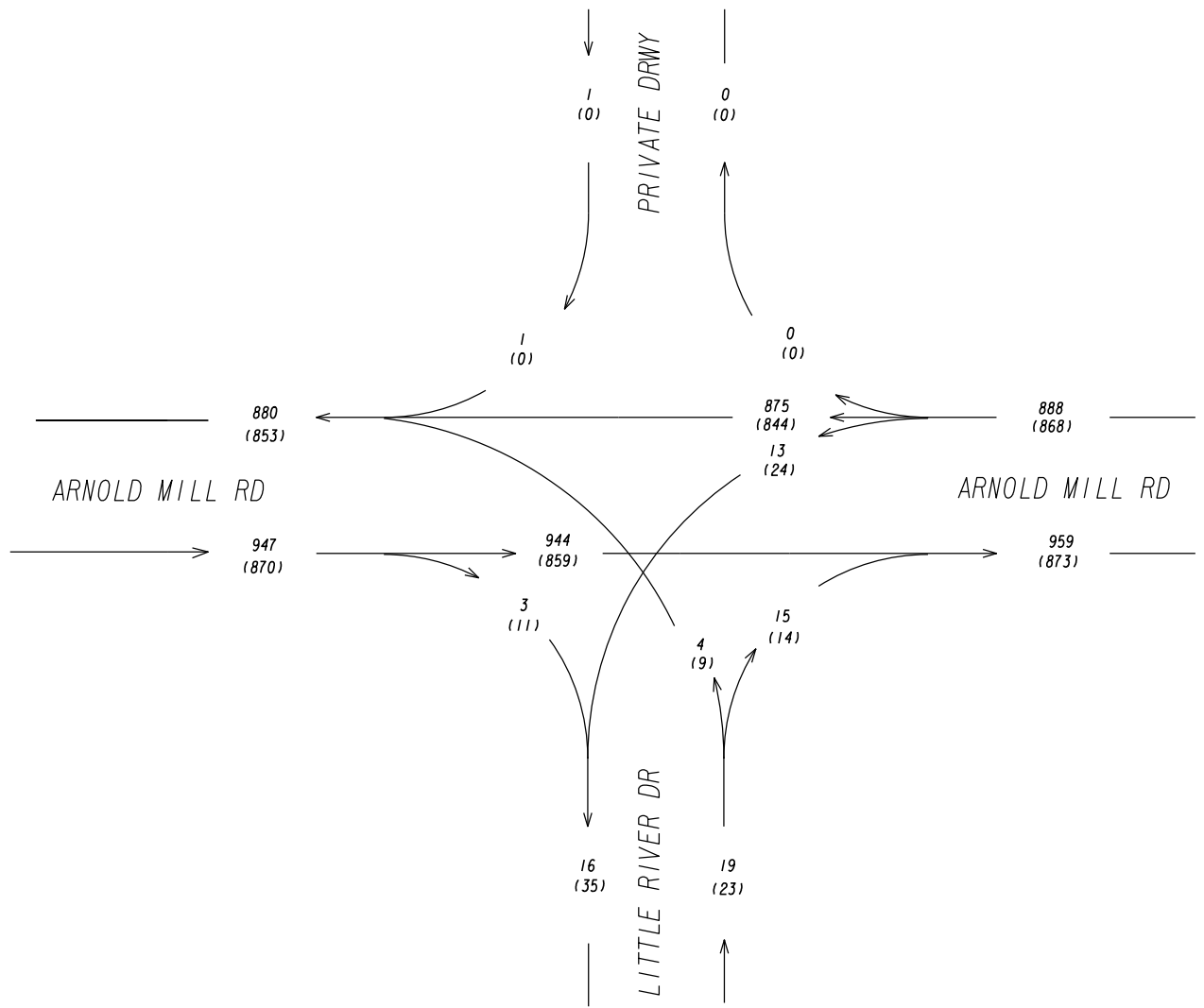
NOT TO SCALE

REVISION DATES

TRAFFIC DIAGRAM
ARNOLD MILL RD @ NEESE RD
ARNOLD MILL RD @ DRUW CAMERON CT

CHECKED:		DATE:	
BACKCHECKED:		DATE:	
CORRECTED:		DATE:	
VERIFIED:		DATE:	

DRAWING No.
10-0017



2039 DHV
AM (PM)

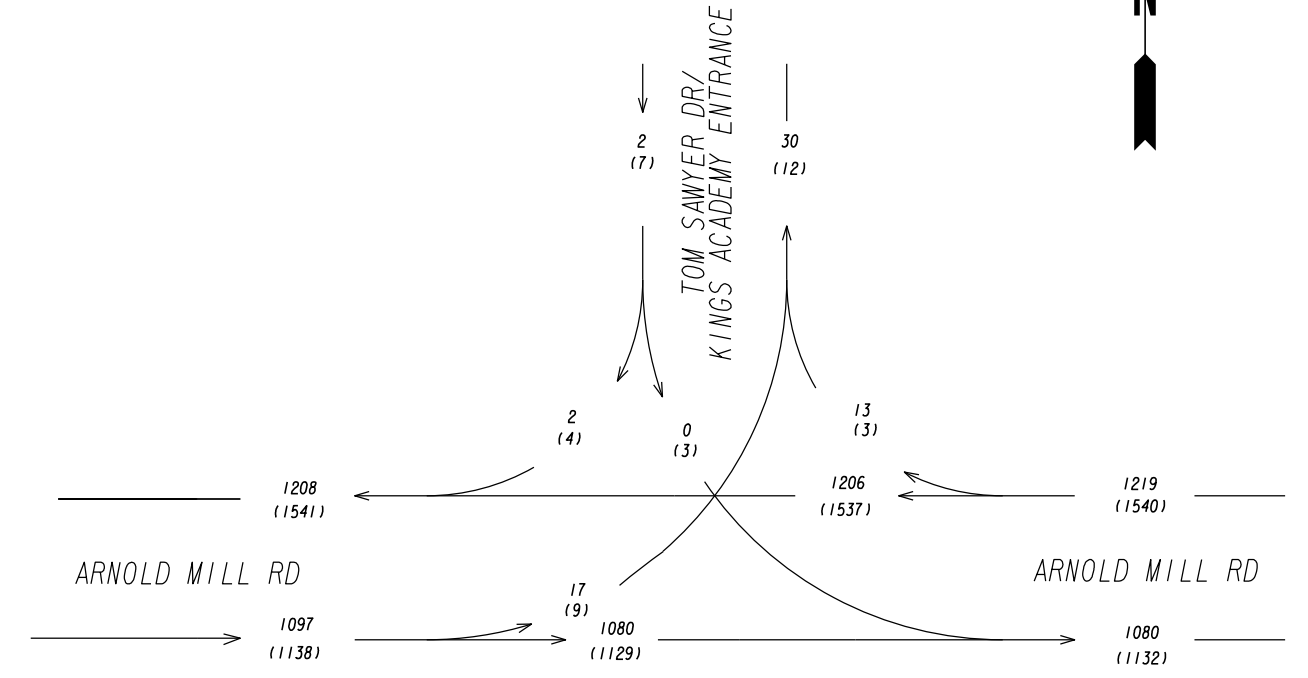
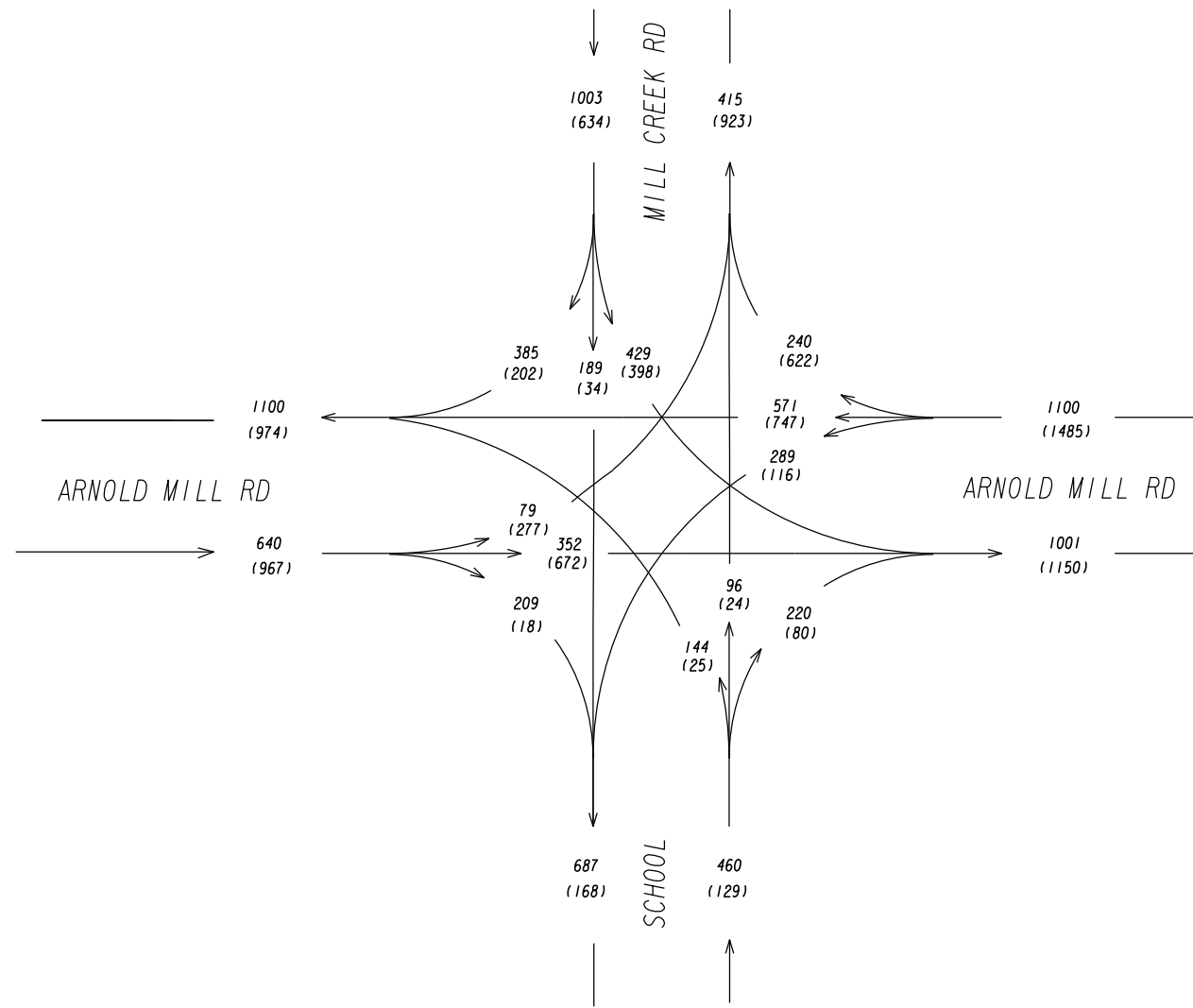
NOT TO SCALE

REVISION DATES

TRAFFIC DIAGRAM
ARNOLD MILL RD @ LITTLE RIVER DR
ARNOLD MILL RD @ N RIVER DR

CHECKED:		DATE:	
BACKCHECKED:		DATE:	
CORRECTED:		DATE:	
VERIFIED:		DATE:	

DRAWING No.
10-0018



2039 DHV
AM (PM)

NOT TO SCALE

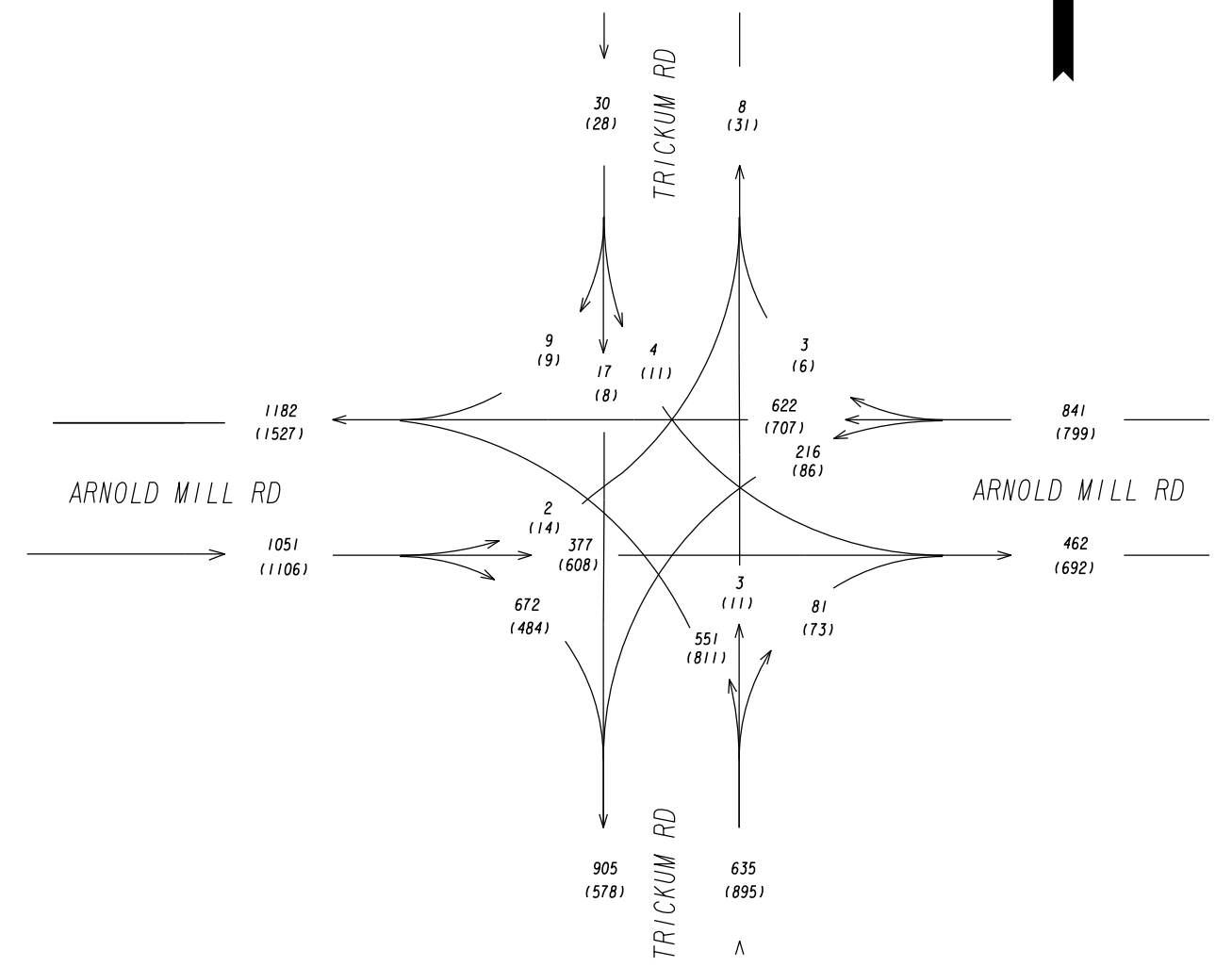
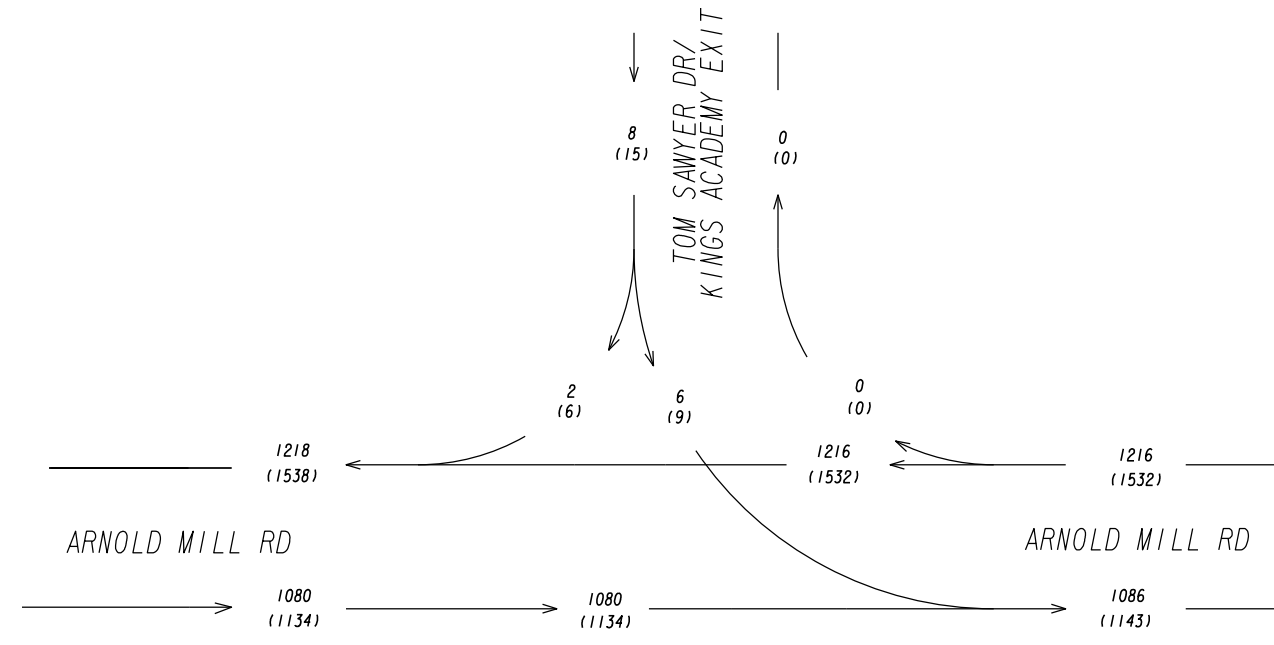
REVISION DATES

No.	Date	Description

TRAFFIC DIAGRAM
ARNOLD MILL RD @ MILL CREEK RD
ARNOLD MILL RD @ TOM SAWYER DR

CHECKED:	DATE:
BACKCHECKED:	DATE:
CORRECTED:	DATE:
VERIFIED:	DATE:

DRAWING No.
10-0019



2039 DHV
AM (PM)

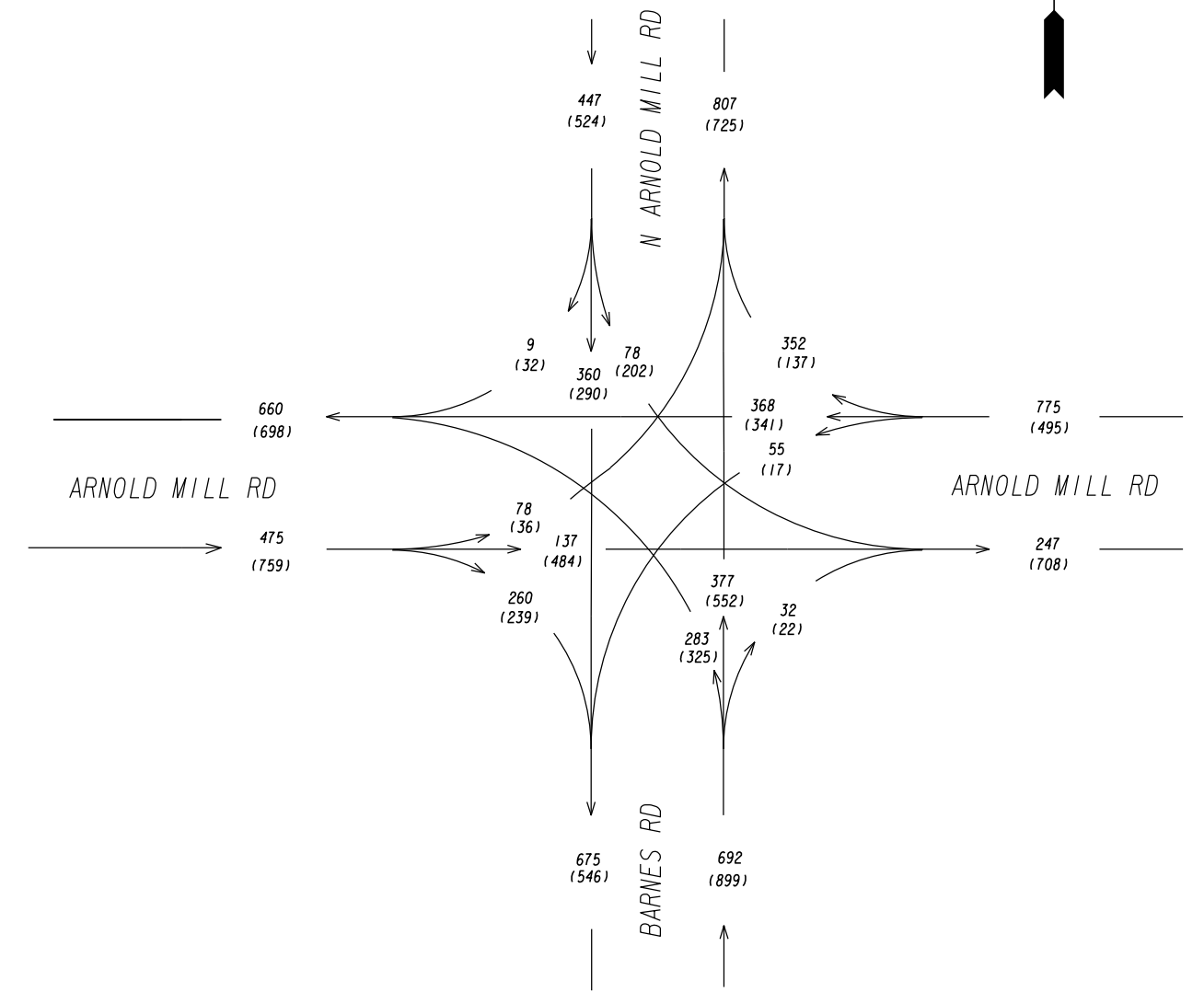
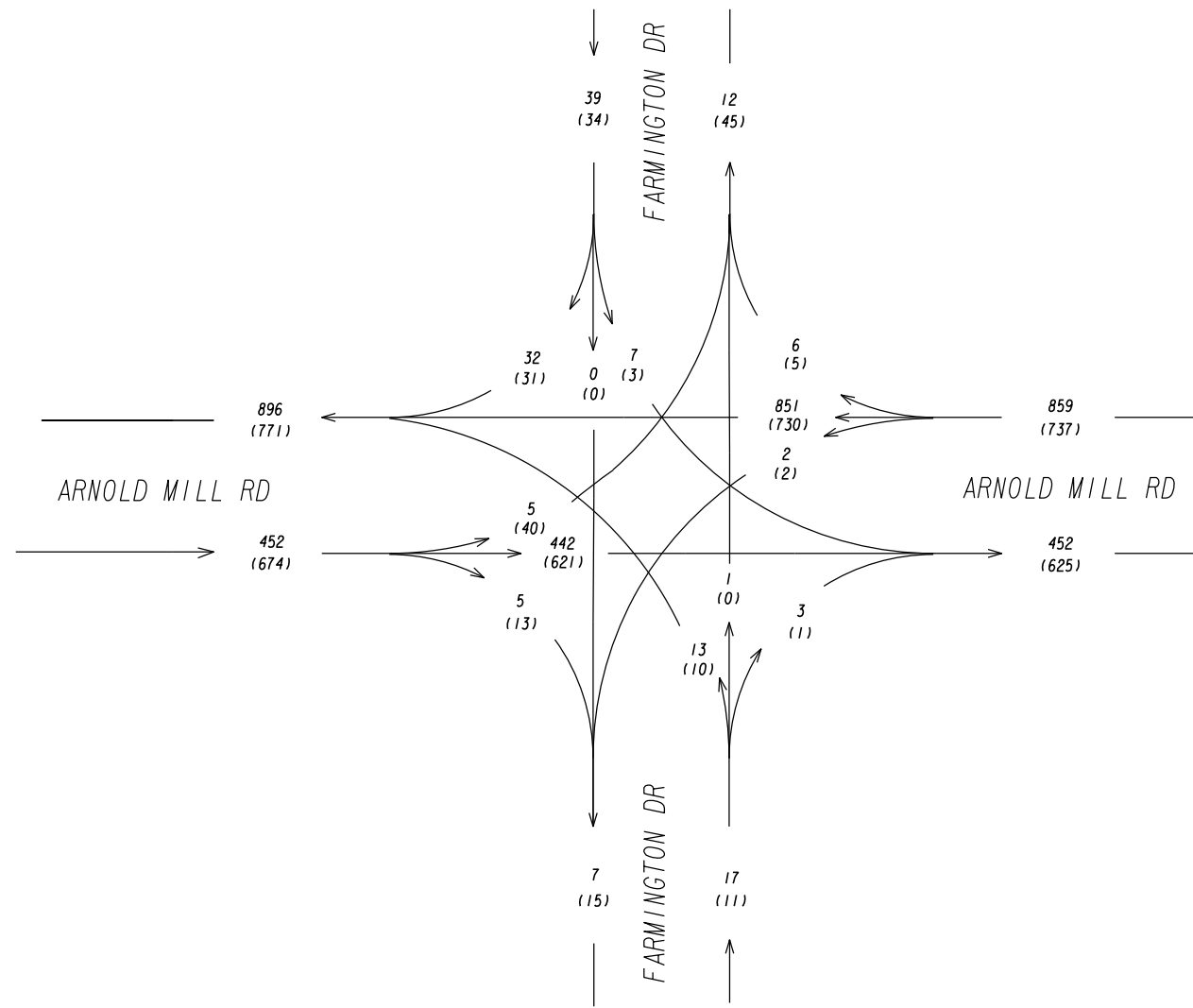
NOT TO SCALE

REVISION DATES

NO.	DATE	DESCRIPTION

TRAFFIC DIAGRAM
**ARNOLD MILL RD @ TOM SAWYER DR/
 KINGS ACADEMY EXIT**
ARNOLD MILL RD @ TRICKUM RD

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	10-0020
CORRECTED:	DATE:	
VERIFIED:	DATE:	



2039 DHV
AM (PM)

NOT TO SCALE

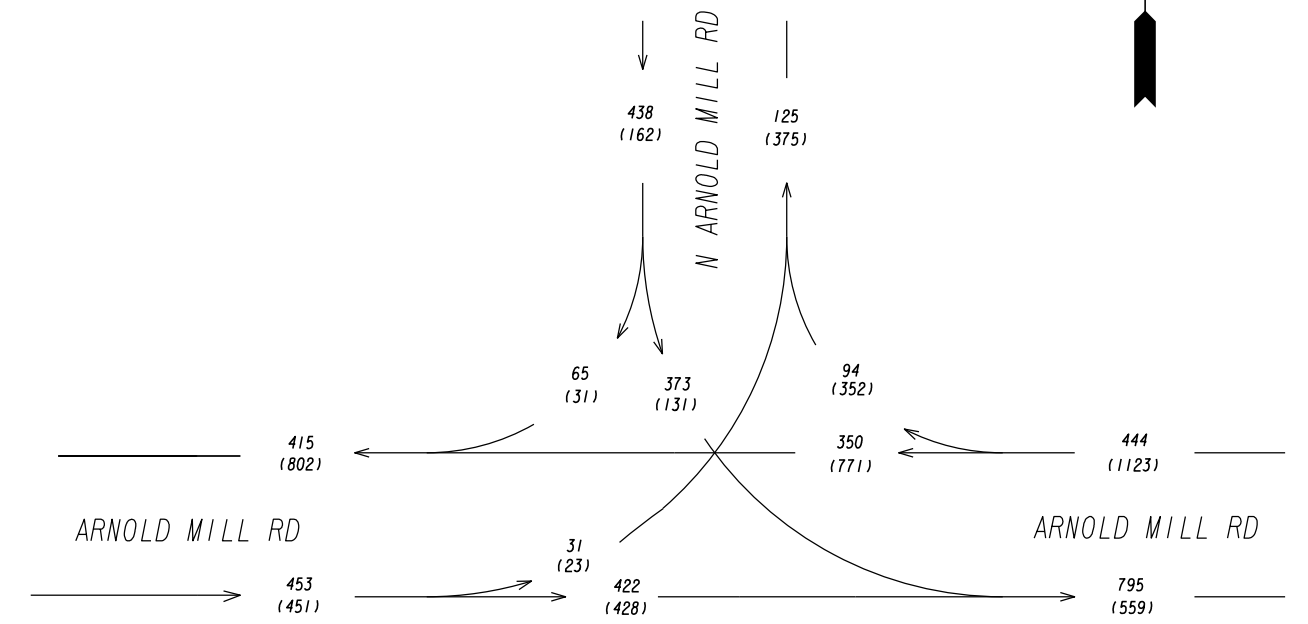
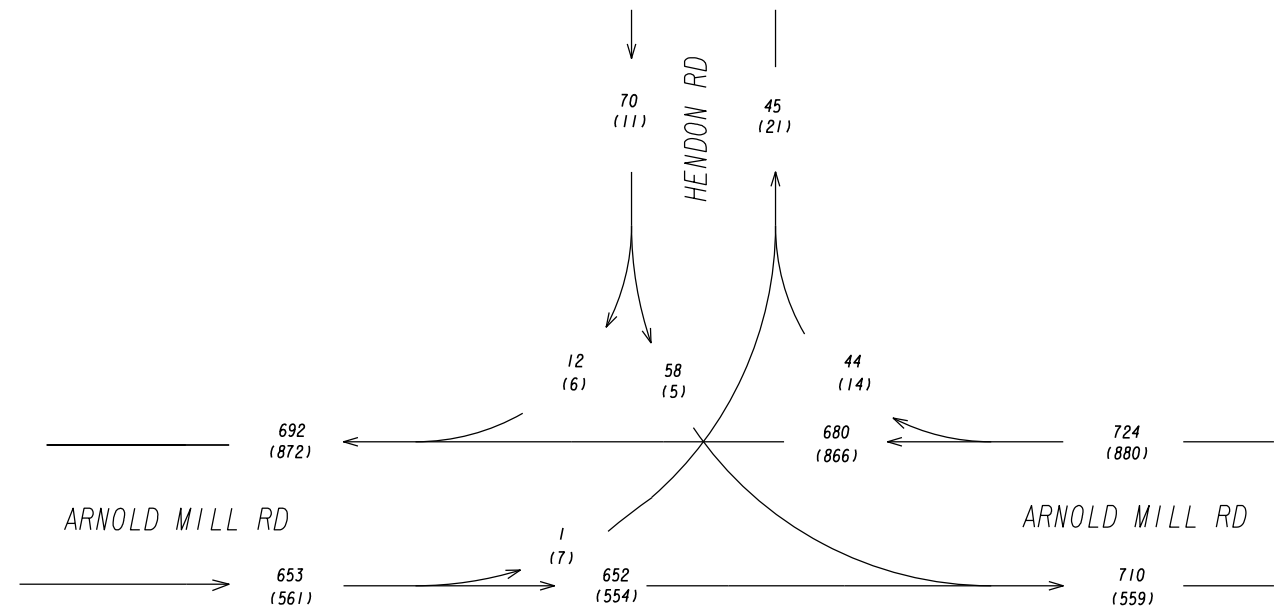
REVISION DATES

No.	Date	Description

TRAFFIC DIAGRAM
ARNOLD MILL RD @ FARMINGTON DR
ARNOLD MILL RD @ N ARNOLD MILL RD/
BARNES RD

CHECKED:	DATE:
BACKCHECKED:	DATE:
CORRECTED:	DATE:
VERIFIED:	DATE:

DRAWING No.
10-0021



2039 DHV
AM (PM)

NOT TO SCALE

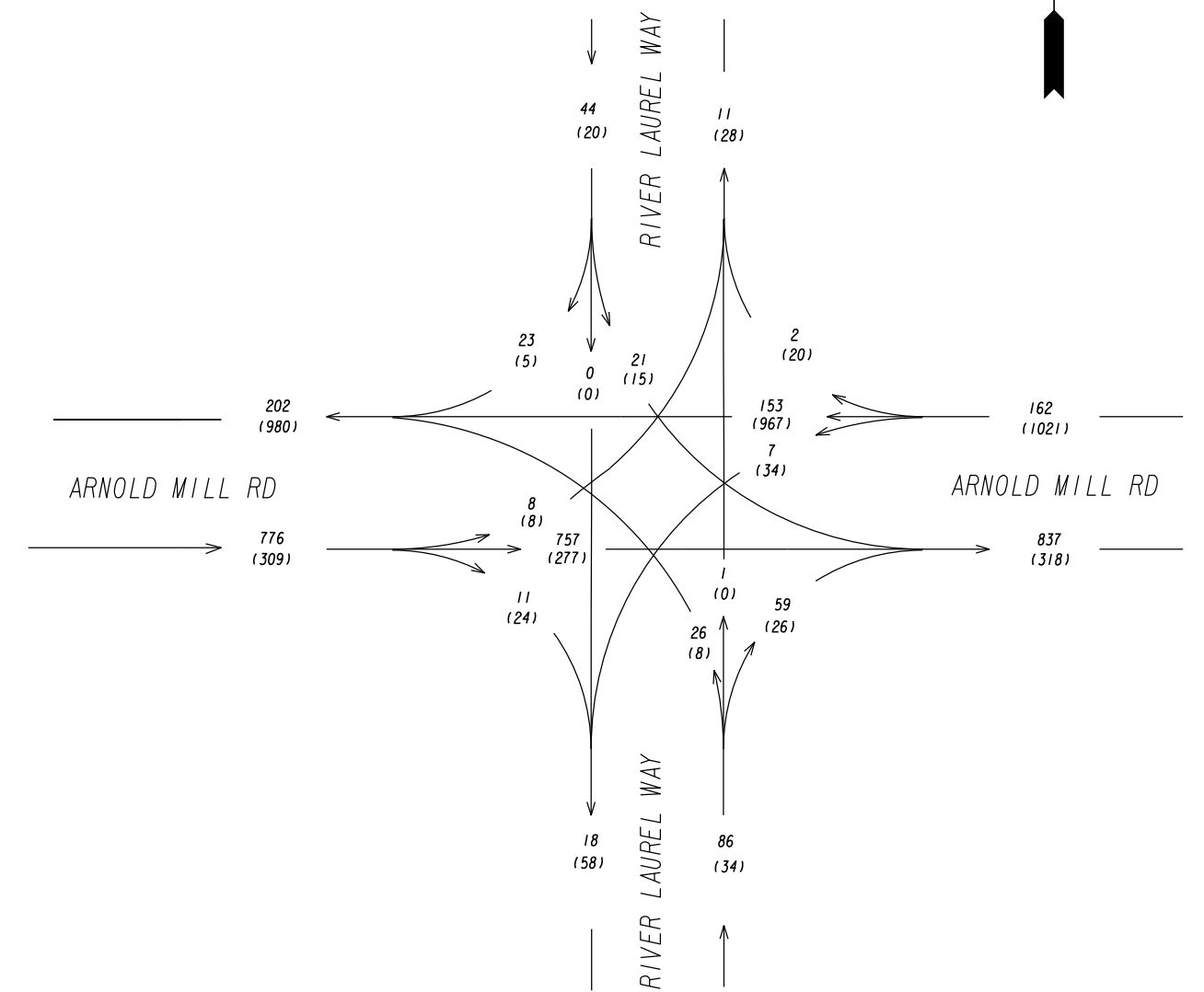
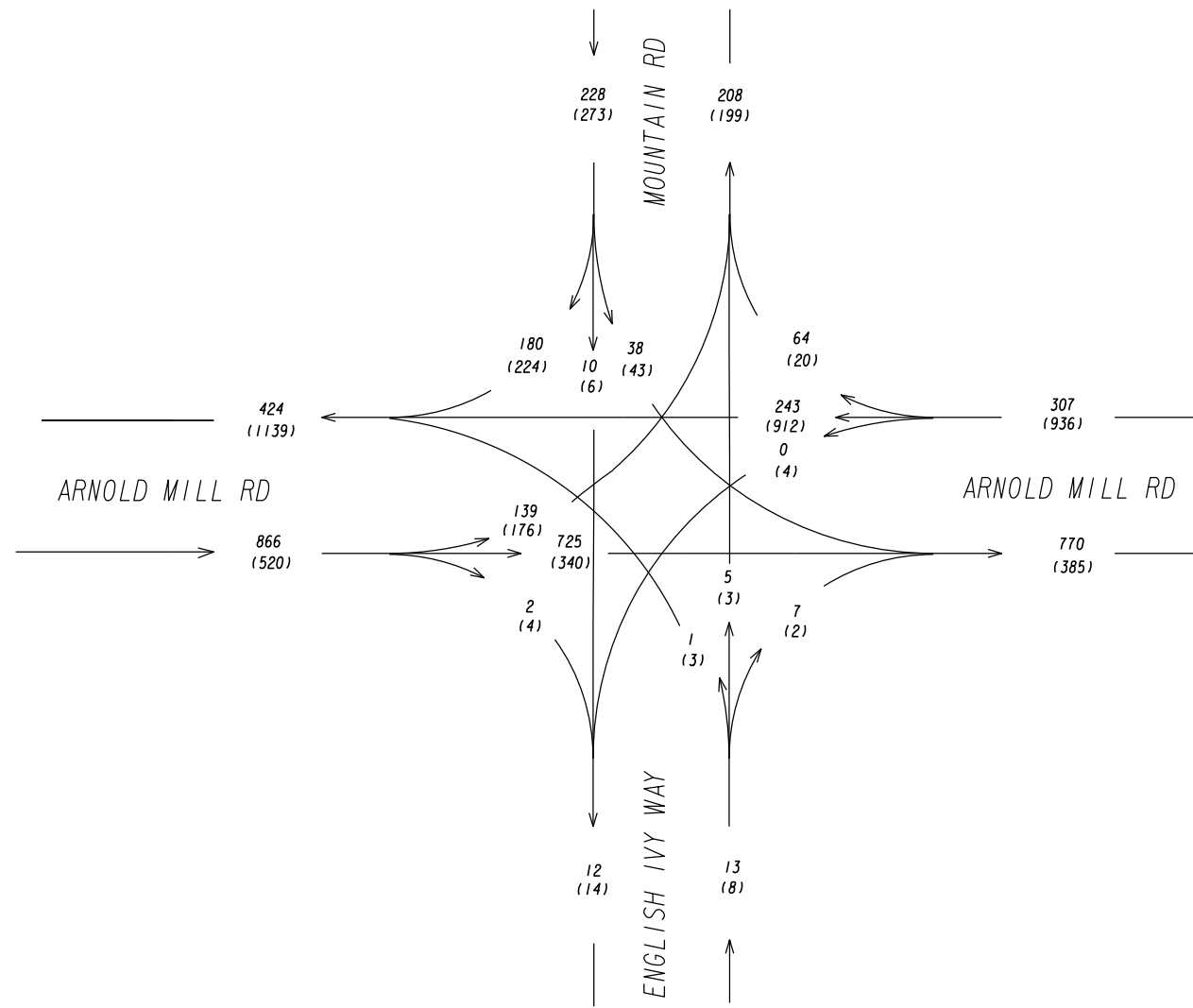
REVISION DATES

No.	Date	Description

TRAFFIC DIAGRAM
ARNOLD MILL RD @ HENDON RD
ARNOLD MILL RD @ N ARNOLD MILL RD

CHECKED:	DATE:
BACKCHECKED:	DATE:
CORRECTED:	DATE:
VERIFIED:	DATE:

DRAWING No.
10-0022



2039 DHV
AM (PM)

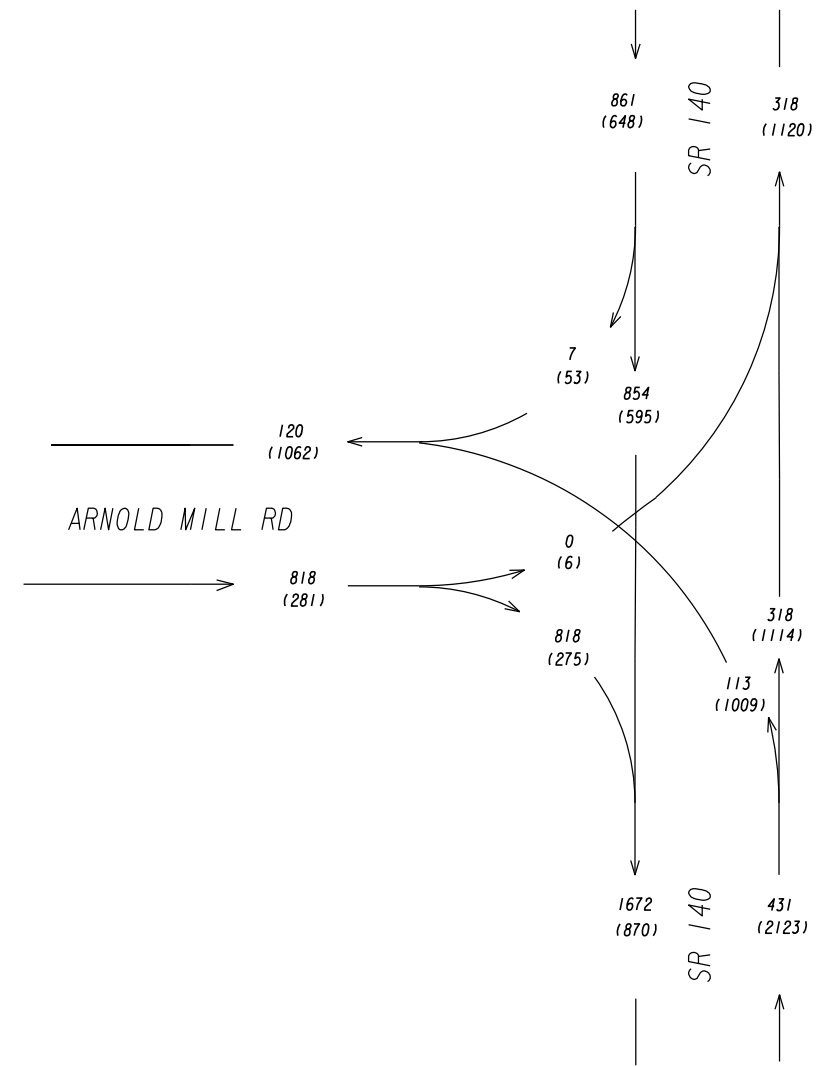
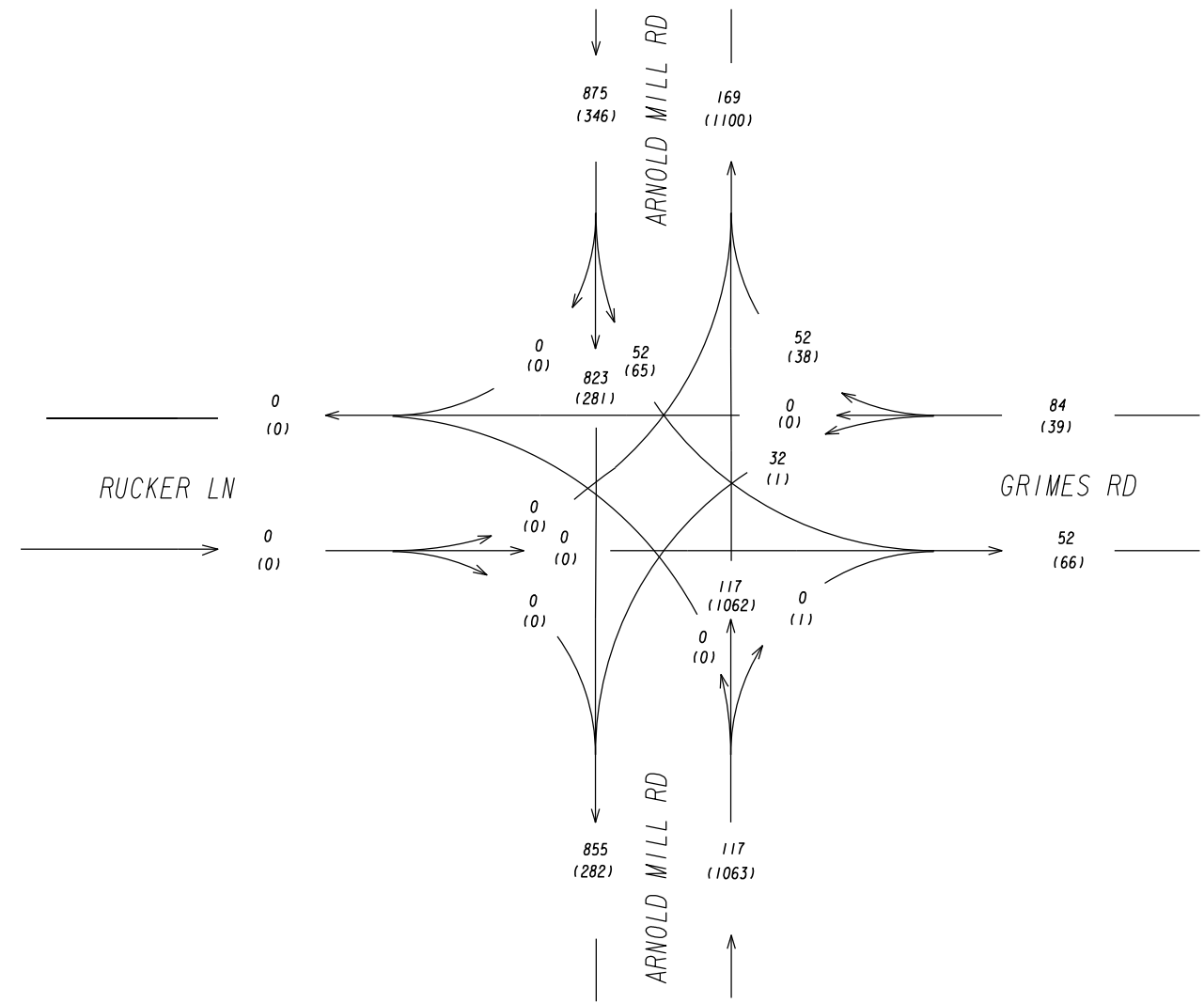
NOT TO SCALE

REVISION DATES

No.	Date	Description

TRAFFIC DIAGRAM
ARNOLD MILL RD @ MOUNTAIN RD/
ENGLISH IVY WAY
ARNOLD MILL RD @ RIVER LAUREL WAY

CHECKED:	DATE:	DRAWING No.
		10-0023
BACKCHECKED:	DATE:	
CORRECTED:	DATE:	
VERIFIED:	DATE:	



2039 DHV
AM (PM)

NOT TO SCALE

REVISION DATES

No.	Date	Description

TRAFFIC DIAGRAM
ARNOLD MILL RD @ RUCKER LN/
GRIMES RD
ARNOLD MILL RD @ SR 140

CHECKED:	DATE:
BACKCHECKED:	DATE:
CORRECTED:	DATE:
VERIFIED:	DATE:

DRAWING No.
10-0024

Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
www.marrtraffic.com

Site 1 of 14
Nesse Rd

Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.106158°, -84.497303°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME	Northbound Nesse Rd			
	Left 1.1	Right 1.2	U-Turn 1.3	App Total
0700 - 0715	14	34	0	48
0715 - 0730	17	63	0	80
0730 - 0745	9	70	0	79
0745 - 0800	26	125	0	151
Hourly Total	66	292	0	358
0800 - 0815	23	78	0	101
0815 - 0830	17	16	0	33
0830 - 0845	21	43	0	64
0845 - 0900	30	32	0	62
Hourly Total	91	169	0	260
Grand Total	157	461	0	618
Approach %	25.40	74.60	0.00	-
Intersection %	5.94	17.46	0.00	23.40

TIME	Eastbound Arnold Mill Rd (West)				Westbound Arnold Mill Rd (East)				Int Total
	Thru 1.4	Right 1.5	U-Turn 1.6	App Total	Left 1.7	Thru 1.8	U-Turn 1.9	App Total	
0700 - 0715	76	33	0	109	32	69	0	101	258
0715 - 0730	61	37	0	98	64	95	0	159	337
0730 - 0745	61	24	0	85	79	90	0	169	333
0745 - 0800	96	50	0	146	70	86	0	156	453
Hourly Total	294	144	0	438	245	340	0	585	1381
0800 - 0815	82	53	0	135	68	57	0	125	361
0815 - 0830	54	52	0	106	62	108	0	170	309
0830 - 0845	70	56	0	126	38	85	0	123	313
0845 - 0900	56	34	0	90	38	87	0	125	277
Hourly Total	262	195	0	457	206	337	0	543	1260
Grand Total	556	339	0	895	451	677	0	1128	2641
Approach %	62.12	37.88	0.00	-	39.98	60.02	0.00	-	-
Intersection %	21.05	12.84	0.00	33.89	17.08	25.63	0.00	42.71	-

1600 - 1800 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME	Northbound Nesse Rd			
	Left 1.1	Right 1.2	U-Turn 1.3	App Total
1600 - 1615	32	50	0	82
1615 - 1630	47	28	0	75
1630 - 1645	53	36	0	89
1645 - 1700	63	41	0	104
Hourly Total	195	155	0	350
1700 - 1715	52	64	0	116
1715 - 1730	38	63	0	101
1730 - 1745	60	51	0	111
1745 - 1800	50	61	0	111
Hourly Total	200	239	0	439
Grand Total	395	394	0	789
Approach %	50.06	49.94	0.00	-
Intersection %	13.03	13.00	0.00	26.03

TIME	Eastbound Arnold Mill Rd (West)				Westbound Arnold Mill Rd (East)				Int Total
	Thru 1.4	Right 1.5	U-Turn 1.6	App Total	Left 1.7	Thru 1.8	U-Turn 1.9	App Total	
1600 - 1615	76	31	0	107	36	96	0	132	321
1615 - 1630	94	41	0	135	37	113	0	150	360
1630 - 1645	99	49	0	148	38	90	0	128	365
1645 - 1700	75	43	0	118	23	121	0	144	366
Hourly Total	344	164	0	508	134	420	0	554	1412
1700 - 1715	119	59	0	178	27	103	0	130	424
1715 - 1730	88	35	0	123	35	106	0	141	365
1730 - 1745	100	39	0	139	30	148	0	178	428
1745 - 1800	105	42	0	147	28	116	0	144	402
Hourly Total	412	175	0	587	120	473	0	593	1619
Grand Total	756	339	0	1095	254	893	0	1147	3031
Approach %	69.04	30.96	0.00	-	22.14	77.86	0.00	-	-
Intersection %	24.94	11.18	0.00	36.13	8.38	29.46	0.00	37.84	-

Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
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Site 1 of 14
Nesse Rd

Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.106158°, -84.497303°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

Northbound				
Nesse Rd				
TIME	Left 1.1	Right 1.2	U-Turn 1.3	App Total
0700 - 0715	14	34	0	48
0715 - 0730	16	63	0	79
0730 - 0745	9	69	0	78
0745 - 0800	26	116	0	142
Hourly Total	65	282	0	347
0800 - 0815	23	75	0	98
0815 - 0830	17	16	0	33
0830 - 0845	19	36	0	55
0845 - 0900	30	32	0	62
Hourly Total	89	159	0	248
Grand Total	154	441	0	595
Approach %	25.88	74.12	0.00	-
Intersection %	6.01	17.21	0.00	23.21

Eastbound				Westbound				Int Total
Arnold Mill Rd (West)				Arnold Mill Rd (East)				
Thru 1.4	Right 1.5	U-Turn 1.6	App Total	Left 1.7	Thru 1.8	U-Turn 1.9	App Total	Int Total
72	33	0	105	31	67	0	98	
60	37	0	97	60	94	0	154	330
59	23	0	82	78	88	0	166	326
95	50	0	145	65	84	0	149	436
286	143	0	429	234	333	0	567	1343
81	52	0	133	64	56	0	120	351
52	52	0	104	62	107	0	169	306
68	56	0	124	37	80	0	117	296
55	33	0	88	38	79	0	117	267
256	193	0	449	201	322	0	523	1220
542	336	0	878	435	655	0	1090	2563
61.73	38.27	0.00	-	39.91	60.09	0.00	-	-
21.15	13.11	0.00	34.26	16.97	25.56	0.00	42.53	-

1600 - 1800 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

Northbound				
Nesse Rd				
TIME	Left 1.1	Right 1.2	U-Turn 1.3	App Total
1600 - 1615	32	50	0	82
1615 - 1630	46	28	0	74
1630 - 1645	51	34	0	85
1645 - 1700	58	41	0	99
Hourly Total	187	153	0	340
1700 - 1715	51	63	0	114
1715 - 1730	38	63	0	101
1730 - 1745	60	51	0	111
1745 - 1800	49	61	0	110
Hourly Total	198	238	0	436
Grand Total	385	391	0	776
Approach %	49.61	50.39	0.00	-
Intersection %	12.96	13.16	0.00	26.13

Eastbound				Westbound				Int Total
Arnold Mill Rd (West)				Arnold Mill Rd (East)				
Thru 1.4	Right 1.5	U-Turn 1.6	App Total	Left 1.7	Thru 1.8	U-Turn 1.9	App Total	Int Total
73	31	0	104	33	91	0	124	
90	41	0	131	33	109	0	142	347
96	49	0	145	38	84	0	122	352
72	42	0	114	22	118	0	140	353
331	163	0	494	126	402	0	528	1362
117	59	0	176	27	100	0	127	417
87	35	0	122	35	105	0	140	363
100	39	0	139	30	147	0	177	427
105	42	0	147	28	116	0	144	401
409	175	0	584	120	468	0	588	1608
740	338	0	1078	246	870	0	1116	2970
68.65	31.35	0.00	-	22.04	77.96	0.00	-	-
24.92	11.38	0.00	36.30	8.28	29.29	0.00	37.58	-

Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
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Site 1 of 14
Nesse Rd

Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.106158°, -84.497303°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

Northbound				
Nesse Rd				
TIME	Left 1.1	Right 1.2	U-Turn 1.3	App Total
0700 - 0715	0	0	0	0
0715 - 0730	1	0	0	1
0730 - 0745	0	1	0	1
0745 - 0800	0	9	0	9
Hourly Total	1	10	0	11
0800 - 0815	0	3	0	3
0815 - 0830	0	0	0	0
0830 - 0845	2	7	0	9
0845 - 0900	0	0	0	0
Hourly Total	2	10	0	12
Grand Total	3	20	0	23
Approach %	13.04	86.96	0.00	-
Intersection %	3.85	25.64	0.00	29.49

Eastbound				Westbound				
Arnold Mill Rd (West)				Arnold Mill Rd (East)				
Thru 1.4	Right 1.5	U-Turn 1.6	App Total	Left 1.7	Thru 1.8	U-Turn 1.9	App Total	Int Total
4	0	0	4	1	2	0	3	7
1	0	0	1	4	1	0	5	7
2	1	0	3	1	2	0	3	7
1	0	0	1	5	2	0	7	17
8	1	0	9	11	7	0	18	38
1	1	0	2	4	1	0	5	10
2	0	0	2	0	1	0	1	3
2	0	0	2	1	5	0	6	17
1	1	0	2	0	8	0	8	10
6	2	0	8	5	15	0	20	40
14	3	0	17	16	22	0	38	78
82.35	17.65	0.00	-	42.11	57.89	0.00	-	-
17.95	3.85	0.00	21.79	20.51	28.21	0.00	48.72	-

1600 - 1800 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

Northbound				
Nesse Rd				
TIME	Left 1.1	Right 1.2	U-Turn 1.3	App Total
1600 - 1615	0	0	0	0
1615 - 1630	1	0	0	1
1630 - 1645	2	2	0	4
1645 - 1700	5	0	0	5
Hourly Total	8	2	0	10
1700 - 1715	1	1	0	2
1715 - 1730	0	0	0	0
1730 - 1745	0	0	0	0
1745 - 1800	1	0	0	1
Hourly Total	2	1	0	3
Grand Total	10	3	0	13
Approach %	76.92	23.08	0.00	-
Intersection %	16.39	4.92	0.00	21.31

Eastbound				Westbound				
Arnold Mill Rd (West)				Arnold Mill Rd (East)				
Thru 1.4	Right 1.5	U-Turn 1.6	App Total	Left 1.7	Thru 1.8	U-Turn 1.9	App Total	Int Total
3	0	0	3	3	5	0	8	11
4	0	0	4	4	4	0	8	13
3	0	0	3	0	6	0	6	13
3	1	0	4	1	3	0	4	13
13	1	0	14	8	18	0	26	50
2	0	0	2	0	3	0	3	7
1	0	0	1	0	1	0	1	2
0	0	0	0	0	1	0	1	1
0	0	0	0	0	0	0	0	1
3	0	0	3	0	5	0	5	11
16	1	0	17	8	23	0	31	61
94.12	5.88	0.00	-	25.81	74.19	0.00	-	-
26.23	1.64	0.00	27.87	13.11	37.70	0.00	50.82	-

Woodstock, GA
Peak Hour Turning Movement Count



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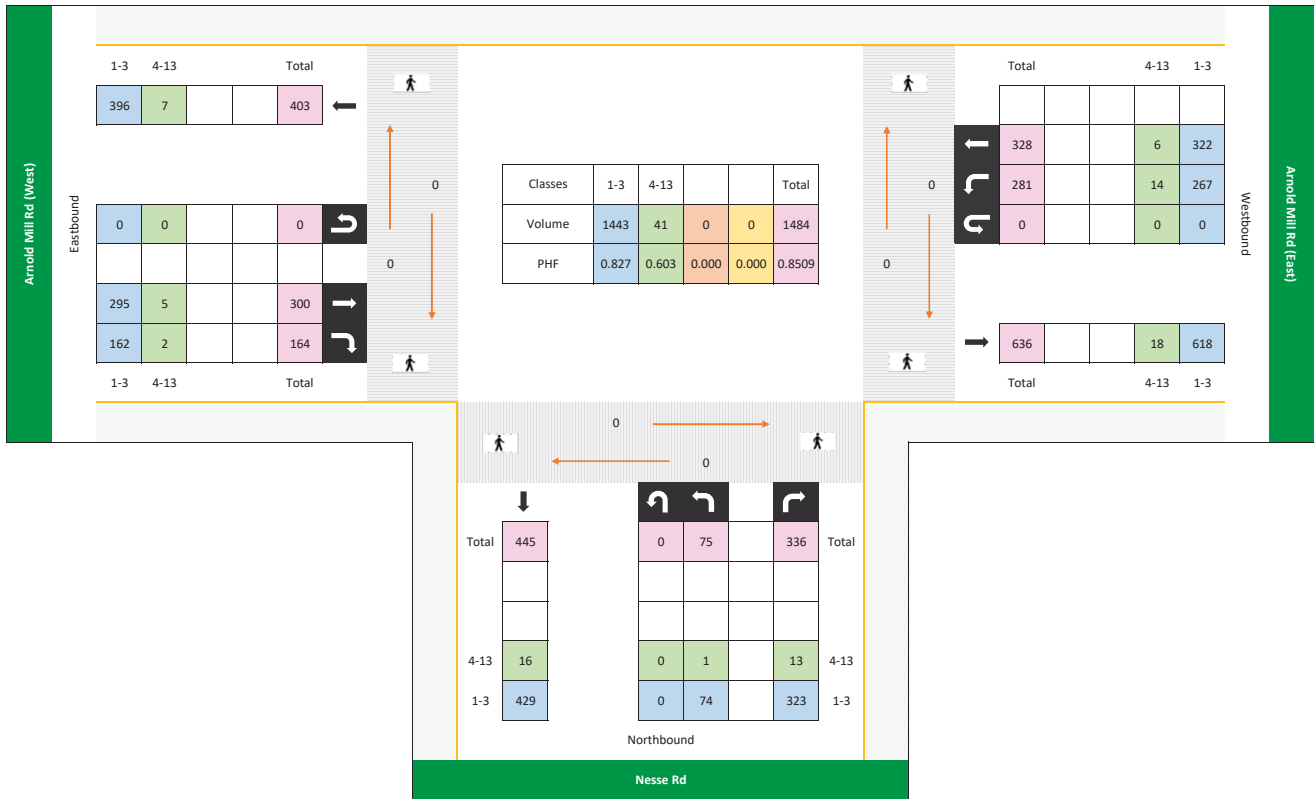
Thursday, February 13, 2020	
Period	0700 - 0900
Peak Hour	0715 - 0815

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Woodstock, GA
Peak Hour Turning Movement Count



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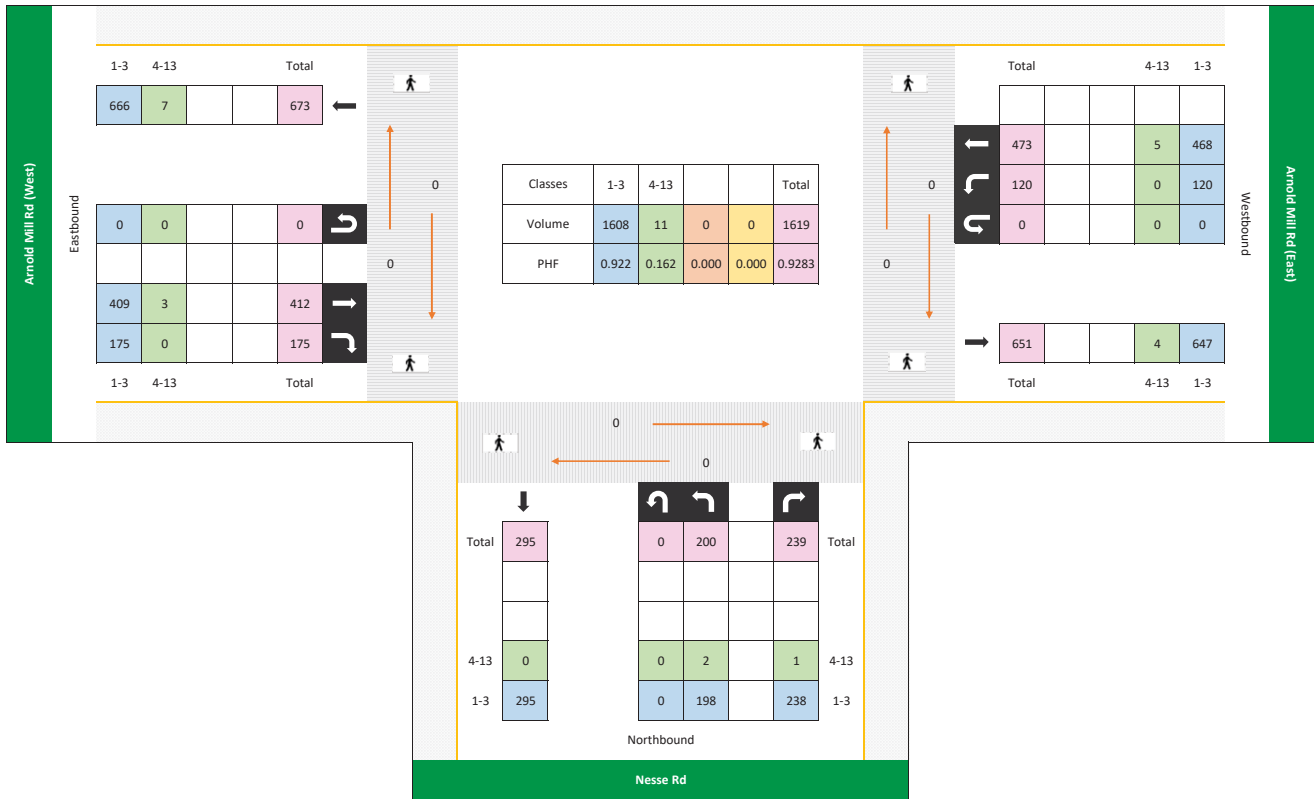
Thursday, February 13, 2020	
Period	1600 - 1800
Peak Hour	1700 - 1800

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
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Site 2a of 14

Druw Cameron Ct
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.110682°, -84.492818°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME
0700 - 0715
0715 - 0730
0730 - 0745
0745 - 0800
Hourly Total
0800 - 0815
0815 - 0830
0830 - 0845
0845 - 0900
Hourly Total
Grand Total
Approach %
Intersection %

Southbound Druw Cameron Ct				Eastbound Arnold Mill Rd (West)				Westbound Arnold Mill Rd (East)				
Left 2a.1	Right 2a.2	U-Turn 2a.3	App Total	Left 2a.4	Thru 2a.5	U-Turn 2a.6	App Total	Thru 2a.7	Right 2a.8	U-Turn 2a.9	App Total	Int Total
0	0	0	0	0	122	0	122	102	2	0	104	226
2	0	0	2	0	127	0	127	156	2	0	158	287
0	0	0	0	0	128	0	128	171	0	0	171	299
1	0	0	1	0	221	0	221	141	1	0	142	364
3	0	0	3	0	598	0	598	570	5	0	575	1176
1	0	0	1	0	155	0	155	120	1	0	121	277
0	0	0	0	0	75	0	75	164	2	0	166	241
0	0	0	0	0	107	0	107	118	1	0	119	226
2	1	0	3	2	82	0	84	120	0	0	120	207
3	1	0	4	2	419	0	421	522	4	0	526	951
6	1	0	7	2	1017	0	1019	1092	9	0	1101	2127
85.71	14.29	0.00	-	0.20	99.80	0.00	-	99.18	0.82	0.00	-	
0.28	0.05	0.00	0.33	0.09	47.81	0.00	47.91	51.34	0.42	0.00	51.76	

1600 - 1800 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME
1600 - 1615
1615 - 1630
1630 - 1645
1645 - 1700
Hourly Total
1700 - 1715
1715 - 1730
1730 - 1745
1745 - 1800
Hourly Total
Grand Total
Approach %
Intersection %

Southbound Druw Cameron Ct				Eastbound Arnold Mill Rd (West)				Westbound Arnold Mill Rd (East)				
Left 2a.1	Right 2a.2	U-Turn 2a.3	App Total	Left 2a.4	Thru 2a.5	U-Turn 2a.6	App Total	Thru 2a.7	Right 2a.8	U-Turn 2a.9	App Total	Int Total
1	2	0	3	2	120	0	122	132	1	0	133	258
0	2	0	2	4	106	0	110	142	1	0	143	255
2	0	0	2	1	121	0	122	121	0	0	121	245
0	0	0	0	1	111	0	112	138	0	0	138	250
3	4	0	7	8	458	0	466	533	2	0	535	1008
0	2	0	2	2	163	0	165	128	0	0	128	295
0	0	0	0	2	139	0	141	137	0	0	137	278
3	1	0	4	2	130	0	132	172	1	0	173	309
1	4	0	5	2	155	0	157	133	3	0	136	298
4	7	0	11	8	587	0	595	570	4	0	574	1180
7	11	0	18	16	1045	0	1061	1103	6	0	1109	2188
38.89	61.11	0.00	-	1.51	98.49	0.00	-	99.46	0.54	0.00	-	
0.32	0.50	0.00	0.82	0.73	47.76	0.00	48.49	50.41	0.27	0.00	50.69	

Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
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Site 2a of 14

Druw Cameron Ct
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.110682°, -84.492818°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME
0700 - 0715
0715 - 0730
0730 - 0745
0745 - 0800
Hourly Total
0800 - 0815
0815 - 0830
0830 - 0845
0845 - 0900
Hourly Total
Grand Total
Approach %
Intersection %

Southbound Druw Cameron Ct				Eastbound Arnold Mill Rd (West)				Westbound Arnold Mill Rd (East)				
Left 2a.1	Right 2a.2	U-Turn 2a.3	App Total	Left 2a.4	Thru 2a.5	U-Turn 2a.6	App Total	Thru 2a.7	Right 2a.8	U-Turn 2a.9	App Total	Int Total
0	0	0	0	0	118	0	118	98	2	0	100	218
1	0	0	1	0	126	0	126	151	2	0	153	280
0	0	0	0	0	126	0	126	168	0	0	168	294
1	0	0	1	0	210	0	210	135	1	0	136	347
2	0	0	2	0	580	0	580	552	5	0	557	1139
1	0	0	1	0	152	0	152	114	1	0	115	268
0	0	0	0	0	72	0	72	164	1	0	165	237
0	0	0	0	0	98	0	98	112	1	0	113	211
2	1	0	3	2	81	0	83	112	0	0	112	198
3	1	0	4	2	403	0	405	502	3	0	505	914
5	1	0	6	2	983	0	985	1054	8	0	1062	2053
83.33	16.67	0.00	-	0.20	99.80	0.00	-	99.25	0.75	0.00	-	-
0.24	0.05	0.00	0.29	0.10	47.88	0.00	47.98	51.34	0.39	0.00	51.73	-

1600 - 1800 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME
1600 - 1615
1615 - 1630
1630 - 1645
1645 - 1700
Hourly Total
1700 - 1715
1715 - 1730
1730 - 1745
1745 - 1800
Hourly Total
Grand Total
Approach %
Intersection %

Southbound Druw Cameron Ct				Eastbound Arnold Mill Rd (West)				Westbound Arnold Mill Rd (East)				
Left 2a.1	Right 2a.2	U-Turn 2a.3	App Total	Left 2a.4	Thru 2a.5	U-Turn 2a.6	App Total	Thru 2a.7	Right 2a.8	U-Turn 2a.9	App Total	Int Total
1	2	0	3	2	115	0	117	124	1	0	125	245
0	2	0	2	4	104	0	108	135	1	0	136	246
2	0	0	2	1	116	0	117	114	0	0	114	233
0	0	0	0	1	108	0	109	134	0	0	134	243
3	4	0	7	8	443	0	451	507	2	0	509	967
0	2	0	2	2	161	0	163	125	0	0	125	290
0	0	0	0	2	139	0	141	136	0	0	136	277
3	1	0	4	2	130	0	132	171	1	0	172	308
1	4	0	5	2	154	0	156	133	2	0	135	296
4	7	0	11	8	584	0	592	565	3	0	568	1171
7	11	0	18	16	1027	0	1043	1072	5	0	1077	2138
38.89	61.11	0.00	-	1.53	98.47	0.00	-	99.54	0.46	0.00	-	-
0.33	0.51	0.00	0.84	0.75	48.04	0.00	48.78	50.14	0.23	0.00	50.37	-

Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
www.marrtraffic.com

Site 2a of 14

Druw Cameron Ct
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.110682°, -84.492818°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME
0700 - 0715
0715 - 0730
0730 - 0745
0745 - 0800
Hourly Total
0800 - 0815
0815 - 0830
0830 - 0845
0845 - 0900
Hourly Total
Grand Total
Approach %
Intersection %

Southbound Druw Cameron Ct				Eastbound Arnold Mill Rd (West)				Westbound Arnold Mill Rd (East)				
Left 2a.1	Right 2a.2	U-Turn 2a.3	App Total	Left 2a.4	Thru 2a.5	U-Turn 2a.6	App Total	Thru 2a.7	Right 2a.8	U-Turn 2a.9	App Total	Int Total
0	0	0	0	0	4	0	4	4	0	0	4	8
1	0	0	1	0	1	0	1	5	0	0	5	7
0	0	0	0	0	2	0	2	3	0	0	3	5
0	0	0	0	0	11	0	11	6	0	0	6	17
1	0	0	1	0	18	0	18	18	0	0	18	37
0	0	0	0	0	3	0	3	6	0	0	6	9
0	0	0	0	0	3	0	3	0	1	0	1	4
0	0	0	0	0	9	0	9	6	0	0	6	15
0	0	0	0	0	1	0	1	8	0	0	8	9
0	0	0	0	0	16	0	16	20	1	0	21	37
1	0	0	1	0	34	0	34	38	1	0	39	74
100.00	0.00	0.00	-	0.00	100.00	0.00	-	97.44	2.56	0.00	-	
1.35	0.00	0.00	1.35	0.00	45.95	0.00	45.95	51.35	1.35	0.00	52.70	

1600 - 1800 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME
1600 - 1615
1615 - 1630
1630 - 1645
1645 - 1700
Hourly Total
1700 - 1715
1715 - 1730
1730 - 1745
1745 - 1800
Hourly Total
Grand Total
Approach %
Intersection %

Southbound Druw Cameron Ct				Eastbound Arnold Mill Rd (West)				Westbound Arnold Mill Rd (East)				
Left 2a.1	Right 2a.2	U-Turn 2a.3	App Total	Left 2a.4	Thru 2a.5	U-Turn 2a.6	App Total	Thru 2a.7	Right 2a.8	U-Turn 2a.9	App Total	Int Total
0	0	0	0	0	5	0	5	8	0	0	8	13
0	0	0	0	0	2	0	2	7	0	0	7	9
0	0	0	0	0	5	0	5	7	0	0	7	12
0	0	0	0	0	3	0	3	4	0	0	4	7
0	0	0	0	0	15	0	15	26	0	0	26	41
0	0	0	0	0	2	0	2	3	0	0	3	5
0	0	0	0	0	0	0	0	1	0	0	1	1
0	0	0	0	0	0	0	0	1	0	0	1	1
0	0	0	0	0	1	0	1	0	1	0	1	2
0	0	0	0	0	3	0	3	5	1	0	6	9
0	0	0	0	0	18	0	18	31	1	0	32	50
0.00	0.00	0.00	-	0.00	100.00	0.00	-	96.88	3.13	0.00	-	
0.00	0.00	0.00	0.00	0.00	36.00	0.00	36.00	62.00	2.00	0.00	64.00	

Woodstock, GA
Peak Hour Turning Movement Count



Marr Traffic Inc

www.marrtraffic.com

Thursday, February 13, 2020	
Period	0700 - 0900
Peak Hour	0715 - 0815

Drue Cameron Ct

Southbound

1-3	0	3	0	4	1-3
4-13	0	1	0	0	4-13
Total				4	Total

0

Session Parameters

(Drop Down Menu)

Peak Hour

Volume

Arnold Mill Rd (West)

Arnold Mill Rd (East)

Classes	1-3	4-13			Total
Volume	1189	38	0	0	1227
PHF	0.857	0.559	0.000	0.000	0.884

1-3	4-13	Total
568	20	588

Total	4-13	1-3
588	20	568

1-3	4-13	Total
614	17	631

Total	4-13	1-3
635	18	617

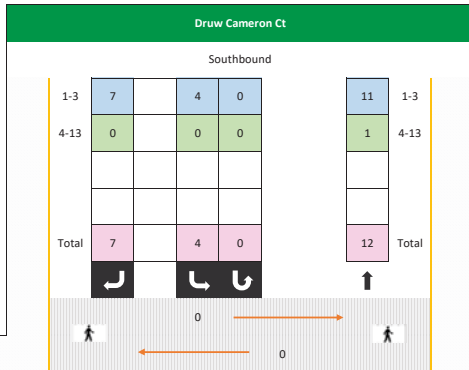
Woodstock, GA
Peak Hour Turning Movement Count



Marr Traffic Inc

www.marrtraffic.com

Thursday, February 13, 2020	
Period	1600 - 1800
Peak Hour	1700 - 1800

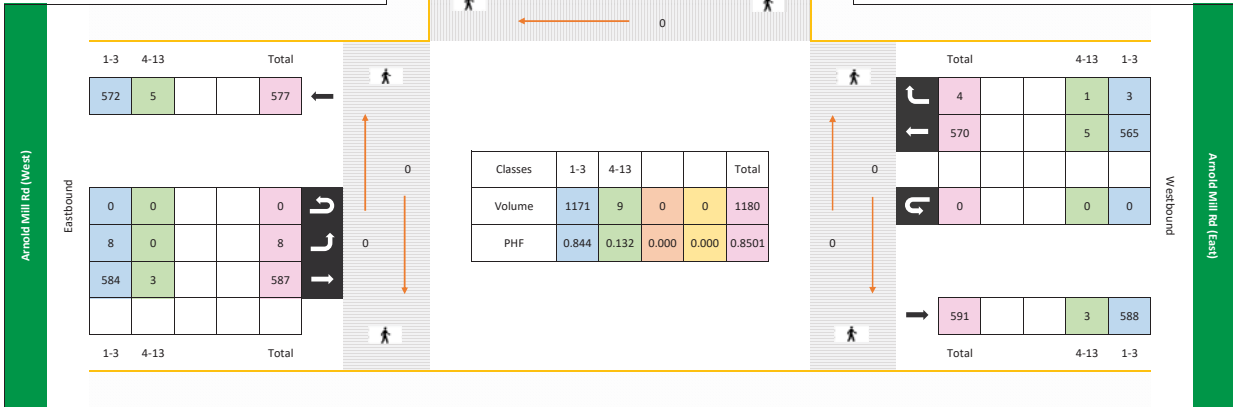


Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
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Site 2b of 14
Local Access
N River Dr
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.111405°, -84.491839°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Local Access					N River Dr					Arnold Mill Rd (West)					Arnold Mill Rd (East)					
	Left 2b.1	Thru 2b.2	Right 2b.3	U-Turn 2b.4	App Total	Left 2b.5	Thru 2b.6	Right 2b.7	U-Turn 2b.8	App Total	Left 2b.9	Thru 2b.10	Right 2b.11	U-Turn 2b.12	App Total	Left 2b.13	Thru 2b.14	Right 2b.15	U-Turn 2b.16	App Total	
0700 - 0715	0	0	0	0	0	4	0	3	0	7	1	132	0	0	133	0	102	2	0	104	244
0715 - 0730	0	0	0	0	0	2	0	4	0	6	2	133	0	0	135	0	153	0	0	153	294
0730 - 0745	0	0	0	0	0	2	0	4	0	6	0	134	0	0	134	0	169	4	0	173	313
0745 - 0800	0	0	0	0	0	2	0	1	0	3	0	225	0	0	225	0	141	0	0	141	369
Hourly Total	0	0	0	0	0	10	0	12	0	22	3	624	0	0	627	0	565	6	0	571	1220
0800 - 0815	0	0	0	0	0	4	0	2	0	6	2	155	0	0	157	0	126	1	0	127	290
0815 - 0830	0	0	0	0	0	3	0	1	0	4	1	80	0	0	81	0	162	1	0	163	248
0830 - 0845	1	0	0	0	1	1	0	6	0	7	1	105	0	0	106	0	112	0	0	112	226
0845 - 0900	0	0	0	0	0	2	0	0	0	2	3	82	0	0	85	0	117	1	0	118	205
Hourly Total	1	0	0	0	1	10	0	9	0	19	7	422	0	0	429	0	517	3	0	520	969
Grand Total	1	0	0	0	1	20	0	21	0	41	10	1046	0	0	1056	0	1082	9	0	1091	2189
Approach %	100.00	0.00	0.00	0.00	-	48.78	0.00	51.22	0.00	-	0.95	99.05	0.00	0.00	-	0.00	99.18	0.82	0.00	-	
Intersection %	0.05	0.00	0.00	0.00	0.05	0.91	0.00	0.96	0.00	1.87	0.46	47.78	0.00	0.00	48.24	0.00	49.43	0.41	0.00	49.84	

1600 - 1800 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Local Access					N River Dr					Arnold Mill Rd (West)					Arnold Mill Rd (East)					
	Left 2b.1	Thru 2b.2	Right 2b.3	U-Turn 2b.4	App Total	Left 2b.5	Thru 2b.6	Right 2b.7	U-Turn 2b.8	App Total	Left 2b.9	Thru 2b.10	Right 2b.11	U-Turn 2b.12	App Total	Left 2b.13	Thru 2b.14	Right 2b.15	U-Turn 2b.16	App Total	
1600 - 1615	0	0	0	0	0	3	0	0	0	3	6	117	0	0	123	0	136	3	0	139	265
1615 - 1630	0	0	0	0	0	0	0	4	0	4	3	104	0	0	107	0	142	2	0	144	255
1630 - 1645	0	0	0	0	0	1	0	3	0	4	4	117	0	0	121	0	118	5	0	123	248
1645 - 1700	0	0	0	0	0	2	0	3	0	5	5	107	0	0	112	0	132	2	0	134	251
Hourly Total	0	0	0	0	0	6	0	10	0	16	18	445	0	0	463	0	528	12	0	540	1019
1700 - 1715	0	0	0	0	0	1	0	4	0	5	4	157	0	0	161	0	135	0	0	135	301
1715 - 1730	0	0	0	0	0	3	0	2	0	5	7	133	0	0	140	0	133	4	0	137	282
1730 - 1745	0	0	0	0	0	0	0	2	0	2	3	125	0	0	128	0	176	4	0	180	310
1745 - 1800	0	0	0	0	0	3	0	1	0	4	5	156	0	0	161	0	141	0	0	141	306
Hourly Total	0	0	0	0	0	7	0	9	0	16	19	571	0	0	590	0	585	8	0	593	1199
Grand Total	0	0	0	0	0	13	0	19	0	32	37	1016	0	0	1053	0	1113	20	0	1133	2218
Approach %	0.00	0.00	0.00	0.00	-	40.63	0.00	59.38	0.00	-	3.51	96.49	0.00	0.00	-	0.00	98.23	1.77	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.59	0.00	0.86	0.00	1.44	1.67	45.81	0.00	0.00	47.48	0.00	50.18	0.90	0.00	51.08	

Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
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Site 2b of 14
Local Access
N River Dr
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.111405°, -84.491839°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME	Northbound Local Access					Southbound N River Dr					Eastbound Arnold Mill Rd (West)					Westbound Arnold Mill Rd (East)					Int Total
	Left 2b.1	Thru 2b.2	Right 2b.3	U-Turn 2b.4	App Total	Left 2b.5	Thru 2b.6	Right 2b.7	U-Turn 2b.8	App Total	Left 2b.9	Thru 2b.10	Right 2b.11	U-Turn 2b.12	App Total	Left 2b.13	Thru 2b.14	Right 2b.15	U-Turn 2b.16	App Total	
	0700 - 0715	0	0	0	0	0	4	0	3	0	7	1	126	0	0	127	0	97	2	0	
0715 - 0730	0	0	0	0	0	2	0	4	0	6	2	132	0	0	134	0	148	0	0	148	288
0730 - 0745	0	0	0	0	0	1	0	4	0	5	0	132	0	0	132	0	167	3	0	170	307
0745 - 0800	0	0	0	0	0	2	0	1	0	3	0	213	0	0	213	0	136	0	0	136	352
Hourly Total	0	0	0	0	0	9	0	12	0	21	3	603	0	0	606	0	548	5	0	553	1180
0800 - 0815	0	0	0	0	0	4	0	1	0	5	2	152	0	0	154	0	121	0	0	121	280
0815 - 0830	0	0	0	0	0	3	0	1	0	4	1	76	0	0	77	0	162	1	0	163	244
0830 - 0845	1	0	0	0	1	1	0	5	0	6	1	96	0	0	97	0	105	0	0	105	209
0845 - 0900	0	0	0	0	0	2	0	0	0	2	3	81	0	0	84	0	109	1	0	110	196
Hourly Total	1	0	0	0	1	10	0	7	0	17	7	405	0	0	412	0	497	2	0	499	929
Grand Total	1	0	0	0	1	19	0	19	0	38	10	1008	0	0	1018	0	1045	7	0	1052	2109
Approach %	100.00	0.00	0.00	0.00	-	50.00	0.00	50.00	0.00	-	0.98	99.02	0.00	0.00	-	0.00	99.33	0.67	0.00	-	
Intersection %	0.05	0.00	0.00	0.00	0.05	0.90	0.00	0.90	0.00	1.80	0.47	47.80	0.00	0.00	48.27	0.00	49.55	0.33	0.00	49.88	

1600 - 1800 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME	Northbound Local Access					Southbound N River Dr					Eastbound Arnold Mill Rd (West)					Westbound Arnold Mill Rd (East)					Int Total
	Left 2b.1	Thru 2b.2	Right 2b.3	U-Turn 2b.4	App Total	Left 2b.5	Thru 2b.6	Right 2b.7	U-Turn 2b.8	App Total	Left 2b.9	Thru 2b.10	Right 2b.11	U-Turn 2b.12	App Total	Left 2b.13	Thru 2b.14	Right 2b.15	U-Turn 2b.16	App Total	
	1600 - 1615	0	0	0	0	0	3	0	0	0	3	6	112	0	0	118	0	128	2	0	
1615 - 1630	0	0	0	0	0	0	0	3	0	3	3	102	0	0	105	0	136	2	0	138	246
1630 - 1645	0	0	0	0	0	1	0	3	0	4	4	112	0	0	116	0	112	4	0	116	236
1645 - 1700	0	0	0	0	0	2	0	3	0	5	5	105	0	0	110	0	128	2	0	130	245
Hourly Total	0	0	0	0	0	6	0	9	0	15	18	431	0	0	449	0	504	10	0	514	978
1700 - 1715	0	0	0	0	0	1	0	4	0	5	4	156	0	0	160	0	132	0	0	132	297
1715 - 1730	0	0	0	0	0	3	0	2	0	5	7	133	0	0	140	0	132	4	0	136	281
1730 - 1745	0	0	0	0	0	0	0	2	0	2	3	125	0	0	128	0	174	4	0	178	308
1745 - 1800	0	0	0	0	0	3	0	1	0	4	5	155	0	0	160	0	141	0	0	141	305
Hourly Total	0	0	0	0	0	7	0	9	0	16	19	569	0	0	588	0	579	8	0	587	1191
Grand Total	0	0	0	0	0	13	0	18	0	31	37	1000	0	0	1037	0	1083	18	0	1101	2169
Approach %	0.00	0.00	0.00	0.00	-	41.94	0.00	58.06	0.00	-	3.57	96.43	0.00	0.00	-	0.00	98.37	1.63	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.60	0.00	0.83	0.00	1.43	1.71	46.10	0.00	0.00	47.81	0.00	49.93	0.83	0.00	50.76	

Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
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Site 2b of 14
Local Access
N River Dr
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.111405°, -84.491839°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME	Northbound Local Access					Southbound N River Dr					Eastbound Arnold Mill Rd (West)					Westbound Arnold Mill Rd (East)					Int Total
	Left 2b.1	Thru 2b.2	Right 2b.3	U-Turn 2b.4	App Total	Left 2b.5	Thru 2b.6	Right 2b.7	U-Turn 2b.8	App Total	Left 2b.9	Thru 2b.10	Right 2b.11	U-Turn 2b.12	App Total	Left 2b.13	Thru 2b.14	Right 2b.15	U-Turn 2b.16	App Total	
	0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	5	0	0	
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	5	0	0	5	6
0730 - 0745	0	0	0	0	0	1	0	0	0	1	0	2	0	0	2	0	2	1	0	3	6
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	12	0	0	12	0	5	0	0	5	17
Hourly Total	0	0	0	0	0	1	0	0	0	1	0	21	0	0	21	0	17	1	0	18	40
0800 - 0815	0	0	0	0	0	0	0	1	0	1	0	3	0	0	3	0	5	1	0	6	10
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
0830 - 0845	0	0	0	0	0	0	0	1	0	1	0	9	0	0	9	0	7	0	0	7	17
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	8	0	0	8	9
Hourly Total	0	0	0	0	0	0	0	2	0	2	0	17	0	0	17	0	20	1	0	21	40
Grand Total	0	0	0	0	0	1	0	2	0	3	0	38	0	0	38	0	37	2	0	39	80
Approach %	0.00	0.00	0.00	0.00	-	33.33	0.00	66.67	0.00	-	0.00	100.00	0.00	0.00	-	0.00	94.87	5.13	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	1.25	0.00	2.50	0.00	3.75	0.00	47.50	0.00	0.00	47.50	0.00	46.25	2.50	0.00	48.75	

1600 - 1800 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME	Northbound Local Access					Southbound N River Dr					Eastbound Arnold Mill Rd (West)					Westbound Arnold Mill Rd (East)					Int Total
	Left 2b.1	Thru 2b.2	Right 2b.3	U-Turn 2b.4	App Total	Left 2b.5	Thru 2b.6	Right 2b.7	U-Turn 2b.8	App Total	Left 2b.9	Thru 2b.10	Right 2b.11	U-Turn 2b.12	App Total	Left 2b.13	Thru 2b.14	Right 2b.15	U-Turn 2b.16	App Total	
	1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	8	1	0	
1615 - 1630	0	0	0	0	0	0	0	1	0	1	0	2	0	0	2	0	6	0	0	6	9
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	6	1	0	7	12
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	4	0	0	4	6
Hourly Total	0	0	0	0	0	0	0	1	0	1	0	14	0	0	14	0	24	2	0	26	41
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	3	0	0	3	4
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	6	0	0	6	8
Grand Total	0	0	0	0	0	0	0	1	0	1	0	16	0	0	16	0	30	2	0	32	49
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	93.75	6.25	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.04	0.00	2.04	0.00	32.65	0.00	0.00	32.65	0.00	61.22	4.08	0.00	65.31	

Woodstock, GA
Peak Hour Turning Movement Count



Marr Traffic Inc

www.marrtraffic.com

Thursday, February 13, 2020	
Period	0700 - 0900
Peak Hour	0715 - 0815

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Woodstock, GA
Peak Hour Turning Movement Count



Marr Traffic Inc

www.marrtraffic.com

Thursday, February 13, 2020	
Period	1600 - 1800
Peak Hour	1700 - 1800

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
www.marrtraffic.com

Site 2c of 14
Little River Dr
Local Access
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.110974°, -84.492381°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME	Northbound Little River Dr					Southbound Local Access					Eastbound Arnold Mill Rd (West)					Westbound Arnold Mill Rd (East)					Int Total
	Left 2c.1	Thru 2c.2	Right 2c.3	U-Turn 2c.4	App Total	Left 2c.5	Thru 2c.6	Right 2c.7	U-Turn 2c.8	App Total	Left 2c.9	Thru 2c.10	Right 2c.11	U-Turn 2c.12	App Total	Left 2c.13	Thru 2c.14	Right 2c.15	U-Turn 2c.16	App Total	
	0700 - 0715	4	0	12	0	16	0	0	0	0	0	0	121	0	0	121	1	101	0	0	
0715 - 0730	1	0	4	0	5	0	0	0	0	0	0	130	0	0	130	4	157	0	0	161	296
0730 - 0745	1	0	4	0	5	0	0	1	0	1	0	130	1	0	131	2	169	0	0	171	308
0745 - 0800	1	0	4	0	5	0	0	0	0	0	0	221	1	0	222	2	141	0	0	143	370
Hourly Total	7	0	24	0	31	0	0	1	0	1	0	602	2	0	604	9	568	0	0	577	1213
0800 - 0815	1	0	3	0	4	0	0	0	0	0	0	154	1	0	155	5	122	0	0	127	286
0815 - 0830	2	0	5	0	7	0	0	1	0	1	0	75	2	0	77	1	161	0	0	162	247
0830 - 0845	2	0	3	0	5	0	0	1	0	1	0	102	3	0	105	1	119	0	0	120	231
0845 - 0900	2	0	3	0	5	0	0	1	0	1	0	81	3	0	84	4	115	0	0	119	209
Hourly Total	7	0	14	0	21	0	0	3	0	3	0	412	9	0	421	11	517	0	0	528	973
Grand Total	14	0	38	0	52	0	0	4	0	4	0	1014	11	0	1025	20	1085	0	0	1105	2186
Approach %	26.92	0.00	73.08	0.00	-	0.00	0.00	100.00	0.00	-	0.00	98.93	1.07	0.00	-	1.81	98.19	0.00	0.00	-	
Intersection %	0.64	0.00	1.74	0.00	2.38	0.00	0.00	0.18	0.00	0.18	0.00	46.39	0.50	0.00	46.89	0.91	49.63	0.00	0.00	50.55	

1600 - 1800 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME	Northbound Little River Dr					Southbound Local Access					Eastbound Arnold Mill Rd (West)					Westbound Arnold Mill Rd (East)					Int Total
	Left 2c.1	Thru 2c.2	Right 2c.3	U-Turn 2c.4	App Total	Left 2c.5	Thru 2c.6	Right 2c.7	U-Turn 2c.8	App Total	Left 2c.9	Thru 2c.10	Right 2c.11	U-Turn 2c.12	App Total	Left 2c.13	Thru 2c.14	Right 2c.15	U-Turn 2c.16	App Total	
	1600 - 1615	2	0	2	0	4	0	0	0	0	0	0	120	2	0	122	4	131	0	0	
1615 - 1630	1	0	6	0	7	0	0	0	0	0	0	101	4	0	105	3	143	0	0	146	258
1630 - 1645	3	0	2	0	5	0	0	0	0	0	0	119	4	0	123	4	117	0	0	121	249
1645 - 1700	3	0	3	0	6	0	0	0	0	0	0	109	2	0	111	4	134	0	0	138	255
Hourly Total	9	0	13	0	22	0	0	0	0	0	0	449	12	0	461	15	525	0	0	540	1023
1700 - 1715	1	0	2	0	3	0	0	0	0	0	0	159	4	0	163	6	135	0	0	141	307
1715 - 1730	4	0	5	0	9	0	0	0	0	0	0	135	3	0	138	5	130	0	0	135	282
1730 - 1745	2	0	3	0	5	0	0	0	0	0	0	128	3	0	131	8	171	0	0	179	315
1745 - 1800	2	0	4	0	6	0	0	0	0	0	0	156	1	0	157	5	132	0	0	137	300
Hourly Total	9	0	14	0	23	0	0	0	0	0	0	578	11	0	589	24	568	0	0	592	1204
Grand Total	18	0	27	0	45	0	0	0	0	0	0	1027	23	0	1050	39	1093	0	0	1132	2227
Approach %	40.00	0.00	60.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	97.81	2.19	0.00	-	3.45	96.55	0.00	0.00	-	
Intersection %	0.81	0.00	1.21	0.00	2.02	0.00	0.00	0.00	0.00	0.00	0.00	46.12	1.03	0.00	47.15	1.75	49.08	0.00	0.00	50.83	

Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
www.marrtraffic.com

Site 2c of 14
Little River Dr
Local Access
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.110974°, -84.492381°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME	Northbound Little River Dr					Southbound Local Access					Eastbound Arnold Mill Rd (West)					Westbound Arnold Mill Rd (East)					Int Total
	Left 2c.1	Thru 2c.2	Right 2c.3	U-Turn 2c.4	App Total	Left 2c.5	Thru 2c.6	Right 2c.7	U-Turn 2c.8	App Total	Left 2c.9	Thru 2c.10	Right 2c.11	U-Turn 2c.12	App Total	Left 2c.13	Thru 2c.14	Right 2c.15	U-Turn 2c.16	App Total	
	0700 - 0715	3	0	11	0	14	0	0	0	0	0	0	116	0	0	116	1	96	0	0	
0715 - 0730	1	0	4	0	5	0	0	0	0	0	0	129	0	0	129	4	152	0	0	156	290
0730 - 0745	1	0	4	0	5	0	0	1	0	1	0	128	1	0	129	2	167	0	0	169	304
0745 - 0800	1	0	3	0	4	0	0	0	0	0	0	210	1	0	211	2	136	0	0	138	353
Hourly Total	6	0	22	0	28	0	0	1	0	1	0	583	2	0	585	9	551	0	0	560	1174
0800 - 0815	1	0	3	0	4	0	0	0	0	0	0	151	1	0	152	5	116	0	0	121	277
0815 - 0830	2	0	4	0	6	0	0	1	0	1	0	72	2	0	74	1	161	0	0	162	243
0830 - 0845	2	0	3	0	5	0	0	1	0	1	0	93	3	0	96	1	112	0	0	113	215
0845 - 0900	2	0	3	0	5	0	0	1	0	1	0	80	3	0	83	3	107	0	0	110	199
Hourly Total	7	0	13	0	20	0	0	3	0	3	0	396	9	0	405	10	496	0	0	506	934
Grand Total	13	0	35	0	48	0	0	4	0	4	0	979	11	0	990	19	1047	0	0	1066	2108
Approach %	27.08	0.00	72.92	0.00	-	0.00	0.00	100.00	0.00	-	0.00	98.89	1.11	0.00	-	1.78	98.22	0.00	0.00	-	
Intersection %	0.62	0.00	1.66	0.00	2.28	0.00	0.00	0.19	0.00	0.19	0.00	46.44	0.52	0.00	46.96	0.90	49.67	0.00	0.00	50.57	

1600 - 1800 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME	Northbound Little River Dr					Southbound Local Access					Eastbound Arnold Mill Rd (West)					Westbound Arnold Mill Rd (East)					Int Total
	Left 2c.1	Thru 2c.2	Right 2c.3	U-Turn 2c.4	App Total	Left 2c.5	Thru 2c.6	Right 2c.7	U-Turn 2c.8	App Total	Left 2c.9	Thru 2c.10	Right 2c.11	U-Turn 2c.12	App Total	Left 2c.13	Thru 2c.14	Right 2c.15	U-Turn 2c.16	App Total	
	1600 - 1615	2	0	2	0	4	0	0	0	0	0	0	115	2	0	117	4	123	0	0	
1615 - 1630	1	0	6	0	7	0	0	0	0	0	0	99	4	0	103	3	136	0	0	139	249
1630 - 1645	2	0	2	0	4	0	0	0	0	0	0	114	3	0	117	4	111	0	0	115	236
1645 - 1700	3	0	3	0	6	0	0	0	0	0	0	107	2	0	109	4	130	0	0	134	249
Hourly Total	8	0	13	0	21	0	0	0	0	0	0	435	11	0	446	15	500	0	0	515	982
1700 - 1715	1	0	2	0	3	0	0	0	0	0	0	158	3	0	161	6	132	0	0	138	302
1715 - 1730	4	0	5	0	9	0	0	0	0	0	0	135	3	0	138	5	129	0	0	134	281
1730 - 1745	2	0	3	0	5	0	0	0	0	0	0	128	3	0	131	8	169	0	0	177	313
1745 - 1800	2	0	4	0	6	0	0	0	0	0	0	155	1	0	156	5	132	0	0	137	299
Hourly Total	9	0	14	0	23	0	0	0	0	0	0	576	10	0	586	24	562	0	0	586	1195
Grand Total	17	0	27	0	44	0	0	0	0	0	0	1011	21	0	1032	39	1062	0	0	1101	2177
Approach %	38.64	0.00	61.36	0.00	-	0.00	0.00	0.00	0.00	-	0.00	97.97	2.03	0.00	-	3.54	96.46	0.00	0.00	-	
Intersection %	0.78	0.00	1.24	0.00	2.02	0.00	0.00	0.00	0.00	0.00	0.00	46.44	0.96	0.00	47.40	1.79	48.78	0.00	0.00	50.57	

Woodstock, GA
Classified Turn Movement Count



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Site 2c of 14
Little River Dr
Local Access
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.110974°, -84.492381°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME	Northbound Little River Dr					Southbound Local Access					Eastbound Arnold Mill Rd (West)					Westbound Arnold Mill Rd (East)					Int Total
	Left 2c.1	Thru 2c.2	Right 2c.3	U-Turn 2c.4	App Total	Left 2c.5	Thru 2c.6	Right 2c.7	U-Turn 2c.8	App Total	Left 2c.9	Thru 2c.10	Right 2c.11	U-Turn 2c.12	App Total	Left 2c.13	Thru 2c.14	Right 2c.15	U-Turn 2c.16	App Total	
	0700 - 0715	1	0	1	0	2	0	0	0	0	0	0	5	0	0	5	0	5	0	0	
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	5	0	0	5	6
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	4
0745 - 0800	0	0	1	0	1	0	0	0	0	0	0	11	0	0	11	0	5	0	0	5	17
Hourly Total	1	0	2	0	3	0	0	0	0	0	0	19	0	0	19	0	17	0	0	17	39
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	6	0	0	6	9
0815 - 0830	0	0	1	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	4
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	7	0	0	7	16
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	8	0	0	9	10
Hourly Total	0	0	1	0	1	0	0	0	0	0	0	16	0	0	16	1	21	0	0	22	39
Grand Total	1	0	3	0	4	0	0	0	0	0	0	35	0	0	35	1	38	0	0	39	78
Approach %	25.00	0.00	75.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	2.56	97.44	0.00	0.00	-	
Intersection %	1.28	0.00	3.85	0.00	5.13	0.00	0.00	0.00	0.00	0.00	0.00	44.87	0.00	0.00	44.87	1.28	48.72	0.00	0.00	50.00	

1600 - 1800 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME	Northbound Little River Dr					Southbound Local Access					Eastbound Arnold Mill Rd (West)					Westbound Arnold Mill Rd (East)					Int Total
	Left 2c.1	Thru 2c.2	Right 2c.3	U-Turn 2c.4	App Total	Left 2c.5	Thru 2c.6	Right 2c.7	U-Turn 2c.8	App Total	Left 2c.9	Thru 2c.10	Right 2c.11	U-Turn 2c.12	App Total	Left 2c.13	Thru 2c.14	Right 2c.15	U-Turn 2c.16	App Total	
	1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	8	0	0	
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	7	0	0	7	9
1630 - 1645	1	0	0	0	1	0	0	0	0	0	0	5	1	0	6	0	6	0	0	6	13
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	4	0	0	4	6
Hourly Total	1	0	0	0	1	0	0	0	0	0	0	14	1	0	15	0	25	0	0	25	41
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	3	0	0	3	5
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	6	0	0	6	9
Grand Total	1	0	0	0	1	0	0	0	0	0	0	16	2	0	18	0	31	0	0	31	50
Approach %	100.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	88.89	11.11	0.00	-	0.00	100.00	0.00	0.00	-	
Intersection %	2.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	32.00	4.00	0.00	36.00	0.00	62.00	0.00	0.00	62.00	

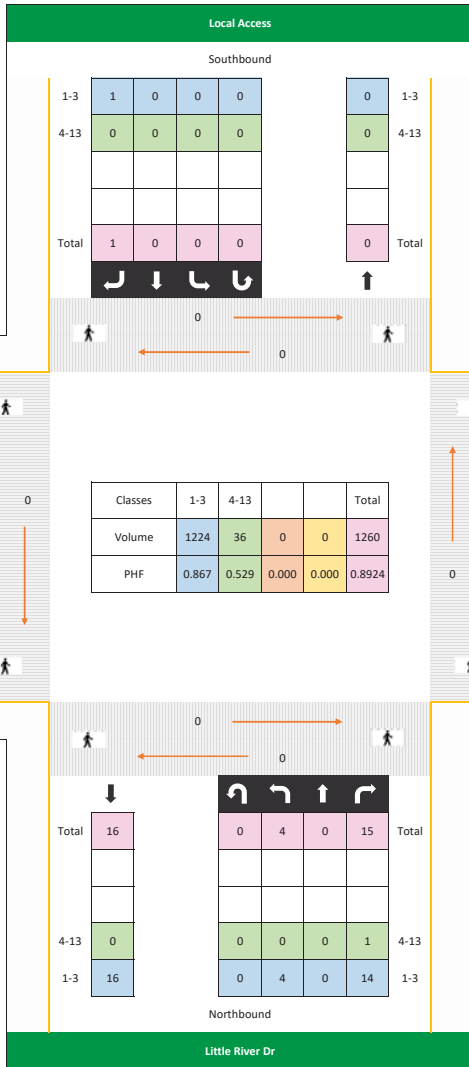
Woodstock, GA
Peak Hour Turning Movement Count



Marr Traffic Inc

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Thursday, February 13, 2020	
Period	0700 - 0900
Peak Hour	0715 - 0815

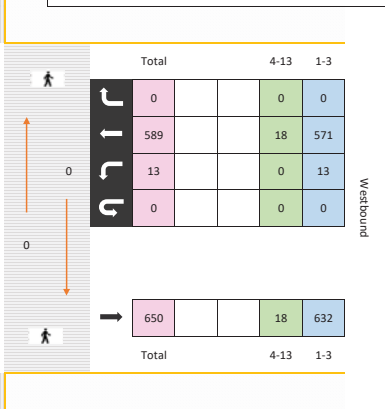
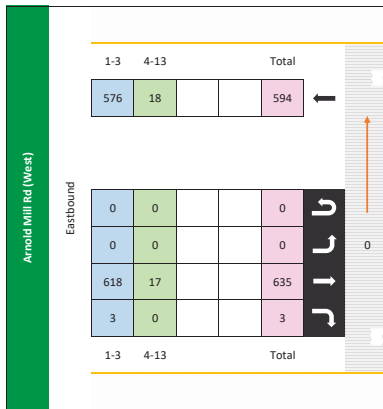


Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Arnold Mill Rd (West)

Arnold Mill Rd (East)

Little River Dr

Woodstock, GA
Peak Hour Turning Movement Count



Marr Traffic Inc

www.marrtraffic.com

Thursday, February 13, 2020	
Period	1600 - 1800
Peak Hour	1700 - 1800

Local Access

Southbound

	1-3	0	0	0	0		
	4-13	0	0	0	0		
Total		0	0	0	0		Total

0

0

0

Northbound

	1-3	0	9	0	14		
	4-13	1	0	0	0		
	1-3	34	0	9	0	14	
Total		35					Total

Session Parameters

(Drop Down Menu)

Arnold Mill Rd (West)

	1-3	4-13			
	571	6			577
Total					577

Eastbound

	0	0			
	0	0			0
	576	2			578
	10	1			11
Total					589

	Classes	1-3	4-13				
	Volume	1195	9	0	0	1204	
	PHF	0.846	0.132	0.000	0.000	0.8527	

Arnold Mill Rd (East)

		Total	4-13	1-3
	0		0	0
	568		6	562
	24		0	24
	0		0	0
Total			6	586

Westbound

	Total				
	592				590
Total			6	590	



Site 3 of 14
Local Access
Mill Creek Rd
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.118449°, -84.482434°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME	Northbound Local Access					Southbound Mill Creek Rd					Eastbound Arnold Mill Rd (West)					Westbound Arnold Mill Rd (East)					Int Total
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
	0700 - 0715	0	2	1	0	3	95	16	35	0	146	43	84	6	0	133	8	64	32	0	
0715 - 0730	6	8	12	0	26	79	26	67	0	172	27	71	22	0	120	28	106	28	0	162	480
0730 - 0745	17	17	25	0	59	72	56	87	0	215	16	45	58	0	119	52	99	46	0	197	590
0745 - 0800	31	19	55	0	105	73	55	78	0	206	16	72	60	0	148	106	111	24	0	241	700
Hourly Total	54	46	93	0	193	319	153	267	0	739	102	272	146	0	520	194	380	130	0	704	2156
0800 - 0815	63	39	72	0	174	83	56	59	0	198	11	67	63	0	141	70	79	34	0	183	696
0815 - 0830	33	21	68	0	122	61	22	35	0	118	10	53	28	0	91	61	95	58	0	214	545
0830 - 0845	34	21	62	0	117	68	41	30	0	139	18	46	39	0	103	87	50	22	0	159	518
0845 - 0900	30	21	75	0	126	65	23	25	0	113	18	63	15	0	96	62	75	35	0	172	507
Hourly Total	160	102	277	0	539	277	142	149	0	568	57	229	145	0	431	280	299	149	0	728	2266
Grand Total	214	148	370	0	732	596	295	416	0	1307	159	501	291	0	951	474	679	279	0	1432	4422
Approach %	29.23	20.22	50.55	0.00	-	45.60	22.57	31.83	0.00	-	16.72	52.68	30.60	0.00	-	33.10	47.42	19.48	0.00	-	
Intersection %	4.84	3.35	8.37	0.00	16.55	13.48	6.67	9.41	0.00	29.56	3.60	11.33	6.58	0.00	21.51	10.72	15.36	6.31	0.00	32.38	

1400 - 1800 (Weekday 4h Session) (13-02-2020)
All vehicles

TIME	Northbound Local Access					Southbound Mill Creek Rd					Eastbound Arnold Mill Rd (West)					Westbound Arnold Mill Rd (East)					Int Total
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
	1400 - 1415	2	3	6	0	11	43	3	19	0	65	29	67	2	0	98	4	73	56	0	
1415 - 1430	4	3	7	0	14	50	4	25	0	79	26	67	5	0	98	7	53	41	0	101	292
1430 - 1445	4	5	4	0	13	41	8	27	0	76	27	80	6	0	113	9	57	62	0	128	330
1445 - 1500	2	0	1	0	3	48	10	18	0	76	25	65	9	0	99	15	91	50	0	156	334
Hourly Total	12	11	18	0	41	182	25	89	0	296	107	279	22	0	408	35	274	209	0	518	1263
1500 - 1515	4	5	8	0	17	66	12	15	0	93	21	78	12	0	111	27	74	69	0	170	391
1515 - 1530	40	33	48	0	121	70	14	23	0	107	27	93	17	0	137	17	89	80	0	186	551
1530 - 1545	35	57	81	0	173	47	14	22	0	83	24	97	12	0	133	25	66	107	0	198	587
1545 - 1600	18	8	23	0	49	55	18	18	0	91	30	62	24	0	116	27	107	103	0	237	493
Hourly Total	97	103	160	0	360	238	58	78	0	374	102	330	65	0	497	96	336	359	0	791	2022
1600 - 1615	40	38	67	0	145	42	6	17	0	65	28	84	10	0	122	19	89	110	0	218	550
1615 - 1630	23	54	52	0	129	36	4	28	0	68	31	76	8	0	115	16	92	97	0	205	517
1630 - 1645	4	9	15	0	28	43	6	37	0	86	33	82	3	0	118	13	98	79	0	190	422
1645 - 1700	12	7	12	0	31	53	6	25	0	84	32	85	2	0	119	13	109	109	0	231	465
Hourly Total	79	108	146	0	333	174	22	107	0	303	124	327	23	0	474	61	388	395	0	844	1954
1700 - 1715	9	5	16	0	30	56	5	36	0	97	42	107	0	0	149	24	119	112	0	255	531
1715 - 1730	6	9	26	0	41	68	1	32	0	101	62	134	2	0	198	15	118	117	0	250	590
1730 - 1745	5	5	14	0	24	67	8	29	0	104	43	106	4	0	153	22	143	96	0	261	542
1745 - 1800	5	5	24	0	34	77	20	39	0	136	40	105	12	1	158	55	123	94	0	272	600
Hourly Total	25	24	80	0	129	268	34	136	0	438	187	452	18	1	658	116	503	419	0	1038	2263
Grand Total	213	246	404	0	863	862	139	410	0	1411	520	1388	128	1	2037	308	1501	1382	0	3191	7502
Approach %	24.68	28.51	46.81	0.00	-	61.09	9.85	29.06	0.00	-	25.53	68.14	6.28	0.05	-	9.65	47.04	43.31	0.00	-	
Intersection %	2.84	3.28	5.39	0.00	11.50	11.49	1.85	5.47	0.00	18.81	6.93	18.50	1.71	0.01	27.15	4.11	20.01	18.42	0.00	42.54	

Woodstock, GA
Classified Turn Movement Count



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Site 3 of 14
Local Access
Mill Creek Rd
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.118449°, -84.482434°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME	Northbound Local Access					Southbound Mill Creek Rd					Eastbound Arnold Mill Rd (West)					Westbound Arnold Mill Rd (East)					Int Total
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	
	3.1	3.2	3.3	3.4	Total	3.5	3.6	3.7	3.8	Total	3.9	3.10	3.11	3.12	Total	3.13	3.14	3.15	3.16	Total	
0700 - 0715	0	2	1	0	3	92	16	35	0	143	43	83	6	0	132	8	59	31	0	98	376
0715 - 0730	6	7	12	0	25	77	26	67	0	170	27	70	22	0	119	23	102	26	0	151	465
0730 - 0745	17	17	25	0	59	68	56	87	0	211	15	43	58	0	116	52	93	45	0	190	576
0745 - 0800	31	18	55	0	104	72	55	78	0	205	13	60	60	0	133	105	106	24	0	235	677
Hourly Total	54	44	93	0	191	309	153	267	0	729	98	256	146	0	500	188	360	126	0	674	2094
0800 - 0815	59	35	71	0	165	82	55	57	0	194	11	59	63	0	133	64	78	34	0	176	668
0815 - 0830	33	21	68	0	122	61	22	35	0	118	10	47	28	0	85	56	94	58	0	208	533
0830 - 0845	25	17	48	0	90	67	33	30	0	130	18	44	39	0	101	71	49	21	0	141	462
0845 - 0900	26	17	68	0	111	63	22	25	0	110	18	63	14	0	95	58	74	35	0	167	483
Hourly Total	143	90	255	0	488	273	132	147	0	552	57	213	144	0	414	249	295	148	0	692	2146
Grand Total	197	134	348	0	679	582	285	414	0	1281	155	469	290	0	914	437	655	274	0	1366	4240
Approach %	29.01	19.73	51.25	0.00	-	45.43	22.25	32.32	0.00	-	16.96	51.31	31.73	0.00	-	31.99	47.95	20.06	0.00	-	-
Intersection %	4.65	3.16	8.21	0.00	16.01	13.73	6.72	9.76	0.00	30.21	3.66	11.06	6.84	0.00	21.56	10.31	15.45	6.46	0.00	32.22	-

1400 - 1800 (Weekday 4h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME	Northbound Local Access					Southbound Mill Creek Rd					Eastbound Arnold Mill Rd (West)					Westbound Arnold Mill Rd (East)					Int Total
	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	Left	Thru	Right	U-Turn	App	
	3.1	3.2	3.3	3.4	Total	3.5	3.6	3.7	3.8	Total	3.9	3.10	3.11	3.12	Total	3.13	3.14	3.15	3.16	Total	
1400 - 1415	2	3	6	0	11	41	2	19	0	62	29	66	2	0	97	4	72	54	0	130	300
1415 - 1430	4	3	7	0	14	49	4	22	0	75	25	61	5	0	91	7	49	40	0	96	276
1430 - 1445	4	4	4	0	12	40	7	26	0	73	27	76	6	0	109	9	55	59	0	123	317
1445 - 1500	2	0	1	0	3	47	10	15	0	72	25	65	9	0	99	15	75	50	0	140	314
Hourly Total	12	10	18	0	40	177	23	82	0	282	106	268	22	0	396	35	251	203	0	489	1207
1500 - 1515	4	4	8	0	16	65	12	12	0	89	21	75	11	0	107	27	65	65	0	157	369
1515 - 1530	30	29	46	0	105	67	14	23	0	104	27	85	17	0	129	16	84	79	0	179	517
1530 - 1545	35	54	80	0	169	46	13	22	0	81	23	81	12	0	116	24	64	106	0	194	560
1545 - 1600	16	7	22	0	45	52	12	17	0	81	30	62	18	0	110	18	101	99	0	218	454
Hourly Total	85	94	156	0	335	230	51	74	0	355	101	303	58	0	462	85	314	349	0	748	1900
1600 - 1615	36	34	52	0	122	42	6	16	0	64	26	82	9	0	117	14	86	108	0	208	511
1615 - 1630	19	51	42	0	112	36	4	28	0	68	30	76	7	0	113	15	88	94	0	197	490
1630 - 1645	3	9	15	0	27	43	6	36	0	85	32	78	3	0	113	11	94	77	0	182	407
1645 - 1700	12	7	12	0	31	52	6	24	0	82	32	83	2	0	117	11	106	107	0	224	454
Hourly Total	70	101	121	0	292	173	22	104	0	299	120	319	21	0	460	51	374	386	0	811	1862
1700 - 1715	9	5	16	0	30	55	5	36	0	96	42	106	0	0	148	24	118	109	0	251	525
1715 - 1730	6	9	26	0	41	67	1	32	0	100	62	134	2	0	198	15	116	115	0	246	585
1730 - 1745	5	5	14	0	24	65	8	29	0	102	43	106	4	0	153	22	141	94	0	257	536
1745 - 1800	5	5	24	0	34	76	20	39	0	135	40	104	10	1	155	55	121	93	0	269	593
Hourly Total	25	24	80	0	129	263	34	136	0	433	187	450	16	1	654	116	496	411	0	1023	2239
Grand Total	192	229	375	0	796	843	130	396	0	1369	514	1340	117	1	1972	287	1435	1349	0	3071	7208
Approach %	24.12	28.77	47.11	0.00	-	61.58	9.50	28.93	0.00	-	26.06	67.95	5.93	0.05	-	9.35	46.73	43.93	0.00	-	-
Intersection %	2.66	3.18	5.20	0.00	11.04	11.70	1.80	5.49	0.00	18.99	7.13	18.59	1.62	0.01	27.36	3.98	19.91	18.72	0.00	42.61	-

Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
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Site 3 of 14
Local Access
Mill Creek Rd
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.118449°, -84.482434°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME	Northbound Local Access					Southbound Mill Creek Rd					Eastbound Arnold Mill Rd (West)					Westbound Arnold Mill Rd (East)					Int Total
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
	0700 - 0715	0	0	0	0	0	3	0	0	0	3	0	1	0	0	1	0	5	1	0	
0715 - 0730	0	1	0	0	1	2	0	0	0	2	0	1	0	0	1	5	4	2	0	11	15
0730 - 0745	0	0	0	0	0	4	0	0	0	4	1	2	0	0	3	0	6	1	0	7	14
0745 - 0800	0	1	0	0	1	1	0	0	0	1	3	12	0	0	15	1	5	0	0	6	23
Hourly Total	0	2	0	0	2	10	0	0	0	10	4	16	0	0	20	6	20	4	0	30	62
0800 - 0815	4	4	1	0	9	1	1	2	0	4	0	8	0	0	8	6	1	0	0	7	28
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	5	1	0	0	6	12
0830 - 0845	9	4	14	0	27	1	8	0	0	9	0	2	0	0	2	16	1	1	0	18	56
0845 - 0900	4	4	7	0	15	2	1	0	0	3	0	0	1	0	1	4	1	0	0	5	24
Hourly Total	17	12	22	0	51	4	10	2	0	16	0	16	1	0	17	31	4	1	0	36	120
Grand Total	17	14	22	0	53	14	10	2	0	26	4	32	1	0	37	37	24	5	0	66	182
Approach %	32.08	26.42	41.51	0.00	-	53.85	38.46	7.69	0.00	-	10.81	86.49	2.70	0.00	-	56.06	36.36	7.58	0.00	-	
Intersection %	9.34	7.69	12.09	0.00	29.12	7.69	5.49	1.10	0.00	14.29	2.20	17.58	0.55	0.00	20.33	20.33	13.19	2.75	0.00	36.26	

1400 - 1800 (Weekday 4h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME	Northbound Local Access					Southbound Mill Creek Rd					Eastbound Arnold Mill Rd (West)					Westbound Arnold Mill Rd (East)					Int Total
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
	1400 - 1415	0	0	0	0	0	2	1	0	0	3	0	1	0	0	1	0	1	2	0	
1415 - 1430	0	0	0	0	0	1	0	3	0	4	1	6	0	0	7	0	4	1	0	5	16
1430 - 1445	0	1	0	0	1	1	1	1	0	3	0	4	0	0	4	0	2	3	0	5	13
1445 - 1500	0	0	0	0	0	1	0	3	0	4	0	0	0	0	0	0	16	0	0	16	20
Hourly Total	0	1	0	0	1	5	2	7	0	14	1	11	0	0	12	0	23	6	0	29	56
1500 - 1515	0	1	0	0	1	1	0	3	0	4	0	3	1	0	4	0	9	4	0	13	22
1515 - 1530	10	4	2	0	16	3	0	0	0	3	0	8	0	0	8	1	5	1	0	7	34
1530 - 1545	0	3	1	0	4	1	1	0	0	2	1	16	0	0	17	1	2	1	0	4	27
1545 - 1600	2	1	1	0	4	3	6	1	0	10	0	0	6	0	6	9	6	4	0	19	39
Hourly Total	12	9	4	0	25	8	7	4	0	19	1	27	7	0	35	11	22	10	0	43	122
1600 - 1615	4	4	15	0	23	0	0	1	0	1	2	2	1	0	5	5	3	2	0	10	39
1615 - 1630	4	3	10	0	17	0	0	0	0	0	1	0	1	0	2	1	4	3	0	8	27
1630 - 1645	1	0	0	0	1	0	0	1	0	1	1	4	0	0	5	2	4	2	0	8	15
1645 - 1700	0	0	0	0	0	1	0	1	0	2	0	2	0	0	2	2	3	2	0	7	11
Hourly Total	9	7	25	0	41	1	0	3	0	4	4	8	2	0	14	10	14	9	0	33	92
1700 - 1715	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	1	3	0	4	6
1715 - 1730	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	2	0	4	5
1730 - 1745	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	2	2	0	4	6
1745 - 1800	0	0	0	0	0	1	0	0	0	1	0	1	2	0	3	0	2	1	0	3	7
Hourly Total	0	0	0	0	0	5	0	0	0	5	0	2	2	0	4	0	7	8	0	15	24
Grand Total	21	17	29	0	67	19	9	14	0	42	6	48	11	0	65	21	66	33	0	120	294
Approach %	31.34	25.37	43.28	0.00	-	45.24	21.43	33.33	0.00	-	9.23	73.85	16.92	0.00	-	17.50	55.00	27.50	0.00	-	
Intersection %	7.14	5.78	9.86	0.00	22.79	6.46	3.06	4.76	0.00	14.29	2.04	16.33	3.74	0.00	22.11	7.14	22.45	11.22	0.00	40.82	

Woodstock, GA
Peak Hour Turning Movement Count



Marr Traffic Inc

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Thursday, February 13, 2020	
Period	0700 - 0900
Peak Hour	0730 - 0830

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Woodstock, GA
Peak Hour Turning Movement Count



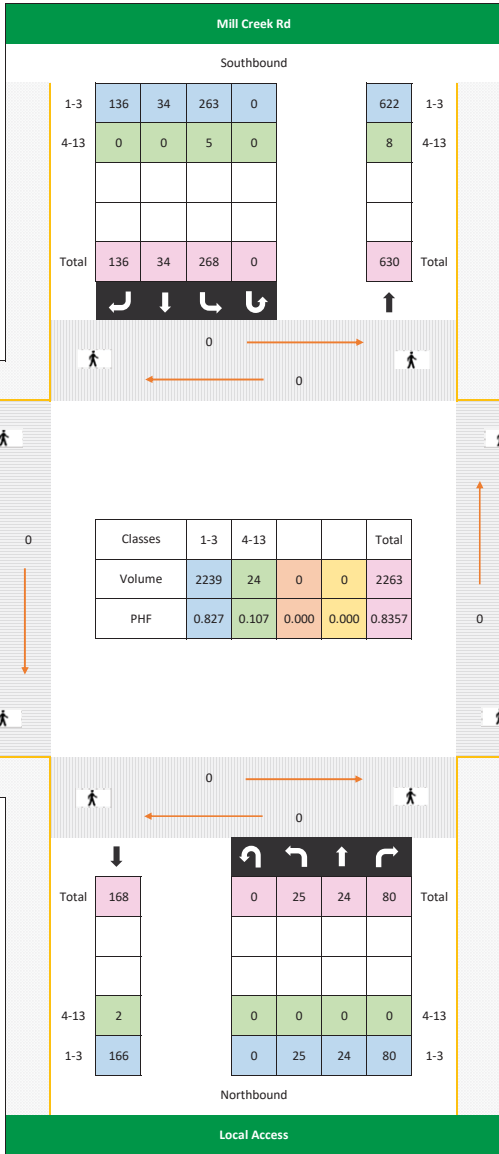
Marr Traffic Inc

www.marrtraffic.com

Thursday, February 13, 2020	
Period	1400 - 1800
Peak Hour	1700 - 1800

Session Parameters

(Drop Down Menu)



Arnold Mill Rd (West)

Arnold Mill Rd (East)

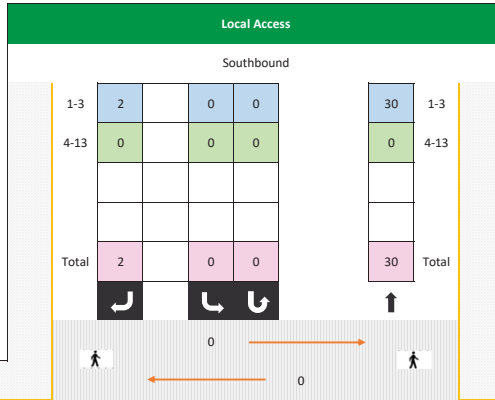
Woodstock, GA
Peak Hour Turning Movement Count



Marr Traffic Inc

www.marrtraffic.com

Thursday, February 13, 2020	
Period	0700 - 0900
Peak Hour	0730 - 0830

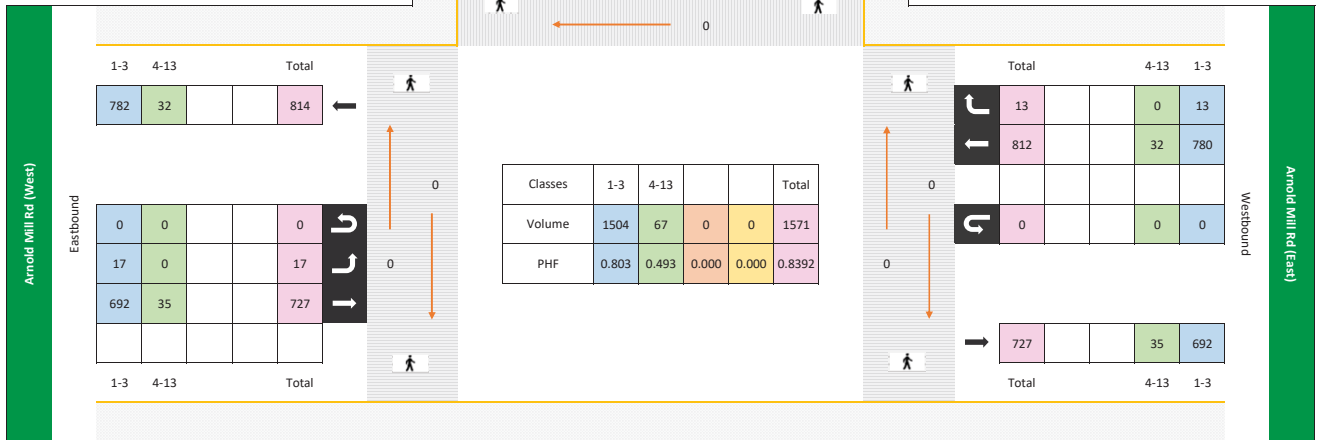


Session Parameters

(Drop Down Menu)

Peak Hour

Volume



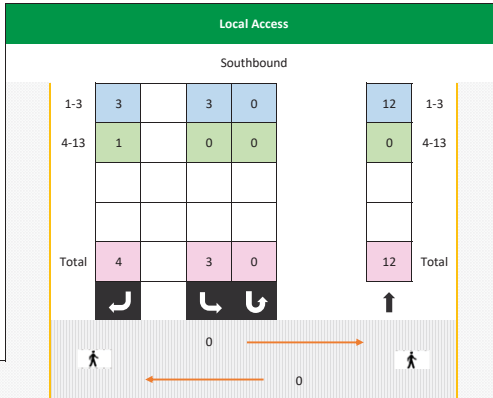
Woodstock, GA
Peak Hour Turning Movement Count



Marr Traffic Inc

www.marrtraffic.com

Thursday, February 13, 2020	
Period	1400 - 1800
Peak Hour	1700 - 1800

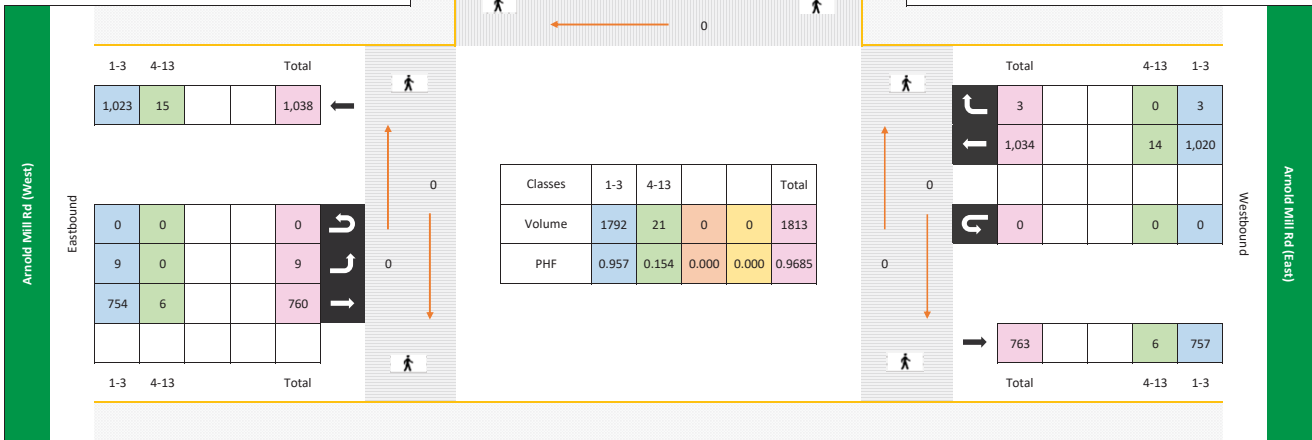


Session Parameters

(Drop Down Menu)

Peak Hour

Volume





Site 4 of 14

Local Access
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.118846°, -84.476766°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME	Southbound				Eastbound				Westbound				Int Total
	Local Access				Arnold Mill Rd (West)				Arnold Mill Rd (East)				
	Left 4.1	Right 4.2	U-Turn 4.3	App Total	Left 4.4	Thru 4.5	U-Turn 4.6	App Total	Thru 4.7	Right 4.8	U-Turn 4.9	App Total	
0700 - 0715	0	0	0	0	0	176	0	176	116	0	0	116	292
0715 - 0730	0	0	0	0	1	180	0	181	159	0	0	159	340
0730 - 0745	0	0	0	0	1	145	0	146	204	1	0	205	351
0745 - 0800	0	0	0	0	4	179	0	183	247	3	0	250	433
Hourly Total	0	0	0	0	6	680	0	686	726	4	0	730	1416
0800 - 0815	0	0	0	0	8	212	0	220	176	4	0	180	400
0815 - 0830	0	2	0	2	4	191	0	195	185	5	0	190	387
0830 - 0845	0	0	0	0	1	167	0	168	166	2	0	168	336
0845 - 0900	0	1	0	1	6	202	0	208	158	5	0	163	372
Hourly Total	0	3	0	3	19	772	0	791	685	16	0	701	1495
Grand Total	0	3	0	3	25	1452	0	1477	1411	20	0	1431	2911
Approach %	0.00	100.00	0.00	-	1.69	98.31	0.00	-	98.60	1.40	0.00	-	-
Intersection %	0.00	0.10	0.00	0.10	0.86	49.88	0.00	50.74	48.47	0.69	0.00	0.00	49.16

1400 - 1800 (Weekday 4h Session) (13-02-2020)
All vehicles

TIME	Southbound				Eastbound				Westbound				Int Total
	Local Access				Arnold Mill Rd (West)				Arnold Mill Rd (East)				
	Left 4.1	Right 4.2	U-Turn 4.3	App Total	Left 4.4	Thru 4.5	U-Turn 4.6	App Total	Thru 4.7	Right 4.8	U-Turn 4.9	App Total	
1400 - 1415	0	0	0	0	2	115	0	117	131	2	1	134	251
1415 - 1430	1	1	0	2	5	124	0	129	92	2	0	94	225
1430 - 1445	2	0	0	2	3	122	0	125	139	7	0	146	273
1445 - 1500	2	1	0	3	7	100	0	107	156	9	0	165	275
Hourly Total	5	2	0	7	17	461	0	478	518	20	1	539	1024
1500 - 1515	0	0	0	0	25	135	0	160	170	16	0	186	346
1515 - 1530	0	0	0	0	15	178	0	193	191	14	0	205	398
1530 - 1545	0	1	0	1	24	197	0	221	197	19	0	216	438
1545 - 1600	0	2	0	2	11	141	0	152	244	21	0	265	419
Hourly Total	0	3	0	3	75	651	0	726	802	70	0	872	1601
1600 - 1615	4	9	0	13	4	182	0	186	221	4	0	225	424
1615 - 1630	6	5	0	11	0	163	0	163	194	5	0	199	373
1630 - 1645	0	2	0	2	0	142	0	142	190	4	0	194	338
1645 - 1700	0	1	0	1	5	144	0	149	224	4	0	228	378
Hourly Total	10	17	0	27	9	631	0	640	829	17	0	846	1513
1700 - 1715	2	3	0	5	1	169	0	170	257	2	0	259	434
1715 - 1730	1	0	0	1	2	216	0	218	251	1	0	252	471
1730 - 1745	0	0	0	0	0	178	0	178	266	0	0	266	444
1745 - 1800	0	1	0	1	6	197	0	203	260	0	0	260	464
Hourly Total	3	4	0	7	9	760	0	769	1034	3	0	1037	1813
Grand Total	18	26	0	44	110	2503	0	2613	3183	110	1	3294	5951
Approach %	40.91	59.09	0.00	-	4.21	95.79	0.00	-	96.63	3.34	0.03	-	-
Intersection %	0.30	0.44	0.00	0.74	1.85	42.06	0.00	43.91	53.49	1.85	0.02	55.35	-



Site 4 of 14

Local Access
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.118846°, -84.476766°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME	Southbound				Eastbound				Westbound				Int Total
	Local Access				Arnold Mill Rd (West)				Arnold Mill Rd (East)				
	Left 4.1	Right 4.2	U-Turn 4.3	App Total	Left 4.4	Thru 4.5	U-Turn 4.6	App Total	Thru 4.7	Right 4.8	U-Turn 4.9	App Total	
0700 - 0715	0	0	0	0	0	171	0	171	110	0	0	110	281
0715 - 0730	0	0	0	0	1	178	0	179	155	0	0	155	334
0730 - 0745	0	0	0	0	1	138	0	139	199	1	0	200	339
0745 - 0800	0	0	0	0	4	167	0	171	232	3	0	235	406
Hourly Total	0	0	0	0	6	654	0	660	696	4	0	700	1360
0800 - 0815	0	0	0	0	8	201	0	209	168	4	0	172	381
0815 - 0830	0	2	0	2	4	186	0	190	181	5	0	186	378
0830 - 0845	0	0	0	0	1	152	0	153	147	2	0	149	302
0845 - 0900	0	1	0	1	6	191	0	197	154	5	0	159	357
Hourly Total	0	3	0	3	19	730	0	749	650	16	0	666	1418
Grand Total	0	3	0	3	25	1384	0	1409	1346	20	0	1366	2778
Approach %	0.00	100.00	0.00	-	1.77	98.23	0.00	-	98.54	1.46	0.00	-	-
Intersection %	0.00	0.11	0.00	0.11	0.90	49.82	0.00	50.72	48.45	0.72	0.00	49.17	-

1400 - 1800 (Weekday 4h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME	Southbound				Eastbound				Westbound				Int Total
	Local Access				Arnold Mill Rd (West)				Arnold Mill Rd (East)				
	Left 4.1	Right 4.2	U-Turn 4.3	App Total	Left 4.4	Thru 4.5	U-Turn 4.6	App Total	Thru 4.7	Right 4.8	U-Turn 4.9	App Total	
1400 - 1415	0	0	0	0	2	112	0	114	129	2	1	132	246
1415 - 1430	1	1	0	2	5	119	0	124	88	2	0	90	216
1430 - 1445	2	0	0	2	3	116	0	119	135	7	0	142	263
1445 - 1500	2	1	0	3	7	98	0	105	137	9	0	146	254
Hourly Total	5	2	0	7	17	445	0	462	489	20	1	510	979
1500 - 1515	0	0	0	0	25	131	0	156	155	16	0	171	327
1515 - 1530	0	0	0	0	15	164	0	179	185	14	0	199	378
1530 - 1545	0	1	0	1	24	180	0	204	193	19	0	212	417
1545 - 1600	0	2	0	2	11	137	0	148	226	21	0	247	397
Hourly Total	0	3	0	3	75	612	0	687	759	70	0	829	1519
1600 - 1615	4	9	0	13	4	164	0	168	208	4	0	212	393
1615 - 1630	6	5	0	11	0	153	0	153	186	5	0	191	355
1630 - 1645	0	2	0	2	0	138	0	138	184	4	0	188	328
1645 - 1700	0	1	0	1	5	142	0	147	218	4	0	222	370
Hourly Total	10	17	0	27	9	597	0	606	796	17	0	813	1446
1700 - 1715	2	2	0	4	1	168	0	169	251	2	0	253	426
1715 - 1730	1	0	0	1	2	215	0	217	249	1	0	250	468
1730 - 1745	0	0	0	0	0	176	0	176	262	0	0	262	438
1745 - 1800	0	1	0	1	6	195	0	201	258	0	0	258	460
Hourly Total	3	3	0	6	9	754	0	763	1020	3	0	1023	1792
Grand Total	18	25	0	43	110	2408	0	2518	3064	110	1	3175	5736
Approach %	41.86	58.14	0.00	-	4.37	95.63	0.00	-	96.50	3.46	0.03	-	-
Intersection %	0.31	0.44	0.00	0.75	1.92	41.98	0.00	43.90	53.42	1.92	0.02	55.35	-



Site 4 of 14

Local Access
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.118846°, -84.476766°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME	Southbound				Eastbound				Westbound				Int Total
	Local Access				Arnold Mill Rd (West)				Arnold Mill Rd (East)				
	Left 4.1	Right 4.2	U-Turn 4.3	App Total	Left 4.4	Thru 4.5	U-Turn 4.6	App Total	Thru 4.7	Right 4.8	U-Turn 4.9	App Total	
0700 - 0715	0	0	0	0	0	5	0	5	6	0	0	6	11
0715 - 0730	0	0	0	0	0	2	0	2	4	0	0	4	6
0730 - 0745	0	0	0	0	0	7	0	7	5	0	0	5	12
0745 - 0800	0	0	0	0	0	12	0	12	15	0	0	15	27
Hourly Total	0	0	0	0	0	26	0	26	30	0	0	30	56
0800 - 0815	0	0	0	0	0	11	0	11	8	0	0	8	19
0815 - 0830	0	0	0	0	0	5	0	5	4	0	0	4	9
0830 - 0845	0	0	0	0	0	15	0	15	19	0	0	19	34
0845 - 0900	0	0	0	0	0	11	0	11	4	0	0	4	15
Hourly Total	0	0	0	0	0	42	0	42	35	0	0	35	77
Grand Total	0	0	0	0	0	68	0	68	65	0	0	65	133
Approach %	0.00	0.00	0.00	-	0.00	100.00	0.00	-	100.00	0.00	0.00	-	-
Intersection %	0.00	0.00	0.00	0.00	0.00	51.13	0.00	51.13	48.87	0.00	0.00	48.87	-

1400 - 1800 (Weekday 4h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME	Southbound				Eastbound				Westbound				Int Total
	Local Access				Arnold Mill Rd (West)				Arnold Mill Rd (East)				
	Left 4.1	Right 4.2	U-Turn 4.3	App Total	Left 4.4	Thru 4.5	U-Turn 4.6	App Total	Thru 4.7	Right 4.8	U-Turn 4.9	App Total	
1400 - 1415	0	0	0	0	0	3	0	3	2	0	0	2	5
1415 - 1430	0	0	0	0	0	5	0	5	4	0	0	4	9
1430 - 1445	0	0	0	0	0	6	0	6	4	0	0	4	10
1445 - 1500	0	0	0	0	0	2	0	2	19	0	0	19	21
Hourly Total	0	0	0	0	0	16	0	16	29	0	0	29	45
1500 - 1515	0	0	0	0	0	4	0	4	15	0	0	15	19
1515 - 1530	0	0	0	0	0	14	0	14	6	0	0	6	20
1530 - 1545	0	0	0	0	0	17	0	17	4	0	0	4	21
1545 - 1600	0	0	0	0	0	4	0	4	18	0	0	18	22
Hourly Total	0	0	0	0	0	39	0	39	43	0	0	43	82
1600 - 1615	0	0	0	0	0	18	0	18	13	0	0	13	31
1615 - 1630	0	0	0	0	0	10	0	10	8	0	0	8	18
1630 - 1645	0	0	0	0	0	4	0	4	6	0	0	6	10
1645 - 1700	0	0	0	0	0	2	0	2	6	0	0	6	8
Hourly Total	0	0	0	0	0	34	0	34	33	0	0	33	67
1700 - 1715	0	1	0	1	0	1	0	1	6	0	0	6	8
1715 - 1730	0	0	0	0	0	1	0	1	2	0	0	2	3
1730 - 1745	0	0	0	0	0	2	0	2	4	0	0	4	6
1745 - 1800	0	0	0	0	0	2	0	2	2	0	0	2	4
Hourly Total	0	1	0	1	0	6	0	6	14	0	0	14	21
Grand Total	0	1	0	1	0	95	0	95	119	0	0	119	215
Approach %	0.00	100.00	0.00	-	0.00	100.00	0.00	-	100.00	0.00	0.00	-	-
Intersection %	0.00	0.47	0.00	0.47	0.00	44.19	0.00	44.19	55.35	0.00	0.00	55.35	-

Woodstock, GA
Classified Turn Movement Count



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Site 15 of 15

Local Access
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.118615°, -84.475969°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME
0700 - 0715
0715 - 0730
0730 - 0745
0745 - 0800
Hourly Total
0800 - 0815
0815 - 0830
0830 - 0845
0845 - 0900
Hourly Total
Grand Total
Approach %
Intersection %

Southbound			Eastbound			Westbound		
Local Access			Arnold Mill Rd (West)			Arnold Mill Rd (East)		
Left	Right	App Total	Thru	App Total	Thru	App Total	Int Total	
15.1	15.2		15.3		15.4			
0	0	0	176	176	116	116	292	
0	0	0	180	180	159	159	339	
0	0	0	145	145	205	205	350	
0	0	0	179	179	250	250	429	
0	0	0	680	680	730	730	1410	
2	4	6	212	212	176	176	394	
0	2	2	191	191	188	188	381	
0	0	0	167	167	168	168	335	
1	4	5	202	202	159	159	366	
3	10	13	772	772	691	691	1476	
3	10	13	1452	1452	1421	1421	2886	
23.08	76.92	-	100.00	-	100.00	-	-	
0.10	0.35	0.45	50.31	50.31	49.24	49.24	49.24	

1400 - 1800 (Weekday 4h Session) (13-02-2020)
All vehicles

TIME
1400 - 1415
1415 - 1430
1430 - 1445
1445 - 1500
Hourly Total
1500 - 1515
1515 - 1530
1530 - 1545
1545 - 1600
Hourly Total
1600 - 1615
1615 - 1630
1630 - 1645
1645 - 1700
Hourly Total
1700 - 1715
1715 - 1730
1730 - 1745
1745 - 1800
Hourly Total
Grand Total
Approach %
Intersection %

Southbound			Eastbound			Westbound		
Local Access			Arnold Mill Rd (West)			Arnold Mill Rd (East)		
Left	Right	App Total	Thru	App Total	Thru	App Total	Int Total	
15.1	15.2		15.3		15.4			
0	1	1	116	116	133	133	250	
0	1	1	125	125	93	93	219	
2	4	6	124	124	142	142	272	
0	5	5	102	102	160	160	267	
2	11	13	467	467	528	528	1008	
3	2	5	135	135	184	184	324	
6	5	11	178	178	200	200	389	
36	41	77	197	197	175	175	449	
36	53	89	141	141	212	212	442	
81	101	182	651	651	771	771	1604	
11	17	28	186	186	208	208	422	
4	6	10	169	169	193	193	372	
2	3	5	142	142	191	191	338	
7	2	9	144	144	226	226	379	
24	28	52	641	641	818	818	1511	
6	3	9	171	171	256	256	436	
2	2	4	217	217	250	250	471	
0	0	0	178	178	266	266	444	
1	1	2	197	197	259	259	458	
9	6	15	763	763	1031	1031	1809	
116	146	262	2522	2522	3148	3148	5932	
44.27	55.73	-	100.00	-	100.00	-	-	
1.96	2.46	4.42	42.52	42.52	53.07	53.07	53.07	

Woodstock, GA
Classified Turn Movement Count



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Site 15 of 15

Local Access
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.118615°, -84.475969°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME
0700 - 0715
0715 - 0730
0730 - 0745
0745 - 0800
Hourly Total
0800 - 0815
0815 - 0830
0830 - 0845
0845 - 0900
Hourly Total
Grand Total
Approach %
Intersection %

Southbound			Eastbound			Westbound		
Local Access			Arnold Mill Rd (West)			Arnold Mill Rd (East)		
Left	Right	App Total	Thru	App Total	Thru	App Total	Int Total	
15.1	15.2		15.3		15.4			
0	0	0	171	171	110	110	281	
0	0	0	178	178	155	155	333	
0	0	0	138	138	200	200	338	
0	0	0	167	167	235	235	402	
0	0	0	654	654	700	700	1354	
2	4	6	201	201	168	168	375	
0	2	2	186	186	184	184	372	
0	0	0	152	152	149	149	301	
1	4	5	191	191	155	155	351	
3	10	13	730	730	656	656	1399	
3	10	13	1384	1384	1356	1356	2753	
23.08	76.92	-	100.00	-	100.00	-	-	
0.11	0.36	0.47	50.27	50.27	49.26	49.26	-	

1400 - 1800 (Weekday 4h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME
1400 - 1415
1415 - 1430
1430 - 1445
1445 - 1500
Hourly Total
1500 - 1515
1515 - 1530
1530 - 1545
1545 - 1600
Hourly Total
1600 - 1615
1615 - 1630
1630 - 1645
1645 - 1700
Hourly Total
1700 - 1715
1715 - 1730
1730 - 1745
1745 - 1800
Hourly Total
Grand Total
Approach %
Intersection %

Southbound			Eastbound			Westbound		
Local Access			Arnold Mill Rd (West)			Arnold Mill Rd (East)		
Left	Right	App Total	Thru	App Total	Thru	App Total	Int Total	
15.1	15.2		15.3		15.4			
0	1	1	113	113	131	131	245	
0	1	1	120	120	89	89	210	
2	4	6	118	118	138	138	262	
0	5	5	100	100	141	141	246	
2	11	13	451	451	499	499	963	
3	2	5	131	131	169	169	305	
6	5	11	164	164	194	194	369	
36	41	77	180	180	171	171	428	
36	53	89	137	137	194	194	420	
81	101	182	612	612	728	728	1522	
11	17	28	168	168	195	195	391	
4	6	10	159	159	185	185	354	
2	3	5	138	138	185	185	328	
7	2	9	142	142	220	220	371	
24	28	52	607	607	785	785	1444	
6	3	9	170	170	250	250	429	
2	2	4	216	216	248	248	468	
0	0	0	176	176	262	262	438	
1	1	2	195	195	257	257	454	
9	6	15	757	757	1017	1017	1789	
116	146	262	2427	2427	3029	3029	5718	
44.27	55.73	-	100.00	-	100.00	-	-	
2.03	2.55	4.58	42.44	42.44	52.97	52.97	-	

Woodstock, GA
Classified Turn Movement Count



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Site 15 of 15

Local Access
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.118615°, -84.475969°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME
0700 - 0715
0715 - 0730
0730 - 0745
0745 - 0800
Hourly Total
0800 - 0815
0815 - 0830
0830 - 0845
0845 - 0900
Hourly Total
Grand Total
Approach %
Intersection %

Southbound			Eastbound			Westbound			Int Total
Local Access			Arnold Mill Rd (West)			Arnold Mill Rd (East)			
Left 15.1	Right 15.2	App Total	Thru 15.3	App Total	Thru 15.4	App Total	Int Total		
0	0	0	5	5	6	6	11		
0	0	0	2	2	4	4	6		
0	0	0	7	7	5	5	12		
0	0	0	12	12	15	15	27		
0	0	0	26	26	30	30	56		
0	0	0	11	11	8	8	19		
0	0	0	5	5	4	4	9		
0	0	0	15	15	19	19	34		
0	0	0	11	11	4	4	15		
0	0	0	42	42	35	35	77		
0	0	0	68	68	65	65	133		
0.00	0.00	-	100.00	-	100.00	-	-		
0.00	0.00	0.00	51.13	51.13	48.87	48.87	48.87		

1400 - 1800 (Weekday 4h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME
1400 - 1415
1415 - 1430
1430 - 1445
1445 - 1500
Hourly Total
1500 - 1515
1515 - 1530
1530 - 1545
1545 - 1600
Hourly Total
1600 - 1615
1615 - 1630
1630 - 1645
1645 - 1700
Hourly Total
1700 - 1715
1715 - 1730
1730 - 1745
1745 - 1800
Hourly Total
Grand Total
Approach %
Intersection %

Southbound			Eastbound			Westbound			Int Total
Local Access			Arnold Mill Rd (West)			Arnold Mill Rd (East)			
Left 15.1	Right 15.2	App Total	Thru 15.3	App Total	Thru 15.4	App Total	Int Total		
0	0	0	3	3	2	2	5		
0	0	0	5	5	4	4	9		
0	0	0	6	6	4	4	10		
0	0	0	2	2	19	19	21		
0	0	0	16	16	29	29	45		
0	0	0	4	4	15	15	19		
0	0	0	14	14	6	6	20		
0	0	0	17	17	4	4	21		
0	0	0	4	4	18	18	22		
0	0	0	39	39	43	43	82		
0	0	0	18	18	13	13	31		
0	0	0	10	10	8	8	18		
0	0	0	4	4	6	6	10		
0	0	0	2	2	6	6	8		
0	0	0	34	34	33	33	67		
0	0	0	1	1	6	6	7		
0	0	0	1	1	2	2	3		
0	0	0	2	2	4	4	6		
0	0	0	2	2	2	2	4		
0	0	0	6	6	14	14	20		
0	0	0	95	95	119	119	214		
0.00	0.00	-	100.00	-	100.00	-	-		
0.00	0.00	0.00	44.39	44.39	55.61	55.61	55.61		

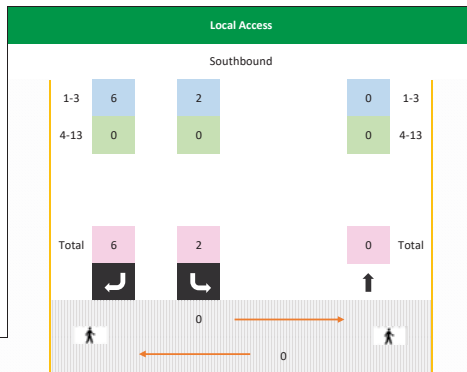
Woodstock, GA
Peak Hour Turning Movement Count



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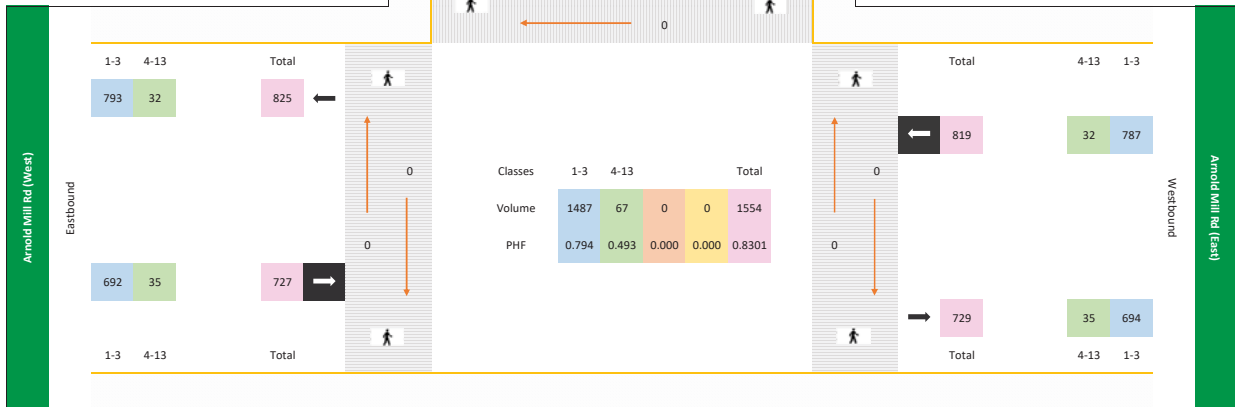
Thursday, February 13, 2020	
Period	0700 - 0900
Peak Hour	0730 - 0830



Session Parameters
(Drop Down Menu)

Peak Hour

Volume



Woodstock, GA
Peak Hour Turning Movement Count



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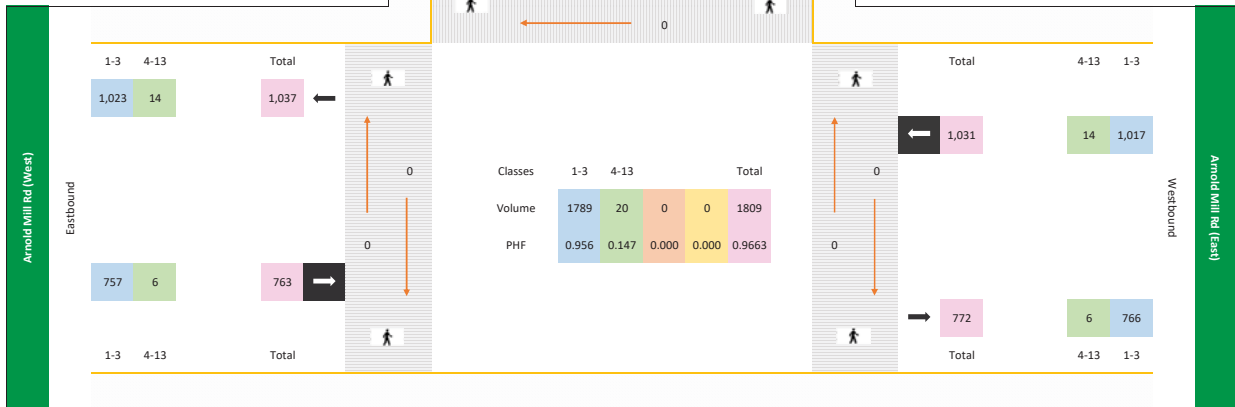
Thursday, February 13, 2020	
Period	1400 - 1800
Peak Hour	1700 - 1800



Session Parameters
(Drop Down Menu)

Peak Hour

Volume



Woodstock, GA
Classified Turn Movement Count



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Site 5 of 14
Trickum Rd (South)
Trickum Rd (North)
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.118314°, -84.469969°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Trickum Rd (South)					Trickum Rd (North)					Arnold Mill Rd (West)					Arnold Mill Rd (East)					
	Left 5.1	Thru 5.2	Right 5.3	U-Turn 5.4	App Total	Left 5.5	Thru 5.6	Right 5.7	U-Turn 5.8	App Total	Left 5.9	Thru 5.10	Right 5.11	U-Turn 5.12	App Total	Left 5.13	Thru 5.14	Right 5.15	U-Turn 5.16	App Total	
0700 - 0715	34	0	2	0	36	1	5	2	0	8	1	74	100	0	175	15	82	0	0	97	316
0715 - 0730	36	1	3	0	40	3	1	1	0	5	3	83	102	0	188	28	124	0	0	152	385
0730 - 0745	66	0	5	0	71	1	2	4	0	7	0	58	81	0	139	33	137	0	0	170	387
0745 - 0800	147	0	6	0	153	1	5	2	0	8	1	52	120	0	173	27	123	0	0	150	484
Hourly Total	283	1	16	0	300	6	13	9	0	28	5	267	403	0	675	103	466	0	0	569	1572
0800 - 0815	62	1	14	0	77	1	5	1	0	7	1	78	121	0	200	45	94	3	0	142	426
0815 - 0830	96	2	30	0	128	1	5	2	0	8	0	66	130	0	196	40	65	0	0	105	437
0830 - 0845	95	2	7	0	104	0	2	2	0	4	2	57	95	0	154	18	76	0	0	94	356
0845 - 0900	71	1	9	0	81	0	6	2	0	8	1	74	116	0	191	32	83	1	0	116	396
Hourly Total	324	6	60	0	390	2	18	7	0	27	4	275	462	0	741	135	318	4	0	457	1615
Grand Total	607	7	76	0	690	8	31	16	0	55	9	542	865	0	1416	238	784	4	0	1026	3187
Approach %	87.97	1.01	11.01	0.00	-	14.55	56.36	29.09	0.00	-	0.64	38.28	61.09	0.00	-	23.20	76.41	0.39	0.00	-	-
Intersection %	19.05	0.22	2.38	0.00	21.65	0.25	0.97	0.50	0.00	1.73	0.28	17.01	27.14	0.00	44.43	7.47	24.60	0.13	0.00	32.19	

1600 - 1800 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Trickum Rd (South)					Trickum Rd (North)					Arnold Mill Rd (West)					Arnold Mill Rd (East)					
	Left 5.1	Thru 5.2	Right 5.3	U-Turn 5.4	App Total	Left 5.5	Thru 5.6	Right 5.7	U-Turn 5.8	App Total	Left 5.9	Thru 5.10	Right 5.11	U-Turn 5.12	App Total	Left 5.13	Thru 5.14	Right 5.15	U-Turn 5.16	App Total	
1600 - 1615	96	6	16	0	118	1	6	3	0	10	6	106	87	0	199	18	87	2	0	107	434
1615 - 1630	85	5	12	0	102	0	3	3	0	6	10	82	80	0	172	17	106	1	0	124	404
1630 - 1645	81	3	12	0	96	2	2	7	0	11	2	77	54	0	133	11	102	0	0	113	353
1645 - 1700	118	6	20	0	144	3	2	2	0	7	0	95	60	0	155	10	105	3	0	118	424
Hourly Total	380	20	60	0	460	6	13	15	0	34	18	360	281	0	659	56	400	6	0	462	1615
1700 - 1715	119	1	9	0	129	1	2	2	0	5	0	85	77	0	162	12	123	0	0	135	431
1715 - 1730	135	6	14	0	155	0	2	2	0	4	3	112	94	0	209	15	126	2	0	143	511
1730 - 1745	145	1	13	0	159	6	2	2	0	10	7	100	78	0	185	16	116	2	0	134	488
1745 - 1800	147	3	13	0	163	4	2	3	0	9	4	112	77	0	193	15	111	2	0	128	493
Hourly Total	546	11	49	0	606	11	8	9	0	28	14	409	326	0	749	58	476	6	0	540	1923
Grand Total	926	31	109	0	1066	17	21	24	0	62	32	769	607	0	1408	114	876	12	0	1002	3538
Approach %	86.87	2.91	10.23	0.00	-	27.42	33.87	38.71	0.00	-	2.27	54.62	43.11	0.00	-	11.38	87.43	1.20	0.00	-	-
Intersection %	26.17	0.88	3.08	0.00	30.13	0.48	0.59	0.68	0.00	1.75	0.90	21.74	17.16	0.00	39.80	3.22	24.76	0.34	0.00	28.32	

Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
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Site 5 of 14
Trickum Rd (South)
Trickum Rd (North)
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.118314°, -84.469969°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Trickum Rd (South)					Trickum Rd (North)					Arnold Mill Rd (West)					Arnold Mill Rd (East)					
	Left 5.1	Thru 5.2	Right 5.3	U-Turn 5.4	App Total	Left 5.5	Thru 5.6	Right 5.7	U-Turn 5.8	App Total	Left 5.9	Thru 5.10	Right 5.11	U-Turn 5.12	App Total	Left 5.13	Thru 5.14	Right 5.15	U-Turn 5.16	App Total	
0700 - 0715	30	0	2	0	32	1	5	2	0	8	0	73	98	0	171	15	80	0	0	95	306
0715 - 0730	35	1	3	0	39	2	1	1	0	4	3	80	100	0	183	28	120	0	0	148	374
0730 - 0745	65	0	5	0	70	1	2	4	0	7	0	55	77	0	132	33	132	0	0	165	374
0745 - 0800	136	0	6	0	142	1	5	1	0	7	1	50	112	0	163	27	121	0	0	148	460
Hourly Total	266	1	16	0	283	5	13	8	0	26	4	258	387	0	649	103	453	0	0	556	1514
0800 - 0815	58	1	13	0	72	1	5	1	0	7	1	75	113	0	189	44	91	1	0	136	404
0815 - 0830	93	2	30	0	125	1	5	1	0	7	0	63	127	0	190	40	65	0	0	105	427
0830 - 0845	78	2	7	0	87	0	2	2	0	4	2	49	90	0	141	18	73	0	0	91	323
0845 - 0900	70	1	8	0	79	0	6	2	0	8	1	73	106	0	180	31	81	1	0	113	380
Hourly Total	299	6	58	0	363	2	18	6	0	26	4	260	436	0	700	133	310	2	0	445	1534
Grand Total	565	7	74	0	646	7	31	14	0	52	8	518	823	0	1349	236	763	2	0	1001	3048
Approach %	87.46	1.08	11.46	0.00	-	13.46	59.62	26.92	0.00	-	0.59	38.40	61.01	0.00	-	23.58	76.22	0.20	0.00	-	-
Intersection %	18.54	0.23	2.43	0.00	21.19	0.23	1.02	0.46	0.00	1.71	0.26	16.99	27.00	0.00	44.26	7.74	25.03	0.07	0.00	-	32.84

1600 - 1800 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Trickum Rd (South)					Trickum Rd (North)					Arnold Mill Rd (West)					Arnold Mill Rd (East)					
	Left 5.1	Thru 5.2	Right 5.3	U-Turn 5.4	App Total	Left 5.5	Thru 5.6	Right 5.7	U-Turn 5.8	App Total	Left 5.9	Thru 5.10	Right 5.11	U-Turn 5.12	App Total	Left 5.13	Thru 5.14	Right 5.15	U-Turn 5.16	App Total	
1600 - 1615	89	6	16	0	111	1	6	3	0	10	6	103	75	0	184	17	82	2	0	101	406
1615 - 1630	83	5	12	0	100	0	3	3	0	6	10	77	72	0	159	17	100	1	0	118	383
1630 - 1645	79	3	12	0	94	1	2	6	0	9	2	75	52	0	129	10	99	0	0	109	341
1645 - 1700	114	6	20	0	140	3	2	2	0	7	0	94	59	0	153	10	103	3	0	116	416
Hourly Total	365	20	60	0	445	5	13	14	0	32	18	349	258	0	625	54	384	6	0	444	1546
1700 - 1715	115	1	9	0	125	1	2	2	0	5	0	83	76	0	159	12	122	0	0	134	423
1715 - 1730	133	6	14	0	153	0	2	2	0	4	3	111	94	0	208	15	125	1	0	141	506
1730 - 1745	142	1	13	0	156	6	1	2	0	9	7	100	78	0	185	16	115	2	0	133	483
1745 - 1800	145	3	13	0	161	4	2	3	0	9	4	111	76	0	191	15	111	2	0	128	489
Hourly Total	535	11	49	0	595	11	7	9	0	27	14	405	324	0	743	58	473	5	0	536	1901
Grand Total	900	31	109	0	1040	16	20	23	0	59	32	754	582	0	1368	112	857	11	0	980	3447
Approach %	86.54	2.98	10.48	0.00	-	27.12	33.90	38.98	0.00	-	2.34	55.12	42.54	0.00	-	11.43	87.45	1.12	0.00	-	-
Intersection %	26.11	0.90	3.16	0.00	30.17	0.46	0.58	0.67	0.00	1.71	0.93	21.87	16.88	0.00	39.69	3.25	24.86	0.32	0.00	-	28.43

Woodstock, GA
Classified Turn Movement Count



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Site 5 of 14
Trickum Rd (South)
Trickum Rd (North)
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.118314°, -84.469969°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Trickum Rd (South)					Trickum Rd (North)					Arnold Mill Rd (West)					Arnold Mill Rd (East)					
	Left 5.1	Thru 5.2	Right 5.3	U-Turn 5.4	App Total	Left 5.5	Thru 5.6	Right 5.7	U-Turn 5.8	App Total	Left 5.9	Thru 5.10	Right 5.11	U-Turn 5.12	App Total	Left 5.13	Thru 5.14	Right 5.15	U-Turn 5.16	App Total	
0700 - 0715	4	0	0	0	4	0	0	0	0	0	1	1	2	0	4	0	2	0	0	2	10
0715 - 0730	1	0	0	0	1	1	0	0	0	1	0	3	2	0	5	0	4	0	0	4	11
0730 - 0745	1	0	0	0	1	0	0	0	0	0	0	3	4	0	7	0	5	0	0	5	13
0745 - 0800	11	0	0	0	11	0	0	1	0	1	0	2	8	0	10	0	2	0	0	2	24
Hourly Total	17	0	0	0	17	1	0	1	0	2	1	9	16	0	26	0	13	0	0	13	58
0800 - 0815	4	0	1	0	5	0	0	0	0	0	0	3	8	0	11	1	3	2	0	6	22
0815 - 0830	3	0	0	0	3	0	0	1	0	1	0	3	3	0	6	0	0	0	0	0	10
0830 - 0845	17	0	0	0	17	0	0	0	0	0	0	8	5	0	13	0	3	0	0	3	33
0845 - 0900	1	0	1	0	2	0	0	0	0	0	0	1	10	0	11	1	2	0	0	3	16
Hourly Total	25	0	2	0	27	0	0	1	0	1	0	15	26	0	41	2	8	2	0	12	81
Grand Total	42	0	2	0	44	1	0	2	0	3	1	24	42	0	67	2	21	2	0	25	139
Approach %	95.45	0.00	4.55	0.00	-	33.33	0.00	66.67	0.00	-	1.49	35.82	62.69	0.00	-	8.00	84.00	8.00	0.00	-	
Intersection %	30.22	0.00	1.44	0.00	31.65	0.72	0.00	1.44	0.00	2.16	0.72	17.27	30.22	0.00	48.20	1.44	15.11	1.44	0.00	17.99	

1600 - 1800 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Trickum Rd (South)					Trickum Rd (North)					Arnold Mill Rd (West)					Arnold Mill Rd (East)					
	Left 5.1	Thru 5.2	Right 5.3	U-Turn 5.4	App Total	Left 5.5	Thru 5.6	Right 5.7	U-Turn 5.8	App Total	Left 5.9	Thru 5.10	Right 5.11	U-Turn 5.12	App Total	Left 5.13	Thru 5.14	Right 5.15	U-Turn 5.16	App Total	
1600 - 1615	7	0	0	0	7	0	0	0	0	0	0	3	12	0	15	1	5	0	0	6	28
1615 - 1630	2	0	0	0	2	0	0	0	0	0	0	5	8	0	13	0	6	0	0	6	21
1630 - 1645	2	0	0	0	2	1	0	1	0	2	0	2	2	0	4	1	3	0	0	4	12
1645 - 1700	4	0	0	0	4	0	0	0	0	0	0	1	1	0	2	0	2	0	0	2	8
Hourly Total	15	0	0	0	15	1	0	1	0	2	0	11	23	0	34	2	16	0	0	18	69
1700 - 1715	4	0	0	0	4	0	0	0	0	0	0	2	1	0	3	0	1	0	0	1	8
1715 - 1730	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	0	1	1	0	2	5
1730 - 1745	3	0	0	0	3	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	5
1745 - 1800	2	0	0	0	2	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	4
Hourly Total	11	0	0	0	11	0	1	0	0	1	0	4	2	0	6	0	3	1	0	4	22
Grand Total	26	0	0	0	26	1	1	1	0	3	0	15	25	0	40	2	19	1	0	22	91
Approach %	100.00	0.00	0.00	0.00	-	33.33	33.33	33.33	0.00	-	0.00	37.50	62.50	0.00	-	9.09	86.36	4.55	0.00	-	
Intersection %	28.57	0.00	0.00	0.00	28.57	1.10	1.10	1.10	0.00	3.30	0.00	16.48	27.47	0.00	43.96	2.20	20.88	1.10	0.00	24.18	

Woodstock, GA
Peak Hour Turning Movement Count



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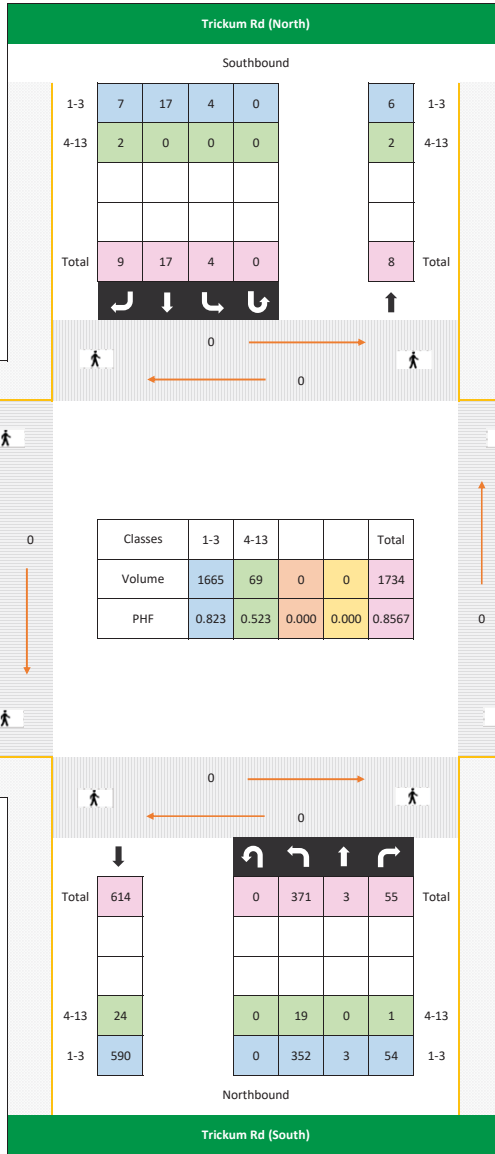
Thursday, February 13, 2020	
Period	0700 - 0900
Peak Hour	0730 - 0830

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



1-3	4-13	Total
768	31	799

0	0	0
2	0	2
243	11	254
429	23	452
1-3	4-13	Total

Classes	1-3	4-13			Total
Volume	1665	69	0	0	1734
PHF	0.823	0.523	0.000	0.000	0.8567

Total	4-13	1-3
3	2	1
419	10	409
145	1	144
0	0	0

313	12	301
Total	4-13	1-3

Total	614	0	371	3	55	Total
4-13	24	0	19	0	1	4-13
1-3	590	0	352	3	54	1-3

Arnold Mill Rd (West)

Arnold Mill Rd (East)

Trickum Rd (South)

Woodstock, GA
Peak Hour Turning Movement Count



Marr Traffic Inc

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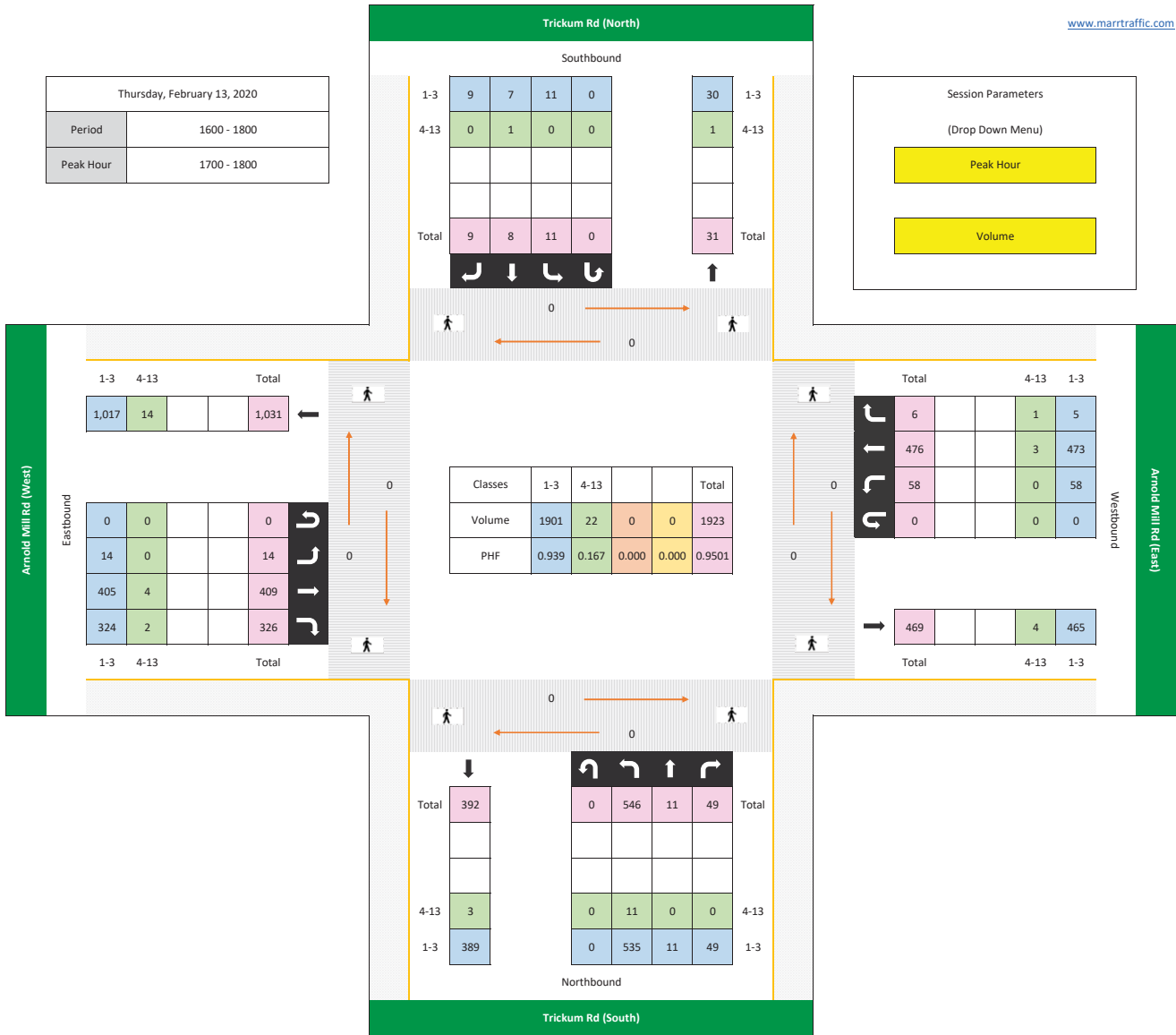
Thursday, February 13, 2020	
Period	1600 - 1800
Peak Hour	1700 - 1800

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
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Site 6 of 14
Farmington Dr (South)
Farmington Dr (North)
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.118059°, -84.466277°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Farmington Dr (South)					Farmington Dr (North)					Arnold Mill Rd (West)					Arnold Mill Rd (East)					
	Left 6.1	Thru 6.2	Right 6.3	U-Turn 6.4	App Total	Left 6.5	Thru 6.6	Right 6.7	U-Turn 6.8	App Total	Left 6.9	Thru 6.10	Right 6.11	U-Turn 6.12	App Total	Left 6.13	Thru 6.14	Right 6.15	U-Turn 6.16	App Total	
0700 - 0715	2	0	1	0	3	6	0	17	0	23	1	77	1	0	79	1	78	3	0	82	187
0715 - 0730	5	0	0	0	5	1	0	6	0	7	1	86	3	0	90	0	139	2	0	141	243
0730 - 0745	1	1	2	0	4	2	0	9	0	11	1	49	1	0	51	1	160	2	0	163	229
0745 - 0800	3	0	1	0	4	1	0	8	0	9	1	70	1	0	72	0	171	2	0	173	258
Hourly Total	11	1	4	0	16	10	0	40	0	50	4	282	6	0	292	2	548	9	0	559	917
0800 - 0815	4	0	0	0	4	3	0	9	1	13	2	93	0	0	95	1	103	0	0	104	216
0815 - 0830	4	0	1	0	5	1	0	7	0	8	2	92	3	0	97	0	91	0	0	91	201
0830 - 0845	3	1	0	0	4	1	0	4	0	5	2	56	0	0	58	1	93	1	0	95	162
0845 - 0900	4	0	2	0	6	1	0	6	0	7	4	78	4	0	86	0	83	0	0	83	182
Hourly Total	15	1	3	0	19	6	0	26	1	33	10	319	7	0	336	2	370	1	0	373	761
Grand Total	26	2	7	0	35	16	0	66	1	83	14	601	13	0	628	4	918	10	0	932	1678
Approach %	74.29	5.71	20.00	0.00	-	19.28	0.00	79.52	1.20	-	2.23	95.70	2.07	0.00	-	0.43	98.50	1.07	0.00	-	
Intersection %	1.55	0.12	0.42	0.00	2.09	0.95	0.00	3.93	0.06	4.95	0.83	35.82	0.77	0.00	37.43	0.24	54.71	0.60	0.00	55.54	

1600 - 1800 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Farmington Dr (South)					Farmington Dr (North)					Arnold Mill Rd (West)					Arnold Mill Rd (East)					
	Left 6.1	Thru 6.2	Right 6.3	U-Turn 6.4	App Total	Left 6.5	Thru 6.6	Right 6.7	U-Turn 6.8	App Total	Left 6.9	Thru 6.10	Right 6.11	U-Turn 6.12	App Total	Left 6.13	Thru 6.14	Right 6.15	U-Turn 6.16	App Total	
1600 - 1615	1	0	1	0	2	1	0	8	0	9	11	107	3	0	121	0	93	2	0	95	227
1615 - 1630	1	1	0	0	2	0	0	4	0	4	6	80	4	0	90	1	125	3	0	129	225
1630 - 1645	1	0	0	0	1	2	0	3	0	5	6	89	2	0	97	0	110	2	0	112	215
1645 - 1700	3	0	0	0	3	0	0	8	0	8	9	95	2	0	106	2	122	4	0	128	245
Hourly Total	6	1	1	0	8	3	0	23	0	26	32	371	11	0	414	3	450	11	0	464	912
1700 - 1715	3	0	0	0	3	2	0	8	0	10	7	93	2	0	102	1	121	2	0	124	239
1715 - 1730	2	0	0	0	2	0	0	9	0	9	16	104	4	0	124	0	130	0	0	130	265
1730 - 1745	1	0	1	0	2	0	0	9	0	9	7	112	2	0	121	1	124	3	0	128	260
1745 - 1800	4	0	0	0	4	1	0	5	0	6	10	109	5	0	124	0	116	0	0	116	250
Hourly Total	10	0	1	0	11	3	0	31	0	34	40	418	13	0	471	2	491	5	0	498	1014
Grand Total	16	1	2	0	19	6	0	54	0	60	72	789	24	0	885	5	941	16	0	962	1926
Approach %	84.21	5.26	10.53	0.00	-	10.00	0.00	90.00	0.00	-	8.14	89.15	2.71	0.00	-	0.52	97.82	1.66	0.00	-	
Intersection %	0.83	0.05	0.10	0.00	0.99	0.31	0.00	2.80	0.00	3.12	3.74	40.97	1.25	0.00	45.95	0.26	48.86	0.83	0.00	49.95	

Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
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Site 6 of 14
Farmington Dr (South)
Farmington Dr (North)
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.118059°, -84.466277°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Farmington Dr (South)					Farmington Dr (North)					Arnold Mill Rd (West)					Arnold Mill Rd (East)					
	Left 6.1	Thru 6.2	Right 6.3	U-Turn 6.4	App Total	Left 6.5	Thru 6.6	Right 6.7	U-Turn 6.8	App Total	Left 6.9	Thru 6.10	Right 6.11	U-Turn 6.12	App Total	Left 6.13	Thru 6.14	Right 6.15	U-Turn 6.16	App Total	
0700 - 0715	2	0	1	0	3	5	0	16	0	21	1	77	0	0	78	1	77	1	0	79	181
0715 - 0730	5	0	0	0	5	1	0	5	0	6	0	84	2	0	86	0	139	1	0	140	237
0730 - 0745	1	0	2	0	3	2	0	9	0	11	1	46	1	0	48	0	154	1	0	155	217
0745 - 0800	3	0	1	0	4	1	0	8	0	9	1	68	1	0	70	0	166	1	0	167	250
Hourly Total	11	0	4	0	15	9	0	38	0	47	3	275	4	0	282	1	536	4	0	541	885
0800 - 0815	4	0	0	0	4	3	0	9	1	13	2	89	0	0	91	1	99	0	0	100	208
0815 - 0830	4	0	1	0	5	1	0	6	0	7	2	89	3	0	94	0	91	0	0	91	197
0830 - 0845	3	1	0	0	4	1	0	4	0	5	2	48	0	0	50	1	90	1	0	92	151
0845 - 0900	4	0	2	0	6	1	0	6	0	7	4	77	3	0	84	0	80	0	0	80	177
Hourly Total	15	1	3	0	19	6	0	25	1	32	10	303	6	0	319	2	360	1	0	363	733
Grand Total	26	1	7	0	34	15	0	63	1	79	13	578	10	0	601	3	896	5	0	904	1618
Approach %	76.47	2.94	20.59	0.00	-	18.99	0.00	79.75	1.27	-	2.16	96.17	1.66	0.00	-	0.33	99.12	0.55	0.00	-	
Intersection %	1.61	0.06	0.43	0.00	2.10	0.93	0.00	3.89	0.06	4.88	0.80	35.72	0.62	0.00	37.14	0.19	55.38	0.31	0.00	55.87	

1600 - 1800 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Farmington Dr (South)					Farmington Dr (North)					Arnold Mill Rd (West)					Arnold Mill Rd (East)					
	Left 6.1	Thru 6.2	Right 6.3	U-Turn 6.4	App Total	Left 6.5	Thru 6.6	Right 6.7	U-Turn 6.8	App Total	Left 6.9	Thru 6.10	Right 6.11	U-Turn 6.12	App Total	Left 6.13	Thru 6.14	Right 6.15	U-Turn 6.16	App Total	
1600 - 1615	1	0	1	0	2	1	0	7	0	8	11	104	3	0	118	0	90	2	0	92	220
1615 - 1630	1	1	0	0	2	0	0	3	0	3	6	76	3	0	85	1	119	3	0	123	213
1630 - 1645	1	0	0	0	1	2	0	3	0	5	6	86	2	0	94	0	106	2	0	108	208
1645 - 1700	3	0	0	0	3	0	0	8	0	8	9	94	2	0	105	2	119	4	0	125	241
Hourly Total	6	1	1	0	8	3	0	21	0	24	32	360	10	0	402	3	434	11	0	448	882
1700 - 1715	3	0	0	0	3	2	0	8	0	10	7	92	2	0	101	1	121	1	0	123	237
1715 - 1730	2	0	0	0	2	0	0	8	0	8	16	103	3	0	122	0	129	0	0	129	261
1730 - 1745	1	0	1	0	2	0	0	8	0	8	7	111	2	0	120	1	123	2	0	126	256
1745 - 1800	4	0	0	0	4	1	0	5	0	6	10	109	5	0	124	0	116	0	0	116	250
Hourly Total	10	0	1	0	11	3	0	29	0	32	40	415	12	0	467	2	489	3	0	494	1004
Grand Total	16	1	2	0	19	6	0	50	0	56	72	775	22	0	869	5	923	14	0	942	1886
Approach %	84.21	5.26	10.53	0.00	-	10.71	0.00	89.29	0.00	-	8.29	89.18	2.53	0.00	-	0.53	97.98	1.49	0.00	-	
Intersection %	0.85	0.05	0.11	0.00	1.01	0.32	0.00	2.65	0.00	2.97	3.82	41.09	1.17	0.00	46.08	0.27	48.94	0.74	0.00	49.95	

Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
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Site 6 of 14
Farmington Dr (South)
Farmington Dr (North)
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.118059°, -84.466277°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Farmington Dr (South)					Farmington Dr (North)					Arnold Mill Rd (West)					Arnold Mill Rd (East)					
	Left 6.1	Thru 6.2	Right 6.3	U-Turn 6.4	App Total	Left 6.5	Thru 6.6	Right 6.7	U-Turn 6.8	App Total	Left 6.9	Thru 6.10	Right 6.11	U-Turn 6.12	App Total	Left 6.13	Thru 6.14	Right 6.15	U-Turn 6.16	App Total	
0700 - 0715	0	0	0	0	0	1	0	1	0	2	0	0	1	0	1	0	1	2	0	3	6
0715 - 0730	0	0	0	0	0	0	0	1	0	1	1	2	1	0	4	0	0	1	0	1	6
0730 - 0745	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	1	6	1	0	8	12
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	5	1	0	6	8
Hourly Total	0	1	0	0	1	1	0	2	0	3	1	7	2	0	10	1	12	5	0	18	32
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	4	0	0	4	8
0815 - 0830	0	0	0	0	0	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	4
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	3	0	0	3	11
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	3	0	0	3	5
Hourly Total	0	0	0	0	0	0	0	1	0	1	0	16	1	0	17	0	10	0	0	10	28
Grand Total	0	1	0	0	1	1	0	3	0	4	1	23	3	0	27	1	22	5	0	28	60
Approach %	0.00	100.00	0.00	0.00	-	25.00	0.00	75.00	0.00	-	3.70	85.19	11.11	0.00	-	3.57	78.57	17.86	0.00	-	
Intersection %	0.00	1.67	0.00	0.00	1.67	1.67	0.00	5.00	0.00	6.67	1.67	38.33	5.00	0.00	45.00	1.67	36.67	8.33	0.00	46.67	

1600 - 1800 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Farmington Dr (South)					Farmington Dr (North)					Arnold Mill Rd (West)					Arnold Mill Rd (East)					
	Left 6.1	Thru 6.2	Right 6.3	U-Turn 6.4	App Total	Left 6.5	Thru 6.6	Right 6.7	U-Turn 6.8	App Total	Left 6.9	Thru 6.10	Right 6.11	U-Turn 6.12	App Total	Left 6.13	Thru 6.14	Right 6.15	U-Turn 6.16	App Total	
1600 - 1615	0	0	0	0	0	0	0	1	0	1	0	3	0	0	3	0	3	0	0	3	7
1615 - 1630	0	0	0	0	0	0	0	1	0	1	0	4	1	0	5	0	6	0	0	6	12
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	4	0	0	4	7
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	3	0	0	3	4
Hourly Total	0	0	0	0	0	0	0	2	0	2	0	11	1	0	12	0	16	0	0	16	30
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	2
1715 - 1730	0	0	0	0	0	0	0	1	0	1	0	1	1	0	2	0	1	0	0	1	4
1730 - 1745	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	1	1	0	2	4
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	2	0	2	0	3	1	0	4	0	2	2	0	4	10
Grand Total	0	0	0	0	0	0	0	4	0	4	0	14	2	0	16	0	18	2	0	20	40
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	0.00	87.50	12.50	0.00	-	0.00	90.00	10.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	10.00	0.00	35.00	5.00	0.00	40.00	0.00	45.00	5.00	0.00	50.00	

Woodstock, GA
Peak Hour Turning Movement Count



Marr Traffic Inc

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Thursday, February 13, 2020	
Period	0700 - 0900
Peak Hour	0715 - 0815

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Eastbound

1-3	4-13	Total
602	16	618

0	0	0
4	1	5
287	11	298
4	1	5

1-3 4-13 Total

Westbound

Total	4-13	1-3
6	3	3
573	15	558
2	1	1
0	0	0

308	11	297
-----	----	-----

Total 4-13 1-3

Classes	1-3	4-13			Total
Volume	912	34	0	0	946
PHF	0.874	0.708	0.000	0.000	0.9061

Northbound

Total	7
4-13	2
1-3	5

0	13	1	3
0	0	1	0
0	13	0	3

4-13 1-3

Woodstock, GA
Peak Hour Turning Movement Count



Marr Traffic Inc

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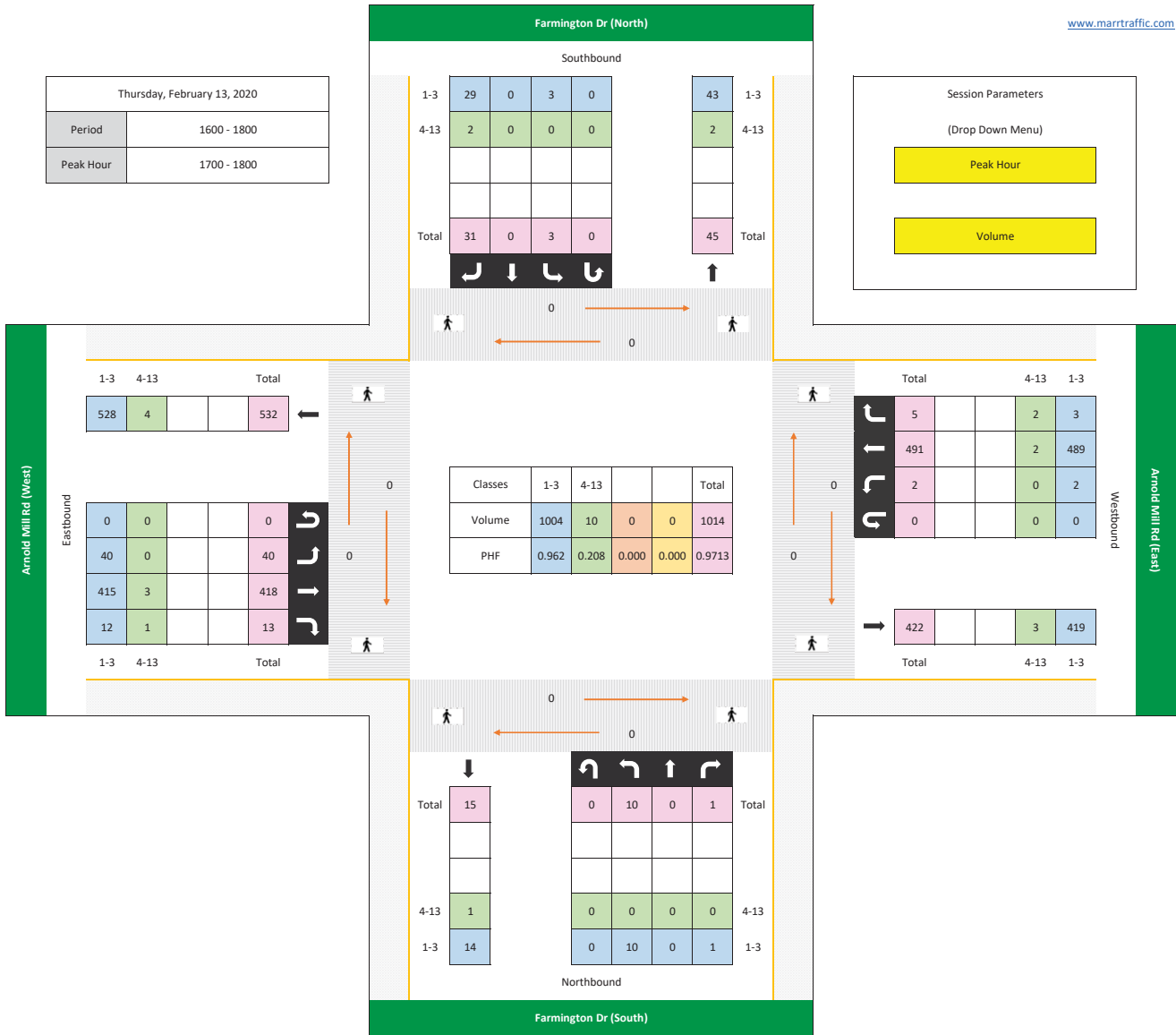
Thursday, February 13, 2020	
Period	1600 - 1800
Peak Hour	1700 - 1800

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
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Site 7 of 14
Arnold Mill Rd (South)
Arnold Mill Rd (North)
Barnes Rd
N Arnold Mill Rd

Lat/Long
34.114711°, -84.458861°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Arnold Mill Rd (South)					Arnold Mill Rd (North)					Barnes Rd					N Arnold Mill Rd					
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	
0700 - 0715	62	44	1	0	107	7	69	1	0	77	6	17	57	0	80	10	77	28	0	115	379
0715 - 0730	49	71	6	0	126	14	84	1	0	99	11	10	56	0	77	25	57	60	0	142	444
0730 - 0745	46	78	12	0	136	20	31	2	0	53	19	36	31	0	86	0	46	67	0	113	388
0745 - 0800	34	61	3	0	98	11	58	2	0	71	16	29	31	0	76	2	68	82	0	152	397
Hourly Total	191	254	22	0	467	52	242	6	0	300	52	92	175	0	319	37	248	237	0	522	1608
0800 - 0815	41	40	2	0	83	23	51	12	0	86	13	22	19	0	54	0	80	51	0	131	354
0815 - 0830	40	35	1	0	76	36	41	12	0	89	7	28	15	0	50	0	73	44	0	117	332
0830 - 0845	39	43	0	0	82	9	47	4	0	60	9	23	21	0	53	2	87	39	0	128	323
0845 - 0900	37	38	1	0	76	23	50	3	0	76	6	27	31	0	64	3	57	44	0	104	320
Hourly Total	157	156	4	0	317	91	189	31	0	311	35	100	86	0	221	5	297	178	0	480	1329
Grand Total	348	410	26	0	784	143	431	37	0	611	87	192	261	0	540	42	545	415	0	1002	2937
Approach %	44.39	52.30	3.32	0.00	-	23.40	70.54	6.06	0.00	-	16.11	35.56	48.33	0.00	-	4.19	54.39	41.42	0.00	-	-
Intersection %	11.85	13.96	0.89	0.00	26.69	4.87	14.67	1.26	0.00	20.80	2.96	6.54	8.89	0.00	18.39	1.43	18.56	14.13	0.00	34.12	-

1600 - 1800 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Arnold Mill Rd (South)					Arnold Mill Rd (North)					Barnes Rd					N Arnold Mill Rd					
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	
1600 - 1615	47	60	2	0	109	41	50	8	0	99	10	58	43	0	111	0	46	32	0	78	397
1615 - 1630	46	95	6	0	147	39	39	3	0	81	7	55	29	0	91	2	47	26	0	75	394
1630 - 1645	69	91	3	0	163	30	47	6	0	83	5	90	31	0	126	4	65	19	0	88	460
1645 - 1700	45	91	6	0	142	31	40	7	0	78	8	87	37	0	132	2	58	20	0	80	432
Hourly Total	207	337	17	0	561	141	176	24	0	341	30	290	140	0	460	8	216	97	0	321	1683
1700 - 1715	47	86	3	0	136	37	53	3	0	93	5	82	49	0	136	3	53	30	0	86	451
1715 - 1730	58	104	3	0	165	38	55	6	0	99	6	67	44	0	117	3	54	23	0	80	461
1730 - 1745	55	100	2	0	157	37	66	8	0	111	5	46	40	0	91	2	42	27	0	71	430
1745 - 1800	52	78	0	0	130	36	57	10	0	103	10	61	31	0	102	1	67	27	0	95	430
Hourly Total	212	368	8	0	588	148	231	27	0	406	26	256	164	0	446	9	216	107	0	332	1772
Grand Total	419	705	25	0	1149	289	407	51	0	747	56	546	304	0	906	17	432	204	0	653	3455
Approach %	36.47	61.36	2.18	0.00	-	38.69	54.48	6.83	0.00	-	6.18	60.26	33.55	0.00	-	2.60	66.16	31.24	0.00	-	-
Intersection %	12.13	20.41	0.72	0.00	33.26	8.36	11.78	1.48	0.00	21.62	1.62	15.80	8.80	0.00	26.22	0.49	12.50	5.90	0.00	18.90	-

Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
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Site 7 of 14
Arnold Mill Rd (South)
Arnold Mill Rd (North)
Barnes Rd
N Arnold Mill Rd

Lat/Long
34.114711°, -84.458861°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Arnold Mill Rd (South)					Arnold Mill Rd (North)					Barnes Rd					N Arnold Mill Rd					
	Left 7.1	Thru 7.2	Right 7.3	U-Turn 7.4	App Total	Left 7.5	Thru 7.6	Right 7.7	U-Turn 7.8	App Total	Left 7.9	Thru 7.10	Right 7.11	U-Turn 7.12	App Total	Left 7.13	Thru 7.14	Right 7.15	U-Turn 7.16	App Total	
0700 - 0715	59	43	1	0	103	7	68	1	0	76	6	15	53	0	74	10	74	27	0	111	364
0715 - 0730	44	68	5	0	117	14	82	1	0	97	10	7	52	0	69	25	54	59	0	138	421
0730 - 0745	44	75	12	0	131	19	30	2	0	51	19	33	29	0	81	0	41	63	0	104	367
0745 - 0800	34	58	3	0	95	10	56	2	0	68	16	27	31	0	74	2	63	81	0	146	383
Hourly Total	181	244	21	0	446	50	236	6	0	292	51	82	165	0	298	37	232	230	0	499	1535
0800 - 0815	41	38	2	0	81	22	49	11	0	82	13	21	19	0	53	0	79	49	0	128	344
0815 - 0830	40	35	1	0	76	36	39	12	0	87	7	27	15	0	49	0	72	44	0	116	328
0830 - 0845	39	43	0	0	82	8	40	4	0	52	9	22	20	0	51	2	86	37	0	125	310
0845 - 0900	37	36	1	0	74	23	48	3	0	74	6	27	30	0	63	3	57	42	0	102	313
Hourly Total	157	152	4	0	313	89	176	30	0	295	35	97	84	0	216	5	294	172	0	471	1295
Grand Total	338	396	25	0	759	139	412	36	0	587	86	179	249	0	514	42	526	402	0	970	2830
Approach %	44.53	52.17	3.29	0.00	-	23.68	70.19	6.13	0.00	-	16.73	34.82	48.44	0.00	-	4.33	54.23	41.44	0.00	-	-
Intersection %	11.94	13.99	0.88	0.00	26.82	4.91	14.56	1.27	0.00	20.74	3.04	6.33	8.80	0.00	18.16	1.48	18.59	14.20	0.00	34.28	

1600 - 1800 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Arnold Mill Rd (South)					Arnold Mill Rd (North)					Barnes Rd					N Arnold Mill Rd					
	Left 7.1	Thru 7.2	Right 7.3	U-Turn 7.4	App Total	Left 7.5	Thru 7.6	Right 7.7	U-Turn 7.8	App Total	Left 7.9	Thru 7.10	Right 7.11	U-Turn 7.12	App Total	Left 7.13	Thru 7.14	Right 7.15	U-Turn 7.16	App Total	
1600 - 1615	47	56	2	0	105	39	49	8	0	96	10	53	40	0	103	0	44	32	0	76	380
1615 - 1630	46	89	6	0	141	39	37	3	0	79	6	52	27	0	85	2	45	26	0	73	378
1630 - 1645	69	88	3	0	160	29	45	6	0	80	5	88	29	0	122	4	60	19	0	83	445
1645 - 1700	45	89	6	0	140	31	38	7	0	76	8	86	35	0	129	2	53	20	0	75	420
Hourly Total	207	322	17	0	546	138	169	24	0	331	29	279	131	0	439	8	202	97	0	307	1623
1700 - 1715	45	86	3	0	134	37	52	3	0	92	5	80	47	0	132	3	53	30	0	86	444
1715 - 1730	58	102	3	0	163	38	54	6	0	98	6	65	42	0	113	3	53	23	0	79	453
1730 - 1745	54	99	2	0	155	37	65	8	0	110	5	44	38	0	87	2	42	27	0	71	423
1745 - 1800	50	77	0	0	127	36	57	10	0	103	10	59	30	0	99	1	63	27	0	91	420
Hourly Total	207	364	8	0	579	148	228	27	0	403	26	248	157	0	431	9	211	107	0	327	1740
Grand Total	414	686	25	0	1125	286	397	51	0	734	55	527	288	0	870	17	413	204	0	634	3363
Approach %	36.80	60.98	2.22	0.00	-	38.96	54.09	6.95	0.00	-	6.32	60.57	33.10	0.00	-	2.68	65.14	32.18	0.00	-	-
Intersection %	12.31	20.40	0.74	0.00	33.45	8.50	11.80	1.52	0.00	21.83	1.64	15.67	8.56	0.00	25.87	0.51	12.28	6.07	0.00	18.85	

Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
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Site 7 of 14
Arnold Mill Rd (South)
Arnold Mill Rd (North)
Barnes Rd
N Arnold Mill Rd

Lat/Long
34.114711°, -84.458861°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Arnold Mill Rd (South)					Arnold Mill Rd (North)					Barnes Rd					N Arnold Mill Rd					
	Left 7.1	Thru 7.2	Right 7.3	U-Turn 7.4	App Total	Left 7.5	Thru 7.6	Right 7.7	U-Turn 7.8	App Total	Left 7.9	Thru 7.10	Right 7.11	U-Turn 7.12	App Total	Left 7.13	Thru 7.14	Right 7.15	U-Turn 7.16	App Total	
0700 - 0715	3	1	0	0	4	0	1	0	0	1	0	2	4	0	6	0	3	1	0	4	15
0715 - 0730	5	3	1	0	9	0	2	0	0	2	1	3	4	0	8	0	3	1	0	4	23
0730 - 0745	2	3	0	0	5	1	1	0	0	2	0	3	2	0	5	0	5	4	0	9	21
0745 - 0800	0	3	0	0	3	1	2	0	0	3	0	2	0	0	2	0	5	1	0	6	14
Hourly Total	10	10	1	0	21	2	6	0	0	8	1	10	10	0	21	0	16	7	0	23	73
0800 - 0815	0	2	0	0	2	1	2	1	0	4	0	1	0	0	1	0	1	2	0	3	10
0815 - 0830	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	0	1	0	0	1	4
0830 - 0845	0	0	0	0	0	1	7	0	0	8	0	1	1	0	2	0	1	2	0	3	13
0845 - 0900	0	2	0	0	2	0	2	0	0	2	0	0	1	0	1	0	0	2	0	2	7
Hourly Total	0	4	0	0	4	2	13	1	0	16	0	3	2	0	5	0	3	6	0	9	34
Grand Total	10	14	1	0	25	4	19	1	0	24	1	13	12	0	26	0	19	13	0	32	107
Approach %	40.00	56.00	4.00	0.00	-	16.67	79.17	4.17	0.00	-	3.85	50.00	46.15	0.00	-	0.00	59.38	40.63	0.00	-	
Intersection %	9.35	13.08	0.93	0.00	23.36	3.74	17.76	0.93	0.00	22.43	0.93	12.15	11.21	0.00	24.30	0.00	17.76	12.15	0.00	29.91	

1600 - 1800 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Arnold Mill Rd (South)					Arnold Mill Rd (North)					Barnes Rd					N Arnold Mill Rd					
	Left 7.1	Thru 7.2	Right 7.3	U-Turn 7.4	App Total	Left 7.5	Thru 7.6	Right 7.7	U-Turn 7.8	App Total	Left 7.9	Thru 7.10	Right 7.11	U-Turn 7.12	App Total	Left 7.13	Thru 7.14	Right 7.15	U-Turn 7.16	App Total	
1600 - 1615	0	4	0	0	4	2	1	0	0	3	0	5	3	0	8	0	2	0	0	2	17
1615 - 1630	0	6	0	0	6	0	2	0	0	2	1	3	2	0	6	0	2	0	0	2	16
1630 - 1645	0	3	0	0	3	1	2	0	0	3	0	2	2	0	4	0	5	0	0	5	15
1645 - 1700	0	2	0	0	2	0	2	0	0	2	0	1	2	0	3	0	5	0	0	5	12
Hourly Total	0	15	0	0	15	3	7	0	0	10	1	11	9	0	21	0	14	0	0	14	60
1700 - 1715	2	0	0	0	2	0	1	0	0	1	0	2	2	0	4	0	0	0	0	0	7
1715 - 1730	0	2	0	0	2	0	1	0	0	1	0	2	2	0	4	0	1	0	0	1	8
1730 - 1745	1	1	0	0	2	0	1	0	0	1	0	2	2	0	4	0	0	0	0	0	7
1745 - 1800	2	1	0	0	3	0	0	0	0	0	0	2	1	0	3	0	4	0	0	4	10
Hourly Total	5	4	0	0	9	0	3	0	0	3	0	8	7	0	15	0	5	0	0	5	32
Grand Total	5	19	0	0	24	3	10	0	0	13	1	19	16	0	36	0	19	0	0	19	92
Approach %	20.83	79.17	0.00	0.00	-	23.08	76.92	0.00	0.00	-	2.78	52.78	44.44	0.00	-	0.00	100.00	0.00	0.00	-	
Intersection %	5.43	20.65	0.00	0.00	26.09	3.26	10.87	0.00	0.00	14.13	1.09	20.65	17.39	0.00	39.13	0.00	20.65	0.00	0.00	20.65	

Woodstock, GA
Peak Hour Turning Movement Count



Marr Traffic Inc

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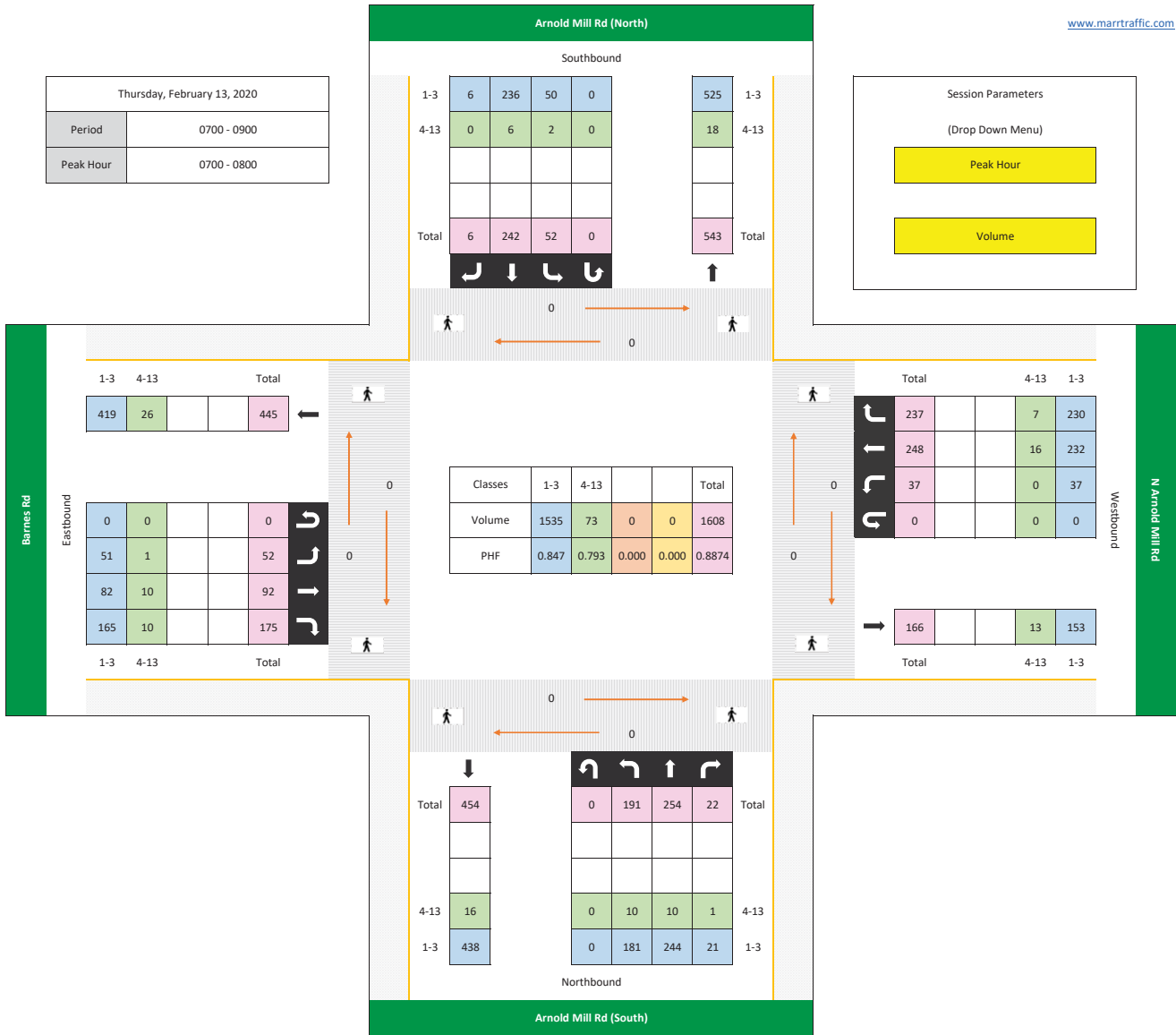
Thursday, February 13, 2020	
Period	0700 - 0900
Peak Hour	0700 - 0800

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Woodstock, GA
Peak Hour Turning Movement Count



Marr Traffic Inc

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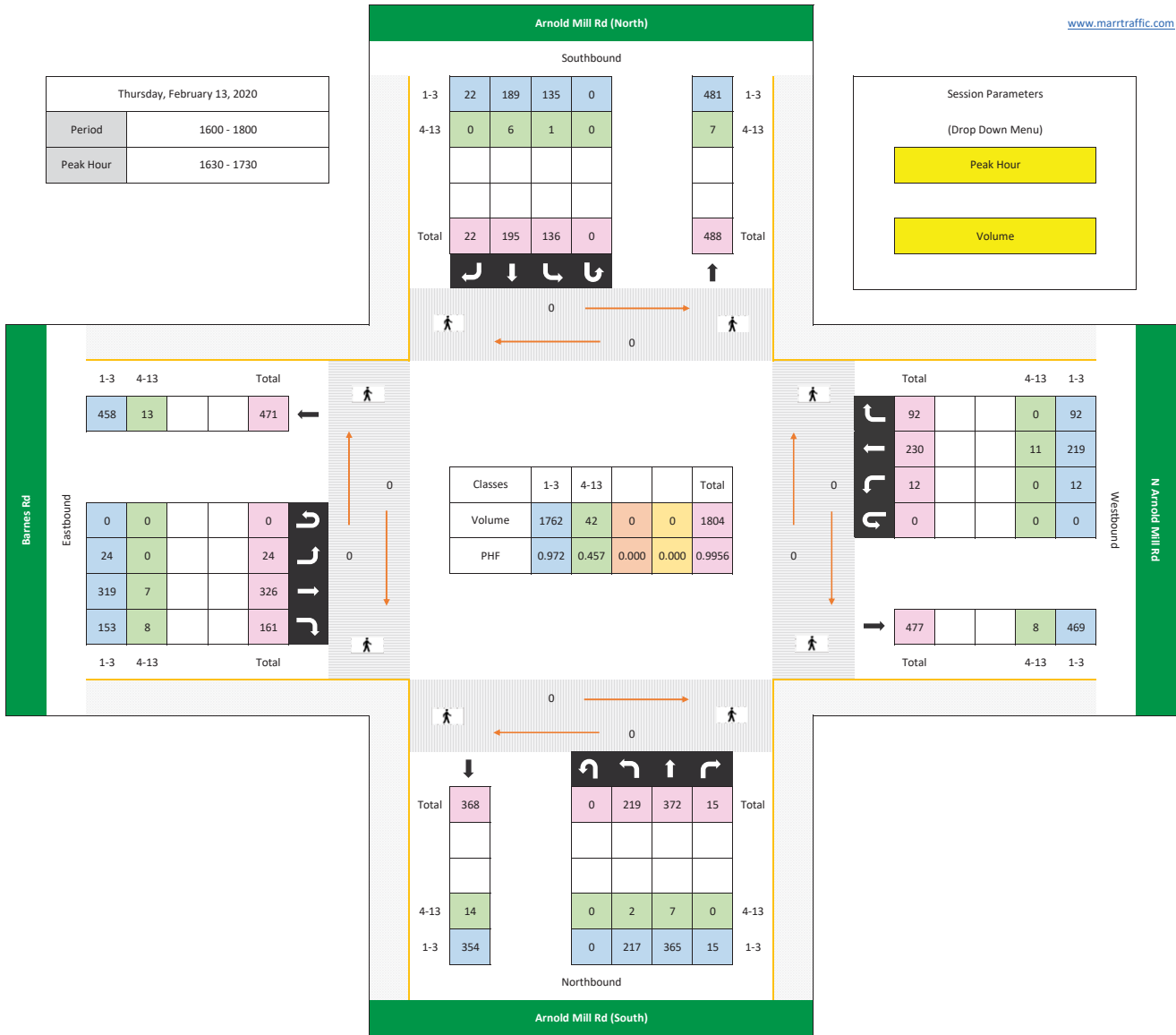
Thursday, February 13, 2020	
Period	1600 - 1800
Peak Hour	1630 - 1730

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Woodstock, GA
Classified Turn Movement Count

Site 8 of 14

Hendon Rd
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.110271°, -84.442186°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F



Marr Traffic Inc
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0700 - 0900 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME
0700 - 0715
0715 - 0730
0730 - 0745
0745 - 0800
Hourly Total
0800 - 0815
0815 - 0830
0830 - 0845
0845 - 0900
Hourly Total
Grand Total
Approach %
Intersection %

Southbound				Eastbound				Westbound				
Hendon Rd				Arnold Mill Rd (West)				Arnold Mill Rd (East)				
Left 8.1	Right 8.2	U-Turn 8.3	App Total	Left 8.4	Thru 8.5	U-Turn 8.6	App Total	Thru 8.7	Right 8.8	U-Turn 8.9	App Total	Int Total
12	0	0	12	0	122	0	122	110	5	0	115	249
24	0	0	24	1	165	0	166	135	12	0	147	337
2	4	0	6	0	71	0	71	132	12	0	144	221
1	4	0	5	0	81	0	81	81	1	0	82	168
39	8	0	47	1	439	0	440	458	30	0	488	975
0	0	0	0	0	77	0	77	73	0	0	73	150
3	3	0	6	0	64	0	64	69	0	0	69	139
1	3	0	4	0	65	0	65	81	3	0	84	153
0	0	0	0	1	73	0	74	68	3	0	71	145
4	6	0	10	1	279	0	280	291	6	0	297	587
43	14	0	57	2	718	0	720	749	36	0	785	1562
75.44	24.56	0.00	-	0.28	99.72	0.00	-	95.41	4.59	0.00	-	-
2.75	0.90	0.00	3.65	0.13	45.97	0.00	46.09	47.95	2.30	0.00	50.26	-

1600 - 1800 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME
1600 - 1615
1615 - 1630
1630 - 1645
1645 - 1700
Hourly Total
1700 - 1715
1715 - 1730
1730 - 1745
1745 - 1800
Hourly Total
Grand Total
Approach %
Intersection %

Southbound				Eastbound				Westbound				
Hendon Rd				Arnold Mill Rd (West)				Arnold Mill Rd (East)				
Left 8.1	Right 8.2	U-Turn 8.3	App Total	Left 8.4	Thru 8.5	U-Turn 8.6	App Total	Thru 8.7	Right 8.8	U-Turn 8.9	App Total	Int Total
1	1	0	2	0	85	0	85	119	0	0	119	206
0	2	0	2	0	75	0	75	135	3	0	138	215
0	1	0	1	2	63	0	65	150	3	0	153	219
0	1	0	1	2	83	0	85	140	1	0	141	227
1	5	0	6	4	306	0	310	544	7	0	551	867
3	0	0	3	2	96	0	98	143	4	0	147	248
0	1	0	1	1	93	0	94	149	2	0	151	246
0	2	0	2	0	101	0	101	151	2	0	153	256
1	0	0	1	2	85	0	87	137	1	0	138	226
4	3	0	7	5	375	0	380	580	9	0	589	976
5	8	0	13	9	681	0	690	1124	16	0	1140	1843
38.46	61.54	0.00	-	1.30	98.70	0.00	-	98.60	1.40	0.00	-	-
0.27	0.43	0.00	0.71	0.49	36.95	0.00	37.44	60.99	0.87	0.00	61.86	-

Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
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Site 8 of 14

Hendon Rd
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.110271°, -84.442186°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME
0700 - 0715
0715 - 0730
0730 - 0745
0745 - 0800
Hourly Total
0800 - 0815
0815 - 0830
0830 - 0845
0845 - 0900
Hourly Total
Grand Total
Approach %
Intersection %

Southbound				Eastbound				Westbound				
Hendon Rd				Arnold Mill Rd (West)				Arnold Mill Rd (East)				
Left 8.1	Right 8.2	U-Turn 8.3	App Total	Left 8.4	Thru 8.5	U-Turn 8.6	App Total	Thru 8.7	Right 8.8	U-Turn 8.9	App Total	Int Total
9	0	0	9	0	119	0	119	105	5	0	110	238
24	0	0	24	0	156	0	156	127	12	0	139	319
2	4	0	6	0	69	0	69	127	11	0	138	213
1	3	0	4	0	80	0	80	79	1	0	80	164
36	7	0	43	0	424	0	424	438	29	0	467	934
0	0	0	0	0	74	0	74	72	0	0	72	146
3	3	0	6	0	62	0	62	69	0	0	69	137
1	3	0	4	0	58	0	58	80	3	0	83	145
0	0	0	0	1	70	0	71	66	3	0	69	140
4	6	0	10	1	264	0	265	287	6	0	293	568
40	13	0	53	1	688	0	689	725	35	0	760	1502
75.47	24.53	0.00	-	0.15	99.85	0.00	-	95.39	4.61	0.00	-	-
2.66	0.87	0.00	3.53	0.07	45.81	0.00	45.87	48.27	2.33	0.00	50.60	-

1600 - 1800 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME
1600 - 1615
1615 - 1630
1630 - 1645
1645 - 1700
Hourly Total
1700 - 1715
1715 - 1730
1730 - 1745
1745 - 1800
Hourly Total
Grand Total
Approach %
Intersection %

Southbound				Eastbound				Westbound				
Hendon Rd				Arnold Mill Rd (West)				Arnold Mill Rd (East)				
Left 8.1	Right 8.2	U-Turn 8.3	App Total	Left 8.4	Thru 8.5	U-Turn 8.6	App Total	Thru 8.7	Right 8.8	U-Turn 8.9	App Total	Int Total
1	0	0	1	0	81	0	81	116	0	0	116	198
0	1	0	1	0	70	0	70	130	3	0	133	204
0	1	0	1	2	59	0	61	147	3	0	150	212
0	1	0	1	2	80	0	82	138	1	0	139	222
1	3	0	4	4	290	0	294	531	7	0	538	836
3	0	0	3	2	94	0	96	141	4	0	145	244
0	1	0	1	1	90	0	91	147	2	0	149	241
0	2	0	2	0	97	0	97	147	2	0	149	248
1	0	0	1	2	84	0	86	136	1	0	137	224
4	3	0	7	5	365	0	370	571	9	0	580	957
5	6	0	11	9	655	0	664	1102	16	0	1118	1793
45.45	54.55	0.00	-	1.36	98.64	0.00	-	98.57	1.43	0.00	-	-
0.28	0.33	0.00	0.61	0.50	36.53	0.00	37.03	61.46	0.89	0.00	62.35	-

Woodstock, GA
Classified Turn Movement Count

Site 8 of 14

Hendon Rd
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.110271°, -84.442186°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F



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0700 - 0900 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME
0700 - 0715
0715 - 0730
0730 - 0745
0745 - 0800
Hourly Total
0800 - 0815
0815 - 0830
0830 - 0845
0845 - 0900
Hourly Total
Grand Total
Approach %
Intersection %

Southbound				Eastbound				Westbound				
Hendon Rd				Arnold Mill Rd (West)				Arnold Mill Rd (East)				
Left 8.1	Right 8.2	U-Turn 8.3	App Total	Left 8.4	Thru 8.5	U-Turn 8.6	App Total	Thru 8.7	Right 8.8	U-Turn 8.9	App Total	Int Total
3	0	0	3	0	3	0	3	5	0	0	5	11
0	0	0	0	1	9	0	10	8	0	0	8	18
0	0	0	0	0	2	0	2	5	1	0	6	8
0	1	0	1	0	1	0	1	2	0	0	2	4
3	1	0	4	1	15	0	16	20	1	0	21	41
0	0	0	0	0	3	0	3	1	0	0	1	4
0	0	0	0	0	2	0	2	0	0	0	0	2
0	0	0	0	0	7	0	7	1	0	0	1	8
0	0	0	0	0	3	0	3	2	0	0	2	5
0	0	0	0	0	15	0	15	4	0	0	4	19
3	1	0	4	1	30	0	31	24	1	0	25	60
75.00	25.00	0.00	-	3.23	96.77	0.00	-	96.00	4.00	0.00	-	
5.00	1.67	0.00	6.67	1.67	50.00	0.00	51.67	40.00	1.67	0.00	41.67	

1600 - 1800 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME
1600 - 1615
1615 - 1630
1630 - 1645
1645 - 1700
Hourly Total
1700 - 1715
1715 - 1730
1730 - 1745
1745 - 1800
Hourly Total
Grand Total
Approach %
Intersection %

Southbound				Eastbound				Westbound				
Hendon Rd				Arnold Mill Rd (West)				Arnold Mill Rd (East)				
Left 8.1	Right 8.2	U-Turn 8.3	App Total	Left 8.4	Thru 8.5	U-Turn 8.6	App Total	Thru 8.7	Right 8.8	U-Turn 8.9	App Total	Int Total
0	1	0	1	0	4	0	4	3	0	0	3	8
0	1	0	1	0	5	0	5	5	0	0	5	11
0	0	0	0	0	4	0	4	3	0	0	3	7
0	0	0	0	0	3	0	3	2	0	0	2	5
0	2	0	2	0	16	0	16	13	0	0	13	31
0	0	0	0	0	2	0	2	2	0	0	2	4
0	0	0	0	0	3	0	3	2	0	0	2	5
0	0	0	0	0	4	0	4	4	0	0	4	8
0	0	0	0	0	1	0	1	1	0	0	1	2
0	0	0	0	0	10	0	10	9	0	0	9	19
0	2	0	2	0	26	0	26	22	0	0	22	50
0.00	100.00	0.00	-	0.00	100.00	0.00	-	100.00	0.00	0.00	-	
0.00	4.00	0.00	4.00	0.00	52.00	0.00	52.00	44.00	0.00	0.00	44.00	

Woodstock, GA
Peak Hour Turning Movement Count



Marr Traffic Inc

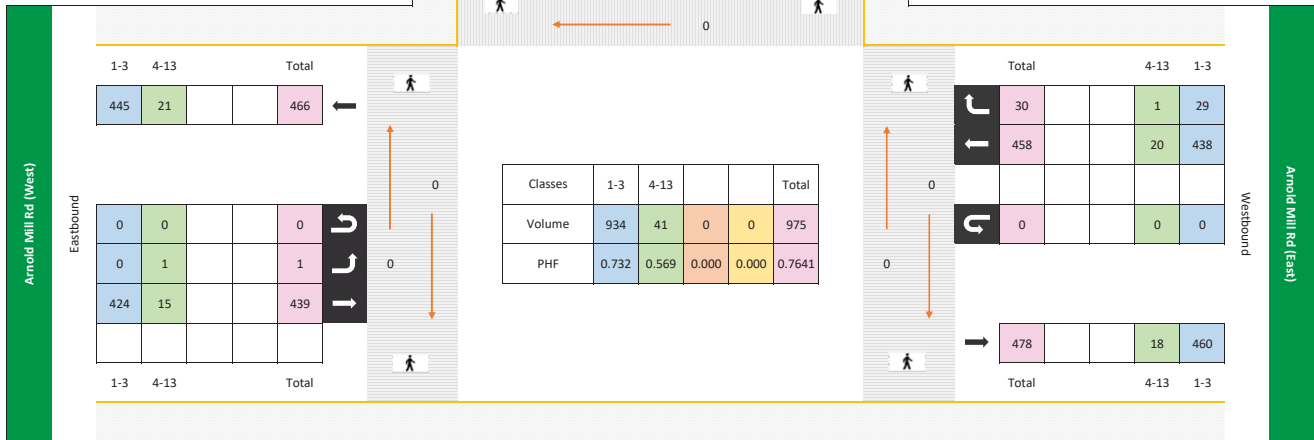
www.marrtraffic.com

Thursday, February 13, 2020	
Period	0700 - 0900
Peak Hour	0700 - 0800

Hendon Rd					
Southbound					
1-3	7		36	0	29
4-13	1		3	0	2
Total	8		39	0	31

Session Parameters

(Drop Down Menu)



Arnold Mill Rd (West)

Arnold Mill Rd (East)

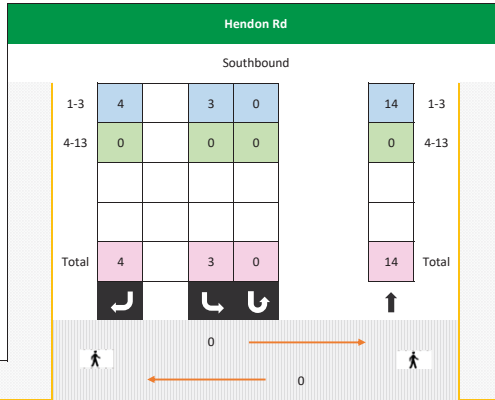
Woodstock, GA
Peak Hour Turning Movement Count



Marr Traffic Inc

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Thursday, February 13, 2020	
Period	1600 - 1800
Peak Hour	1645 - 1745

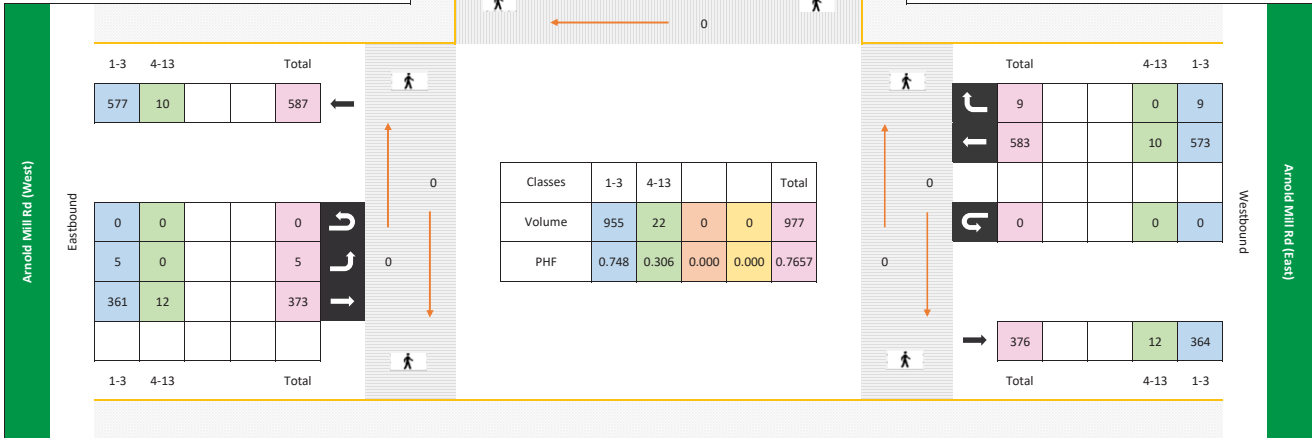


Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Woodstock, GA
Classified Turn Movement Count

Site 9 of 14

N Arnold Mill Rd
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.121815°, -84.421636°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F



Marr Traffic Inc
www.marrtraffic.com

0700 - 0900 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME
0700 - 0715
0715 - 0730
0730 - 0745
0745 - 0800
Hourly Total
0800 - 0815
0815 - 0830
0830 - 0845
0845 - 0900
Hourly Total
Grand Total
Approach %
Intersection %

Southbound N Arnold Mill Rd				Eastbound Arnold Mill Rd (West)				Westbound Arnold Mill Rd (East)				
Left 9.1	Right 9.2	U-Turn 9.3	App Total	Left 9.4	Thru 9.5	U-Turn 9.6	App Total	Thru 9.7	Right 9.8	U-Turn 9.9	App Total	Int Total
71	15	0	86	3	67	0	70	53	8	0	61	217
57	14	0	71	6	74	0	80	69	13	0	82	233
66	6	0	72	8	60	0	68	57	18	0	75	215
57	9	0	66	4	83	0	87	57	24	0	81	234
251	44	0	295	21	284	0	305	236	63	0	299	899
42	4	0	46	1	63	0	64	52	19	0	71	181
54	4	0	58	3	65	0	68	57	10	0	67	193
31	3	0	34	4	52	0	56	65	14	0	79	169
32	2	0	34	1	60	0	61	51	13	0	64	159
159	13	0	172	9	240	0	249	225	56	0	281	702
410	57	0	467	30	524	0	554	461	119	0	580	1601
87.79	12.21	0.00	-	5.42	94.58	0.00	-	79.48	20.52	0.00	-	-
25.61	3.56	0.00	29.17	1.87	32.73	0.00	34.60	28.79	7.43	0.00	36.23	-

1600 - 1800 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME
1600 - 1615
1615 - 1630
1630 - 1645
1645 - 1700
Hourly Total
1700 - 1715
1715 - 1730
1730 - 1745
1745 - 1800
Hourly Total
Grand Total
Approach %
Intersection %

Southbound N Arnold Mill Rd				Eastbound Arnold Mill Rd (West)				Westbound Arnold Mill Rd (East)				
Left 9.1	Right 9.2	U-Turn 9.3	App Total	Left 9.4	Thru 9.5	U-Turn 9.6	App Total	Thru 9.7	Right 9.8	U-Turn 9.9	App Total	Int Total
23	7	0	30	8	71	0	79	101	32	0	133	242
23	3	0	26	9	61	0	70	121	56	0	177	273
13	8	0	21	7	55	0	62	138	55	0	193	276
24	7	0	31	3	65	0	68	115	68	0	183	282
83	25	0	108	27	252	0	279	475	211	0	686	1073
21	3	0	24	5	74	0	79	126	54	0	180	283
23	6	0	29	4	76	0	80	133	59	0	192	301
20	5	0	25	4	73	0	77	145	56	0	201	303
17	5	0	22	5	59	0	64	123	72	0	195	281
81	19	0	100	18	282	0	300	527	241	0	768	1168
164	44	0	208	45	534	0	579	1002	452	0	1454	2241
78.85	21.15	0.00	-	7.77	92.23	0.00	-	68.91	31.09	0.00	-	-
7.32	1.96	0.00	9.28	2.01	23.83	0.00	25.84	44.71	20.17	0.00	64.88	-

Woodstock, GA
Classified Turn Movement Count

Site 9 of 14

N Arnold Mill Rd
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.121815°, -84.421636°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F



Marr Traffic Inc
www.marrtraffic.com

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME
0700 - 0715
0715 - 0730
0730 - 0745
0745 - 0800
Hourly Total
0800 - 0815
0815 - 0830
0830 - 0845
0845 - 0900
Hourly Total
Grand Total
Approach %
Intersection %

Southbound N Arnold Mill Rd				Eastbound Arnold Mill Rd (West)				Westbound Arnold Mill Rd (East)				
Left 9.1	Right 9.2	U-Turn 9.3	App Total	Left 9.4	Thru 9.5	U-Turn 9.6	App Total	Thru 9.7	Right 9.8	U-Turn 9.9	App Total	Int Total
71	10	0	81	1	66	0	67	52	8	0	60	208
56	10	0	66	3	74	0	77	67	12	0	79	222
65	5	0	70	3	60	0	63	56	18	0	74	207
56	6	0	62	2	81	0	83	57	23	0	80	225
248	31	0	279	9	281	0	290	232	61	0	293	862
41	4	0	45	1	61	0	62	52	19	0	71	178
52	2	0	54	3	60	0	63	57	10	0	67	184
31	3	0	34	4	47	0	51	65	13	0	78	163
32	2	0	34	1	58	0	59	50	13	0	63	156
156	11	0	167	9	226	0	235	224	55	0	279	681
404	42	0	446	18	507	0	525	456	116	0	572	1543
90.58	9.42	0.00	-	3.43	96.57	0.00	-	79.72	20.28	0.00	-	-
26.18	2.72	0.00	28.90	1.17	32.86	0.00	34.02	29.55	7.52	0.00	37.07	-

1600 - 1800 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME
1600 - 1615
1615 - 1630
1630 - 1645
1645 - 1700
Hourly Total
1700 - 1715
1715 - 1730
1730 - 1745
1745 - 1800
Hourly Total
Grand Total
Approach %
Intersection %

Southbound N Arnold Mill Rd				Eastbound Arnold Mill Rd (West)				Westbound Arnold Mill Rd (East)				
Left 9.1	Right 9.2	U-Turn 9.3	App Total	Left 9.4	Thru 9.5	U-Turn 9.6	App Total	Thru 9.7	Right 9.8	U-Turn 9.9	App Total	Int Total
20	6	0	26	5	69	0	74	97	31	0	128	228
22	3	0	25	6	60	0	66	119	55	0	174	265
12	7	0	19	5	53	0	58	137	54	0	191	268
24	7	0	31	3	63	0	66	112	67	0	179	276
78	23	0	101	19	245	0	264	465	207	0	672	1037
21	3	0	24	4	73	0	77	125	54	0	179	280
23	5	0	28	4	74	0	78	131	58	0	189	295
20	4	0	24	4	71	0	75	143	55	0	198	297
17	5	0	22	4	58	0	62	122	72	0	194	278
81	17	0	98	16	276	0	292	521	239	0	760	1150
159	40	0	199	35	521	0	556	986	446	0	1432	2187
79.90	20.10	0.00	-	6.29	93.71	0.00	-	68.85	31.15	0.00	-	-
7.27	1.83	0.00	9.10	1.60	23.82	0.00	25.42	45.08	20.39	0.00	65.48	-

Woodstock, GA
Classified Turn Movement Count

Site 9 of 14

N Arnold Mill Rd
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.121815°, -84.421636°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F



Marr Traffic Inc
www.marrtraffic.com

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME
0700 - 0715
0715 - 0730
0730 - 0745
0745 - 0800
Hourly Total
0800 - 0815
0815 - 0830
0830 - 0845
0845 - 0900
Hourly Total
Grand Total
Approach %
Intersection %

Southbound N Arnold Mill Rd				Eastbound Arnold Mill Rd (West)				Westbound Arnold Mill Rd (East)				
Left 9.1	Right 9.2	U-Turn 9.3	App Total	Left 9.4	Thru 9.5	U-Turn 9.6	App Total	Thru 9.7	Right 9.8	U-Turn 9.9	App Total	Int Total
0	5	0	5	2	1	0	3	1	0	0	1	9
1	4	0	5	3	0	0	3	2	1	0	3	11
1	1	0	2	5	0	0	5	1	0	0	1	8
1	3	0	4	2	2	0	4	0	1	0	1	9
3	13	0	16	12	3	0	15	4	2	0	6	37
1	0	0	1	0	2	0	2	0	0	0	0	3
2	2	0	4	0	5	0	5	0	0	0	0	9
0	0	0	0	0	5	0	5	0	1	0	1	6
0	0	0	0	0	2	0	2	1	0	0	1	3
3	2	0	5	0	14	0	14	1	1	0	2	21
6	15	0	21	12	17	0	29	5	3	0	8	58
28.57	71.43	0.00	-	41.38	58.62	0.00	-	62.50	37.50	0.00	-	
10.34	25.86	0.00	36.21	20.69	29.31	0.00	50.00	8.62	5.17	0.00	13.79	

1600 - 1800 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME
1600 - 1615
1615 - 1630
1630 - 1645
1645 - 1700
Hourly Total
1700 - 1715
1715 - 1730
1730 - 1745
1745 - 1800
Hourly Total
Grand Total
Approach %
Intersection %

Southbound N Arnold Mill Rd				Eastbound Arnold Mill Rd (West)				Westbound Arnold Mill Rd (East)				
Left 9.1	Right 9.2	U-Turn 9.3	App Total	Left 9.4	Thru 9.5	U-Turn 9.6	App Total	Thru 9.7	Right 9.8	U-Turn 9.9	App Total	Int Total
3	1	0	4	3	2	0	5	4	1	0	5	14
1	0	0	1	3	1	0	4	2	1	0	3	8
1	1	0	2	2	2	0	4	1	1	0	2	8
0	0	0	0	0	2	0	2	3	1	0	4	6
5	2	0	7	8	7	0	15	10	4	0	14	36
0	0	0	0	1	1	0	2	1	0	0	1	3
0	1	0	1	0	2	0	2	2	1	0	3	6
0	1	0	1	0	2	0	2	2	1	0	3	6
0	0	0	0	1	1	0	2	1	0	0	1	3
0	2	0	2	2	6	0	8	6	2	0	8	18
5	4	0	9	10	13	0	23	16	6	0	22	54
55.56	44.44	0.00	-	43.48	56.52	0.00	-	72.73	27.27	0.00	-	
9.26	7.41	0.00	16.67	18.52	24.07	0.00	42.59	29.63	11.11	0.00	40.74	

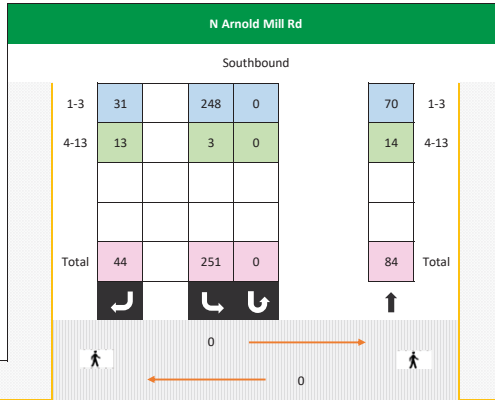
Woodstock, GA
Peak Hour Turning Movement Count



Marr Traffic Inc

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Thursday, February 13, 2020	
Period	0700 - 0900
Peak Hour	0700 - 0800

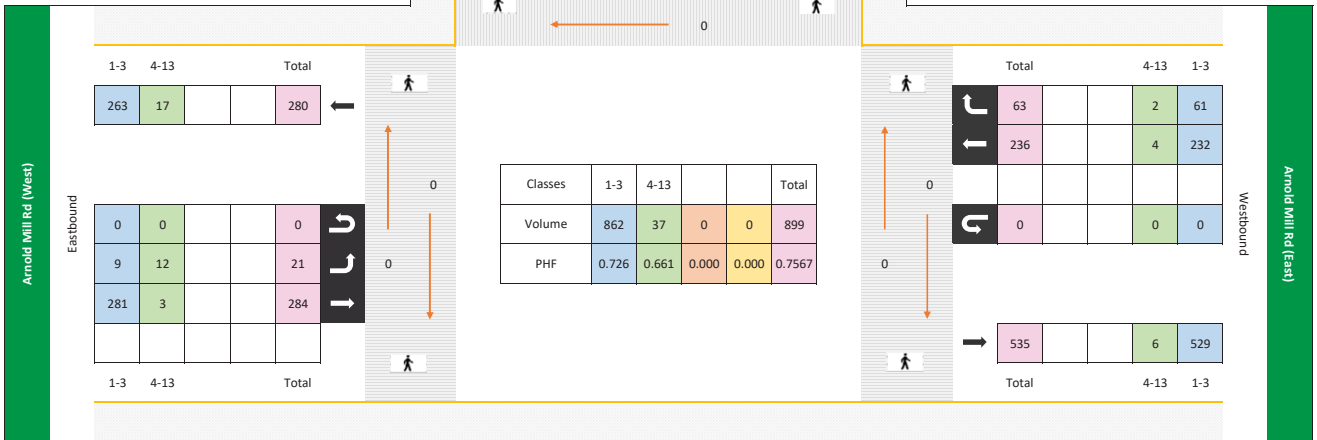


Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Woodstock, GA
Peak Hour Turning Movement Count



Marr Traffic Inc

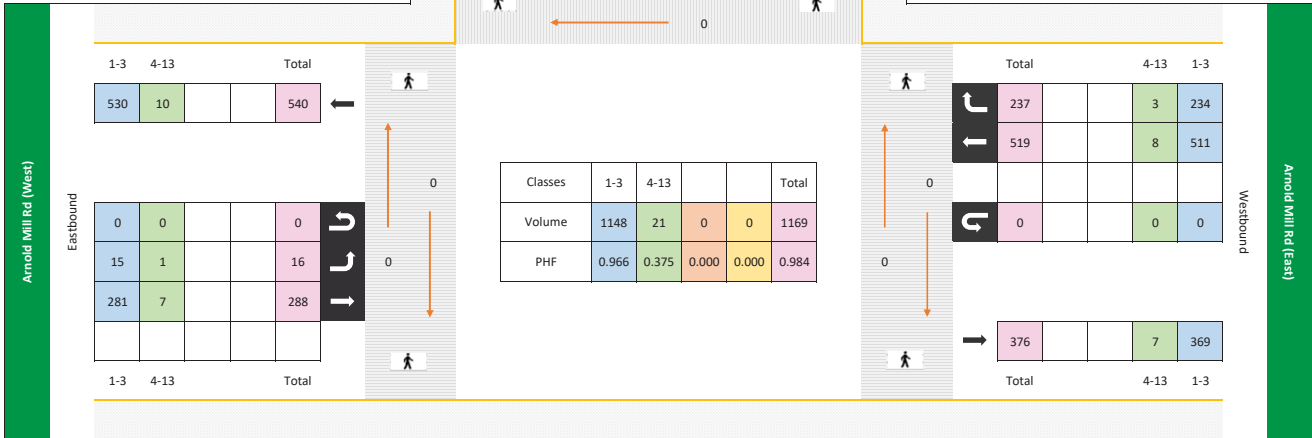
www.marrtraffic.com

Thursday, February 13, 2020	
Period	1600 - 1800
Peak Hour	1645 - 1745

N Arnold Mill Rd					
Southbound					
1-3	19		88	0	249
4-13	2		0	0	4
Total	21		88	0	253
			0		
			0		

Session Parameters

(Drop Down Menu)



Arnold Mill Rd (West)

Arnold Mill Rd (East)

Woodstock, GA
Peak Hour Turning Movement Count



Marr Traffic Inc

www.marrtraffic.com

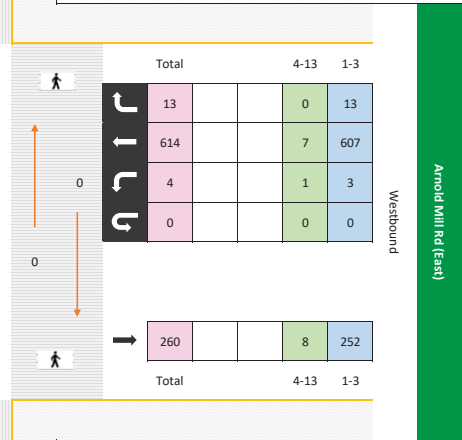
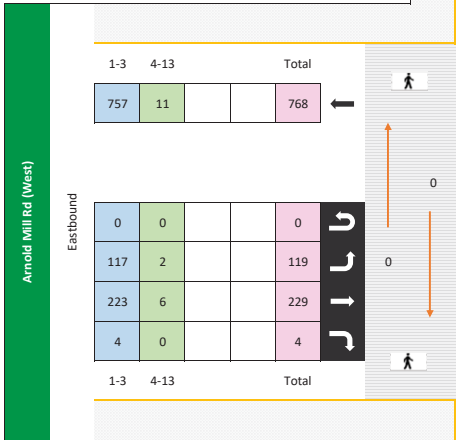
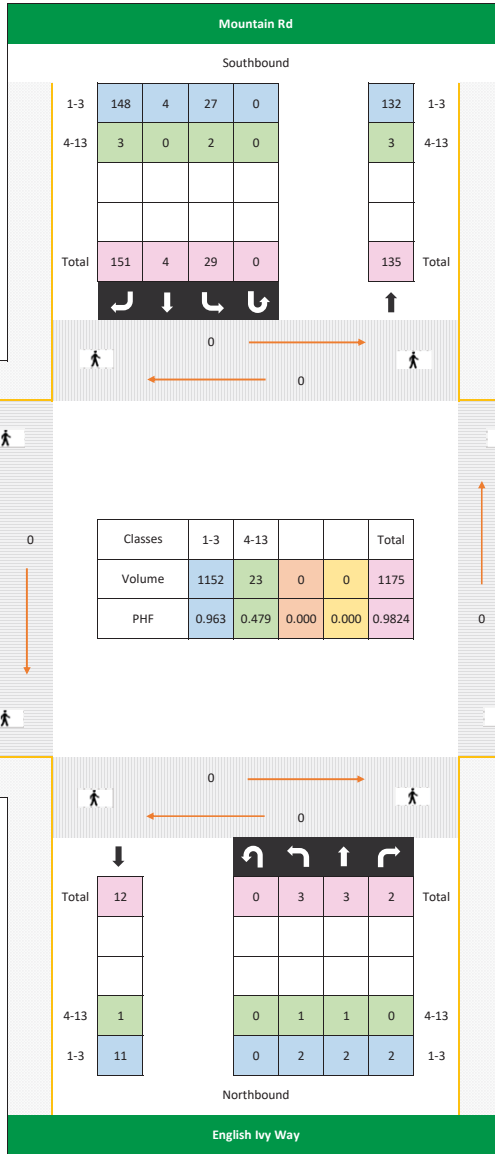
Thursday, February 13, 2020	
Period	0600 - 1800
Peak Hour	1645 - 1745

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
www.marrtraffic.com

Site 11 of 14
River Laurel Way (South)
River Laurel Way (North)
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.122677°, -84.398740°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	River Laurel Way (South)					River Laurel Way (North)					Arnold Mill Rd (West)					Arnold Mill Rd (East)					
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	
0700 - 0715	6	0	17	0	23	3	0	5	0	8	0	133	2	0	135	2	21	1	0	24	190
0715 - 0730	6	0	17	0	23	4	0	9	0	13	4	127	4	0	135	1	24	1	0	26	197
0730 - 0745	10	0	11	0	21	6	0	3	0	9	3	131	5	0	139	2	28	0	0	30	199
0745 - 0800	4	1	14	0	19	8	0	6	0	14	1	118	0	0	119	2	30	0	0	32	184
Hourly Total	26	1	59	0	86	21	0	23	0	44	8	509	11	0	528	7	103	2	0	112	770
0800 - 0815	2	0	19	0	21	1	0	2	0	3	1	93	1	0	95	3	34	2	0	39	158
0815 - 0830	4	0	9	0	13	2	0	3	0	5	1	91	3	0	95	7	33	4	0	44	157
0830 - 0845	3	1	10	0	14	1	0	3	0	4	1	74	1	0	76	5	43	4	0	52	146
0845 - 0900	3	0	8	0	11	3	0	1	0	4	1	74	2	0	77	3	30	0	0	33	125
Hourly Total	12	1	46	0	59	7	0	9	0	16	4	332	7	0	343	18	140	10	0	168	586
Grand Total	38	2	105	0	145	28	0	32	0	60	12	841	18	0	871	25	243	12	0	280	1356
Approach %	26.21	1.38	72.41	0.00	-	46.67	0.00	53.33	0.00	-	1.38	96.56	2.07	0.00	-	8.93	86.79	4.29	0.00	-	-
Intersection %	2.80	0.15	7.74	0.00	10.69	2.06	0.00	2.36	0.00	4.42	0.88	62.02	1.33	0.00	64.23	1.84	17.92	0.88	0.00	20.65	-

1600 - 1800 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	River Laurel Way (South)					River Laurel Way (North)					Arnold Mill Rd (West)					Arnold Mill Rd (East)					
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	
1600 - 1615	2	1	3	0	6	2	0	1	0	3	2	64	6	0	72	13	124	5	0	142	223
1615 - 1630	4	0	4	0	8	4	0	2	0	6	3	54	6	0	63	9	146	7	0	162	239
1630 - 1645	5	0	4	0	9	1	1	3	0	5	1	38	7	0	46	11	162	2	0	175	235
1645 - 1700	4	0	7	0	11	3	0	1	0	4	2	39	5	0	46	7	152	2	0	161	222
Hourly Total	15	1	18	0	34	10	1	7	0	18	8	195	24	0	227	40	584	16	0	640	919
1700 - 1715	2	0	4	0	6	4	0	0	0	4	3	45	5	0	53	9	160	4	0	173	236
1715 - 1730	2	0	7	0	9	3	0	3	0	6	3	56	5	0	64	9	172	8	0	189	268
1730 - 1745	0	0	8	0	8	5	0	1	0	6	0	47	9	0	56	9	167	6	0	182	252
1745 - 1800	3	0	3	0	6	3	0	1	0	4	2	49	6	0	57	20	177	6	0	203	270
Hourly Total	7	0	22	0	29	15	0	5	0	20	8	197	25	0	230	47	676	24	0	747	1026
Grand Total	22	1	40	0	63	25	1	12	0	38	16	392	49	0	457	87	1260	40	0	1387	1945
Approach %	34.92	1.59	63.49	0.00	-	65.79	2.63	31.58	0.00	-	3.50	85.78	10.72	0.00	-	6.27	90.84	2.88	0.00	-	-
Intersection %	1.13	0.05	2.06	0.00	3.24	1.29	0.05	0.62	0.00	1.95	0.82	20.15	2.52	0.00	23.50	4.47	64.78	2.06	0.00	71.31	-

Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
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Site 11 of 14
River Laurel Way (South)
River Laurel Way (North)
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.122677°, -84.398740°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	River Laurel Way (South)					River Laurel Way (North)					Arnold Mill Rd (West)					Arnold Mill Rd (East)					
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	
0700 - 0715	6	0	17	0	23	3	0	5	0	8	0	133	2	0	135	1	21	1	0	23	189
0715 - 0730	6	0	17	0	23	4	0	8	0	12	3	126	4	0	133	1	22	1	0	24	192
0730 - 0745	9	0	11	0	20	6	0	2	0	8	2	130	3	0	135	2	27	0	0	29	192
0745 - 0800	4	1	13	0	18	8	0	6	0	14	1	116	0	0	117	1	29	0	0	30	179
Hourly Total	25	1	58	0	84	21	0	21	0	42	6	505	9	0	520	5	99	2	0	106	752
0800 - 0815	2	0	19	0	21	1	0	2	0	3	1	92	1	0	94	3	34	2	0	39	157
0815 - 0830	4	0	9	0	13	2	0	2	0	4	1	91	2	0	94	7	33	3	0	43	154
0830 - 0845	3	1	9	0	13	1	0	3	0	4	1	73	1	0	75	5	43	4	0	52	144
0845 - 0900	3	0	8	0	11	3	0	1	0	4	1	74	2	0	77	3	29	0	0	32	124
Hourly Total	12	1	45	0	58	7	0	8	0	15	4	330	6	0	340	18	139	9	0	166	579
Grand Total	37	2	103	0	142	28	0	29	0	57	10	835	15	0	860	23	238	11	0	272	1331
Approach %	26.06	1.41	72.54	0.00	-	49.12	0.00	50.88	0.00	-	1.16	97.09	1.74	0.00	-	8.46	87.50	4.04	0.00	-	-
Intersection %	2.78	0.15	7.74	0.00	10.67	2.10	0.00	2.18	0.00	4.28	0.75	62.73	1.13	0.00	64.61	1.73	17.88	0.83	0.00	20.44	-

1600 - 1800 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	River Laurel Way (South)					River Laurel Way (North)					Arnold Mill Rd (West)					Arnold Mill Rd (East)					
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	
1600 - 1615	2	1	3	0	6	2	0	1	0	3	2	62	6	0	70	13	121	5	0	139	218
1615 - 1630	4	0	4	0	8	4	0	2	0	6	3	53	6	0	62	9	145	7	0	161	237
1630 - 1645	5	0	4	0	9	1	1	2	0	4	1	36	6	0	43	11	161	2	0	174	230
1645 - 1700	3	0	6	0	9	3	0	1	0	4	2	35	5	0	42	7	151	2	0	160	215
Hourly Total	14	1	17	0	32	10	1	6	0	17	8	186	23	0	217	40	578	16	0	634	900
1700 - 1715	2	0	4	0	6	4	0	0	0	4	3	45	5	0	53	9	158	4	0	171	234
1715 - 1730	2	0	7	0	9	3	0	3	0	6	2	55	5	0	62	9	168	8	0	185	262
1730 - 1745	0	0	8	0	8	5	0	1	0	6	0	44	9	0	53	9	167	6	0	182	249
1745 - 1800	3	0	3	0	6	3	0	1	0	4	2	49	6	0	57	19	176	6	0	201	268
Hourly Total	7	0	22	0	29	15	0	5	0	20	7	193	25	0	225	46	669	24	0	739	1013
Grand Total	21	1	39	0	61	25	1	11	0	37	15	379	48	0	442	86	1247	40	0	1373	1913
Approach %	34.43	1.64	63.93	0.00	-	67.57	2.70	29.73	0.00	-	3.39	85.75	10.86	0.00	-	6.26	90.82	2.91	0.00	-	-
Intersection %	1.10	0.05	2.04	0.00	3.19	1.31	0.05	0.58	0.00	1.93	0.78	19.81	2.51	0.00	23.11	4.50	65.19	2.09	0.00	71.77	-

Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
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Site 11 of 14
River Laurel Way (South)
River Laurel Way (North)
Arnold Mill Rd (West)
Arnold Mill Rd (East)

Lat/Long
34.122677°, -84.398740°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total	
	River Laurel Way (South)					River Laurel Way (North)					Arnold Mill Rd (West)					Arnold Mill Rd (East)						
	Left 11.1	Thru 11.2	Right 11.3	U-Turn 11.4	App Total	Left 11.5	Thru 11.6	Right 11.7	U-Turn 11.8	App Total	Left 11.9	Thru 11.10	Right 11.11	U-Turn 11.12	App Total	Left 11.13	Thru 11.14	Right 11.15	U-Turn 11.16	App Total		
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1
0715 - 0730	0	0	0	0	0	0	0	0	1	0	1	1	0	0	2	0	2	0	0	2	5	5
0730 - 0745	1	0	0	0	1	0	0	1	0	1	1	1	2	0	4	0	1	0	0	1	7	7
0745 - 0800	0	0	1	0	1	0	0	0	0	0	0	2	0	0	2	1	1	0	0	2	5	5
Hourly Total	1	0	1	0	2	0	0	2	0	2	2	4	2	0	8	2	4	0	0	6	18	18
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	1
0815 - 0830	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	0	0	1	0	1	3	3
0830 - 0845	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	2
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1
Hourly Total	0	0	1	0	1	0	0	1	0	1	0	2	1	0	3	0	1	1	0	2	7	7
Grand Total	1	0	2	0	3	0	0	3	0	3	2	6	3	0	11	2	5	1	0	8	25	25
Approach %	33.33	0.00	66.67	0.00	-	0.00	0.00	100.00	0.00	-	18.18	54.55	27.27	0.00	-	25.00	62.50	12.50	0.00	-		
Intersection %	4.00	0.00	8.00	0.00	12.00	0.00	0.00	12.00	0.00	12.00	8.00	24.00	12.00	0.00	44.00	8.00	20.00	4.00	0.00	32.00		

1600 - 1800 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total	
	River Laurel Way (South)					River Laurel Way (North)					Arnold Mill Rd (West)					Arnold Mill Rd (East)						
	Left 11.1	Thru 11.2	Right 11.3	U-Turn 11.4	App Total	Left 11.5	Thru 11.6	Right 11.7	U-Turn 11.8	App Total	Left 11.9	Thru 11.10	Right 11.11	U-Turn 11.12	App Total	Left 11.13	Thru 11.14	Right 11.15	U-Turn 11.16	App Total		
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	3	0	0	3	5	5
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2	2
1630 - 1645	0	0	0	0	0	0	0	1	0	1	0	2	1	0	3	0	1	0	0	1	5	5
1645 - 1700	1	0	1	0	2	0	0	0	0	0	0	4	0	0	4	0	1	0	0	1	7	7
Hourly Total	1	0	1	0	2	0	0	1	0	1	0	9	1	0	10	0	6	0	0	6	19	19
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2	2
1715 - 1730	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	4	0	0	4	6	6
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3	3
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2	2
Hourly Total	0	0	0	0	0	0	0	0	0	0	1	4	0	0	5	1	7	0	0	8	13	13
Grand Total	1	0	1	0	2	0	0	1	0	1	1	13	1	0	15	1	13	0	0	14	32	32
Approach %	50.00	0.00	50.00	0.00	-	0.00	0.00	100.00	0.00	-	6.67	86.67	6.67	0.00	-	7.14	92.86	0.00	0.00	-		
Intersection %	3.13	0.00	3.13	0.00	6.25	0.00	0.00	3.13	0.00	3.13	3.13	40.63	3.13	0.00	46.88	3.13	40.63	0.00	0.00	43.75		

Woodstock, GA
Peak Hour Turning Movement Count



Marr Traffic Inc

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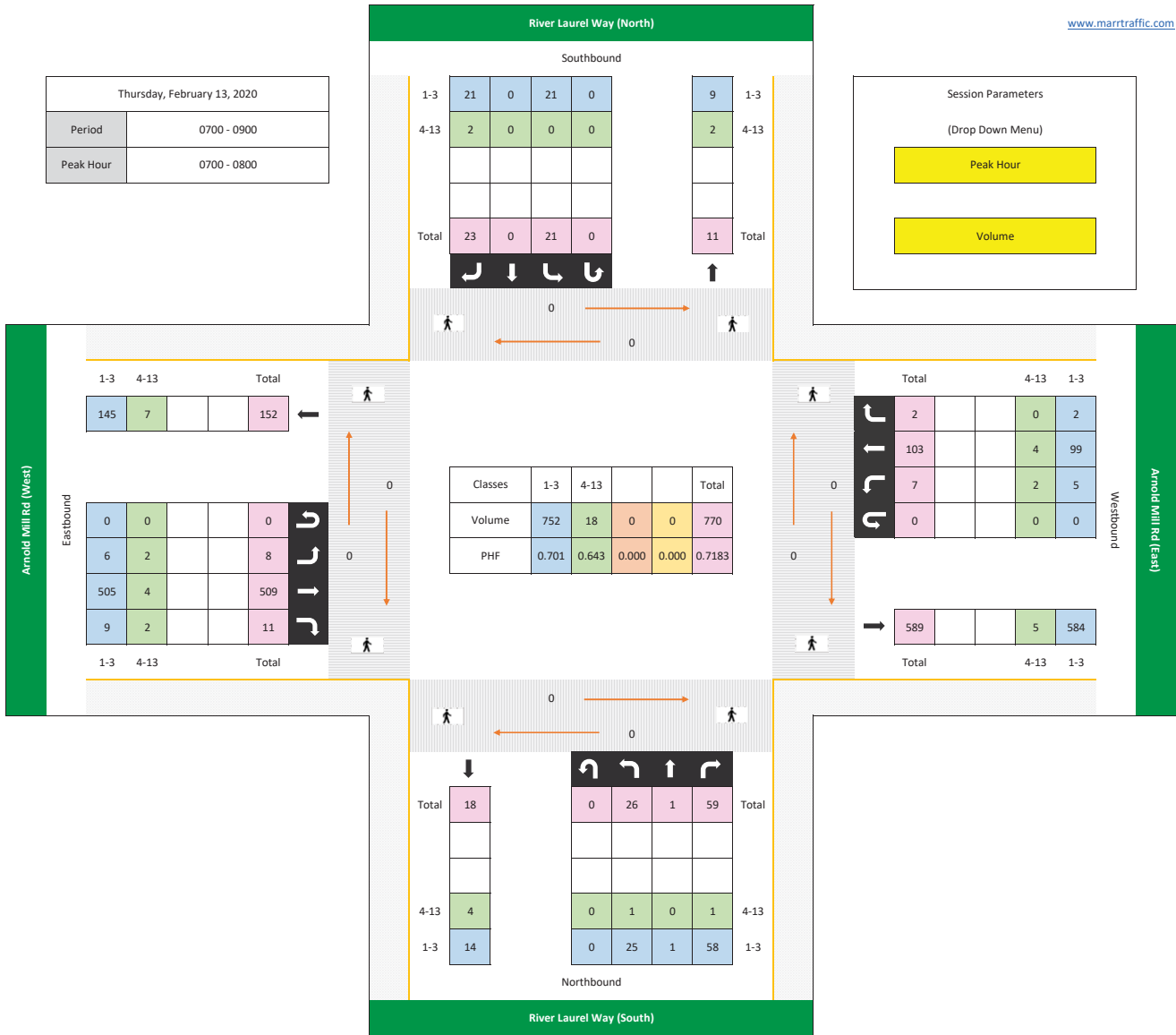
Thursday, February 13, 2020	
Period	0700 - 0900
Peak Hour	0700 - 0800

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Woodstock, GA
Peak Hour Turning Movement Count



Marr Traffic Inc

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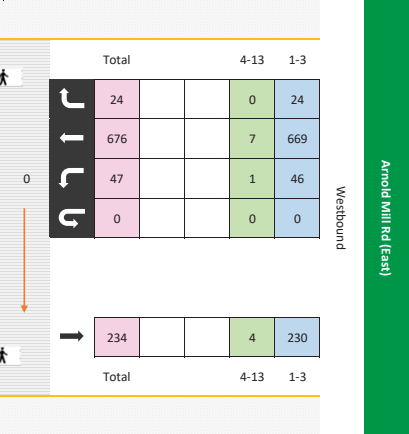
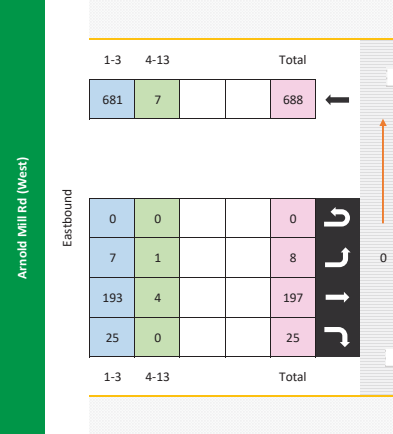
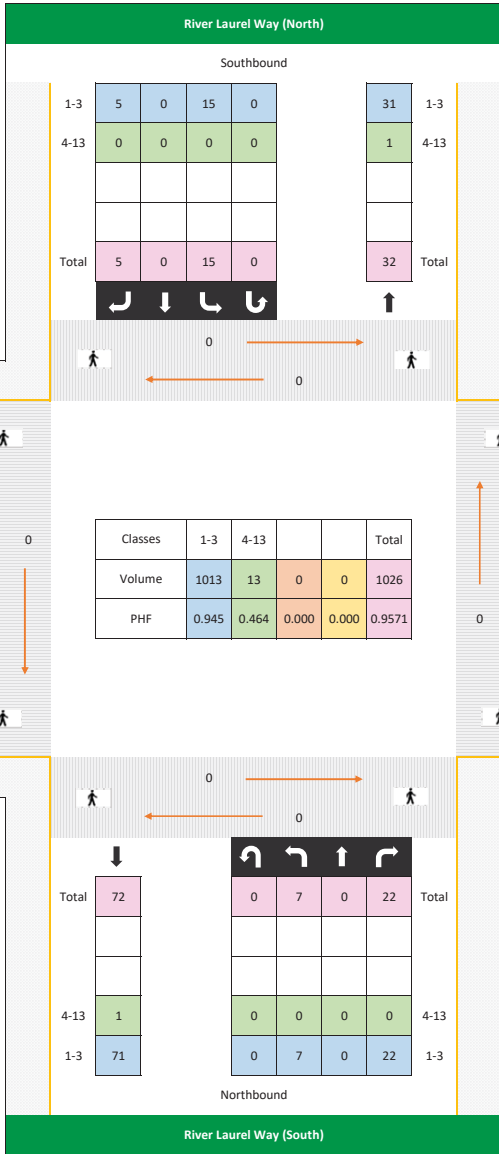
Thursday, February 13, 2020	
Period	1600 - 1800
Peak Hour	1700 - 1800

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
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Site 12 of 14
Arnold Mill Rd (South)
Arnold Mill Rd (North)
Rucker Ln
Grimes Rd

Lat/Long
34.121296°, -84.395644°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Arnold Mill Rd (South)					Arnold Mill Rd (North)					Rucker Ln					Grimes Rd					
	Left 12.1	Thru 12.2	Right 12.3	U-Turn 12.4	App Total	Left 12.5	Thru 12.6	Right 12.7	U-Turn 12.8	App Total	Left 12.9	Thru 12.10	Right 12.11	U-Turn 12.12	App Total	Left 12.13	Thru 12.14	Right 12.15	U-Turn 12.16	App Total	
0700 - 0715	0	20	0	0	20	4	151	0	0	155	0	0	0	0	0	6	0	7	0	13	188
0715 - 0730	0	15	0	0	15	4	147	0	0	151	0	0	0	0	0	11	0	9	0	20	186
0730 - 0745	0	26	0	0	26	14	136	0	0	150	0	0	0	0	0	5	0	6	0	11	187
0745 - 0800	0	18	0	0	18	13	120	0	0	133	0	0	0	0	0	0	0	13	0	13	164
Hourly Total	0	79	0	0	79	35	554	0	0	589	0	0	0	0	0	22	0	35	0	57	725
0800 - 0815	0	32	0	0	32	7	108	0	0	115	0	0	0	0	0	0	0	7	0	7	154
0815 - 0830	0	28	0	0	28	7	97	0	0	104	0	0	0	0	0	3	0	16	0	19	151
0830 - 0845	0	38	0	0	38	9	78	0	0	87	0	0	0	0	0	4	0	14	0	18	143
0845 - 0900	0	25	0	0	25	8	74	0	0	82	0	0	0	0	0	6	0	8	0	14	121
Hourly Total	0	123	0	0	123	31	357	0	0	388	0	0	0	0	0	13	0	45	0	58	569
Grand Total	0	202	0	0	202	66	911	0	0	977	0	0	0	0	0	35	0	80	0	115	1294
Approach %	0.00	100.00	0.00	0.00	-	6.76	93.24	0.00	0.00	-	0.00	0.00	0.00	0.00	-	30.43	0.00	69.57	0.00	-	
Intersection %	0.00	15.61	0.00	0.00	15.61	5.10	70.40	0.00	0.00	75.50	0.00	0.00	0.00	0.00	0.00	2.70	0.00	6.18	0.00	8.89	

1600 - 1800 (Weekday 2h Session) (13-02-2020)
All vehicles

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Arnold Mill Rd (South)					Arnold Mill Rd (North)					Rucker Ln					Grimes Rd					
	Left 12.1	Thru 12.2	Right 12.3	U-Turn 12.4	App Total	Left 12.5	Thru 12.6	Right 12.7	U-Turn 12.8	App Total	Left 12.9	Thru 12.10	Right 12.11	U-Turn 12.12	App Total	Left 12.13	Thru 12.14	Right 12.15	U-Turn 12.16	App Total	
1600 - 1615	0	135	0	0	135	5	63	0	0	68	0	0	0	0	0	0	0	5	0	5	208
1615 - 1630	0	161	0	0	161	6	56	0	0	62	0	0	0	0	0	1	0	4	0	5	228
1630 - 1645	0	167	0	0	167	7	35	0	0	42	0	0	0	0	0	0	0	5	0	5	214
1645 - 1700	0	166	0	0	166	10	41	0	0	51	0	0	0	0	0	0	0	2	0	2	219
Hourly Total	0	629	0	0	629	28	195	0	0	223	0	0	0	0	0	1	0	16	0	17	869
1700 - 1715	0	163	0	0	163	8	44	0	0	52	0	0	0	0	0	0	0	7	0	7	222
1715 - 1730	0	175	1	0	176	14	53	0	0	67	0	0	0	0	0	0	0	9	0	9	252
1730 - 1745	0	175	0	0	175	12	47	0	0	59	0	0	0	0	0	0	0	6	0	6	240
1745 - 1800	0	202	0	0	202	10	45	0	0	55	0	0	0	0	0	1	0	4	0	5	262
Hourly Total	0	715	1	0	716	44	189	0	0	233	0	0	0	0	0	1	0	26	0	27	976
Grand Total	0	1344	1	0	1345	72	384	0	0	456	0	0	0	0	0	2	0	42	0	44	1845
Approach %	0.00	99.93	0.07	0.00	-	15.79	84.21	0.00	0.00	-	0.00	0.00	0.00	0.00	-	4.55	0.00	95.45	0.00	-	
Intersection %	0.00	72.85	0.05	0.00	72.90	3.90	20.81	0.00	0.00	24.72	0.00	0.00	0.00	0.00	0.00	0.11	0.00	2.28	0.00	2.38	

Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
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Site 12 of 14
Arnold Mill Rd (South)
Arnold Mill Rd (North)
Rucker Ln
Grimes Rd

Lat/Long
34.121296°, -84.395644°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Arnold Mill Rd (South)					Arnold Mill Rd (North)					Rucker Ln					Grimes Rd					
	Left 12.1	Thru 12.2	Right 12.3	U-Turn 12.4	App Total	Left 12.5	Thru 12.6	Right 12.7	U-Turn 12.8	App Total	Left 12.9	Thru 12.10	Right 12.11	U-Turn 12.12	App Total	Left 12.13	Thru 12.14	Right 12.15	U-Turn 12.16	App Total	
0700 - 0715	0	19	0	0	19	4	151	0	0	155	0	0	0	0	0	6	0	7	0	13	187
0715 - 0730	0	13	0	0	13	4	146	0	0	150	0	0	0	0	0	9	0	8	0	17	180
0730 - 0745	0	25	0	0	25	14	134	0	0	148	0	0	0	0	0	5	0	6	0	11	184
0745 - 0800	0	17	0	0	17	12	119	0	0	131	0	0	0	0	0	0	0	13	0	13	161
Hourly Total	0	74	0	0	74	34	550	0	0	584	0	0	0	0	0	20	0	34	0	54	712
0800 - 0815	0	32	0	0	32	7	107	0	0	114	0	0	0	0	0	0	0	7	0	7	153
0815 - 0830	0	28	0	0	28	7	97	0	0	104	0	0	0	0	0	2	0	15	0	17	149
0830 - 0845	0	38	0	0	38	8	77	0	0	85	0	0	0	0	0	3	0	14	0	17	140
0845 - 0900	0	24	0	0	24	8	74	0	0	82	0	0	0	0	0	6	0	8	0	14	120
Hourly Total	0	122	0	0	122	30	355	0	0	385	0	0	0	0	0	11	0	44	0	55	562
Grand Total	0	196	0	0	196	64	905	0	0	969	0	0	0	0	0	31	0	78	0	109	1274
Approach %	0.00	100.00	0.00	0.00	-	6.60	93.40	0.00	0.00	-	0.00	0.00	0.00	0.00	-	28.44	0.00	71.56	0.00	-	
Intersection %	0.00	15.38	0.00	0.00	15.38	5.02	71.04	0.00	0.00	76.06	0.00	0.00	0.00	0.00	0.00	2.43	0.00	6.12	0.00	8.56	

1600 - 1800 (Weekday 2h Session) (13-02-2020)
Passenger Vehicles (1-3)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Arnold Mill Rd (South)					Arnold Mill Rd (North)					Rucker Ln					Grimes Rd					
	Left 12.1	Thru 12.2	Right 12.3	U-Turn 12.4	App Total	Left 12.5	Thru 12.6	Right 12.7	U-Turn 12.8	App Total	Left 12.9	Thru 12.10	Right 12.11	U-Turn 12.12	App Total	Left 12.13	Thru 12.14	Right 12.15	U-Turn 12.16	App Total	
1600 - 1615	0	132	0	0	132	5	61	0	0	66	0	0	0	0	0	0	0	5	0	5	203
1615 - 1630	0	160	0	0	160	6	55	0	0	61	0	0	0	0	0	0	0	4	0	4	225
1630 - 1645	0	167	0	0	167	7	33	0	0	40	0	0	0	0	0	0	0	4	0	4	211
1645 - 1700	0	165	0	0	165	9	37	0	0	46	0	0	0	0	0	0	0	2	0	2	213
Hourly Total	0	624	0	0	624	27	186	0	0	213	0	0	0	0	0	0	0	15	0	15	852
1700 - 1715	0	161	0	0	161	8	44	0	0	52	0	0	0	0	0	0	0	7	0	7	220
1715 - 1730	0	172	1	0	173	14	52	0	0	66	0	0	0	0	0	0	0	8	0	8	247
1730 - 1745	0	174	0	0	174	12	44	0	0	56	0	0	0	0	0	0	0	6	0	6	236
1745 - 1800	0	201	0	0	201	10	45	0	0	55	0	0	0	0	0	1	0	4	0	5	261
Hourly Total	0	708	1	0	709	44	185	0	0	229	0	0	0	0	0	1	0	25	0	26	964
Grand Total	0	1332	1	0	1333	71	371	0	0	442	0	0	0	0	0	1	0	40	0	41	1816
Approach %	0.00	99.92	0.08	0.00	-	16.06	83.94	0.00	0.00	-	0.00	0.00	0.00	0.00	-	2.44	0.00	97.56	0.00	-	
Intersection %	0.00	73.35	0.06	0.00	73.40	3.91	20.43	0.00	0.00	24.34	0.00	0.00	0.00	0.00	0.00	0.06	0.00	2.20	0.00	2.26	

Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
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Site 12 of 14
Arnold Mill Rd (South)
Arnold Mill Rd (North)
Rucker Ln
Grimes Rd

Lat/Long
34.121296°, -84.395644°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0700 - 0900 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total				
	Arnold Mill Rd (South)					Arnold Mill Rd (North)					Rucker Ln					Grimes Rd									
	Left 12.1	Thru 12.2	Right 12.3	U-Turn 12.4	App Total	Left 12.5	Thru 12.6	Right 12.7	U-Turn 12.8	App Total	Left 12.9	Thru 12.10	Right 12.11	U-Turn 12.12	App Total	Left 12.13	Thru 12.14	Right 12.15	U-Turn 12.16	App Total					
0700 - 0715	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	2	0	1	0	3	0	0	0	0	0
0730 - 0745	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	1	0	0	1	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	5	0	0	5	1	4	0	0	5	0	0	0	0	0	2	0	1	0	3	0	0	0	0	0
0800 - 0815	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0
0830 - 0845	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
0845 - 0900	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	1	0	0	1	1	2	0	0	3	0	0	0	0	0	2	0	1	0	3	0	0	0	0	0
Grand Total	0	6	0	0	6	2	6	0	0	8	0	0	0	0	0	4	0	2	0	6	0	0	0	0	0
Approach %	0.00	100.00	0.00	0.00	-	25.00	75.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	66.67	0.00	33.33	0.00	-	-	-	-	-	-
Intersection %	0.00	30.00	0.00	0.00	30.00	10.00	30.00	0.00	0.00	40.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	10.00	0.00	30.00	0.00	0.00	0.00	0.00	0.00

1600 - 1800 (Weekday 2h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total				
	Arnold Mill Rd (South)					Arnold Mill Rd (North)					Rucker Ln					Grimes Rd									
	Left 12.1	Thru 12.2	Right 12.3	U-Turn 12.4	App Total	Left 12.5	Thru 12.6	Right 12.7	U-Turn 12.8	App Total	Left 12.9	Thru 12.10	Right 12.11	U-Turn 12.12	App Total	Left 12.13	Thru 12.14	Right 12.15	U-Turn 12.16	App Total					
1600 - 1615	0	3	0	0	3	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
1645 - 1700	0	1	0	0	1	1	4	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	5	0	0	5	1	9	0	0	10	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0
1700 - 1715	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	3	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
1730 - 1745	0	1	0	0	1	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	7	0	0	7	0	4	0	0	4	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
Grand Total	0	12	0	0	12	1	13	0	0	14	0	0	0	0	0	1	0	2	0	3	0	0	0	0	0
Approach %	0.00	100.00	0.00	0.00	-	7.14	92.86	0.00	0.00	-	0.00	0.00	0.00	0.00	-	33.33	0.00	66.67	0.00	-	-	-	-	-	-
Intersection %	0.00	41.38	0.00	0.00	41.38	3.45	44.83	0.00	0.00	48.28	0.00	0.00	0.00	0.00	0.00	3.45	0.00	6.90	0.00	10.34	0.00	0.00	0.00	0.00	0.00

Woodstock, GA
Peak Hour Turning Movement Count



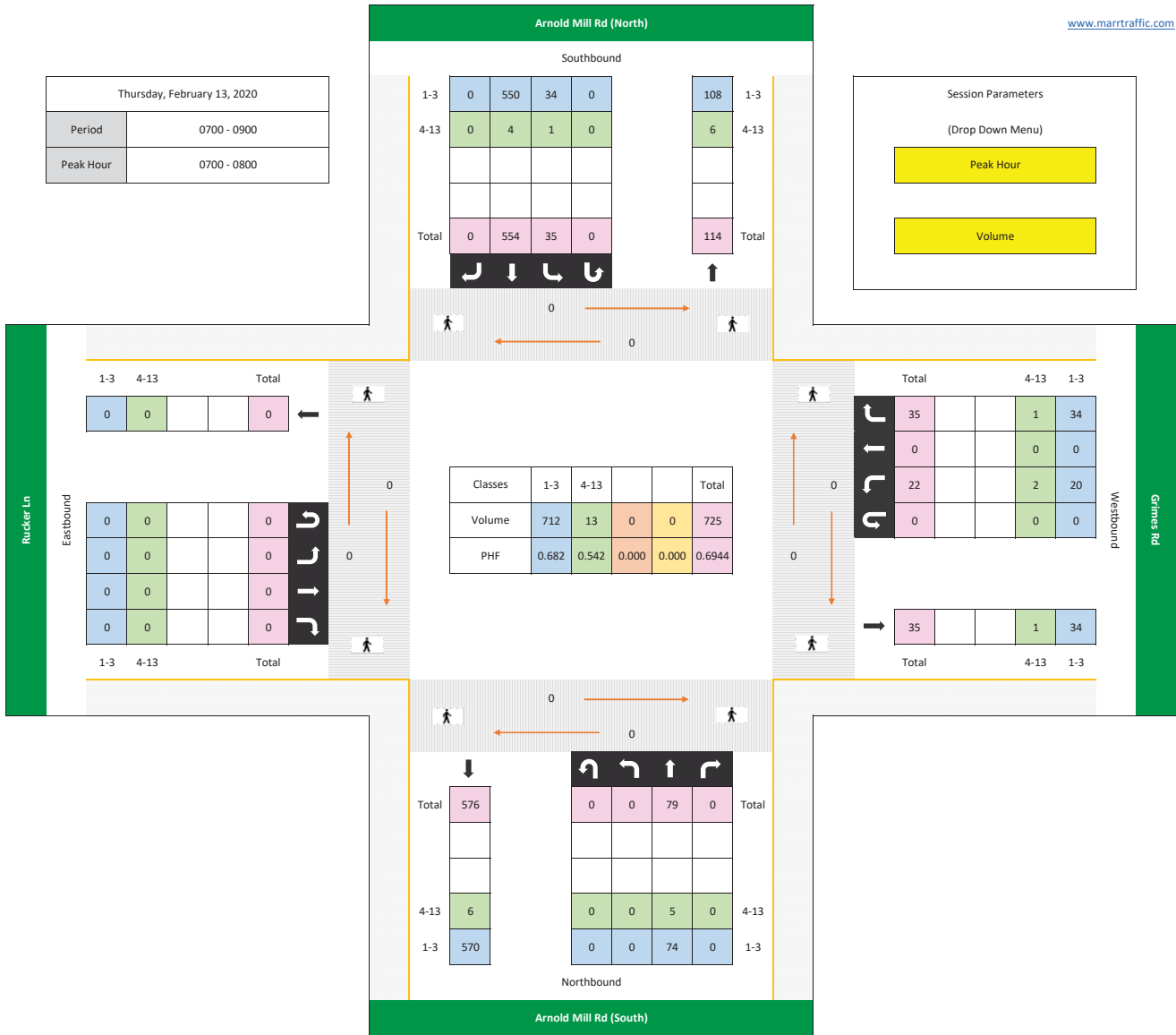
Marr Traffic Inc

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Thursday, February 13, 2020	
Period	0700 - 0900
Peak Hour	0700 - 0800

Session Parameters

(Drop Down Menu)



Woodstock, GA
Peak Hour Turning Movement Count



Marr Traffic Inc

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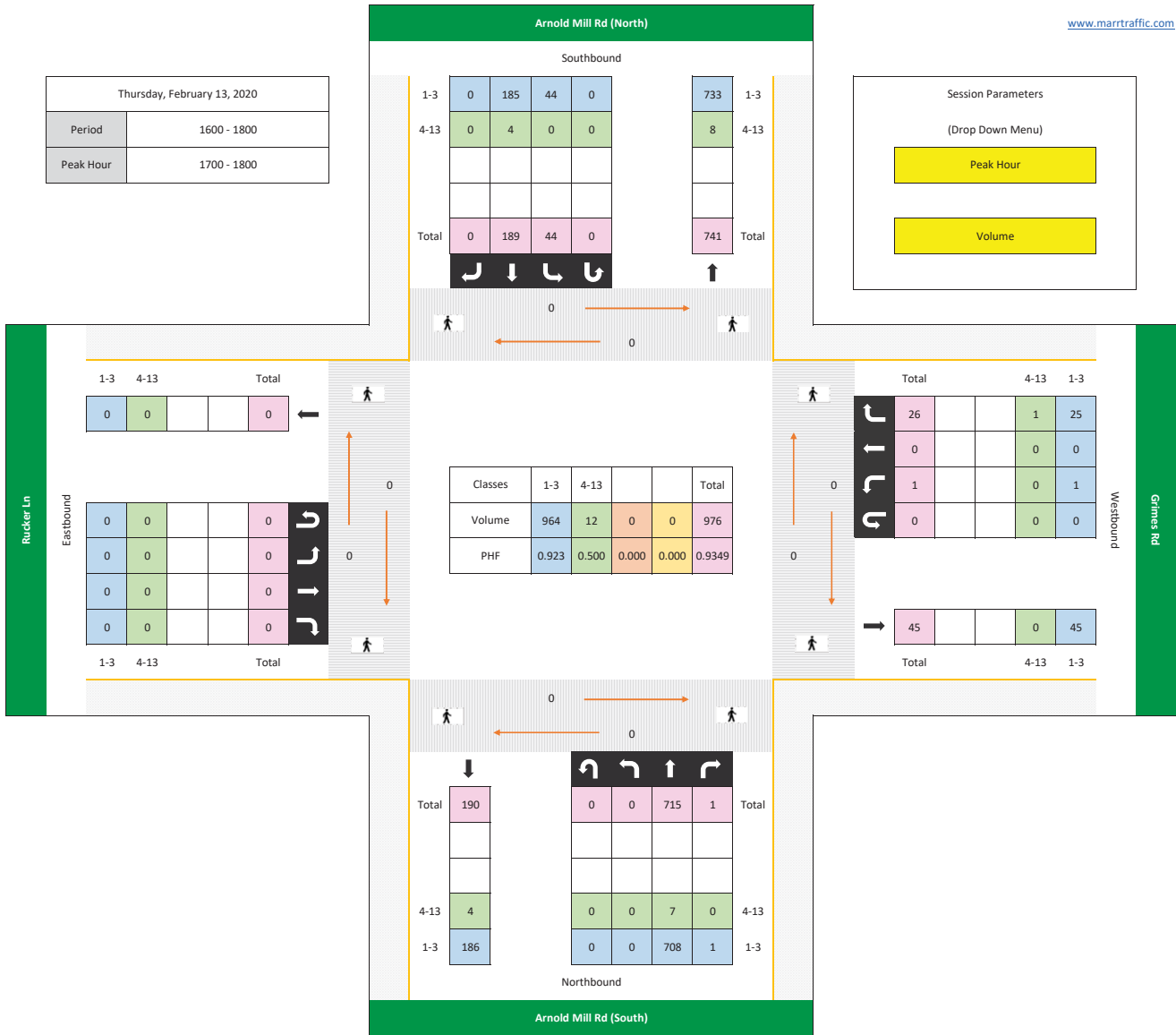
Thursday, February 13, 2020	
Period	1600 - 1800
Peak Hour	1700 - 1800

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Woodstock, GA
Classified Turn Movement Count



Marr Traffic Inc
www.marrtraffic.com

Site 13 of 14
GA-140 (South)
GA-140 (North)
Arnold Mill Rd

Lat/Long
34.120071°, -84.391566°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0600 - 1800 (Weekday 12h Session) (13-02-2020)
Heavy Vehicles (4-13)

TIME	Northbound				Southbound				Eastbound				Int Total
	GA-140 (South)		GA-140 (North)		GA-140 (North)		GA-140 (North)		Arnold Mill Rd		Arnold Mill Rd		
	Left 13.1	Thru 13.2	U-Turn 13.3	App Total	Thru 13.4	Right 13.5	U-Turn 13.6	App Total	Left 13.7	Right 13.8	U-Turn 13.9	App Total	
0600 - 0615	0	3	0	3	1	0	0	1	0	1	0	1	5
0615 - 0630	0	0	0	0	4	0	0	4	0	3	0	3	7
0630 - 0645	0	4	0	4	2	0	0	2	0	1	0	1	7
0645 - 0700	3	3	0	6	2	0	0	2	0	4	0	4	12
Hourly Total	3	10	0	13	9	0	0	9	0	9	0	9	31
0700 - 0715	1	3	0	4	1	0	0	1	0	0	0	0	5
0715 - 0730	1	2	0	3	0	0	0	0	0	1	0	1	4
0730 - 0745	2	4	0	6	2	0	0	2	0	1	0	1	9
0745 - 0800	1	1	0	2	2	0	0	2	0	3	0	3	7
Hourly Total	5	10	0	15	5	0	0	5	0	5	0	5	25
0800 - 0815	0	5	0	5	5	0	0	5	0	2	0	2	12
0815 - 0830	0	0	0	0	1	0	0	1	0	1	0	1	2
0830 - 0845	0	5	0	5	2	0	0	2	0	1	0	1	8
0845 - 0900	1	5	0	6	8	0	0	8	0	1	0	1	15
Hourly Total	1	15	0	16	16	0	0	16	0	5	0	5	37
0900 - 0915	0	2	0	2	3	0	0	3	0	1	0	1	6
0915 - 0930	7	14	0	21	1	1	0	2	0	6	0	6	29
0930 - 0945	6	12	0	18	7	0	0	7	0	1	0	1	26
0945 - 1000	2	7	0	9	2	0	0	2	0	2	0	2	13
Hourly Total	15	35	0	50	13	1	0	14	0	10	0	10	74
1000 - 1015	1	7	0	8	4	0	0	4	0	0	0	0	12
1015 - 1030	1	7	0	8	5	0	0	5	0	2	0	2	15
1030 - 1045	3	8	0	11	5	0	0	5	2	0	0	2	18
1045 - 1100	1	5	0	6	6	0	0	6	2	0	0	2	14
Hourly Total	6	27	0	33	20	0	0	20	4	2	0	6	59
1100 - 1115	1	8	0	9	6	0	0	6	0	0	0	0	15
1115 - 1130	2	6	0	8	3	1	0	4	0	1	0	1	13
1130 - 1145	1	5	0	6	5	1	0	6	0	1	0	1	13
1145 - 1200	0	2	0	2	5	0	0	5	1	2	0	3	10
Hourly Total	4	21	0	25	19	2	0	21	1	4	0	5	51
1200 - 1215	0	4	0	4	5	0	0	5	0	4	0	4	13
1215 - 1230	2	6	0	8	5	0	0	5	0	3	0	3	16
1230 - 1245	0	3	0	3	9	0	0	9	0	1	0	1	13
1245 - 1300	0	2	0	2	4	0	0	4	0	2	0	2	8
Hourly Total	2	15	0	17	23	0	0	23	0	10	0	10	50
1300 - 1315	2	7	0	9	6	0	0	6	1	0	0	1	16
1315 - 1330	0	4	0	4	4	1	0	5	2	1	0	3	12
1330 - 1345	2	5	0	7	5	1	0	6	0	1	0	1	14
1345 - 1400	0	2	0	2	3	0	0	3	0	1	0	1	6
Hourly Total	4	18	0	22	18	2	0	20	3	3	0	6	48
1400 - 1415	1	2	0	3	2	2	0	4	0	2	0	2	9
1415 - 1430	3	2	0	5	2	0	0	2	0	1	0	1	8
1430 - 1445	3	2	0	5	2	1	0	3	0	2	0	2	10
1445 - 1500	1	7	0	8	4	0	0	4	0	1	0	1	13
Hourly Total	8	13	0	21	10	3	0	13	0	6	0	6	40
1500 - 1515	0	5	0	5	5	1	0	6	0	2	0	2	13
1515 - 1530	2	5	0	7	4	0	0	4	0	1	0	1	12
1530 - 1545	3	3	0	6	4	0	0	4	0	5	0	5	15
1545 - 1600	5	3	0	8	2	0	0	2	2	4	0	6	16
Hourly Total	10	16	0	26	15	1	0	16	2	12	0	14	56
1600 - 1615	3	3	0	6	5	0	0	5	0	4	0	4	15
1615 - 1630	1	4	0	5	2	0	0	2	1	0	0	1	8
1630 - 1645	0	2	0	2	5	0	0	5	0	1	0	1	8
1645 - 1700	1	3	0	4	4	0	0	4	1	3	0	4	12
Hourly Total	5	12	0	17	16	0	0	16	2	8	0	10	43
1700 - 1715	3	1	0	4	5	0	0	5	0	0	0	0	9
1715 - 1730	2	0	0	2	7	0	0	7	0	1	0	1	10
1730 - 1745	0	2	0	2	4	0	0	4	0	3	0	3	9
1745 - 1800	2	2	0	4	2	0	0	2	0	0	0	0	6
Hourly Total	7	5	0	12	18	0	0	18	0	4	0	4	34
Grand Total	70	197	0	267	182	9	0	191	12	78	0	90	548
Approach %	26.22	73.78	0.00	-	95.29	4.71	0.00	-	13.33	86.67	0.00	-	-
Intersection %	12.77	35.95	0.00	48.72	33.21	1.64	0.00	34.85	2.19	14.23	0.00	16.42	-

Woodstock, GA
Peak Hour Turning Movement Count



Marr Traffic Inc

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Thursday, February 13, 2020	
Period	0600 - 1800
Peak Hour	1700 - 1800

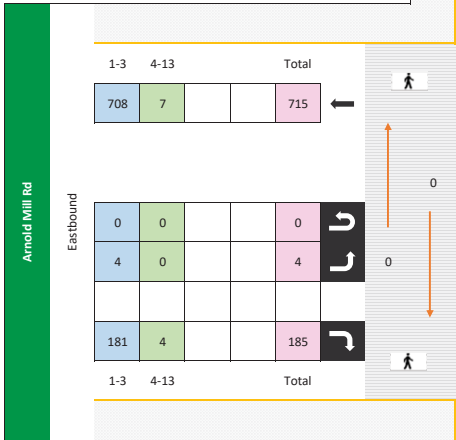


Session Parameters

(Drop Down Menu)

Peak Hour

Volume



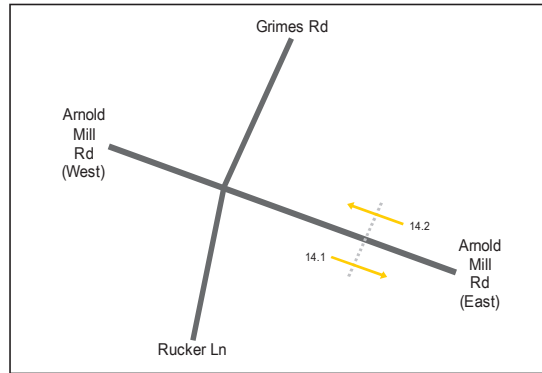
Woodstock, GA
Classified Traffic Count

Site 14
Arnold Mill Rd,
east of Grimes Rd

Lat/Long
34.120224°, -84.393729°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F



0000 - 2400 (Weekday 24h Session)

TIME	Eastbound, (Movement 14.1)													TOTAL
	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	
0000 - 0100	0	11	0	0	0	0	0	0	0	0	0	0	0	11
0100 - 0200	0	3	1	0	0	0	0	0	0	0	0	0	0	4
0200 - 0300	0	5	1	0	0	0	0	0	0	0	0	0	0	6
0300 - 0400	0	9	3	0	0	0	0	0	0	0	0	0	0	12
0400 - 0500	0	21	9	1	0	0	0	0	0	0	0	0	0	31
0500 - 0600	0	125	39	1	5	0	0	0	0	0	0	0	0	170
0600 - 0700	1	291	77	7	11	0	0	11	0	0	11	0	0	398
0700 - 0800	0	244	46	15	2	0	0	19	0	0	0	0	0	326
0800 - 0900	1	205	51	7	7	0	0	5	0	0	0	0	0	276
0900 - 1000	1	237	56	1	11	0	0	2	0	0	0	0	0	308
1000 - 1100	0	200	51	5	3	0	0	0	0	0	0	0	0	259
1100 - 1200	0	175	40	4	5	0	0	5	0	0	0	0	0	229
1200 - 1300	0	141	44	2	9	0	0	3	0	0	0	0	0	199
1300 - 1400	2	156	23	5	7	0	0	1	0	0	0	0	0	194
1400 - 1500	0	132	31	0	4	0	0	1	0	0	0	0	0	168
1500 - 1600	0	129	46	3	5	0	0	0	0	0	0	0	0	183
1600 - 1700	0	151	34	4	9	0	0	3	0	0	0	0	0	201
1700 - 1800	0	129	26	2	3	0	0	1	0	0	0	0	0	161
1800 - 1900	1	131	20	0	8	0	0	1	0	0	0	0	0	161
1900 - 2000	0	74	14	0	0	0	0	0	0	0	0	0	0	88
2000 - 2100	0	69	12	1	1	0	0	0	0	0	0	0	0	83
2100 - 2200	1	41	3	0	1	0	0	1	0	0	0	0	0	47
2200 - 2300	0	15	8	0	2	0	0	0	0	0	0	0	0	25
2300 - 2400	0	17	2	0	0	0	0	0	0	0	0	0	0	19
Session Total	7	2711	637	58	93	0	0	53	0	0	0	0	0	3559
Session Average	0.29	112.96	26.54	2.42	3.88	0.00	0.00	2.21	0.00	0.00	0.00	0.00	0.00	148.29
Session Percentage	0.20	76.17	17.90	1.63	2.61	0.00	0.00	1.49	0.00	0.00	0.00	0.00	0.00	

AM Peak Hour	0700 - 0800	0700 - 0800	0700 - 0800	0800 - 0900	0700 - 0800	-	-	0800 - 0900	-	-	-	-	-	0700 - 0800
AM Peak Hour Volume	1	291	77	15	11	0	0	19	0	0	0	0	0	398

Noon Peak Hour	1400 - 1500	1100 - 1200	1100 - 1200	1100 - 1200	1300 - 1400	-	-	1200 - 1300	-	-	-	-	-	1100 - 1200
Noon Peak Hour Volume	2	200	51	5	9	0	0	5	0	0	0	0	0	259

PM Peak Hour	1900 - 2000	1700 - 1800	1600 - 1700	1700 - 1800	1700 - 1800	-	-	1700 - 1800	-	-	-	-	-	1700 - 1800
PM Peak Hour Volume	1	151	46	4	9	0	0	3	0	0	0	0	0	201

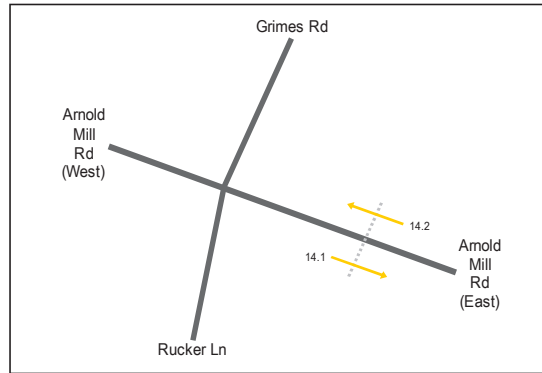
Woodstock, GA
Classified Traffic Count

Site 14
Arnold Mill Rd,
east of Grimes Rd

Lat/Long
34.120224°, -84.393729°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F



0000 - 2400 (Weekday 24h Session)

	Westbound, (Movement 14.2)													
TIME	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	TOTAL
0000 - 0100	0	13	3	0	0	0	0	0	0	0	0	0	0	16
0100 - 0200	0	6	0	0	0	0	0	0	0	0	0	0	0	6
0200 - 0300	0	7	1	0	0	0	0	0	0	0	0	0	0	8
0300 - 0400	0	1	0	0	0	0	0	0	0	0	0	0	0	1
0400 - 0500	0	1	3	0	0	0	0	0	0	0	0	0	0	4
0500 - 0600	0	11	8	0	1	0	0	3	0	0	0	0	0	23
0600 - 0700	1	25	4	1	1	0	0	2	0	0	0	0	0	34
0700 - 0800	0	50	19	3	3	1	0	1	0	0	0	0	0	77
0800 - 0900	0	84	25	2	2	0	0	1	0	0	0	0	0	114
0900 - 1000	0	86	31	0	15	2	0	3	0	0	0	0	0	137
1000 - 1100	0	89	33	0	1	0	0	0	1	0	0	0	0	124
1100 - 1200	0	90	33	2	6	0	0	0	0	0	0	0	0	131
1200 - 1300	0	100	35	1	9	1	0	1	1	0	1	0	0	149
1300 - 1400	1	151	54	1	7	0	0	2	0	0	0	0	0	216
1400 - 1500	0	230	60	2	11	2	0	2	1	0	0	0	0	308
1500 - 1600	4	285	77	2	8	0	0	3	1	0	0	0	0	380
1600 - 1700	1	489	116	2	10	0	0	4	0	0	0	0	0	622
1700 - 1800	2	540	109	5	5	0	0	7	0	0	0	0	0	668
1800 - 1900	0	377	84	5	10	0	0	3	0	0	0	0	0	479
1900 - 2000	0	235	39	0	2	0	0	5	0	0	0	0	0	281
2000 - 2100	0	153	34	0	2	0	0	1	0	0	0	0	0	190
2100 - 2200	0	110	23	0	2	0	0	0	0	0	0	0	0	135
2200 - 2300	1	67	13	0	0	0	0	0	0	0	0	0	0	81
2300 - 2400	0	41	7	0	1	0	0	0	0	0	0	0	0	49
Session Total	10	3241	811	26	96	6	0	38	4	0	1	0	0	4233
Session Average	0.42	135.04	33.79	1.08	4.00	0.25	0.00	1.58	0.17	0.00	0.04	0.00	0.00	176.38
Session Percentage	0.24	76.57	19.16	0.61	2.27	0.14	0.00	0.90	0.09	0.00	0.02	0.00	0.00	

AM Peak Hour	0700 - 0800	1000 - 1100	1000 - 1100	0800 - 0900	1000 - 1100	1000 - 1100	-	0600 - 0700	-	-	-	-	-	1000 - 1100
AM Peak Hour Volume	1	86	31	3	15	2	0	3	0	0	0	0	0	137

Noon Peak Hour	1400 - 1500	1500 - 1600	1500 - 1600	1200 - 1300	1500 - 1600	1500 - 1600	-	1400 - 1500	1100 - 1200	-	1300 - 1400	-	-	1500 - 1600
Noon Peak Hour Volume	1	230	60	2	11	2	0	2	1	0	1	0	0	308

PM Peak Hour	1600 - 1700	1800 - 1900	1700 - 1800	1800 - 1900	1700 - 1800	-	-	1800 - 1900	1600 - 1700	-	-	-	-	1800 - 1900
PM Peak Hour Volume	4	540	116	5	10	0	0	7	1	0	0	0	0	668

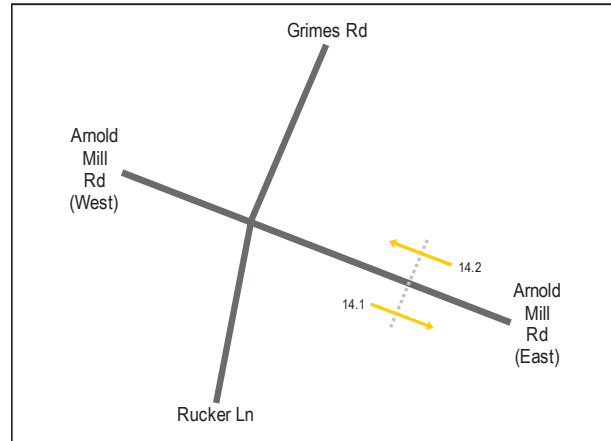
Woodstock, GA
Classified Traffic Count

Site 14
Arnold Mill Rd,
east of Grimes Rd

Lat/Long
34.120224°, -84.393729°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F



0000 - 2400 (Weekday 24h Session)

TIME	Eastbound, (Movement 14.1)															TOTAL
	5-14 mph	15-19 mph	20-24 mph	25-29 mph	30-34 mph	35-39 mph	40-44 mph	45-49 mph	50-54 mph	55-59 mph	60-64 mph	65-69 mph	70-74 mph	75-79 mph	80-99 mph	
0000 - 0100	0	0	0	0	0	1	2	7	1	0	0	0	0	0	0	11
0100 - 0200	0	0	0	0	2	1	0	0	1	0	0	0	0	0	0	4
0200 - 0300	0	0	0	0	0	1	2	2	1	0	0	0	0	0	0	6
0300 - 0400	0	0	0	0	0	3	5	3	1	0	0	0	0	0	0	12
0400 - 0500	0	0	0	0	0	1	8	14	7	1	0	0	0	0	0	31
0500 - 0600	0	0	0	0	0	19	74	63	14	0	0	0	0	0	0	170
0600 - 0700	30	16	38	74	109	87	33	9	2	0	0	0	0	0	0	398
0700 - 0800	125	25	19	40	58	46	13	0	0	0	0	0	0	0	0	326
0800 - 0900	55	11	10	23	25	54	78	18	2	0	0	0	0	0	0	276
0900 - 1000	1	0	3	2	25	87	134	52	4	0	0	0	0	0	0	308
1000 - 1100	0	0	0	0	11	61	118	58	11	0	0	0	0	0	0	259
1100 - 1200	0	0	0	3	13	49	113	49	2	0	0	0	0	0	0	229
1200 - 1300	0	0	0	1	5	27	111	51	4	0	0	0	0	0	0	199
1300 - 1400	1	0	0	0	3	26	98	56	9	1	0	0	0	0	0	194
1400 - 1500	0	0	0	0	1	25	96	37	8	1	0	0	0	0	0	168
1500 - 1600	0	0	0	0	6	28	89	46	14	0	0	0	0	0	0	183
1600 - 1700	1	0	0	1	8	32	91	58	10	0	0	0	0	0	0	201
1700 - 1800	0	0	0	1	8	15	83	47	6	1	0	0	0	0	0	161
1800 - 1900	1	0	0	0	3	33	77	40	7	0	0	0	0	0	0	161
1900 - 2000	0	0	0	0	7	10	41	25	4	1	0	0	0	0	0	88
2000 - 2100	0	0	0	0	4	17	36	19	6	1	0	0	0	0	0	83
2100 - 2200	1	0	0	1	1	3	18	18	5	0	0	0	0	0	0	47
2200 - 2300	0	0	0	0	0	1	17	5	2	0	0	0	0	0	0	25
2300 - 2400	0	0	0	0	1	2	8	3	3	2	0	0	0	0	0	19
Session Total	215	52	70	146	290	629	1345	680	124	8	0	0	0	0	0	3559

Average Speed	38
85th Percentile Speed	46

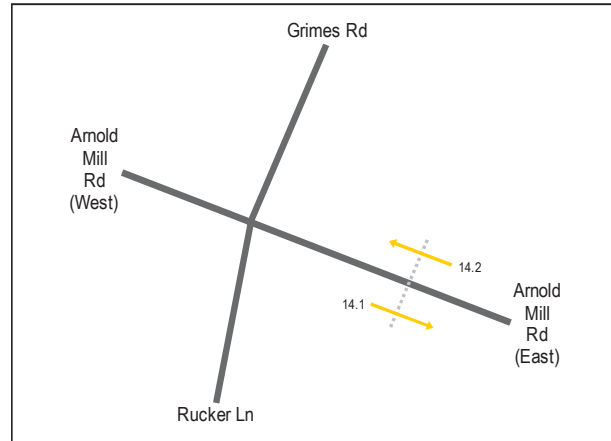
Woodstock, GA
Classified Traffic Count

Site 14
Arnold Mill Rd,
east of Grimes Rd

Lat/Long
34.120224°, -84.393729°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F



0000 - 2400 (Weekday 24h Session)

TIME	Westbound, (Movement 14.2)															TOTAL
	5-14 mph	15-19 mph	20-24 mph	25-29 mph	30-34 mph	35-39 mph	40-44 mph	45-49 mph	50-54 mph	55-59 mph	60-64 mph	65-69 mph	70-74 mph	75-79 mph	80-99 mph	
0000 - 0100	0	0	0	0	4	5	3	4	0	0	0	0	0	0	0	16
0100 - 0200	0	0	0	0	3	1	1	1	0	0	0	0	0	0	0	6
0200 - 0300	0	0	0	1	1	3	2	1	0	0	0	0	0	0	0	8
0300 - 0400	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
0400 - 0500	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	4
0500 - 0600	0	0	0	1	7	8	5	1	1	0	0	0	0	0	0	23
0600 - 0700	0	0	2	4	13	11	3	1	0	0	0	0	0	0	0	34
0700 - 0800	5	0	1	8	26	30	6	1	0	0	0	0	0	0	0	77
0800 - 0900	3	0	1	3	28	64	14	1	0	0	0	0	0	0	0	114
0900 - 1000	0	0	0	5	31	74	24	3	0	0	0	0	0	0	0	137
1000 - 1100	0	0	0	0	23	64	34	1	2	0	0	0	0	0	0	124
1100 - 1200	0	0	0	1	9	74	44	2	0	1	0	0	0	0	0	131
1200 - 1300	0	0	0	0	33	75	39	2	0	0	0	0	0	0	0	149
1300 - 1400	0	0	0	1	23	108	77	7	0	0	0	0	0	0	0	216
1400 - 1500	0	0	0	2	12	155	125	13	1	0	0	0	0	0	0	308
1500 - 1600	0	1	1	2	37	184	140	14	1	0	0	0	0	0	0	380
1600 - 1700	0	0	0	0	41	302	258	17	3	1	0	0	0	0	0	622
1700 - 1800	5	0	0	4	42	358	235	20	3	1	0	0	0	0	0	668
1800 - 1900	2	0	0	0	53	265	133	20	5	1	0	0	0	0	0	479
1900 - 2000	0	0	0	4	24	152	94	6	1	0	0	0	0	0	0	281
2000 - 2100	0	0	0	2	18	102	64	4	0	0	0	0	0	0	0	190
2100 - 2200	0	0	0	0	14	68	49	4	0	0	0	0	0	0	0	135
2200 - 2300	0	0	0	0	7	43	28	3	0	0	0	0	0	0	0	81
2300 - 2400	0	0	0	0	3	23	20	2	1	0	0	0	0	0	0	49
Session Total	15	1	5	39	453	2171	1399	128	18	4	0	0	0	0	0	4233

Average Speed	38
85th Percentile Speed	41

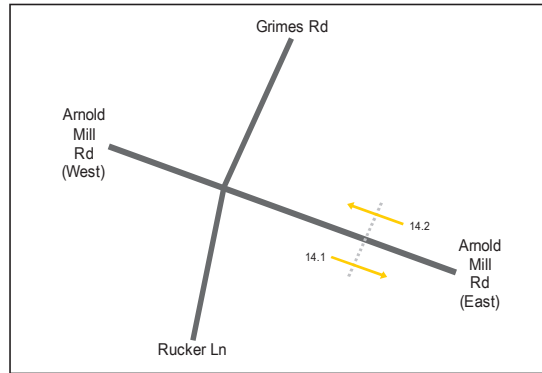
Woodstock, GA
Classified Traffic Count

Site 14
Arnold Mill Rd,
east of Grimes Rd

Lat/Long
34.120224°, -84.393729°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F



0000 - 2400 (Weekday 24h Session)

TIME	Bi-Directional 60min													TOTAL
	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	
0000 - 0100	0	24	3	0	0	0	0	0	0	0	0	0	0	27
0100 - 0200	0	9	1	0	0	0	0	0	0	0	0	0	0	10
0200 - 0300	0	12	2	0	0	0	0	0	0	0	0	0	0	14
0300 - 0400	0	10	3	0	0	0	0	0	0	0	0	0	0	13
0400 - 0500	0	22	12	1	0	0	0	0	0	0	0	0	0	35
0500 - 0600	0	136	47	1	6	0	0	3	0	0	0	0	0	193
0600 - 0700	2	316	81	8	12	0	0	13	0	0	0	0	0	432
0700 - 0800	0	294	65	18	5	1	0	20	0	0	0	0	0	403
0800 - 0900	1	289	76	9	9	0	0	6	0	0	0	0	0	390
0900 - 1000	1	323	87	1	26	2	0	5	0	0	0	0	0	445
1000 - 1100	0	289	84	5	4	0	0	0	1	0	0	0	0	383
1100 - 1200	0	265	73	6	11	0	0	5	0	0	0	0	0	360
1200 - 1300	0	241	79	3	18	1	0	4	1	0	1	0	0	348
1300 - 1400	3	307	77	6	14	0	0	3	0	0	0	0	0	410
1400 - 1500	0	362	91	2	15	2	0	3	1	2	0	0	0	476
1500 - 1600	4	414	123	5	13	0	0	3	1	0	0	0	0	563
1600 - 1700	1	640	150	6	19	0	0	7	0	0	0	0	0	823
1700 - 1800	2	669	135	7	8	0	0	8	0	0	0	0	0	829
1800 - 1900	1	508	104	5	18	0	0	4	0	0	0	0	0	640
1900 - 2000	0	309	53	0	2	0	0	5	0	0	0	0	0	369
2000 - 2100	0	222	46	1	3	0	0	1	0	0	0	0	0	273
2100 - 2200	1	151	26	0	3	0	0	1	0	0	0	0	0	182
2200 - 2300	1	82	21	0	2	0	0	0	0	0	0	0	0	106
2300 - 2400	0	58	9	0	1	0	0	0	0	0	0	0	0	68

Session Total	17	5952	1448	84	189	6	0	91	4	0	1	0	0	7792
Session Average	0.71	248.00	60.33	3.50	7.88	0.25	0.00	3.79	0.17	0.00	0.04	0.00	0.00	324.67
Session Percentage	0.22	76.39	18.58	1.08	2.43	0.08	0.00	1.17	0.05	0.00	0.01	0.00	0.00	

AM Peak Hour	0700 - 0800	1000 - 1100	1000 - 1100	0800 - 0900	1000 - 1100	1000 - 1100	-	0800 - 0900	-	-	-	-	-	1000 - 1100
AM Peak Hour Volume	2	323	87	18	26	2	0	20	0	0	0	0	0	445

Noon Peak Hour	1400 - 1500	1500 - 1600	1500 - 1600	1200 - 1300	1300 - 1400	1500 - 1600	-	1200 - 1300	1100 - 1200	-	1300 - 1400	-	-	1500 - 1600
Noon Peak Hour Volume	3	362	91	6	18	2	0	5	1	0	1	0	0	476

PM Peak Hour	1600 - 1700	1800 - 1900	1700 - 1800	1800 - 1900	1700 - 1800	-	-	1800 - 1900	1600 - 1700	-	-	-	-	1800 - 1900
PM Peak Hour Volume	4	669	150	7	19	0	0	8	1	0	0	0	0	829

Woodstock, GA
Classified Traffic Count

Site 14
Arnold Mill Rd,
east of Grimes Rd

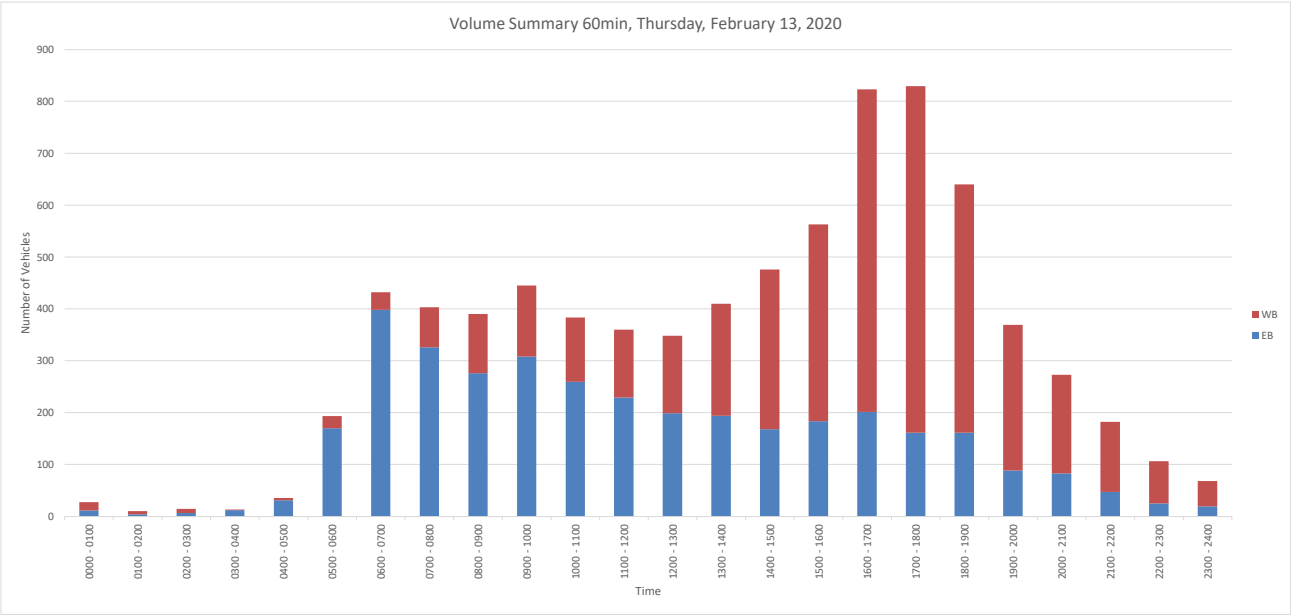
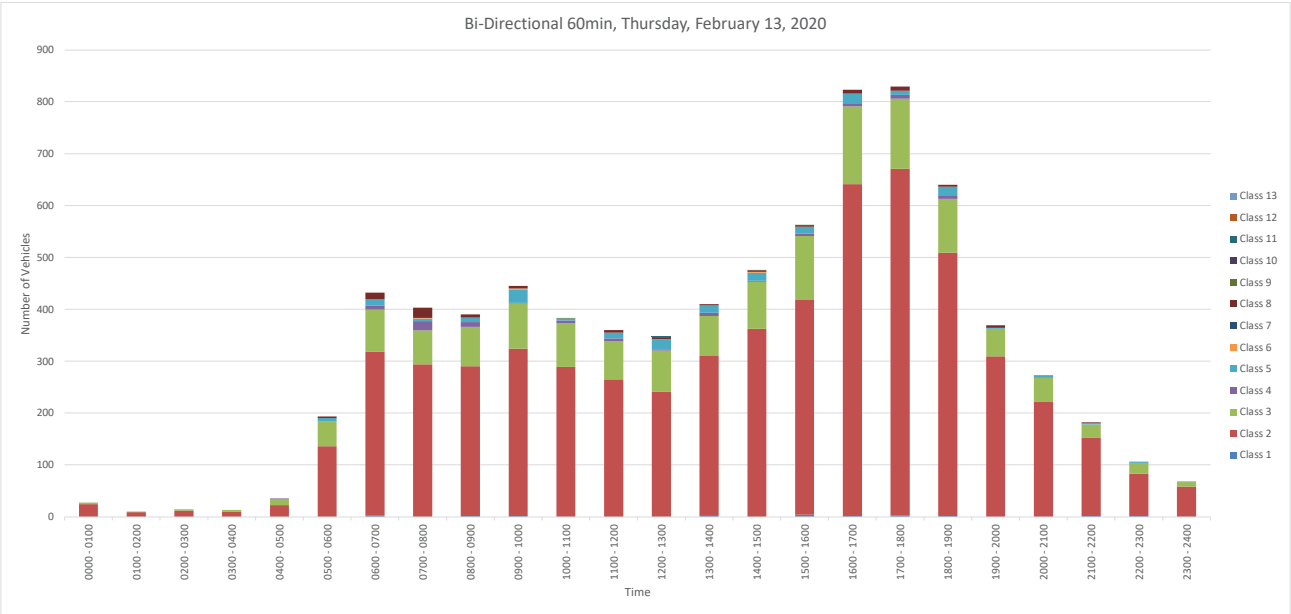
Lat/Long
34.120224°, -84.393729°

Date
Thursday, February 13, 2020

Weather
Mostly Cloudy
60°F

0000 - 2400 (Weekday 24h Session)

Volume Summary 60min			
TIME	EB	WB	TOTAL
0000 - 0100	11	16	27
0100 - 0200	4	6	10
0200 - 0300	6	8	14
0300 - 0400	12	1	13
0400 - 0500	31	4	35
0500 - 0600	170	23	193
0600 - 0700	398	34	432
0700 - 0800	326	77	403
0800 - 0900	276	114	390
0900 - 1000	308	137	445
1000 - 1100	259	124	383
1100 - 1200	229	131	360
1200 - 1300	199	149	348
1300 - 1400	194	216	410
1400 - 1500	168	308	476
1500 - 1600	183	380	563
1600 - 1700	201	622	823
1700 - 1800	161	668	829
1800 - 1900	161	479	640
1900 - 2000	88	281	369
2000 - 2100	83	190	273
2100 - 2200	47	135	182
2200 - 2300	25	81	106
2300 - 2400	19	49	68
Session Total	3559	4233	7792
Session Average	148.29	176.38	324.67
Session Percentage	45.68	54.32	



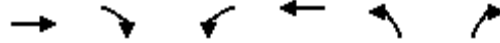
Appendix B: Capacity Analysis and Signal Timings



Timings

1: Neese Rd & Arnold Mill Rd

05/26/2020



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕	↗	↖	↕	↖	↗
Traffic Volume (vph)	300	164	281	328	75	336
Future Volume (vph)	300	164	281	328	75	336
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	59.0	59.0	21.0	80.0	40.0	40.0
Total Split (%)	49.2%	49.2%	17.5%	66.7%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	Max	Max

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 90.1

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

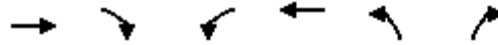
Splits and Phases: 1: Neese Rd & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

1: Neese Rd & Arnold Mill Rd

05/26/2020



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Volume (veh/h)	300	164	281	328	75	336
Future Volume (veh/h)	300	164	281	328	75	336
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	1856	1856	1856	1856
Adj Flow Rate, veh/h	380	208	312	364	110	494
Peak Hour Factor	0.79	0.79	0.90	0.90	0.68	0.68
Percent Heavy Veh, %	2	2	3	3	3	3
Cap, veh/h	465	394	395	868	695	619
Arrive On Green	0.25	0.25	0.15	0.47	0.39	0.39
Sat Flow, veh/h	1870	1585	1767	1856	1767	1572
Grp Volume(v), veh/h	380	208	312	364	110	494
Grp Sat Flow(s),veh/h/ln	1870	1585	1767	1856	1767	1572
Q Serve(g_s), s	16.6	9.8	10.7	11.2	3.5	24.0
Cycle Q Clear(g_c), s	16.6	9.8	10.7	11.2	3.5	24.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	465	394	395	868	695	619
V/C Ratio(X)	0.82	0.53	0.79	0.42	0.16	0.80
Avail Cap(c_a), veh/h	1147	972	437	1589	695	619
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	30.6	28.1	20.4	15.2	16.9	23.2
Incr Delay (d2), s/veh	3.6	1.1	8.7	0.3	0.5	10.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	3.6	4.9	4.3	1.5	10.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	34.2	29.2	29.1	15.6	17.4	33.5
LnGrp LOS	C	C	C	B	B	C
Approach Vol, veh/h	588			676	604	
Approach Delay, s/veh	32.4			21.8	30.6	
Approach LOS	C			C	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	18.9	27.5			46.4	40.0
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	15.0	53.0			74.0	34.0
Max Q Clear Time (g_c+I1), s	12.7	18.6			13.2	26.0
Green Ext Time (p_c), s	0.2	2.9			2.1	1.5
Intersection Summary						
HCM 6th Ctrl Delay			28.0			
HCM 6th LOS			C			

Timings

3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

05/26/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	237	209	289	384	162	144	96	220	289	189	259
Future Volume (vph)	53	237	209	289	384	162	144	96	220	289	189	259
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	20.9	20.9	11.0	20.9	20.9	11.0	12.4	12.4	10.0	12.4	12.4
Total Split (s)	25.0	55.0	55.0	35.0	55.0	55.0	25.0	25.0	25.0	10.0	15.0	15.0
Total Split (%)	19.2%	42.3%	42.3%	26.9%	42.3%	42.3%	19.2%	19.2%	19.2%	7.7%	11.5%	11.5%
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.4	1.4	1.0	1.4	1.4	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.9	5.9	5.0	5.9	5.9	5.0	6.4	6.4	5.0	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 83.3

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

05/26/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	237	209	289	384	162	144	96	220	289	189	259
Future Volume (veh/h)	53	237	209	289	384	162	144	96	220	289	189	259
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1856	1856	1856	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	63	282	0	332	441	186	218	145	0	336	220	0
Peak Hour Factor	0.84	0.84	0.84	0.87	0.87	0.87	0.66	0.66	0.66	0.86	0.86	0.86
Percent Heavy Veh, %	6	6	6	3	3	3	2	2	2	1	1	1
Cap, veh/h	272	356		465	603	511	426	474		460	372	
Arrive On Green	0.05	0.20	0.00	0.18	0.32	0.32	0.12	0.25	0.00	0.07	0.20	0.00
Sat Flow, veh/h	1725	1811	1535	1767	1856	1572	1781	1870	1585	1795	1885	1598
Grp Volume(v), veh/h	63	282	0	332	441	186	218	145	0	336	220	0
Grp Sat Flow(s),veh/h/ln	1725	1811	1535	1767	1856	1572	1781	1870	1585	1795	1885	1598
Q Serve(g_s), s	2.1	10.9	0.0	10.2	15.4	6.6	6.8	4.6	0.0	5.0	7.8	0.0
Cycle Q Clear(g_c), s	2.1	10.9	0.0	10.2	15.4	6.6	6.8	4.6	0.0	5.0	7.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	272	356		465	603	511	426	474		460	372	
V/C Ratio(X)	0.23	0.79		0.71	0.73	0.36	0.51	0.31		0.73	0.59	
Avail Cap(c_a), veh/h	657	1212		874	1242	1053	690	474		460	372	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.9	28.0	0.0	17.7	21.9	19.0	19.0	22.1	0.0	25.6	26.8	0.0
Incr Delay (d2), s/veh	0.4	4.0	0.0	2.1	1.7	0.4	1.0	1.7	0.0	5.9	6.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	4.7	0.0	3.8	6.2	2.4	2.8	2.2	0.0	3.5	4.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.3	32.0	0.0	19.8	23.7	19.4	20.0	23.8	0.0	31.5	33.5	0.0
LnGrp LOS	C	C		B	C	B	B	C		C	C	
Approach Vol, veh/h		345	A		959			363	A		556	A
Approach Delay, s/veh		30.2			21.5			21.5			32.3	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.6	29.7	14.1	20.9	18.0	20.3	10.0	25.0				
Change Period (Y+Rc), s	5.0	* 5.9	5.0	6.4	5.0	* 5.9	5.0	6.4				
Max Green Setting (Gmax), s	20.0	* 49	20.0	8.6	30.0	* 49	5.0	18.6				
Max Q Clear Time (g_c+I1), s	4.1	17.4	8.8	9.8	12.2	12.9	7.0	6.6				
Green Ext Time (p_c), s	0.1	3.2	0.5	0.0	0.9	1.6	0.0	0.5				

Intersection Summary												
HCM 6th Ctrl Delay			25.5									
HCM 6th LOS			C									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC

4: Arnold Mill Rd & The King's Academy

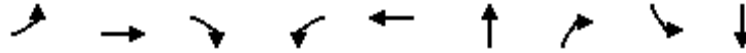
05/26/2020

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	727	812	13	0	2
Future Vol, veh/h	17	727	812	13	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	225	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	83	83	25	25
Heavy Vehicles, %	5	5	4	4	0	0
Mvmt Flow	20	855	978	16	0	8
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	994	0	-	0	1873	978
Stage 1	-	-	-	-	978	-
Stage 2	-	-	-	-	895	-
Critical Hdwy	4.15	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.245	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	684	-	-	-	80	307
Stage 1	-	-	-	-	368	-
Stage 2	-	-	-	-	402	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	684	-	-	-	78	307
Mov Cap-2 Maneuver	-	-	-	-	78	-
Stage 1	-	-	-	-	357	-
Stage 2	-	-	-	-	402	-
Approach	EB	WB	SB			
HCM Control Delay, s	0.2	0	17			
HCM LOS			C			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	684	-	-	-	307	
HCM Lane V/C Ratio	0.029	-	-	-	0.026	
HCM Control Delay (s)	10.4	-	-	-	17	
HCM Lane LOS	B	-	-	-	C	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	

Timings

5: Trickum Rd & Arnold Mill Rd

05/26/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	2	254	452	145	419	3	55	4	17
Future Volume (vph)	2	254	452	145	419	3	55	4	17
Turn Type	pm+pt	NA	Perm	pm+pt	NA	NA	Perm	Perm	NA
Protected Phases	1	6		5	2	3			4
Permitted Phases	6		6	2			3	4	
Detector Phase	1	6	6	5	2	3	3	4	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	17.8	17.8	10.0	17.8	13.5	13.5	13.5	13.5
Total Split (s)	15.0	60.0	60.0	25.0	60.0	50.0	50.0	20.0	20.0
Total Split (%)	9.7%	38.7%	38.7%	16.1%	38.7%	32.3%	32.3%	12.9%	12.9%
Yellow Time (s)	4.0	4.3	4.3	4.0	4.3	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	5.0	5.8	5.8	5.0	5.8	5.5	5.5		5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max

Intersection Summary

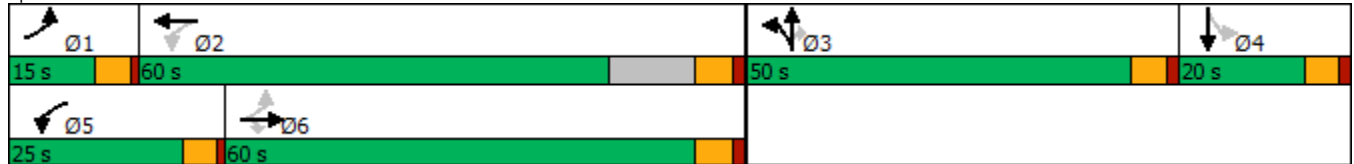
Cycle Length: 155

Actuated Cycle Length: 122.1

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Trickum Rd & Arnold Mill Rd



HCM Signalized Intersection Capacity Analysis

5: Trickum Rd & Arnold Mill Rd

05/26/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	254	452	145	419	3	371	3	55	4	17	9
Future Volume (vph)	2	254	452	145	419	3	371	3	55	4	17	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8	5.8	5.0	5.8			5.5	5.5		5.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Flt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.99	
Satd. Flow (prot)	1719	1810	1538	1770	1861			1724	1538		1690	
Flt Permitted	0.27	1.00	1.00	0.30	1.00			0.95	1.00		0.91	
Satd. Flow (perm)	485	1810	1538	559	1861			1724	1538		1551	
Peak-hour factor, PHF	0.89	0.89	0.89	0.83	0.83	0.83	0.70	0.70	0.70	0.94	0.94	0.94
Adj. Flow (vph)	2	285	508	175	505	4	530	4	79	4	18	10
RTOR Reduction (vph)	0	0	386	0	0	0	0	0	51	0	9	0
Lane Group Flow (vph)	2	285	122	175	509	0	0	534	28	0	23	0
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	5%	5%	5%	7%	7%	7%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2		3	3			4	
Permitted Phases	6		6	2					3	4		
Actuated Green, G (s)	31.3	30.3	30.3	49.7	43.7			44.9	44.9		14.6	
Effective Green, g (s)	31.3	30.3	30.3	49.7	43.7			44.9	44.9		14.6	
Actuated g/C Ratio	0.25	0.24	0.24	0.39	0.35			0.36	0.36		0.12	
Clearance Time (s)	5.0	5.8	5.8	5.0	5.8			5.5	5.5		5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	130	435	369	358	645			614	548		179	
v/s Ratio Prot	0.00	0.16		c0.06	c0.27			c0.31				
v/s Ratio Perm	0.00		0.08	0.14					0.02		c0.01	
v/c Ratio	0.02	0.66	0.33	0.49	0.79			0.87	0.05		0.13	
Uniform Delay, d1	36.3	43.1	39.5	27.0	37.0			37.8	26.6		50.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	3.5	0.5	1.1	6.4			12.5	0.0		1.5	
Delay (s)	36.4	46.7	40.0	28.1	43.4			50.3	26.6		51.5	
Level of Service	D	D	D	C	D			D	C		D	
Approach Delay (s)		42.4			39.5			47.3			51.5	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			43.0			HCM 2000 Level of Service		D				
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			126.0			Sum of lost time (s)		21.8				
Intersection Capacity Utilization			66.5%			ICU Level of Service		C				
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
6: Farmington Dr & Arnold Mill Rd

05/26/2020

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	298	5	2	573	6	13	1	3	7	0	32
Future Vol, veh/h	5	298	5	2	573	6	13	1	3	7	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	84	84	84	85	85	85	77	77	77
Heavy Vehicles, %	4	4	4	3	3	3	6	6	6	3	3	3
Mvmt Flow	6	368	6	2	682	7	15	1	4	9	0	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	689	0	0	374	0	0	1094	1076	371	1076	1076	686
Stage 1	-	-	-	-	-	-	383	383	-	690	690	-
Stage 2	-	-	-	-	-	-	711	693	-	386	386	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.16	6.56	6.26	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.56	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.56	-	6.13	5.53	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.554	4.054	3.354	3.527	4.027	3.327
Pot Cap-1 Maneuver	896	-	-	1179	-	-	188	216	666	196	218	446
Stage 1	-	-	-	-	-	-	632	605	-	434	445	-
Stage 2	-	-	-	-	-	-	418	439	-	635	608	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	896	-	-	1179	-	-	169	214	666	192	216	446
Mov Cap-2 Maneuver	-	-	-	-	-	-	169	214	-	192	216	-
Stage 1	-	-	-	-	-	-	627	600	-	431	444	-
Stage 2	-	-	-	-	-	-	378	438	-	625	603	-

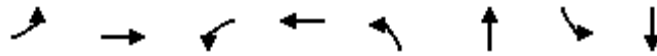
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	25.3	16.6
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	197	896	-	-	1179	-	-	360
HCM Lane V/C Ratio	0.102	0.007	-	-	0.002	-	-	0.141
HCM Control Delay (s)	25.3	9	0	-	8.1	0	-	16.6
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.5

Timings

7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

05/26/2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	52	92	37	248	191	254	52	242
Future Volume (vph)	52	92	37	248	191	254	52	242
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	3	8	7	4
Permitted Phases	6		2		8		4	
Detector Phase	1	6	5	2	3	8	7	4
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	21.0	12.0	21.0	12.0	21.0	12.0	12.0
Total Split (s)	15.0	45.0	20.0	45.0	15.0	40.0	12.0	50.0
Total Split (%)	11.5%	34.6%	15.4%	34.6%	11.5%	30.8%	9.2%	38.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None

Intersection Summary

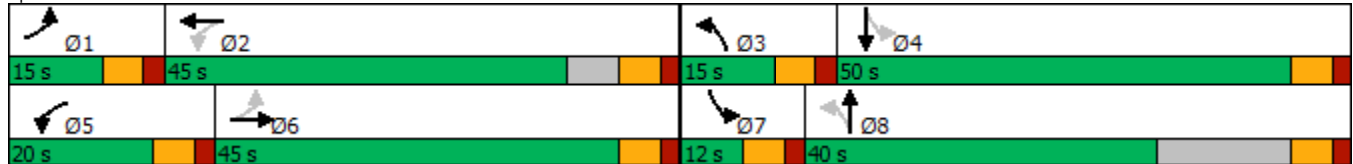
Cycle Length: 130

Actuated Cycle Length: 96.5

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd



HCM 6th Signalized Intersection Summary

7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

05/26/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	92	175	37	248	237	191	254	22	52	242	6
Future Volume (veh/h)	52	92	175	37	248	237	191	254	22	52	242	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1841	1841	1841	1826	1826	1826	1856	1856	1856
Adj Flow Rate, veh/h	56	99	188	43	288	276	222	295	26	68	318	8
Peak Hour Factor	0.93	0.93	0.93	0.86	0.86	0.86	0.86	0.86	0.86	0.76	0.76	0.76
Percent Heavy Veh, %	7	7	7	4	4	4	5	5	5	3	3	3
Cap, veh/h	208	207	393	413	317	304	300	426	38	279	381	10
Arrive On Green	0.05	0.37	0.37	0.04	0.37	0.37	0.10	0.26	0.26	0.05	0.21	0.21
Sat Flow, veh/h	1711	554	1053	1753	864	828	1739	1654	146	1767	1802	45
Grp Volume(v), veh/h	56	0	287	43	0	564	222	0	321	68	0	326
Grp Sat Flow(s),veh/h/ln	1711	0	1607	1753	0	1692	1739	0	1800	1767	0	1847
Q Serve(g_s), s	1.8	0.0	12.1	1.3	0.0	28.2	8.9	0.0	14.3	2.6	0.0	15.0
Cycle Q Clear(g_c), s	1.8	0.0	12.1	1.3	0.0	28.2	8.9	0.0	14.3	2.6	0.0	15.0
Prop In Lane	1.00		0.66	1.00		0.49	1.00		0.08	1.00		0.02
Lane Grp Cap(c), veh/h	208	0	600	413	0	621	300	0	464	279	0	390
V/C Ratio(X)	0.27	0.00	0.48	0.10	0.00	0.91	0.74	0.00	0.69	0.24	0.00	0.84
Avail Cap(c_a), veh/h	295	0	705	612	0	742	300	0	688	302	0	914
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.4	0.0	21.3	16.6	0.0	26.7	25.6	0.0	29.8	25.5	0.0	33.6
Incr Delay (d2), s/veh	0.7	0.0	0.6	0.1	0.0	13.5	9.3	0.0	1.9	0.4	0.0	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	4.4	0.5	0.0	12.9	4.2	0.0	6.0	1.1	0.0	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.1	0.0	21.8	16.7	0.0	40.2	34.9	0.0	31.7	26.0	0.0	38.3
LnGrp LOS	C	A	C	B	A	D	C	A	C	C	A	D
Approach Vol, veh/h		343			607			543				394
Approach Delay, s/veh		21.7			38.6			33.0				36.2
Approach LOS		C			D			C				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.5	38.6	15.0	24.8	9.9	39.2	10.9	28.9				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	39.0	9.0	44.0	14.0	39.0	6.0	34.0				
Max Q Clear Time (g_c+I1), s	3.8	30.2	10.9	17.0	3.3	14.1	4.6	16.3				
Green Ext Time (p_c), s	0.0	2.5	0.0	1.8	0.0	1.8	0.0	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			33.4									
HCM 6th LOS			C									

HCM 6th TWSC
8: Arnold Mill Rd & Hendon Rd

05/26/2020

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	439	458	30	39	8
Future Vol, veh/h	1	439	458	30	39	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	66	66	83	83	49	49
Heavy Vehicles, %	4	4	4	4	9	9
Mvmt Flow	2	665	552	36	80	16

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	588	0	-	0	1239 570
Stage 1	-	-	-	-	570 -
Stage 2	-	-	-	-	669 -
Critical Hdwy	4.14	-	-	-	6.49 6.29
Critical Hdwy Stg 1	-	-	-	-	5.49 -
Critical Hdwy Stg 2	-	-	-	-	5.49 -
Follow-up Hdwy	2.236	-	-	-	3.581 3.381
Pot Cap-1 Maneuver	977	-	-	-	187 508
Stage 1	-	-	-	-	552 -
Stage 2	-	-	-	-	496 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	977	-	-	-	186 508
Mov Cap-2 Maneuver	-	-	-	-	186 -
Stage 1	-	-	-	-	550 -
Stage 2	-	-	-	-	496 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	36.3
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	977	-	-	-	208
HCM Lane V/C Ratio	0.002	-	-	-	0.461
HCM Control Delay (s)	8.7	0	-	-	36.3
HCM Lane LOS	A	A	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	2.2

HCM 6th TWSC

9: Arnold Mill Rd & N Arnold Mill Rd

05/26/2020

Intersection						
Int Delay, s/veh	12.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	284	236	63	251	44
Future Vol, veh/h	21	284	236	63	251	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	91	91	86	86
Heavy Vehicles, %	5	5	2	2	5	5
Mvmt Flow	24	323	259	69	292	51
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	328	0	-	0	665	294
Stage 1	-	-	-	-	294	-
Stage 2	-	-	-	-	371	-
Critical Hdwy	4.15	-	-	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.245	-	-	-	3.545	3.345
Pot Cap-1 Maneuver	1215	-	-	-	420	738
Stage 1	-	-	-	-	749	-
Stage 2	-	-	-	-	691	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1215	-	-	-	410	738
Mov Cap-2 Maneuver	-	-	-	-	410	-
Stage 1	-	-	-	-	731	-
Stage 2	-	-	-	-	691	-
Approach	EB	WB	SB			
HCM Control Delay, s	0.6	0	36.8			
HCM LOS	E					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1215	-	-	-	439	
HCM Lane V/C Ratio	0.02	-	-	-	0.781	
HCM Control Delay (s)	8	0	-	-	36.8	
HCM Lane LOS	A	A	-	-	E	
HCM 95th %tile Q(veh)	0.1	-	-	-	6.8	

HCM 6th AWSC

10: English Ivy Way/Mountain Rd & Arnold Mill Rd

05/26/2020

Intersection	
Intersection Delay, s/veh	34.3
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	94	488	2	0	163	43	1	5	7	26	7	121
Future Vol, veh/h	94	488	2	0	163	43	1	5	7	26	7	121
Peak Hour Factor	0.96	0.96	0.96	0.83	0.83	0.83	0.65	0.65	0.65	0.62	0.62	0.62
Heavy Vehicles, %	1	1	1	4	4	4	8	8	8	2	2	2
Mvmt Flow	98	508	2	0	196	52	2	8	11	42	11	195
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	52.6	12.6	10.1	13
HCM LOS	F	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	8%	16%	0%	0%	17%
Vol Thru, %	38%	84%	0%	79%	5%
Vol Right, %	54%	0%	100%	21%	79%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	13	582	2	206	154
LT Vol	1	94	0	0	26
Through Vol	5	488	0	163	7
RT Vol	7	0	2	43	121
Lane Flow Rate	20	606	2	248	248
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.038	0.971	0.003	0.396	0.406
Departure Headway (Hd)	6.859	5.764	4.974	5.75	5.883
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	525	631	718	623	609
Service Time	4.859	3.507	2.717	3.814	3.955
HCM Lane V/C Ratio	0.038	0.96	0.003	0.398	0.407
HCM Control Delay	10.1	52.8	7.7	12.6	13
HCM Lane LOS	B	F	A	B	B
HCM 95th-tile Q	0.1	13.9	0	1.9	2

HCM 6th TWSC
 11: River Laurel Way & Arnold Mill Rd

05/26/2020

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕		↕			↕	
Traffic Vol, veh/h	8	509	11	7	103	2	26	1	59	21	0	23
Future Vol, veh/h	8	509	11	7	103	2	26	1	59	21	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	110	-	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	88	88	88	93	93	93	79	79	79
Heavy Vehicles, %	2	2	2	5	5	5	2	2	2	5	5	5
Mvmt Flow	8	536	12	8	117	2	28	1	63	27	0	29
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	119	0	0	548	0	0	701	687	536	723	697	117
Stage 1	-	-	-	-	-	-	552	552	-	133	133	-
Stage 2	-	-	-	-	-	-	149	135	-	590	564	-
Critical Hdwy	4.12	-	-	4.15	-	-	7.12	6.52	6.22	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.15	5.55	-
Follow-up Hdwy	2.218	-	-	2.245	-	-	3.518	4.018	3.318	3.545	4.045	3.345
Pot Cap-1 Maneuver	1469	-	-	1007	-	-	353	370	545	338	361	927
Stage 1	-	-	-	-	-	-	518	515	-	863	781	-
Stage 2	-	-	-	-	-	-	854	785	-	489	504	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1469	-	-	1007	-	-	337	364	545	294	355	927
Mov Cap-2 Maneuver	-	-	-	-	-	-	337	364	-	294	355	-
Stage 1	-	-	-	-	-	-	514	511	-	856	774	-
Stage 2	-	-	-	-	-	-	820	778	-	428	500	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.5			14.9			14		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	457	1469	-	-	1007	-	-	457				
HCM Lane V/C Ratio	0.202	0.006	-	-	0.008	-	-	0.122				
HCM Control Delay (s)	14.9	7.5	0	-	8.6	0	-	14				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.7	0	-	-	0	-	-	0.4				

HCM 6th TWSC
12: Arnold Mill Rd & Grimes Rd

05/26/2020

Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	35	79	0	35	554
Future Vol, veh/h	22	35	79	0	35	554
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	71	71	76	76	95	95
Heavy Vehicles, %	5	5	6	6	1	1
Mvmt Flow	31	49	104	0	37	583

Major/Minor	Minor1	Major1	Major2	Major2	Major2
Conflicting Flow All	761	104	0	0	104
Stage 1	104	-	-	-	-
Stage 2	657	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.11
Critical Hdwy Stg 1	5.45	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.209
Pot Cap-1 Maneuver	369	943	-	-	1494
Stage 1	913	-	-	-	-
Stage 2	510	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	355	943	-	-	1494
Mov Cap-2 Maneuver	355	-	-	-	-
Stage 1	913	-	-	-	-
Stage 2	491	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.3	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	575	1494	-
HCM Lane V/C Ratio	-	-	0.14	0.025	-
HCM Control Delay (s)	-	-	12.3	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

HCM 6th TWSC
13: SR 140 & Arnold Mill Rd

05/26/2020

Intersection						
Int Delay, s/veh	67.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	551	76	214	575	5
Future Vol, veh/h	0	551	76	214	575	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	-	200	-	-	210
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	90	90	92	92
Heavy Vehicles, %	1	1	5	5	1	1
Mvmt Flow	0	626	84	238	625	5

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	1031	625	625	0	0
Stage 1	625	-	-	-	-
Stage 2	406	-	-	-	-
Critical Hdwy	6.41	6.21	4.15	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.245	-	-
Pot Cap-1 Maneuver	259	~ 487	942	-	-
Stage 1	536	-	-	-	-
Stage 2	675	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	236	~ 487	942	-	-
Mov Cap-2 Maneuver	362	-	-	-	-
Stage 1	488	-	-	-	-
Stage 2	675	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	168.4	2.4	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	942	-	487	-	-
HCM Lane V/C Ratio	0.09	-	1.286	-	-
HCM Control Delay (s)	9.2	-	168.4	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0.3	-	26.3	-	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th TWSC
201: Arnold Mill Rd & Druw Cameron Ct

05/26/2020

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	631	588	4	4	0
Future Vol, veh/h	0	631	588	4	4	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	71	71	87	87	50	50
Heavy Vehicles, %	3	3	3	3	25	25
Mvmt Flow	0	889	676	5	8	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	681	0	-	0	1568 679
Stage 1	-	-	-	-	679 -
Stage 2	-	-	-	-	889 -
Critical Hdwy	4.13	-	-	-	6.65 6.45
Critical Hdwy Stg 1	-	-	-	-	5.65 -
Critical Hdwy Stg 2	-	-	-	-	5.65 -
Follow-up Hdwy	2.227	-	-	-	3.725 3.525
Pot Cap-1 Maneuver	907	-	-	-	108 414
Stage 1	-	-	-	-	463 -
Stage 2	-	-	-	-	366 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	907	-	-	-	108 414
Mov Cap-2 Maneuver	-	-	-	-	108 -
Stage 1	-	-	-	-	463 -
Stage 2	-	-	-	-	366 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	41
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	907	-	-	-	108
HCM Lane V/C Ratio	-	-	-	-	0.074
HCM Control Delay (s)	0	-	-	-	41
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	0.2

HCM 6th TWSC
202: Little River Dr & Arnold Mill Rd

05/26/2020

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	635	3	13	589	4	15
Future Vol, veh/h	635	3	13	589	4	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	88	88	95	95
Heavy Vehicles, %	3	3	3	3	5	5
Mvmt Flow	882	4	15	669	4	16

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	886	0
Stage 1	-	-	-	884
Stage 2	-	-	-	699
Critical Hdwy	-	-	4.13	-
Critical Hdwy Stg 1	-	-	-	5.45
Critical Hdwy Stg 2	-	-	-	5.45
Follow-up Hdwy	-	-	2.227	-
Pot Cap-1 Maneuver	-	-	760	-
Stage 1	-	-	-	399
Stage 2	-	-	-	488
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	760	-
Mov Cap-2 Maneuver	-	-	-	114
Stage 1	-	-	-	399
Stage 2	-	-	-	473

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	21.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	240	-	-	760	-
HCM Lane V/C Ratio	0.083	-	-	0.019	-
HCM Control Delay (s)	21.4	-	-	9.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

HCM 6th TWSC
203: Arnold Mill Rd & N River Dr

05/26/2020

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	647	589	5	10	11
Future Vol, veh/h	4	647	589	5	10	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	72	72	86	86	88	88
Heavy Vehicles, %	3	3	3	3	10	10
Mvmt Flow	6	899	685	6	11	13
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	691	0	-	0	1599	688
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	911	-
Critical Hdwy	4.13	-	-	-	6.5	6.3
Critical Hdwy Stg 1	-	-	-	-	5.5	-
Critical Hdwy Stg 2	-	-	-	-	5.5	-
Follow-up Hdwy	2.227	-	-	-	3.59	3.39
Pot Cap-1 Maneuver	899	-	-	-	112	433
Stage 1	-	-	-	-	484	-
Stage 2	-	-	-	-	379	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	899	-	-	-	111	433
Mov Cap-2 Maneuver	-	-	-	-	111	-
Stage 1	-	-	-	-	478	-
Stage 2	-	-	-	-	379	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		27.7		
HCM LOS				D		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	899	-	-	-	182	
HCM Lane V/C Ratio	0.006	-	-	-	0.131	
HCM Control Delay (s)	9	0	-	-	27.7	
HCM Lane LOS	A	A	-	-	D	
HCM 95th %tile Q(veh)	0	-	-	-	0.4	

HCM 6th TWSC
401: Arnold Mill Rd & Kings Academy Exit

05/26/2020

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	727	819	0	6	2
Future Vol, veh/h	0	727	819	0	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	82	82	33	33
Heavy Vehicles, %	5	5	4	4	0	0
Mvmt Flow	0	845	999	0	18	6
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	-	0	-	0	1844	999
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	845	-
Critical Hdwy	-	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	0	-	-	0	83	298
Stage 1	0	-	-	0	359	-
Stage 2	0	-	-	0	425	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	83	298
Mov Cap-2 Maneuver	-	-	-	-	83	-
Stage 1	-	-	-	-	359	-
Stage 2	-	-	-	-	425	-
Approach	EB	WB	SB			
HCM Control Delay, s	0	0	49.4			
HCM LOS						E
Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2		
Capacity (veh/h)	-	-	83	298		
HCM Lane V/C Ratio	-	-	0.219	0.02		
HCM Control Delay (s)	-	-	60.1	17.3		
HCM Lane LOS	-	-	F	C		
HCM 95th %tile Q(veh)	-	-	0.8	0.1		

Intersection: 1: Neese Rd & Arnold Mill Rd

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	317	175	188	174	200	325
Average Queue (ft)	148	74	102	99	40	109
95th Queue (ft)	252	165	157	158	107	221
Link Distance (ft)	953			2079		1373
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		100	150		125	
Storage Blk Time (%)	29	0	2	1	0	5
Queuing Penalty (veh)	47	1	6	2	0	4

Intersection: 3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	L	T	R	L	T	L	T	R
Maximum Queue (ft)	184	260	201	239	76	157	121	244	152	143
Average Queue (ft)	42	139	109	115	33	64	53	147	75	5
95th Queue (ft)	115	215	165	193	63	130	103	226	128	49
Link Distance (ft)		3115		606		1077	1077		707	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	135		275		200			200		150
Storage Blk Time (%)		9		1				3	0	0
Queuing Penalty (veh)		24		3				14	1	1

Intersection: 4: Arnold Mill Rd & The King's Academy

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	32	24
Average Queue (ft)	6	2
95th Queue (ft)	25	12
Link Distance (ft)		233
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	225	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Trickum Rd & Arnold Mill Rd

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	T	R	L	TR	LT	R	LTR
Maximum Queue (ft)	355	300	224	284	407	200	70
Average Queue (ft)	154	97	83	150	227	57	26
95th Queue (ft)	258	187	169	230	357	205	63
Link Distance (ft)	541			1043	512		444
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		250	175			150	
Storage Blk Time (%)	10		0	3	21		
Queuing Penalty (veh)	43		0	4	12		

Intersection: 6: Farmington Dr & Arnold Mill Rd

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	50	17	50	51
Average Queue (ft)	3	1	11	22
95th Queue (ft)	21	6	37	48
Link Distance (ft)	1043	2457	474	443
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	70	194	259	420	169	203	160	307
Average Queue (ft)	31	86	32	221	95	115	46	138
95th Queue (ft)	64	161	111	359	175	198	116	239
Link Distance (ft)		368		405		1367		2457
Upstream Blk Time (%)				1				
Queuing Penalty (veh)				0				
Storage Bay Dist (ft)	90		90		120		110	
Storage Blk Time (%)		7	0	30	5	10		18
Queuing Penalty (veh)		3	2	11	12	19		9

Intersection: 8: Arnold Mill Rd & Hendon Rd

Movement	SB
Directions Served	LR
Maximum Queue (ft)	53
Average Queue (ft)	26
95th Queue (ft)	56
Link Distance (ft)	292
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: Arnold Mill Rd & N Arnold Mill Rd

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	74	161
Average Queue (ft)	6	74
95th Queue (ft)	32	121
Link Distance (ft)	2322	542
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: English Ivy Way/Mountain Rd & Arnold Mill Rd

Movement	EB	WB	NB	SB
Directions Served	LT	LTR	LTR	LTR
Maximum Queue (ft)	228	87	30	55
Average Queue (ft)	100	40	3	36
95th Queue (ft)	171	65	18	57
Link Distance (ft)	450	670	1071	539
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)	13			
Queuing Penalty (veh)	0			

Intersection: 11: River Laurel Way & Arnold Mill Rd

Movement	EB	EB	B44	WB	NB	SB
Directions Served	LT	R	T	LT	LTR	LTR
Maximum Queue (ft)	681	160	64	24	224	46
Average Queue (ft)	72	11	0	2	47	18
95th Queue (ft)	344	79	0	14	102	38
Link Distance (ft)	609		1188	1044	320	253
Upstream Blk Time (%)	1					
Queuing Penalty (veh)	4					
Storage Bay Dist (ft)		110				
Storage Blk Time (%)	13					
Queuing Penalty (veh)	1					

Intersection: 12: Arnold Mill Rd & Grimes Rd

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	230	1053
Average Queue (ft)	45	341
95th Queue (ft)	133	1022
Link Distance (ft)	506	1044
Upstream Blk Time (%)		6
Queuing Penalty (veh)		37
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: SR 140 & Arnold Mill Rd

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	1329	75
Average Queue (ft)	1057	24
95th Queue (ft)	1754	53
Link Distance (ft)	1317	
Upstream Blk Time (%)	20	
Queuing Penalty (veh)	114	
Storage Bay Dist (ft)		200
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 201: Arnold Mill Rd & Druw Cameron Ct

Movement	SB
Directions Served	LR
Maximum Queue (ft)	49
Average Queue (ft)	6
95th Queue (ft)	27
Link Distance (ft)	662
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 202: Little River Dr & Arnold Mill Rd

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	52	50
Average Queue (ft)	7	14
95th Queue (ft)	30	41
Link Distance (ft)	167	748
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 203: Arnold Mill Rd & N River Dr

Movement	SB
Directions Served	LR
Maximum Queue (ft)	50
Average Queue (ft)	19
95th Queue (ft)	44
Link Distance (ft)	548
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 401: Arnold Mill Rd & Kings Academy Exit

Movement	SB	SB
Directions Served	L	R
Maximum Queue (ft)	20	28
Average Queue (ft)	1	2
95th Queue (ft)	9	13
Link Distance (ft)	373	373
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

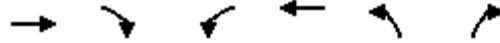
Network Summary

Network wide Queuing Penalty: 376

Timings

1: Neese Rd & Arnold Mill Rd

05/26/2020



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕	↗	↖	↕	↖	↗
Traffic Volume (vph)	412	175	120	473	200	239
Future Volume (vph)	412	175	120	473	200	239
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	59.0	59.0	21.0	80.0	40.0	40.0
Total Split (%)	49.2%	49.2%	17.5%	66.7%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	Max	Max

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 92.5

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Neese Rd & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

1: Neese Rd & Arnold Mill Rd

05/26/2020



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (veh/h)	412	175	120	473	200	239
Future Volume (veh/h)	412	175	120	473	200	239
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	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	502	213	145	570	211	252
Peak Hour Factor	0.82	0.82	0.83	0.83	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	596	505	269	869	715	636
Arrive On Green	0.32	0.32	0.07	0.46	0.40	0.40
Sat Flow, veh/h	1885	1598	1795	1885	1795	1598
Grp Volume(v), veh/h	502	213	145	570	211	252
Grp Sat Flow(s),veh/h/ln	1885	1598	1795	1885	1795	1598
Q Serve(g_s), s	21.2	9.0	4.4	19.9	6.8	9.6
Cycle Q Clear(g_c), s	21.2	9.0	4.4	19.9	6.8	9.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	596	505	269	869	715	636
V/C Ratio(X)	0.84	0.42	0.54	0.66	0.30	0.40
Avail Cap(c_a), veh/h	1170	992	450	1634	715	636
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	27.2	23.0	19.8	17.8	17.5	18.4
Incr Delay (d2), s/veh	3.3	0.6	1.7	0.8	1.1	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	3.2	1.7	7.7	3.0	3.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.6	23.6	21.5	18.6	18.6	20.2
LnGrp LOS	C	C	C	B	B	C
Approach Vol, veh/h	715			715	463	
Approach Delay, s/veh	28.5			19.2	19.5	
Approach LOS	C			B	B	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	12.4	33.0			45.4	40.0
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	15.0	53.0			74.0	34.0
Max Q Clear Time (g_c+I1), s	6.4	23.2			21.9	11.6
Green Ext Time (p_c), s	0.2	3.8			3.8	1.5
Intersection Summary						
HCM 6th Ctrl Delay			22.8			
HCM 6th LOS			C			

Timings

3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

05/26/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	452	18	116	503	419	25	24	80	268	34	136
Future Volume (vph)	187	452	18	116	503	419	25	24	80	268	34	136
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	20.9	20.9	11.0	20.9	20.9	11.0	12.4	12.4	10.0	12.4	12.4
Total Split (s)	25.0	55.0	55.0	35.0	55.0	55.0	25.0	40.0	40.0	25.0	25.0	25.0
Total Split (%)	16.1%	35.5%	35.5%	22.6%	35.5%	35.5%	16.1%	25.8%	25.8%	16.1%	16.1%	16.1%
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.4	1.4	1.0	1.4	1.4	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.9	5.9	5.0	5.9	5.9	5.0	6.4	6.4	5.0	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 155

Actuated Cycle Length: 137.3

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

05/26/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	452	18	116	503	419	25	24	80	268	34	136
Future Volume (veh/h)	187	452	18	116	503	419	25	24	80	268	34	136
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1885	1885	1885
Adj Flow Rate, veh/h	225	545	0	140	606	505	32	30	0	331	42	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.79	0.79	0.79	0.81	0.81	0.81
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	1	1	1
Cap, veh/h	252	713		281	646	548	440	467		640	691	
Arrive On Green	0.10	0.38	0.00	0.07	0.34	0.34	0.03	0.25	0.00	0.15	0.37	0.00
Sat Flow, veh/h	1795	1885	1598	1795	1885	1598	1810	1900	1610	1795	1885	1598
Grp Volume(v), veh/h	225	545	0	140	606	505	32	30	0	331	42	0
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1795	1885	1598	1810	1900	1610	1795	1885	1598
Q Serve(g_s), s	11.6	34.6	0.0	6.8	42.5	41.5	1.8	1.7	0.0	18.3	2.0	0.0
Cycle Q Clear(g_c), s	11.6	34.6	0.0	6.8	42.5	41.5	1.8	1.7	0.0	18.3	2.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	252	713		281	646	548	440	467		640	691	
V/C Ratio(X)	0.89	0.76		0.50	0.94	0.92	0.07	0.06		0.52	0.06	
Avail Cap(c_a), veh/h	332	713		555	677	574	658	467		640	691	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.8	37.2	0.0	29.7	43.5	43.2	36.9	39.5	0.0	29.5	28.1	0.0
Incr Delay (d2), s/veh	20.9	5.0	0.0	1.4	20.3	20.1	0.1	0.3	0.0	0.7	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	16.4	0.0	3.0	22.8	19.5	0.8	0.8	0.0	8.0	0.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.6	42.1	0.0	31.1	63.8	63.2	37.0	39.8	0.0	30.3	28.2	0.0
LnGrp LOS	E	D		C	E	E	D	D		C	C	
Approach Vol, veh/h		770	A		1251			62	A		373	A
Approach Delay, s/veh		46.4			59.9			38.3			30.0	
Approach LOS		D			E			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.9	52.8	8.5	56.5	14.1	57.6	25.0	40.0				
Change Period (Y+Rc), s	5.0	* 5.9	5.0	6.4	5.0	* 5.9	5.0	6.4				
Max Green Setting (Gmax), s	20.0	* 49	20.0	18.6	30.0	* 49	20.0	33.6				
Max Q Clear Time (g_c+I1), s	13.6	44.5	3.8	4.0	8.8	36.6	20.3	3.7				
Green Ext Time (p_c), s	0.3	2.3	0.0	0.1	0.3	2.6	0.0	0.1				

Intersection Summary

HCM 6th Ctrl Delay	50.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC

4: Arnold Mill Rd & The King's Academy

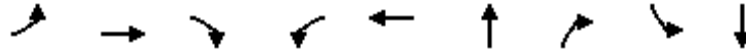
05/26/2020

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	760	1034	3	3	4
Future Vol, veh/h	9	760	1034	3	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	225	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	82	82	38	38
Heavy Vehicles, %	1	1	2	2	33	33
Mvmt Flow	11	927	1261	4	8	11
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	1265	0	-	0	2210	1261
Stage 1	-	-	-	-	1261	-
Stage 2	-	-	-	-	949	-
Critical Hdwy	4.11	-	-	-	6.73	6.53
Critical Hdwy Stg 1	-	-	-	-	5.73	-
Critical Hdwy Stg 2	-	-	-	-	5.73	-
Follow-up Hdwy	2.209	-	-	-	3.797	3.597
Pot Cap-1 Maneuver	553	-	-	-	39	179
Stage 1	-	-	-	-	230	-
Stage 2	-	-	-	-	331	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	553	-	-	-	38	179
Mov Cap-2 Maneuver	-	-	-	-	38	-
Stage 1	-	-	-	-	225	-
Stage 2	-	-	-	-	331	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		75.2		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	553	-	-	-	69	
HCM Lane V/C Ratio	0.02	-	-	-	0.267	
HCM Control Delay (s)	11.6	-	-	-	75.2	
HCM Lane LOS	B	-	-	-	F	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9	

Timings

5: Trickum Rd & Arnold Mill Rd

05/26/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	14	409	326	58	476	11	49	11	8
Future Volume (vph)	14	409	326	58	476	11	49	11	8
Turn Type	pm+pt	NA	Perm	pm+pt	NA	NA	Perm	Perm	NA
Protected Phases	1	6		5	2	3			4
Permitted Phases	6		6	2			3	4	
Detector Phase	1	6	6	5	2	3	3	4	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	17.8	17.8	10.0	17.8	13.5	13.5	13.5	13.5
Total Split (s)	15.0	60.0	60.0	25.0	60.0	50.0	50.0	20.0	20.0
Total Split (%)	9.7%	38.7%	38.7%	16.1%	38.7%	32.3%	32.3%	12.9%	12.9%
Yellow Time (s)	4.0	4.3	4.3	4.0	4.3	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	5.0	5.8	5.8	5.0	5.8	5.5	5.5		5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max

Intersection Summary

Cycle Length: 155

Actuated Cycle Length: 124.3

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Trickum Rd & Arnold Mill Rd



HCM Signalized Intersection Capacity Analysis

5: Trickum Rd & Arnold Mill Rd

05/26/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	14	409	326	58	476	6	546	11	49	11	8	9	
Future Volume (vph)	14	409	326	58	476	6	546	11	49	11	8	9	
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	5.8	5.8	5.0	5.8			5.5	5.5		5.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00		
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.96		
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.98		
Satd. Flow (prot)	1787	1881	1599	1787	1878			1776	1583		1713		
Flt Permitted	0.19	1.00	1.00	0.17	1.00			0.95	1.00		0.69		
Satd. Flow (perm)	357	1881	1599	320	1878			1776	1583		1198		
Peak-hour factor, PHF	0.90	0.90	0.90	0.94	0.94	0.94	0.93	0.93	0.93	0.70	0.70	0.70	
Adj. Flow (vph)	16	454	362	62	506	6	587	12	53	16	11	13	
RTOR Reduction (vph)	0	0	218	0	0	0	0	0	34	0	11	0	
Lane Group Flow (vph)	16	454	144	62	512	0	0	599	19	0	29	0	
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	4%	4%	4%	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Perm	NA		
Protected Phases	1	6		5	2		3	3			4		
Permitted Phases	6		6	2					3	4			
Actuated Green, G (s)	41.2	38.7	38.7	50.0	43.1			45.1	45.1		14.7		
Effective Green, g (s)	41.2	38.7	38.7	50.0	43.1			45.1	45.1		14.7		
Actuated g/C Ratio	0.32	0.30	0.30	0.39	0.34			0.35	0.35		0.12		
Clearance Time (s)	5.0	5.8	5.8	5.0	5.8			5.5	5.5		5.5		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0		
Lane Grp Cap (vph)	143	572	486	205	636			629	561		138		
v/s Ratio Prot	0.00	0.24		c0.02	c0.27			c0.34					
v/s Ratio Perm	0.03		0.09	0.10					0.01		c0.02		
v/c Ratio	0.11	0.79	0.30	0.30	0.81			0.95	0.03		0.21		
Uniform Delay, d1	31.5	40.6	33.8	27.7	38.2			40.0	26.8		51.0		
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00		
Incremental Delay, d2	0.3	7.5	0.3	0.8	7.3			24.5	0.0		3.5		
Delay (s)	31.8	48.1	34.2	28.5	45.6			64.5	26.8		54.5		
Level of Service	C	D	C	C	D			E	C		D		
Approach Delay (s)		41.7			43.7			61.5			54.5		
Approach LOS		D			D			E			D		
Intersection Summary													
HCM 2000 Control Delay			48.6									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.78										
Actuated Cycle Length (s)			127.2									Sum of lost time (s)	21.8
Intersection Capacity Utilization			79.8%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													

HCM 6th TWSC
6: Farmington Dr & Arnold Mill Rd

05/26/2020

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	40	418	13	2	491	5	10	0	1	3	0	31
Future Vol, veh/h	40	418	13	2	491	5	10	0	1	3	0	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	96	96	96	69	69	69	85	85	85
Heavy Vehicles, %	1	1	1	1	1	1	0	0	0	6	6	6
Mvmt Flow	42	440	14	2	511	5	14	0	1	4	0	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	516	0	0	454	0	0	1067	1051	447	1050	1056	514
Stage 1	-	-	-	-	-	-	531	531	-	518	518	-
Stage 2	-	-	-	-	-	-	536	520	-	532	538	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.1	6.5	6.2	7.16	6.56	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.16	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.16	5.56	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.5	4	3.3	3.554	4.054	3.354
Pot Cap-1 Maneuver	1055	-	-	1112	-	-	202	229	616	202	222	553
Stage 1	-	-	-	-	-	-	536	529	-	533	527	-
Stage 2	-	-	-	-	-	-	532	535	-	524	516	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1055	-	-	1112	-	-	181	216	616	193	210	553
Mov Cap-2 Maneuver	-	-	-	-	-	-	181	216	-	193	210	-
Stage 1	-	-	-	-	-	-	508	501	-	505	525	-
Stage 2	-	-	-	-	-	-	495	533	-	495	489	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	25.3	13.3
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	193	1055	-	-	1112	-	-	475
HCM Lane V/C Ratio	0.083	0.04	-	-	0.002	-	-	0.084
HCM Control Delay (s)	25.3	8.6	0	-	8.2	0	-	13.3
HCM Lane LOS	D	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	0.3

Timings

7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

05/26/2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	24	326	12	230	219	372	136	195
Future Volume (vph)	24	326	12	230	219	372	136	195
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	3	8	7	4
Permitted Phases	6		2		8		4	
Detector Phase	1	6	5	2	3	8	7	4
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	21.0	12.0	21.0	12.0	21.0	12.0	12.0
Total Split (s)	15.0	45.0	20.0	45.0	15.0	40.0	12.0	50.0
Total Split (%)	11.5%	34.6%	15.4%	34.6%	11.5%	30.8%	9.2%	38.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None

Intersection Summary

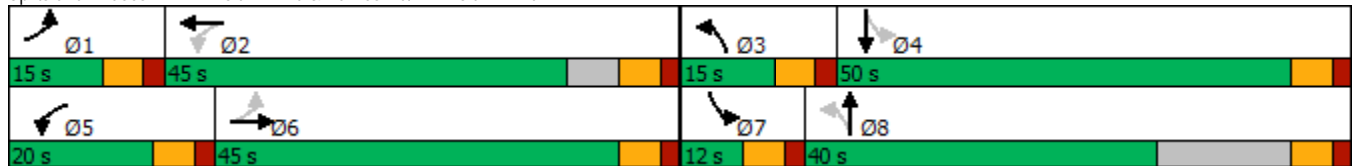
Cycle Length: 130

Actuated Cycle Length: 86.8

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd



HCM 6th Signalized Intersection Summary

7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

05/26/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	326	161	12	230	92	219	372	15	136	195	22
Future Volume (veh/h)	24	326	161	12	230	92	219	372	15	136	195	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	347	171	13	242	97	238	404	16	153	219	25
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.92	0.92	0.92	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	2	2	2	2	2	2
Cap, veh/h	319	398	196	178	410	164	415	473	19	273	375	43
Arrive On Green	0.03	0.34	0.34	0.02	0.33	0.33	0.11	0.26	0.26	0.08	0.23	0.23
Sat Flow, veh/h	1767	1173	578	1767	1260	505	1781	1787	71	1781	1648	188
Grp Volume(v), veh/h	26	0	518	13	0	339	238	0	420	153	0	244
Grp Sat Flow(s),veh/h/ln	1767	0	1751	1767	0	1765	1781	0	1858	1781	0	1836
Q Serve(g_s), s	0.8	0.0	22.1	0.4	0.0	12.8	8.1	0.0	17.1	5.2	0.0	9.4
Cycle Q Clear(g_c), s	0.8	0.0	22.1	0.4	0.0	12.8	8.1	0.0	17.1	5.2	0.0	9.4
Prop In Lane	1.00		0.33	1.00		0.29	1.00		0.04	1.00		0.10
Lane Grp Cap(c), veh/h	319	0	594	178	0	574	415	0	492	273	0	417
V/C Ratio(X)	0.08	0.00	0.87	0.07	0.00	0.59	0.57	0.00	0.85	0.56	0.00	0.58
Avail Cap(c_a), veh/h	460	0	858	455	0	864	415	0	793	273	0	1015
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.7	0.0	24.7	20.1	0.0	22.4	20.7	0.0	27.8	22.7	0.0	27.4
Incr Delay (d2), s/veh	0.1	0.0	6.9	0.2	0.0	1.0	1.9	0.0	5.2	2.6	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	9.6	0.2	0.0	5.1	3.2	0.0	7.6	2.2	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.8	0.0	31.6	20.2	0.0	23.4	22.6	0.0	33.0	25.2	0.0	28.7
LnGrp LOS	B	A	C	C	A	C	C	A	C	C	A	C
Approach Vol, veh/h		544			352			658			397	
Approach Delay, s/veh		30.9			23.3			29.2			27.4	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.6	31.9	15.0	24.1	7.5	33.0	12.0	27.1				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	39.0	9.0	44.0	14.0	39.0	6.0	34.0				
Max Q Clear Time (g_c+I1), s	2.8	14.8	10.1	11.4	2.4	24.1	7.2	19.1				
Green Ext Time (p_c), s	0.0	2.0	0.0	1.3	0.0	2.9	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			28.3									
HCM 6th LOS			C									

HCM 6th TWSC

8: Arnold Mill Rd & Hendon Rd

05/26/2020

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	5	373	583	9	3	4
Future Vol, veh/h	5	373	583	9	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	97	97	58	58
Heavy Vehicles, %	3	3	2	2	0	0
Mvmt Flow	5	397	601	9	5	7
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	610	0	-	0	1013	606
Stage 1	-	-	-	-	606	-
Stage 2	-	-	-	-	407	-
Critical Hdwy	4.13	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.227	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	964	-	-	-	267	501
Stage 1	-	-	-	-	548	-
Stage 2	-	-	-	-	676	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	964	-	-	-	265	501
Mov Cap-2 Maneuver	-	-	-	-	265	-
Stage 1	-	-	-	-	544	-
Stage 2	-	-	-	-	676	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		15.3		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	964	-	-	-	363	
HCM Lane V/C Ratio	0.006	-	-	-	0.033	
HCM Control Delay (s)	8.8	0	-	-	15.3	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

HCM 6th TWSC
 9: Arnold Mill Rd & N Arnold Mill Rd

05/26/2020

Intersection						
Int Delay, s/veh	2.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	288	519	237	88	21
Future Vol, veh/h	16	288	519	237	88	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	94	94	88	88
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	17	303	552	252	100	24

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	804	0	-	0	1015 678
Stage 1	-	-	-	-	678 -
Stage 2	-	-	-	-	337 -
Critical Hdwy	4.13	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.227	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	816	-	-	-	264 452
Stage 1	-	-	-	-	504 -
Stage 2	-	-	-	-	723 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	816	-	-	-	257 452
Mov Cap-2 Maneuver	-	-	-	-	257 -
Stage 1	-	-	-	-	491 -
Stage 2	-	-	-	-	723 -

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	27.7
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	816	-	-	-	280
HCM Lane V/C Ratio	0.021	-	-	-	0.442
HCM Control Delay (s)	9.5	0	-	-	27.7
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	2.1

HCM 6th AWSC
 10: English Ivy Way/Mountain Rd & Arnold Mill Rd

05/26/2020

Intersection	
Intersection Delay, s/veh	35.1
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	119	229	4	4	614	13	3	3	2	29	4	151
Future Vol, veh/h	119	229	4	4	614	13	3	3	2	29	4	151
Peak Hour Factor	0.86	0.86	0.86	0.98	0.98	0.98	0.67	0.67	0.67	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	1	1	1	25	25	25	3	3	3
Mvmt Flow	138	266	5	4	627	13	4	4	3	33	5	174
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	22.1	51.1	11.1	13
HCM LOS	C	F	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	38%	34%	0%	1%	16%
Vol Thru, %	38%	66%	0%	97%	2%
Vol Right, %	25%	0%	100%	2%	82%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	348	4	631	184
LT Vol	3	119	0	4	29
Through Vol	3	229	0	614	4
RT Vol	2	0	4	13	151
Lane Flow Rate	12	405	5	644	211
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.026	0.699	0.007	0.97	0.367
Departure Headway (Hd)	7.876	6.216	5.33	5.424	6.249
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	457	579	667	663	571
Service Time	5.876	3.982	3.095	3.482	4.333
HCM Lane V/C Ratio	0.026	0.699	0.007	0.971	0.37
HCM Control Delay	11.1	22.3	8.1	51.1	13
HCM Lane LOS	B	C	A	F	B
HCM 95th-tile Q	0.1	5.5	0	14.3	1.7

HCM 6th TWSC

11: River Laurel Way & Arnold Mill Rd

05/26/2020

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕		↕			↕	
Traffic Vol, veh/h	8	187	24	34	651	20	8	0	26	15	0	5
Future Vol, veh/h	8	187	24	34	651	20	8	0	26	15	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	110	-	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	93	93	93	77	77	77	83	83	83
Heavy Vehicles, %	2	2	2	5	5	5	2	2	2	5	5	5
Mvmt Flow	9	217	28	37	700	22	10	0	34	18	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	722	0	0	245	0	0	1023	1031	217	1040	1037	700
Stage 1	-	-	-	-	-	-	235	235	-	774	774	-
Stage 2	-	-	-	-	-	-	788	796	-	266	263	-
Critical Hdwy	4.12	-	-	4.15	-	-	7.12	6.52	6.22	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.15	5.55	-
Follow-up Hdwy	2.218	-	-	2.245	-	-	3.518	4.018	3.318	3.545	4.045	3.345
Pot Cap-1 Maneuver	880	-	-	1304	-	-	214	233	823	206	228	434
Stage 1	-	-	-	-	-	-	768	710	-	387	404	-
Stage 2	-	-	-	-	-	-	384	399	-	733	685	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	880	-	-	1304	-	-	201	219	823	188	215	434
Mov Cap-2 Maneuver	-	-	-	-	-	-	201	219	-	188	215	-
Stage 1	-	-	-	-	-	-	759	701	-	382	385	-
Stage 2	-	-	-	-	-	-	360	380	-	694	677	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.4	13.3	23.5
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	476	880	-	-	1304	-	-	219
HCM Lane V/C Ratio	0.093	0.011	-	-	0.028	-	-	0.11
HCM Control Delay (s)	13.3	9.1	0	-	7.8	0	-	23.5
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.4

HCM 6th TWSC
12: Arnold Mill Rd & Grimes Rd

05/26/2020

Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	26	715	1	44	189
Future Vol, veh/h	1	26	715	1	44	189
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	89	89	87	87
Heavy Vehicles, %	4	4	1	1	2	2
Mvmt Flow	1	35	803	1	51	217

Major/Minor	Minor1	Major1	Major2	Major2	Major2
Conflicting Flow All	1123	804	0	0	804
Stage 1	804	-	-	-	-
Stage 2	319	-	-	-	-
Critical Hdwy	6.44	6.24	-	-	4.12
Critical Hdwy Stg 1	5.44	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-
Follow-up Hdwy	3.536	3.336	-	-	2.218
Pot Cap-1 Maneuver	225	380	-	-	820
Stage 1	437	-	-	-	-
Stage 2	732	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	209	380	-	-	820
Mov Cap-2 Maneuver	209	-	-	-	-
Stage 1	437	-	-	-	-
Stage 2	680	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.8	0	1.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	369	820	-
HCM Lane V/C Ratio	-	-	0.098	0.062	-
HCM Control Delay (s)	-	-	15.8	9.7	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-

HCM 6th TWSC
13: SR 140 & Arnold Mill Rd

05/26/2020

Intersection						
Int Delay, s/veh	5.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	185	679	750	401	36
Future Vol, veh/h	4	185	679	750	401	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	-	200	-	-	210
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	97	97	93	93
Heavy Vehicles, %	2	2	1	1	4	4
Mvmt Flow	4	208	700	773	431	39

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	2604	431	431	0	0
Stage 1	431	-	-	-	-
Stage 2	2173	-	-	-	-
Critical Hdwy	6.42	6.22	4.11	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.209	-	-
Pot Cap-1 Maneuver	27	624	1134	-	-
Stage 1	655	-	-	-	-
Stage 2	94	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	10	624	1134	-	-
Mov Cap-2 Maneuver	66	-	-	-	-
Stage 1	251	-	-	-	-
Stage 2	94	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.5	6.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1134	-	637	-	-
HCM Lane V/C Ratio	0.617	-	0.333	-	-
HCM Control Delay (s)	13.2	-	13.5	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	4.5	-	1.5	-	-

HCM 6th TWSC
201: Arnold Mill Rd & Druw Cameron Ct

05/26/2020

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	8	587	570	4	4	7
Future Vol, veh/h	8	587	570	4	4	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	83	83	55	55
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	9	652	687	5	7	13

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	692	0	0	1360	690
Stage 1	-	-	-	690	-
Stage 2	-	-	-	670	-
Critical Hdwy	4.11	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	5.4	-
Follow-up Hdwy	2.209	-	-	3.5	3.3
Pot Cap-1 Maneuver	908	-	-	165	449
Stage 1	-	-	-	502	-
Stage 2	-	-	-	512	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	908	-	-	162	449
Mov Cap-2 Maneuver	-	-	-	162	-
Stage 1	-	-	-	494	-
Stage 2	-	-	-	512	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	19.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	908	-	-	-	273
HCM Lane V/C Ratio	0.01	-	-	-	0.073
HCM Control Delay (s)	9	0	-	-	19.2
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

HCM 6th TWSC
202: Little River Dr & Arnold Mill Rd

05/26/2020

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	578	11	24	568	9	14
Future Vol, veh/h	578	11	24	568	9	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	83	83	64	64
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	642	12	29	684	14	22

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	654	0
Stage 1	-	-	-	648
Stage 2	-	-	-	742
Critical Hdwy	-	-	4.11	-
Critical Hdwy Stg 1	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	5.4
Follow-up Hdwy	-	-	2.209	-
Pot Cap-1 Maneuver	-	-	938	-
Stage 1	-	-	-	524
Stage 2	-	-	-	474
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	938	-
Mov Cap-2 Maneuver	-	-	-	150
Stage 1	-	-	-	524
Stage 2	-	-	-	450

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	21.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	257	-	-	938	-
HCM Lane V/C Ratio	0.14	-	-	0.031	-
HCM Control Delay (s)	21.3	-	-	9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

HCM 6th TWSC
203: Arnold Mill Rd & N River Dr

05/26/2020

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	19	571	585	8	7	9
Future Vol, veh/h	19	571	585	8	7	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	82	82	80	80
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	21	621	713	10	9	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	723	0	0	1381	718
Stage 1	-	-	-	718	-
Stage 2	-	-	-	663	-
Critical Hdwy	4.11	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	5.4	-
Follow-up Hdwy	2.209	-	-	3.5	3.3
Pot Cap-1 Maneuver	884	-	-	160	432
Stage 1	-	-	-	487	-
Stage 2	-	-	-	516	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	884	-	-	154	432
Mov Cap-2 Maneuver	-	-	-	154	-
Stage 1	-	-	-	469	-
Stage 2	-	-	-	516	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	21.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	884	-	-	-	241
HCM Lane V/C Ratio	0.023	-	-	-	0.083
HCM Control Delay (s)	9.2	0	-	-	21.3
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

HCM 6th TWSC
401: Arnold Mill Rd

05/26/2020

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	763	1031	0	9	6
Future Vol, veh/h	0	763	1031	0	9	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	91	91	42	42
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	867	1133	0	21	14
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	-	0	-	0	2000	1133
Stage 1	-	-	-	-	1133	-
Stage 2	-	-	-	-	867	-
Critical Hdwy	-	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	0	-	-	0	67	249
Stage 1	0	-	-	0	310	-
Stage 2	0	-	-	0	415	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	67	249
Mov Cap-2 Maneuver	-	-	-	-	67	-
Stage 1	-	-	-	-	310	-
Stage 2	-	-	-	-	415	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		57.4		
HCM LOS				F		
Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2		
Capacity (veh/h)	-	-	67	249		
HCM Lane V/C Ratio	-	-	0.32	0.057		
HCM Control Delay (s)	-	-	82.2	20.3		
HCM Lane LOS	-	-	F	C		
HCM 95th %tile Q(veh)	-	-	1.2	0.2		

Intersection: 1: Neese Rd & Arnold Mill Rd

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	413	175	200	330	187	131
Average Queue (ft)	191	74	79	155	89	73
95th Queue (ft)	327	179	161	293	152	129
Link Distance (ft)	953			2079		1373
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		100	150		125	
Storage Blk Time (%)	32			7	3	1
Queuing Penalty (veh)	56			9	7	2

Intersection: 3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

Movement	EB	EB	EB	WB	WB	WB	B45	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	T	L	T	L	T
Maximum Queue (ft)	185	584	289	116	676	275	98	71	89	229	260
Average Queue (ft)	149	295	10	52	299	149	4	24	23	122	12
95th Queue (ft)	220	495	99	92	543	293	34	56	64	203	40
Link Distance (ft)		3115			606		643	1077	1077		707
Upstream Blk Time (%)					2						
Queuing Penalty (veh)					22						
Storage Bay Dist (ft)	135		240	275		200				200	
Storage Blk Time (%)	9	31			23					2	
Queuing Penalty (veh)	40	63			125					3	

Intersection: 4: Arnold Mill Rd & The King's Academy

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	27	46
Average Queue (ft)	2	2
95th Queue (ft)	14	16
Link Distance (ft)		233
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	225	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Trickum Rd & Arnold Mill Rd

Movement	EB	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	T	R	L	TR	LT	R	LTR
Maximum Queue (ft)	245	397	300	225	440	527	200	97
Average Queue (ft)	17	202	81	81	236	299	43	20
95th Queue (ft)	92	328	210	210	415	458	177	60
Link Distance (ft)		541			1043	512		444
Upstream Blk Time (%)						1		
Queuing Penalty (veh)						0		
Storage Bay Dist (ft)	150		250	175			150	
Storage Blk Time (%)		18			17	35		
Queuing Penalty (veh)		62			10	17		

Intersection: 6: Farmington Dr & Arnold Mill Rd

Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	112	28	69
Average Queue (ft)	16	9	14
95th Queue (ft)	65	30	46
Link Distance (ft)	1043	474	443
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	239	384	28	353	170	432	160	415
Average Queue (ft)	29	222	8	110	115	191	81	145
95th Queue (ft)	128	355	27	215	187	368	151	308
Link Distance (ft)		368		405		1367		2457
Upstream Blk Time (%)		1						
Queuing Penalty (veh)		0						
Storage Bay Dist (ft)	90		90		120		110	
Storage Blk Time (%)		30		11	8	18	3	11
Queuing Penalty (veh)		7		1	29	39	6	15

Intersection: 8: Arnold Mill Rd & Hendon Rd

Movement	SB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	3
95th Queue (ft)	19
Link Distance (ft)	292
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: Arnold Mill Rd & N Arnold Mill Rd

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	72	122
Average Queue (ft)	13	51
95th Queue (ft)	50	99
Link Distance (ft)	2322	542
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: English Ivy Way/Mountain Rd & Arnold Mill Rd

Movement	EB	WB	NB	SB
Directions Served	LT	LTR	LTR	LTR
Maximum Queue (ft)	160	394	54	106
Average Queue (ft)	82	181	3	51
95th Queue (ft)	131	314	22	82
Link Distance (ft)	450	670	1071	539
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)	8			
Queuing Penalty (veh)	0			

Intersection: 11: River Laurel Way & Arnold Mill Rd

Movement	EB	WB	NB	SB
Directions Served	LT	LT	LTR	LTR
Maximum Queue (ft)	51	109	50	63
Average Queue (ft)	6	9	21	17
95th Queue (ft)	30	47	48	42
Link Distance (ft)	609	1044	320	253
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Arnold Mill Rd & Grimes Rd

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	43	118
Average Queue (ft)	17	23
95th Queue (ft)	36	55
Link Distance (ft)	506	1044
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: SR 140 & Arnold Mill Rd

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	51	172
Average Queue (ft)	4	105
95th Queue (ft)	23	156
Link Distance (ft)	1317	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		200
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 201: Arnold Mill Rd & Druw Cameron Ct

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	51	55
Average Queue (ft)	5	8
95th Queue (ft)	25	33
Link Distance (ft)	2079	662
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 202: Little River Dr & Arnold Mill Rd

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	97	50
Average Queue (ft)	20	20
95th Queue (ft)	64	45
Link Distance (ft)	167	748
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 203: Arnold Mill Rd & N River Dr

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	117	28
Average Queue (ft)	18	14
95th Queue (ft)	78	35
Link Distance (ft)	167	548
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 401: Arnold Mill Rd

Movement	SB	SB
Directions Served	L	R
Maximum Queue (ft)	51	31
Average Queue (ft)	7	4
95th Queue (ft)	29	22
Link Distance (ft)	174	174
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 514

Timings

1: Neese Rd & Arnold Mill Rd

05/26/2020



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↘	↗
Traffic Volume (vph)	384	210	360	420	96	430
Future Volume (vph)	384	210	360	420	96	430
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	59.0	59.0	21.0	80.0	40.0	40.0
Total Split (%)	49.2%	49.2%	17.5%	66.7%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	Max	Max

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 99.1

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

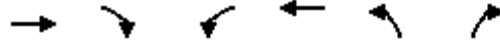
Splits and Phases: 1: Neese Rd & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

1: Neese Rd & Arnold Mill Rd

05/26/2020



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (veh/h)	384	210	360	420	96	430
Future Volume (veh/h)	384	210	360	420	96	430
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	1856	1856	1856	1856
Adj Flow Rate, veh/h	486	266	400	467	141	632
Peak Hour Factor	0.79	0.79	0.90	0.90	0.68	0.68
Percent Heavy Veh, %	2	2	3	3	3	3
Cap, veh/h	570	483	393	970	624	555
Arrive On Green	0.30	0.30	0.16	0.52	0.35	0.35
Sat Flow, veh/h	1870	1585	1767	1856	1767	1572
Grp Volume(v), veh/h	486	266	400	467	141	632
Grp Sat Flow(s),veh/h/ln	1870	1585	1767	1856	1767	1572
Q Serve(g_s), s	23.5	13.5	15.0	15.5	5.4	34.0
Cycle Q Clear(g_c), s	23.5	13.5	15.0	15.5	5.4	34.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	570	483	393	970	624	555
V/C Ratio(X)	0.85	0.55	1.02	0.48	0.23	1.14
Avail Cap(c_a), veh/h	1029	872	393	1425	624	555
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	31.5	28.0	23.2	14.7	21.9	31.2
Incr Delay (d2), s/veh	3.7	1.0	50.3	0.4	0.8	82.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.5	4.9	11.1	5.8	2.4	25.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.2	29.0	73.5	15.0	22.8	113.9
LnGrp LOS	D	C	F	B	C	F
Approach Vol, veh/h	752			867	773	
Approach Delay, s/veh	33.0			42.0	97.3	
Approach LOS	C			D	F	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	21.0	35.4			56.4	40.0
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	15.0	53.0			74.0	34.0
Max Q Clear Time (g_c+I1), s	17.0	25.5			17.5	36.0
Green Ext Time (p_c), s	0.0	3.8			2.9	0.0
Intersection Summary						
HCM 6th Ctrl Delay			57.0			
HCM 6th LOS			E			

Timings

3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

05/26/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	303	209	289	492	207	144	96	220	370	189	332
Future Volume (vph)	68	303	209	289	492	207	144	96	220	370	189	332
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	20.9	20.9	11.0	20.9	20.9	11.0	12.4	12.4	10.0	12.4	12.4
Total Split (s)	25.0	55.0	55.0	35.0	55.0	55.0	25.0	25.0	25.0	10.0	15.0	15.0
Total Split (%)	19.2%	42.3%	42.3%	26.9%	42.3%	42.3%	19.2%	19.2%	19.2%	7.7%	11.5%	11.5%
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.4	1.4	1.0	1.4	1.4	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.9	5.9	5.0	5.9	5.9	5.0	6.4	6.4	5.0	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max

Intersection Summary

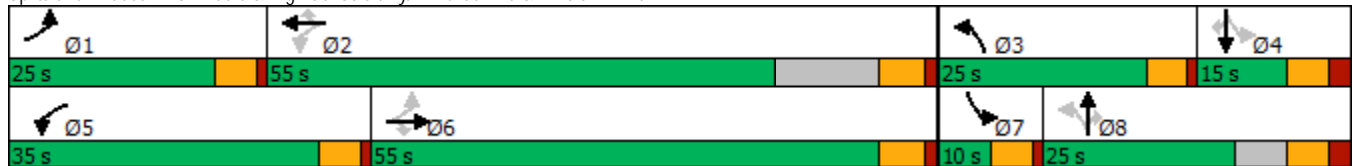
Cycle Length: 130

Actuated Cycle Length: 88.7

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

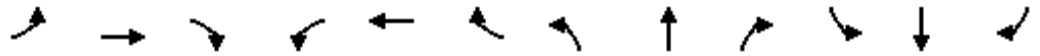
Splits and Phases: 3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

05/26/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	303	209	289	492	207	144	96	220	370	189	332
Future Volume (veh/h)	68	303	209	289	492	207	144	96	220	370	189	332
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1856	1856	1856	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	81	361	0	332	566	238	218	145	0	430	220	0
Peak Hour Factor	0.84	0.84	0.84	0.87	0.87	0.87	0.66	0.66	0.66	0.86	0.86	0.86
Percent Heavy Veh, %	6	6	6	3	3	3	2	2	2	1	1	1
Cap, veh/h	236	449		447	670	568	393	444		424	333	
Arrive On Green	0.05	0.25	0.00	0.17	0.36	0.36	0.12	0.24	0.00	0.06	0.18	0.00
Sat Flow, veh/h	1725	1811	1535	1767	1856	1572	1781	1870	1585	1795	1885	1598
Grp Volume(v), veh/h	81	361	0	332	566	238	218	145	0	430	220	0
Grp Sat Flow(s),veh/h/ln	1725	1811	1535	1767	1856	1572	1781	1870	1585	1795	1885	1598
Q Serve(g_s), s	2.7	14.7	0.0	10.2	22.0	8.9	7.4	5.0	0.0	5.0	8.5	0.0
Cycle Q Clear(g_c), s	2.7	14.7	0.0	10.2	22.0	8.9	7.4	5.0	0.0	5.0	8.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	236	449		447	670	568	393	444		424	333	
V/C Ratio(X)	0.34	0.80		0.74	0.84	0.42	0.56	0.33		1.01	0.66	
Avail Cap(c_a), veh/h	585	1135		830	1163	986	626	444		424	333	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.3	27.7	0.0	17.6	23.0	18.8	21.2	24.7	0.0	31.3	30.0	0.0
Incr Delay (d2), s/veh	0.9	3.4	0.0	2.5	3.0	0.5	1.2	2.0	0.0	47.5	9.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	6.2	0.0	3.8	9.0	3.2	3.1	2.4	0.0	11.0	4.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.2	31.1	0.0	20.1	26.0	19.3	22.5	26.6	0.0	78.7	39.9	0.0
LnGrp LOS	C	C		C	C	B	C	C		F	D	
Approach Vol, veh/h		442	A		1136			363	A		650	A
Approach Delay, s/veh		29.5			22.9			24.1			65.6	
Approach LOS		C			C			C			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	34.2	14.8	20.2	18.0	25.3	10.0	25.0				
Change Period (Y+Rc), s	5.0	* 5.9	5.0	6.4	5.0	* 5.9	5.0	6.4				
Max Green Setting (Gmax), s	20.0	* 49	20.0	8.6	30.0	* 49	5.0	18.6				
Max Q Clear Time (g_c+I1), s	4.7	24.0	9.4	10.5	12.2	16.7	7.0	7.0				
Green Ext Time (p_c), s	0.1	4.3	0.5	0.0	0.9	2.1	0.0	0.5				

Intersection Summary

HCM 6th Ctrl Delay	34.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC

4: Arnold Mill Rd & The King's Academy

05/26/2020

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	931	1039	13	0	2
Future Vol, veh/h	17	931	1039	13	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	225	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	83	83	25	25
Heavy Vehicles, %	5	5	4	4	0	0
Mvmt Flow	20	1095	1252	16	0	8

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1268	0	-	0	2387 1252
Stage 1	-	-	-	-	1252 -
Stage 2	-	-	-	-	1135 -
Critical Hdwy	4.15	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.245	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	538	-	-	-	38 212
Stage 1	-	-	-	-	272 -
Stage 2	-	-	-	-	309 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	538	-	-	-	37 212
Mov Cap-2 Maneuver	-	-	-	-	37 -
Stage 1	-	-	-	-	262 -
Stage 2	-	-	-	-	309 -

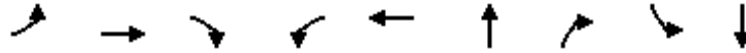
Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	22.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	538	-	-	-	212
HCM Lane V/C Ratio	0.037	-	-	-	0.038
HCM Control Delay (s)	11.9	-	-	-	22.6
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Timings

5: Trickum Rd & Arnold Mill Rd

05/26/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	2	325	579	186	536	3	70	4	17
Future Volume (vph)	2	325	579	186	536	3	70	4	17
Turn Type	pm+pt	NA	Perm	pm+pt	NA	NA	Perm	Perm	NA
Protected Phases	1	6		5	2	3			4
Permitted Phases	6		6	2			3	4	
Detector Phase	1	6	6	5	2	3	3	4	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	17.8	17.8	10.0	17.8	13.5	13.5	13.5	13.5
Total Split (s)	15.0	60.0	60.0	25.0	60.0	50.0	50.0	20.0	20.0
Total Split (%)	9.7%	38.7%	38.7%	16.1%	38.7%	32.3%	32.3%	12.9%	12.9%
Yellow Time (s)	4.0	4.3	4.3	4.0	4.3	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	5.0	5.8	5.8	5.0	5.8	5.5	5.5		5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max

Intersection Summary

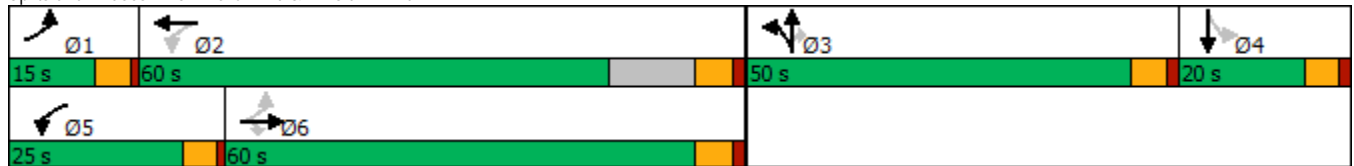
Cycle Length: 155

Actuated Cycle Length: 131.9

Natural Cycle: 140

Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Trickum Rd & Arnold Mill Rd



HCM Signalized Intersection Capacity Analysis

5: Trickum Rd & Arnold Mill Rd

05/26/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	325	579	186	536	3	475	3	70	4	17	9
Future Volume (vph)	2	325	579	186	536	3	475	3	70	4	17	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8	5.8	5.0	5.8			5.5	5.5		5.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.99	
Satd. Flow (prot)	1719	1810	1538	1770	1861			1724	1538		1690	
Flt Permitted	0.14	1.00	1.00	0.24	1.00			0.95	1.00		0.89	
Satd. Flow (perm)	258	1810	1538	439	1861			1724	1538		1515	
Peak-hour factor, PHF	0.89	0.89	0.89	0.83	0.83	0.83	0.70	0.70	0.70	0.94	0.94	0.94
Adj. Flow (vph)	2	365	651	224	646	4	679	4	100	4	18	10
RTOR Reduction (vph)	0	0	470	0	0	0	0	0	67	0	9	0
Lane Group Flow (vph)	2	365	181	224	650	0	0	683	33	0	23	0
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	5%	5%	5%	7%	7%	7%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2		3	3			4	
Permitted Phases	6		6	2					3	4		
Actuated Green, G (s)	38.7	37.7	37.7	59.6	53.6			44.9	44.9		14.6	
Effective Green, g (s)	38.7	37.7	37.7	59.6	53.6			44.9	44.9		14.6	
Actuated g/C Ratio	0.28	0.28	0.28	0.44	0.39			0.33	0.33		0.11	
Clearance Time (s)	5.0	5.8	5.8	5.0	5.8			5.5	5.5		5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	84	502	426	358	733			569	508		162	
v/s Ratio Prot	0.00	0.20		c0.08	c0.35			c0.40				
v/s Ratio Perm	0.01		0.12	0.20					0.02		c0.02	
v/c Ratio	0.02	0.73	0.42	0.63	0.89			1.20	0.07		0.14	
Uniform Delay, d1	37.1	44.4	40.2	27.3	38.3			45.5	31.1		55.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	5.2	0.7	3.4	12.5			106.2	0.1		1.8	
Delay (s)	37.2	49.6	40.9	30.7	50.8			151.7	31.2		56.8	
Level of Service	D	D	D	C	D			F	C		E	
Approach Delay (s)		44.0			45.6			136.3			56.8	
Approach LOS		D			D			F			E	
Intersection Summary												
HCM 2000 Control Delay			71.4			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			135.9			Sum of lost time (s)			21.8			
Intersection Capacity Utilization			78.4%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
6: Farmington Dr & Arnold Mill Rd

05/26/2020

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	381	5	2	733	6	13	1	3	7	0	32
Future Vol, veh/h	5	381	5	2	733	6	13	1	3	7	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	84	84	84	85	85	85	77	77	77
Heavy Vehicles, %	4	4	4	3	3	3	6	6	6	3	3	3
Mvmt Flow	6	470	6	2	873	7	15	1	4	9	0	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	880	0	0	476	0	0	1387	1369	473	1369	1369	877
Stage 1	-	-	-	-	-	-	485	485	-	881	881	-
Stage 2	-	-	-	-	-	-	902	884	-	488	488	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.16	6.56	6.26	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.56	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.56	-	6.13	5.53	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.554	4.054	3.354	3.527	4.027	3.327
Pot Cap-1 Maneuver	760	-	-	1081	-	-	118	144	583	123	146	346
Stage 1	-	-	-	-	-	-	556	545	-	340	363	-
Stage 2	-	-	-	-	-	-	327	358	-	559	548	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	760	-	-	1081	-	-	103	142	583	120	144	346
Mov Cap-2 Maneuver	-	-	-	-	-	-	103	142	-	120	144	-
Stage 1	-	-	-	-	-	-	550	539	-	336	362	-
Stage 2	-	-	-	-	-	-	287	357	-	548	542	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	39.9	22.2
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	123	760	-	-	1081	-	-	259
HCM Lane V/C Ratio	0.163	0.008	-	-	0.002	-	-	0.196
HCM Control Delay (s)	39.9	9.8	0	-	8.3	0	-	22.2
HCM Lane LOS	E	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.6	0	-	-	0	-	-	0.7

Timings

7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

05/26/2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	67	118	47	317	244	325	67	310
Future Volume (vph)	67	118	47	317	244	325	67	310
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	3	8	7	4
Permitted Phases	6		2		8		4	
Detector Phase	1	6	5	2	3	8	7	4
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	21.0	12.0	21.0	12.0	21.0	12.0	12.0
Total Split (s)	15.0	45.0	20.0	45.0	15.0	40.0	12.0	50.0
Total Split (%)	11.5%	34.6%	15.4%	34.6%	11.5%	30.8%	9.2%	38.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None

Intersection Summary

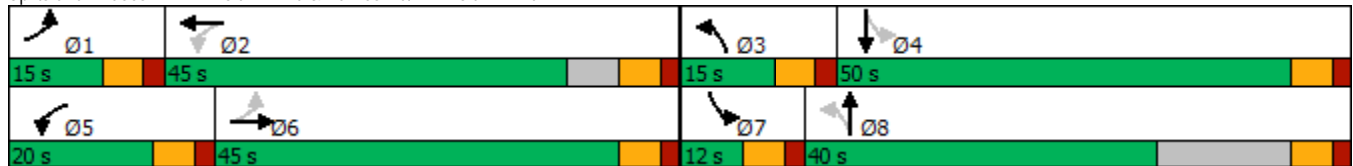
Cycle Length: 130

Actuated Cycle Length: 107.9

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd



HCM 6th Signalized Intersection Summary

7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

05/26/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	118	224	47	317	303	244	325	28	67	310	8
Future Volume (veh/h)	67	118	224	47	317	303	244	325	28	67	310	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1841	1841	1841	1826	1826	1826	1856	1856	1856
Adj Flow Rate, veh/h	72	127	241	55	369	352	284	378	33	88	408	11
Peak Hour Factor	0.93	0.93	0.93	0.86	0.86	0.86	0.86	0.86	0.86	0.76	0.76	0.76
Percent Heavy Veh, %	7	7	7	4	4	4	5	5	5	3	3	3
Cap, veh/h	155	210	399	344	324	309	258	482	42	242	464	13
Arrive On Green	0.05	0.38	0.38	0.05	0.37	0.37	0.09	0.29	0.29	0.05	0.26	0.26
Sat Flow, veh/h	1711	555	1052	1753	866	826	1739	1655	145	1767	1798	48
Grp Volume(v), veh/h	72	0	368	55	0	721	284	0	411	88	0	419
Grp Sat Flow(s),veh/h/ln	1711	0	1607	1753	0	1692	1739	0	1800	1767	0	1847
Q Serve(g_s), s	2.6	0.0	19.2	2.0	0.0	39.0	9.0	0.0	21.8	3.8	0.0	22.7
Cycle Q Clear(g_c), s	2.6	0.0	19.2	2.0	0.0	39.0	9.0	0.0	21.8	3.8	0.0	22.7
Prop In Lane	1.00		0.65	1.00		0.49	1.00		0.08	1.00		0.03
Lane Grp Cap(c), veh/h	155	0	609	344	0	634	258	0	524	242	0	477
V/C Ratio(X)	0.46	0.00	0.60	0.16	0.00	1.14	1.10	0.00	0.78	0.36	0.00	0.88
Avail Cap(c_a), veh/h	217	0	609	499	0	634	258	0	588	250	0	780
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.3	0.0	26.0	19.8	0.0	32.6	33.4	0.0	33.9	27.8	0.0	37.1
Incr Delay (d2), s/veh	2.1	0.0	1.7	0.2	0.0	80.1	86.4	0.0	6.2	0.9	0.0	6.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	7.4	0.8	0.0	29.3	8.4	0.0	9.9	1.6	0.0	10.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.4	0.0	27.7	20.0	0.0	112.6	119.8	0.0	40.1	28.7	0.0	43.8
LnGrp LOS	C	A	C	C	A	F	F	A	D	C	A	D
Approach Vol, veh/h		440			776			695			507	
Approach Delay, s/veh		27.7			106.1			72.6			41.2	
Approach LOS		C			F			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.3	45.0	15.0	32.9	10.8	45.5	11.5	36.3				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	39.0	9.0	44.0	14.0	39.0	6.0	34.0				
Max Q Clear Time (g_c+I1), s	4.6	41.0	11.0	24.7	4.0	21.2	5.8	23.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.2	0.1	2.2	0.0	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			68.6									
HCM 6th LOS			E									

HCM 6th TWSC
8: Arnold Mill Rd & Hendon Rd

05/26/2020

Intersection						
Int Delay, s/veh	9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	1	562	586	38	50	10
Future Vol, veh/h	1	562	586	38	50	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	66	66	83	83	49	49
Heavy Vehicles, %	4	4	4	4	9	9
Mvmt Flow	2	852	706	46	102	20
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	752	0	-	0	1585	729
Stage 1	-	-	-	-	729	-
Stage 2	-	-	-	-	856	-
Critical Hdwy	4.14	-	-	-	6.49	6.29
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.49	-
Follow-up Hdwy	2.236	-	-	-	3.581	3.381
Pot Cap-1 Maneuver	849	-	-	-	115	411
Stage 1	-	-	-	-	465	-
Stage 2	-	-	-	-	405	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	849	-	-	-	115	411
Mov Cap-2 Maneuver	-	-	-	-	115	-
Stage 1	-	-	-	-	463	-
Stage 2	-	-	-	-	405	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		126.3		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	849	-	-	-	131	
HCM Lane V/C Ratio	0.002	-	-	-	0.935	
HCM Control Delay (s)	9.2	0	-	-	126.3	
HCM Lane LOS	A	A	-	-	F	
HCM 95th %tile Q(veh)	0	-	-	-	6.3	

HCM 6th TWSC

9: Arnold Mill Rd & N Arnold Mill Rd

05/26/2020

Intersection						
Int Delay, s/veh	61.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	27	364	302	81	321	56
Future Vol, veh/h	27	364	302	81	321	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	91	91	86	86
Heavy Vehicles, %	5	5	2	2	5	5
Mvmt Flow	31	414	332	89	373	65

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	421	0	0	853	377
Stage 1	-	-	-	377	-
Stage 2	-	-	-	476	-
Critical Hdwy	4.15	-	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	5.45	-
Follow-up Hdwy	2.245	-	-	3.545	3.345
Pot Cap-1 Maneuver	1122	-	-	~ 326	663
Stage 1	-	-	-	687	-
Stage 2	-	-	-	619	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1122	-	-	~ 314	663
Mov Cap-2 Maneuver	-	-	-	~ 314	-
Stage 1	-	-	-	662	-
Stage 2	-	-	-	619	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	181
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1122	-	-	-	341
HCM Lane V/C Ratio	0.027	-	-	-	1.286
HCM Control Delay (s)	8.3	0	-	-	181
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	20.3

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th AWSC

10: English Ivy Way/Mountain Rd & Arnold Mill Rd

05/26/2020

Intersection	
Intersection Delay, s/veh	106.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	120	625	2	0	209	55	1	5	7	33	9	155
Future Vol, veh/h	120	625	2	0	209	55	1	5	7	33	9	155
Peak Hour Factor	0.96	0.96	0.96	0.83	0.83	0.83	0.65	0.65	0.65	0.62	0.62	0.62
Heavy Vehicles, %	1	1	1	4	4	4	8	8	8	2	2	2
Mvmt Flow	125	651	2	0	252	66	2	8	11	53	15	250
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	182.2	16.8	11.5	17.3
HCM LOS	F	C	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	8%	16%	0%	0%	17%
Vol Thru, %	38%	84%	0%	79%	5%
Vol Right, %	54%	0%	100%	21%	79%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	13	745	2	264	197
LT Vol	1	120	0	0	33
Through Vol	5	625	0	209	9
RT Vol	7	0	2	55	155
Lane Flow Rate	20	776	2	318	318
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.04	1.338	0.003	0.535	0.539
Departure Headway (Hd)	8.153	6.205	5.412	6.545	6.74
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	442	590	661	553	540
Service Time	6.153	3.944	3.15	4.545	4.74
HCM Lane V/C Ratio	0.045	1.315	0.003	0.575	0.589
HCM Control Delay	11.5	182.7	8.2	16.8	17.3
HCM Lane LOS	B	F	A	C	C
HCM 95th-tile Q	0.1	33.1	0	3.1	3.2

HCM 6th TWSC
11: River Laurel Way & Arnold Mill Rd

05/26/2020

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕		↕			↕	
Traffic Vol, veh/h	8	652	11	7	132	2	26	1	59	21	0	23
Future Vol, veh/h	8	652	11	7	132	2	26	1	59	21	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	110	-	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	88	88	88	93	93	93	79	79	79
Heavy Vehicles, %	2	2	2	5	5	5	2	2	2	5	5	5
Mvmt Flow	8	686	12	8	150	2	28	1	63	27	0	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	152	0	0	698	0	0	884	870	686	906	880	150
Stage 1	-	-	-	-	-	-	702	702	-	166	166	-
Stage 2	-	-	-	-	-	-	182	168	-	740	714	-
Critical Hdwy	4.12	-	-	4.15	-	-	7.12	6.52	6.22	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.15	5.55	-
Follow-up Hdwy	2.218	-	-	2.245	-	-	3.518	4.018	3.318	3.545	4.045	3.345
Pot Cap-1 Maneuver	1429	-	-	885	-	-	266	290	447	254	283	889
Stage 1	-	-	-	-	-	-	429	440	-	829	755	-
Stage 2	-	-	-	-	-	-	820	759	-	404	430	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1429	-	-	885	-	-	253	284	447	214	278	889
Mov Cap-2 Maneuver	-	-	-	-	-	-	253	284	-	214	278	-
Stage 1	-	-	-	-	-	-	425	436	-	822	747	-
Stage 2	-	-	-	-	-	-	785	751	-	343	426	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.5	18.4	17
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	361	1429	-	-	885	-	-	355
HCM Lane V/C Ratio	0.256	0.006	-	-	0.009	-	-	0.157
HCM Control Delay (s)	18.4	7.5	0	-	9.1	0	-	17
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	1	0	-	-	0	-	-	0.6

HCM 6th TWSC
12: Arnold Mill Rd & Grimes Rd

05/26/2020

Intersection						
Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	45	101	0	45	709
Future Vol, veh/h	28	45	101	0	45	709
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	71	71	76	76	95	95
Heavy Vehicles, %	5	5	6	6	1	1
Mvmt Flow	39	63	133	0	47	746

Major/Minor	Minor1	Major1	Major2	Major2	Major2
Conflicting Flow All	973	133	0	0	133
Stage 1	133	-	-	-	-
Stage 2	840	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.11
Critical Hdwy Stg 1	5.45	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.209
Pot Cap-1 Maneuver	276	908	-	-	1458
Stage 1	886	-	-	-	-
Stage 2	419	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	261	908	-	-	1458
Mov Cap-2 Maneuver	261	-	-	-	-
Stage 1	886	-	-	-	-
Stage 2	396	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.9	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	465	1458	-
HCM Lane V/C Ratio	-	-	0.221	0.032	-
HCM Control Delay (s)	-	-	14.9	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.8	0.1	-

HCM 6th TWSC
13: SR 140 & Arnold Mill Rd

05/26/2020

Intersection						
Int Delay, s/veh	204.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	705	97	274	736	6
Future Vol, veh/h	0	705	97	274	736	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	-	200	-	-	210
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	90	90	92	92
Heavy Vehicles, %	1	1	5	5	1	1
Mvmt Flow	0	801	108	304	800	7

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	1320	800	800	0	0
Stage 1	800	-	-	-	-
Stage 2	520	-	-	-	-
Critical Hdwy	6.41	6.21	4.15	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.245	-	-
Pot Cap-1 Maneuver	174	~ 387	810	-	-
Stage 1	444	-	-	-	-
Stage 2	599	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	151	~ 387	810	-	-
Mov Cap-2 Maneuver	278	-	-	-	-
Stage 1	385	-	-	-	-
Stage 2	599	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	\$ 513.2	2.6	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	810	-	387	-	-
HCM Lane V/C Ratio	0.133	-	2.07	-	-
HCM Control Delay (s)	10.1	-	\$ 513.2	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.5	-	57	-	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th TWSC
201: Arnold Mill Rd & Druw Cameron Ct

05/26/2020

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	808	753	4	4	0
Future Vol, veh/h	0	808	753	4	4	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	71	71	87	87	50	50
Heavy Vehicles, %	3	3	3	3	25	25
Mvmt Flow	0	1138	866	5	8	0
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	871	0	-	0	2007	869
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	1138	-
Critical Hdwy	4.13	-	-	-	6.65	6.45
Critical Hdwy Stg 1	-	-	-	-	5.65	-
Critical Hdwy Stg 2	-	-	-	-	5.65	-
Follow-up Hdwy	2.227	-	-	-	3.725	3.525
Pot Cap-1 Maneuver	770	-	-	-	56	320
Stage 1	-	-	-	-	375	-
Stage 2	-	-	-	-	276	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	770	-	-	-	56	320
Mov Cap-2 Maneuver	-	-	-	-	56	-
Stage 1	-	-	-	-	375	-
Stage 2	-	-	-	-	276	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		79.7		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	770	-	-	-	56	
HCM Lane V/C Ratio	-	-	-	-	0.143	
HCM Control Delay (s)	0	-	-	-	79.7	
HCM Lane LOS	A	-	-	-	F	
HCM 95th %tile Q(veh)	0	-	-	-	0.5	

HCM 6th TWSC
202: Little River Dr & Arnold Mill Rd

05/26/2020

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	813	3	13	754	4	15
Future Vol, veh/h	813	3	13	754	4	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	88	88	95	95
Heavy Vehicles, %	3	3	3	3	5	5
Mvmt Flow	1129	4	15	857	4	16

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	1133	0
Stage 1	-	-	-	1131
Stage 2	-	-	-	887
Critical Hdwy	-	-	4.13	-
Critical Hdwy Stg 1	-	-	-	5.45
Critical Hdwy Stg 2	-	-	-	5.45
Follow-up Hdwy	-	-	2.227	-
Pot Cap-1 Maneuver	-	-	613	-
Stage 1	-	-	-	304
Stage 2	-	-	-	398
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	613	-
Mov Cap-2 Maneuver	-	-	-	60
Stage 1	-	-	-	304
Stage 2	-	-	-	379

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	33.1
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	148	-	-	613	-
HCM Lane V/C Ratio	0.135	-	-	0.024	-
HCM Control Delay (s)	33.1	-	-	11	0
HCM Lane LOS	D	-	-	B	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

HCM 6th TWSC
203: Arnold Mill Rd & N River Dr

05/26/2020

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	828	754	5	10	11
Future Vol, veh/h	4	828	754	5	10	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	72	72	86	86	88	88
Heavy Vehicles, %	3	3	3	3	10	10
Mvmt Flow	6	1150	877	6	11	13

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	883	0	-	0	2042 880
Stage 1	-	-	-	-	880 -
Stage 2	-	-	-	-	1162 -
Critical Hdwy	4.13	-	-	-	6.5 6.3
Critical Hdwy Stg 1	-	-	-	-	5.5 -
Critical Hdwy Stg 2	-	-	-	-	5.5 -
Follow-up Hdwy	2.227	-	-	-	3.59 3.39
Pot Cap-1 Maneuver	762	-	-	-	59 335
Stage 1	-	-	-	-	393 -
Stage 2	-	-	-	-	287 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	762	-	-	-	58 335
Mov Cap-2 Maneuver	-	-	-	-	58 -
Stage 1	-	-	-	-	384 -
Stage 2	-	-	-	-	287 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	50.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	762	-	-	-	102
HCM Lane V/C Ratio	0.007	-	-	-	0.234
HCM Control Delay (s)	9.8	0	-	-	50.8
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	0.8

HCM 6th TWSC

401: Arnold Mill Rd & Kings Academy Exit

05/26/2020

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	931	1048	0	6	2
Future Vol, veh/h	0	931	1048	0	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	82	82	33	33
Heavy Vehicles, %	5	5	4	4	0	0
Mvmt Flow	0	1083	1278	0	18	6
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	-	0	-	0	2361	1278
Stage 1	-	-	-	-	1278	-
Stage 2	-	-	-	-	1083	-
Critical Hdwy	-	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	0	-	-	0	39	205
Stage 1	0	-	-	0	264	-
Stage 2	0	-	-	0	328	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	39	205
Mov Cap-2 Maneuver	-	-	-	-	39	-
Stage 1	-	-	-	-	264	-
Stage 2	-	-	-	-	328	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		126.5		
HCM LOS				F		
Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2		
Capacity (veh/h)	-	-	39	205		
HCM Lane V/C Ratio	-	-	0.466	0.03		
HCM Control Delay (s)	-	-	161	23.1		
HCM Lane LOS	-	-	F	C		
HCM 95th %tile Q(veh)	-	-	1.6	0.1		

Intersection: 1: Neese Rd & Arnold Mill Rd

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	376	175	200	464	199	260
Average Queue (ft)	196	102	148	170	65	119
95th Queue (ft)	299	206	209	328	150	214
Link Distance (ft)	953			2079		1373
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		100	150		125	
Storage Blk Time (%)	33	0	12	6	1	6
Queuing Penalty (veh)	70	2	52	21	3	5

Intersection: 3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	L	T	R	L	T	L	T	R
Maximum Queue (ft)	185	300	184	437	275	112	138	250	722	199
Average Queue (ft)	62	141	109	179	64	61	61	221	392	46
95th Queue (ft)	152	247	161	305	162	108	122	298	804	177
Link Distance (ft)		3115		606		1077	1077		707	
Upstream Blk Time (%)									8	
Queuing Penalty (veh)									0	
Storage Bay Dist (ft)	135		275		200			200		150
Storage Blk Time (%)		12		6				55	1	7
Queuing Penalty (veh)		32		28				289	7	39

Intersection: 4: Arnold Mill Rd & The King's Academy

Movement	EB
Directions Served	L
Maximum Queue (ft)	55
Average Queue (ft)	10
95th Queue (ft)	36
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	225
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Trickum Rd & Arnold Mill Rd

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	T	R	L	TR	LT	R	LTR
Maximum Queue (ft)	431	300	225	477	575	200	74
Average Queue (ft)	206	152	174	285	441	64	24
95th Queue (ft)	334	291	276	426	614	218	54
Link Distance (ft)	541			1043	512		444
Upstream Blk Time (%)					9		
Queuing Penalty (veh)					0		
Storage Bay Dist (ft)		250	175			150	
Storage Blk Time (%)	19	1	1	25	54		
Queuing Penalty (veh)	109	3	5	46	38		

Intersection: 6: Farmington Dr & Arnold Mill Rd

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	68	17	72	52
Average Queue (ft)	7	1	11	24
95th Queue (ft)	33	6	39	51
Link Distance (ft)	1043	2457	474	443
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	136	268	260	468	169	349	160	564
Average Queue (ft)	50	122	135	423	130	206	72	228
95th Queue (ft)	96	213	327	440	203	345	176	435
Link Distance (ft)		368		405		1367		2457
Upstream Blk Time (%)				70				
Queuing Penalty (veh)				0				
Storage Bay Dist (ft)	90		90		120		110	
Storage Blk Time (%)	2	18	0	65	15	15	0	24
Queuing Penalty (veh)	7	12	0	31	52	37	0	16

Intersection: 8: Arnold Mill Rd & Hendon Rd

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	120	98
Average Queue (ft)	4	36
95th Queue (ft)	41	68
Link Distance (ft)	372	292
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Arnold Mill Rd & N Arnold Mill Rd

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	90	394
Average Queue (ft)	13	128
95th Queue (ft)	51	228
Link Distance (ft)	2322	542
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: English Ivy Way/Mountain Rd & Arnold Mill Rd

Movement	EB	B37	WB	NB	SB
Directions Served	LT	T	LTR	LTR	LTR
Maximum Queue (ft)	520	841	90	30	134
Average Queue (ft)	152	25	39	3	42
95th Queue (ft)	355	191	64	18	64
Link Distance (ft)	450	3255	670	1071	539
Upstream Blk Time (%)	7				
Queuing Penalty (veh)	47				
Storage Bay Dist (ft)					
Storage Blk Time (%)	32				
Queuing Penalty (veh)	1				

Intersection: 11: River Laurel Way & Arnold Mill Rd

Movement	EB	EB	B44	B43	B40	WB	NB	SB
Directions Served	LT	R	T	T	T	LT	LTR	LTR
Maximum Queue (ft)	700	160	1278	1169	747	24	354	287
Average Queue (ft)	495	34	670	403	123	2	233	167
95th Queue (ft)	974	142	1598	1262	520	11	433	325
Link Distance (ft)	609		1188	1078	670	1044	320	253
Upstream Blk Time (%)	66		42	30	8		64	47
Queuing Penalty (veh)	437		277	198	55		0	0
Storage Bay Dist (ft)		110						
Storage Blk Time (%)	75							
Queuing Penalty (veh)	8							

Intersection: 12: Arnold Mill Rd & Grimes Rd

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	514	1060
Average Queue (ft)	337	860
95th Queue (ft)	659	1498
Link Distance (ft)	506	1044
Upstream Blk Time (%)	49	38
Queuing Penalty (veh)	0	279
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: SR 140 & Arnold Mill Rd

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	1332	64
Average Queue (ft)	1244	32
95th Queue (ft)	1633	47
Link Distance (ft)	1317	
Upstream Blk Time (%)	41	
Queuing Penalty (veh)	303	
Storage Bay Dist (ft)		200
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 201: Arnold Mill Rd & Druw Cameron Ct

Movement	SB
Directions Served	LR
Maximum Queue (ft)	48
Average Queue (ft)	6
95th Queue (ft)	27
Link Distance (ft)	662
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 202: Little River Dr & Arnold Mill Rd

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	116	52
Average Queue (ft)	11	14
95th Queue (ft)	53	42
Link Distance (ft)	167	748
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 203: Arnold Mill Rd & N River Dr

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	31	28
Average Queue (ft)	1	10
95th Queue (ft)	11	31
Link Distance (ft)	167	548
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 401: Arnold Mill Rd & Kings Academy Exit

Movement	WB	SB	SB
Directions Served	T	L	R
Maximum Queue (ft)	42	40	27
Average Queue (ft)	2	11	2
95th Queue (ft)	17	29	13
Link Distance (ft)	123	373	373
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

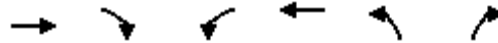
Network Summary

Network wide Queuing Penalty: 2506

Timings

1: Neese Rd & Arnold Mill Rd

05/26/2020



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↘	↗
Traffic Volume (vph)	527	224	154	605	256	306
Future Volume (vph)	527	224	154	605	256	306
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	59.0	59.0	21.0	80.0	40.0	40.0
Total Split (%)	49.2%	49.2%	17.5%	66.7%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	Max	Max

Intersection Summary

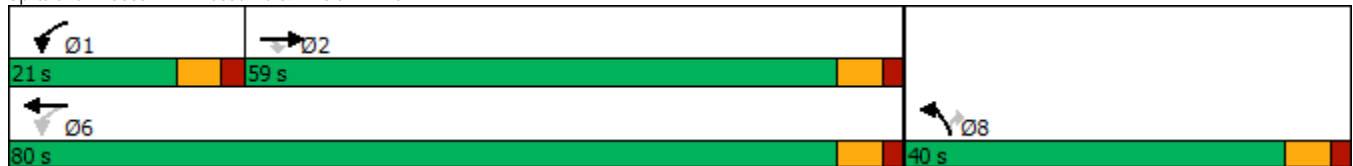
Cycle Length: 120

Actuated Cycle Length: 104.1

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

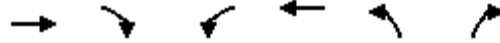
Splits and Phases: 1: Neese Rd & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

1: Neese Rd & Arnold Mill Rd

05/26/2020



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (veh/h)	527	224	154	605	256	306
Future Volume (veh/h)	527	224	154	605	256	306
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	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	643	273	186	729	269	322
Peak Hour Factor	0.82	0.82	0.83	0.83	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	729	618	263	999	624	555
Arrive On Green	0.39	0.39	0.08	0.53	0.35	0.35
Sat Flow, veh/h	1885	1598	1795	1885	1795	1598
Grp Volume(v), veh/h	643	273	186	729	269	322
Grp Sat Flow(s),veh/h/ln	1885	1598	1795	1885	1795	1598
Q Serve(g_s), s	31.1	12.4	5.8	29.0	11.3	16.1
Cycle Q Clear(g_c), s	31.1	12.4	5.8	29.0	11.3	16.1
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	729	618	263	999	624	555
V/C Ratio(X)	0.88	0.44	0.71	0.73	0.43	0.58
Avail Cap(c_a), veh/h	1021	865	392	1426	624	555
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	27.9	22.2	21.6	17.6	24.5	26.1
Incr Delay (d2), s/veh	6.8	0.5	3.5	1.1	2.2	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.2	4.4	2.4	11.2	5.1	6.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	34.7	22.7	25.1	18.8	26.7	30.5
LnGrp LOS	C	C	C	B	C	C
Approach Vol, veh/h	916			915	591	
Approach Delay, s/veh	31.1			20.0	28.7	
Approach LOS	C			C	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	14.0	43.9			57.9	40.0
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	15.0	53.0			74.0	34.0
Max Q Clear Time (g_c+I1), s	7.8	33.1			31.0	18.1
Green Ext Time (p_c), s	0.3	4.8			5.3	1.9
Intersection Summary						
HCM 6th Ctrl Delay			26.4			
HCM 6th LOS			C			

Timings

3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

05/26/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	239	579	18	116	644	536	25	24	80	343	34	174
Future Volume (vph)	239	579	18	116	644	536	25	24	80	343	34	174
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	20.9	20.9	11.0	20.9	20.9	11.0	12.4	12.4	10.0	12.4	12.4
Total Split (s)	25.0	55.0	55.0	35.0	55.0	55.0	25.0	40.0	40.0	25.0	25.0	25.0
Total Split (%)	16.1%	35.5%	35.5%	22.6%	35.5%	35.5%	16.1%	25.8%	25.8%	16.1%	16.1%	16.1%
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.4	1.4	1.0	1.4	1.4	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.9	5.9	5.0	5.9	5.9	5.0	6.4	6.4	5.0	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 155

Actuated Cycle Length: 145

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

05/26/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	239	579	18	116	644	536	25	24	80	343	34	174
Future Volume (veh/h)	239	579	18	116	644	536	25	24	80	343	34	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1885	1885	1885
Adj Flow Rate, veh/h	288	698	0	140	776	646	32	30	0	423	42	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.79	0.79	0.79	0.81	0.81	0.81
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	1	1	1
Cap, veh/h	297	774		216	638	541	416	440		602	650	
Arrive On Green	0.14	0.41	0.00	0.07	0.34	0.34	0.02	0.23	0.00	0.14	0.34	0.00
Sat Flow, veh/h	1795	1885	1598	1795	1885	1598	1810	1900	1610	1795	1885	1598
Grp Volume(v), veh/h	288	698	0	140	776	646	32	30	0	423	42	0
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1795	1885	1598	1810	1900	1610	1795	1885	1598
Q Serve(g_s), s	19.1	50.3	0.0	7.3	49.1	49.1	1.9	1.8	0.0	20.0	2.2	0.0
Cycle Q Clear(g_c), s	19.1	50.3	0.0	7.3	49.1	49.1	1.9	1.8	0.0	20.0	2.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	297	774		216	638	541	416	440		602	650	
V/C Ratio(X)	0.97	0.90		0.65	1.22	1.19	0.08	0.07		0.70	0.06	
Avail Cap(c_a), veh/h	297	774		469	638	541	621	440		602	650	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	47.7	40.0	0.0	34.6	48.0	47.9	40.8	43.5	0.0	37.3	31.8	0.0
Incr Delay (d2), s/veh	43.6	13.8	0.0	3.2	110.9	104.5	0.1	0.3	0.0	3.7	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.9	25.3	0.0	3.3	41.9	35.3	0.9	0.9	0.0	3.5	1.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	91.3	53.8	0.0	37.8	158.9	152.4	40.9	43.8	0.0	41.0	32.0	0.0
LnGrp LOS	F	D		D	F	F	D	D		D	C	
Approach Vol, veh/h		986	A		1562			62	A		465	A
Approach Delay, s/veh		64.8			145.4			42.3			40.2	
Approach LOS		E			F			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.0	55.0	8.6	56.4	14.6	65.4	25.0	40.0				
Change Period (Y+Rc), s	5.0	* 5.9	5.0	6.4	5.0	* 5.9	5.0	6.4				
Max Green Setting (Gmax), s	20.0	* 49	20.0	18.6	30.0	* 49	20.0	33.6				
Max Q Clear Time (g_c+I1), s	21.1	51.1	3.9	4.2	9.3	52.3	22.0	3.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.3	0.0	0.0	0.1				

Intersection Summary

HCM 6th Ctrl Delay	101.5
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC

4: Arnold Mill Rd & The King's Academy

05/26/2020

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	973	1324	3	3	4
Future Vol, veh/h	9	973	1324	3	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	225	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	82	82	38	38
Heavy Vehicles, %	1	1	2	2	33	33
Mvmt Flow	11	1187	1615	4	8	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1619	0	-	0	2824 1615
Stage 1	-	-	-	-	1615 -
Stage 2	-	-	-	-	1209 -
Critical Hdwy	4.11	-	-	-	6.73 6.53
Critical Hdwy Stg 1	-	-	-	-	5.73 -
Critical Hdwy Stg 2	-	-	-	-	5.73 -
Follow-up Hdwy	2.209	-	-	-	3.797 3.597
Pot Cap-1 Maneuver	405	-	-	-	15 108
Stage 1	-	-	-	-	151 -
Stage 2	-	-	-	-	245 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	405	-	-	-	15 108
Mov Cap-2 Maneuver	-	-	-	-	15 -
Stage 1	-	-	-	-	147 -
Stage 2	-	-	-	-	245 -

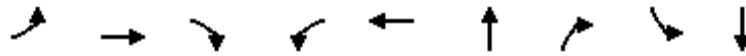
Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	239.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	405	-	-	-	30
HCM Lane V/C Ratio	0.027	-	-	-	0.614
HCM Control Delay (s)	14.1	-	-	-	239.9
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	2

Timings

5: Trickum Rd & Arnold Mill Rd

05/26/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	14	524	417	74	609	11	63	11	8
Future Volume (vph)	14	524	417	74	609	11	63	11	8
Turn Type	pm+pt	NA	Perm	pm+pt	NA	NA	Perm	Perm	NA
Protected Phases	1	6		5	2	3			4
Permitted Phases	6		6	2			3	4	
Detector Phase	1	6	6	5	2	3	3	4	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	17.8	17.8	10.0	17.8	13.5	13.5	13.5	13.5
Total Split (s)	15.0	60.0	60.0	25.0	60.0	50.0	50.0	20.0	20.0
Total Split (%)	9.7%	38.7%	38.7%	16.1%	38.7%	32.3%	32.3%	12.9%	12.9%
Yellow Time (s)	4.0	4.3	4.3	4.0	4.3	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	5.0	5.8	5.8	5.0	5.8	5.5	5.5		5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max

Intersection Summary

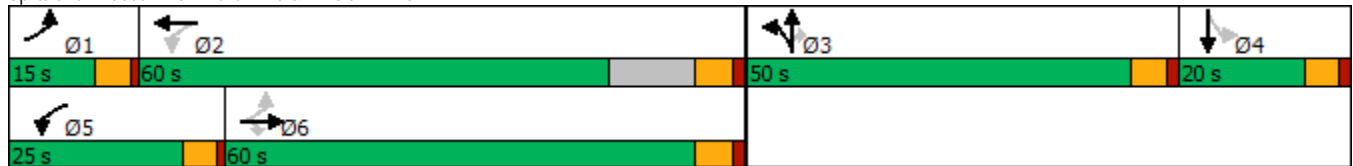
Cycle Length: 155

Actuated Cycle Length: 138.7

Natural Cycle: 160

Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Trickum Rd & Arnold Mill Rd



HCM Signalized Intersection Capacity Analysis

5: Trickum Rd & Arnold Mill Rd

05/26/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	14	524	417	74	609	6	699	11	63	11	8	9	
Future Volume (vph)	14	524	417	74	609	6	699	11	63	11	8	9	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	5.8	5.8	5.0	5.8			5.5	5.5		5.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00		
Flt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.96		
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.98		
Satd. Flow (prot)	1787	1881	1599	1787	1879			1775	1583		1713		
Flt Permitted	0.13	1.00	1.00	0.11	1.00			0.95	1.00		0.62		
Satd. Flow (perm)	246	1881	1599	206	1879			1775	1583		1090		
Peak-hour factor, PHF	0.90	0.90	0.90	0.94	0.94	0.94	0.93	0.93	0.93	0.70	0.70	0.70	
Adj. Flow (vph)	16	582	463	79	648	6	752	12	68	16	11	13	
RTOR Reduction (vph)	0	0	200	0	0	0	0	0	47	0	11	0	
Lane Group Flow (vph)	16	582	263	79	654	0	0	764	21	0	29	0	
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	4%	4%	4%	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Perm	NA		
Protected Phases	1	6		5	2		3	3			4		
Permitted Phases	6		6	2					3	4			
Actuated Green, G (s)	53.9	51.3	51.3	65.7	58.1			44.7	44.7		14.6		
Effective Green, g (s)	53.9	51.3	51.3	65.7	58.1			44.7	44.7		14.6		
Actuated g/C Ratio	0.38	0.36	0.36	0.46	0.41			0.32	0.32		0.10		
Clearance Time (s)	5.0	5.8	5.8	5.0	5.8			5.5	5.5		5.5		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0		
Lane Grp Cap (vph)	121	680	578	200	769			559	499		112		
v/s Ratio Prot	0.00	0.31		c0.03	c0.35			c0.43					
v/s Ratio Perm	0.05		0.16	0.16					0.01		c0.03		
v/c Ratio	0.13	0.86	0.46	0.40	0.85			1.37	0.04		0.26		
Uniform Delay, d1	31.9	41.8	34.6	28.4	37.9			48.6	33.7		58.6		
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00		
Incremental Delay, d2	0.5	10.3	0.6	1.3	8.9			176.3	0.0		5.6		
Delay (s)	32.4	52.1	35.1	29.7	46.8			224.8	33.7		64.2		
Level of Service	C	D	D	C	D			F	C		E		
Approach Delay (s)		44.4			45.0			209.2			64.2		
Approach LOS		D			D			F			E		
Intersection Summary													
HCM 2000 Control Delay			96.3									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			0.97										
Actuated Cycle Length (s)			141.8									Sum of lost time (s)	21.8
Intersection Capacity Utilization			95.3%									ICU Level of Service	F
Analysis Period (min)			15										
c Critical Lane Group													

HCM 6th TWSC
6: Farmington Dr & Arnold Mill Rd

05/26/2020

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	40	535	13	2	629	5	10	0	1	3	0	31
Future Vol, veh/h	40	535	13	2	629	5	10	0	1	3	0	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	96	96	96	69	69	69	85	85	85
Heavy Vehicles, %	1	1	1	1	1	1	0	0	0	6	6	6
Mvmt Flow	42	563	14	2	655	5	14	0	1	4	0	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	660	0	0	577	0	0	1334	1318	570	1317	1323	658
Stage 1	-	-	-	-	-	-	654	654	-	662	662	-
Stage 2	-	-	-	-	-	-	680	664	-	655	661	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.1	6.5	6.2	7.16	6.56	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.16	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.16	5.56	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.5	4	3.3	3.554	4.054	3.354
Pot Cap-1 Maneuver	933	-	-	1001	-	-	132	159	525	132	153	457
Stage 1	-	-	-	-	-	-	459	466	-	444	453	-
Stage 2	-	-	-	-	-	-	444	461	-	448	454	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	933	-	-	1001	-	-	115	148	525	125	142	457
Mov Cap-2 Maneuver	-	-	-	-	-	-	115	148	-	125	142	-
Stage 1	-	-	-	-	-	-	429	435	-	415	452	-
Stage 2	-	-	-	-	-	-	407	460	-	417	424	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	38.3	15.9
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	124	933	-	-	1001	-	-	370
HCM Lane V/C Ratio	0.129	0.045	-	-	0.002	-	-	0.108
HCM Control Delay (s)	38.3	9	0	-	8.6	0	-	15.9
HCM Lane LOS	E	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-	-	0.4

Timings

7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

05/26/2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	31	417	15	294	280	476	174	250
Future Volume (vph)	31	417	15	294	280	476	174	250
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	3	8	7	4
Permitted Phases	6		2		8		4	
Detector Phase	1	6	5	2	3	8	7	4
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	21.0	12.0	21.0	12.0	21.0	12.0	12.0
Total Split (s)	15.0	45.0	20.0	45.0	15.0	40.0	12.0	50.0
Total Split (%)	11.5%	34.6%	15.4%	34.6%	11.5%	30.8%	9.2%	38.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None

Intersection Summary

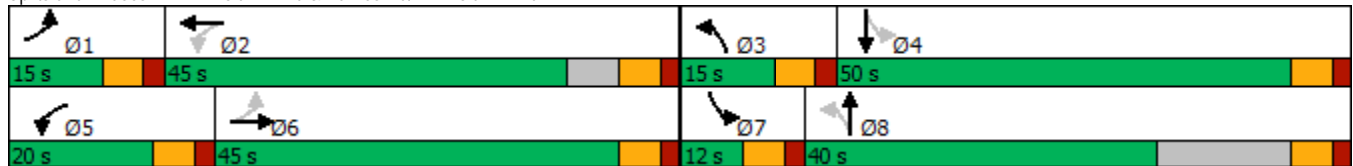
Cycle Length: 130

Actuated Cycle Length: 99.4

Natural Cycle: 100

Control Type: Actuated-Uncoordinated






















Splits and Phases: 7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd



HCM 6th Signalized Intersection Summary

7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

05/26/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	417	206	15	294	118	280	476	19	174	250	28
Future Volume (veh/h)	31	417	206	15	294	118	280	476	19	174	250	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	444	219	16	309	124	304	517	21	196	281	31
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.92	0.92	0.92	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	2	2	2	2	2	2
Cap, veh/h	281	443	219	108	458	184	368	553	22	198	464	51
Arrive On Green	0.04	0.38	0.38	0.02	0.36	0.36	0.09	0.31	0.31	0.06	0.28	0.28
Sat Flow, veh/h	1767	1173	579	1767	1259	505	1781	1785	72	1781	1655	183
Grp Volume(v), veh/h	33	0	663	16	0	433	304	0	538	196	0	312
Grp Sat Flow(s),veh/h/ln	1767	0	1751	1767	0	1765	1781	0	1857	1781	0	1837
Q Serve(g_s), s	1.2	0.0	39.0	0.6	0.0	21.3	9.0	0.0	29.0	6.0	0.0	15.2
Cycle Q Clear(g_c), s	1.2	0.0	39.0	0.6	0.0	21.3	9.0	0.0	29.0	6.0	0.0	15.2
Prop In Lane	1.00		0.33	1.00		0.29	1.00		0.04	1.00		0.10
Lane Grp Cap(c), veh/h	281	0	662	108	0	642	368	0	575	198	0	516
V/C Ratio(X)	0.12	0.00	1.00	0.15	0.00	0.67	0.83	0.00	0.94	0.99	0.00	0.61
Avail Cap(c_a), veh/h	373	0	662	310	0	667	368	0	612	198	0	784
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.2	0.0	32.1	26.5	0.0	27.7	31.2	0.0	34.6	34.5	0.0	32.2
Incr Delay (d2), s/veh	0.2	0.0	35.3	0.6	0.0	2.6	14.4	0.0	21.2	61.1	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	22.2	0.3	0.0	9.1	4.3	0.0	15.7	5.3	0.0	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.4	0.0	67.4	27.1	0.0	30.2	45.6	0.0	55.8	95.6	0.0	33.3
LnGrp LOS	C	A	F	C	A	C	D	A	E	F	A	C
Approach Vol, veh/h		696			449			842			508	
Approach Delay, s/veh		65.2			30.1			52.1			57.3	
Approach LOS		E			C			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.7	43.5	15.0	34.9	8.2	45.0	12.0	37.9				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	39.0	9.0	44.0	14.0	39.0	6.0	34.0				
Max Q Clear Time (g_c+I1), s	3.2	23.3	11.0	17.2	2.6	41.0	8.0	31.0				
Green Ext Time (p_c), s	0.0	2.4	0.0	1.7	0.0	0.0	0.0	0.9				
Intersection Summary												
HCM 6th Ctrl Delay			52.9									
HCM 6th LOS			D									

HCM 6th TWSC
8: Arnold Mill Rd & Hendon Rd

05/26/2020

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	477	746	12	4	5
Future Vol, veh/h	6	477	746	12	4	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	97	97	58	58
Heavy Vehicles, %	3	3	2	2	0	0
Mvmt Flow	6	507	769	12	7	9
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	781	0	-	0	1294	775
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	519	-
Critical Hdwy	4.13	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.227	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	832	-	-	-	181	401
Stage 1	-	-	-	-	458	-
Stage 2	-	-	-	-	601	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	832	-	-	-	179	401
Mov Cap-2 Maneuver	-	-	-	-	179	-
Stage 1	-	-	-	-	453	-
Stage 2	-	-	-	-	601	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		19.8		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	832	-	-	-	259	
HCM Lane V/C Ratio	0.008	-	-	-	0.06	
HCM Control Delay (s)	9.4	0	-	-	19.8	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0	-	-	-	0.2	

HCM 6th TWSC
 9: Arnold Mill Rd & N Arnold Mill Rd

05/26/2020

Intersection						
Int Delay, s/veh	7.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	20	369	664	303	113	27
Future Vol, veh/h	20	369	664	303	113	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	94	94	88	88
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	21	388	706	322	128	31

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1028	0	0	1297	867
Stage 1	-	-	-	867	-
Stage 2	-	-	-	430	-
Critical Hdwy	4.13	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.227	-	-	3.518	3.318
Pot Cap-1 Maneuver	672	-	-	179	352
Stage 1	-	-	-	411	-
Stage 2	-	-	-	656	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	672	-	-	172	352
Mov Cap-2 Maneuver	-	-	-	172	-
Stage 1	-	-	-	395	-
Stage 2	-	-	-	656	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	78.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	672	-	-	-	191
HCM Lane V/C Ratio	0.031	-	-	-	0.833
HCM Control Delay (s)	10.5	0	-	-	78.3
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	6

HCM 6th AWSC

10: English Ivy Way/Mountain Rd & Arnold Mill Rd

05/26/2020

Intersection	
Intersection Delay, s/veh	117.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	152	293	4	4	786	17	3	3	2	37	5	193
Future Vol, veh/h	152	293	4	4	786	17	3	3	2	37	5	193
Peak Hour Factor	0.86	0.86	0.86	0.98	0.98	0.98	0.67	0.67	0.67	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	1	1	1	25	25	25	3	3	3
Mvmt Flow	177	341	5	4	802	17	4	4	3	43	6	222
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			2			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			2			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			2		
HCM Control Delay	51.2			193.8			12.7			16.9		
HCM LOS	F			F			B			C		

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	38%	34%	0%	0%	16%
Vol Thru, %	38%	66%	0%	97%	2%
Vol Right, %	25%	0%	100%	2%	82%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	445	4	807	235
LT Vol	3	152	0	4	37
Through Vol	3	293	0	786	5
RT Vol	2	0	4	17	193
Lane Flow Rate	12	517	5	823	270
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.028	0.937	0.007	1.366	0.491
Departure Headway (Hd)	9.411	6.986	6.093	5.973	7.194
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	383	523	591	609	505
Service Time	7.411	4.686	3.793	4.023	5.194
HCM Lane V/C Ratio	0.031	0.989	0.008	1.351	0.535
HCM Control Delay	12.7	51.6	8.8	193.8	16.9
HCM Lane LOS	B	F	A	F	C
HCM 95th-tile Q	0.1	11.6	0	35.9	2.7

HCM 6th TWSC
 11: River Laurel Way & Arnold Mill Rd

05/26/2020

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕		↕			↕	
Traffic Vol, veh/h	8	239	24	34	833	20	8	0	26	15	0	5
Future Vol, veh/h	8	239	24	34	833	20	8	0	26	15	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	110	-	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	93	93	93	77	77	77	83	83	83
Heavy Vehicles, %	2	2	2	5	5	5	2	2	2	5	5	5
Mvmt Flow	9	278	28	37	896	22	10	0	34	18	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	918	0	0	306	0	0	1280	278	1297	1294	896	
Stage 1	-	-	-	-	-	-	296	296	-	970	970	-
Stage 2	-	-	-	-	-	-	984	992	-	327	324	-
Critical Hdwy	4.12	-	-	4.15	-	-	7.12	6.52	6.22	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.15	5.55	-
Follow-up Hdwy	2.218	-	-	2.245	-	-	3.518	4.018	3.318	3.545	4.045	3.345
Pot Cap-1 Maneuver	743	-	-	1238	-	-	143	164	761	137	160	335
Stage 1	-	-	-	-	-	-	712	668	-	301	328	-
Stage 2	-	-	-	-	-	-	299	324	-	679	644	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	743	-	-	1238	-	-	132	152	761	123	148	335
Mov Cap-2 Maneuver	-	-	-	-	-	-	132	152	-	123	148	-
Stage 1	-	-	-	-	-	-	701	658	-	296	308	-
Stage 2	-	-	-	-	-	-	276	304	-	639	634	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.3	16.4	34.5
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	359	743	-	-	1238	-	-	146
HCM Lane V/C Ratio	0.123	0.013	-	-	0.03	-	-	0.165
HCM Control Delay (s)	16.4	9.9	0	-	8	0	-	34.5
HCM Lane LOS	C	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.6

HCM 6th TWSC
12: Arnold Mill Rd & Grimes Rd

05/26/2020

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	33	915	1	56	242
Future Vol, veh/h	1	33	915	1	56	242
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	89	89	87	87
Heavy Vehicles, %	4	4	1	1	2	2
Mvmt Flow	1	44	1028	1	64	278

Major/Minor	Minor1	Major1	Major2	Major2	Major2
Conflicting Flow All	1435	1029	0	0	1029
Stage 1	1029	-	-	-	-
Stage 2	406	-	-	-	-
Critical Hdwy	6.44	6.24	-	-	4.12
Critical Hdwy Stg 1	5.44	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-
Follow-up Hdwy	3.536	3.336	-	-	2.218
Pot Cap-1 Maneuver	146	281	-	-	675
Stage 1	342	-	-	-	-
Stage 2	668	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	130	281	-	-	675
Mov Cap-2 Maneuver	130	-	-	-	-
Stage 1	342	-	-	-	-
Stage 2	593	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.9	0	2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	272	675	-
HCM Lane V/C Ratio	-	-	0.167	0.095	-
HCM Control Delay (s)	-	-	20.9	10.9	0
HCM Lane LOS	-	-	C	B	A
HCM 95th %tile Q(veh)	-	-	0.6	0.3	-

HCM 6th TWSC
13: SR 140 & Arnold Mill Rd

05/26/2020

Intersection						
Int Delay, s/veh	10.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	237	869	960	513	46
Future Vol, veh/h	5	237	869	960	513	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	-	200	-	-	210
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	97	97	93	93
Heavy Vehicles, %	2	2	1	1	4	4
Mvmt Flow	6	266	896	990	552	49

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	3334	552	552	0	0
Stage 1	552	-	-	-	-
Stage 2	2782	-	-	-	-
Critical Hdwy	6.42	6.22	4.11	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.209	-	-
Pot Cap-1 Maneuver	9	533	1023	-	-
Stage 1	577	-	-	-	-
Stage 2	45	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	~ 1	533	1023	-	-
Mov Cap-2 Maneuver	26	-	-	-	-
Stage 1	72	-	-	-	-
Stage 2	45	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18	12.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1023	-	544	-	-
HCM Lane V/C Ratio	0.876	-	0.5	-	-
HCM Control Delay (s)	27.1	-	18	-	-
HCM Lane LOS	D	-	C	-	-
HCM 95th %tile Q(veh)	12	-	2.8	-	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th TWSC
201: Arnold Mill Rd & Druw Cameron Ct

05/26/2020

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	8	751	730	4	4	7
Future Vol, veh/h	8	751	730	4	4	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	83	83	55	55
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	9	834	880	5	7	13

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	885	0	0	1735	883
Stage 1	-	-	-	883	-
Stage 2	-	-	-	852	-
Critical Hdwy	4.11	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	5.4	-
Follow-up Hdwy	2.209	-	-	3.5	3.3
Pot Cap-1 Maneuver	769	-	-	97	348
Stage 1	-	-	-	408	-
Stage 2	-	-	-	421	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	769	-	-	95	348
Mov Cap-2 Maneuver	-	-	-	95	-
Stage 1	-	-	-	399	-
Stage 2	-	-	-	421	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	27.9
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	769	-	-	-	177
HCM Lane V/C Ratio	0.012	-	-	-	0.113
HCM Control Delay (s)	9.7	0	-	-	27.9
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.4

HCM 6th TWSC
202: Little River Dr & Arnold Mill Rd

05/26/2020

Intersection						
Int Delay, s/veh	0.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	740	11	24	727	9	14
Future Vol, veh/h	740	11	24	727	9	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	83	83	64	64
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	822	12	29	876	14	22

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	834	0
Stage 1	-	-	-	828
Stage 2	-	-	-	934
Critical Hdwy	-	-	4.11	-
Critical Hdwy Stg 1	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	5.4
Follow-up Hdwy	-	-	2.209	-
Pot Cap-1 Maneuver	-	-	804	-
Stage 1	-	-	-	432
Stage 2	-	-	-	386
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	804	-
Mov Cap-2 Maneuver	-	-	-	87
Stage 1	-	-	-	432
Stage 2	-	-	-	359

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	33.2
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	163	-	-	804	-
HCM Lane V/C Ratio	0.22	-	-	0.036	-
HCM Control Delay (s)	33.2	-	-	9.6	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-

HCM 6th TWSC
203: Arnold Mill Rd & N River Dr

05/26/2020

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	19	731	749	8	7	9
Future Vol, veh/h	19	731	749	8	7	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	82	82	80	80
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	21	795	913	10	9	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	923	0	0	1755	918
Stage 1	-	-	-	918	-
Stage 2	-	-	-	837	-
Critical Hdwy	4.11	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	5.4	-
Follow-up Hdwy	2.209	-	-	3.5	3.3
Pot Cap-1 Maneuver	744	-	-	95	332
Stage 1	-	-	-	392	-
Stage 2	-	-	-	428	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	744	-	-	90	332
Mov Cap-2 Maneuver	-	-	-	90	-
Stage 1	-	-	-	372	-
Stage 2	-	-	-	428	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	32
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	744	-	-	-	153
HCM Lane V/C Ratio	0.028	-	-	-	0.131
HCM Control Delay (s)	10	0	-	-	32
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

HCM 6th TWSC
401: Arnold Mill Rd

05/26/2020

Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	977	1320	0	9	6
Future Vol, veh/h	0	977	1320	0	9	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	91	91	42	42
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	1110	1451	0	21	14

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	2561 1451
Stage 1	-	-	-	-	1451 -
Stage 2	-	-	-	-	1110 -
Critical Hdwy	-	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	0	-	-	0	29 162
Stage 1	0	-	-	0	218 -
Stage 2	0	-	-	0	318 -
Platoon blocked, %	-	-	-	-	- -
Mov Cap-1 Maneuver	-	-	-	-	29 162
Mov Cap-2 Maneuver	-	-	-	-	29 -
Stage 1	-	-	-	-	218 -
Stage 2	-	-	-	-	318 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	180.9
HCM LOS			F

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	29	162
HCM Lane V/C Ratio	-	-	0.739	0.088
HCM Control Delay (s)	-	-	281.9	29.4
HCM Lane LOS	-	-	F	D
HCM 95th %tile Q(veh)	-	-	2.4	0.3

Intersection: 1: Neese Rd & Arnold Mill Rd

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	484	175	200	453	200	254
Average Queue (ft)	258	92	103	184	117	127
95th Queue (ft)	420	196	199	375	194	236
Link Distance (ft)	953			2079		1373
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		100	150		125	
Storage Blk Time (%)	34	0	0	8	8	8
Queuing Penalty (veh)	76	2	2	12	25	20

Intersection: 3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

Movement	EB	EB	EB	WB	WB	WB	B45	B15	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	T	T	L	T	L	T
Maximum Queue (ft)	185	2069	290	324	701	275	716	434	50	74	249	508
Average Queue (ft)	174	1504	62	130	651	248	573	274	18	19	199	126
95th Queue (ft)	221	2203	257	350	802	355	998	572	47	55	285	401
Link Distance (ft)		3115			606		643	363	1077	1077		707
Upstream Blk Time (%)					37		37	11				
Queuing Penalty (veh)					497		497	143				
Storage Bay Dist (ft)	135		240	275		200						200
Storage Blk Time (%)	52	40			50	3						16
Queuing Penalty (veh)	309	103			323	22						32

Intersection: 3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

Movement	SB
Directions Served	R
Maximum Queue (ft)	197
Average Queue (ft)	0
95th Queue (ft)	0
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	150
Storage Blk Time (%)	0
Queuing Penalty (veh)	2

Intersection: 4: Arnold Mill Rd & The King's Academy

Movement	EB	WB	SB
Directions Served	L	T	LR
Maximum Queue (ft)	28	225	72
Average Queue (ft)	6	136	12
95th Queue (ft)	23	303	48
Link Distance (ft)		209	233
Upstream Blk Time (%)		6	
Queuing Penalty (veh)		86	
Storage Bay Dist (ft)	225		
Storage Blk Time (%)		27	
Queuing Penalty (veh)		1	

Intersection: 5: Trickum Rd & Arnold Mill Rd

Movement	EB	EB	EB	B19	WB	WB	NB	NB	SB
Directions Served	L	T	R	T	L	TR	LT	R	LTR
Maximum Queue (ft)	30	613	300	270	224	528	546	200	75
Average Queue (ft)	10	391	220	43	80	310	520	85	23
95th Queue (ft)	33	650	395	182	192	466	589	246	56
Link Distance (ft)		541		1012		1043	512		444
Upstream Blk Time (%)		6					67		
Queuing Penalty (veh)		57					0		
Storage Bay Dist (ft)	150		250		175			150	
Storage Blk Time (%)		38			0	26	66	0	
Queuing Penalty (veh)		164			0	19	42	0	

Intersection: 6: Farmington Dr & Arnold Mill Rd

Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	151	28	67
Average Queue (ft)	39	8	19
95th Queue (ft)	119	28	50
Link Distance (ft)	1043	474	443
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	239	403	91	288	170	528	160	514
Average Queue (ft)	49	346	17	152	149	277	139	243
95th Queue (ft)	179	460	51	254	203	457	193	432
Link Distance (ft)		368		405		1367		2457
Upstream Blk Time (%)		29						
Queuing Penalty (veh)		0						
Storage Bay Dist (ft)	90		90		120		110	
Storage Blk Time (%)		54	1	26	10	33	28	22
Queuing Penalty (veh)		17	5	4	52	93	76	39

Intersection: 8: Arnold Mill Rd & Hendon Rd

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	53	31
Average Queue (ft)	2	8
95th Queue (ft)	18	29
Link Distance (ft)	372	292
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Arnold Mill Rd & N Arnold Mill Rd

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	223	49	197
Average Queue (ft)	46	2	74
95th Queue (ft)	146	17	154
Link Distance (ft)	2322	3255	542
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: English Ivy Way/Mountain Rd & Arnold Mill Rd

Movement	EB	WB	B40	NB	SB
Directions Served	LT	LTR	T	LTR	LTR
Maximum Queue (ft)	183	766	254	30	142
Average Queue (ft)	99	462	17	3	71
95th Queue (ft)	159	788	115	18	116
Link Distance (ft)	450	670	1078	1071	539
Upstream Blk Time (%)		9			
Queuing Penalty (veh)		79			
Storage Bay Dist (ft)					
Storage Blk Time (%)	18				
Queuing Penalty (veh)	1				

Intersection: 11: River Laurel Way & Arnold Mill Rd

Movement	WB	NB	SB
Directions Served	LT	LTR	LTR
Maximum Queue (ft)	70	47	41
Average Queue (ft)	8	20	13
95th Queue (ft)	43	44	31
Link Distance (ft)	1044	320	253
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Arnold Mill Rd & Grimes Rd

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	44	119
Average Queue (ft)	16	31
95th Queue (ft)	38	84
Link Distance (ft)	506	1044
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: SR 140 & Arnold Mill Rd

Movement	EB	NB	NB
Directions Served	LR	L	T
Maximum Queue (ft)	1220	275	1040
Average Queue (ft)	200	201	279
95th Queue (ft)	682	310	890
Link Distance (ft)	1317		1025
Upstream Blk Time (%)			2
Queuing Penalty (veh)			0
Storage Bay Dist (ft)		200	
Storage Blk Time (%)		21	
Queuing Penalty (veh)		202	

Intersection: 201: Arnold Mill Rd & Druw Cameron Ct

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	26	54
Average Queue (ft)	2	12
95th Queue (ft)	13	38
Link Distance (ft)	2079	662
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 202: Little River Dr & Arnold Mill Rd

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	167	50
Average Queue (ft)	28	14
95th Queue (ft)	110	42
Link Distance (ft)	167	748
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	3	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 203: Arnold Mill Rd & N River Dr

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	96	135	49
Average Queue (ft)	13	5	12
95th Queue (ft)	58	46	36
Link Distance (ft)	167	587	548
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 401: Arnold Mill Rd

Movement	WB	B16	SB	SB
Directions Served	T	T	L	R
Maximum Queue (ft)	183	390	54	96
Average Queue (ft)	103	104	5	16
95th Queue (ft)	249	310	27	56
Link Distance (ft)	111	1012	174	174
Upstream Blk Time (%)	21			
Queuing Penalty (veh)	275			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

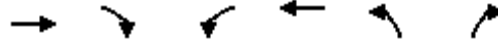
Network Summary

Network wide Queuing Penalty: 3279

Timings

1: Neese Rd & Arnold Mill Rd

05/26/2020



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↘	↗
Traffic Volume (vph)	446	244	418	487	111	499
Future Volume (vph)	446	244	418	487	111	499
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	59.0	59.0	21.0	80.0	40.0	40.0
Total Split (%)	49.2%	49.2%	17.5%	66.7%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	Max	Max

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 105.6

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Neese Rd & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

1: Neese Rd & Arnold Mill Rd

05/26/2020



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (veh/h)	446	244	418	487	111	499
Future Volume (veh/h)	446	244	418	487	111	499
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	1856	1856	1856	1856
Adj Flow Rate, veh/h	565	309	464	541	163	734
Peak Hour Factor	0.79	0.79	0.90	0.90	0.68	0.68
Percent Heavy Veh, %	2	2	3	3	3	3
Cap, veh/h	647	549	369	1023	586	522
Arrive On Green	0.35	0.35	0.15	0.55	0.33	0.33
Sat Flow, veh/h	1870	1585	1767	1856	1767	1572
Grp Volume(v), veh/h	565	309	464	541	163	734
Grp Sat Flow(s),veh/h/ln	1870	1585	1767	1856	1767	1572
Q Serve(g_s), s	29.0	16.2	15.0	18.9	7.0	34.0
Cycle Q Clear(g_c), s	29.0	16.2	15.0	18.9	7.0	34.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	647	549	369	1023	586	522
V/C Ratio(X)	0.87	0.56	1.26	0.53	0.28	1.41
Avail Cap(c_a), veh/h	967	820	369	1340	586	522
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	31.4	27.2	26.2	14.6	25.2	34.2
Incr Delay (d2), s/veh	6.0	0.9	136.6	0.4	1.2	194.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.2	5.9	19.7	7.1	3.1	40.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.4	28.1	162.8	15.0	26.4	228.5
LnGrp LOS	D	C	F	B	C	F
Approach Vol, veh/h	874			1005	897	
Approach Delay, s/veh	34.1			83.3	191.8	
Approach LOS	C			F	F	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	21.0	41.5			62.5	40.0
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	15.0	53.0			74.0	34.0
Max Q Clear Time (g_c+I1), s	17.0	31.0			20.9	36.0
Green Ext Time (p_c), s	0.0	4.5			3.5	0.0
Intersection Summary						
HCM 6th Ctrl Delay			102.8			
HCM 6th LOS			F			

Timings

3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

05/26/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	352	209	289	571	240	144	96	220	429	189	385
Future Volume (vph)	79	352	209	289	571	240	144	96	220	429	189	385
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	20.9	20.9	11.0	20.9	20.9	11.0	12.4	12.4	10.0	12.4	12.4
Total Split (s)	25.0	55.0	55.0	35.0	55.0	55.0	25.0	25.0	25.0	10.0	15.0	15.0
Total Split (%)	19.2%	42.3%	42.3%	26.9%	42.3%	42.3%	19.2%	19.2%	19.2%	7.7%	11.5%	11.5%
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.4	1.4	1.0	1.4	1.4	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.9	5.9	5.0	5.9	5.9	5.0	6.4	6.4	5.0	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 95.4

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

05/26/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	352	209	289	571	240	144	96	220	429	189	385
Future Volume (veh/h)	79	352	209	289	571	240	144	96	220	429	189	385
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1856	1856	1856	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	94	419	0	332	656	276	218	145	0	499	220	0
Peak Hour Factor	0.84	0.84	0.84	0.87	0.87	0.87	0.66	0.66	0.66	0.86	0.86	0.86
Percent Heavy Veh, %	6	6	6	3	3	3	2	2	2	1	1	1
Cap, veh/h	227	558		451	753	638	354	408		380	286	
Arrive On Green	0.06	0.31	0.00	0.15	0.41	0.41	0.13	0.22	0.00	0.06	0.15	0.00
Sat Flow, veh/h	1725	1811	1535	1767	1856	1572	1781	1870	1585	1795	1885	1598
Grp Volume(v), veh/h	94	419	0	332	656	276	218	145	0	499	220	0
Grp Sat Flow(s),veh/h/ln	1725	1811	1535	1767	1856	1572	1781	1870	1585	1795	1885	1598
Q Serve(g_s), s	3.1	17.7	0.0	10.2	27.7	10.8	8.3	5.6	0.0	5.0	9.5	0.0
Cycle Q Clear(g_c), s	3.1	17.7	0.0	10.2	27.7	10.8	8.3	5.6	0.0	5.0	9.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	227	558		451	753	638	354	408		380	286	
V/C Ratio(X)	0.41	0.75		0.74	0.87	0.43	0.62	0.36		1.31	0.77	
Avail Cap(c_a), veh/h	537	1044		803	1069	906	549	408		380	286	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.9	26.5	0.0	17.4	23.3	18.2	24.7	28.2	0.0	35.1	34.7	0.0
Incr Delay (d2), s/veh	1.2	2.1	0.0	2.4	5.8	0.5	1.7	2.4	0.0	158.8	17.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	7.3	0.0	3.8	11.9	3.9	3.6	2.8	0.0	22.1	5.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.1	28.6	0.0	19.7	29.0	18.7	26.5	30.6	0.0	193.9	52.6	0.0
LnGrp LOS	C	C		B	C	B	C	C		F	D	
Approach Vol, veh/h		513	A		1264			363	A		719	A
Approach Delay, s/veh		27.4			24.3			28.1			150.7	
Approach LOS		C			C			C			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.7	40.5	15.7	19.3	18.0	32.2	10.0	25.0				
Change Period (Y+Rc), s	5.0	* 5.9	5.0	6.4	5.0	* 5.9	5.0	6.4				
Max Green Setting (Gmax), s	20.0	* 49	20.0	8.6	30.0	* 49	5.0	18.6				
Max Q Clear Time (g_c+I1), s	5.1	29.7	10.3	11.5	12.2	19.7	7.0	7.6				
Green Ext Time (p_c), s	0.2	4.9	0.4	0.0	0.9	2.4	0.0	0.5				

Intersection Summary

HCM 6th Ctrl Delay	57.1
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC

4: Arnold Mill Rd & The King's Academy

05/26/2020

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	1080	1206	13	0	2
Future Vol, veh/h	17	1080	1206	13	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	225	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	83	83	25	25
Heavy Vehicles, %	5	5	4	4	0	0
Mvmt Flow	20	1271	1453	16	0	8

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1469	0	-	0	2764 1453
Stage 1	-	-	-	-	1453 -
Stage 2	-	-	-	-	1311 -
Critical Hdwy	4.15	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.245	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	450	-	-	-	22 162
Stage 1	-	-	-	-	217 -
Stage 2	-	-	-	-	255 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	450	-	-	-	21 162
Mov Cap-2 Maneuver	-	-	-	-	21 -
Stage 1	-	-	-	-	207 -
Stage 2	-	-	-	-	255 -

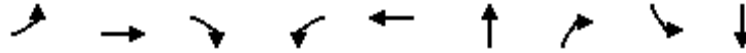
Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	28.4
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	450	-	-	-	162
HCM Lane V/C Ratio	0.044	-	-	-	0.049
HCM Control Delay (s)	13.4	-	-	-	28.4
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Timings

5: Trickum Rd & Arnold Mill Rd

05/26/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	2	377	672	216	622	3	81	4	17
Future Volume (vph)	2	377	672	216	622	3	81	4	17
Turn Type	pm+pt	NA	Perm	pm+pt	NA	NA	Perm	Perm	NA
Protected Phases	1	6		5	2	3			4
Permitted Phases	6		6	2			3	4	
Detector Phase	1	6	6	5	2	3	3	4	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	17.8	17.8	10.0	17.8	13.5	13.5	13.5	13.5
Total Split (s)	15.0	60.0	60.0	25.0	60.0	50.0	50.0	20.0	20.0
Total Split (%)	9.7%	38.7%	38.7%	16.1%	38.7%	32.3%	32.3%	12.9%	12.9%
Yellow Time (s)	4.0	4.3	4.3	4.0	4.3	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	5.0	5.8	5.8	5.0	5.8	5.5	5.5		5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max

Intersection Summary

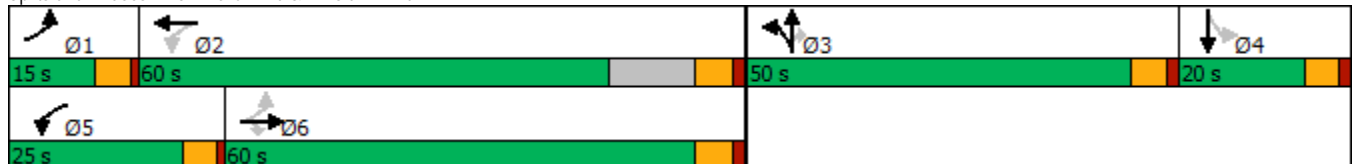
Cycle Length: 155

Actuated Cycle Length: 141.3

Natural Cycle: 180

Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Trickum Rd & Arnold Mill Rd



HCM Signalized Intersection Capacity Analysis

5: Trickum Rd & Arnold Mill Rd

05/26/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	2	377	672	216	622	3	551	3	81	4	17	9	
Future Volume (vph)	2	377	672	216	622	3	551	3	81	4	17	9	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	5.8	5.8	5.0	5.8			5.5	5.5		5.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00		
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.96		
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.99		
Satd. Flow (prot)	1719	1810	1538	1770	1861			1724	1538		1690		
Flt Permitted	0.09	1.00	1.00	0.22	1.00			0.95	1.00		0.87		
Satd. Flow (perm)	156	1810	1538	407	1861			1724	1538		1487		
Peak-hour factor, PHF	0.89	0.89	0.89	0.83	0.83	0.83	0.70	0.70	0.70	0.94	0.94	0.94	
Adj. Flow (vph)	2	424	755	260	749	4	787	4	116	4	18	10	
RTOR Reduction (vph)	0	0	476	0	0	0	0	0	80	0	9	0	
Lane Group Flow (vph)	2	424	279	260	753	0	0	791	36	0	23	0	
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	5%	5%	5%	7%	7%	7%	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Perm	NA		
Protected Phases	1	6		5	2		3	3			4		
Permitted Phases	6		6	2					3	4			
Actuated Green, G (s)	47.6	46.5	46.5	69.3	63.2			44.7	44.7		14.6		
Effective Green, g (s)	47.6	46.5	46.5	69.3	63.2			44.7	44.7		14.6		
Actuated g/C Ratio	0.33	0.32	0.32	0.48	0.43			0.31	0.31		0.10		
Clearance Time (s)	5.0	5.8	5.8	5.0	5.8			5.5	5.5		5.5		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0		
Lane Grp Cap (vph)	62	578	491	360	808			530	472		149		
v/s Ratio Prot	0.00	0.23		c0.09	c0.40			c0.46					
v/s Ratio Perm	0.01		0.18	0.26					0.02		c0.02		
v/c Ratio	0.03	0.73	0.57	0.72	0.93			1.49	0.08		0.15		
Uniform Delay, d1	37.6	43.9	41.1	27.5	39.1			50.4	35.7		59.8		
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00		
Incremental Delay, d2	0.2	4.8	1.5	7.0	17.3			231.5	0.1		2.2		
Delay (s)	37.8	48.7	42.6	34.5	56.4			281.8	35.8		62.0		
Level of Service	D	D	D	C	E			F	D		E		
Approach Delay (s)		44.8			50.7			250.3			62.0		
Approach LOS		D			D			F			E		
Intersection Summary													
HCM 2000 Control Delay			106.4									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.05										
Actuated Cycle Length (s)			145.4									Sum of lost time (s)	21.8
Intersection Capacity Utilization			87.2%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

HCM 6th TWSC

6: Farmington Dr & Arnold Mill Rd

05/26/2020

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	442	5	2	851	6	13	1	3	7	0	32
Future Vol, veh/h	5	442	5	2	851	6	13	1	3	7	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	84	84	84	85	85	85	77	77	77
Heavy Vehicles, %	4	4	4	3	3	3	6	6	6	3	3	3
Mvmt Flow	6	546	6	2	1013	7	15	1	4	9	0	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1020	0	0	552	0	0	1603	1585	549	1585	1017	
Stage 1	-	-	-	-	-	-	561	561	-	1021	1021	-
Stage 2	-	-	-	-	-	-	1042	1024	-	564	564	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.16	6.56	6.26	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.56	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.56	-	6.13	5.53	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.554	4.054	3.354	3.527	4.027	3.327
Pot Cap-1 Maneuver	673	-	-	1013	-	-	83	106	528	87	108	287
Stage 1	-	-	-	-	-	-	505	504	-	284	312	-
Stage 2	-	-	-	-	-	-	273	308	-	509	507	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	673	-	-	1013	-	-	70	104	528	84	106	287
Mov Cap-2 Maneuver	-	-	-	-	-	-	70	104	-	84	106	-
Stage 1	-	-	-	-	-	-	498	497	-	280	310	-
Stage 2	-	-	-	-	-	-	232	306	-	498	500	-

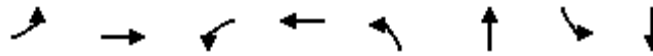
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	59.9	29
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	85	673	-	-	1013	-	-	200
HCM Lane V/C Ratio	0.235	0.009	-	-	0.002	-	-	0.253
HCM Control Delay (s)	59.9	10.4	0	-	8.6	0	-	29
HCM Lane LOS	F	B	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.8	0	-	-	0	-	-	1

Timings

7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

05/26/2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	78	137	55	368	283	377	78	360
Future Volume (vph)	78	137	55	368	283	377	78	360
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	3	8	7	4
Permitted Phases	6		2		8		4	
Detector Phase	1	6	5	2	3	8	7	4
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	21.0	12.0	21.0	12.0	21.0	12.0	12.0
Total Split (s)	15.0	45.0	20.0	45.0	15.0	40.0	12.0	50.0
Total Split (%)	11.5%	34.6%	15.4%	34.6%	11.5%	30.8%	9.2%	38.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None

Intersection Summary

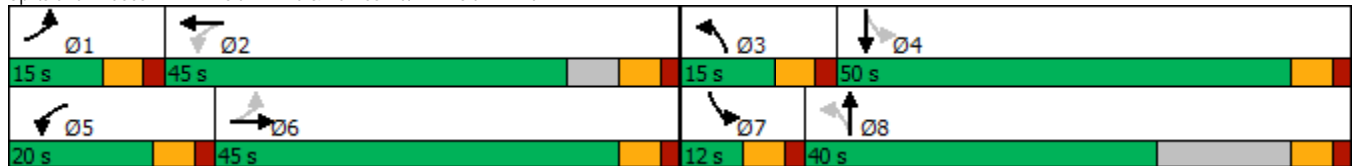
Cycle Length: 130

Actuated Cycle Length: 113.1

Natural Cycle: 170

Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd



HCM 6th Signalized Intersection Summary

7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

05/26/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	137	260	55	368	352	283	377	32	78	360	9
Future Volume (veh/h)	78	137	260	55	368	352	283	377	32	78	360	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1841	1841	1841	1826	1826	1826	1856	1856	1856
Adj Flow Rate, veh/h	84	147	280	64	428	409	329	438	37	103	474	12
Peak Hour Factor	0.93	0.93	0.93	0.86	0.86	0.86	0.86	0.86	0.86	0.76	0.76	0.76
Percent Heavy Veh, %	7	7	7	4	4	4	5	5	5	3	3	3
Cap, veh/h	152	199	379	269	308	294	244	531	45	232	527	13
Arrive On Green	0.05	0.36	0.36	0.05	0.36	0.36	0.08	0.32	0.32	0.05	0.29	0.29
Sat Flow, veh/h	1711	553	1054	1753	865	827	1739	1660	140	1767	1802	46
Grp Volume(v), veh/h	84	0	427	64	0	837	329	0	475	103	0	486
Grp Sat Flow(s),veh/h/ln	1711	0	1607	1753	0	1692	1739	0	1801	1767	0	1847
Q Serve(g_s), s	3.4	0.0	25.4	2.5	0.0	39.0	9.0	0.0	26.7	4.4	0.0	27.7
Cycle Q Clear(g_c), s	3.4	0.0	25.4	2.5	0.0	39.0	9.0	0.0	26.7	4.4	0.0	27.7
Prop In Lane	1.00		0.66	1.00		0.49	1.00		0.08	1.00		0.02
Lane Grp Cap(c), veh/h	152	0	578	269	0	602	244	0	576	232	0	540
V/C Ratio(X)	0.55	0.00	0.74	0.24	0.00	1.39	1.35	0.00	0.82	0.44	0.00	0.90
Avail Cap(c_a), veh/h	206	0	578	410	0	602	244	0	576	232	0	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.2	0.0	30.6	23.3	0.0	35.3	33.1	0.0	34.4	27.7	0.0	37.2
Incr Delay (d2), s/veh	3.1	0.0	5.0	0.5	0.0	185.6	181.7	0.0	9.5	1.3	0.0	11.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	10.3	1.0	0.0	46.5	14.5	0.0	12.6	1.9	0.0	13.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.3	0.0	35.6	23.8	0.0	220.9	214.8	0.0	44.0	29.0	0.0	48.3
LnGrp LOS	C	A	D	C	A	F	F	A	D	C	A	D
Approach Vol, veh/h		511			901			804			589	
Approach Delay, s/veh		34.8			206.9			113.9			44.9	
Approach LOS		C			F			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	45.0	15.0	38.0	11.1	45.4	12.0	41.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	39.0	9.0	44.0	14.0	39.0	6.0	34.0				
Max Q Clear Time (g_c+I1), s	5.4	41.0	11.0	29.7	4.5	27.4	6.4	28.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.4	0.1	2.1	0.0	1.3				
Intersection Summary												
HCM 6th Ctrl Delay			114.8									
HCM 6th LOS			F									

HCM 6th TWSC

8: Arnold Mill Rd & Hendon Rd

05/26/2020

Intersection						
Int Delay, s/veh	26.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	652	680	44	58	12
Future Vol, veh/h	1	652	680	44	58	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	66	66	83	83	49	49
Heavy Vehicles, %	4	4	4	4	9	9
Mvmt Flow	2	988	819	53	118	24

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	872	0	0	1838	846
Stage 1	-	-	-	846	-
Stage 2	-	-	-	992	-
Critical Hdwy	4.14	-	-	6.49	6.29
Critical Hdwy Stg 1	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	5.49	-
Follow-up Hdwy	2.236	-	-	3.581	3.381
Pot Cap-1 Maneuver	765	-	-	~ 80	352
Stage 1	-	-	-	409	-
Stage 2	-	-	-	348	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	765	-	-	~ 80	352
Mov Cap-2 Maneuver	-	-	-	~ 80	-
Stage 1	-	-	-	407	-
Stage 2	-	-	-	348	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	\$ 375.4
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	765	-	-	-	92
HCM Lane V/C Ratio	0.002	-	-	-	1.553
HCM Control Delay (s)	9.7	0	-	-	\$ 375.4
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	11.2

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th TWSC

9: Arnold Mill Rd & N Arnold Mill Rd

05/26/2020

Intersection						
Int Delay, s/veh	136.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	31	422	350	94	373	65
Future Vol, veh/h	31	422	350	94	373	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	91	91	86	86
Heavy Vehicles, %	5	5	2	2	5	5
Mvmt Flow	35	480	385	103	434	76

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	488	0	0	987	437
Stage 1	-	-	-	437	-
Stage 2	-	-	-	550	-
Critical Hdwy	4.15	-	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	5.45	-
Follow-up Hdwy	2.245	-	-	3.545	3.345
Pot Cap-1 Maneuver	1060	-	-	~ 271	613
Stage 1	-	-	-	645	-
Stage 2	-	-	-	572	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1060	-	-	~ 259	613
Mov Cap-2 Maneuver	-	-	-	~ 259	-
Stage 1	-	-	-	616	-
Stage 2	-	-	-	572	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	\$ 404.2
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1060	-	-	-	283
HCM Lane V/C Ratio	0.033	-	-	-	1.8
HCM Control Delay (s)	8.5	0	-	-	\$ 404.2
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	33.9

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th AWSC

10: English Ivy Way/Mountain Rd & Arnold Mill Rd

05/26/2020

Intersection	
Intersection Delay, s/veh	179.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	139	725	2	0	243	64	1	5	7	38	10	180
Future Vol, veh/h	139	725	2	0	243	64	1	5	7	38	10	180
Peak Hour Factor	0.96	0.96	0.96	0.83	0.83	0.83	0.65	0.65	0.65	0.62	0.62	0.62
Heavy Vehicles, %	1	1	1	4	4	4	8	8	8	2	2	2
Mvmt Flow	145	755	2	0	293	77	2	8	11	61	16	290
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	311.3	22.3	12.7	22.3
HCM LOS	F	C	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	8%	16%	0%	0%	17%
Vol Thru, %	38%	84%	0%	79%	4%
Vol Right, %	54%	0%	100%	21%	79%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	13	864	2	307	228
LT Vol	1	139	0	0	38
Through Vol	5	725	0	243	10
RT Vol	7	0	2	64	180
Lane Flow Rate	20	900	2	370	368
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.043	1.637	0.003	0.646	0.636
Departure Headway (Hd)	9.273	6.546	5.75	7.15	7.336
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	389	558	621	510	496
Service Time	7.273	4.293	3.497	5.15	5.336
HCM Lane V/C Ratio	0.051	1.613	0.003	0.725	0.742
HCM Control Delay	12.7	312	8.5	22.3	22.3
HCM Lane LOS	B	F	A	C	C
HCM 95th-ile Q	0.1	50.2	0	4.5	4.4

HCM 6th TWSC

11: River Laurel Way & Arnold Mill Rd

05/26/2020

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕		↕			↕	
Traffic Vol, veh/h	8	757	11	7	153	2	26	1	59	21	0	23
Future Vol, veh/h	8	757	11	7	153	2	26	1	59	21	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	110	-	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	88	88	88	93	93	93	79	79	79
Heavy Vehicles, %	2	2	2	5	5	5	2	2	2	5	5	5
Mvmt Flow	8	797	12	8	174	2	28	1	63	27	0	29
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	176	0	0	809	0	0	1019	797	1041	1015	174	
Stage 1	-	-	-	-	-	-	813	813	-	190	190	-
Stage 2	-	-	-	-	-	-	206	192	-	851	825	-
Critical Hdwy	4.12	-	-	4.15	-	-	7.12	6.52	6.22	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.15	5.55	-
Follow-up Hdwy	2.218	-	-	2.245	-	-	3.518	4.018	3.318	3.545	4.045	3.345
Pot Cap-1 Maneuver	1400	-	-	804	-	-	215	241	387	205	235	862
Stage 1	-	-	-	-	-	-	372	392	-	805	737	-
Stage 2	-	-	-	-	-	-	796	742	-	350	383	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1400	-	-	804	-	-	204	236	387	168	230	862
Mov Cap-2 Maneuver	-	-	-	-	-	-	204	236	-	168	230	-
Stage 1	-	-	-	-	-	-	368	388	-	797	729	-
Stage 2	-	-	-	-	-	-	761	734	-	289	379	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.4			22			20.3		
HCM LOS	C			C			C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	303	1400	-	-	804	-	-	290				
HCM Lane V/C Ratio	0.305	0.006	-	-	0.01	-	-	0.192				
HCM Control Delay (s)	22	7.6	0	-	9.5	0	-	20.3				
HCM Lane LOS	C	A	A	-	A	A	-	C				
HCM 95th %tile Q(veh)	1.3	0	-	-	0	-	-	0.7				

HCM 6th TWSC
12: Arnold Mill Rd & Grimes Rd

05/26/2020

Intersection						
Int Delay, s/veh	2.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	52	117	0	52	823
Future Vol, veh/h	32	52	117	0	52	823
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	71	71	76	76	95	95
Heavy Vehicles, %	5	5	6	6	1	1
Mvmt Flow	45	73	154	0	55	866
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1130	154	0	0	154	0
Stage 1	154	-	-	-	-	-
Stage 2	976	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.11	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.209	-
Pot Cap-1 Maneuver	222	884	-	-	1433	-
Stage 1	867	-	-	-	-	-
Stage 2	361	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	206	884	-	-	1433	-
Mov Cap-2 Maneuver	206	-	-	-	-	-
Stage 1	867	-	-	-	-	-
Stage 2	334	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	18.1	0		0.5		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	392	1433	-	
HCM Lane V/C Ratio	-	-	0.302	0.038	-	
HCM Control Delay (s)	-	-	18.1	7.6	0	
HCM Lane LOS	-	-	C	A	A	
HCM 95th %tile Q(veh)	-	-	1.3	0.1	-	

HCM 6th TWSC
13: SR 140 & Arnold Mill Rd

05/26/2020

Intersection						
Int Delay, s/veh	343.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	818	113	318	854	7
Future Vol, veh/h	0	818	113	318	854	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	-	200	-	-	210
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	90	90	92	92
Heavy Vehicles, %	1	1	5	5	1	1
Mvmt Flow	0	930	126	353	928	8

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	1533	928	928	0	0
Stage 1	928	-	-	-	-
Stage 2	605	-	-	-	-
Critical Hdwy	6.41	6.21	4.15	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.245	-	-
Pot Cap-1 Maneuver	129	~ 326	725	-	-
Stage 1	387	-	-	-	-
Stage 2	547	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	107	~ 326	725	-	-
Mov Cap-2 Maneuver	229	-	-	-	-
Stage 1	320	-	-	-	-
Stage 2	547	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	\$ 865.8	2.9	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	725	-	326	-	-
HCM Lane V/C Ratio	0.173	-	2.851	-	-
HCM Control Delay (s)	11	-	\$ 865.8	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.6	-	79.8	-	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th TWSC
201: Arnold Mill Rd & Druw Cameron Ct

05/26/2020

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	938	874	4	4	0
Future Vol, veh/h	0	938	874	4	4	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	71	71	87	87	50	50
Heavy Vehicles, %	3	3	3	3	25	25
Mvmt Flow	0	1321	1005	5	8	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1010	0	-	0	2329 1008
Stage 1	-	-	-	-	1008 -
Stage 2	-	-	-	-	1321 -
Critical Hdwy	4.13	-	-	-	6.65 6.45
Critical Hdwy Stg 1	-	-	-	-	5.65 -
Critical Hdwy Stg 2	-	-	-	-	5.65 -
Follow-up Hdwy	2.227	-	-	-	3.725 3.525
Pot Cap-1 Maneuver	682	-	-	-	35 264
Stage 1	-	-	-	-	320 -
Stage 2	-	-	-	-	223 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	682	-	-	-	35 264
Mov Cap-2 Maneuver	-	-	-	-	35 -
Stage 1	-	-	-	-	320 -
Stage 2	-	-	-	-	223 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	136
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	682	-	-	-	35
HCM Lane V/C Ratio	-	-	-	-	0.229
HCM Control Delay (s)	0	-	-	-	136
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	0.7

HCM 6th TWSC
202: Little River Dr & Arnold Mill Rd

05/26/2020

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	944	3	13	875	4	15
Future Vol, veh/h	944	3	13	875	4	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	88	88	95	95
Heavy Vehicles, %	3	3	3	3	5	5
Mvmt Flow	1311	4	15	994	4	16

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	1315	0
Stage 1	-	-	-	1313
Stage 2	-	-	-	1024
Critical Hdwy	-	-	4.13	-
Critical Hdwy Stg 1	-	-	-	5.45
Critical Hdwy Stg 2	-	-	-	5.45
Follow-up Hdwy	-	-	2.227	-
Pot Cap-1 Maneuver	-	-	523	-
Stage 1	-	-	-	248
Stage 2	-	-	-	342
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	523	-
Mov Cap-2 Maneuver	-	-	-	37
Stage 1	-	-	-	248
Stage 2	-	-	-	320

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	48.7
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	102	-	-	523	-
HCM Lane V/C Ratio	0.196	-	-	0.028	-
HCM Control Delay (s)	48.7	-	-	12.1	0
HCM Lane LOS	E	-	-	B	A
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-

HCM 6th TWSC
203: Arnold Mill Rd & N River Dr

05/26/2020

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	4	961	875	5	10	11
Future Vol, veh/h	4	961	875	5	10	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	72	72	86	86	88	88
Heavy Vehicles, %	3	3	3	3	10	10
Mvmt Flow	6	1335	1017	6	11	13
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	1023	0	-	0	2367	1020
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	1347	-
Critical Hdwy	4.13	-	-	-	6.5	6.3
Critical Hdwy Stg 1	-	-	-	-	5.5	-
Critical Hdwy Stg 2	-	-	-	-	5.5	-
Follow-up Hdwy	2.227	-	-	-	3.59	3.39
Pot Cap-1 Maneuver	675	-	-	-	36	277
Stage 1	-	-	-	-	336	-
Stage 2	-	-	-	-	233	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	675	-	-	-	35	277
Mov Cap-2 Maneuver	-	-	-	-	35	-
Stage 1	-	-	-	-	325	-
Stage 2	-	-	-	-	233	-
Approach	EB	WB	SB			
HCM Control Delay, s	0	0	89.5			
HCM LOS	F					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	675	-	-	-	65	
HCM Lane V/C Ratio	0.008	-	-	-	0.367	
HCM Control Delay (s)	10.4	0	-	-	89.5	
HCM Lane LOS	B	A	-	-	F	
HCM 95th %tile Q(veh)	0	-	-	-	1.4	

HCM 6th TWSC

401: Arnold Mill Rd & Kings Academy Exit

05/26/2020

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	1080	1216	0	6	2
Future Vol, veh/h	0	1080	1216	0	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	82	82	33	33
Heavy Vehicles, %	5	5	4	4	0	0
Mvmt Flow	0	1256	1483	0	18	6
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	-	0	-	0	2739	1483
Stage 1	-	-	-	-	1483	-
Stage 2	-	-	-	-	1256	-
Critical Hdwy	-	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	0	-	-	0	23	155
Stage 1	0	-	-	0	210	-
Stage 2	0	-	-	0	271	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	23	155
Mov Cap-2 Maneuver	-	-	-	-	23	-
Stage 1	-	-	-	-	210	-
Stage 2	-	-	-	-	271	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		273.6		
HCM LOS				F		
Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2		
Capacity (veh/h)	-	-	23	155		
HCM Lane V/C Ratio	-	-	0.791	0.039		
HCM Control Delay (s)	-	-	\$ 355	29.2		
HCM Lane LOS	-	-	F	D		
HCM 95th %tile Q(veh)	-	-	2.3	0.1		

Intersection: 1: Neese Rd & Arnold Mill Rd

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	892	175	200	857	200	436
Average Queue (ft)	349	114	176	322	77	203
95th Queue (ft)	632	230	227	708	175	345
Link Distance (ft)	953			2079		1373
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		100	150		125	
Storage Blk Time (%)	45	0	39	6		23
Queuing Penalty (veh)	110	1	188	24		26

Intersection: 3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	184	269	291	317	275	111	96	247	250	741	200
Average Queue (ft)	62	157	103	203	59	63	50	0	249	657	55
95th Queue (ft)	127	241	183	302	161	103	97	0	254	948	198
Link Distance (ft)		3115		606		1077	1077			707	
Upstream Blk Time (%)										63	
Queuing Penalty (veh)										0	
Storage Bay Dist (ft)	135		275		200			400	200		150
Storage Blk Time (%)		13	0	7					81	2	11
Queuing Penalty (veh)		39	3	36					464	13	70

Intersection: 4: Arnold Mill Rd & The King's Academy

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	31	24
Average Queue (ft)	12	3
95th Queue (ft)	36	15
Link Distance (ft)		233
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	225	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Trickum Rd & Arnold Mill Rd

Movement	EB	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	T	R	L	TR	LT	R	LTR
Maximum Queue (ft)	29	488	300	225	497	564	200	120
Average Queue (ft)	2	225	182	145	293	524	99	38
95th Queue (ft)	15	405	324	251	474	583	263	93
Link Distance (ft)		541			1043	512		444
Upstream Blk Time (%)						56		
Queuing Penalty (veh)						0		
Storage Bay Dist (ft)	150		250	175			150	
Storage Blk Time (%)		19	3	2	22	66	0	
Queuing Penalty (veh)		127	11	15	48	53	0	

Intersection: 6: Farmington Dr & Arnold Mill Rd

Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	69	68	78
Average Queue (ft)	6	13	29
95th Queue (ft)	32	38	58
Link Distance (ft)	1043	474	443
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	239	384	260	468	170	429	160	393
Average Queue (ft)	63	200	76	427	152	234	43	222
95th Queue (ft)	154	355	236	447	207	358	127	378
Link Distance (ft)		368		405		1367		2457
Upstream Blk Time (%)		1		70				
Queuing Penalty (veh)		0		0				
Storage Bay Dist (ft)	90		90		120		110	
Storage Blk Time (%)	2	28	0	65	23	24		27
Queuing Penalty (veh)	9	22	0	36	93	67		21

Intersection: 8: Arnold Mill Rd & Hendon Rd

Movement	SB
Directions Served	LR
Maximum Queue (ft)	96
Average Queue (ft)	43
95th Queue (ft)	72
Link Distance (ft)	292
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: Arnold Mill Rd & N Arnold Mill Rd

Movement	EB	B35	SB
Directions Served	LT	T	LR
Maximum Queue (ft)	2431	1002	581
Average Queue (ft)	511	94	353
95th Queue (ft)	1982	511	634
Link Distance (ft)	2322	2550	542
Upstream Blk Time (%)	13		27
Queuing Penalty (veh)	93		0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: English Ivy Way/Mountain Rd & Arnold Mill Rd

Movement	EB	B37	WB	NB	SB
Directions Served	LT	T	LTR	LTR	LTR
Maximum Queue (ft)	568	3268	138	30	498
Average Queue (ft)	425	1439	52	4	123
95th Queue (ft)	651	3822	86	21	338
Link Distance (ft)	450	3255	670	1071	539
Upstream Blk Time (%)	60	23			
Queuing Penalty (veh)	474	181			
Storage Bay Dist (ft)					
Storage Blk Time (%)	93				
Queuing Penalty (veh)	2				

Intersection: 11: River Laurel Way & Arnold Mill Rd

Movement	EB	EB	B44	B43	B40	NB	SB
Directions Served	LT	R	T	T	T	LTR	LTR
Maximum Queue (ft)	718	160	1296	1174	707	354	233
Average Queue (ft)	624	11	1034	829	444	273	90
95th Queue (ft)	929	79	1773	1648	978	434	209
Link Distance (ft)	609		1188	1078	670	320	253
Upstream Blk Time (%)	88		76	67	41	77	0
Queuing Penalty (veh)	681		583	512	315	0	0
Storage Bay Dist (ft)		110					
Storage Blk Time (%)	91						
Queuing Penalty (veh)	10						

Intersection: 12: Arnold Mill Rd & Grimes Rd

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	516	1057
Average Queue (ft)	425	1004
95th Queue (ft)	678	1305
Link Distance (ft)	506	1044
Upstream Blk Time (%)	72	53
Queuing Penalty (veh)	0	445
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: SR 140 & Arnold Mill Rd

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	1330	94
Average Queue (ft)	1326	34
95th Queue (ft)	1330	65
Link Distance (ft)	1317	
Upstream Blk Time (%)	56	
Queuing Penalty (veh)	479	
Storage Bay Dist (ft)		200
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 201: Arnold Mill Rd & Druw Cameron Ct

Movement	SB
Directions Served	LR
Maximum Queue (ft)	78
Average Queue (ft)	11
95th Queue (ft)	45
Link Distance (ft)	662
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 202: Little River Dr & Arnold Mill Rd

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	180	52
Average Queue (ft)	37	17
95th Queue (ft)	128	46
Link Distance (ft)	167	748
Upstream Blk Time (%)	2	
Queuing Penalty (veh)	18	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 203: Arnold Mill Rd & N River Dr

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	95	222	46
Average Queue (ft)	5	17	15
95th Queue (ft)	38	101	42
Link Distance (ft)	167	587	548
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 401: Arnold Mill Rd & Kings Academy Exit

Movement	WB	SB	SB
Directions Served	T	L	R
Maximum Queue (ft)	79	20	28
Average Queue (ft)	5	3	1
95th Queue (ft)	33	15	9
Link Distance (ft)	123	373	373
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

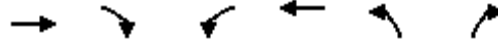
Network Summary

Network wide Queuing Penalty: 5269

Timings

1: Neese Rd & Arnold Mill Rd

05/26/2020



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Volume (vph)	612	260	179	702	297	355
Future Volume (vph)	612	260	179	702	297	355
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	59.0	59.0	21.0	80.0	40.0	40.0
Total Split (%)	49.2%	49.2%	17.5%	66.7%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	Max	Max

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 113.9

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Neese Rd & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

1: Neese Rd & Arnold Mill Rd

05/26/2020



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (veh/h)	612	260	179	702	297	355
Future Volume (veh/h)	612	260	179	702	297	355
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	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	746	317	216	846	313	374
Peak Hour Factor	0.82	0.82	0.83	0.83	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	814	690	251	1079	568	505
Arrive On Green	0.43	0.43	0.08	0.57	0.32	0.32
Sat Flow, veh/h	1885	1598	1795	1885	1795	1598
Grp Volume(v), veh/h	746	317	216	846	313	374
Grp Sat Flow(s),veh/h/ln	1885	1598	1795	1885	1795	1598
Q Serve(g_s), s	40.0	15.1	6.8	37.4	15.5	22.5
Cycle Q Clear(g_c), s	40.0	15.1	6.8	37.4	15.5	22.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	814	690	251	1079	568	505
V/C Ratio(X)	0.92	0.46	0.86	0.78	0.55	0.74
Avail Cap(c_a), veh/h	929	787	349	1297	568	505
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	28.7	21.7	23.6	17.8	30.5	32.8
Incr Delay (d2), s/veh	12.6	0.5	14.4	2.7	3.8	9.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.4	5.4	3.5	14.9	7.3	10.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.3	22.1	38.1	20.5	34.3	42.3
LnGrp LOS	D	C	D	C	C	D
Approach Vol, veh/h	1063			1062	687	
Approach Delay, s/veh	35.6			24.1	38.6	
Approach LOS	D			C	D	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	15.1	52.4			67.6	40.0
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	15.0	53.0			74.0	34.0
Max Q Clear Time (g_c+I1), s	8.8	42.0			39.4	24.5
Green Ext Time (p_c), s	0.3	4.4			6.6	1.8
Intersection Summary						
HCM 6th Ctrl Delay			32.0			
HCM 6th LOS			C			

Timings

3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

05/26/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	277	672	18	116	747	622	25	24	80	398	34	202
Future Volume (vph)	277	672	18	116	747	622	25	24	80	398	34	202
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	20.9	20.9	11.0	20.9	20.9	11.0	12.4	12.4	10.0	12.4	12.4
Total Split (s)	25.0	55.0	55.0	35.0	55.0	55.0	25.0	40.0	40.0	25.0	25.0	25.0
Total Split (%)	16.1%	35.5%	35.5%	22.6%	35.5%	35.5%	16.1%	25.8%	25.8%	16.1%	16.1%	16.1%
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.4	1.4	1.0	1.4	1.4	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.9	5.9	5.0	5.9	5.9	5.0	6.4	6.4	5.0	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 155

Actuated Cycle Length: 145

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

05/26/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	277	672	18	116	747	622	25	24	80	398	34	202
Future Volume (veh/h)	277	672	18	116	747	622	25	24	80	398	34	202
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1885	1885	1885
Adj Flow Rate, veh/h	334	810	0	140	900	749	32	30	0	491	42	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.79	0.79	0.79	0.81	0.81	0.81
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	1	1	1
Cap, veh/h	297	774		168	638	541	416	440		602	650	
Arrive On Green	0.14	0.41	0.00	0.07	0.34	0.34	0.02	0.23	0.00	0.14	0.34	0.00
Sat Flow, veh/h	1795	1885	1598	1795	1885	1598	1810	1900	1610	1795	1885	1598
Grp Volume(v), veh/h	334	810	0	140	900	749	32	30	0	491	42	0
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1795	1885	1598	1810	1900	1610	1795	1885	1598
Q Serve(g_s), s	20.0	59.5	0.0	7.3	49.1	49.1	1.9	1.8	0.0	20.0	2.2	0.0
Cycle Q Clear(g_c), s	20.0	59.5	0.0	7.3	49.1	49.1	1.9	1.8	0.0	20.0	2.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	297	774		168	638	541	416	440		602	650	
V/C Ratio(X)	1.12	1.05		0.83	1.41	1.38	0.08	0.07		0.82	0.06	
Avail Cap(c_a), veh/h	297	774		421	638	541	621	440		602	650	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	48.5	42.7	0.0	36.2	48.0	47.9	40.8	43.5	0.0	40.2	31.8	0.0
Incr Delay (d2), s/veh	89.7	45.3	0.0	10.1	193.7	184.3	0.1	0.3	0.0	8.5	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.1	36.2	0.0	3.6	56.6	47.3	0.9	0.9	0.0	7.5	1.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	138.2	88.0	0.0	46.3	241.6	232.2	40.9	43.8	0.0	48.7	32.0	0.0
LnGrp LOS	F	F		D	F	F	D	D		D	C	
Approach Vol, veh/h		1144	A		1789			62	A		533	A
Approach Delay, s/veh		102.7			222.4			42.3			47.4	
Approach LOS		F			F			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.0	55.0	8.6	56.4	14.6	65.4	25.0	40.0				
Change Period (Y+Rc), s	5.0	* 5.9	5.0	6.4	5.0	* 5.9	5.0	6.4				
Max Green Setting (Gmax), s	20.0	* 49	20.0	18.6	30.0	* 49	20.0	33.6				
Max Q Clear Time (g_c+I1), s	22.0	51.1	3.9	4.2	9.3	61.5	22.0	3.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.3	0.0	0.0	0.1				

Intersection Summary

HCM 6th Ctrl Delay	154.0
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC

4: Arnold Mill Rd & The King's Academy

05/26/2020

Intersection						
Int Delay, s/veh	3.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	1129	1537	3	3	4
Future Vol, veh/h	9	1129	1537	3	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	225	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	82	82	38	38
Heavy Vehicles, %	1	1	2	2	33	33
Mvmt Flow	11	1377	1874	4	8	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1878	0	-	0	3273 1874
Stage 1	-	-	-	-	1874 -
Stage 2	-	-	-	-	1399 -
Critical Hdwy	4.11	-	-	-	6.73 6.53
Critical Hdwy Stg 1	-	-	-	-	5.73 -
Critical Hdwy Stg 2	-	-	-	-	5.73 -
Follow-up Hdwy	2.209	-	-	-	3.797 3.597
Pot Cap-1 Maneuver	322	-	-	-	- 7 74
Stage 1	-	-	-	-	110 -
Stage 2	-	-	-	-	196 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	322	-	-	-	- 7 74
Mov Cap-2 Maneuver	-	-	-	-	- 7 -
Stage 1	-	-	-	-	106 -
Stage 2	-	-	-	-	196 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	\$ 664.1
HCM LOS			F

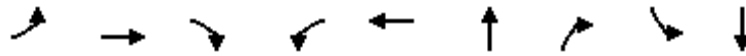
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	322	-	-	-	15
HCM Lane V/C Ratio	0.034	-	-	-	1.228
HCM Control Delay (s)	16.6	-	-	-	\$ 664.1
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	2.9

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Timings

5: Trickum Rd & Arnold Mill Rd

05/26/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	14	608	484	86	707	11	73	11	8
Future Volume (vph)	14	608	484	86	707	11	73	11	8
Turn Type	pm+pt	NA	Perm	pm+pt	NA	NA	Perm	Perm	NA
Protected Phases	1	6		5	2	3			4
Permitted Phases	6		6	2			3	4	
Detector Phase	1	6	6	5	2	3	3	4	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	17.8	17.8	10.0	17.8	13.5	13.5	13.5	13.5
Total Split (s)	15.0	60.0	60.0	25.0	60.0	50.0	50.0	20.0	20.0
Total Split (%)	9.7%	38.7%	38.7%	16.1%	38.7%	32.3%	32.3%	12.9%	12.9%
Yellow Time (s)	4.0	4.3	4.3	4.0	4.3	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	5.0	5.8	5.8	5.0	5.8	5.5	5.5		5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max

Intersection Summary

Cycle Length: 155

Actuated Cycle Length: 145.2

Natural Cycle: 180

Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Trickum Rd & Arnold Mill Rd



HCM Signalized Intersection Capacity Analysis

5: Trickum Rd & Arnold Mill Rd

05/26/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	608	484	86	707	6	811	11	73	11	8	9
Future Volume (vph)	14	608	484	86	707	6	811	11	73	11	8	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8	5.8	5.0	5.8			5.5	5.5		5.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Flt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)	1787	1881	1599	1787	1879			1775	1583		1713	
Flt Permitted	0.07	1.00	1.00	0.06	1.00			0.95	1.00		0.58	
Satd. Flow (perm)	131	1881	1599	121	1879			1775	1583		1018	
Peak-hour factor, PHF	0.90	0.90	0.90	0.94	0.94	0.94	0.93	0.93	0.93	0.70	0.70	0.70
Adj. Flow (vph)	16	676	538	91	752	6	872	12	78	16	11	13
RTOR Reduction (vph)	0	0	192	0	0	0	0	0	55	0	11	0
Lane Group Flow (vph)	16	676	346	91	758	0	0	884	23	0	29	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	4%	4%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2		3	3			4	
Permitted Phases	6		6	2					3	4		
Actuated Green, G (s)	60.0	57.3	57.3	72.4	64.7			44.5	44.5		14.5	
Effective Green, g (s)	60.0	57.3	57.3	72.4	64.7			44.5	44.5		14.5	
Actuated g/C Ratio	0.40	0.39	0.39	0.49	0.44			0.30	0.30		0.10	
Clearance Time (s)	5.0	5.8	5.8	5.0	5.8			5.5	5.5		5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	83	727	618	172	820			532	475		99	
v/s Ratio Prot	0.00	0.36		c0.04	c0.40			c0.50				
v/s Ratio Perm	0.07		0.22	0.22					0.01		c0.03	
v/c Ratio	0.19	0.93	0.56	0.53	0.92			1.66	0.05		0.29	
Uniform Delay, d1	34.3	43.5	35.6	31.3	39.4			51.8	36.8		62.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	1.1	18.2	1.1	2.9	15.9			306.0	0.0		7.4	
Delay (s)	35.4	61.7	36.7	34.2	55.4			357.9	36.9		69.5	
Level of Service	D	E	D	C	E			F	D		E	
Approach Delay (s)		50.4			53.1			331.8			69.5	
Approach LOS		D			D			F			E	
Intersection Summary												
HCM 2000 Control Delay			139.3									F
HCM 2000 Volume to Capacity ratio			1.11									
Actuated Cycle Length (s)			148.2								21.8	
Intersection Capacity Utilization			106.7%									G
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
6: Farmington Dr & Arnold Mill Rd

05/26/2020

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	40	621	13	2	730	5	10	0	1	3	0	31
Future Vol, veh/h	40	621	13	2	730	5	10	0	1	3	0	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	96	96	96	69	69	69	85	85	85
Heavy Vehicles, %	1	1	1	1	1	1	0	0	0	6	6	6
Mvmt Flow	42	654	14	2	760	5	14	0	1	4	0	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	765	0	0	668	0	0	1530	1514	661	1513	1519	763
Stage 1	-	-	-	-	-	-	745	745	-	767	767	-
Stage 2	-	-	-	-	-	-	785	769	-	746	752	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.1	6.5	6.2	7.16	6.56	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.16	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.16	5.56	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.5	4	3.3	3.554	4.054	3.354
Pot Cap-1 Maneuver	853	-	-	927	-	-	97	121	466	96	116	398
Stage 1	-	-	-	-	-	-	409	424	-	389	406	-
Stage 2	-	-	-	-	-	-	389	413	-	399	412	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	853	-	-	927	-	-	83	111	466	90	106	398
Mov Cap-2 Maneuver	-	-	-	-	-	-	83	111	-	90	106	-
Stage 1	-	-	-	-	-	-	377	391	-	359	404	-
Stage 2	-	-	-	-	-	-	352	411	-	367	380	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	53.4	18.5
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	90	853	-	-	927	-	-	306
HCM Lane V/C Ratio	0.177	0.049	-	-	0.002	-	-	0.131
HCM Control Delay (s)	53.4	9.4	0	-	8.9	0	-	18.5
HCM Lane LOS	F	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.6	0.2	-	-	0	-	-	0.4

Timings

7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

05/26/2020



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	36	484	17	341	325	552	202	290
Future Volume (vph)	36	484	17	341	325	552	202	290
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	1	6	5	2	3	8	7	4
Permitted Phases	6		2		8		4	
Detector Phase	1	6	5	2	3	8	7	4
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	21.0	12.0	21.0	12.0	21.0	12.0	12.0
Total Split (s)	15.0	45.0	20.0	45.0	15.0	40.0	12.0	50.0
Total Split (%)	11.5%	34.6%	15.4%	34.6%	11.5%	30.8%	9.2%	38.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None

Intersection Summary

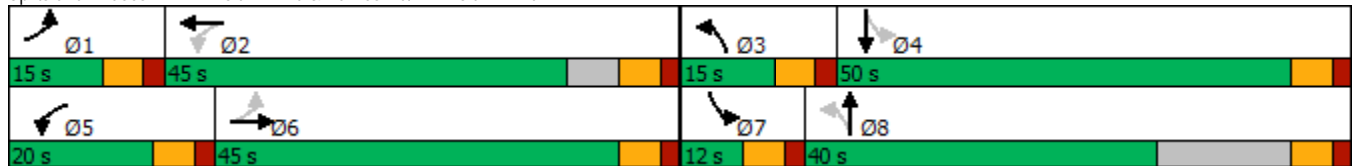
Cycle Length: 130

Actuated Cycle Length: 104.6

Natural Cycle: 180

Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd



HCM 6th Signalized Intersection Summary

7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

05/26/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	484	239	17	341	137	325	552	22	202	290	32
Future Volume (veh/h)	36	484	239	17	341	137	325	552	22	202	290	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	515	254	18	359	144	353	600	24	227	326	36
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.92	0.92	0.92	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	2	2	2	2	2	2
Cap, veh/h	223	434	214	109	447	179	343	576	23	170	486	54
Arrive On Green	0.04	0.37	0.37	0.02	0.35	0.35	0.09	0.32	0.32	0.06	0.29	0.29
Sat Flow, veh/h	1767	1173	578	1767	1259	505	1781	1786	71	1781	1655	183
Grp Volume(v), veh/h	38	0	769	18	0	503	353	0	624	227	0	362
Grp Sat Flow(s),veh/h/ln	1767	0	1751	1767	0	1765	1781	0	1858	1781	0	1837
Q Serve(g_s), s	1.4	0.0	39.0	0.7	0.0	27.1	9.0	0.0	34.0	6.0	0.0	18.3
Cycle Q Clear(g_c), s	1.4	0.0	39.0	0.7	0.0	27.1	9.0	0.0	34.0	6.0	0.0	18.3
Prop In Lane	1.00		0.33	1.00		0.29	1.00		0.04	1.00		0.10
Lane Grp Cap(c), veh/h	223	0	648	109	0	626	343	0	599	170	0	540
V/C Ratio(X)	0.17	0.00	1.19	0.16	0.00	0.80	1.03	0.00	1.04	1.34	0.00	0.67
Avail Cap(c_a), veh/h	306	0	648	303	0	653	343	0	599	170	0	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.5	0.0	33.2	27.2	0.0	30.7	34.7	0.0	35.7	32.4	0.0	32.7
Incr Delay (d2), s/veh	0.4	0.0	99.2	0.7	0.0	7.0	55.9	0.0	48.2	186.5	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	33.6	0.3	0.0	12.3	9.7	0.0	22.4	11.7	0.0	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.8	0.0	132.5	27.9	0.0	37.7	90.7	0.0	83.9	218.9	0.0	34.2
LnGrp LOS	C	A	F	C	A	D	F	A	F	F	A	C
Approach Vol, veh/h		807			521			977			589	
Approach Delay, s/veh		127.4			37.3			86.3			105.4	
Approach LOS		F			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	43.4	15.0	37.0	8.5	45.0	12.0	40.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	39.0	9.0	44.0	14.0	39.0	6.0	34.0				
Max Q Clear Time (g_c+I1), s	3.4	29.1	11.0	20.3	2.7	41.0	8.0	36.0				
Green Ext Time (p_c), s	0.0	2.3	0.0	2.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			92.8									
HCM 6th LOS			F									

HCM 6th TWSC

8: Arnold Mill Rd & Hendon Rd

05/26/2020

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	7	554	866	14	5	6
Future Vol, veh/h	7	554	866	14	5	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	97	97	58	58
Heavy Vehicles, %	3	3	2	2	0	0
Mvmt Flow	7	589	893	14	9	10

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	907	0	-	0	1503
Stage 1	-	-	-	-	900
Stage 2	-	-	-	-	603
Critical Hdwy	4.13	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.227	-	-	-	3.5
Pot Cap-1 Maneuver	746	-	-	-	135
Stage 1	-	-	-	-	400
Stage 2	-	-	-	-	550
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	746	-	-	-	133
Mov Cap-2 Maneuver	-	-	-	-	133
Stage 1	-	-	-	-	394
Stage 2	-	-	-	-	550

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	25
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	746	-	-	-	199
HCM Lane V/C Ratio	0.01	-	-	-	0.095
HCM Control Delay (s)	9.9	0	-	-	25
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.3

HCM 6th TWSC
9: Arnold Mill Rd & N Arnold Mill Rd

05/26/2020

Intersection						
Int Delay, s/veh	24					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	23	428	771	352	131	31
Future Vol, veh/h	23	428	771	352	131	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	94	94	88	88
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	24	451	820	374	149	35

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1194	0	-	0	1506
Stage 1	-	-	-	-	1007
Stage 2	-	-	-	-	499
Critical Hdwy	4.13	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.227	-	-	-	3.518
Pot Cap-1 Maneuver	581	-	-	-	133
Stage 1	-	-	-	-	353
Stage 2	-	-	-	-	610
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	581	-	-	-	126
Mov Cap-2 Maneuver	-	-	-	-	126
Stage 1	-	-	-	-	334
Stage 2	-	-	-	-	610

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	239.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	581	-	-	-	141
HCM Lane V/C Ratio	0.042	-	-	-	1.306
HCM Control Delay (s)	11.5	0	-	-	239.8
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	11.4

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th AWSC

10: English Ivy Way/Mountain Rd & Arnold Mill Rd

05/26/2020

Intersection	
Intersection Delay, s/veh	192.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	176	340	4	4	912	20	3	3	2	43	6	224
Future Vol, veh/h	176	340	4	4	912	20	3	3	2	43	6	224
Peak Hour Factor	0.86	0.86	0.86	0.98	0.98	0.98	0.67	0.67	0.67	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	1	1	1	25	25	25	3	3	3
Mvmt Flow	205	395	5	4	931	20	4	4	3	49	7	257
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	107	305.7	13.9	20.8
HCM LOS	F	F	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	38%	34%	0%	0%	16%
Vol Thru, %	38%	66%	0%	97%	2%
Vol Right, %	25%	0%	100%	2%	82%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	516	4	936	273
LT Vol	3	176	0	4	43
Through Vol	3	340	0	912	6
RT Vol	2	0	4	20	224
Lane Flow Rate	12	600	5	955	314
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.029	1.13	0.008	1.623	0.578
Departure Headway (Hd)	10.609	7.503	6.605	6.447	7.727
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	339	486	545	573	471
Service Time	8.609	5.203	4.305	4.447	5.727
HCM Lane V/C Ratio	0.035	1.235	0.009	1.667	0.667
HCM Control Delay	13.9	107.8	9.4	305.7	20.8
HCM Lane LOS	B	F	A	F	C
HCM 95th-tile Q	0.1	18.7	0	50.2	3.6

HCM 6th TWSC

11: River Laurel Way & Arnold Mill Rd

05/26/2020

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕		↕			↕	
Traffic Vol, veh/h	8	277	24	34	967	20	8	0	26	15	0	5
Future Vol, veh/h	8	277	24	34	967	20	8	0	26	15	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	110	-	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	93	93	93	77	77	77	83	83	83
Heavy Vehicles, %	2	2	2	5	5	5	2	2	2	5	5	5
Mvmt Flow	9	322	28	37	1040	22	10	0	34	18	0	6
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1062	0	0	350	0	0	1468	322	1485	1482	1040	
Stage 1	-	-	-	-	-	-	340	340	-	1114	1114	-
Stage 2	-	-	-	-	-	-	1128	1136	-	371	368	-
Critical Hdwy	4.12	-	-	4.15	-	-	7.12	6.52	6.22	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.15	5.55	-
Follow-up Hdwy	2.218	-	-	2.245	-	-	3.518	4.018	3.318	3.545	4.045	3.345
Pot Cap-1 Maneuver	656	-	-	1192	-	-	106	126	719	101	123	276
Stage 1	-	-	-	-	-	-	675	639	-	249	280	-
Stage 2	-	-	-	-	-	-	248	277	-	643	616	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	656	-	-	1192	-	-	96	114	719	89	112	276
Mov Cap-2 Maneuver	-	-	-	-	-	-	96	114	-	89	112	-
Stage 1	-	-	-	-	-	-	664	628	-	245	259	-
Stage 2	-	-	-	-	-	-	224	256	-	602	606	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.3			19.9			48.2		
HCM LOS	C			C			C			E		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	285	656	-	-	1192	-	-	107				
HCM Lane V/C Ratio	0.155	0.014	-	-	0.031	-	-	0.225				
HCM Control Delay (s)	19.9	10.6	0	-	8.1	0	-	48.2				
HCM Lane LOS	C	B	A	-	A	A	-	E				
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.8				

HCM 6th TWSC
12: Arnold Mill Rd & Grimes Rd

05/26/2020

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	38	1062	1	65	281
Future Vol, veh/h	1	38	1062	1	65	281
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	89	89	87	87
Heavy Vehicles, %	4	4	1	1	2	2
Mvmt Flow	1	51	1193	1	75	323

Major/Minor	Minor1	Major1	Major2	Major2	Major2
Conflicting Flow All	1667	1194	0	0	1194
Stage 1	1194	-	-	-	-
Stage 2	473	-	-	-	-
Critical Hdwy	6.44	6.24	-	-	4.12
Critical Hdwy Stg 1	5.44	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-
Follow-up Hdwy	3.536	3.336	-	-	2.218
Pot Cap-1 Maneuver	105	225	-	-	585
Stage 1	285	-	-	-	-
Stage 2	623	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	89	225	-	-	585
Mov Cap-2 Maneuver	89	-	-	-	-
Stage 1	285	-	-	-	-
Stage 2	526	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.7	0	2.3
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	217	585	-
HCM Lane V/C Ratio	-	-	0.24	0.128	-
HCM Control Delay (s)	-	-	26.7	12.1	0
HCM Lane LOS	-	-	D	B	A
HCM 95th %tile Q(veh)	-	-	0.9	0.4	-

HCM 6th TWSC
13: SR 140 & Arnold Mill Rd

05/26/2020

Intersection						
Int Delay, s/veh	28.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↘		↘	↑	↑	↘
Traffic Vol, veh/h	6	275	1009	1114	595	53
Future Vol, veh/h	6	275	1009	1114	595	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	-	200	-	-	210
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	97	97	93	93
Heavy Vehicles, %	2	2	1	1	4	4
Mvmt Flow	7	309	1040	1148	640	57

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	3868	640	640	0	0
Stage 1	640	-	-	-	-
Stage 2	3228	-	-	-	-
Critical Hdwy	6.42	6.22	4.11	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.209	-	-
Pot Cap-1 Maneuver	~ 4	475	- 949	-	-
Stage 1	525	-	-	-	-
Stage 2	26	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	0	475	- 949	-	-
Mov Cap-2 Maneuver	0	-	-	-	-
Stage 1	0	-	-	-	-
Stage 2	26	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.2	37.4	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	~ 949	-	485	-	-
HCM Lane V/C Ratio	1.096	-	0.651	-	-
HCM Control Delay (s)	78.8	-	25.2	-	-
HCM Lane LOS	F	-	D	-	-
HCM 95th %tile Q(veh)	26.3	-	4.6	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th TWSC
201: Arnold Mill Rd & Druw Cameron Ct

05/26/2020

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	8	872	847	4	4	7
Future Vol, veh/h	8	872	847	4	4	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	83	83	55	55
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	9	969	1020	5	7	13

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1025	0	-	0	2010 1023
Stage 1	-	-	-	-	1023 -
Stage 2	-	-	-	-	987 -
Critical Hdwy	4.11	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.209	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	681	-	-	-	66 289
Stage 1	-	-	-	-	350 -
Stage 2	-	-	-	-	364 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	681	-	-	-	64 289
Mov Cap-2 Maneuver	-	-	-	-	64 -
Stage 1	-	-	-	-	340 -
Stage 2	-	-	-	-	364 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	38.6
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	681	-	-	-	127
HCM Lane V/C Ratio	0.013	-	-	-	0.157
HCM Control Delay (s)	10.4	0	-	-	38.6
HCM Lane LOS	B	A	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	0.5

HCM 6th TWSC
 202: Little River Dr & Arnold Mill Rd

05/26/2020

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	859	11	24	844	9	14
Future Vol, veh/h	859	11	24	844	9	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	83	83	64	64
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	954	12	29	1017	14	22

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	966	0
Stage 1	-	-	-	960
Stage 2	-	-	-	1075
Critical Hdwy	-	-	4.11	6.4
Critical Hdwy Stg 1	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	5.4
Follow-up Hdwy	-	-	2.209	3.5
Pot Cap-1 Maneuver	-	-	717	63
Stage 1	-	-	-	375
Stage 2	-	-	-	331
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	717	57
Mov Cap-2 Maneuver	-	-	-	57
Stage 1	-	-	-	375
Stage 2	-	-	-	300

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	50.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	114	-	-	717	-
HCM Lane V/C Ratio	0.315	-	-	0.04	-
HCM Control Delay (s)	50.5	-	-	10.2	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	1.2	-	-	0.1	-

HCM 6th TWSC
203: Arnold Mill Rd & N River Dr

05/26/2020

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	19	848	869	8	7	9
Future Vol, veh/h	19	848	869	8	7	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	82	82	80	80
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	21	922	1060	10	9	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1070	0	-	0	2029
Stage 1	-	-	-	-	1065
Stage 2	-	-	-	-	964
Critical Hdwy	4.11	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.209	-	-	-	3.5
Pot Cap-1 Maneuver	655	-	-	-	64
Stage 1	-	-	-	-	334
Stage 2	-	-	-	-	373
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	655	-	-	-	60
Mov Cap-2 Maneuver	-	-	-	-	60
Stage 1	-	-	-	-	312
Stage 2	-	-	-	-	373

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	46.2
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	655	-	-	-	107
HCM Lane V/C Ratio	0.032	-	-	-	0.187
HCM Control Delay (s)	10.7	0	-	-	46.2
HCM Lane LOS	B	A	-	-	E
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7

HCM 6th TWSC
401: Arnold Mill Rd

05/26/2020

Intersection						
Int Delay, s/veh	5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	1134	1532	0	9	6
Future Vol, veh/h	0	1134	1532	0	9	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	91	91	42	42
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	1289	1684	0	21	14

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	2973 1684
Stage 1	-	-	-	-	1684 -
Stage 2	-	-	-	-	1289 -
Critical Hdwy	-	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	0	-	-	0	~ 16 118
Stage 1	0	-	-	0	167 -
Stage 2	0	-	-	0	261 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	~ 16 118
Mov Cap-2 Maneuver	-	-	-	-	~ 16 -
Stage 1	-	-	-	-	167 -
Stage 2	-	-	-	-	261 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	\$ 425.3
HCM LOS			F

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	16	118
HCM Lane V/C Ratio	-	-	1.339	0.121
HCM Control Delay (s)	-	-	\$ 682.4	39.7
HCM Lane LOS	-	-	F	E
HCM 95th %tile Q(veh)	-	-	3.2	0.4

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection: 1: Neese Rd & Arnold Mill Rd

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	676	175	199	375	200	495
Average Queue (ft)	343	137	98	153	165	211
95th Queue (ft)	585	233	169	301	230	410
Link Distance (ft)	953			2079		1373
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		100	150		125	
Storage Blk Time (%)	39	0	2	7	17	11
Queuing Penalty (veh)	101	0	13	12	61	31

Intersection: 3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

Movement	EB	EB	EB	WB	WB	WB	B45	B15	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	T	T	L	T	L	T
Maximum Queue (ft)	185	2377	290	324	677	275	734	434	50	73	250	493
Average Queue (ft)	178	2022	61	124	555	243	319	146	19	18	210	151
95th Queue (ft)	207	2280	255	323	810	359	890	448	54	52	296	426
Link Distance (ft)		3115			606		643	363	1077	1077		707
Upstream Blk Time (%)					23		21	7				
Queuing Penalty (veh)					354		324	102				
Storage Bay Dist (ft)	135		240	275		200						200
Storage Blk Time (%)	47	50			42	1						18
Queuing Penalty (veh)	323	146			309	13						44

Intersection: 3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

Movement	SB
Directions Served	R
Maximum Queue (ft)	149
Average Queue (ft)	5
95th Queue (ft)	51
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	150
Storage Blk Time (%)	0
Queuing Penalty (veh)	2

Intersection: 4: Arnold Mill Rd & The King's Academy

Movement	EB	WB	SB
Directions Served	L	T	LR
Maximum Queue (ft)	28	223	69
Average Queue (ft)	5	60	24
95th Queue (ft)	21	218	60
Link Distance (ft)		209	233
Upstream Blk Time (%)		4	
Queuing Penalty (veh)		55	
Storage Bay Dist (ft)	225		
Storage Blk Time (%)		14	
Queuing Penalty (veh)		0	

Intersection: 5: Trickum Rd & Arnold Mill Rd

Movement	EB	EB	EB	B19	WB	WB	NB	NB	SB
Directions Served	L	T	R	T	L	TR	LT	R	LTR
Maximum Queue (ft)	249	613	300	554	225	635	564	200	54
Average Queue (ft)	16	395	197	36	90	293	533	63	20
95th Queue (ft)	94	692	382	166	205	469	550	216	47
Link Distance (ft)		541		1012		1043	512		444
Upstream Blk Time (%)		9					72		
Queuing Penalty (veh)		99					0		
Storage Bay Dist (ft)	150		250		175			150	
Storage Blk Time (%)		37	0			25	68		
Queuing Penalty (veh)		183	0			21	50		

Intersection: 6: Farmington Dr & Arnold Mill Rd

Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	91	52	78
Average Queue (ft)	14	9	24
95th Queue (ft)	52	33	61
Link Distance (ft)	1043	474	443
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	239	421	28	420	170	496	160	497
Average Queue (ft)	64	364	7	233	157	263	109	154
95th Queue (ft)	214	452	25	368	189	411	181	280
Link Distance (ft)		368		405		1367		2457
Upstream Blk Time (%)		50		1				
Queuing Penalty (veh)		0		0				
Storage Bay Dist (ft)	90		90		120		110	
Storage Blk Time (%)		57		36	12	26	9	19
Queuing Penalty (veh)		21		6	71	84	29	38

Intersection: 8: Arnold Mill Rd & Hendon Rd

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	28	31
Average Queue (ft)	3	11
95th Queue (ft)	17	35
Link Distance (ft)	372	292
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Arnold Mill Rd & N Arnold Mill Rd

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	118	202
Average Queue (ft)	25	89
95th Queue (ft)	82	176
Link Distance (ft)	2322	542
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: English Ivy Way/Mountain Rd & Arnold Mill Rd

Movement	EB	EB	WB	B40	NB	SB
Directions Served	LT	R	LTR	T	LTR	LTR
Maximum Queue (ft)	204	125	766	213	49	156
Average Queue (ft)	106	4	452	19	6	65
95th Queue (ft)	165	43	775	109	28	121
Link Distance (ft)	450		670	1078	1071	539
Upstream Blk Time (%)			10			
Queuing Penalty (veh)			97			
Storage Bay Dist (ft)		75				
Storage Blk Time (%)	19					
Queuing Penalty (veh)	1					

Intersection: 11: River Laurel Way & Arnold Mill Rd

Movement	EB	WB	NB	SB
Directions Served	LT	LT	LTR	LTR
Maximum Queue (ft)	52	111	67	42
Average Queue (ft)	3	3	20	11
95th Queue (ft)	20	18	49	34
Link Distance (ft)	609	1044	320	253
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Arnold Mill Rd & Grimes Rd

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	94	22	144
Average Queue (ft)	22	1	49
95th Queue (ft)	51	7	114
Link Distance (ft)	506	1317	1044
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: SR 140 & Arnold Mill Rd

Movement	EB	NB	NB
Directions Served	LR	L	T
Maximum Queue (ft)	328	275	1064
Average Queue (ft)	51	240	495
95th Queue (ft)	204	324	1237
Link Distance (ft)	1317		1025
Upstream Blk Time (%)			10
Queuing Penalty (veh)			0
Storage Bay Dist (ft)		200	
Storage Blk Time (%)		41	
Queuing Penalty (veh)		458	

Intersection: 201: Arnold Mill Rd & Druw Cameron Ct

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	76	30
Average Queue (ft)	8	8
95th Queue (ft)	38	30
Link Distance (ft)	2079	662
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 202: Little River Dr & Arnold Mill Rd

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	31	180	50
Average Queue (ft)	1	29	16
95th Queue (ft)	11	112	40
Link Distance (ft)	113	167	748
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		4	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 203: Arnold Mill Rd & N River Dr

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	167	134	28
Average Queue (ft)	18	8	15
95th Queue (ft)	86	54	37
Link Distance (ft)	167	587	548
Upstream Blk Time (%)	0		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 401: Arnold Mill Rd

Movement	WB	B16	SB	SB
Directions Served	T	T	L	R
Maximum Queue (ft)	202	1015	51	52
Average Queue (ft)	46	127	13	13
95th Queue (ft)	178	590	44	42
Link Distance (ft)	111	1012	174	174
Upstream Blk Time (%)	11	0		
Queuing Penalty (veh)	162	3		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

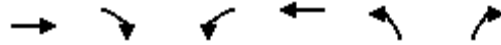
Network Summary

Network wide Queuing Penalty: 3217

Timings

1: Neese Rd & Arnold Mill Rd

12/31/2020



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Volume (vph)	384	210	360	420	96	430
Future Volume (vph)	384	210	360	420	96	430
Turn Type	NA	Perm	pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	8	1
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	1
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	11.0
Total Split (s)	60.0	60.0	30.0	90.0	30.0	30.0
Total Split (%)	50.0%	50.0%	25.0%	75.0%	25.0%	25.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	Max	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 90.1

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

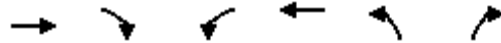
Splits and Phases: 1: Neese Rd & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

1: Neese Rd & Arnold Mill Rd

12/31/2020



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕	↗	↖	↕	↖	↗
Traffic Volume (veh/h)	384	210	360	420	96	430
Future Volume (veh/h)	384	210	360	420	96	430
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	1856	1856	1856	1856
Adj Flow Rate, veh/h	486	266	400	467	141	632
Peak Hour Factor	0.79	0.79	0.90	0.90	0.68	0.68
Percent Heavy Veh, %	2	2	3	3	3	3
Cap, veh/h	585	496	451	1045	515	737
Arrive On Green	0.31	0.31	0.18	0.56	0.29	0.29
Sat Flow, veh/h	1870	1585	1767	1856	1767	1572
Grp Volume(v), veh/h	486	266	400	467	141	632
Grp Sat Flow(s),veh/h/ln	1870	1585	1767	1856	1767	1572
Q Serve(g_s), s	19.9	11.4	11.7	12.1	5.1	24.0
Cycle Q Clear(g_c), s	19.9	11.4	11.7	12.1	5.1	24.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	585	496	451	1045	515	737
V/C Ratio(X)	0.83	0.54	0.89	0.45	0.27	0.86
Avail Cap(c_a), veh/h	1226	1039	653	1892	515	737
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	26.3	23.4	16.9	10.5	22.5	19.5
Incr Delay (d2), s/veh	3.1	0.9	10.2	0.3	1.3	12.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	4.0	5.2	4.1	2.3	12.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.4	24.3	27.0	10.8	23.8	31.8
LnGrp LOS	C	C	C	B	C	C
Approach Vol, veh/h	752			867	773	
Approach Delay, s/veh	27.6			18.3	30.4	
Approach LOS	C			B	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	20.6	31.8			52.4	30.0
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	24.0	54.0			84.0	24.0
Max Q Clear Time (g_c+I1), s	13.7	21.9			14.1	26.0
Green Ext Time (p_c), s	0.9	3.9			2.9	0.0
Intersection Summary						
HCM 6th Ctrl Delay			25.1			
HCM 6th LOS			C			

Timings

3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

12/31/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	303	209	289	492	207	144	96	220	370	189	332
Future Volume (vph)	68	303	209	289	492	207	144	96	220	370	189	332
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	20.9	20.9	11.0	20.9	20.9	11.0	12.4	12.4	10.0	12.4	12.4
Total Split (s)	20.0	50.0	50.0	20.0	50.0	50.0	15.0	20.0	20.0	30.0	35.0	35.0
Total Split (%)	16.7%	41.7%	41.7%	16.7%	41.7%	41.7%	12.5%	16.7%	16.7%	25.0%	29.2%	29.2%
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.4	1.4	1.0	1.4	1.4	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.9	5.9	5.0	5.9	5.9	5.0	6.4	6.4	5.0	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max

Intersection Summary

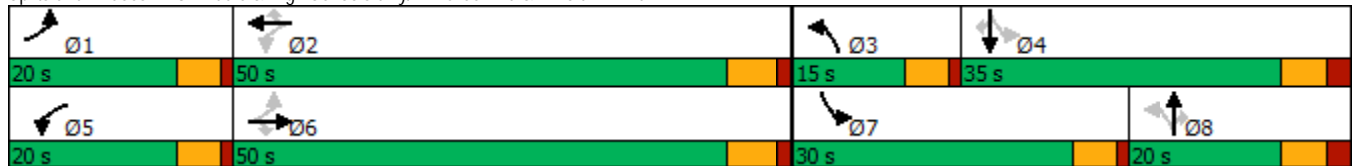
Cycle Length: 120

Actuated Cycle Length: 106.4

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

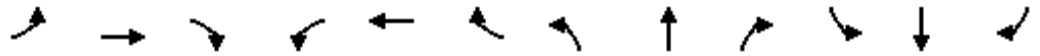
Splits and Phases: 3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

12/31/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	303	209	289	492	207	144	96	220	370	189	332
Future Volume (veh/h)	68	303	209	289	492	207	144	96	220	370	189	332
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1856	1856	1856	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	81	361	0	332	566	238	218	145	0	430	220	0
Peak Hour Factor	0.84	0.84	0.84	0.87	0.87	0.87	0.66	0.66	0.66	0.86	0.86	0.86
Percent Heavy Veh, %	6	6	6	3	3	3	2	2	2	1	1	1
Cap, veh/h	194	441		392	637	539	448	321		582	537	
Arrive On Green	0.05	0.24	0.00	0.15	0.34	0.34	0.10	0.17	0.00	0.21	0.29	0.00
Sat Flow, veh/h	1725	1811	1535	1767	1856	1572	1781	1870	1585	1795	1885	1598
Grp Volume(v), veh/h	81	361	0	332	566	238	218	145	0	430	220	0
Grp Sat Flow(s),veh/h/ln	1725	1811	1535	1767	1856	1572	1781	1870	1585	1795	1885	1598
Q Serve(g_s), s	3.5	18.9	0.0	13.6	28.9	11.8	10.0	7.0	0.0	18.8	9.5	0.0
Cycle Q Clear(g_c), s	3.5	18.9	0.0	13.6	28.9	11.8	10.0	7.0	0.0	18.8	9.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	194	441		392	637	539	448	321		582	537	
V/C Ratio(X)	0.42	0.82		0.85	0.89	0.44	0.49	0.45		0.74	0.41	
Avail Cap(c_a), veh/h	366	796		392	816	691	448	321		647	537	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.3	35.9	0.0	24.3	31.2	25.5	30.4	37.3	0.0	24.0	29.0	0.0
Incr Delay (d2), s/veh	1.4	3.8	0.0	15.8	9.9	0.6	0.8	4.5	0.0	4.0	2.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	8.4	0.0	6.9	13.8	4.5	4.5	3.6	0.0	8.2	4.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.8	39.7	0.0	40.1	41.0	26.1	31.2	41.9	0.0	28.0	31.3	0.0
LnGrp LOS	C	D		D	D	C	C	D		C	C	
Approach Vol, veh/h		442	A		1136			363	A		650	A
Approach Delay, s/veh		37.9			37.6			35.4			29.1	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	40.3	15.0	35.0	20.0	30.3	26.4	23.6				
Change Period (Y+Rc), s	5.0	* 5.9	5.0	6.4	5.0	* 5.9	5.0	6.4				
Max Green Setting (Gmax), s	15.0	* 44	10.0	28.6	15.0	* 44	25.0	13.6				
Max Q Clear Time (g_c+I1), s	5.5	30.9	12.0	11.5	15.6	20.9	20.8	9.0				
Green Ext Time (p_c), s	0.1	3.5	0.0	1.0	0.0	1.9	0.6	0.3				

Intersection Summary												
HCM 6th Ctrl Delay			35.2									
HCM 6th LOS			D									

Notes
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC

4: Arnold Mill Rd & The King's Academy

12/31/2020

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	931	1039	13	0	2
Future Vol, veh/h	17	931	1039	13	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	225	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	83	83	25	25
Heavy Vehicles, %	5	5	4	4	0	0
Mvmt Flow	20	1095	1252	16	0	8

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1268	0	-	0	2387 1252
Stage 1	-	-	-	-	1252 -
Stage 2	-	-	-	-	1135 -
Critical Hdwy	4.15	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.245	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	538	-	-	-	38 212
Stage 1	-	-	-	-	272 -
Stage 2	-	-	-	-	309 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	538	-	-	-	37 212
Mov Cap-2 Maneuver	-	-	-	-	37 -
Stage 1	-	-	-	-	262 -
Stage 2	-	-	-	-	309 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	22.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	538	-	-	-	212
HCM Lane V/C Ratio	0.037	-	-	-	0.038
HCM Control Delay (s)	11.9	-	-	-	22.6
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Timings

5: Trickum Rd & Arnold Mill Rd

12/31/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Configurations								
Traffic Volume (vph)	2	325	579	186	536	3	70	17
Future Volume (vph)	2	325	579	186	536	3	70	17
Turn Type	pm+pt	NA	Perm	pm+pt	NA	NA	Perm	NA
Protected Phases	1	6		5	2	3		4
Permitted Phases	6		6	2			3	
Detector Phase	1	6	6	5	2	3	3	4
Switch Phase								
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	17.8	17.8	10.0	17.8	13.5	13.5	13.5
Total Split (s)	10.0	65.0	65.0	19.0	74.0	50.0	50.0	16.0
Total Split (%)	6.7%	43.3%	43.3%	12.7%	49.3%	33.3%	33.3%	10.7%
Yellow Time (s)	4.0	4.3	4.3	4.0	4.3	4.0	4.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.8	5.8	5.0	5.8	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max

Intersection Summary

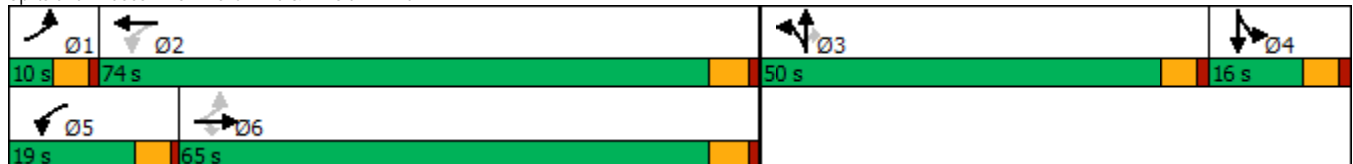
Cycle Length: 150

Actuated Cycle Length: 125.5

Natural Cycle: 140

Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Trickum Rd & Arnold Mill Rd



HCM Signalized Intersection Capacity Analysis

5: Trickum Rd & Arnold Mill Rd

12/31/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	325	579	186	536	3	475	3	70	4	17	9
Future Volume (vph)	2	325	579	186	536	3	475	3	70	4	17	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8	5.8	5.0	5.8			5.5	5.5		5.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Flt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.99	
Satd. Flow (prot)	1719	1810	1538	1770	1861			1724	1538		1690	
Flt Permitted	0.14	1.00	1.00	0.26	1.00			0.95	1.00		0.99	
Satd. Flow (perm)	252	1810	1538	491	1861			1724	1538		1690	
Peak-hour factor, PHF	0.89	0.89	0.89	0.83	0.83	0.83	0.70	0.70	0.70	0.94	0.94	0.94
Adj. Flow (vph)	2	365	651	224	646	4	679	4	100	4	18	10
RTOR Reduction (vph)	0	0	458	0	0	0	0	0	65	0	9	0
Lane Group Flow (vph)	2	365	193	224	650	0	0	683	35	0	23	0
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	5%	5%	5%	7%	7%	7%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases	6		6	2					3			
Actuated Green, G (s)	39.2	38.4	38.4	57.0	51.2			45.0	45.0		10.6	
Effective Green, g (s)	39.2	38.4	38.4	57.0	51.2			45.0	45.0		10.6	
Actuated g/C Ratio	0.30	0.30	0.30	0.44	0.40			0.35	0.35		0.08	
Clearance Time (s)	5.0	5.8	5.8	5.0	5.8			5.5	5.5		5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	85	537	456	350	736			599	534		138	
v/s Ratio Prot	0.00	0.20		c0.07	c0.35			c0.40			c0.01	
v/s Ratio Perm	0.01		0.13	0.21					0.02			
v/c Ratio	0.02	0.68	0.42	0.64	0.88			1.14	0.07		0.17	
Uniform Delay, d1	34.0	40.1	36.6	25.7	36.3			42.2	28.2		55.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	3.4	0.6	4.0	12.1			81.9	0.1		2.6	
Delay (s)	34.1	43.5	37.2	29.6	48.5			124.1	28.2		57.8	
Level of Service	C	D	D	C	D			F	C		E	
Approach Delay (s)		39.5			43.6			111.9			57.8	
Approach LOS		D			D			F			E	
Intersection Summary												
HCM 2000 Control Delay			62.0			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			129.4			Sum of lost time (s)				21.8		
Intersection Capacity Utilization			78.4%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
6: Farmington Dr & Arnold Mill Rd

12/31/2020

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	381	5	2	733	6	13	1	3	7	0	32
Future Vol, veh/h	5	381	5	2	733	6	13	1	3	7	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	235	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	84	84	84	85	85	85	77	77	77
Heavy Vehicles, %	4	4	4	3	3	3	6	6	6	3	3	3
Mvmt Flow	6	470	6	2	873	7	15	1	4	9	0	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	880	0	0	476	0	0	1387	1369	473	1369	1369	877
Stage 1	-	-	-	-	-	-	485	485	-	881	881	-
Stage 2	-	-	-	-	-	-	902	884	-	488	488	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.16	6.56	6.26	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.56	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.56	-	6.13	5.53	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.554	4.054	3.354	3.527	4.027	3.327
Pot Cap-1 Maneuver	760	-	-	1081	-	-	118	144	583	123	146	346
Stage 1	-	-	-	-	-	-	556	545	-	340	363	-
Stage 2	-	-	-	-	-	-	327	358	-	559	548	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	760	-	-	1081	-	-	103	142	583	120	144	346
Mov Cap-2 Maneuver	-	-	-	-	-	-	103	142	-	120	144	-
Stage 1	-	-	-	-	-	-	552	541	-	337	362	-
Stage 2	-	-	-	-	-	-	287	357	-	550	544	-

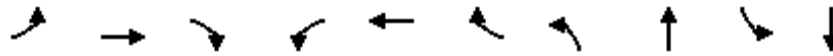
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	39.9	22.2
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	123	760	-	-	1081	-	-	259
HCM Lane V/C Ratio	0.163	0.008	-	-	0.002	-	-	0.196
HCM Control Delay (s)	39.9	9.8	-	-	8.3	0	-	22.2
HCM Lane LOS	E	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	0.6	0	-	-	0	-	-	0.7

Timings

7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

12/31/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	67	118	224	47	317	303	244	325	67	310
Future Volume (vph)	67	118	224	47	317	303	244	325	67	310
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	1	6		5	2		3	8	7	4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	3	8	7	4
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	21.0	21.0	12.0	21.0	21.0	12.0	21.0	12.0	12.0
Total Split (s)	15.0	54.0	54.0	15.0	54.0	54.0	25.0	46.0	15.0	36.0
Total Split (%)	11.5%	41.5%	41.5%	11.5%	41.5%	41.5%	19.2%	35.4%	11.5%	27.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None

Intersection Summary

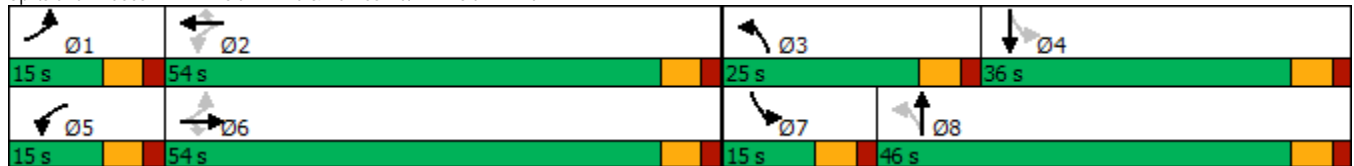
Cycle Length: 130

Actuated Cycle Length: 104.6

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd



HCM 6th Signalized Intersection Summary
 7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

12/31/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	118	224	47	317	303	244	325	28	67	310	8
Future Volume (veh/h)	67	118	224	47	317	303	244	325	28	67	310	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1841	1841	1841	1826	1826	1826	1856	1856	1856
Adj Flow Rate, veh/h	72	127	241	55	369	352	284	378	33	88	408	11
Peak Hour Factor	0.93	0.93	0.93	0.86	0.86	0.86	0.86	0.86	0.86	0.76	0.76	0.76
Percent Heavy Veh, %	7	7	7	4	4	4	5	5	5	3	3	3
Cap, veh/h	243	504	427	395	506	429	363	560	49	325	463	12
Arrive On Green	0.06	0.28	0.28	0.05	0.27	0.27	0.14	0.34	0.34	0.06	0.26	0.26
Sat Flow, veh/h	1711	1796	1522	1753	1841	1560	1739	1655	145	1767	1798	48
Grp Volume(v), veh/h	72	127	241	55	369	352	284	0	411	88	0	419
Grp Sat Flow(s),veh/h/ln	1711	1796	1522	1753	1841	1560	1739	0	1800	1767	0	1847
Q Serve(g_s), s	2.6	4.8	12.0	1.9	16.1	18.7	10.0	0.0	17.3	3.2	0.0	19.3
Cycle Q Clear(g_c), s	2.6	4.8	12.0	1.9	16.1	18.7	10.0	0.0	17.3	3.2	0.0	19.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.08	1.00		0.03
Lane Grp Cap(c), veh/h	243	504	427	395	506	429	363	0	609	325	0	475
V/C Ratio(X)	0.30	0.25	0.56	0.14	0.73	0.82	0.78	0.00	0.68	0.27	0.00	0.88
Avail Cap(c_a), veh/h	320	973	825	485	997	845	492	0	813	399	0	625
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.3	24.7	27.2	21.0	29.1	30.1	21.0	0.0	25.1	22.4	0.0	31.6
Incr Delay (d2), s/veh	0.7	0.3	1.2	0.2	2.0	4.0	5.7	0.0	1.4	0.4	0.0	11.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	2.0	4.2	0.8	7.1	7.0	4.2	0.0	7.0	1.3	0.0	9.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.0	24.9	28.4	21.1	31.2	34.1	26.7	0.0	26.5	22.8	0.0	42.8
LnGrp LOS	C	C	C	C	C	C	C	A	C	C	A	D
Approach Vol, veh/h		440			776			695			507	
Approach Delay, s/veh		26.5			31.8			26.6			39.3	
Approach LOS		C			C			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	30.3	18.5	28.8	10.5	30.9	11.3	36.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	48.0	19.0	30.0	9.0	48.0	9.0	40.0				
Max Q Clear Time (g_c+I1), s	4.6	20.7	12.0	21.3	3.9	14.0	5.2	19.3				
Green Ext Time (p_c), s	0.0	3.6	0.5	1.5	0.0	1.6	0.1	2.2				
Intersection Summary												
HCM 6th Ctrl Delay			30.9									
HCM 6th LOS			C									

HCM 6th TWSC
8: Arnold Mill Rd & Hendon Rd

12/31/2020

Intersection						
Int Delay, s/veh	8.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕	↕	↕	
Traffic Vol, veh/h	1	562	586	38	50	10
Future Vol, veh/h	1	562	586	38	50	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	175	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	66	66	83	83	49	49
Heavy Vehicles, %	4	4	4	4	9	9
Mvmt Flow	2	852	706	46	102	20

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	752	0	0	1562	706
Stage 1	-	-	-	706	-
Stage 2	-	-	-	856	-
Critical Hdwy	4.14	-	-	6.49	6.29
Critical Hdwy Stg 1	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	5.49	-
Follow-up Hdwy	2.236	-	-	3.581	3.381
Pot Cap-1 Maneuver	849	-	-	119	424
Stage 1	-	-	-	477	-
Stage 2	-	-	-	405	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	849	-	-	119	424
Mov Cap-2 Maneuver	-	-	-	119	-
Stage 1	-	-	-	475	-
Stage 2	-	-	-	405	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	117.2
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	849	-	-	-	135
HCM Lane V/C Ratio	0.002	-	-	-	0.907
HCM Control Delay (s)	9.2	0	-	-	117.2
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	6

HCM 6th TWSC
 9: Arnold Mill Rd & N Arnold Mill Rd

12/31/2020

Intersection						
Int Delay, s/veh	34.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	364	302	81	321	56
Future Vol, veh/h	27	364	302	81	321	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	235	-	-	175	0	150
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	91	91	86	86
Heavy Vehicles, %	5	5	2	2	5	5
Mvmt Flow	31	414	332	89	373	65

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	421	0	-	0	808
Stage 1	-	-	-	-	332
Stage 2	-	-	-	-	476
Critical Hdwy	4.15	-	-	-	6.45
Critical Hdwy Stg 1	-	-	-	-	5.45
Critical Hdwy Stg 2	-	-	-	-	5.45
Follow-up Hdwy	2.245	-	-	-	3.545
Pot Cap-1 Maneuver	1122	-	-	-	346
Stage 1	-	-	-	-	720
Stage 2	-	-	-	-	619
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1122	-	-	-	336
Mov Cap-2 Maneuver	-	-	-	-	336
Stage 1	-	-	-	-	700
Stage 2	-	-	-	-	619

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	102
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1122	-	-	-	336	703
HCM Lane V/C Ratio	0.027	-	-	-	1.111	0.093
HCM Control Delay (s)	8.3	-	-	-	118	10.6
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.1	-	-	-	14.4	0.3

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th AWSC

10: English Ivy Way/Mountain Rd & Arnold Mill Rd

12/31/2020

Intersection	
Intersection Delay, s/veh	106.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	120	625	2	0	209	55	1	5	7	33	9	155
Future Vol, veh/h	120	625	2	0	209	55	1	5	7	33	9	155
Peak Hour Factor	0.96	0.96	0.96	0.83	0.83	0.83	0.65	0.65	0.65	0.62	0.62	0.62
Heavy Vehicles, %	1	1	1	4	4	4	8	8	8	2	2	2
Mvmt Flow	125	651	2	0	252	66	2	8	11	53	15	250
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	182.2	16.8	11.5	17.3
HCM LOS	F	C	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	8%	16%	0%	0%	17%
Vol Thru, %	38%	84%	0%	79%	5%
Vol Right, %	54%	0%	100%	21%	79%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	13	745	2	264	197
LT Vol	1	120	0	0	33
Through Vol	5	625	0	209	9
RT Vol	7	0	2	55	155
Lane Flow Rate	20	776	2	318	318
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.04	1.338	0.003	0.535	0.539
Departure Headway (Hd)	8.153	6.205	5.412	6.545	6.74
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	442	590	661	553	540
Service Time	6.153	3.944	3.15	4.545	4.74
HCM Lane V/C Ratio	0.045	1.315	0.003	0.575	0.589
HCM Control Delay	11.5	182.7	8.2	16.8	17.3
HCM Lane LOS	B	F	A	C	C
HCM 95th-tile Q	0.1	33.1	0	3.1	3.2

HCM 6th TWSC
 11: River Laurel Way & Arnold Mill Rd

12/31/2020

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕	↕	↕	↕		↕			↕	
Traffic Vol, veh/h	8	652	11	7	132	2	26	1	59	21	0	23
Future Vol, veh/h	8	652	11	7	132	2	26	1	59	21	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	110	235	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	88	88	88	93	93	93	79	79	79
Heavy Vehicles, %	2	2	2	5	5	5	2	2	2	5	5	5
Mvmt Flow	8	686	12	8	150	2	28	1	63	27	0	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	152	0	0	698	0	0	884	870	686	906	880	150
Stage 1	-	-	-	-	-	-	702	702	-	166	166	-
Stage 2	-	-	-	-	-	-	182	168	-	740	714	-
Critical Hdwy	4.12	-	-	4.15	-	-	7.12	6.52	6.22	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.15	5.55	-
Follow-up Hdwy	2.218	-	-	2.245	-	-	3.518	4.018	3.318	3.545	4.045	3.345
Pot Cap-1 Maneuver	1429	-	-	885	-	-	266	290	447	254	283	889
Stage 1	-	-	-	-	-	-	429	440	-	829	755	-
Stage 2	-	-	-	-	-	-	820	759	-	404	430	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1429	-	-	885	-	-	254	285	447	214	278	889
Mov Cap-2 Maneuver	-	-	-	-	-	-	254	285	-	214	278	-
Stage 1	-	-	-	-	-	-	425	436	-	822	748	-
Stage 2	-	-	-	-	-	-	786	752	-	343	426	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.5	18.3	17
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	362	1429	-	-	885	-	-	355
HCM Lane V/C Ratio	0.255	0.006	-	-	0.009	-	-	0.157
HCM Control Delay (s)	18.3	7.5	0	-	9.1	-	-	17
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	1	0	-	-	0	-	-	0.6

HCM 6th TWSC
12: Arnold Mill Rd & Grimes Rd

12/31/2020

Intersection						
Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	45	101	0	45	709
Future Vol, veh/h	28	45	101	0	45	709
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	235	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	71	71	76	76	95	95
Heavy Vehicles, %	5	5	6	6	1	1
Mvmt Flow	39	63	133	0	47	746

Major/Minor	Minor1	Major1	Major2	Major2	Major2
Conflicting Flow All	973	133	0	0	133
Stage 1	133	-	-	-	-
Stage 2	840	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.11
Critical Hdwy Stg 1	5.45	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.209
Pot Cap-1 Maneuver	276	908	-	-	1458
Stage 1	886	-	-	-	-
Stage 2	419	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	267	908	-	-	1458
Mov Cap-2 Maneuver	267	-	-	-	-
Stage 1	886	-	-	-	-
Stage 2	406	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.7	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	473	1458	-
HCM Lane V/C Ratio	-	-	0.217	0.032	-
HCM Control Delay (s)	-	-	14.7	7.6	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0.1	-

Timings

13: SR 140 & Arnold Mill Rd

12/31/2020



Lane Group	EBR	NBL	NBT	SBT	SBR
Lane Configurations					
Traffic Volume (vph)	705	97	274	736	6
Future Volume (vph)	705	97	274	736	6
Turn Type	Perm	pm+pt	NA	NA	Perm
Protected Phases		5	2	6	
Permitted Phases	4	2			6
Detector Phase	4	5	2	6	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	11.0	24.0	24.0	24.0
Total Split (s)	30.0	20.0	90.0	70.0	70.0
Total Split (%)	25.0%	16.7%	75.0%	58.3%	58.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag		Lead		Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes
Recall Mode	None	None	Min	Min	Min

Intersection Summary

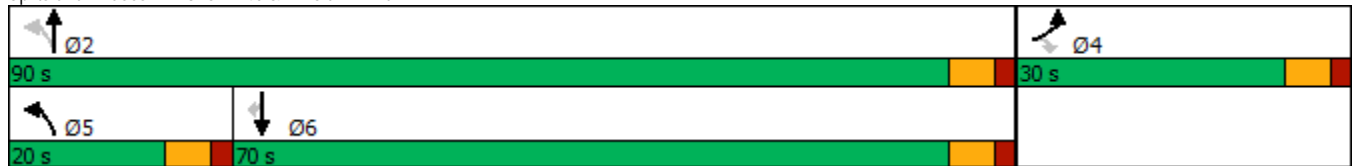
Cycle Length: 120

Actuated Cycle Length: 107.9

Natural Cycle: 170

Control Type: Actuated-Uncoordinated

Splits and Phases: 13: SR 140 & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

13: SR 140 & Arnold Mill Rd

12/31/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	705	97	274	736	6
Future Volume (veh/h)	0	705	97	274	736	6
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	1697	1697	1643	1643	1697	1697
Adj Flow Rate, veh/h	0	0	108	304	800	0
Peak Hour Factor	0.88	0.88	0.90	0.90	0.92	0.92
Percent Heavy Veh, %	1	1	5	5	1	1
Cap, veh/h	4		466	1379	998	
Arrive On Green	0.00	0.00	0.09	0.84	0.59	0.00
Sat Flow, veh/h	1616	1438	1565	1643	1697	1438
Grp Volume(v), veh/h	0	0	108	304	800	0
Grp Sat Flow(s),veh/h/ln	1616	1438	1565	1643	1697	1438
Q Serve(g_s), s	0.0	0.0	0.7	1.4	13.7	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.7	1.4	13.7	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	4		466	1379	998	
V/C Ratio(X)	0.00		0.23	0.22	0.80	
Avail Cap(c_a), veh/h	1038		912	3696	2908	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	5.5	0.6	6.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.3	0.1	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	0.0	1.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.0	5.7	0.7	7.5	0.0
LnGrp LOS	A		A	A	A	
Approach Vol, veh/h	0	A		412	800	A
Approach Delay, s/veh	0.0			2.0	7.5	
Approach LOS				A	A	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		37.3		0.0	9.4	28.0
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		84.0		24.0	14.0	64.0
Max Q Clear Time (g_c+I1), s		3.4		0.0	2.7	15.7
Green Ext Time (p_c), s		1.7		0.0	0.2	6.3

Intersection Summary

HCM 6th Ctrl Delay	5.6
HCM 6th LOS	A

Notes

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC
201: Arnold Mill Rd & Druw Cameron Ct

12/31/2020

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	808	753	4	4	0
Future Vol, veh/h	0	808	753	4	4	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	235	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	71	71	87	87	50	50
Heavy Vehicles, %	3	3	3	3	25	25
Mvmt Flow	0	1138	866	5	8	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	871	0	-	0	2007 869
Stage 1	-	-	-	-	869 -
Stage 2	-	-	-	-	1138 -
Critical Hdwy	4.13	-	-	-	6.65 6.45
Critical Hdwy Stg 1	-	-	-	-	5.65 -
Critical Hdwy Stg 2	-	-	-	-	5.65 -
Follow-up Hdwy	2.227	-	-	-	3.725 3.525
Pot Cap-1 Maneuver	770	-	-	-	56 320
Stage 1	-	-	-	-	375 -
Stage 2	-	-	-	-	276 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	770	-	-	-	56 320
Mov Cap-2 Maneuver	-	-	-	-	170 -
Stage 1	-	-	-	-	375 -
Stage 2	-	-	-	-	276 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	27.2
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	770	-	-	-	170	-
HCM Lane V/C Ratio	-	-	-	-	0.047	-
HCM Control Delay (s)	0	-	-	-	27.2	0
HCM Lane LOS	A	-	-	-	D	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	-

HCM 6th TWSC
202: Little River Dr & Arnold Mill Rd

12/31/2020

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	813	3	13	754	4	15
Future Vol, veh/h	813	3	13	754	4	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	88	88	95	95
Heavy Vehicles, %	3	3	3	3	5	5
Mvmt Flow	1129	4	15	857	4	16

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	1133	0
Stage 1	-	-	-	1131
Stage 2	-	-	-	887
Critical Hdwy	-	-	4.13	-
Critical Hdwy Stg 1	-	-	-	5.45
Critical Hdwy Stg 2	-	-	-	5.45
Follow-up Hdwy	-	-	2.227	-
Pot Cap-1 Maneuver	-	-	613	-
Stage 1	-	-	-	304
Stage 2	-	-	-	398
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	613	-
Mov Cap-2 Maneuver	-	-	-	183
Stage 1	-	-	-	304
Stage 2	-	-	-	388

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	22.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	228	-	-	613	-
HCM Lane V/C Ratio	0.088	-	-	0.024	-
HCM Control Delay (s)	22.3	-	-	11	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

HCM 6th TWSC
203: Arnold Mill Rd & N River Dr

12/31/2020

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	828	754	5	10	11
Future Vol, veh/h	4	828	754	5	10	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	72	72	86	86	88	88
Heavy Vehicles, %	3	3	3	3	10	10
Mvmt Flow	6	1150	877	6	11	13

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	883	0	-	0	2042 880
Stage 1	-	-	-	-	880 -
Stage 2	-	-	-	-	1162 -
Critical Hdwy	4.13	-	-	-	6.5 6.3
Critical Hdwy Stg 1	-	-	-	-	5.5 -
Critical Hdwy Stg 2	-	-	-	-	5.5 -
Follow-up Hdwy	2.227	-	-	-	3.59 3.39
Pot Cap-1 Maneuver	762	-	-	-	59 335
Stage 1	-	-	-	-	393 -
Stage 2	-	-	-	-	287 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	762	-	-	-	59 335
Mov Cap-2 Maneuver	-	-	-	-	59 -
Stage 1	-	-	-	-	390 -
Stage 2	-	-	-	-	287 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	49.6
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	762	-	-	-	104
HCM Lane V/C Ratio	0.007	-	-	-	0.229
HCM Control Delay (s)	9.8	-	-	-	49.6
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	0.8

HCM 6th TWSC

401: Arnold Mill Rd & Kings Academy Exit

12/31/2020

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	931	1048	0	6	2
Future Vol, veh/h	0	931	1048	0	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	82	82	33	33
Heavy Vehicles, %	5	5	4	4	0	0
Mvmt Flow	0	1083	1278	0	18	6
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	-	0	-	0	2361	1278
Stage 1	-	-	-	-	1278	-
Stage 2	-	-	-	-	1083	-
Critical Hdwy	-	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	0	-	-	0	39	205
Stage 1	0	-	-	0	264	-
Stage 2	0	-	-	0	328	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	39	205
Mov Cap-2 Maneuver	-	-	-	-	39	-
Stage 1	-	-	-	-	264	-
Stage 2	-	-	-	-	328	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		126.5		
HCM LOS				F		
Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2		
Capacity (veh/h)	-	-	39	205		
HCM Lane V/C Ratio	-	-	0.466	0.03		
HCM Control Delay (s)	-	-	161	23.1		
HCM Lane LOS	-	-	F	C		
HCM 95th %tile Q(veh)	-	-	1.6	0.1		

Intersection: 1: Neese Rd & Arnold Mill Rd

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	358	175	199	330	136	176
Average Queue (ft)	211	108	127	120	55	92
95th Queue (ft)	344	211	192	235	118	163
Link Distance (ft)	953			2068		1373
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		100	150		125	
Storage Blk Time (%)	31	0	4	1	1	4
Queuing Penalty (veh)	66	0	17	3	3	4

Intersection: 3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	L	T	R
Maximum Queue (ft)	184	287	282	324	462	275	159	144	249	446	193
Average Queue (ft)	54	162	10	164	250	105	71	66	197	162	39
95th Queue (ft)	130	250	97	297	396	283	140	119	273	329	161
Link Distance (ft)		3115			606		1077	1077		707	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	135		240	275		200			200		150
Storage Blk Time (%)		14		1	17				12	2	3
Queuing Penalty (veh)		38		5	86				65	12	15

Intersection: 4: Arnold Mill Rd & The King's Academy

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	31	24
Average Queue (ft)	5	1
95th Queue (ft)	25	8
Link Distance (ft)		233
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	225	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Trickum Rd & Arnold Mill Rd

Movement	EB	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	T	R	L	TR	LT	R	LTR
Maximum Queue (ft)	30	373	300	224	499	476	200	95
Average Queue (ft)	2	162	135	138	268	317	71	23
95th Queue (ft)	15	267	245	246	433	496	227	61
Link Distance (ft)		541			1043	512		444
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150		250	175			150	
Storage Blk Time (%)		14		4	19	35		
Queuing Penalty (veh)		79		23	35	25		

Intersection: 6: Farmington Dr & Arnold Mill Rd

Movement	EB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	25	50	74
Average Queue (ft)	2	18	31
95th Queue (ft)	12	44	63
Link Distance (ft)		468	437
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	235		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	TR	L	TR
Maximum Queue (ft)	68	156	133	259	375	275	170	406	160	316
Average Queue (ft)	34	61	72	40	157	99	103	169	40	189
95th Queue (ft)	68	126	127	117	296	226	187	334	104	314
Link Distance (ft)		494			514			1356		2442
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	90		175	90		175	120		110	
Storage Blk Time (%)		5			25	0	2	14		24
Queuing Penalty (veh)		16			87	0	8	33		16

Intersection: 8: Arnold Mill Rd & Hendon Rd

Movement	SB
Directions Served	LR
Maximum Queue (ft)	116
Average Queue (ft)	34
95th Queue (ft)	78
Link Distance (ft)	278
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: Arnold Mill Rd & N Arnold Mill Rd

Movement	EB	WB	SB	SB
Directions Served	L	R	L	R
Maximum Queue (ft)	31	22	237	40
Average Queue (ft)	6	1	111	20
95th Queue (ft)	25	7	198	34
Link Distance (ft)			525	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	235	175		150
Storage Blk Time (%)			7	
Queuing Penalty (veh)			4	

Intersection: 10: English Ivy Way/Mountain Rd & Arnold Mill Rd

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	LTR	LTR
Maximum Queue (ft)	273	125	123	36	76
Average Queue (ft)	123	9	46	7	45
95th Queue (ft)	213	61	83	28	68
Link Distance (ft)	450		670	1071	539
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		75			
Storage Blk Time (%)	31				
Queuing Penalty (veh)	1				

Intersection: 11: River Laurel Way & Arnold Mill Rd

Movement	EB	EB	B44	B43	WB	NB	SB
Directions Served	LT	R	T	T	L	LTR	LTR
Maximum Queue (ft)	700	160	1278	745	22	348	262
Average Queue (ft)	398	17	304	38	1	204	101
95th Queue (ft)	913	99	1032	253	8	421	249
Link Distance (ft)	609		1188	1078		314	247
Upstream Blk Time (%)	47		11			52	1
Queuing Penalty (veh)	310		74			0	0
Storage Bay Dist (ft)		110			235		
Storage Blk Time (%)	63						
Queuing Penalty (veh)	7						

Intersection: 12: Arnold Mill Rd & Grimes Rd

Movement	WB	SB	SB
Directions Served	LR	L	T
Maximum Queue (ft)	514	335	1058
Average Queue (ft)	298	179	748
95th Queue (ft)	643	454	1491
Link Distance (ft)	499		1044
Upstream Blk Time (%)	41		22
Queuing Penalty (veh)	0		163
Storage Bay Dist (ft)		235	
Storage Blk Time (%)			74
Queuing Penalty (veh)			33

Intersection: 13: SR 140 & Arnold Mill Rd

Movement	EB	EB	NB	SB
Directions Served	L	R	L	T
Maximum Queue (ft)	1329	300	72	203
Average Queue (ft)	1178	289	28	70
95th Queue (ft)	1724	381	56	134
Link Distance (ft)	1316			600
Upstream Blk Time (%)	27			
Queuing Penalty (veh)	197			
Storage Bay Dist (ft)		200	200	
Storage Blk Time (%)		91		0
Queuing Penalty (veh)		0		0

Intersection: 201: Arnold Mill Rd & Druw Cameron Ct

Movement	SB
Directions Served	L
Maximum Queue (ft)	48
Average Queue (ft)	3
95th Queue (ft)	20
Link Distance (ft)	656
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Intersection: 202: Little River Dr & Arnold Mill Rd

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	32	28
Average Queue (ft)	9	11
95th Queue (ft)	32	33
Link Distance (ft)		742
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	50	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 203: Arnold Mill Rd & N River Dr

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	31	68
Average Queue (ft)	3	22
95th Queue (ft)	17	51
Link Distance (ft)		541
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	50	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 401: Arnold Mill Rd & Kings Academy Exit

Movement	WB	SB	SB
Directions Served	T	L	R
Maximum Queue (ft)	32	20	27
Average Queue (ft)	2	1	1
95th Queue (ft)	13	7	9
Link Distance (ft)	123	373	373
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

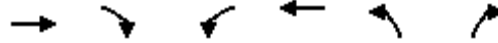
Network Summary

Network wide Queuing Penalty: 1423

Timings

1: Neese Rd & Arnold Mill Rd

12/31/2020



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↘	↗
Traffic Volume (vph)	527	224	154	605	256	306
Future Volume (vph)	527	224	154	605	256	306
Turn Type	NA	Perm	pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	8	1
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	1
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	11.0
Total Split (s)	59.0	59.0	21.0	80.0	40.0	21.0
Total Split (%)	49.2%	49.2%	17.5%	66.7%	33.3%	17.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	Max	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 104.3

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

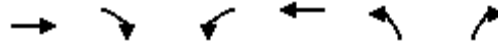
Splits and Phases: 1: Neese Rd & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

1: Neese Rd & Arnold Mill Rd

12/31/2020



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (veh/h)	527	224	154	605	256	306
Future Volume (veh/h)	527	224	154	605	256	306
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	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	643	273	186	729	269	322
Peak Hour Factor	0.82	0.82	0.83	0.83	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	729	618	263	999	624	686
Arrive On Green	0.39	0.39	0.08	0.53	0.35	0.35
Sat Flow, veh/h	1885	1598	1795	1885	1795	1598
Grp Volume(v), veh/h	643	273	186	729	269	322
Grp Sat Flow(s),veh/h/ln	1885	1598	1795	1885	1795	1598
Q Serve(g_s), s	31.1	12.4	5.8	29.0	11.3	14.1
Cycle Q Clear(g_c), s	31.1	12.4	5.8	29.0	11.3	14.1
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	729	618	263	999	624	686
V/C Ratio(X)	0.88	0.44	0.71	0.73	0.43	0.47
Avail Cap(c_a), veh/h	1021	865	392	1426	624	686
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	27.9	22.2	21.6	17.6	24.5	20.0
Incr Delay (d2), s/veh	6.8	0.5	3.5	1.1	2.2	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.2	4.4	2.4	11.2	5.1	5.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	34.7	22.7	25.1	18.8	26.7	22.3
LnGrp LOS	C	C	C	B	C	C
Approach Vol, veh/h	916			915	591	
Approach Delay, s/veh	31.1			20.0	24.3	
Approach LOS	C			C	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	14.0	43.9			57.9	40.0
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	15.0	53.0			74.0	34.0
Max Q Clear Time (g_c+I1), s	7.8	33.1			31.0	16.1
Green Ext Time (p_c), s	0.3	4.8			5.3	1.9
Intersection Summary						
HCM 6th Ctrl Delay			25.3			
HCM 6th LOS			C			

Timings

3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

12/31/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	239	579	18	116	644	536	25	24	80	343	34	174
Future Volume (vph)	239	579	18	116	644	536	25	24	80	343	34	174
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	20.9	20.9	11.0	20.9	20.9	11.0	12.4	12.4	10.0	12.4	12.4
Total Split (s)	25.0	84.0	84.0	16.0	75.0	75.0	16.0	15.0	15.0	35.0	34.0	34.0
Total Split (%)	16.7%	56.0%	56.0%	10.7%	50.0%	50.0%	10.7%	10.0%	10.0%	23.3%	22.7%	22.7%
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.4	1.4	1.0	1.4	1.4	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.9	5.9	5.0	5.9	5.9	5.0	6.4	6.4	5.0	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 144.7

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

12/31/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	239	579	18	116	644	536	25	24	80	343	34	174
Future Volume (veh/h)	239	579	18	116	644	536	25	24	80	343	34	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1885	1885	1885
Adj Flow Rate, veh/h	288	698	0	140	776	646	32	30	0	423	42	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.79	0.79	0.79	0.81	0.81	0.81
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	1	1	1
Cap, veh/h	310	980		331	835	708	178	114		487	459	
Arrive On Green	0.13	0.52	0.00	0.06	0.44	0.44	0.03	0.06	0.00	0.21	0.24	0.00
Sat Flow, veh/h	1795	1885	1598	1795	1885	1598	1810	1900	1610	1795	1885	1598
Grp Volume(v), veh/h	288	698	0	140	776	646	32	30	0	423	42	0
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1795	1885	1598	1810	1900	1610	1795	1885	1598
Q Serve(g_s), s	17.1	40.6	0.0	6.1	56.0	54.4	2.4	2.2	0.0	30.0	2.5	0.0
Cycle Q Clear(g_c), s	17.1	40.6	0.0	6.1	56.0	54.4	2.4	2.2	0.0	30.0	2.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	310	980		331	835	708	178	114		487	459	
V/C Ratio(X)	0.93	0.71		0.42	0.93	0.91	0.18	0.26		0.87	0.09	
Avail Cap(c_a), veh/h	320	1024		366	906	768	271	114		487	459	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	44.6	26.3	0.0	23.3	37.9	37.4	61.3	64.6	0.0	48.8	42.1	0.0
Incr Delay (d2), s/veh	32.1	2.2	0.0	0.9	14.9	14.6	0.5	5.6	0.0	15.4	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.9	17.9	0.0	2.6	28.1	24.1	1.1	1.2	0.0	16.2	1.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.7	28.6	0.0	24.1	52.8	52.0	61.8	70.1	0.0	64.2	42.5	0.0
LnGrp LOS	E	C		C	D	D	E	E		E	D	
Approach Vol, veh/h		986	A		1562			62	A		465	A
Approach Delay, s/veh		42.6			49.9			65.8			62.2	
Approach LOS		D			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.2	69.6	8.6	41.4	13.1	80.6	35.0	15.0				
Change Period (Y+Rc), s	5.0	* 5.9	5.0	6.4	5.0	* 5.9	5.0	6.4				
Max Green Setting (Gmax), s	20.0	* 69	11.0	27.6	11.0	* 78	30.0	8.6				
Max Q Clear Time (g_c+I1), s	19.1	58.0	4.4	4.5	8.1	42.6	32.0	4.2				
Green Ext Time (p_c), s	0.1	5.7	0.0	0.1	0.1	4.9	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	49.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC

4: Arnold Mill Rd & The King's Academy

12/31/2020

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	973	1324	3	3	4
Future Vol, veh/h	9	973	1324	3	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	225	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	82	82	38	38
Heavy Vehicles, %	1	1	2	2	33	33
Mvmt Flow	11	1187	1615	4	8	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1619	0	-	0	2824 1615
Stage 1	-	-	-	-	1615 -
Stage 2	-	-	-	-	1209 -
Critical Hdwy	4.11	-	-	-	6.73 6.53
Critical Hdwy Stg 1	-	-	-	-	5.73 -
Critical Hdwy Stg 2	-	-	-	-	5.73 -
Follow-up Hdwy	2.209	-	-	-	3.797 3.597
Pot Cap-1 Maneuver	405	-	-	-	15 108
Stage 1	-	-	-	-	151 -
Stage 2	-	-	-	-	245 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	405	-	-	-	15 108
Mov Cap-2 Maneuver	-	-	-	-	15 -
Stage 1	-	-	-	-	147 -
Stage 2	-	-	-	-	245 -

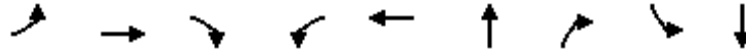
Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	239.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	405	-	-	-	30
HCM Lane V/C Ratio	0.027	-	-	-	0.614
HCM Control Delay (s)	14.1	-	-	-	239.9
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	2

Timings

5: Trickum Rd & Arnold Mill Rd

12/31/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	14	524	417	74	609	11	63	11	8
Future Volume (vph)	14	524	417	74	609	11	63	11	8
Turn Type	pm+pt	NA	Perm	pm+pt	NA	NA	Perm	Perm	NA
Protected Phases	1	6		5	2	3			4
Permitted Phases	6		6	2			3	4	
Detector Phase	1	6	6	5	2	3	3	4	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	17.8	17.8	10.0	17.8	13.5	13.5	13.5	13.5
Total Split (s)	14.0	49.0	49.0	10.0	45.0	46.0	46.0	15.0	15.0
Total Split (%)	11.7%	40.8%	40.8%	8.3%	37.5%	38.3%	38.3%	12.5%	12.5%
Yellow Time (s)	4.0	4.3	4.3	4.0	4.3	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	5.0	5.8	5.8	5.0	5.8	5.5	5.5		5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max

Intersection Summary

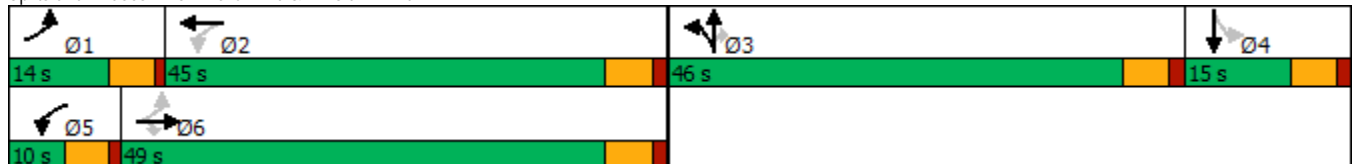
Cycle Length: 120

Actuated Cycle Length: 116.3

Natural Cycle: 160

Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Trickum Rd & Arnold Mill Rd



HCM Signalized Intersection Capacity Analysis

5: Trickum Rd & Arnold Mill Rd

12/31/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	14	524	417	74	609	6	699	11	63	11	8	9	
Future Volume (vph)	14	524	417	74	609	6	699	11	63	11	8	9	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	5.8	5.8	5.0	5.8			5.5	5.5		5.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00		
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.96		
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.98		
Satd. Flow (prot)	1787	1881	1599	1787	1879			1775	1583		1713		
Flt Permitted	0.09	1.00	1.00	0.13	1.00			0.95	1.00		0.56		
Satd. Flow (perm)	173	1881	1599	244	1879			1775	1583		976		
Peak-hour factor, PHF	0.90	0.90	0.90	0.94	0.94	0.94	0.93	0.93	0.93	0.70	0.70	0.70	
Adj. Flow (vph)	16	582	463	79	648	6	752	12	68	16	11	13	
RTOR Reduction (vph)	0	0	261	0	0	0	0	0	45	0	12	0	
Lane Group Flow (vph)	16	582	202	79	654	0	0	764	23	0	28	0	
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	4%	4%	4%	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Perm	NA		
Protected Phases	1	6		5	2		3	3			4		
Permitted Phases	6		6	2					3	4			
Actuated Green, G (s)	46.1	43.5	43.5	48.7	44.8			40.6	40.6		9.5		
Effective Green, g (s)	46.1	43.5	43.5	48.7	44.8			40.6	40.6		9.5		
Actuated g/C Ratio	0.39	0.36	0.36	0.41	0.38			0.34	0.34		0.08		
Clearance Time (s)	5.0	5.8	5.8	5.0	5.8			5.5	5.5		5.5		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0		
Lane Grp Cap (vph)	102	685	583	150	705			604	538		77		
v/s Ratio Prot	0.00	0.31		c0.02	c0.35			c0.43					
v/s Ratio Perm	0.06		0.13	0.20					0.01		c0.03		
v/c Ratio	0.16	0.85	0.35	0.53	0.93			1.26	0.04		0.36		
Uniform Delay, d1	28.0	34.9	27.6	26.5	35.7			39.3	26.3		52.0		
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00		
Incremental Delay, d2	0.7	9.7	0.4	3.3	18.3			132.1	0.0		12.8		
Delay (s)	28.7	44.6	27.9	29.8	54.0			171.4	26.4		64.8		
Level of Service	C	D	C	C	D			F	C		E		
Approach Delay (s)		37.1			51.4			159.5			64.8		
Approach LOS		D			D			F			E		
Intersection Summary													
HCM 2000 Control Delay			79.6									HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			1.01										
Actuated Cycle Length (s)			119.3									Sum of lost time (s)	21.8
Intersection Capacity Utilization			95.3%									ICU Level of Service	F
Analysis Period (min)			15										
c Critical Lane Group													

HCM 6th TWSC
6: Farmington Dr & Arnold Mill Rd

12/31/2020

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	535	13	2	629	5	10	0	1	3	0	31
Future Vol, veh/h	40	535	13	2	629	5	10	0	1	3	0	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	235	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	96	96	96	69	69	69	85	85	85
Heavy Vehicles, %	1	1	1	1	1	1	0	0	0	6	6	6
Mvmt Flow	42	563	14	2	655	5	14	0	1	4	0	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	660	0	0	577	0	0	1334	1318	570	1317	1323	658
Stage 1	-	-	-	-	-	-	654	654	-	662	662	-
Stage 2	-	-	-	-	-	-	680	664	-	655	661	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.1	6.5	6.2	7.16	6.56	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.16	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.16	5.56	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.5	4	3.3	3.554	4.054	3.354
Pot Cap-1 Maneuver	933	-	-	1001	-	-	132	159	525	132	153	457
Stage 1	-	-	-	-	-	-	459	466	-	444	453	-
Stage 2	-	-	-	-	-	-	444	461	-	448	454	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	933	-	-	1001	-	-	117	151	525	127	146	457
Mov Cap-2 Maneuver	-	-	-	-	-	-	117	151	-	127	146	-
Stage 1	-	-	-	-	-	-	438	445	-	424	452	-
Stage 2	-	-	-	-	-	-	407	460	-	427	434	-

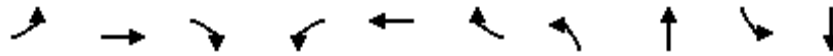
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	37.7	15.8
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	126	933	-	-	1001	-	-	372
HCM Lane V/C Ratio	0.127	0.045	-	-	0.002	-	-	0.108
HCM Control Delay (s)	37.7	9	-	-	8.6	0	-	15.8
HCM Lane LOS	E	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-	-	0.4

Timings

7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

12/31/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	31	417	206	15	294	118	280	476	174	250
Future Volume (vph)	31	417	206	15	294	118	280	476	174	250
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	1	6		5	2		3	8	7	4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	3	8	7	4
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	21.0	21.0	12.0	21.0	21.0	12.0	21.0	12.0	12.0
Total Split (s)	14.0	45.0	45.0	14.0	45.0	45.0	19.0	42.0	19.0	42.0
Total Split (%)	11.7%	37.5%	37.5%	11.7%	37.5%	37.5%	15.8%	35.0%	15.8%	35.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None

Intersection Summary

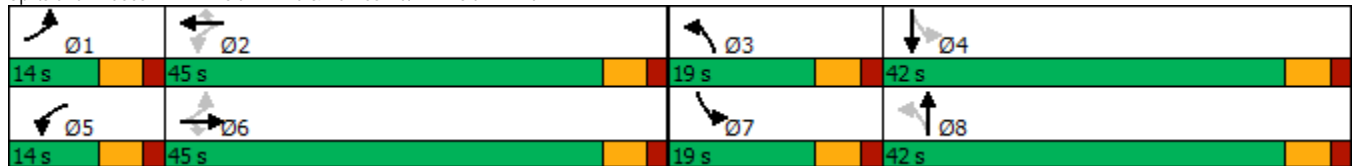
Cycle Length: 120

Actuated Cycle Length: 99.5

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd



HCM 6th Signalized Intersection Summary

7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

12/31/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	417	206	15	294	118	280	476	19	174	250	28
Future Volume (veh/h)	31	417	206	15	294	118	280	476	19	174	250	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	444	219	16	309	124	304	517	21	196	281	31
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.92	0.92	0.92	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	2	2	2	2	2	2
Cap, veh/h	263	527	447	165	498	422	477	577	23	301	466	51
Arrive On Green	0.04	0.28	0.28	0.02	0.27	0.27	0.14	0.32	0.32	0.10	0.28	0.28
Sat Flow, veh/h	1767	1856	1572	1767	1856	1572	1781	1785	72	1781	1655	183
Grp Volume(v), veh/h	33	444	219	16	309	124	304	0	538	196	0	312
Grp Sat Flow(s),veh/h/ln	1767	1856	1572	1767	1856	1572	1781	0	1857	1781	0	1837
Q Serve(g_s), s	1.2	20.0	10.3	0.6	13.0	5.6	10.5	0.0	24.5	6.8	0.0	13.0
Cycle Q Clear(g_c), s	1.2	20.0	10.3	0.6	13.0	5.6	10.5	0.0	24.5	6.8	0.0	13.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		0.10
Lane Grp Cap(c), veh/h	263	527	447	165	498	422	477	0	600	301	0	518
V/C Ratio(X)	0.13	0.84	0.49	0.10	0.62	0.29	0.64	0.00	0.90	0.65	0.00	0.60
Avail Cap(c_a), veh/h	356	816	691	286	816	691	486	0	754	383	0	746
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.7	29.9	26.4	24.5	28.5	25.8	19.1	0.0	28.6	22.1	0.0	27.6
Incr Delay (d2), s/veh	0.2	4.9	0.8	0.3	1.3	0.4	2.7	0.0	11.5	2.6	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	9.2	3.7	0.2	5.7	2.0	4.2	0.0	11.9	2.8	0.0	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.0	34.8	27.3	24.8	29.7	26.2	21.8	0.0	40.1	24.7	0.0	28.7
LnGrp LOS	C	C	C	C	C	C	C	A	D	C	A	C
Approach Vol, veh/h		696			449			842			508	
Approach Delay, s/veh		31.8			28.6			33.5			27.2	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.3	29.8	18.6	31.0	8.0	31.2	14.9	34.7				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	8.0	39.0	13.0	36.0	8.0	39.0	13.0	36.0				
Max Q Clear Time (g_c+I1), s	3.2	15.0	12.5	15.0	2.6	22.0	8.8	26.5				
Green Ext Time (p_c), s	0.0	2.2	0.0	1.6	0.0	3.2	0.2	2.2				
Intersection Summary												
HCM 6th Ctrl Delay			30.9									
HCM 6th LOS			C									

HCM 6th TWSC

8: Arnold Mill Rd & Hendon Rd

12/31/2020

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	477	746	12	4	5
Future Vol, veh/h	6	477	746	12	4	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	175	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	97	97	58	58
Heavy Vehicles, %	3	3	2	2	0	0
Mvmt Flow	6	507	769	12	7	9
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	781	0	-	0	1288	769
Stage 1	-	-	-	-	769	-
Stage 2	-	-	-	-	519	-
Critical Hdwy	4.13	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.227	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	832	-	-	-	183	404
Stage 1	-	-	-	-	461	-
Stage 2	-	-	-	-	601	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	832	-	-	-	181	404
Mov Cap-2 Maneuver	-	-	-	-	181	-
Stage 1	-	-	-	-	456	-
Stage 2	-	-	-	-	601	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		19.7		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	832	-	-	-	261	
HCM Lane V/C Ratio	0.008	-	-	-	0.059	
HCM Control Delay (s)	9.4	0	-	-	19.7	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0	-	-	-	0.2	

HCM 6th TWSC
9: Arnold Mill Rd & N Arnold Mill Rd

12/31/2020

Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	369	664	303	113	27
Future Vol, veh/h	20	369	664	303	113	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	235	-	-	175	0	150
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	94	94	88	88
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	21	388	706	322	128	31

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1028	0	-	0	1136 706
Stage 1	-	-	-	-	706 -
Stage 2	-	-	-	-	430 -
Critical Hdwy	4.13	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.227	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	672	-	-	-	223 436
Stage 1	-	-	-	-	489 -
Stage 2	-	-	-	-	656 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	672	-	-	-	216 436
Mov Cap-2 Maneuver	-	-	-	-	216 -
Stage 1	-	-	-	-	474 -
Stage 2	-	-	-	-	656 -

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	37.8
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	672	-	-	-	216	436
HCM Lane V/C Ratio	0.031	-	-	-	0.594	0.07
HCM Control Delay (s)	10.5	-	-	-	43.5	13.9
HCM Lane LOS	B	-	-	-	E	B
HCM 95th %tile Q(veh)	0.1	-	-	-	3.4	0.2

HCM 6th AWSC
 10: English Ivy Way/Mountain Rd & Arnold Mill Rd

12/31/2020

Intersection	
Intersection Delay, s/veh	117.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	152	293	4	4	786	17	3	3	2	37	5	193
Future Vol, veh/h	152	293	4	4	786	17	3	3	2	37	5	193
Peak Hour Factor	0.86	0.86	0.86	0.98	0.98	0.98	0.67	0.67	0.67	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	1	1	1	25	25	25	3	3	3
Mvmt Flow	177	341	5	4	802	17	4	4	3	43	6	222
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	51.2	193.8	12.7	16.9
HCM LOS	F	F	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	38%	34%	0%	0%	16%
Vol Thru, %	38%	66%	0%	97%	2%
Vol Right, %	25%	0%	100%	2%	82%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	445	4	807	235
LT Vol	3	152	0	4	37
Through Vol	3	293	0	786	5
RT Vol	2	0	4	17	193
Lane Flow Rate	12	517	5	823	270
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.028	0.937	0.007	1.366	0.491
Departure Headway (Hd)	9.411	6.986	6.093	5.973	7.194
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	383	523	591	609	505
Service Time	7.411	4.686	3.793	4.023	5.194
HCM Lane V/C Ratio	0.031	0.989	0.008	1.351	0.535
HCM Control Delay	12.7	51.6	8.8	193.8	16.9
HCM Lane LOS	B	F	A	F	C
HCM 95th-tile Q	0.1	11.6	0	35.9	2.7

HCM 6th TWSC
11: River Laurel Way & Arnold Mill Rd

12/31/2020

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕	↕	↕	↕		↕			↕	
Traffic Vol, veh/h	8	239	24	34	833	20	8	0	26	15	0	5
Future Vol, veh/h	8	239	24	34	833	20	8	0	26	15	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	110	235	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	93	93	93	77	77	77	83	83	83
Heavy Vehicles, %	2	2	2	5	5	5	2	2	2	5	5	5
Mvmt Flow	9	278	28	37	896	22	10	0	34	18	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	918	0	0	306	0	0	1280	278	1297	1294	896	
Stage 1	-	-	-	-	-	-	296	296	-	970	970	-
Stage 2	-	-	-	-	-	-	984	992	-	327	324	-
Critical Hdwy	4.12	-	-	4.15	-	-	7.12	6.52	6.22	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.15	5.55	-
Follow-up Hdwy	2.218	-	-	2.245	-	-	3.518	4.018	3.318	3.545	4.045	3.345
Pot Cap-1 Maneuver	743	-	-	1238	-	-	143	164	761	137	160	335
Stage 1	-	-	-	-	-	-	712	668	-	301	328	-
Stage 2	-	-	-	-	-	-	299	324	-	679	644	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	743	-	-	1238	-	-	136	157	761	126	153	335
Mov Cap-2 Maneuver	-	-	-	-	-	-	136	157	-	126	153	-
Stage 1	-	-	-	-	-	-	701	658	-	296	318	-
Stage 2	-	-	-	-	-	-	285	314	-	639	634	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.3	16.2	33.8
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	366	743	-	-	1238	-	-	149
HCM Lane V/C Ratio	0.121	0.013	-	-	0.03	-	-	0.162
HCM Control Delay (s)	16.2	9.9	0	-	8	-	-	33.8
HCM Lane LOS	C	A	A	-	A	-	-	D
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.6

HCM 6th TWSC
12: Arnold Mill Rd & Grimes Rd

12/31/2020

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	33	915	1	56	242
Future Vol, veh/h	1	33	915	1	56	242
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	235	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	89	89	87	87
Heavy Vehicles, %	4	4	1	1	2	2
Mvmt Flow	1	44	1028	1	64	278

Major/Minor	Minor1	Major1	Major2	Major2	Major2
Conflicting Flow All	1435	1029	0	0	1029
Stage 1	1029	-	-	-	-
Stage 2	406	-	-	-	-
Critical Hdwy	6.44	6.24	-	-	4.12
Critical Hdwy Stg 1	5.44	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-
Follow-up Hdwy	3.536	3.336	-	-	2.218
Pot Cap-1 Maneuver	146	281	-	-	675
Stage 1	342	-	-	-	-
Stage 2	668	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	132	281	-	-	675
Mov Cap-2 Maneuver	132	-	-	-	-
Stage 1	342	-	-	-	-
Stage 2	605	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.9	0	2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	272	675	-
HCM Lane V/C Ratio	-	-	0.167	0.095	-
HCM Control Delay (s)	-	-	20.9	10.9	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.6	0.3	-

Timings

13: SR 140 & Arnold Mill Rd

12/31/2020



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	237	869	960	513	46
Future Volume (vph)	5	237	869	960	513	46
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	24.0	24.0	49.0	96.0	47.0	47.0
Total Split (%)	20.0%	20.0%	40.8%	80.0%	39.2%	39.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min

Intersection Summary

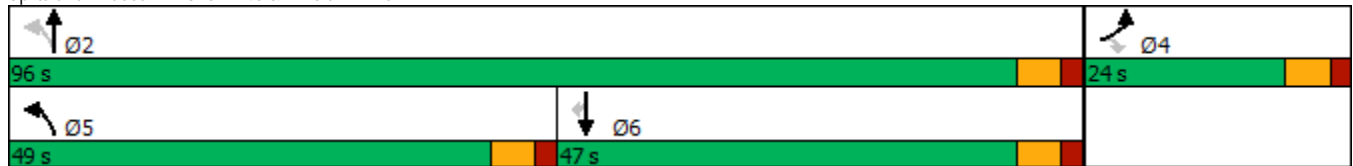
Cycle Length: 120

Actuated Cycle Length: 110.3

Natural Cycle: 180

Control Type: Actuated-Uncoordinated

Splits and Phases: 13: SR 140 & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

13: SR 140 & Arnold Mill Rd

12/31/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	237	869	960	513	46
Future Volume (veh/h)	5	237	869	960	513	46
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	1683	1683	1697	1697	1657	1657
Adj Flow Rate, veh/h	6	0	896	990	552	0
Peak Hour Factor	0.89	0.89	0.97	0.97	0.93	0.93
Percent Heavy Veh, %	2	2	1	1	4	4
Cap, veh/h	12		826	1473	598	
Arrive On Green	0.01	0.00	0.44	0.87	0.36	0.00
Sat Flow, veh/h	1603	1427	1616	1697	1657	1404
Grp Volume(v), veh/h	6	0	896	990	552	0
Grp Sat Flow(s),veh/h/ln	1603	1427	1616	1697	1657	1404
Q Serve(g_s), s	0.4	0.0	43.0	17.9	30.9	0.0
Cycle Q Clear(g_c), s	0.4	0.0	43.0	17.9	30.9	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	12		826	1473	598	
V/C Ratio(X)	0.49		1.08	0.67	0.92	
Avail Cap(c_a), veh/h	299		826	1580	703	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	47.8	0.0	21.8	2.0	29.6	0.0
Incr Delay (d2), s/veh	26.7	0.0	56.9	1.0	16.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	29.2	0.4	13.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	74.5	0.0	78.6	3.0	45.9	0.0
LnGrp LOS	E		F	A	D	
Approach Vol, veh/h	6	A		1886	552	A
Approach Delay, s/veh	74.5			39.0	45.9	
Approach LOS	E			D	D	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		89.9		6.7	49.0	40.9
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		90.0		18.0	43.0	41.0
Max Q Clear Time (g_c+I1), s		19.9		2.4	45.0	32.9
Green Ext Time (p_c), s		9.6		0.0	0.0	2.0
Intersection Summary						
HCM 6th Ctrl Delay			40.6			
HCM 6th LOS			D			
Notes						
Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.						

HCM 6th TWSC
201: Arnold Mill Rd & Druw Cameron Ct

12/31/2020

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	751	730	4	4	7
Future Vol, veh/h	8	751	730	4	4	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	235	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	83	83	55	55
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	9	834	880	5	7	13

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	885	0	-	0	1735 883
Stage 1	-	-	-	-	883 -
Stage 2	-	-	-	-	852 -
Critical Hdwy	4.11	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.209	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	769	-	-	-	97 348
Stage 1	-	-	-	-	408 -
Stage 2	-	-	-	-	421 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	769	-	-	-	96 348
Mov Cap-2 Maneuver	-	-	-	-	96 -
Stage 1	-	-	-	-	403 -
Stage 2	-	-	-	-	421 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	26.6
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	769	-	-	-	96	348
HCM Lane V/C Ratio	0.012	-	-	-	0.076	0.037
HCM Control Delay (s)	9.7	-	-	-	45.6	15.7
HCM Lane LOS	A	-	-	-	E	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0.1

HCM 6th TWSC
202: Little River Dr & Arnold Mill Rd

12/31/2020

Intersection						
Int Delay, s/veh	0.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	740	11	24	727	9	14
Future Vol, veh/h	740	11	24	727	9	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	83	83	64	64
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	822	12	29	876	14	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	834	0	1762	828
Stage 1	-	-	-	-	828	-
Stage 2	-	-	-	-	934	-
Critical Hdwy	-	-	4.11	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.209	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	804	-	94	374
Stage 1	-	-	-	-	432	-
Stage 2	-	-	-	-	386	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	804	-	91	374
Mov Cap-2 Maneuver	-	-	-	-	91	-
Stage 1	-	-	-	-	432	-
Stage 2	-	-	-	-	372	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	32
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	169	-	-	804	-
HCM Lane V/C Ratio	0.213	-	-	0.036	-
HCM Control Delay (s)	32	-	-	9.6	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-

HCM 6th TWSC
203: Arnold Mill Rd & N River Dr

12/31/2020

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	731	749	8	7	9
Future Vol, veh/h	19	731	749	8	7	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	82	82	80	80
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	21	795	913	10	9	11
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	923	0	-	0	1755	918
Stage 1	-	-	-	-	918	-
Stage 2	-	-	-	-	837	-
Critical Hdwy	4.11	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.209	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	744	-	-	-	95	332
Stage 1	-	-	-	-	392	-
Stage 2	-	-	-	-	428	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	744	-	-	-	92	332
Mov Cap-2 Maneuver	-	-	-	-	92	-
Stage 1	-	-	-	-	381	-
Stage 2	-	-	-	-	428	-
Approach	EB	WB	SB			
HCM Control Delay, s	0.3	0	31.6			
HCM LOS	D					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	744	-	-	-	155	
HCM Lane V/C Ratio	0.028	-	-	-	0.129	
HCM Control Delay (s)	10	-	-	-	31.6	
HCM Lane LOS	A	-	-	-	D	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4	

HCM 6th TWSC

401: Arnold Mill Rd & Kings Academy Exit

12/31/2020

Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	977	1320	0	9	6
Future Vol, veh/h	0	977	1320	0	9	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	91	91	42	42
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	1110	1451	0	21	14

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	2561 1451
Stage 1	-	-	-	-	1451 -
Stage 2	-	-	-	-	1110 -
Critical Hdwy	-	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	0	-	-	0	29 162
Stage 1	0	-	-	0	218 -
Stage 2	0	-	-	0	318 -
Platoon blocked, %	-	-	-	-	- -
Mov Cap-1 Maneuver	-	-	-	-	29 162
Mov Cap-2 Maneuver	-	-	-	-	29 -
Stage 1	-	-	-	-	218 -
Stage 2	-	-	-	-	318 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	180.9
HCM LOS			F

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	29	162
HCM Lane V/C Ratio	-	-	0.739	0.088
HCM Control Delay (s)	-	-	281.9	29.4
HCM Lane LOS	-	-	F	D
HCM 95th %tile Q(veh)	-	-	2.4	0.3

Intersection: 1: Neese Rd & Arnold Mill Rd

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	479	175	200	400	199	273
Average Queue (ft)	280	124	95	180	116	117
95th Queue (ft)	453	227	192	358	208	240
Link Distance (ft)	953			2068		1373
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		100	150		125	
Storage Blk Time (%)	34			11	8	4
Queuing Penalty (veh)	76			16	24	11

Intersection: 3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	L	T	R	L	T	L	T
Maximum Queue (ft)	185	714	324	670	275	72	73	250	488
Average Queue (ft)	147	396	81	308	176	21	22	208	172
95th Queue (ft)	219	638	196	514	329	53	54	291	450
Link Distance (ft)		3115		606		1077	1077		707
Upstream Blk Time (%)	0								
Queuing Penalty (veh)	6								
Storage Bay Dist (ft)	135		275		200			200	
Storage Blk Time (%)	23	30		17	0			15	
Queuing Penalty (veh)	137	78		113	0			30	

Intersection: 4: Arnold Mill Rd & The King's Academy

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	32	42
Average Queue (ft)	11	5
95th Queue (ft)	35	23
Link Distance (ft)		233
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	225	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Trickum Rd & Arnold Mill Rd

Movement	EB	EB	EB	B19	WB	WB	NB	NB	SB
Directions Served	L	T	R	T	L	TR	LT	R	LTR
Maximum Queue (ft)	250	612	300	22	224	551	564	200	72
Average Queue (ft)	24	304	185	1	84	281	532	78	17
95th Queue (ft)	101	486	365	8	212	486	550	238	50
Link Distance (ft)		541		1012		1043	512		444
Upstream Blk Time (%)		1					67		
Queuing Penalty (veh)		10					0		
Storage Bay Dist (ft)	150		250		175			150	
Storage Blk Time (%)		32				22	66		
Queuing Penalty (veh)		137				16	41		

Intersection: 6: Farmington Dr & Arnold Mill Rd

Movement	EB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	51	30	67
Average Queue (ft)	12	10	20
95th Queue (ft)	44	32	51
Link Distance (ft)		476	437
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	235		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	TR	L	TR
Maximum Queue (ft)	65	400	275	47	290	268	170	475	160	413
Average Queue (ft)	24	182	67	9	117	47	126	234	104	174
95th Queue (ft)	55	303	167	31	191	122	213	376	178	319
Link Distance (ft)		366			403			1355		2445
Upstream Blk Time (%)		1								
Queuing Penalty (veh)		0								
Storage Bay Dist (ft)	90		175	90		175	120		110	
Storage Blk Time (%)		26			21		7	27	6	23
Queuing Penalty (veh)		61			28		33	76	17	39

Intersection: 8: Arnold Mill Rd & Hendon Rd

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	72	44
Average Queue (ft)	7	6
95th Queue (ft)	35	23
Link Distance (ft)	372	278
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Arnold Mill Rd & N Arnold Mill Rd

Movement	EB	WB	SB	SB
Directions Served	L	R	L	R
Maximum Queue (ft)	64	22	113	40
Average Queue (ft)	16	1	42	15
95th Queue (ft)	49	7	86	36
Link Distance (ft)			525	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	235	175		150
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: English Ivy Way/Mountain Rd & Arnold Mill Rd

Movement	EB	WB	B40	B43	NB	SB
Directions Served	LT	LTR	T	T	LTR	LTR
Maximum Queue (ft)	165	790	1168	194	67	116
Average Queue (ft)	101	733	530	19	9	73
95th Queue (ft)	158	851	1162	108	40	107
Link Distance (ft)	450	670	1078	1188	1071	539
Upstream Blk Time (%)		80	12			
Queuing Penalty (veh)		680	99			
Storage Bay Dist (ft)						
Storage Blk Time (%)	18					
Queuing Penalty (veh)	1					

Intersection: 11: River Laurel Way & Arnold Mill Rd

Movement	EB	WB	NB	SB
Directions Served	LT	L	LTR	LTR
Maximum Queue (ft)	137	75	50	46
Average Queue (ft)	5	8	18	15
95th Queue (ft)	47	34	48	37
Link Distance (ft)	609		314	247
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		235		
Storage Blk Time (%)	1			
Queuing Penalty (veh)	0			

Intersection: 12: Arnold Mill Rd & Grimes Rd

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	47	74
Average Queue (ft)	20	28
95th Queue (ft)	42	62
Link Distance (ft)	499	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		235
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: SR 140 & Arnold Mill Rd

Movement	EB	NB	NB	SB
Directions Served	L	L	T	T
Maximum Queue (ft)	49	275	1059	327
Average Queue (ft)	6	209	181	190
95th Queue (ft)	27	306	680	280
Link Distance (ft)	1316		1025	600
Upstream Blk Time (%)			2	
Queuing Penalty (veh)			0	
Storage Bay Dist (ft)		200		
Storage Blk Time (%)		9		6
Queuing Penalty (veh)		87		3

Intersection: 201: Arnold Mill Rd & Druw Cameron Ct

Movement	EB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	28	31	31
Average Queue (ft)	3	4	12
95th Queue (ft)	17	20	37
Link Distance (ft)		660	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	235		50
Storage Blk Time (%)		0	0
Queuing Penalty (veh)		0	0

Intersection: 202: Little River Dr & Arnold Mill Rd

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	32	48
Average Queue (ft)	12	15
95th Queue (ft)	36	39
Link Distance (ft)		742
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	50	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 203: Arnold Mill Rd & N River Dr

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	31	22	27
Average Queue (ft)	9	1	10
95th Queue (ft)	31	7	31
Link Distance (ft)		591	541
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	50		
Storage Blk Time (%)	0		
Queuing Penalty (veh)	0		

Intersection: 401: Arnold Mill Rd & Kings Academy Exit

Movement	WB	SB	SB
Directions Served	T	L	R
Maximum Queue (ft)	23	31	31
Average Queue (ft)	1	9	10
95th Queue (ft)	8	31	33
Link Distance (ft)	111	174	174
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

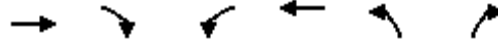
Network Summary

Network wide Queuing Penalty: 1822

Timings

1: Neese Rd & Arnold Mill Rd

12/31/2020



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Volume (vph)	446	244	418	487	111	499
Future Volume (vph)	446	244	418	487	111	499
Turn Type	NA	Perm	pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	8	1
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	1
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	11.0
Total Split (s)	60.0	60.0	30.0	90.0	30.0	30.0
Total Split (%)	50.0%	50.0%	25.0%	75.0%	25.0%	25.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	Max	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 101.4

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Neese Rd & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

1: Neese Rd & Arnold Mill Rd

12/31/2020



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (veh/h)	446	244	418	487	111	499
Future Volume (veh/h)	446	244	418	487	111	499
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	1856	1856	1856	1856
Adj Flow Rate, veh/h	565	309	464	541	163	734
Peak Hour Factor	0.79	0.79	0.90	0.90	0.68	0.68
Percent Heavy Veh, %	2	2	3	3	3	3
Cap, veh/h	654	554	499	1164	439	730
Arrive On Green	0.35	0.35	0.22	0.63	0.25	0.25
Sat Flow, veh/h	1870	1585	1767	1856	1767	1572
Grp Volume(v), veh/h	565	309	464	541	163	734
Grp Sat Flow(s),veh/h/ln	1870	1585	1767	1856	1767	1572
Q Serve(g_s), s	27.2	15.2	18.3	14.8	7.4	24.0
Cycle Q Clear(g_c), s	27.2	15.2	18.3	14.8	7.4	24.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	654	554	499	1164	439	730
V/C Ratio(X)	0.86	0.56	0.93	0.46	0.37	1.01
Avail Cap(c_a), veh/h	1045	886	556	1613	439	730
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	29.3	25.4	24.2	9.5	30.1	25.9
Incr Delay (d2), s/veh	4.6	0.9	21.3	0.3	2.4	34.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	5.5	9.7	5.0	3.4	23.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.8	26.3	45.4	9.8	32.5	60.6
LnGrp LOS	C	C	D	A	C	F
Approach Vol, veh/h	874			1005	897	
Approach Delay, s/veh	31.2			26.2	55.5	
Approach LOS	C			C	E	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	26.9	39.8			66.7	30.0
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	24.0	54.0			84.0	24.0
Max Q Clear Time (g_c+I1), s	20.3	29.2			16.8	26.0
Green Ext Time (p_c), s	0.6	4.6			3.5	0.0
Intersection Summary						
HCM 6th Ctrl Delay			37.2			
HCM 6th LOS			D			

Timings

3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

12/31/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	352	209	289	571	240	144	96	220	429	189	385
Future Volume (vph)	79	352	209	289	571	240	144	96	220	429	189	385
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	20.9	20.9	11.0	20.9	20.9	11.0	12.4	12.4	10.0	12.4	12.4
Total Split (s)	20.0	50.0	50.0	20.0	50.0	50.0	15.0	20.0	20.0	30.0	35.0	35.0
Total Split (%)	16.7%	41.7%	41.7%	16.7%	41.7%	41.7%	12.5%	16.7%	16.7%	25.0%	29.2%	29.2%
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.4	1.4	1.0	1.4	1.4	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.9	5.9	5.0	5.9	5.9	5.0	6.4	6.4	5.0	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 113.4

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

12/31/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	352	209	289	571	240	144	96	220	429	189	385
Future Volume (veh/h)	79	352	209	289	571	240	144	96	220	429	189	385
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1856	1856	1856	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	94	419	0	332	656	276	218	145	0	499	220	0
Peak Hour Factor	0.84	0.84	0.84	0.87	0.87	0.87	0.66	0.66	0.66	0.86	0.86	0.86
Percent Heavy Veh, %	6	6	6	3	3	3	2	2	2	1	1	1
Cap, veh/h	184	534		392	706	598	379	236		550	501	
Arrive On Green	0.05	0.29	0.00	0.14	0.38	0.38	0.09	0.13	0.00	0.23	0.27	0.00
Sat Flow, veh/h	1725	1811	1535	1767	1856	1572	1781	1870	1585	1795	1885	1598
Grp Volume(v), veh/h	94	419	0	332	656	276	218	145	0	499	220	0
Grp Sat Flow(s),veh/h/ln	1725	1811	1535	1767	1856	1572	1781	1870	1585	1795	1885	1598
Q Serve(g_s), s	4.0	22.8	0.0	13.6	36.5	14.2	10.0	7.9	0.0	25.0	10.4	0.0
Cycle Q Clear(g_c), s	4.0	22.8	0.0	13.6	36.5	14.2	10.0	7.9	0.0	25.0	10.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	184	534		392	706	598	379	236		550	501	
V/C Ratio(X)	0.51	0.79		0.85	0.93	0.46	0.57	0.61		0.91	0.44	
Avail Cap(c_a), veh/h	331	742		392	761	644	379	236		550	501	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.3	34.8	0.0	24.1	32.0	25.1	37.4	44.5	0.0	29.9	32.8	0.0
Incr Delay (d2), s/veh	2.2	3.8	0.0	15.6	17.2	0.6	2.1	11.3	0.0	18.7	2.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	10.1	0.0	6.9	18.5	5.4	5.4	4.4	0.0	13.5	5.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.5	38.6	0.0	39.7	49.1	25.6	39.5	55.8	0.0	48.7	35.6	0.0
LnGrp LOS	C	D		D	D	C	D	E		D	D	
Approach Vol, veh/h		513	A		1264			363	A		719	A
Approach Delay, s/veh		37.1			41.5			46.1			44.7	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	46.8	15.0	35.0	20.0	37.6	30.0	20.0				
Change Period (Y+Rc), s	5.0	* 5.9	5.0	6.4	5.0	* 5.9	5.0	6.4				
Max Green Setting (Gmax), s	15.0	* 44	10.0	28.6	15.0	* 44	25.0	13.6				
Max Q Clear Time (g_c+I1), s	6.0	38.5	12.0	12.4	15.6	24.8	27.0	9.9				
Green Ext Time (p_c), s	0.1	2.4	0.0	1.0	0.0	2.2	0.0	0.2				

Intersection Summary

HCM 6th Ctrl Delay	42.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC

4: Arnold Mill Rd & The King's Academy

12/31/2020

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	1080	1206	13	0	2
Future Vol, veh/h	17	1080	1206	13	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	225	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	83	83	25	25
Heavy Vehicles, %	5	5	4	4	0	0
Mvmt Flow	20	1271	1453	16	0	8

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1469	0	-	0	2764 1453
Stage 1	-	-	-	-	1453 -
Stage 2	-	-	-	-	1311 -
Critical Hdwy	4.15	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.245	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	450	-	-	-	22 162
Stage 1	-	-	-	-	217 -
Stage 2	-	-	-	-	255 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	450	-	-	-	21 162
Mov Cap-2 Maneuver	-	-	-	-	21 -
Stage 1	-	-	-	-	207 -
Stage 2	-	-	-	-	255 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	28.4
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	450	-	-	-	162
HCM Lane V/C Ratio	0.044	-	-	-	0.049
HCM Control Delay (s)	13.4	-	-	-	28.4
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Timings

5: Trickum Rd & Arnold Mill Rd

12/31/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Configurations								
Traffic Volume (vph)	2	377	672	216	622	3	81	17
Future Volume (vph)	2	377	672	216	622	3	81	17
Turn Type	pm+pt	NA	Perm	pm+pt	NA	NA	Perm	NA
Protected Phases	1	6		5	2	3		4
Permitted Phases	6		6	2			3	
Detector Phase	1	6	6	5	2	3	3	4
Switch Phase								
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	17.8	17.8	10.0	17.8	13.5	13.5	13.5
Total Split (s)	10.0	65.0	65.0	19.0	74.0	50.0	50.0	16.0
Total Split (%)	6.7%	43.3%	43.3%	12.7%	49.3%	33.3%	33.3%	10.7%
Yellow Time (s)	4.0	4.3	4.3	4.0	4.3	4.0	4.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.8	5.8	5.0	5.8	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 132.2

Natural Cycle: 180

Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Trickum Rd & Arnold Mill Rd



HCM Signalized Intersection Capacity Analysis

5: Trickum Rd & Arnold Mill Rd

12/31/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	377	672	216	622	3	551	3	81	4	17	9
Future Volume (vph)	2	377	672	216	622	3	551	3	81	4	17	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8	5.8	5.0	5.8			5.5	5.5		5.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Flt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.99	
Satd. Flow (prot)	1719	1810	1538	1770	1861			1724	1538		1690	
Flt Permitted	0.09	1.00	1.00	0.23	1.00			0.95	1.00		0.99	
Satd. Flow (perm)	161	1810	1538	435	1861			1724	1538		1690	
Peak-hour factor, PHF	0.89	0.89	0.89	0.83	0.83	0.83	0.70	0.70	0.70	0.94	0.94	0.94
Adj. Flow (vph)	2	424	755	260	749	4	787	4	116	4	18	10
RTOR Reduction (vph)	0	0	506	0	0	0	0	0	78	0	9	0
Lane Group Flow (vph)	2	424	249	260	753	0	0	791	38	0	23	0
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	5%	5%	5%	7%	7%	7%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases	6		6	2					3			
Actuated Green, G (s)	45.9	45.0	45.0	63.9	58.0			44.9	44.9		10.6	
Effective Green, g (s)	45.9	45.0	45.0	63.9	58.0			44.9	44.9		10.6	
Actuated g/C Ratio	0.34	0.33	0.33	0.47	0.43			0.33	0.33		0.08	
Clearance Time (s)	5.0	5.8	5.8	5.0	5.8			5.5	5.5		5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	64	598	508	340	792			568	507		131	
v/s Ratio Prot	0.00	0.23		c0.08	c0.40			c0.46			c0.01	
v/s Ratio Perm	0.01		0.16	0.28					0.02			
v/c Ratio	0.03	0.71	0.49	0.76	0.95			1.39	0.08		0.17	
Uniform Delay, d1	35.1	39.9	36.4	26.2	37.7			45.6	31.4		58.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.2	3.8	0.7	9.8	20.8			187.3	0.1		2.9	
Delay (s)	35.3	43.7	37.2	36.1	58.5			232.9	31.4		61.6	
Level of Service	D	D	D	D	E			F	C		E	
Approach Delay (s)		39.5			52.8			207.2			61.6	
Approach LOS		D			D			F			E	
Intersection Summary												
HCM 2000 Control Delay			92.6			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			1.07									
Actuated Cycle Length (s)			136.2			Sum of lost time (s)			21.8			
Intersection Capacity Utilization			87.2%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC

6: Farmington Dr & Arnold Mill Rd

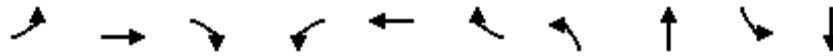
12/31/2020

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	442	5	2	851	6	13	1	3	7	0	32
Future Vol, veh/h	5	442	5	2	851	6	13	1	3	7	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	235	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	84	84	84	85	85	85	77	77	77
Heavy Vehicles, %	4	4	4	3	3	3	6	6	6	3	3	3
Mvmt Flow	6	546	6	2	1013	7	15	1	4	9	0	42
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1020	0	0	552	0	0	1603	1585	549	1585	1017	
Stage 1	-	-	-	-	-	-	561	561	-	1021	1021	-
Stage 2	-	-	-	-	-	-	1042	1024	-	564	564	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.16	6.56	6.26	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.16	5.56	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.16	5.56	-	6.13	5.53	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.554	4.054	3.354	3.527	4.027	3.327
Pot Cap-1 Maneuver	673	-	-	1013	-	-	83	106	528	87	108	287
Stage 1	-	-	-	-	-	-	505	504	-	284	312	-
Stage 2	-	-	-	-	-	-	273	308	-	509	507	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	673	-	-	1013	-	-	70	105	528	85	106	287
Mov Cap-2 Maneuver	-	-	-	-	-	-	70	105	-	85	106	-
Stage 1	-	-	-	-	-	-	500	499	-	281	310	-
Stage 2	-	-	-	-	-	-	232	306	-	500	502	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0			59.9			28.8		
HCM LOS	F			B			F			D		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	85	673	-	-	1013	-	-	201				
HCM Lane V/C Ratio	0.235	0.009	-	-	0.002	-	-	0.252				
HCM Control Delay (s)	59.9	10.4	-	-	8.6	0	-	28.8				
HCM Lane LOS	F	B	-	-	A	A	-	D				
HCM 95th %tile Q(veh)	0.8	0	-	-	0	-	-	1				

Timings

7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

12/31/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	78	137	260	55	368	352	283	377	78	360
Future Volume (vph)	78	137	260	55	368	352	283	377	78	360
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	1	6		5	2		3	8	7	4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	3	8	7	4
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	21.0	21.0	12.0	21.0	21.0	12.0	21.0	12.0	12.0
Total Split (s)	15.0	54.0	54.0	15.0	54.0	54.0	25.0	46.0	15.0	36.0
Total Split (%)	11.5%	41.5%	41.5%	11.5%	41.5%	41.5%	19.2%	35.4%	11.5%	27.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None

Intersection Summary

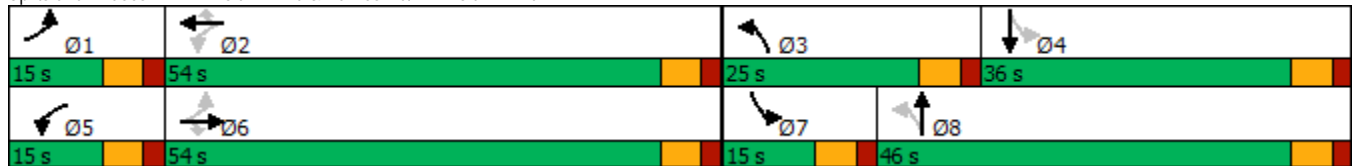
Cycle Length: 130

Actuated Cycle Length: 112.9

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd



HCM 6th Signalized Intersection Summary

7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

12/31/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	137	260	55	368	352	283	377	32	78	360	9
Future Volume (veh/h)	78	137	260	55	368	352	283	377	32	78	360	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1841	1841	1841	1826	1826	1826	1856	1856	1856
Adj Flow Rate, veh/h	84	147	280	64	428	409	329	438	37	103	474	12
Peak Hour Factor	0.93	0.93	0.93	0.86	0.86	0.86	0.86	0.86	0.86	0.76	0.76	0.76
Percent Heavy Veh, %	7	7	7	4	4	4	5	5	5	3	3	3
Cap, veh/h	207	548	465	376	555	471	356	623	53	304	486	12
Arrive On Green	0.05	0.31	0.31	0.05	0.30	0.30	0.16	0.37	0.37	0.06	0.27	0.27
Sat Flow, veh/h	1711	1796	1522	1753	1841	1560	1739	1660	140	1767	1802	46
Grp Volume(v), veh/h	84	147	280	64	428	409	329	0	475	103	0	486
Grp Sat Flow(s),veh/h/ln	1711	1796	1522	1753	1841	1560	1739	0	1801	1767	0	1847
Q Serve(g_s), s	3.7	6.9	17.4	2.7	23.5	27.6	16.0	0.0	24.9	4.6	0.0	29.0
Cycle Q Clear(g_c), s	3.7	6.9	17.4	2.7	23.5	27.6	16.0	0.0	24.9	4.6	0.0	29.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.08	1.00		0.02
Lane Grp Cap(c), veh/h	207	548	465	376	555	471	356	0	675	304	0	498
V/C Ratio(X)	0.41	0.27	0.60	0.17	0.77	0.87	0.92	0.00	0.70	0.34	0.00	0.98
Avail Cap(c_a), veh/h	260	775	657	437	794	673	370	0	675	345	0	498
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.5	29.2	32.9	24.7	35.3	36.7	30.4	0.0	29.5	27.6	0.0	40.2
Incr Delay (d2), s/veh	1.3	0.3	1.3	0.2	2.9	8.5	28.1	0.0	3.3	0.7	0.0	33.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	3.0	6.3	1.2	10.7	11.1	8.2	0.0	10.8	1.9	0.0	17.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.7	29.5	34.2	24.9	38.3	45.3	58.5	0.0	32.8	28.3	0.0	74.1
LnGrp LOS	C	C	C	C	D	D	E	A	C	C	A	E
Approach Vol, veh/h		511			901			804				589
Approach Delay, s/veh		31.9			40.5			43.3				66.1
Approach LOS		C			D			D				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.6	39.6	24.1	36.0	11.2	39.9	12.4	47.7				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	48.0	19.0	30.0	9.0	48.0	9.0	40.0				
Max Q Clear Time (g_c+I1), s	5.7	29.6	18.0	31.0	4.7	19.4	6.6	26.9				
Green Ext Time (p_c), s	0.0	4.0	0.1	0.0	0.0	1.8	0.0	2.2				
Intersection Summary												
HCM 6th Ctrl Delay			45.1									
HCM 6th LOS			D									

HCM 6th TWSC

8: Arnold Mill Rd & Hendon Rd

12/31/2020

Intersection						
Int Delay, s/veh	24.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕	↕	↕	
Traffic Vol, veh/h	1	652	680	44	58	12
Future Vol, veh/h	1	652	680	44	58	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	175	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	66	66	83	83	49	49
Heavy Vehicles, %	4	4	4	4	9	9
Mvmt Flow	2	988	819	53	118	24

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	872	0	0	1811	819
Stage 1	-	-	-	819	-
Stage 2	-	-	-	992	-
Critical Hdwy	4.14	-	-	6.49	6.29
Critical Hdwy Stg 1	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	5.49	-
Follow-up Hdwy	2.236	-	-	3.581	3.381
Pot Cap-1 Maneuver	765	-	-	~ 83	365
Stage 1	-	-	-	422	-
Stage 2	-	-	-	348	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	765	-	-	~ 83	365
Mov Cap-2 Maneuver	-	-	-	~ 83	-
Stage 1	-	-	-	419	-
Stage 2	-	-	-	348	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	\$ 345.1
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	765	-	-	-	96
HCM Lane V/C Ratio	0.002	-	-	-	1.488
HCM Control Delay (s)	9.7	0	-	-	\$ 345.1
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	10.8

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th TWSC

9: Arnold Mill Rd & N Arnold Mill Rd

12/31/2020

Intersection						
Int Delay, s/veh	85.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	422	350	94	373	65
Future Vol, veh/h	31	422	350	94	373	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	235	-	-	175	0	150
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	91	91	86	86
Heavy Vehicles, %	5	5	2	2	5	5
Mvmt Flow	35	480	385	103	434	76

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	488	0	-	0	935 385
Stage 1	-	-	-	-	385 -
Stage 2	-	-	-	-	550 -
Critical Hdwy	4.15	-	-	-	6.45 6.25
Critical Hdwy Stg 1	-	-	-	-	5.45 -
Critical Hdwy Stg 2	-	-	-	-	5.45 -
Follow-up Hdwy	2.245	-	-	-	3.545 3.345
Pot Cap-1 Maneuver	1060	-	-	-	~ 291 656
Stage 1	-	-	-	-	681 -
Stage 2	-	-	-	-	572 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1060	-	-	-	~ 281 656
Mov Cap-2 Maneuver	-	-	-	-	~ 281 -
Stage 1	-	-	-	-	659 -
Stage 2	-	-	-	-	572 -

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	252.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1060	-	-	-	281	656
HCM Lane V/C Ratio	0.033	-	-	-	1.543	0.115
HCM Control Delay (s)	8.5	-	-	-	294.5	11.2
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.1	-	-	-	25.5	0.4

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th AWSC

10: English Ivy Way/Mountain Rd & Arnold Mill Rd

12/31/2020

Intersection	
Intersection Delay, s/veh	179.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	139	725	2	0	243	64	1	5	7	38	10	180
Future Vol, veh/h	139	725	2	0	243	64	1	5	7	38	10	180
Peak Hour Factor	0.96	0.96	0.96	0.83	0.83	0.83	0.65	0.65	0.65	0.62	0.62	0.62
Heavy Vehicles, %	1	1	1	4	4	4	8	8	8	2	2	2
Mvmt Flow	145	755	2	0	293	77	2	8	11	61	16	290
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	311.3	22.3	12.7	22.3
HCM LOS	F	C	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	8%	16%	0%	0%	17%
Vol Thru, %	38%	84%	0%	79%	4%
Vol Right, %	54%	0%	100%	21%	79%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	13	864	2	307	228
LT Vol	1	139	0	0	38
Through Vol	5	725	0	243	10
RT Vol	7	0	2	64	180
Lane Flow Rate	20	900	2	370	368
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.043	1.637	0.003	0.646	0.636
Departure Headway (Hd)	9.273	6.546	5.75	7.15	7.336
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	389	558	621	510	496
Service Time	7.273	4.293	3.497	5.15	5.336
HCM Lane V/C Ratio	0.051	1.613	0.003	0.725	0.742
HCM Control Delay	12.7	312	8.5	22.3	22.3
HCM Lane LOS	B	F	A	C	C
HCM 95th-tile Q	0.1	50.2	0	4.5	4.4

HCM 6th TWSC
 11: River Laurel Way & Arnold Mill Rd

12/31/2020

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕	↕	↕	↕		↕			↕	
Traffic Vol, veh/h	8	757	11	7	153	2	26	1	59	21	0	23
Future Vol, veh/h	8	757	11	7	153	2	26	1	59	21	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	110	235	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	88	88	88	93	93	93	79	79	79
Heavy Vehicles, %	2	2	2	5	5	5	2	2	2	5	5	5
Mvmt Flow	8	797	12	8	174	2	28	1	63	27	0	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	176	0	0	809	0	0	1019	1005	797	1041	1015	174
Stage 1	-	-	-	-	-	-	813	813	-	190	190	-
Stage 2	-	-	-	-	-	-	206	192	-	851	825	-
Critical Hdwy	4.12	-	-	4.15	-	-	7.12	6.52	6.22	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.15	5.55	-
Follow-up Hdwy	2.218	-	-	2.245	-	-	3.518	4.018	3.318	3.545	4.045	3.345
Pot Cap-1 Maneuver	1400	-	-	804	-	-	215	241	387	205	235	862
Stage 1	-	-	-	-	-	-	372	392	-	805	737	-
Stage 2	-	-	-	-	-	-	796	742	-	350	383	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1400	-	-	804	-	-	205	236	387	168	230	862
Mov Cap-2 Maneuver	-	-	-	-	-	-	205	236	-	168	230	-
Stage 1	-	-	-	-	-	-	368	388	-	797	730	-
Stage 2	-	-	-	-	-	-	761	735	-	289	379	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.4	22	20.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	303	1400	-	-	804	-	-	290
HCM Lane V/C Ratio	0.305	0.006	-	-	0.01	-	-	0.192
HCM Control Delay (s)	22	7.6	0	-	9.5	-	-	20.3
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	1.3	0	-	-	0	-	-	0.7

HCM 6th TWSC
12: Arnold Mill Rd & Grimes Rd

12/31/2020

Intersection						
Int Delay, s/veh	2.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	52	117	0	52	823
Future Vol, veh/h	32	52	117	0	52	823
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	235	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	71	71	76	76	95	95
Heavy Vehicles, %	5	5	6	6	1	1
Mvmt Flow	45	73	154	0	55	866

Major/Minor	Minor1	Major1	Major2	Major2	Major2
Conflicting Flow All	1130	154	0	0	154
Stage 1	154	-	-	-	-
Stage 2	976	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.11
Critical Hdwy Stg 1	5.45	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.209
Pot Cap-1 Maneuver	222	884	-	-	1433
Stage 1	867	-	-	-	-
Stage 2	361	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	214	884	-	-	1433
Mov Cap-2 Maneuver	214	-	-	-	-
Stage 1	867	-	-	-	-
Stage 2	347	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.6	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	403	1433	-
HCM Lane V/C Ratio	-	-	0.294	0.038	-
HCM Control Delay (s)	-	-	17.6	7.6	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.2	0.1	-

Timings

13: SR 140 & Arnold Mill Rd

12/31/2020



Lane Group	EBR	NBL	NBT	SBT	SBR
Lane Configurations					
Traffic Volume (vph)	818	113	318	854	7
Future Volume (vph)	818	113	318	854	7
Turn Type	Perm	pm+pt	NA	NA	Perm
Protected Phases		5	2	6	
Permitted Phases	4	2			6
Detector Phase	4	5	2	6	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	11.0	24.0	24.0	24.0
Total Split (s)	30.0	20.0	90.0	70.0	70.0
Total Split (%)	25.0%	16.7%	75.0%	58.3%	58.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag		Lead		Lag	Lag
Lead-Lag Optimize?		Yes		Yes	Yes
Recall Mode	None	None	Min	Min	Min

Intersection Summary

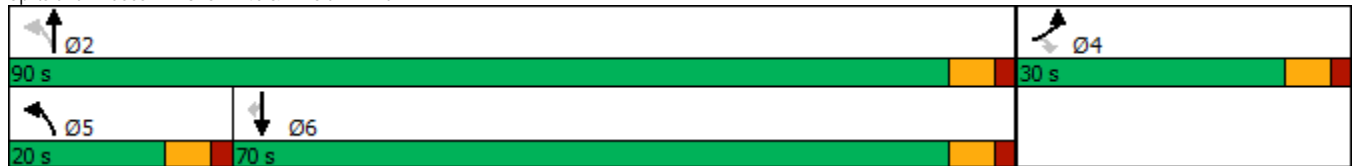
Cycle Length: 120

Actuated Cycle Length: 118.5

Natural Cycle: 180

Control Type: Actuated-Uncoordinated

Splits and Phases: 13: SR 140 & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

13: SR 140 & Arnold Mill Rd

12/31/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	818	113	318	854	7
Future Volume (veh/h)	0	818	113	318	854	7
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	1697	1697	1643	1643	1697	1697
Adj Flow Rate, veh/h	0	0	126	353	928	0
Peak Hour Factor	0.88	0.88	0.90	0.90	0.92	0.92
Percent Heavy Veh, %	1	1	5	5	1	1
Cap, veh/h	4		414	1426	1099	
Arrive On Green	0.00	0.00	0.09	0.87	0.65	0.00
Sat Flow, veh/h	1616	1438	1565	1643	1697	1438
Grp Volume(v), veh/h	0	0	126	353	928	0
Grp Sat Flow(s),veh/h/ln	1616	1438	1565	1643	1697	1438
Q Serve(g_s), s	0.0	0.0	0.9	1.6	19.3	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.9	1.6	19.3	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	4		414	1426	1099	
V/C Ratio(X)	0.00		0.30	0.25	0.84	
Avail Cap(c_a), veh/h	855		760	3043	2394	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	7.8	0.5	6.2	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.4	0.1	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.4	0.0	2.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.0	8.2	0.6	8.1	0.0
LnGrp LOS	A		A	A	A	
Approach Vol, veh/h	0	A		479	928	A
Approach Delay, s/veh	0.0			2.6	8.1	
Approach LOS				A	A	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		45.4		0.0	10.0	35.4
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		84.0		24.0	14.0	64.0
Max Q Clear Time (g_c+I1), s		3.6		0.0	2.9	21.3
Green Ext Time (p_c), s		2.1		0.0	0.2	8.1

Intersection Summary

HCM 6th Ctrl Delay	6.2
HCM 6th LOS	A

Notes

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC
201: Arnold Mill Rd & Druw Cameron Ct

12/31/2020

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	938	874	4	4	0
Future Vol, veh/h	0	938	874	4	4	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	235	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	71	71	87	87	50	50
Heavy Vehicles, %	3	3	3	3	25	25
Mvmt Flow	0	1321	1005	5	8	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1010	0	-	0	2329 1008
Stage 1	-	-	-	-	1008 -
Stage 2	-	-	-	-	1321 -
Critical Hdwy	4.13	-	-	-	6.65 6.45
Critical Hdwy Stg 1	-	-	-	-	5.65 -
Critical Hdwy Stg 2	-	-	-	-	5.65 -
Follow-up Hdwy	2.227	-	-	-	3.725 3.525
Pot Cap-1 Maneuver	682	-	-	-	35 264
Stage 1	-	-	-	-	320 -
Stage 2	-	-	-	-	223 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	682	-	-	-	35 264
Mov Cap-2 Maneuver	-	-	-	-	135 -
Stage 1	-	-	-	-	320 -
Stage 2	-	-	-	-	223 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	33.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	682	-	-	-	135	-
HCM Lane V/C Ratio	-	-	-	-	0.059	-
HCM Control Delay (s)	0	-	-	-	33.3	0
HCM Lane LOS	A	-	-	-	D	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2	-

HCM 6th TWSC
202: Little River Dr & Arnold Mill Rd

12/31/2020

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	944	3	13	875	4	15
Future Vol, veh/h	944	3	13	875	4	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	88	88	95	95
Heavy Vehicles, %	3	3	3	3	5	5
Mvmt Flow	1311	4	15	994	4	16

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	1315	0	2337
Stage 1	-	-	-	-	1313
Stage 2	-	-	-	-	1024
Critical Hdwy	-	-	4.13	-	6.45
Critical Hdwy Stg 1	-	-	-	-	5.45
Critical Hdwy Stg 2	-	-	-	-	5.45
Follow-up Hdwy	-	-	2.227	-	3.545
Pot Cap-1 Maneuver	-	-	523	-	39
Stage 1	-	-	-	-	248
Stage 2	-	-	-	-	342
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	523	-	38
Mov Cap-2 Maneuver	-	-	-	-	147
Stage 1	-	-	-	-	248
Stage 2	-	-	-	-	332

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	27.5
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	180	-	-	523	-
HCM Lane V/C Ratio	0.111	-	-	0.028	-
HCM Control Delay (s)	27.5	-	-	12.1	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

HCM 6th TWSC
203: Arnold Mill Rd & N River Dr

12/31/2020

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	961	875	5	10	11
Future Vol, veh/h	4	961	875	5	10	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	72	72	86	86	88	88
Heavy Vehicles, %	3	3	3	3	10	10
Mvmt Flow	6	1335	1017	6	11	13

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1023	0	-	0	2367 1020
Stage 1	-	-	-	-	1020 -
Stage 2	-	-	-	-	1347 -
Critical Hdwy	4.13	-	-	-	6.5 6.3
Critical Hdwy Stg 1	-	-	-	-	5.5 -
Critical Hdwy Stg 2	-	-	-	-	5.5 -
Follow-up Hdwy	2.227	-	-	-	3.59 3.39
Pot Cap-1 Maneuver	675	-	-	-	36 277
Stage 1	-	-	-	-	336 -
Stage 2	-	-	-	-	233 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	675	-	-	-	36 277
Mov Cap-2 Maneuver	-	-	-	-	36 -
Stage 1	-	-	-	-	333 -
Stage 2	-	-	-	-	233 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	87.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	675	-	-	-	66
HCM Lane V/C Ratio	0.008	-	-	-	0.362
HCM Control Delay (s)	10.4	-	-	-	87.7
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	1.4

HCM 6th TWSC
401: Arnold Mill Rd & Kings Academy Exit

12/31/2020

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	1080	1216	0	6	2
Future Vol, veh/h	0	1080	1216	0	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	82	82	33	33
Heavy Vehicles, %	5	5	4	4	0	0
Mvmt Flow	0	1256	1483	0	18	6
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	-	0	-	0	2739	1483
Stage 1	-	-	-	-	1483	-
Stage 2	-	-	-	-	1256	-
Critical Hdwy	-	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	0	-	-	0	23	155
Stage 1	0	-	-	0	210	-
Stage 2	0	-	-	0	271	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	23	155
Mov Cap-2 Maneuver	-	-	-	-	23	-
Stage 1	-	-	-	-	210	-
Stage 2	-	-	-	-	271	-
Approach	EB	WB	SB			
HCM Control Delay, s	0	0	273.6			
HCM LOS	F					
Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2		
Capacity (veh/h)	-	-	23	155		
HCM Lane V/C Ratio	-	-	0.791	0.039		
HCM Control Delay (s)	-	-	355	29.2		
HCM Lane LOS	-	-	F	D		
HCM 95th %tile Q(veh)	-	-	2.3	0.1		

Intersection: 1: Neese Rd & Arnold Mill Rd

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	479	175	200	582	200	397
Average Queue (ft)	248	124	163	201	87	171
95th Queue (ft)	358	215	222	402	177	328
Link Distance (ft)	953			2068		1373
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		100	150		125	
Storage Blk Time (%)	38	1	19	2	1	15
Queuing Penalty (veh)	94	4	94	7	3	16

Intersection: 3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	L	T	R
Maximum Queue (ft)	185	493	290	324	496	275	150	139	250	722	200
Average Queue (ft)	62	223	31	148	243	117	87	63	204	226	95
95th Queue (ft)	145	412	178	283	389	280	146	123	289	522	253
Link Distance (ft)		3115			606		1077	1077		707	
Upstream Blk Time (%)											2
Queuing Penalty (veh)											0
Storage Bay Dist (ft)	135		240	275		200			200		150
Storage Blk Time (%)	0	23	0		15				14	1	15
Queuing Penalty (veh)	0	65	0		79				81	10	92

Intersection: 4: Arnold Mill Rd & The King's Academy

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	68	24
Average Queue (ft)	9	1
95th Queue (ft)	36	8
Link Distance (ft)		233
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	225	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Trickum Rd & Arnold Mill Rd

Movement	EB	EB	EB	B19	WB	WB	NB	NB	SB
Directions Served	L	T	R	T	L	TR	LT	R	LTR
Maximum Queue (ft)	23	650	300	266	225	1047	546	200	76
Average Queue (ft)	0	317	240	9	190	423	524	86	37
95th Queue (ft)	4	539	363	91	273	782	585	249	75
Link Distance (ft)		541		1012		1043	512		444
Upstream Blk Time (%)		2				1	66		
Queuing Penalty (veh)		18				7	0		
Storage Bay Dist (ft)	150		250		175			150	
Storage Blk Time (%)		24	7		28	18	68		
Queuing Penalty (veh)		159	26		178	38	55		

Intersection: 6: Farmington Dr & Arnold Mill Rd

Movement	EB	WB	NB	SB
Directions Served	L	LTR	LTR	LTR
Maximum Queue (ft)	25	164	29	55
Average Queue (ft)	4	7	13	26
95th Queue (ft)	18	59	36	56
Link Distance (ft)		2442	468	437
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	235			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	TR	L	TR
Maximum Queue (ft)	91	154	148	258	370	275	169	524	160	483
Average Queue (ft)	38	67	82	44	185	110	128	233	66	278
95th Queue (ft)	80	129	134	146	299	225	195	421	158	442
Link Distance (ft)		494			514			1356		2442
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	90		175	90		175	120		110	
Storage Blk Time (%)	1	4			31	1	14	20		40
Queuing Penalty (veh)	4	15			124	6	57	56		31

Intersection: 8: Arnold Mill Rd & Hendon Rd

Movement	SB
Directions Served	LR
Maximum Queue (ft)	83
Average Queue (ft)	30
95th Queue (ft)	62
Link Distance (ft)	278
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: Arnold Mill Rd & N Arnold Mill Rd

Movement	EB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	29	540	200
Average Queue (ft)	4	160	51
95th Queue (ft)	19	357	154
Link Distance (ft)		525	
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)	235		150
Storage Blk Time (%)		14	
Queuing Penalty (veh)		9	

Intersection: 10: English Ivy Way/Mountain Rd & Arnold Mill Rd

Movement	EB	EB	B37	WB	NB	SB
Directions Served	LT	R	T	LTR	LTR	LTR
Maximum Queue (ft)	557	124	2183	116	30	239
Average Queue (ft)	350	4	339	50	1	76
95th Queue (ft)	595	43	1376	91	10	164
Link Distance (ft)	450		3256	670	1071	539
Upstream Blk Time (%)	31					
Queuing Penalty (veh)	247					
Storage Bay Dist (ft)		75				
Storage Blk Time (%)	86					
Queuing Penalty (veh)	2					

Intersection: 11: River Laurel Way & Arnold Mill Rd

Movement	EB	EB	B44	B43	B40	NB	SB
Directions Served	LT	R	T	T	T	LTR	LTR
Maximum Queue (ft)	718	160	1296	1187	743	348	261
Average Queue (ft)	522	23	785	551	250	229	130
95th Queue (ft)	986	115	1705	1474	773	438	278
Link Distance (ft)	609		1188	1078	670	314	247
Upstream Blk Time (%)	72		52	41	14	52	0
Queuing Penalty (veh)	557		404	319	107	0	0
Storage Bay Dist (ft)		110					
Storage Blk Time (%)	77						
Queuing Penalty (veh)	9						

Intersection: 12: Arnold Mill Rd & Grimes Rd

Movement	WB	SB	SB
Directions Served	LR	L	T
Maximum Queue (ft)	514	335	1060
Average Queue (ft)	283	182	884
95th Queue (ft)	621	453	1490
Link Distance (ft)	499		1044
Upstream Blk Time (%)	37		32
Queuing Penalty (veh)	0		268
Storage Bay Dist (ft)		235	
Storage Blk Time (%)			85
Queuing Penalty (veh)			44

Intersection: 13: SR 140 & Arnold Mill Rd

Movement	EB	EB	NB	SB
Directions Served	L	R	L	T
Maximum Queue (ft)	1330	300	130	159
Average Queue (ft)	1300	300	40	87
95th Queue (ft)	1456	300	78	142
Link Distance (ft)	1316			600
Upstream Blk Time (%)	36			
Queuing Penalty (veh)	309			
Storage Bay Dist (ft)		200	200	
Storage Blk Time (%)		94		
Queuing Penalty (veh)		0		

Intersection: 201: Arnold Mill Rd & Druw Cameron Ct

Movement	SB
Directions Served	L
Maximum Queue (ft)	48
Average Queue (ft)	5
95th Queue (ft)	26
Link Distance (ft)	656
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	2
Queuing Penalty (veh)	0

Intersection: 202: Little River Dr & Arnold Mill Rd

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	31	52
Average Queue (ft)	4	12
95th Queue (ft)	19	39
Link Distance (ft)		742
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	50	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 203: Arnold Mill Rd & N River Dr

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	31	70
Average Queue (ft)	2	23
95th Queue (ft)	15	53
Link Distance (ft)		541
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	50	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 401: Arnold Mill Rd & Kings Academy Exit

Movement	WB	SB	SB
Directions Served	T	L	R
Maximum Queue (ft)	56	21	28
Average Queue (ft)	3	5	2
95th Queue (ft)	21	18	15
Link Distance (ft)	123	373	373
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 3595

Timings

1: Neese Rd & Arnold Mill Rd

12/31/2020



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Volume (vph)	612	260	179	702	297	355
Future Volume (vph)	612	260	179	702	297	355
Turn Type	NA	Perm	pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	8	1
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	1
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	11.0
Total Split (s)	59.0	59.0	21.0	80.0	40.0	21.0
Total Split (%)	49.2%	49.2%	17.5%	66.7%	33.3%	17.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	Max	None

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 113.9

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Neese Rd & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

1: Neese Rd & Arnold Mill Rd

12/31/2020



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔	↗	↖	↔	↖	↗
Traffic Volume (veh/h)	612	260	179	702	297	355
Future Volume (veh/h)	612	260	179	702	297	355
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	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	746	317	216	846	313	374
Peak Hour Factor	0.82	0.82	0.83	0.83	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	814	690	251	1079	568	640
Arrive On Green	0.43	0.43	0.08	0.57	0.32	0.32
Sat Flow, veh/h	1885	1598	1795	1885	1795	1598
Grp Volume(v), veh/h	746	317	216	846	313	374
Grp Sat Flow(s),veh/h/ln	1885	1598	1795	1885	1795	1598
Q Serve(g_s), s	40.0	15.1	6.8	37.4	15.5	19.7
Cycle Q Clear(g_c), s	40.0	15.1	6.8	37.4	15.5	19.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	814	690	251	1079	568	640
V/C Ratio(X)	0.92	0.46	0.86	0.78	0.55	0.58
Avail Cap(c_a), veh/h	929	787	349	1297	568	640
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	28.7	21.7	23.6	17.8	30.5	25.2
Incr Delay (d2), s/veh	12.6	0.5	14.4	2.7	3.8	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.4	5.4	3.5	14.9	7.3	8.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.3	22.1	38.1	20.5	34.3	29.1
LnGrp LOS	D	C	D	C	C	C
Approach Vol, veh/h	1063			1062	687	
Approach Delay, s/veh	35.6			24.1	31.5	
Approach LOS	D			C	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	15.1	52.4			67.6	40.0
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	15.0	53.0			74.0	34.0
Max Q Clear Time (g_c+I1), s	8.8	42.0			39.4	21.7
Green Ext Time (p_c), s	0.3	4.4			6.6	2.0
Intersection Summary						
HCM 6th Ctrl Delay			30.2			
HCM 6th LOS			C			

Timings

3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

12/31/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	277	672	18	116	747	622	25	24	80	398	34	202
Future Volume (vph)	277	672	18	116	747	622	25	24	80	398	34	202
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	20.9	20.9	11.0	20.9	20.9	11.0	12.4	12.4	10.0	12.4	12.4
Total Split (s)	25.0	84.0	84.0	16.0	75.0	75.0	16.0	15.0	15.0	35.0	34.0	34.0
Total Split (%)	16.7%	56.0%	56.0%	10.7%	50.0%	50.0%	10.7%	10.0%	10.0%	23.3%	22.7%	22.7%
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.4	1.4	1.0	1.4	1.4	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.9	5.9	5.0	5.9	5.9	5.0	6.4	6.4	5.0	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

12/31/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	277	672	18	116	747	622	25	24	80	398	34	202
Future Volume (veh/h)	277	672	18	116	747	622	25	24	80	398	34	202
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1885	1885	1885
Adj Flow Rate, veh/h	334	810	0	140	900	749	32	30	0	491	42	0
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.79	0.79	0.79	0.81	0.81	0.81
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	1	1	1
Cap, veh/h	287	1017		277	868	736	172	109		466	439	
Arrive On Green	0.13	0.54	0.00	0.05	0.46	0.46	0.02	0.06	0.00	0.20	0.23	0.00
Sat Flow, veh/h	1795	1885	1598	1795	1885	1598	1810	1900	1610	1795	1885	1598
Grp Volume(v), veh/h	334	810	0	140	900	749	32	30	0	491	42	0
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1795	1885	1598	1810	1900	1610	1795	1885	1598
Q Serve(g_s), s	20.0	52.1	0.0	6.1	69.1	69.1	2.5	2.3	0.0	30.0	2.6	0.0
Cycle Q Clear(g_c), s	20.0	52.1	0.0	6.1	69.1	69.1	2.5	2.3	0.0	30.0	2.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	287	1017		277	868	736	172	109		466	439	
V/C Ratio(X)	1.16	0.80		0.51	1.04	1.02	0.19	0.28		1.05	0.10	
Avail Cap(c_a), veh/h	287	1017		310	868	736	260	109		466	439	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	53.5	27.9	0.0	25.9	40.5	40.5	64.4	67.7	0.0	54.9	45.2	0.0
Incr Delay (d2), s/veh	104.4	4.5	0.0	1.4	40.3	37.7	0.5	6.2	0.0	56.7	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.7	23.5	0.0	2.6	40.2	34.7	1.2	1.3	0.0	10.3	1.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	157.9	32.4	0.0	27.3	80.8	78.1	64.9	73.9	0.0	111.6	45.6	0.0
LnGrp LOS	F	C		C	F	F	E	E		F	D	
Approach Vol, veh/h		1144	A		1789			62	A		533	A
Approach Delay, s/veh		69.0			75.5			69.2			106.4	
Approach LOS		E			E			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.0	75.0	8.7	41.3	13.2	86.8	35.0	15.0				
Change Period (Y+Rc), s	5.0	* 5.9	5.0	6.4	5.0	* 5.9	5.0	6.4				
Max Green Setting (Gmax), s	20.0	* 69	11.0	27.6	11.0	* 78	30.0	8.6				
Max Q Clear Time (g_c+I1), s	22.0	71.1	4.5	4.6	8.1	54.1	32.0	4.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.1	5.7	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay	78.0											
HCM 6th LOS	E											

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC

4: Arnold Mill Rd & The King's Academy

12/31/2020

Intersection						
Int Delay, s/veh	3.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	1129	1537	3	3	4
Future Vol, veh/h	9	1129	1537	3	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	225	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	82	82	38	38
Heavy Vehicles, %	1	1	2	2	33	33
Mvmt Flow	11	1377	1874	4	8	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1878	0	-	0	3273 1874
Stage 1	-	-	-	-	1874 -
Stage 2	-	-	-	-	1399 -
Critical Hdwy	4.11	-	-	-	6.73 6.53
Critical Hdwy Stg 1	-	-	-	-	5.73 -
Critical Hdwy Stg 2	-	-	-	-	5.73 -
Follow-up Hdwy	2.209	-	-	-	3.797 3.597
Pot Cap-1 Maneuver	322	-	-	-	- 7 74
Stage 1	-	-	-	-	110 -
Stage 2	-	-	-	-	196 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	322	-	-	-	- 7 74
Mov Cap-2 Maneuver	-	-	-	-	- 7 -
Stage 1	-	-	-	-	106 -
Stage 2	-	-	-	-	196 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	\$ 664.1
HCM LOS			F

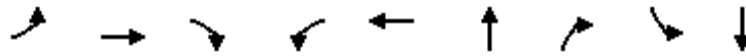
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	322	-	-	-	15
HCM Lane V/C Ratio	0.034	-	-	-	1.228
HCM Control Delay (s)	16.6	-	-	-	\$ 664.1
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	2.9

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Timings

5: Trickum Rd & Arnold Mill Rd

12/31/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	14	608	484	86	707	11	73	11	8
Future Volume (vph)	14	608	484	86	707	11	73	11	8
Turn Type	pm+pt	NA	Perm	pm+pt	NA	NA	Perm	Perm	NA
Protected Phases	1	6		5	2	3			4
Permitted Phases	6		6	2			3	4	
Detector Phase	1	6	6	5	2	3	3	4	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	17.8	17.8	10.0	17.8	13.5	13.5	13.5	13.5
Total Split (s)	14.0	49.0	49.0	10.0	45.0	46.0	46.0	15.0	15.0
Total Split (%)	11.7%	40.8%	40.8%	8.3%	37.5%	38.3%	38.3%	12.5%	12.5%
Yellow Time (s)	4.0	4.3	4.3	4.0	4.3	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	5.0	5.8	5.8	5.0	5.8	5.5	5.5		5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max

Intersection Summary

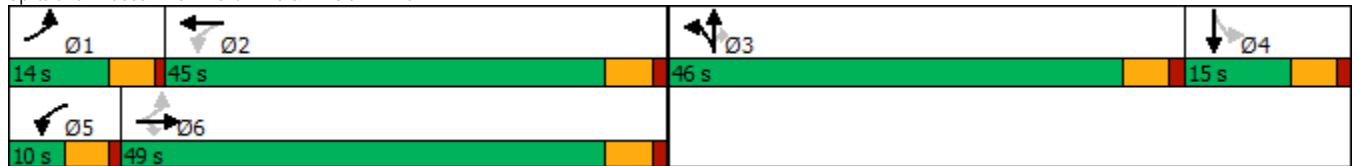
Cycle Length: 120

Actuated Cycle Length: 120

Natural Cycle: 180

Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Trickum Rd & Arnold Mill Rd



HCM Signalized Intersection Capacity Analysis

5: Trickum Rd & Arnold Mill Rd

12/31/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	14	608	484	86	707	6	811	11	73	11	8	9	
Future Volume (vph)	14	608	484	86	707	6	811	11	73	11	8	9	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	5.8	5.8	5.0	5.8			5.5	5.5		5.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00		
Flt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.96		
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.98		
Satd. Flow (prot)	1787	1881	1599	1787	1879			1775	1583		1713		
Flt Permitted	0.09	1.00	1.00	0.08	1.00			0.95	1.00		0.52		
Satd. Flow (perm)	163	1881	1599	155	1879			1775	1583		902		
Peak-hour factor, PHF	0.90	0.90	0.90	0.94	0.94	0.94	0.93	0.93	0.93	0.70	0.70	0.70	
Adj. Flow (vph)	16	676	538	91	752	6	872	12	78	16	11	13	
RTOR Reduction (vph)	0	0	256	0	0	0	0	0	52	0	12	0	
Lane Group Flow (vph)	16	676	282	91	758	0	0	884	26	0	28	0	
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	4%	4%	4%	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Perm	NA		
Protected Phases	1	6		5	2		3	3			4		
Permitted Phases	6		6	2					3	4			
Actuated Green, G (s)	48.9	46.2	46.2	53.5	48.5			40.5	40.5		9.5		
Effective Green, g (s)	48.9	46.2	46.2	53.5	48.5			40.5	40.5		9.5		
Actuated g/C Ratio	0.40	0.38	0.38	0.43	0.39			0.33	0.33		0.08		
Clearance Time (s)	5.0	5.8	5.8	5.0	5.8			5.5	5.5		5.5		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0		
Lane Grp Cap (vph)	100	706	600	133	740			584	521		69		
v/s Ratio Prot	0.00	0.36		c0.03	c0.40			c0.50					
v/s Ratio Perm	0.06		0.18	0.27					0.02		c0.03		
v/c Ratio	0.16	0.96	0.47	0.68	1.02			1.51	0.05		0.41		
Uniform Delay, d1	29.8	37.4	29.1	28.7	37.2			41.2	28.1		54.1		
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00		
Incremental Delay, d2	0.8	23.6	0.6	13.6	39.4			239.9	0.0		16.8		
Delay (s)	30.6	61.1	29.7	42.3	76.7			281.2	28.2		70.8		
Level of Service	C	E	C	D	E			F	C		E		
Approach Delay (s)		47.0			73.0			260.7			70.8		
Approach LOS		D			E			F			E		
Intersection Summary													
HCM 2000 Control Delay			121.2									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.17										
Actuated Cycle Length (s)			123.0									Sum of lost time (s)	21.8
Intersection Capacity Utilization			106.7%									ICU Level of Service	G
Analysis Period (min)			15										
c Critical Lane Group													

HCM 6th TWSC
6: Farmington Dr & Arnold Mill Rd

12/31/2020

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	621	13	2	730	5	10	0	1	3	0	31
Future Vol, veh/h	40	621	13	2	730	5	10	0	1	3	0	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	235	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	96	96	96	69	69	69	85	85	85
Heavy Vehicles, %	1	1	1	1	1	1	0	0	0	6	6	6
Mvmt Flow	42	654	14	2	760	5	14	0	1	4	0	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	765	0	0	668	0	0	1530	661	1513	1519	763	
Stage 1	-	-	-	-	-	-	745	745	-	767	767	-
Stage 2	-	-	-	-	-	-	785	769	-	746	752	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.1	6.5	6.2	7.16	6.56	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.16	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.16	5.56	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.5	4	3.3	3.554	4.054	3.354
Pot Cap-1 Maneuver	853	-	-	927	-	-	97	121	466	96	116	398
Stage 1	-	-	-	-	-	-	409	424	-	389	406	-
Stage 2	-	-	-	-	-	-	389	413	-	399	412	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	853	-	-	927	-	-	85	115	466	92	110	398
Mov Cap-2 Maneuver	-	-	-	-	-	-	85	115	-	92	110	-
Stage 1	-	-	-	-	-	-	389	403	-	370	404	-
Stage 2	-	-	-	-	-	-	352	411	-	378	392	-

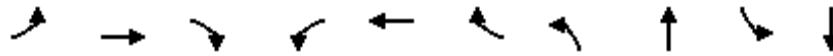
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	52.2	18.4
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	92	853	-	-	927	-	-	308
HCM Lane V/C Ratio	0.173	0.049	-	-	0.002	-	-	0.13
HCM Control Delay (s)	52.2	9.4	-	-	8.9	0	-	18.4
HCM Lane LOS	F	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	0.6	0.2	-	-	0	-	-	0.4

Timings

7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

12/31/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	36	484	239	17	341	137	325	552	202	290
Future Volume (vph)	36	484	239	17	341	137	325	552	202	290
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	1	6		5	2		3	8	7	4
Permitted Phases	6		6	2		2	8		4	
Detector Phase	1	6	6	5	2	2	3	8	7	4
Switch Phase										
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	12.0	21.0	21.0	12.0	21.0	21.0	12.0	21.0	12.0	12.0
Total Split (s)	14.0	45.0	45.0	14.0	45.0	45.0	19.0	42.0	19.0	42.0
Total Split (%)	11.7%	37.5%	37.5%	11.7%	37.5%	37.5%	15.8%	35.0%	15.8%	35.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None

Intersection Summary

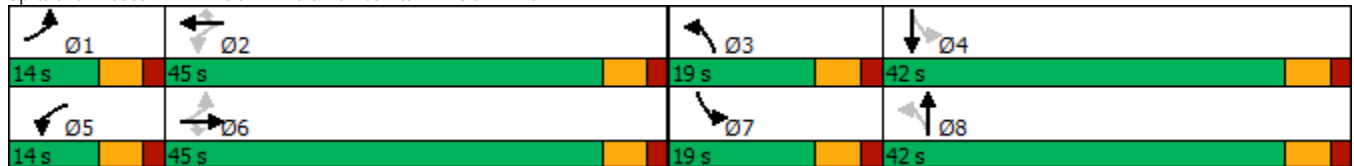
Cycle Length: 120

Actuated Cycle Length: 106.1

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd



HCM 6th Signalized Intersection Summary

7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

12/31/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	484	239	17	341	137	325	552	22	202	290	32
Future Volume (veh/h)	36	484	239	17	341	137	325	552	22	202	290	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	515	254	18	359	144	353	600	24	227	326	36
Peak Hour Factor	0.94	0.94	0.94	0.95	0.95	0.95	0.92	0.92	0.92	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	2	2	2	2	2	2
Cap, veh/h	246	574	487	139	547	464	442	601	24	257	532	59
Arrive On Green	0.04	0.31	0.31	0.02	0.29	0.29	0.12	0.34	0.34	0.11	0.32	0.32
Sat Flow, veh/h	1767	1856	1572	1767	1856	1572	1781	1786	71	1781	1655	183
Grp Volume(v), veh/h	38	515	254	18	359	144	353	0	624	227	0	362
Grp Sat Flow(s),veh/h/ln	1767	1856	1572	1767	1856	1572	1781	0	1858	1781	0	1837
Q Serve(g_s), s	1.6	28.4	14.2	0.8	18.1	7.6	13.0	0.0	35.9	9.3	0.0	17.8
Cycle Q Clear(g_c), s	1.6	28.4	14.2	0.8	18.1	7.6	13.0	0.0	35.9	9.3	0.0	17.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		0.10
Lane Grp Cap(c), veh/h	246	574	487	139	547	464	442	0	625	257	0	590
V/C Ratio(X)	0.15	0.90	0.52	0.13	0.66	0.31	0.80	0.00	1.00	0.88	0.00	0.61
Avail Cap(c_a), veh/h	311	676	573	230	676	573	442	0	625	284	0	618
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.9	35.3	30.4	28.6	33.0	29.3	24.8	0.0	35.5	27.1	0.0	30.7
Incr Delay (d2), s/veh	0.3	13.2	0.9	0.4	1.6	0.4	10.0	0.0	35.5	24.4	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	14.5	5.3	0.3	8.2	2.8	6.9	0.0	21.3	5.4	0.0	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.2	48.5	31.3	29.0	34.6	29.7	34.8	0.0	71.0	51.5	0.0	32.4
LnGrp LOS	C	D	C	C	C	C	C	A	E	D	A	C
Approach Vol, veh/h		807			521			977			589	
Approach Delay, s/veh		42.1			33.1			57.9			39.7	
Approach LOS		D			C			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.1	37.5	19.0	40.4	8.5	39.1	17.4	42.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	8.0	39.0	13.0	36.0	8.0	39.0	13.0	36.0				
Max Q Clear Time (g_c+I1), s	3.6	20.1	15.0	19.8	2.8	30.4	11.3	37.9				
Green Ext Time (p_c), s	0.0	2.5	0.0	1.7	0.0	2.7	0.1	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			45.3									
HCM 6th LOS			D									

HCM 6th TWSC

8: Arnold Mill Rd & Hendon Rd

12/31/2020

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕	↕	↕	
Traffic Vol, veh/h	7	554	866	14	5	6
Future Vol, veh/h	7	554	866	14	5	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	175	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	97	97	58	58
Heavy Vehicles, %	3	3	2	2	0	0
Mvmt Flow	7	589	893	14	9	10
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	907	0	-	0	1496	893
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	603	-
Critical Hdwy	4.13	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.227	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	746	-	-	-	137	343
Stage 1	-	-	-	-	403	-
Stage 2	-	-	-	-	550	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	746	-	-	-	135	343
Mov Cap-2 Maneuver	-	-	-	-	135	-
Stage 1	-	-	-	-	397	-
Stage 2	-	-	-	-	550	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		24.7		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	746	-	-	-	202	
HCM Lane V/C Ratio	0.01	-	-	-	0.094	
HCM Control Delay (s)	9.9	0	-	-	24.7	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0	-	-	-	0.3	

HCM 6th TWSC
 9: Arnold Mill Rd & N Arnold Mill Rd

12/31/2020

Intersection						
Int Delay, s/veh	8.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	23	428	771	352	131	31
Future Vol, veh/h	23	428	771	352	131	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	235	-	-	175	0	150
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	94	94	88	88
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	24	451	820	374	149	35

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1194	0	-	0	1319 820
Stage 1	-	-	-	-	820 -
Stage 2	-	-	-	-	499 -
Critical Hdwy	4.13	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.227	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	581	-	-	-	173 375
Stage 1	-	-	-	-	433 -
Stage 2	-	-	-	-	610 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	581	-	-	-	166 375
Mov Cap-2 Maneuver	-	-	-	-	166 -
Stage 1	-	-	-	-	415 -
Stage 2	-	-	-	-	610 -

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	83.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	581	-	-	-	166	375
HCM Lane V/C Ratio	0.042	-	-	-	0.897	0.094
HCM Control Delay (s)	11.5	-	-	-	99.9	15.6
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0.1	-	-	-	6.5	0.3

HCM 6th AWSC
 10: English Ivy Way/Mountain Rd & Arnold Mill Rd

12/31/2020

Intersection	
Intersection Delay, s/veh	192.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	176	340	4	4	912	20	3	3	2	43	6	224
Future Vol, veh/h	176	340	4	4	912	20	3	3	2	43	6	224
Peak Hour Factor	0.86	0.86	0.86	0.98	0.98	0.98	0.67	0.67	0.67	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	1	1	1	25	25	25	3	3	3
Mvmt Flow	205	395	5	4	931	20	4	4	3	49	7	257
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	107	305.7	13.9	20.8
HCM LOS	F	F	B	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	38%	34%	0%	0%	16%
Vol Thru, %	38%	66%	0%	97%	2%
Vol Right, %	25%	0%	100%	2%	82%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	516	4	936	273
LT Vol	3	176	0	4	43
Through Vol	3	340	0	912	6
RT Vol	2	0	4	20	224
Lane Flow Rate	12	600	5	955	314
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.029	1.13	0.008	1.623	0.578
Departure Headway (Hd)	10.609	7.503	6.605	6.447	7.727
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	339	486	545	573	471
Service Time	8.609	5.203	4.305	4.447	5.727
HCM Lane V/C Ratio	0.035	1.235	0.009	1.667	0.667
HCM Control Delay	13.9	107.8	9.4	305.7	20.8
HCM Lane LOS	B	F	A	F	C
HCM 95th-tile Q	0.1	18.7	0	50.2	3.6

HCM 6th TWSC

11: River Laurel Way & Arnold Mill Rd

12/31/2020

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	277	24	34	967	20	8	0	26	15	0	5
Future Vol, veh/h	8	277	24	34	967	20	8	0	26	15	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	110	235	-	150	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	93	93	93	77	77	77	83	83	83
Heavy Vehicles, %	2	2	2	5	5	5	2	2	2	5	5	5
Mvmt Flow	9	322	28	37	1040	22	10	0	34	18	0	6
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1062	0	0	350	0	0	1468	322	1485	1482	1040	
Stage 1	-	-	-	-	-	-	340	340	-	1114	1114	-
Stage 2	-	-	-	-	-	-	1128	1136	-	371	368	-
Critical Hdwy	4.12	-	-	4.15	-	-	7.12	6.52	6.22	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.15	5.55	-
Follow-up Hdwy	2.218	-	-	2.245	-	-	3.518	4.018	3.318	3.545	4.045	3.345
Pot Cap-1 Maneuver	656	-	-	1192	-	-	106	126	719	101	123	276
Stage 1	-	-	-	-	-	-	675	639	-	249	280	-
Stage 2	-	-	-	-	-	-	248	277	-	643	616	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	656	-	-	1192	-	-	100	120	719	93	117	276
Mov Cap-2 Maneuver	-	-	-	-	-	-	100	120	-	93	117	-
Stage 1	-	-	-	-	-	-	664	628	-	245	271	-
Stage 2	-	-	-	-	-	-	235	268	-	602	606	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.3			19.5			46.2		
HCM LOS	C			C			C			E		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	293	656	-	-	1192	-	-	111				
HCM Lane V/C Ratio	0.151	0.014	-	-	0.031	-	-	0.217				
HCM Control Delay (s)	19.5	10.6	0	-	8.1	-	-	46.2				
HCM Lane LOS	C	B	A	-	A	-	-	E				
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.8				

HCM 6th TWSC
12: Arnold Mill Rd & Grimes Rd

12/31/2020

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	38	1062	1	65	281
Future Vol, veh/h	1	38	1062	1	65	281
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	235	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	89	89	87	87
Heavy Vehicles, %	4	4	1	1	2	2
Mvmt Flow	1	51	1193	1	75	323

Major/Minor	Minor1	Major1	Major2	Major3	Major4
Conflicting Flow All	1667	1194	0	0	1194
Stage 1	1194	-	-	-	-
Stage 2	473	-	-	-	-
Critical Hdwy	6.44	6.24	-	-	4.12
Critical Hdwy Stg 1	5.44	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-
Follow-up Hdwy	3.536	3.336	-	-	2.218
Pot Cap-1 Maneuver	105	225	-	-	585
Stage 1	285	-	-	-	-
Stage 2	623	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	92	225	-	-	585
Mov Cap-2 Maneuver	92	-	-	-	-
Stage 1	285	-	-	-	-
Stage 2	543	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.7	0	2.3
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	217	585	-
HCM Lane V/C Ratio	-	-	0.24	0.128	-
HCM Control Delay (s)	-	-	26.7	12.1	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	0.9	0.4	-

Timings

13: SR 140 & Arnold Mill Rd

12/31/2020



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	6	275	1009	1114	595	53
Future Volume (vph)	6	275	1009	1114	595	53
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	24.0	24.0	50.0	96.0	46.0	46.0
Total Split (%)	20.0%	20.0%	41.7%	80.0%	38.3%	38.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min

Intersection Summary

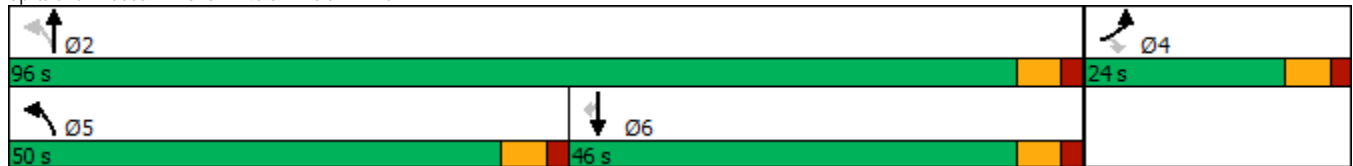
Cycle Length: 120

Actuated Cycle Length: 111.1

Natural Cycle: 180

Control Type: Actuated-Uncoordinated

Splits and Phases: 13: SR 140 & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

13: SR 140 & Arnold Mill Rd

12/31/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	275	1009	1114	595	53
Future Volume (veh/h)	6	275	1009	1114	595	53
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	1683	1683	1697	1697	1657	1657
Adj Flow Rate, veh/h	7	0	1040	1148	640	0
Peak Hour Factor	0.89	0.89	0.97	0.97	0.93	0.93
Percent Heavy Veh, %	2	2	1	1	4	4
Cap, veh/h	14		764	1484	644	
Arrive On Green	0.01	0.00	0.43	0.87	0.39	0.00
Sat Flow, veh/h	1603	1427	1616	1697	1657	1404
Grp Volume(v), veh/h	7	0	1040	1148	640	0
Grp Sat Flow(s),veh/h/ln	1603	1427	1616	1697	1657	1404
Q Serve(g_s), s	0.4	0.0	44.0	27.0	39.6	0.0
Cycle Q Clear(g_c), s	0.4	0.0	44.0	27.0	39.6	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	14		764	1484	644	
V/C Ratio(X)	0.50		1.36	0.77	0.99	
Avail Cap(c_a), veh/h	280		764	1484	644	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	50.8	0.0	25.7	2.5	31.3	0.0
Incr Delay (d2), s/veh	24.4	0.0	171.3	2.6	33.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	51.2	1.2	20.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	75.2	0.0	197.0	5.1	65.2	0.0
LnGrp LOS	E		F	A	E	
Approach Vol, veh/h	7	A		2188	640	A
Approach Delay, s/veh	75.2			96.3	65.2	
Approach LOS	E			F	E	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		96.0		6.9	50.0	46.0
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		90.0		18.0	44.0	40.0
Max Q Clear Time (g_c+I1), s		29.0		2.4	46.0	41.6
Green Ext Time (p_c), s		13.6		0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	89.2
HCM 6th LOS	F

Notes

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC
201: Arnold Mill Rd & Druw Cameron Ct

12/31/2020

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	872	847	4	4	7
Future Vol, veh/h	8	872	847	4	4	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	235	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	83	83	55	55
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	9	969	1020	5	7	13

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1025	0	-	0	2010 1023
Stage 1	-	-	-	-	1023 -
Stage 2	-	-	-	-	987 -
Critical Hdwy	4.11	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.209	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	681	-	-	-	66 289
Stage 1	-	-	-	-	350 -
Stage 2	-	-	-	-	364 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	681	-	-	-	65 289
Mov Cap-2 Maneuver	-	-	-	-	65 -
Stage 1	-	-	-	-	345 -
Stage 2	-	-	-	-	364 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	35.9
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	681	-	-	-	65	289
HCM Lane V/C Ratio	0.013	-	-	-	0.112	0.044
HCM Control Delay (s)	10.4	-	-	-	67.2	18
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0	-	-	-	0.4	0.1

HCM 6th TWSC
202: Little River Dr & Arnold Mill Rd

12/31/2020

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	859	11	24	844	9	14
Future Vol, veh/h	859	11	24	844	9	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	83	83	64	64
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	954	12	29	1017	14	22

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	966	0
Stage 1	-	-	-	960
Stage 2	-	-	-	1075
Critical Hdwy	-	-	4.11	6.4
Critical Hdwy Stg 1	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	5.4
Follow-up Hdwy	-	-	2.209	3.5
Pot Cap-1 Maneuver	-	-	717	63
Stage 1	-	-	-	375
Stage 2	-	-	-	331
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	717	60
Mov Cap-2 Maneuver	-	-	-	60
Stage 1	-	-	-	375
Stage 2	-	-	-	318

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	48.3
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	118	-	-	717	-
HCM Lane V/C Ratio	0.305	-	-	0.04	-
HCM Control Delay (s)	48.3	-	-	10.2	-
HCM Lane LOS	E	-	-	B	-
HCM 95th %tile Q(veh)	1.2	-	-	0.1	-

HCM 6th TWSC
203: Arnold Mill Rd & N River Dr

12/31/2020

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	848	869	8	7	9
Future Vol, veh/h	19	848	869	8	7	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	82	82	80	80
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	21	922	1060	10	9	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1070	0	-	0	2029
Stage 1	-	-	-	-	1065
Stage 2	-	-	-	-	964
Critical Hdwy	4.11	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.209	-	-	-	3.5
Pot Cap-1 Maneuver	655	-	-	-	64
Stage 1	-	-	-	-	334
Stage 2	-	-	-	-	373
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	655	-	-	-	62
Mov Cap-2 Maneuver	-	-	-	-	62
Stage 1	-	-	-	-	323
Stage 2	-	-	-	-	373

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	44.9
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	655	-	-	-	110
HCM Lane V/C Ratio	0.032	-	-	-	0.182
HCM Control Delay (s)	10.7	-	-	-	44.9
HCM Lane LOS	B	-	-	-	E
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

HCM 6th TWSC

401: Arnold Mill Rd & Kings Academy Exit

12/31/2020

Intersection						
Int Delay, s/veh	5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	1134	1532	0	9	6
Future Vol, veh/h	0	1134	1532	0	9	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	91	91	42	42
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	1289	1684	0	21	14

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	-	0	-	0	2973 1684
Stage 1	-	-	-	-	1684 -
Stage 2	-	-	-	-	1289 -
Critical Hdwy	-	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	0	-	-	0	~ 16 118
Stage 1	0	-	-	0	167 -
Stage 2	0	-	-	0	261 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	~ 16 118
Mov Cap-2 Maneuver	-	-	-	-	~ 16 -
Stage 1	-	-	-	-	167 -
Stage 2	-	-	-	-	261 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	\$ 425.3
HCM LOS			F

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	16	118
HCM Lane V/C Ratio	-	-	1.339	0.121
HCM Control Delay (s)	-	-	\$ 682.4	39.7
HCM Lane LOS	-	-	F	E
HCM 95th %tile Q(veh)	-	-	3.2	0.4

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection: 1: Neese Rd & Arnold Mill Rd

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	R	L	T	L	R
Maximum Queue (ft)	660	175	200	423	200	584
Average Queue (ft)	375	125	103	168	157	217
95th Queue (ft)	596	229	201	350	234	424
Link Distance (ft)	953			2068		1373
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		100	150		125	
Storage Blk Time (%)	43		1	9	21	10
Queuing Penalty (veh)	113		8	17	74	31

Intersection: 3: Middle & High Schools dwy/Mill Creek Rd & Arnold Mill Rd

Movement	EB	EB	EB	WB	WB	WB	B45	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	T	L	T	L	T
Maximum Queue (ft)	185	2306	290	324	677	275	95	91	52	250	722
Average Queue (ft)	174	1144	20	61	369	190	8	27	24	235	324
95th Queue (ft)	211	2249	142	156	659	337	49	59	55	288	635
Link Distance (ft)		3115			606		643	1077	1077		707
Upstream Blk Time (%)					2						1
Queuing Penalty (veh)					30						0
Storage Bay Dist (ft)	135		240	275		200				200	
Storage Blk Time (%)	46	30			22	1				38	
Queuing Penalty (veh)	314	88			165	8				89	

Intersection: 4: Arnold Mill Rd & The King's Academy

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	31	88
Average Queue (ft)	1	17
95th Queue (ft)	11	56
Link Distance (ft)		233
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	225	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Trickum Rd & Arnold Mill Rd

Movement	EB	EB	EB	B19	WB	WB	NB	NB	SB
Directions Served	L	T	R	T	L	TR	LT	R	LTR
Maximum Queue (ft)	30	613	300	1058	224	463	551	200	74
Average Queue (ft)	8	463	223	293	78	303	531	70	23
95th Queue (ft)	28	736	392	903	197	447	544	224	65
Link Distance (ft)		541		1012		1043	512		444
Upstream Blk Time (%)		20		1			72		
Queuing Penalty (veh)		225		8			0		
Storage Bay Dist (ft)	150		250		175			150	
Storage Blk Time (%)		43				30	66		
Queuing Penalty (veh)		216				26	48		

Intersection: 6: Farmington Dr & Arnold Mill Rd

Movement	EB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	49	30	30
Average Queue (ft)	17	12	20
95th Queue (ft)	44	35	43
Link Distance (ft)		476	437
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	235		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Arnold Mill Rd & Barnes Rd/N Arnold Mill Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	TR	L	TR
Maximum Queue (ft)	240	382	275	259	418	275	170	545	160	329
Average Queue (ft)	30	240	121	22	189	69	155	329	130	170
95th Queue (ft)	101	401	283	100	308	166	199	521	178	289
Link Distance (ft)		366			403			1355		2445
Upstream Blk Time (%)		4			0					
Queuing Penalty (veh)		0			0					
Storage Bay Dist (ft)	90		175	90		175	120		110	
Storage Blk Time (%)		40			28		15	38	14	23
Queuing Penalty (veh)		109			43		86	125	44	46

Intersection: 8: Arnold Mill Rd & Hendon Rd

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	114	22
Average Queue (ft)	8	4
95th Queue (ft)	47	17
Link Distance (ft)	372	278
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Arnold Mill Rd & N Arnold Mill Rd

Movement	EB	WB	SB	SB
Directions Served	L	R	L	R
Maximum Queue (ft)	28	22	97	61
Average Queue (ft)	8	1	45	20
95th Queue (ft)	29	7	76	44
Link Distance (ft)			525	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	235	175		150
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: English Ivy Way/Mountain Rd & Arnold Mill Rd

Movement	EB	WB	B40	B43	NB	SB
Directions Served	LT	LTR	T	T	LTR	LTR
Maximum Queue (ft)	280	790	1197	1250	50	140
Average Queue (ft)	143	708	763	306	7	78
95th Queue (ft)	223	893	1546	1070	32	114
Link Distance (ft)	450	670	1078	1188	1071	539
Upstream Blk Time (%)		79	42	4		
Queuing Penalty (veh)		776	414	39		
Storage Bay Dist (ft)						
Storage Blk Time (%)	33					
Queuing Penalty (veh)	1					

Intersection: 11: River Laurel Way & Arnold Mill Rd

Movement	EB	WB	NB	SB
Directions Served	LT	L	LTR	LTR
Maximum Queue (ft)	50	76	68	41
Average Queue (ft)	6	9	25	11
95th Queue (ft)	26	36	58	33
Link Distance (ft)	609		314	247
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		235		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Arnold Mill Rd & Grimes Rd

Movement	WB	NB	SB
Directions Served	LR	TR	L
Maximum Queue (ft)	43	22	76
Average Queue (ft)	21	1	23
95th Queue (ft)	38	7	61
Link Distance (ft)	499	1316	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			235
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 13: SR 140 & Arnold Mill Rd

Movement	EB	NB	NB	SB	SB
Directions Served	L	L	T	T	R
Maximum Queue (ft)	30	275	1040	615	385
Average Queue (ft)	5	241	231	287	27
95th Queue (ft)	23	315	707	514	191
Link Distance (ft)	1316		1025	600	
Upstream Blk Time (%)			1	1	
Queuing Penalty (veh)			0	0	
Storage Bay Dist (ft)		200			210
Storage Blk Time (%)		17	0	21	
Queuing Penalty (veh)		185	1	11	

Intersection: 201: Arnold Mill Rd & Druw Cameron Ct

Movement	EB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	28	30	31
Average Queue (ft)	2	2	4
95th Queue (ft)	13	15	22
Link Distance (ft)	660		
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	235		50
Storage Blk Time (%)		0	0
Queuing Penalty (veh)		0	0

Intersection: 202: Little River Dr & Arnold Mill Rd

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	31	50
Average Queue (ft)	8	13
95th Queue (ft)	30	39
Link Distance (ft)	742	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	50	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 203: Arnold Mill Rd & N River Dr

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	32	46
Average Queue (ft)	3	8
95th Queue (ft)	18	31
Link Distance (ft)	541	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	50	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 401: Arnold Mill Rd & Kings Academy Exit

Movement	WB	SB	SB
Directions Served	T	L	R
Maximum Queue (ft)	38	48	52
Average Queue (ft)	2	9	3
95th Queue (ft)	15	32	18
Link Distance (ft)	111	174	174
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

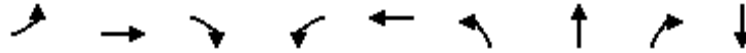
Network Summary

Network wide Queuing Penalty: 3339

Timings

5: Trickum Rd & Arnold Mill Rd

12/31/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Configurations									
Traffic Volume (vph)	2	377	672	216	622	551	3	81	17
Future Volume (vph)	2	377	672	216	622	551	3	81	17
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Split	NA	Perm	NA
Protected Phases	1	6		5	2	3	3		4
Permitted Phases	6		6	2				3	
Detector Phase	1	6	6	5	2	3	3	3	4
Switch Phase									
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	17.8	17.8	10.0	17.8	13.5	13.5	13.5	13.5
Total Split (s)	10.0	65.0	65.0	19.0	74.0	50.0	50.0	50.0	16.0
Total Split (%)	6.7%	43.3%	43.3%	12.7%	49.3%	33.3%	33.3%	33.3%	10.7%
Yellow Time (s)	4.0	4.3	4.3	4.0	4.3	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.8	5.8	5.0	5.8	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	Max

Intersection Summary

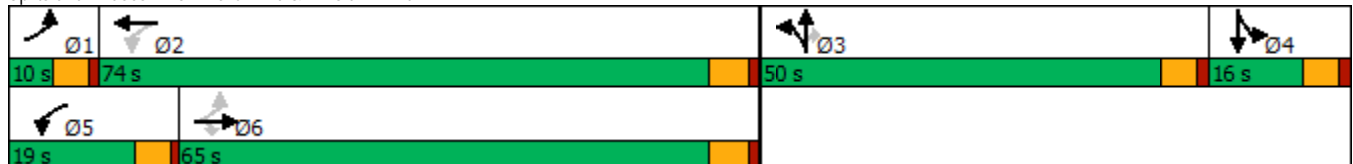
Cycle Length: 150

Actuated Cycle Length: 123.9

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Trickum Rd & Arnold Mill Rd



HCM Signalized Intersection Capacity Analysis

5: Trickum Rd & Arnold Mill Rd

12/31/2020

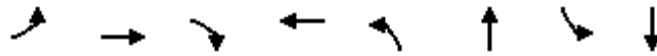


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	2	377	672	216	622	3	551	3	81	4	17	9	
Future Volume (vph)	2	377	672	216	622	3	551	3	81	4	17	9	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	5.8	5.8	5.0	5.8		5.5	5.5	5.5		5.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.95	0.95	1.00		1.00		
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.96		
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		0.99		
Satd. Flow (prot)	1719	1810	1538	1770	1861		1633	1638	1538		1690		
Flt Permitted	0.11	1.00	1.00	0.25	1.00		0.95	0.95	1.00		0.99		
Satd. Flow (perm)	191	1810	1538	469	1861		1633	1638	1538		1690		
Peak-hour factor, PHF	0.89	0.89	0.89	0.83	0.83	0.83	0.70	0.70	0.70	0.94	0.94	0.94	
Adj. Flow (vph)	2	424	755	260	749	4	787	4	116	4	18	10	
RTOR Reduction (vph)	0	0	495	0	0	0	0	0	82	0	9	0	
Lane Group Flow (vph)	2	424	260	260	753	0	393	398	34	0	23	0	
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	5%	5%	5%	7%	7%	7%	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA		
Protected Phases	1	6		5	2		3	3		4	4		
Permitted Phases	6		6	2					3				
Actuated Green, G (s)	44.7	43.9	43.9	62.9	57.1		37.0	37.0	37.0		10.9		
Effective Green, g (s)	44.7	43.9	43.9	62.9	57.1		37.0	37.0	37.0		10.9		
Actuated g/C Ratio	0.35	0.34	0.34	0.49	0.45		0.29	0.29	0.29		0.09		
Clearance Time (s)	5.0	5.8	5.8	5.0	5.8		5.5	5.5	5.5		5.5		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0		
Lane Grp Cap (vph)	76	622	529	373	832		473	474	445		144		
v/s Ratio Prot	0.00	0.23		c0.08	c0.40		0.24	c0.24			c0.01		
v/s Ratio Perm	0.01		0.17	0.27					0.02				
v/c Ratio	0.03	0.68	0.49	0.70	0.91		0.83	0.84	0.08		0.16		
Uniform Delay, d1	30.9	35.9	33.0	22.6	32.7		42.4	42.5	32.9		54.1		
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00		
Incremental Delay, d2	0.1	3.1	0.7	5.6	13.2		11.8	12.4	0.1		2.3		
Delay (s)	31.1	38.9	33.8	28.2	46.0		54.2	54.9	33.0		56.4		
Level of Service	C	D	C	C	D		D	D	C		E		
Approach Delay (s)		35.6			41.4			51.8			56.4		
Approach LOS		D			D			D			E		
Intersection Summary													
HCM 2000 Control Delay			42.4									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.82										
Actuated Cycle Length (s)			127.6									Sum of lost time (s)	21.8
Intersection Capacity Utilization			71.8%									ICU Level of Service	C
Analysis Period (min)			15										
c Critical Lane Group													

Timings

10: English Ivy Way/Mountain Rd & Arnold Mill Rd

12/31/2020

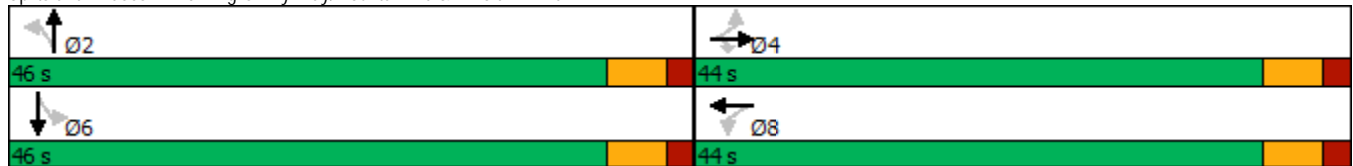


Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	139	725	2	243	1	5	38	10
Future Volume (vph)	139	725	2	243	1	5	38	10
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		4		2		6	
Detector Phase	4	4	4	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	44.0	44.0	44.0	44.0	46.0	46.0	46.0	46.0
Total Split (%)	48.9%	48.9%	48.9%	48.9%	51.1%	51.1%	51.1%	51.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0		6.0		6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 52.7
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated

Splits and Phases: 10: English Ivy Way/Mountain Rd & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

10: English Ivy Way/Mountain Rd & Arnold Mill Rd

12/31/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	725	2	0	243	64	1	5	7	38	10	180
Future Volume (veh/h)	139	725	2	0	243	64	1	5	7	38	10	180
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1841	1841	1841	1781	1781	1781	1870	1870	1870
Adj Flow Rate, veh/h	145	755	0	0	293	77	2	8	0	61	16	290
Peak Hour Factor	0.96	0.96	0.96	0.83	0.83	0.83	0.65	0.65	0.65	0.62	0.62	0.62
Percent Heavy Veh, %	1	1	1	4	4	4	8	8	8	2	2	2
Cap, veh/h	485	907		134	676	178	136	444		130	46	371
Arrive On Green	0.48	0.48	0.00	0.00	0.48	0.48	0.30	0.30	0.00	0.30	0.30	0.30
Sat Flow, veh/h	1020	1885	1598	698	1405	369	189	1500	0	177	156	1254
Grp Volume(v), veh/h	145	755	0	0	0	370	10	0	0	367	0	0
Grp Sat Flow(s),veh/h/ln	1020	1885	1598	698	0	1774	1689	0	0	1586	0	0
Q Serve(g_s), s	5.8	18.6	0.0	0.0	0.0	7.4	0.0	0.0	0.0	6.2	0.0	0.0
Cycle Q Clear(g_c), s	13.2	18.6	0.0	0.0	0.0	7.4	0.2	0.0	0.0	11.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.21	0.20		0.00	0.17		0.79
Lane Grp Cap(c), veh/h	485	907		134	0	854	580	0		547	0	0
V/C Ratio(X)	0.30	0.83		0.00	0.00	0.43	0.02	0.00		0.67	0.00	0.00
Avail Cap(c_a), veh/h	716	1333		291	0	1254	1275	0		1248	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.5	12.1	0.0	0.0	0.0	9.1	13.4	0.0	0.0	17.3	0.0	0.0
Incr Delay (d2), s/veh	0.3	3.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	6.0	0.0	0.0	0.0	2.0	0.1	0.0	0.0	3.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.8	15.1	0.0	0.0	0.0	9.5	13.4	0.0	0.0	18.7	0.0	0.0
LnGrp LOS	B	B		A	A	A	B	A		B	A	A
Approach Vol, veh/h		900	A		370			10	A			367
Approach Delay, s/veh		14.9			9.5			13.4				18.7
Approach LOS		B			A			B				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		21.9		31.9		21.9		31.9				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		40.0		38.0		40.0		38.0				
Max Q Clear Time (g_c+I1), s		2.2		20.6		13.3		9.4				
Green Ext Time (p_c), s		0.0		5.2		2.6		2.1				

Intersection Summary

HCM 6th Ctrl Delay	14.5
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection: 5: Trickum Rd & Arnold Mill Rd

Movement	EB	EB	WB	WB	NB	NB	NB	SB
Directions Served	T	R	L	TR	L	LT	R	LTR
Maximum Queue (ft)	605	300	225	540	260	541	200	137
Average Queue (ft)	284	219	175	305	223	284	50	28
95th Queue (ft)	529	334	253	489	289	530	193	76
Link Distance (ft)	536			1036		513		432
Upstream Blk Time (%)	2					3		
Queuing Penalty (veh)	19					0		
Storage Bay Dist (ft)		250	175		210		150	
Storage Blk Time (%)	23	5	8	21	22	20		
Queuing Penalty (veh)	157	17	51	45	79	72		

Intersection: 10: English Ivy Way/Mountain Rd & Arnold Mill Rd

Movement	EB	EB	WB	NB	SB
Directions Served	L	T	TR	LTR	LTR
Maximum Queue (ft)	92	260	106	30	159
Average Queue (ft)	43	119	52	3	86
95th Queue (ft)	71	225	90	15	144
Link Distance (ft)		450	669	1065	533
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	235				
Storage Blk Time (%)		12			
Queuing Penalty (veh)		17			

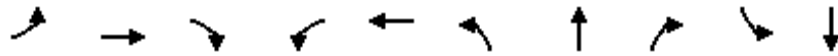
Zone Summary

Zone wide Queuing Penalty: 460

Timings

5: Trickum Rd & Arnold Mill Rd

12/31/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	14	608	484	86	707	811	11	73	11	8
Future Volume (vph)	14	608	484	86	707	811	11	73	11	8
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Split	NA	Perm	Perm	NA
Protected Phases	1	6		5	2	3	3			4
Permitted Phases	6		6	2				3	4	
Detector Phase	1	6	6	5	2	3	3	3	4	4
Switch Phase										
Minimum Initial (s)	4.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	17.8	17.8	10.0	17.8	13.5	13.5	13.5	13.5	13.5
Total Split (s)	14.0	50.0	50.0	10.0	46.0	45.0	45.0	45.0	15.0	15.0
Total Split (%)	11.7%	41.7%	41.7%	8.3%	38.3%	37.5%	37.5%	37.5%	12.5%	12.5%
Yellow Time (s)	4.0	4.3	4.3	4.0	4.3	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.5	1.5	1.0	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	5.0	5.8	5.8	5.0	5.8	5.5	5.5	5.5		5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	Max	Max

Intersection Summary

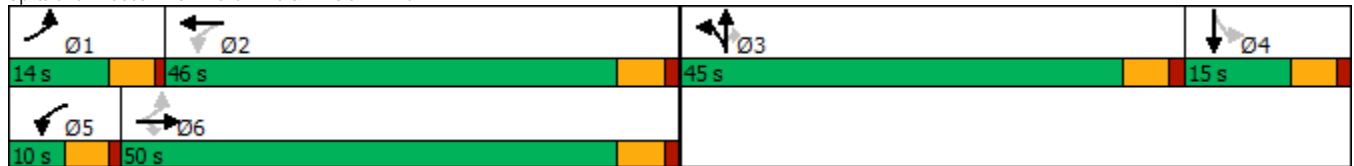
Cycle Length: 120

Actuated Cycle Length: 115.2

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Trickum Rd & Arnold Mill Rd



HCM Signalized Intersection Capacity Analysis

5: Trickum Rd & Arnold Mill Rd

12/31/2020

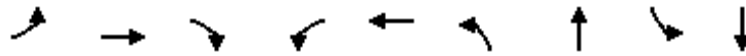


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	608	484	86	707	6	811	11	73	11	8	9
Future Volume (vph)	14	608	484	86	707	6	811	11	73	11	8	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.8	5.8	5.0	5.8		5.5	5.5	5.5		5.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.95	0.95	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		0.98	
Satd. Flow (prot)	1787	1881	1599	1787	1879		1681	1688	1583		1713	
Flt Permitted	0.09	1.00	1.00	0.08	1.00		0.95	0.95	1.00		0.67	
Satd. Flow (perm)	161	1881	1599	154	1879		1681	1688	1583		1176	
Peak-hour factor, PHF	0.90	0.90	0.90	0.94	0.94	0.94	0.93	0.93	0.93	0.70	0.70	0.70
Adj. Flow (vph)	16	676	538	91	752	6	872	12	78	16	11	13
RTOR Reduction (vph)	0	0	252	0	0	0	0	0	55	0	12	0
Lane Group Flow (vph)	16	676	286	91	758	0	445	439	23	0	28	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	4%	4%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Split	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2		3	3			4	
Permitted Phases	6		6	2					3	4		
Actuated Green, G (s)	49.2	46.6	46.6	54.0	49.0		35.3	35.3	35.3		9.5	
Effective Green, g (s)	49.2	46.6	46.6	54.0	49.0		35.3	35.3	35.3		9.5	
Actuated g/C Ratio	0.42	0.39	0.39	0.46	0.41		0.30	0.30	0.30		0.08	
Clearance Time (s)	5.0	5.8	5.8	5.0	5.8		5.5	5.5	5.5		5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	102	741	630	139	778		502	504	472		94	
v/s Ratio Prot	0.00	0.36		c0.03	c0.40		c0.26	0.26				
v/s Ratio Perm	0.06		0.18	0.27					0.01		c0.02	
v/c Ratio	0.16	0.91	0.45	0.65	0.97		0.89	0.87	0.05		0.30	
Uniform Delay, d1	27.9	33.9	26.4	25.9	34.0		39.5	39.3	29.5		51.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.7	15.5	0.5	10.6	25.8		17.0	15.1	0.0		7.9	
Delay (s)	28.6	49.4	26.9	36.4	59.8		56.5	54.4	29.5		59.2	
Level of Service	C	D	C	D	E		E	D	C		E	
Approach Delay (s)		39.3			57.3			53.4			59.2	
Approach LOS		D			E			D			E	
Intersection Summary												
HCM 2000 Control Delay			48.9			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			118.2			Sum of lost time (s)				21.8		
Intersection Capacity Utilization			83.9%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

Timings

10: English Ivy Way/Mountain Rd & Arnold Mill Rd

12/31/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	176	340	4	4	912	3	3	43	6
Future Volume (vph)	176	340	4	4	912	3	3	43	6
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4			8		2		6
Permitted Phases	4		4	8		2		6	
Detector Phase	4	4	4	8	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	57.0	57.0	57.0	57.0	57.0	33.0	33.0	33.0	33.0
Total Split (%)	63.3%	63.3%	63.3%	63.3%	63.3%	36.7%	36.7%	36.7%	36.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0		6.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	Min	Min	Min	Min

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 78.8
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

Splits and Phases: 10: English Ivy Way/Mountain Rd & Arnold Mill Rd



HCM 6th Signalized Intersection Summary

10: English Ivy Way/Mountain Rd & Arnold Mill Rd

12/31/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	340	4	4	912	20	3	3	2	43	6	224
Future Volume (veh/h)	176	340	4	4	912	20	3	3	2	43	6	224
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1885	1885	1885	1530	1530	1530	1856	1856	1856
Adj Flow Rate, veh/h	205	395	0	4	931	20	4	4	0	49	7	257
Peak Hour Factor	0.86	0.86	0.86	0.98	0.98	0.98	0.67	0.67	0.67	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	1	1	1	25	25	25	3	3	3
Cap, veh/h	226	1163		607	1144	25	152	124		90	25	298
Arrive On Green	0.62	0.62	0.00	0.62	0.62	0.62	0.23	0.23	0.00	0.23	0.23	0.23
Sat Flow, veh/h	590	1870	1585	997	1839	39	373	534	0	171	109	1288
Grp Volume(v), veh/h	205	395	0	4	0	951	8	0	0	313	0	0
Grp Sat Flow(s),veh/h/ln	590	1870	1585	997	0	1878	906	0	0	1568	0	0
Q Serve(g_s), s	19.2	8.3	0.0	0.2	0.0	31.8	0.0	0.0	0.0	10.1	0.0	0.0
Cycle Q Clear(g_c), s	51.0	8.3	0.0	8.5	0.0	31.8	0.3	0.0	0.0	15.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.50		0.00	0.16		0.82
Lane Grp Cap(c), veh/h	226	1163		607	0	1168	276	0		414	0	0
V/C Ratio(X)	0.91	0.34		0.01	0.00	0.81	0.03	0.00		0.76	0.00	0.00
Avail Cap(c_a), veh/h	226	1163		607	0	1168	387	0		565	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	34.5	7.4	0.0	9.5	0.0	11.9	24.3	0.0	0.0	30.1	0.0	0.0
Incr Delay (d2), s/veh	35.8	0.2	0.0	0.0	0.0	4.5	0.0	0.0	0.0	3.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	2.6	0.0	0.0	0.0	11.2	0.1	0.0	0.0	6.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.3	7.6	0.0	9.5	0.0	16.4	24.4	0.0	0.0	34.1	0.0	0.0
LnGrp LOS	E	A		A	A	B	C	A		C	A	A
Approach Vol, veh/h		600	A		955			8	A		313	
Approach Delay, s/veh		29.0			16.4			24.4			34.1	
Approach LOS		C			B			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.0		57.0		25.0		57.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		27.0		51.0		27.0		51.0				
Max Q Clear Time (g_c+I1), s		2.3		53.0		17.7		33.8				
Green Ext Time (p_c), s		0.0		0.0		1.3		6.4				

Intersection Summary

HCM 6th Ctrl Delay	23.4
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection: 5: Trickum Rd & Arnold Mill Rd

Movement	EB	EB	EB	B19	WB	WB	NB	NB	NB	SB
Directions Served	L	T	R	T	L	TR	L	LT	R	LTR
Maximum Queue (ft)	249	608	300	522	225	682	260	566	200	51
Average Queue (ft)	37	454	245	99	99	462	259	524	92	23
95th Queue (ft)	160	710	403	357	233	676	261	580	255	50
Link Distance (ft)		536		1012		1036		513		432
Upstream Blk Time (%)		14						62		
Queuing Penalty (veh)		154						0		
Storage Bay Dist (ft)	150		250		175		210		150	
Storage Blk Time (%)		40	0			44	73	35		
Queuing Penalty (veh)		199	0			38	357	167		

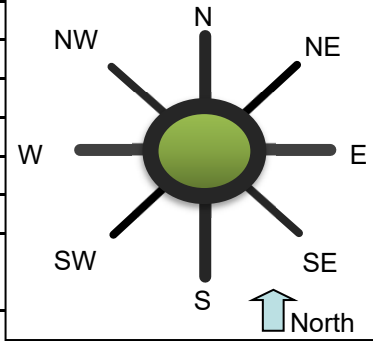
Intersection: 10: English Ivy Way/Mountain Rd & Arnold Mill Rd

Movement	EB	EB	B37	WB	WB	NB	SB
Directions Served	L	T	T	L	TR	LTR	LTR
Maximum Queue (ft)	285	542	406	26	388	29	244
Average Queue (ft)	145	135	31	3	204	2	106
95th Queue (ft)	286	409	185	16	333	14	182
Link Distance (ft)		450	3256		669	1065	533
Upstream Blk Time (%)		8					
Queuing Penalty (veh)		47					
Storage Bay Dist (ft)	235			235			
Storage Blk Time (%)	15	5			4		
Queuing Penalty (veh)	52	9			0		

Zone Summary

Zone wide Queuing Penalty: 1023

General & Site Information		v 4.2
Analyst:	BTB	
Agency/Co:	Lowe Engineers	
Date:	5/20/2020	
Project or PI#:	Arnold Mill Rd Corridor Study	
Year, Peak Hour:	2039 AM	
County/District:	Cherokee County	
Intersection Name:	N Arnold Mill Rd at Arnold Mill Rd	



Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Exit Legs (TO)	N (1), vph			94				31	
	NE (2), vph								
	E (3), vph	373						422	
	SE (4), vph								
	S (5), vph								
	SW (6), vph								
	W (7), vph	65		350					
	NW (8), vph								
Output	Total Vehicles	438	0	444	0	0	0	453	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	94.6%	100.0%	98.0%	100.0%	100.0%	100.0%	95.1%	100.0%
% Heavy Vehicles	5.4%	0.0%	2.0%	0.0%	0.0%	0.0%	4.9%	0.0%
% Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	0.86	0.95	0.91	0.95	0.95	0.95	0.88	0.95
F _{HV}	0.949	1.000	0.980	1.000	1.000	1.000	0.953	1.000
F _{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	105	0	0	0	37	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	457	0	0	0	0	0	503	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	0	0	0	0	0	0	0	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	80	0	392	0	0	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	537	0	498	0	0	0	540	0
Conflicting flow, pcu/h	392	0	37	0	0	0	457	0

Results: Approach Measures of Effectiveness								
HCM 6th Edition	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	878	NA	1303	NA	NA	NA	825	NA
Entry Flow Rates, vph	509	0	488	0	0	0	515	0
V/C ratio	0.58		0.37				0.62	
Control Delay, sec/pcu	12.5		6.3				14.4	
LOS	B		A				B	
Average Queue (ft)	44		21				52	
95th % Queue (ft)	101		45				117	

Overall Intersection Measures of Effectiveness					
Int Control Delay (sec)	11.2	Int LOS	B	Max Approach V/C	0.62

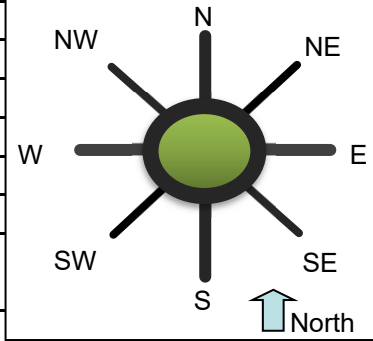
Notes: v 4.2

Unit Legend:
 vph = vehicles per hour
 PHF = peak hour factor
 F_{HV} = heavy vehicle factor
 pcu = passenger car unit

Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
<i>Volumes</i>						
Right Turn Volume removed from Entry Leg						
<i>Volume Characteristics (for entry leg)</i>						
PHF						
F _{HV}						
F _{ped}						
NOTE: Volume Characteristics for Exit Leg are already taken into account						
<i>Entry/Conflicting Flows</i>						
Entry Flow, pcu/hr						
Conflicting Flow, pcu/hr						
Bypass Lane Results (HCM 6th Edition)						
Entry Capacity of Bypass, vph						
Flow Rates of Exiting Traffic, vph						
V/C ratio						
Control Delay, s/veh						
LOS						
95th % Queue (veh)						
95th % Queue (ft)						
Approach w/Bypass Delay, s/veh						
Approach w/Bypass LOS						

General & Site Information		v 4.2
Analyst:	BTB	
Agency/Co:	Lowe Engineers	
Date:	5/20/2020	
Project or PI#:	Arnold Mill Rd Corridor Study	
Year, Peak Hour:	2039 PM	
County/District:	Cherokee County	
Intersection Name:	N Arnold Mill Rd at Arnold Mill Rd	



Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Exit Legs (TO)	N (1), vph			352				23	
	NE (2), vph								
	E (3), vph	131						428	
	SE (4), vph								
	S (5), vph								
	SW (6), vph								
	W (7), vph	31		771					
	NW (8), vph								
Output	Total Vehicles	162	0	1123	0	0	0	451	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	98.2%	100.0%	98.5%	100.0%	100.0%	100.0%	97.4%	100.0%
% Heavy Vehicles	1.8%	0.0%	1.5%	0.0%	0.0%	0.0%	2.6%	0.0%
% Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	0.88	0.95	0.94	0.95	0.95	0.95	0.95	0.95
F _{HV}	0.982	1.000	0.985	1.000	1.000	1.000	0.975	1.000
F _{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	380	0	0	0	25	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	152	0	0	0	0	0	462	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	0	0	0	0	0	0	0	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	36	0	833	0	0	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	187	0	1213	0	0	0	487	0
Conflicting flow, pcu/h	833	0	25	0	0	0	152	0

Results: Approach Measures of Effectiveness								
HCM 6th Edition	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	580	NA	1326	NA	NA	NA	1152	NA
Entry Flow Rates, vph	184	0	1195	0	0	0	475	0
V/C ratio	0.32		0.90				0.41	
Control Delay, sec/pcu	10.7		24.9				7.4	
LOS	B		C				A	
Average Queue (ft)	14		207				24	
95th % Queue (ft)	35		368				53	

Overall Intersection Measures of Effectiveness					
Int Control Delay (sec)	19.0	Int LOS	C	Max Approach V/C	0.90

Notes: v 4.2

Unit Legend:
 vph = vehicles per hour
 PHF = peak hour factor
 F_{HV} = heavy vehicle factor
 pcu = passenger car unit

Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
<i>Volumes</i>						
Right Turn Volume removed from Entry Leg						
<i>Volume Characteristics (for entry leg)</i>						
PHF						
F _{HV}						
F _{ped}						
NOTE: Volume Characteristics for Exit Leg are already taken into account						
<i>Entry/Conflicting Flows</i>						
Entry Flow, pcu/hr						
Conflicting Flow, pcu/hr						
Bypass Lane Results (HCM 6th Edition)						
Entry Capacity of Bypass, vph						
Flow Rates of Exiting Traffic, vph						
V/C ratio						
Control Delay, s/veh						
LOS						
95th % Queue (veh)						
95th % Queue (ft)						
Approach w/Bypass Delay, s/veh						
Approach w/Bypass LOS						

Appendix C: Field / School Observations



Site Visit Transcript
2/25/2020

Arnold Mill EB/NB - PM

5:00 PM

Mill Creek – No queueing

Neese Rd – Minimal queueing, volume appears to be heavy

5:05 PM

Druw Cameron – No queueing

Little River – 1 vehicle queued little river north to turn left

Mill Creek - minor queueing

Kings Academy – No queueing

Trickum – Northbound left queueing, appears that queue clears in one cycle, Arnold mill queueing due to cycle length.

Farmington – No queueing

Some platooning, speed freeflow

Barnes Rd – Couple vehicles queued, southside is queued possibly clear with 1 cycle

Hendon Rd – No queueing, 1 car right into side-street

Cars spread out and free flow

5:12 PM

N Arnold Mill Rd – no queueing, good amount of right-turns

Roadway volume picking up

Mountain Rd – Westbound queue is quite long greater than 725' @ rock springs ln, side street queue southbound ~ 5 vehicles.

River Laurel – no queue

Grimes – no queue

Cars moving quickly up the hill with no sight distance

SR 140 – Heavy left-turn into Arnold mill, no queued left-turns on Arnold mill but very long delay to make movement, vehicles possibly re-routing for that movement.

Arnold Mill WB/SB - PM

5:18 PM

SR 140 – same as above. Southbound volume is light

Vehicles speeding up hill

Grimes Rd – no queue

River Laurel – No queue

5:20 PM

Mountain Rd – westbound queue 1500' (968 Arnold Mill). Will likely queue worse. Westbound appears to be primarily through movement. Southbound left turn movement, eastbound left turn movement. Queues clear for southbound and eastbound movements, but westbound gets stuck at stop sign. Sight distance is problem with curve, check sight distance at stop bars

5:24 PM

N Arnold Mill – No queue

Free flow traffic and spaced out

Hendon Rd – No queueing

5:28 PM

Barnes Rd – Minimal queueing likely cycle length, EB queue goes to church driveway but looks like it will clear in 1 cycle

Farmington – No side-street

Trickum Rd – Northbound volume increased, queueing for nbl onto Arnold mill looks to queue back to stripped medium ~500+ feet, SB has 1 vehicle. Everyone turning nb left. Split phase makes for long cycle. EB queueing past Mornington Cir ~790'

Kings Academy – No queueing

5:30 PM

Mill Creek – SBL queueing to EB Arnold mill fills turn lane otherwise minimal queueing

Little River – No queueing

Druw – No queueing

Neese Rd – Minimal queueing

Arnold Mill WB/SB - AM

7:10 AM

SR 140 – SB volume on SR 140 backed up past bridge to the north, not from Arnold mill but from further down. Left turns able to turn because of queueing and people letting others through. Majority of traffic from Arnold making left turn

Grimes – 20 mph sign on hill, people going much faster, no queueing

River Laurel – one or two vehicles on side street

7:14 AM

Mountain Rd – WB Arnold mill relatively free flow, no side-street queueing. EB queue is backed up ~1500' (920 – 925 Arnold Mill [address])

N Arnold Mill – one to two vehicles queued

7:19 AM

Hendon Rd – School to east, with EB queue backs up past Hendon Rd. Side-street 3-5 vehicles queued to turn left. Speed limit 30 mph. School has crossing guard

N Arnold / Barnes Rd – SB long queue, NB minimal queueing, WBL fills turn-lane and overflows. SB back to top of hill not going to clear. WBL cleared in one protected cycle. EB queue goes ~500'

Farmington - No queue

Trickum – No queue

7:24 AM

Kings Academy – Empty

Mill Creek – Minimal queueing, some coming from Mill Creek, signal appears to be handling traffic. No school queueing

Little River – No queueing

Druw – No queueing

40 MPH speed in this section

7:25 AM

Neese Rd – No queueing

Arnold Mill EB/NB - AM

7:32 AM

Neese Rd – Minimal queueing clears in one cycle

Little River – school bus + car north side. Vehicle on mainline turning left causing small queue. South side had 1 vehicle.

Druw – No queueing

Mill Creek – Minimal queueing, no school problems. EBL fill turn lane, SB has ~10 vehicles mostly turning left filling turn lane

Kings Academy – appears closed

Trickum – EB/WB clearing, no side-street queues

Farmington – No queueing

7:37 AM

Barnes Rd – No queueing EB / WB at end of cycle. SB clears in one cycle. NB on Barnes minimal queueing clears in one cycle

7:40 AM

Hendon Rd – all queueing from earlier cleared

N Arnold Mill – No queueing

Back to free flow conditions for traffic

Mountain Rd – EB queues around curve. No queueing on other approaches, all traffic stopping for nobody

River Laurel – No queueing

Grimes Rd – No queueing, 2 left turns to avoid 140

SR 140 – Queue backs to Grimes Rd, everyone turning right. Still letting vehicles turn in, queue extends past bridge

School Observations PM Pick-Up

3:14 PM

River Ridge Highschool – All queueing internal to the site, signalized intersection minimal queueing

Trickum Rd – Queueing observed for NB left-turn school traffic impacting signal, queue looks to be clearing in one cycle.

3:20 PM

Kings Academy – Queueing internal to the school, no queueing to exit

River Ridge HS – Queue on Arnold Mill westbound at Mill Creek exceeds 400' (Fountain Dr) but clears in one cycle. SB left turn fills turn lane

Appendix D: Crash History



2019

Type	PDO	Injury	Fatal	Total
Angle	1	2		3
Head-On				0
Rear End	1			1
Sideswipe - Same	1			1
Sideswipe - Opposite				0
Struck Object				0
Run off Road	1			1

2018

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On		1		1
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

2017

Type	PDO	Injury	Fatal	Total
Angle		1		1
Head-On				0
Rear End	1			1
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

2016

Type	PDO	Injury	Fatal	Total
Angle	1			1
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

2015

Type	PDO	Injury	Fatal	Total
Angle	4	2		6
Head-On				0
Rear End	2			2
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

Year	Rear-end	Side-swipe	Angle	Head-on	Struck Object	Run off the Road	Total Accidents	Injuries	Fatalities
2019	1	1	3	0	0	1	6	2	0
2018	0	0	0	1	0	0	1	1	0
2017	1	0	1	0	0	0	2	1	0
2016	0	0	1	0	0	0	1	0	0
2015	2	0	6	0	0	0	8	2	0

Notes:

Total

Type	PDO	Injury	Fatal	Total
Angle	6	5	0	11
Head-On	0	1	0	1
Rear End	4	0	0	4
Sideswipe - Same	1	0	0	1
Sideswipe - Opposite	0	0	0	0
Not a Collision w/ Motor Veh	1	0	0	1

2019

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End	1	2		3
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

2018

Type	PDO	Injury	Fatal	Total
Angle	1			1
Head-On				0
Rear End		1		1
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object	1			1
Run off Road				0

2017

Type	PDO	Injury	Fatal	Total
Angle	1	1		2
Head-On				0
Rear End	4	2		6
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

2016

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End	5	2		7
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

2015

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End	2	1		3
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object	1			1
Run off Road				0

Year	Rear-end	Side-swipe	Angle	Head-on	Struck Object	Run off the Road	Total Accidents	Injuries	Fatalities
2019	3	0	0	0	0	0	3	2	0
2018	1	0	1	0	1	0	3	1	0
2017	6	0	2	0	0	0	8	3	0
2016	7	0	0	0	0	0	7	2	0
2015	3	0	0	0	1	0	4	1	0

Notes:

Rear-ends primarily mainline in daylight and dry conditions in the afternoon.

Total

Type	PDO	Injury	Fatal	Total
Angle	2	1	0	3
Head-On	0	0	0	0
Rear End	12	8	0	20
Sideswipe - Same	0	0	0	0
Sideswipe - Opposite	0	0	0	0
Not a Collision w/ Motor Veh	2	0	0	2

2019

Type	PDO	Injury	Fatal	Total
Angle	4	1		5
Head-On				0
Rear End	6	2		8
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road	1			1

2018

Type	PDO	Injury	Fatal	Total
Angle	3	1		4
Head-On		1		1
Rear End	8	2		10
Sideswipe - Same	2			2
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

2017

Type	PDO	Injury	Fatal	Total
Angle	2	1		3
Head-On				0
Rear End	3	1		4
Sideswipe - Same	1			1
Sideswipe - Opposite	1			1
Struck Object				0
Run off Road				0

2016

Type	PDO	Injury	Fatal	Total
Angle	2	1		3
Head-On	1			1
Rear End	4	1		5
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

2015

Type	PDO	Injury	Fatal	Total
Angle	3	2		5
Head-On	1			1
Rear End	2	4		6
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object	1	1		2
Run off Road				0

Year	Rear-end	Side-swipe	Angle	Head-on	Struck Object	Run off the Road	Total Accidents	Injuries	Fatalities
2019	8	0	5	0	0	1	14	3	0
2018	10	2	4	1	0	0	17	4	0
2017	4	2	3	0	0	0	9	2	0
2016	5	0	3	1	0	0	9	2	0
2015	6	0	5	1	2	0	14	7	0

Notes:

Angle : Failures to yield and misjudged clearance
 Rear-end: Spread around, good amount of PM crashes

Total

Type	PDO	Injury	Fatal	Total
Angle	14	6	0	20
Head-On	2	1	0	3
Rear End	23	10	0	33
Sideswipe - Same	3	0	0	3
Sideswipe - Opposite	1	0	0	1
Not a Collision w/ Motor Veh	2	1	0	3

2019

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

2018

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

2017

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

2016

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

2015

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

Year	Rear-end	Side-swipe	Angle	Head-on	Struck Object	Run off the Road	Total Accidents	Injuries	Fatalities
2019	0	0	0	0	0	0	0	0	0
2018	0	0	0	0	0	0	0	0	0
2017	0	0	0	0	0	0	0	0	0
2016	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0

Notes:

No crash history

Total

Type	PDO	Injury	Fatal	Total
Angle	0	0	0	0
Head-On	0	0	0	0
Rear End	0	0	0	0
Sideswipe - Same	0	0	0	0
Sideswipe - Opposite	0	0	0	0
Not a Collision w/ Motor Veh	0	0	0	0

2019

Type	PDO	Injury	Fatal	Total
Angle	1			1
Head-On				0
Rear End	2	1		3
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

2018

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End	5			5
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

2017

Type	PDO	Injury	Fatal	Total
Angle	3			3
Head-On				0
Rear End	4	2		6
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

2016

Type	PDO	Injury	Fatal	Total
Angle	4	1		5
Head-On				0
Rear End	7	1		8
Sideswipe - Same	1			1
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

2015

Type	PDO	Injury	Fatal	Total
Angle	3			3
Head-On				0
Rear End	2			2
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road	1			1

Year	Rear-end	Side-swipe	Angle	Head-on	Struck Object	Run off the Road	Total Accidents	Injuries	Fatalities
2019	3	0	1	0	0	0	4	1	0
2018	5	0	0	0	0	0	5	0	0
2017	6	0	3	0	0	0	9	2	0
2016	8	1	5	0	0	0	14	2	0
2015	2	0	3	0	0	1	6	0	0

Notes:

Rear-end: Primarily eastbound and northbound in afternoon / evening

Total

Type	PDO	Injury	Fatal	Total
Angle	11	1	0	12
Head-On	0	0	0	0
Rear End	20	4	0	24
Sideswipe - Same	1	0	0	1
Sideswipe - Opposite	0	0	0	0
Not a Collision w/ Motor Veh	1	0	0	1

2019

Type	PDO	Injury	Fatal	Total
Angle	1			1
Head-On				0
Rear End	1			1
Sideswipe - Same	1			1
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

2018

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On		1		1
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

2017

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object	1			1
Run off Road		1		1

2016

Type	PDO	Injury	Fatal	Total
Angle	1			1
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

2015

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object	1			1
Run off Road				0

Year	Rear-end	Side-swipe	Angle	Head-on	Struck Object	Run off the Road	Total Accidents	Injuries	Fatalities
2019	1	1	1	0	0	0	3	0	0
2018	0	0	0	1	0	0	1	1	0
2017	0	0	0	0	1	1	2	1	0
2016	0	0	1	0	0	0	1	0	0
2015	0	0	0	0	1	0	1	0	0

Notes:

Total

Type	PDO	Injury	Fatal	Total
Angle	2	0	0	2
Head-On	0	1	0	1
Rear End	1	0	0	1
Sideswipe - Same	1	0	0	1
Sideswipe - Opposite	0	0	0	0
Not a Collision w/ Motor Veh	2	1	0	3

2019

Type	PDO	Injury	Fatal	Total
Angle		1		1
Head-On				0
Rear End	1			1
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object	1			1
Run off Road				0

2018

Type	PDO	Injury	Fatal	Total
Angle	1			1
Head-On				0
Rear End	2			2
Sideswipe - Same				0
Sideswipe - Opposite	1			1
Struck Object				0
Run off Road	2			2

2017

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

2016

Type	PDO	Injury	Fatal	Total
Angle	1			1
Head-On				0
Rear End	1			1
Sideswipe - Same				0
Sideswipe - Opposite	2			2
Struck Object				0
Run off Road				0

2015

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End	3	3		6
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object	1			1
Run off Road				0

Year	Rear-end	Side-swipe	Angle	Head-on	Struck Object	Run off the Road	Total Accidents	Injuries	Fatalities
2019	1	0	1	0	1	0	3	1	0
2018	2	1	1	0	0	2	6	0	0
2017	0	0	0	0	0	0	0	0	0
2016	1	2	1	0	0	0	4	0	0
2015	6	0	0	0	1	0	7	3	0

Notes:

Total

Type	PDO	Injury	Fatal	Total
Angle	2	1	0	3
Head-On	0	0	0	0
Rear End	7	3	0	10
Sideswipe - Same	0	0	0	0
Sideswipe - Opposite	3	0	0	3
Not a Collision w/ Motor Veh	4	0	0	4

2019

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End	1			1
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object	1			1
Run off Road				0

2018

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite	1			1
Struck Object				0
Run off Road				0

2017

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road	1			1

2016

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite	1			1
Struck Object	1			1
Run off Road				0

2015

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road	1			1

Year	Rear-end	Side-swipe	Angle	Head-on	Struck Object	Run off the Road	Total Accidents	Injuries	Fatalities
2019	1	0	0	0	1	0	2	0	0
2018	0	1	0	0	0	0	1	0	0
2017	0	0	0	0	0	1	1	0	0
2016	0	1	0	0	1	0	2	0	0
2015	0	0	0	0	0	1	1	0	0

Notes:

Total

Type	PDO	Injury	Fatal	Total
Angle	0	0	0	0
Head-On	0	0	0	0
Rear End	1	0	0	1
Sideswipe - Same	0	0	0	0
Sideswipe - Opposite	2	0	0	2
Not a Collision w/ Motor Veh	4	0	0	4

2019

Type	PDO	Injury	Fatal	Total
Angle	1			1
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object	1			1
Run off Road				0

2018

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road	2			2

2017

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End	2			2
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object	1			1
Run off Road				0

2016

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End	1			1
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road	1			1

2015

Type	PDO	Injury	Fatal	Total
Angle	1			1
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object	1	1		2
Run off Road				0

Year	Rear-end	Side-swipe	Angle	Head-on	Struck Object	Run off the Road	Total Accidents	Injuries	Fatalities
2019	0	0	1	0	1	0	2	0	0
2018	0	0	0	0	0	2	2	0	0
2017	2	0	0	0	1	0	3	0	0
2016	1	0	0	0	0	1	2	0	0
2015	0	0	1	0	2	0	3	1	0

Notes:

Total

Type	PDO	Injury	Fatal	Total
Angle	2	0	0	2
Head-On	0	0	0	0
Rear End	3	0	0	3
Sideswipe - Same	0	0	0	0
Sideswipe - Opposite	0	0	0	0
Not a Collision w/ Motor Veh	6	1	0	7

2019

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End	1			1
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

2018

Type	PDO	Injury	Fatal	Total
Angle	1			1
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

2017

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object	1			1
Run off Road				0

2016

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End	1			1
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object	2			2
Run off Road				0

2015

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object	1			1
Run off Road				0

Year	Rear-end	Side-swipe	Angle	Head-on	Struck Object	Run off the Road	Total Accidents	Injuries	Fatalities
2019	1	0	0	0	0	0	1	0	0
2018	0	0	1	0	0	0	1	0	0
2017	0	0	0	0	1	0	1	0	0
2016	1	0	0	0	2	0	3	0	0
2015	0	0	0	0	1	0	1	0	0

Notes:

Total

Type	PDO	Injury	Fatal	Total
Angle	1	0	0	1
Head-On	0	0	0	0
Rear End	2	0	0	2
Sideswipe - Same	0	0	0	0
Sideswipe - Opposite	0	0	0	0
Not a Collision w/ Motor Veh	4	0	0	4

2019

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object	1			1
Run off Road				0

2018

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object	1			1
Run off Road				0

2017

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End	2			2
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road	1	1		2

2016

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End	1			1
Sideswipe - Same				0
Sideswipe - Opposite	1			1
Struck Object				0
Run off Road				0

2015

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End	1			1
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

Year	Rear-end	Side-swipe	Angle	Head-on	Struck Object	Run off the Road	Total Accidents	Injuries	Fatalities
2019	0	0	0	0	1	0	1	0	0
2018	0	0	0	0	1	0	1	0	0
2017	2	0	0	0	0	2	4	1	0
2016	1	1	0	0	0	0	2	0	0
2015	1	0	0	0	0	0	1	0	0

Notes:

Total

Type	PDO	Injury	Fatal	Total
Angle	0	0	0	0
Head-On	0	0	0	0
Rear End	4	0	0	4
Sideswipe - Same	0	0	0	0
Sideswipe - Opposite	1	0	0	1
Not a Collision w/ Motor Veh	3	1	0	4

2019

Type	PDO	Injury	Fatal	Total
Angle	1			1
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object	1			1
Run off Road				0

2018

Type	PDO	Injury	Fatal	Total
Angle	1			1
Head-On	1			1
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road	1			1

2017

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object	1			1
Run off Road				0

2016

Type	PDO	Injury	Fatal	Total
Angle	2			2
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

2015

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On				0
Rear End				0
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object	1			1
Run off Road	1			1

Year	Rear-end	Side-swipe	Angle	Head-on	Struck Object	Run off the Road	Total Accidents	Injuries	Fatalities
2019	0	0	1	0	1	0	2	0	0
2018	0	0	1	1	0	1	3	0	0
2017	0	0	0	0	1	0	1	0	0
2016	0	0	2	0	0	0	2	0	0
2015	0	0	0	0	1	1	2	0	0

Notes:

Total

Type	PDO	Injury	Fatal	Total
Angle	4	0	0	4
Head-On	1	0	0	1
Rear End	0	0	0	0
Sideswipe - Same	0	0	0	0
Sideswipe - Opposite	0	0	0	0
Not a Collision w/ Motor Veh	5	0	0	5

2019

Type	PDO	Injury	Fatal	Total
Angle	2			2
Head-On		1		1
Rear End	13			13
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object	1	1		2
Run off Road				0

2018

Type	PDO	Injury	Fatal	Total
Angle	1	1		2
Head-On				0
Rear End	11	1		12
Sideswipe - Same				0
Sideswipe - Opposite	1			1
Struck Object	2			2
Run off Road				0

2017

Type	PDO	Injury	Fatal	Total
Angle	1			1
Head-On				0
Rear End	9			9
Sideswipe - Same				0
Sideswipe - Opposite				0
Struck Object				0
Run off Road	1			1

2016

Type	PDO	Injury	Fatal	Total
Angle	6	1		7
Head-On				0
Rear End	4	2		6
Sideswipe - Same		1		1
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

2015

Type	PDO	Injury	Fatal	Total
Angle				0
Head-On		1		1
Rear End	4	2		6
Sideswipe - Same	1			1
Sideswipe - Opposite				0
Struck Object				0
Run off Road				0

Year	Rear-end	Side-swipe	Angle	Head-on	Struck Object	Run off the Road	Total Accidents	Injuries	Fatalities
2019	13	0	2	1	2	0	18	2	0
2018	12	1	2	0	2	0	17	2	0
2017	9	0	1	0	0	1	11	0	0
2016	6	1	7	0	0	0	14	4	0
2015	6	1	0	1	0	0	8	3	0

Notes:

Angle: Spread Evenly throughout
 Rear-end: Primarily eastbound turning right and being hit

Total

Type	PDO	Injury	Fatal	Total
Angle	10	2	0	12
Head-On	0	2	0	2
Rear End	41	5	0	46
Sideswipe - Same	1	1	0	2
Sideswipe - Opposite	1	0	0	1
Not a Collision w/ Motor Veh	4	1	0	5

Appendix E: Growth Rate Analysis



Historic AADT Growth Rates

Segment Arnold Mill Rd West of Washington Ave				
Source	GDOT			
Link	https://gdottrafficdata.drakewell.com			
Class	Minor Arterial (Urban)			
Year	a/e	AADT	Growth	
2018	a	12,700	-2.3%	
2017	e	13,000	5.7%	
2016	e	12,300	3.4%	
2015	e	11,900	7.2%	
2014	-	11,100	5.7%	
2013	-	10,500	-0.9%	
2012	-	10,600	-1.9%	
2011	-	10,800	-2.7%	
2010	-	11,100	-9.0%	
2009	-	12,200		
Averages				
		2018	-2.3%	
		2016	1.6%	
		2015	3.3%	
Truck %				
		2018	2.00%	

Segment Arnold Mill Rd East of N River Dr				
Source	GDOT			
Link	https://gdottrafficdata.drakewell.com			
Class	Minor Arterial (Urban)			
Year	a/e	AADT	Growth	
2018	e	12,000	0.0%	
2017	a	12,000	15.4%	
2016	e	10,400	3.0%	
2015	e	10,100	7.1%	
2014	-	9,430	0.0%	
2013	-	9,430	-0.6%	
2012	-	9,490	-2.4%	
2011	-	9,720	-2.4%	
2010	-	9,960	-1.4%	
2009	-	10,100		
Averages				
		2018	0.0%	
		2016	7.4%	
		2015	9.0%	
Truck %				
		2018	4.00%	

Segment Arnold Mill Rd East of Milestone Manor Ct				
Source	GDOT			
Link	https://gdottrafficdata.drakewell.com			
Class	Minor Arterial (Urban)			
Year	a/e	AADT	Growth	
2018	e	7,390	-0.1%	
2017	e	7,400	5.9%	
2016	e	6,990	3.2%	
2015	e	6,770	7.6%	
2014	-	6,290	0.0%	
2013	-	6,290	180.8%	
2012	-	2,240	-1.8%	
2011	-	2,280	-2.6%	
2010	-	2,340	-1.3%	
2009	-	2,370		
Averages				
		2018	-0.1%	
		2016	2.8%	
		2015	4.5%	
Truck %				
		2018	-	

Segment Arnold Mill Rd West of River Laurel Way				
Source	GDOT			
Link	https://gdottrafficdata.drakewell.com			
Class	Minor Arterial (Urban)			
Year	a/e	AADT	Growth	
2018	a	7,480	-1.1%	
2017	e	7,560	5.9%	
2016	e	7,140	3.3%	
2015	a	6,910	1.5%	
2014	-	6,810	0.0%	
2013	-	6,810	-0.6%	
2012	-	6,850	-1.7%	
2011	-	6,970	11.7%	
2010	-	6,240	-17.7%	
2009	-	7,580		
Averages				
		2018	-1.1%	
		2016	2.4%	
		2015	4.0%	
Truck %				
		2016	5.00%	

Population Growth Rates

Actual Growth Rates

Cherokee County		
Location	Cherokee County	
Source	U.S. Census Bureau	
Year	Population	Growth
2017	247,573	2.5%
2016	241,600	2.6%
2015	235,424	2.2%
2014	230,396	2.6%
2013	224,487	
Averages		
2017	2016	2.5%
2017	2013	2.5%

Canton		
Location	Canton	
Source	U.S. Census Bureau	
Year	Population	Growth
2017	27,936	6.2%
2016	26,308	2.7%
2015	25,619	2.9%
2014	24,909	2.7%
2013	24,261	
Averages		
2017	2016	6.2%
2017	2013	3.6%

Woodstock GA		
Location	Woodstock GA	
Source	U.S. Census Bureau	
Year	Population	Growth
2017	31,564	2.4%
2016	30,832	4.4%
2015	29,520	7.1%
2014	27,565	3.6%
2013	26,600	
Averages		
2017	2016	2.4%
2017	2013	4.4%

Projected Growth Rates

Cherokee County		
Location	Cherokee County	
Source	Cherokee Comp. Plan	
Year	Population	Growth
2010	214,346	1.7%
2015	233,321	2.8%
2020	267,877	
Averages		
2020	2015	2.8%
2020	2010	2.3%

Woodstock		
Location	Woodstock	
Source	Cherokee Comp. Plan	
Year	Population	Growth
2010	23,911	2.2%
2015	26,681	2.4%
2020	29,987	
Averages		
2020	2015	2.4%
2020	2010	2.3%

Canton		
Location	Canton	
Source	Cherokee Comp. Plan	
Year	Population	Growth
2010	22,958	1.7%
2015	24,980	1.8%
2020	27,340	
Averages		
2020	2015	1.8%
2020	2010	1.8%

Cherokee County		
Location	Cherokee County	
Source	ARC Population	
Year	Population	Growth
2050	374,800	1.3%
2015	235,900	
Averages		
2050	2015	1.3%

<https://33n.atlantaregional.com/arc-series-16-forecast>

[https://www.cherokeega.com/Planning-and-](https://www.cherokeega.com/Planning-and-Zoning/resources/CompPlanUpdate2018/CherokeeCountyCompPlanFinal20181120-small.pdf)

[Zoning/ resources/CompPlanUpdate2018/CherokeeCountyCompPlanFinal20181120-small.pdf](https://www.cherokeega.com/Planning-and-Zoning/resources/CompPlanUpdate2018/CherokeeCountyCompPlanFinal20181120-small.pdf)

<https://www.google.com/publicdata/explore?ds=kf7tgg1uo9ude &met y=population&idim=sub county:1312988&hl=en&dl=en#!ctype=l&strail=false&bcs=d&nselem=h&met y=population&scale y=lin&ind y=false&rdim=country&idim=sub county:131>

Source	Year Range	Growth Rate
Arnold Mill Rd	2017 - 2018	-2.3%
West of Washington Ave	2016 - 2018	1.6%
	2015 - 2018	3.3%
Arnold Mill Rd	2017 - 2018	0.0%
East of N River Dr	2016 - 2018	7.4%
	2015 - 2018	9.0%
Arnold Mill Rd	2017 - 2018	-0.1%
East of Milestone Manor Ct	2016 - 2018	2.8%
	2015 - 2018	4.5%
Arnold Mill Rd	2017 - 2018	-1.1%
West of River Laurel Way	2016 - 2018	2.4%
	2015 - 2018	4.0%
Cherokee County	2016 - 2017	2.5%
U.S. Census Bureau	2013 - 2017	2.5%
Canton	2016 - 2017	6.2%
U.S. Census Bureau	2013 - 2017	3.6%
Woodstock GA	2016 - 2017	2.4%
U.S. Census Bureau	2013 - 2017	4.4%
Cherokee County	2015 - 2020	2.8%
Cherokee Comp. Plan	2010 - 2020	2.3%
Woodstock	2015 - 2020	2.4%
Cherokee Comp. Plan	2010 - 2020	2.3%
Canton	2015 - 2020	1.8%
Cherokee Comp. Plan	2010 - 2020	1.8%
Cherokee County	2015 - 2050	1.3%
ARC Population		

Growth Rate for Analysis

2.5%

Appendix F: Cost Analysis



**ATLANTA REGIONAL COMMISSION
PLANNING LEVEL COST ESTIMATION TOOL**

Input Data Verification

Project Name:	Arnold Mill Rd	ARC Project ID:	N/A
From Limit:	Neese Rd	To Limit:	Neese Rd
County:	Cherokee	Area:	Urban

Improvement: EBL + WBR + TWLTL

Project Elements	Detailed Project Type	Unit	Total Construction Cost	Contingency%	Contingency% Override	Contingency \$
Freeway Widening	N/A	\$ -	\$ -	35%		\$0
Arterial Capacity	N/A	\$ 3,569,000	\$ -	20%		\$0
Interchanges & Grade Separations	Diverging Diamond Interchange - New Interchange	\$ -	\$ -	30%		\$0
Intersection Improvements	Turning Lanes - Left	\$ 800	\$ -	10%		\$0
	Turning Lanes - Right	\$ 487	\$ -	10%		\$0
	Roundabout	\$ 549,000	\$ -	10%		\$0
	Signal - New	\$ 200,000	\$ -	10%		\$0
	Signal - Major Upgrade	\$ 175,000	\$ -	10%		\$0
	Signal - Minor Upgrade	\$ 75,000	\$ 75,000	10%		\$7,500
	Milling and Resurfacing (per lane per linear ft)	\$ 44	\$ -	10%		\$0
	Speed Hump	\$ 2,130	\$ -	10%		\$0
	Chicanes	\$ 8,050	\$ -	10%		\$0
	Island	\$ 10,460	\$ -	10%		\$0
	Diverter	\$ 22,790	\$ -	10%		\$0
	Street light	\$ 3,600	\$ -	10%		\$0
	Bridges	N/A	\$ -	\$ -	10%	
Active Transportation (Sidewalks, Trails, Bike Lanes)	Multi-Use Trails (Assume 12' wide) - Asphalt	\$ 329,000	\$ -	10%		\$0
	Multi-Use Trails (Assume 12' Wide) - Concrete	\$ 788,000	\$ -	10%		\$0
	Sidewalks Along Project	\$ 312,000	\$ -	10%		\$0
	Bike Lanes in one direction (includes sidewalk)	\$ 833,000	\$ -	10%		\$0
	Bikeway	\$ 833,000	\$ -	10%		\$0
	Multi-Use Trails (Unpaved)	\$ 83,870	\$ -	10%		\$0
	Signed Bicycle Route	\$ 27,240	\$ -	10%		\$0
	High Visibility Crosswalk	\$ 3,070	\$ -	10%		\$0
	Raised Crosswalk	\$ 7,110	\$ -	10%		\$0
	Pedestrian Hybrid Beacon (High Intensity Activated Crosswalk - HAWK)	\$ 51,460	\$ -	10%		\$0
	Rectangular Rapid Flashing Beacons (RRFB)	\$ 14,160	\$ -	10%		\$0
	Pedestrian Overpass - Wooden	\$ 122,610	\$ -	10%		\$0
	Pedestrian Overpass - PreFab Steel	\$ 191,400	\$ -	10%		\$0
	Shade shelters	\$ 30,000	\$ -	10%		\$0
	Gazebos	\$ 53,000	\$ -	10%		\$0
	Picnic Tables	\$ 1,683	\$ -	10%		\$0
	Tree Grates	\$ 2,000	\$ -	10%		\$0
	Trees	\$ 460	\$ -	10%		\$0
	Bench	\$ 1,660	\$ -	10%		\$0
	Bus Shelter	\$ 11,490	\$ -	10%		\$0
Trash Receptical	\$ 1,330	\$ -	10%		\$0	
Bicycle signal	\$ 12,800	\$ -	10%		\$0	
Walls (Sound Barrier, Retaining)	N/A	\$ -	\$ -	10%		\$0
Intelligent Transportation Systems (ITS)	N/A	\$ -	\$ -	5%		\$0

ROW	Unit (acres)	Total ROW Cost
Right-of-Way Acquisition	0.00	\$0

Environmental Mitigation	Default Percentage	Contingency Override percentage	Environmental Mitigation
Environmental Mitigation	2%	0%	\$0

**ATLANTA REGIONAL COMMISSION
PLANNING LEVEL COST ESTIMATION TOOL**

PLANNING LEVEL COST ESTIMATION TOOL

Project Name:	Arnold Mill Rd	ARC Project ID:	N/A
From Limit:	Neese Rd	To Limit:	Neese Rd
County:	Cherokee	Area:	Urban

Improvement: EBL + WBR + TWLTL

Activity	Begin (Year)
Preliminary Engineering	2021
Right of Way	2021
Construction	2029

Default Annual Inflation Rate	Override
2%	0%

Current Year
2019

ESTIMATED PROJECT COST		
Activity	Base Estimate	Year of Expenditure
Preliminary Engineering	\$7,500	\$8,000
Right of Way	\$0	\$0
Construction	\$75,000	\$91,000
Contingency	\$7,500	\$9,000
Total	\$90,000	\$108,000

**ATLANTA REGIONAL COMMISSION
PLANNING LEVEL COST ESTIMATION TOOL**

Input Data Verification

Project Name:	Arnold Mill Rd	ARC Project ID:	N/A
From Limit:	Drew Cameron Ct	To Limit:	N River Dr
County:	Cherokee	Area:	Urban

Improvement: EBL + WBR + TWLTL

Project Elements	Detailed Project Type	Unit	Total Construction Cost	Contingency%	Contingency% Override	Contingency \$
Freeway Widening	N/A	\$ -	\$ -	35%		\$0
Arterial Capacity	N/A	\$ 3,569,000	\$ -	20%		\$0
Interchanges & Grade Separations	Diverging Diamond Interchange - New Interchange	\$ -	\$ -	30%		\$0
Intersection Improvements	Turning Lanes - Left	\$ 800	\$ 428,000	10%		\$42,800
	Turning Lanes - Right	\$ 487	\$ 48,667	10%		\$4,867
	Roundabout	\$ 549,000	\$ -	10%		\$0
	Signal - New	\$ 200,000	\$ -	10%		\$0
	Signal - Major Upgrade	\$ 175,000	\$ -	10%		\$0
	Signal - Minor Upgrade	\$ 75,000	\$ -	10%		\$0
	Milling and Resurfacing (per lane per linear ft)	\$ 44	\$ -	10%		\$0
	Speed Hump	\$ 2,130	\$ -	10%		\$0
	Chicanes	\$ 8,050	\$ -	10%		\$0
	Island	\$ 10,460	\$ -	10%		\$0
	Diverter	\$ 22,790	\$ -	10%		\$0
	Street light	\$ 3,600	\$ -	10%		\$0
Bridges	N/A	\$ -	\$ -	10%		\$0
Active Transportation (Sidewalks, Trails, Bike Lanes)	Multi-Use Trails (Assume 12' wide) - Asphalt	\$ 329,000	\$ -	10%		\$0
	Multi-Use Trails (Assume 12' Wide) - Concrete	\$ 788,000	\$ -	10%		\$0
	Sidewalks Along Project	\$ 312,000	\$ -	10%		\$0
	Bike Lanes in one direction (includes sidewalk)	\$ 833,000	\$ -	10%		\$0
	Bikeway	\$ 833,000	\$ -	10%		\$0
	Multi-Use Trails (Unpaved)	\$ 83,870	\$ -	10%		\$0
	Signed Bicycle Route	\$ 27,240	\$ -	10%		\$0
	High Visibility Crosswalk	\$ 3,070	\$ -	10%		\$0
	Raised Crosswalk	\$ 7,110	\$ -	10%		\$0
	Pedestrian Hybrid Beacon (High Intensity Activated Crosswalk - HAWK)	\$ 51,460	\$ -	10%		\$0
	Rectangular Rapid Flashing Beacons (RRFB)	\$ 14,160	\$ -	10%		\$0
	Pedestrian Overpass - Wooden	\$ 122,610	\$ -	10%		\$0
	Pedestrian Overpass - PreFab Steel	\$ 191,400	\$ -	10%		\$0
	Shade shelters	\$ 30,000	\$ -	10%		\$0
	Gazebos	\$ 53,000	\$ -	10%		\$0
	Picnic Tables	\$ 1,683	\$ -	10%		\$0
	Tree Grates	\$ 2,000	\$ -	10%		\$0
	Trees	\$ 460	\$ -	10%		\$0
	Bench	\$ 1,660	\$ -	10%		\$0
	Bus Shelter	\$ 11,490	\$ -	10%		\$0
Trash Receptical	\$ 1,330	\$ -	10%		\$0	
Bicycle signal	\$ 12,800	\$ -	10%		\$0	
Walls (Sound Barrier, Retaining)	N/A	\$ -	\$ -	10%		\$0
Intelligent Transportation Systems (ITS)	N/A	\$ -	\$ -	5%		\$0

ROW	Unit (acres)	Total ROW Cost
Right-of-Way Acquisition	0.10	\$25,000

Environmental Mitigation	Default Percentage	Contingency Override percentage	Environmental Mitigation
Environmental Mitigation	2%		\$9,533

**ATLANTA REGIONAL COMMISSION
PLANNING LEVEL COST ESTIMATION TOOL**

PLANNING LEVEL COST ESTIMATION TOOL

Project Name:	Arnold Mill Rd	ARC Project ID:	N/A
From Limit:	Drew Cameron Ct	To Limit:	N River Dr
County:	Cherokee	Area:	Urban

Improvement: EBL + WBR + TWLTL

Activity	Begin (Year)
Preliminary Engineering	2021
Right of Way	2021
Construction	2021

Default Annual Inflation Rate	Override
2%	0%

Current Year
2019

ESTIMATED PROJECT COST		
Activity	Base Estimate	Year of Expenditure
Preliminary Engineering	\$47,667	\$50,000
Right of Way	\$25,000	\$26,000
Construction	\$476,667	\$496,000
Contingency	\$57,200	\$60,000
Total	\$606,533	\$632,000

**ATLANTA REGIONAL COMMISSION
PLANNING LEVEL COST ESTIMATION TOOL**

Input Data Verification

Project Name:	Arnold Mill Rd	ARC Project ID:	N/A
From Limit:	Trickum Rd	To Limit:	Trickum Rd
County:	Cherokee	Area:	Urban

Improvement: Dual NBL + Widening

Project Elements	Detailed Project Type	Unit	Total Construction Cost	Contingency%	Contingency% Override	Contingency \$
Freeway Widening	N/A	\$ -	\$ -	35%		\$0
Arterial Capacity	N/A	\$ 3,569,000	\$ 321,210	20%		\$64,242
Interchanges & Grade Separations	Diverging Diamond Interchange - New Interchange	\$ -	\$ -	30%		\$0
Intersection Improvements	Turning Lanes - Left	\$ 800	\$ 208,000	10%		\$20,800
	Turning Lanes - Right	\$ 487	\$ -	10%		\$0
	Roundabout	\$ 549,000	\$ -	10%		\$0
	Signal - New	\$ 200,000	\$ -	10%		\$0
	Signal - Major Upgrade	\$ 175,000	\$ -	10%		\$0
	Signal - Minor Upgrade	\$ 75,000	\$ 75,000	10%		\$7,500
	Milling and Resurfacing (per lane per linear ft)	\$ 44	\$ -	10%		\$0
	Speed Hump	\$ 2,130	\$ -	10%		\$0
	Chicanes	\$ 8,050	\$ -	10%		\$0
	Island	\$ 10,460	\$ -	10%		\$0
	Diverter	\$ 22,790	\$ -	10%		\$0
	Street light	\$ 3,600	\$ -	10%		\$0
	Bridges	N/A	\$ -	\$ -	10%	
Active Transportation (Sidewalks, Trails, Bike Lanes)	Multi-Use Trails (Assume 12' wide) - Asphalt	\$ 329,000	\$ -	10%		\$0
	Multi-Use Trails (Assume 12' Wide) - Concrete	\$ 788,000	\$ -	10%		\$0
	Sidewalks Along Project	\$ 312,000	\$ -	10%		\$0
	Bike Lanes in one direction (includes sidewalk)	\$ 833,000	\$ -	10%		\$0
	Bikeway	\$ 833,000	\$ -	10%		\$0
	Multi-Use Trails (Unpaved)	\$ 83,870	\$ -	10%		\$0
	Signed Bicycle Route	\$ 27,240	\$ -	10%		\$0
	High Visibility Crosswalk	\$ 3,070	\$ -	10%		\$0
	Raised Crosswalk	\$ 7,110	\$ -	10%		\$0
	Pedestrian Hybrid Beacon (High Intensity Activated Crosswalk - HAWK)	\$ 51,460	\$ -	10%		\$0
	Rectangular Rapid Flashing Beacons (RRFB)	\$ 14,160	\$ -	10%		\$0
	Pedestrian Overpass - Wooden	\$ 122,610	\$ -	10%		\$0
	Pedestrian Overpass - PreFab Steel	\$ 191,400	\$ -	10%		\$0
	Shade shelters	\$ 30,000	\$ -	10%		\$0
	Gazebos	\$ 53,000	\$ -	10%		\$0
	Picnic Tables	\$ 1,683	\$ -	10%		\$0
	Tree Grates	\$ 2,000	\$ -	10%		\$0
	Trees	\$ 460	\$ -	10%		\$0
	Bench	\$ 1,660	\$ -	10%		\$0
	Bus Shelter	\$ 11,490	\$ -	10%		\$0
Trash Receptical	\$ 1,330	\$ -	10%		\$0	
Bicycle signal	\$ 12,800	\$ -	10%		\$0	
Walls (Sound Barrier, Retaining)	N/A	\$ -	\$ -	10%		\$0
Intelligent Transportation Systems (ITS)	N/A	\$ -	\$ -	5%		\$0

ROW	Unit (acres)	Total ROW Cost
Right-of-Way Acquisition	1.50	\$3,887,500

Environmental Mitigation	Default Percentage	Contingency Override percentage	Environmental Mitigation
Environmental Mitigation	2%		\$12,084

**ATLANTA REGIONAL COMMISSION
PLANNING LEVEL COST ESTIMATION TOOL**

PLANNING LEVEL COST ESTIMATION TOOL

Project Name:	Arnold Mill Rd	ARC Project ID:	N/A
From Limit:	Trickum Rd	To Limit:	Trickum Rd
County:	Cherokee	Area:	Urban

Improvement: Dual NBL + Widening

Activity	Begin (Year)
Preliminary Engineering	2039
Right of Way	2039
Construction	2039

Default Annual Inflation Rate	Override
2%	0%

Current Year
2019

ESTIMATED PROJECT COST		
Activity	Base Estimate	Year of Expenditure
Preliminary Engineering	\$60,421	\$90,000
Right of Way	\$3,887,500	\$5,777,000
Construction	\$604,210	\$898,000
Contingency	\$104,626	\$155,000
Total	\$4,656,757	\$6,920,000

**ATLANTA REGIONAL COMMISSION
PLANNING LEVEL COST ESTIMATION TOOL**

Input Data Verification

Project Name:	Arnold Mill Rd	ARC Project ID:	N/A
From Limit:	Farmington Dr	To Limit:	Farmington Dr
County:	Cherokee	Area:	Urban

Improvement: EBL

Project Elements	Detailed Project Type	Unit	Total Construction Cost	Contingency%	Contingency% Override	Contingency \$
Freeway Widening	N/A	\$ -	\$ -	35%		\$0
Arterial Capacity	N/A	\$ 3,569,000	\$ -	20%		\$0
Interchanges & Grade Separations	Diverging Diamond Interchange - New Interchange	\$ -	\$ -	30%		\$0
Intersection Improvements	Turning Lanes - Left	\$ 800	\$ 268,000	10%		\$26,800
	Turning Lanes - Right	\$ 487	\$ -	10%		\$0
	Roundabout	\$ 549,000	\$ -	10%		\$0
	Signal - New	\$ 200,000	\$ -	10%		\$0
	Signal - Major Upgrade	\$ 175,000	\$ -	10%		\$0
	Signal - Minor Upgrade	\$ 75,000	\$ -	10%		\$0
	Milling and Resurfacing (per lane per linear ft)	\$ 44	\$ -	10%		\$0
	Speed Hump	\$ 2,130	\$ -	10%		\$0
	Chicanes	\$ 8,050	\$ -	10%		\$0
	Island	\$ 10,460	\$ -	10%		\$0
	Diverter	\$ 22,790	\$ -	10%		\$0
	Street light	\$ 3,600	\$ -	10%		\$0
	Bridges	N/A	\$ -	\$ -	10%	
Active Transportation (Sidewalks, Trails, Bike Lanes)	Multi-Use Trails (Assume 12' wide) - Asphalt	\$ 329,000	\$ -	10%		\$0
	Multi-Use Trails (Assume 12' Wide) - Concrete	\$ 788,000	\$ -	10%		\$0
	Sidewalks Along Project	\$ 312,000	\$ -	10%		\$0
	Bike Lanes in one direction (includes sidewalk)	\$ 833,000	\$ -	10%		\$0
	Bikeway	\$ 833,000	\$ -	10%		\$0
	Multi-Use Trails (Unpaved)	\$ 83,870	\$ -	10%		\$0
	Signed Bicycle Route	\$ 27,240	\$ -	10%		\$0
	High Visibility Crosswalk	\$ 3,070	\$ -	10%		\$0
	Raised Crosswalk	\$ 7,110	\$ -	10%		\$0
	Pedestrian Hybrid Beacon (High Intensity Activated Crosswalk - HAWK)	\$ 51,460	\$ -	10%		\$0
	Rectangular Rapid Flashing Beacons (RRFB)	\$ 14,160	\$ -	10%		\$0
	Pedestrian Overpass - Wooden	\$ 122,610	\$ -	10%		\$0
	Pedestrian Overpass - PreFab Steel	\$ 191,400	\$ -	10%		\$0
	Shade shelters	\$ 30,000	\$ -	10%		\$0
	Gazebos	\$ 53,000	\$ -	10%		\$0
	Picnic Tables	\$ 1,683	\$ -	10%		\$0
	Tree Grates	\$ 2,000	\$ -	10%		\$0
	Trees	\$ 460	\$ -	10%		\$0
	Bench	\$ 1,660	\$ -	10%		\$0
	Bus Shelter	\$ 11,490	\$ -	10%		\$0
Trash Receptical	\$ 1,330	\$ -	10%		\$0	
Bicycle signal	\$ 12,800	\$ -	10%		\$0	
Walls (Sound Barrier, Retaining)	N/A	\$ -	\$ -	10%		\$0
Intelligent Transportation Systems (ITS)	N/A	\$ -	\$ -	5%		\$0

ROW	Unit (acres)	Total ROW Cost
Right-of-Way Acquisition	0.00	\$0

Environmental Mitigation	Default Percentage	Contingency Override percentage	Environmental Mitigation
Environmental Mitigation	2%		\$5,360

**ATLANTA REGIONAL COMMISSION
PLANNING LEVEL COST ESTIMATION TOOL**

PLANNING LEVEL COST ESTIMATION TOOL

Project Name:	Arnold Mill Rd	ARC Project ID:	N/A
From Limit:	Farmington Dr	To Limit:	Farmington Dr
County:	Cherokee	Area:	Urban

Improvement: EBL

Activity	Begin (Year)
Preliminary Engineering	2021
Right of Way	2021
Construction	2021

Default Annual Inflation Rate	Override
2%	0%

Current Year
2019

ESTIMATED PROJECT COST		
Activity	Base Estimate	Year of Expenditure
Preliminary Engineering	\$26,800	\$28,000
Right of Way	\$0	\$0
Construction	\$268,000	\$279,000
Contingency	\$32,160	\$33,000
Total	\$326,960	\$340,000

**ATLANTA REGIONAL COMMISSION
PLANNING LEVEL COST ESTIMATION TOOL**

Input Data Verification

Project Name:	Arnold Mill Rd	ARC Project ID:	N/A
From Limit:	Barnes Rd / N Arnold Mill Rd	To Limit:	Barnes Rd / N Arnold Mill Rd
County:	Cherokee	Area:	Urban

Improvement: SBL

Project Elements	Detailed Project Type	Unit	Total Construction Cost	Contingency%	Contingency% Override	Contingency \$
Freeway Widening	N/A	\$ -	\$ -	35%		\$0
Arterial Capacity	N/A	\$ 3,569,000	\$ -	20%		\$0
Interchanges & Grade Separations	Diverging Diamond Interchange - New Interchange	\$ -	\$ -	30%		\$0
Intersection Improvements	Turning Lanes - Left	\$ 800	\$ -	10%		\$0
	Turning Lanes - Right	\$ 567	\$ 481,667	10%		\$48,167
	Roundabout	\$ 549,000	\$ -	10%		\$0
	Signal - New	\$ 200,000	\$ 200,000	10%		\$20,000
	Signal - Major Upgrade	\$ 175,000	\$ -	10%		\$0
	Signal - Minor Upgrade	\$ 75,000	\$ -	10%		\$0
	Milling and Resurfacing (per lane per linear ft)	\$ 44	\$ -	10%		\$0
	Speed Hump	\$ 2,130	\$ -	10%		\$0
	Chicanes	\$ 8,050	\$ -	10%		\$0
	Island	\$ 10,460	\$ -	10%		\$0
	Diverter	\$ 22,790	\$ -	10%		\$0
	Street light	\$ 3,600	\$ -	10%		\$0
	Bridges	N/A	\$ -	\$ -	10%	
Active Transportation (Sidewalks, Trails, Bike Lanes)	Multi-Use Trails (Assume 12' wide) - Asphalt	\$ 329,000	\$ -	10%		\$0
	Multi-Use Trails (Assume 12' Wide) - Concrete	\$ 788,000	\$ -	10%		\$0
	Sidewalks Along Project	\$ 312,000	\$ -	10%		\$0
	Bike Lanes in one direction (includes sidewalk)	\$ 833,000	\$ -	10%		\$0
	Bikeway	\$ 833,000	\$ -	10%		\$0
	Multi-Use Trails (Unpaved)	\$ 83,870	\$ -	10%		\$0
	Signed Bicycle Route	\$ 27,240	\$ -	10%		\$0
	High Visibility Crosswalk	\$ 3,070	\$ -	10%		\$0
	Raised Crosswalk	\$ 7,110	\$ -	10%		\$0
	Pedestrian Hybrid Beacon (High Intensity Activated Crosswalk - HAWK)	\$ 51,460	\$ -	10%		\$0
	Rectangular Rapid Flashing Beacons (RRFB)	\$ 14,160	\$ -	10%		\$0
	Pedestrian Overpass - Wooden	\$ 122,610	\$ -	10%		\$0
	Pedestrian Overpass - PreFab Steel	\$ 191,400	\$ -	10%		\$0
	Shade shelters	\$ 30,000	\$ -	10%		\$0
	Gazebos	\$ 53,000	\$ -	10%		\$0
	Picnic Tables	\$ 1,683	\$ -	10%		\$0
	Tree Grates	\$ 2,000	\$ -	10%		\$0
	Trees	\$ 460	\$ -	10%		\$0
	Bench	\$ 1,660	\$ -	10%		\$0
	Bus Shelter	\$ 11,490	\$ -	10%		\$0
Trash Receptical	\$ 1,330	\$ -	10%		\$0	
Bicycle signal	\$ 12,800	\$ -	10%		\$0	
Walls (Sound Barrier, Retaining)	N/A	\$ -	\$ -	10%		\$0
Intelligent Transportation Systems (ITS)	N/A	\$ -	\$ -	5%		\$0

ROW	Unit (acres)	Total ROW Cost
Right-of-Way Acquisition	0.24	\$60,000

Environmental Mitigation	Default Percentage	Contingency Override percentage	Environmental Mitigation
Environmental Mitigation	2%		\$13,633

**ATLANTA REGIONAL COMMISSION
PLANNING LEVEL COST ESTIMATION TOOL**

PLANNING LEVEL COST ESTIMATION TOOL

Project Name:	Arnold Mill Rd	ARC Project ID:	N/A
From Limit:	Barnes Rd / N Arnold Mill Rd	To Limit:	Barnes Rd / N Arnold Mill Rd
County:	Cherokee	Area:	Urban

Improvement: EBR+WBR+NBR+SBR+New Traffic Signal

Activity	Begin (Year)
Preliminary Engineering	2021
Right of Way	2021
Construction	2021

Default Annual Inflation Rate	Override
2%	0%

Current Year
2019

ESTIMATED PROJECT COST		
Activity	Base Estimate	Year of Expenditure
Preliminary Engineering	\$68,167	\$71,000
Right of Way	\$60,000	\$62,000
Construction	\$681,667	\$709,000
Contingency	\$81,800	\$85,000
Total	\$891,633	\$927,000

**ATLANTA REGIONAL COMMISSION
PLANNING LEVEL COST ESTIMATION TOOL**

Input Data Verification

Project Name:	Arnold Mill Rd	ARC Project ID:	N/A
From Limit:	Hendon Rd	To Limit:	Hendon Rd
County:	Cherokee	Area:	Urban

Improvement: WBR

Project Elements	Detailed Project Type	Unit	Total Construction Cost	Contingency%	Contingency% Override	Contingency \$
Freeway Widening	N/A	\$ -	\$ -	35%		\$0
Arterial Capacity	N/A	\$ 3,569,000	\$ -	20%		\$0
Interchanges & Grade Separations	Diverging Diamond Interchange - New Interchange	\$ -	\$ -	30%		\$0
Intersection Improvements	Turning Lanes - Left	\$ 800	\$ -	10%		\$0
	Turning Lanes - Right	\$ 487	\$ 133,833	10%		\$13,383
	Roundabout	\$ 549,000	\$ -	10%		\$0
	Signal - New	\$ 200,000	\$ -	10%		\$0
	Signal - Major Upgrade	\$ 175,000	\$ -	10%		\$0
	Signal - Minor Upgrade	\$ 75,000	\$ -	10%		\$0
	Milling and Resurfacing (per lane per linear ft)	\$ 44	\$ -	10%		\$0
	Speed Hump	\$ 2,130	\$ -	10%		\$0
	Chicanes	\$ 8,050	\$ -	10%		\$0
	Island	\$ 10,460	\$ -	10%		\$0
	Diverter	\$ 22,790	\$ -	10%		\$0
	Street light	\$ 3,600	\$ -	10%		\$0
	Bridges	N/A	\$ -	\$ -	10%	
Active Transportation (Sidewalks, Trails, Bike Lanes)	Multi-Use Trails (Assume 12' wide) - Asphalt	\$ 329,000	\$ -	10%		\$0
	Multi-Use Trails (Assume 12' Wide) - Concrete	\$ 788,000	\$ -	10%		\$0
	Sidewalks Along Project	\$ 312,000	\$ -	10%		\$0
	Bike Lanes in one direction (includes sidewalk)	\$ 833,000	\$ -	10%		\$0
	Bikeway	\$ 833,000	\$ -	10%		\$0
	Multi-Use Trails (Unpaved)	\$ 83,870	\$ -	10%		\$0
	Signed Bicycle Route	\$ 27,240	\$ -	10%		\$0
	High Visibility Crosswalk	\$ 3,070	\$ -	10%		\$0
	Raised Crosswalk	\$ 7,110	\$ -	10%		\$0
	Pedestrian Hybrid Beacon (High Intensity Activated Crosswalk - HAWK)	\$ 51,460	\$ -	10%		\$0
	Rectangular Rapid Flashing Beacons (RRFB)	\$ 14,160	\$ -	10%		\$0
	Pedestrian Overpass - Wooden	\$ 122,610	\$ -	10%		\$0
	Pedestrian Overpass - PreFab Steel	\$ 191,400	\$ -	10%		\$0
	Shade shelters	\$ 30,000	\$ -	10%		\$0
	Gazebos	\$ 53,000	\$ -	10%		\$0
	Picnic Tables	\$ 1,683	\$ -	10%		\$0
	Tree Grates	\$ 2,000	\$ -	10%		\$0
	Trees	\$ 460	\$ -	10%		\$0
	Bench	\$ 1,660	\$ -	10%		\$0
	Bus Shelter	\$ 11,490	\$ -	10%		\$0
Trash Receptical	\$ 1,330	\$ -	10%		\$0	
Bicycle signal	\$ 12,800	\$ -	10%		\$0	
Walls (Sound Barrier, Retaining)	N/A	\$ -	\$ -	10%		\$0
Intelligent Transportation Systems (ITS)	N/A	\$ -	\$ -	5%		\$0

ROW	Unit (acres)	Total ROW Cost
Right-of-Way Acquisition	0.00	\$0

Environmental Mitigation	Default Percentage	Contingency Override percentage	Environmental Mitigation
Environmental Mitigation	2%		\$2,677

**ATLANTA REGIONAL COMMISSION
PLANNING LEVEL COST ESTIMATION TOOL**

PLANNING LEVEL COST ESTIMATION TOOL

Project Name:	Arnold Mill Rd	ARC Project ID:	N/A
From Limit:	Hendon Rd	To Limit:	Hendon Rd
County:	Cherokee	Area:	Urban

Improvement: WBR

Activity	Begin (Year)
Preliminary Engineering	2029
Right of Way	2029
Construction	2029

Default Annual Inflation Rate	Override
2%	0%

Current Year
2019

ESTIMATED PROJECT COST		
Activity	Base Estimate	Year of Expenditure
Preliminary Engineering	\$13,383	\$16,000
Right of Way	\$0	\$0
Construction	\$133,833	\$163,000
Contingency	\$16,060	\$20,000
Total	\$163,277	\$199,000

**ATLANTA REGIONAL COMMISSION
PLANNING LEVEL COST ESTIMATION TOOL**

Input Data Verification

Project Name:	Arnold Mill Rd	ARC Project ID:	N/A
From Limit:	N Arnold Mill Rd	To Limit:	N Arnold Mill Rd
County:	Cherokee	Area:	Urban

Improvement: WBR+EBL+SBR

Project Elements	Detailed Project Type	Unit	Total Construction Cost	Contingency%	Contingency% Override	Contingency \$
Freeway Widening	N/A	\$ -	\$ -	35%		\$0
Arterial Capacity	N/A	\$ 3,569,000	\$ -	20%		\$0
Interchanges & Grade Separations	Diverging Diamond Interchange - New Interchange	\$ -	\$ -	30%		\$0
Intersection Improvements	Turning Lanes - Left	\$ 800	\$ -	10%		\$0
	Turning Lanes - Right	\$ 487	\$ -	10%		\$0
	Roundabout	\$ 549,000	\$ 549,000	10%		\$54,900
	Signal - New	\$ 200,000	\$ -	10%		\$0
	Signal - Major Upgrade	\$ 175,000	\$ -	10%		\$0
	Signal - Minor Upgrade	\$ 75,000	\$ -	10%		\$0
	Milling and Resurfacing (per lane per linear ft)	\$ 44	\$ -	10%		\$0
	Speed Hump	\$ 2,130	\$ -	10%		\$0
	Chicanes	\$ 8,050	\$ -	10%		\$0
	Island	\$ 10,460	\$ -	10%		\$0
	Diverter	\$ 22,790	\$ -	10%		\$0
	Street light	\$ 3,600	\$ -	10%		\$0
	Bridges	N/A	\$ -	\$ -	10%	
Active Transportation (Sidewalks, Trails, Bike Lanes)	Multi-Use Trails (Assume 12' wide) - Asphalt	\$ 329,000	\$ -	10%		\$0
	Multi-Use Trails (Assume 12' Wide) - Concrete	\$ 788,000	\$ -	10%		\$0
	Sidewalks Along Project	\$ 312,000	\$ -	10%		\$0
	Bike Lanes in one direction (includes sidewalk)	\$ 833,000	\$ -	10%		\$0
	Bikeway	\$ 833,000	\$ -	10%		\$0
	Multi-Use Trails (Unpaved)	\$ 83,870	\$ -	10%		\$0
	Signed Bicycle Route	\$ 27,240	\$ -	10%		\$0
	High Visibility Crosswalk	\$ 3,070	\$ -	10%		\$0
	Raised Crosswalk	\$ 7,110	\$ -	10%		\$0
	Pedestrian Hybrid Beacon (High Intensity Activated Crosswalk - HAWK)	\$ 51,460	\$ -	10%		\$0
	Rectangular Rapid Flashing Beacons (RRFB)	\$ 14,160	\$ -	10%		\$0
	Pedestrian Overpass - Wooden	\$ 122,610	\$ -	10%		\$0
	Pedestrian Overpass - PreFab Steel	\$ 191,400	\$ -	10%		\$0
	Shade shelters	\$ 30,000	\$ -	10%		\$0
	Gazebos	\$ 53,000	\$ -	10%		\$0
	Picnic Tables	\$ 1,683	\$ -	10%		\$0
	Tree Grates	\$ 2,000	\$ -	10%		\$0
	Trees	\$ 460	\$ -	10%		\$0
	Bench	\$ 1,660	\$ -	10%		\$0
	Bus Shelter	\$ 11,490	\$ -	10%		\$0
Trash Receptical	\$ 1,330	\$ -	10%		\$0	
Bicycle signal	\$ 12,800	\$ -	10%		\$0	
Walls (Sound Barrier, Retaining)	N/A	\$ -	\$ -	10%		\$0
Intelligent Transportation Systems (ITS)	N/A	\$ -	\$ -	5%		\$0

ROW	Unit (acres)	Total ROW Cost
Right-of-Way Acquisition	0.25	\$62,500

Environmental Mitigation	Default Percentage	Contingency Override percentage	Environmental Mitigation
Environmental Mitigation	2%		\$10,980

**ATLANTA REGIONAL COMMISSION
PLANNING LEVEL COST ESTIMATION TOOL**

PLANNING LEVEL COST ESTIMATION TOOL

Project Name:	Arnold Mill Rd	ARC Project ID:	N/A
From Limit:	N Arnold Mill Rd	To Limit:	N Arnold Mill Rd
County:	Cherokee	Area:	Urban

Improvement: WBR+EBL+SBR

Activity	Begin (Year)
Preliminary Engineering	2021
Right of Way	2021
Construction	2021

Default Annual Inflation Rate	Override
2%	0%

Current Year
2019

ESTIMATED PROJECT COST		
Activity	Base Estimate	Year of Expenditure
Preliminary Engineering	\$54,900	\$57,000
Right of Way	\$62,500	\$65,000
Construction	\$549,000	\$571,000
Contingency	\$65,880	\$69,000
Total	\$732,280	\$762,000

**ATLANTA REGIONAL COMMISSION
PLANNING LEVEL COST ESTIMATION TOOL**

Input Data Verification

Project Name:	Arnold Mill Rd	ARC Project ID:	N/A
From Limit:	N Arnold Mill Rd	To Limit:	N Arnold Mill Rd
County:	Cherokee	Area:	Urban

Improvement: WBR+EBL+SBR

Project Elements	Detailed Project Type	Unit	Total Construction Cost	Contingency%	Contingency% Override	Contingency \$
Freeway Widening	N/A	\$ -	\$ -	35%		\$0
Arterial Capacity	N/A	\$ 3,569,000	\$ -	20%		\$0
Interchanges & Grade Separations	Diverging Diamond Interchange - New Interchange	\$ -	\$ -	30%		\$0
Intersection Improvements	Turning Lanes - Left	\$ 800	\$ 268,000	10%		\$26,800
	Turning Lanes - Right	\$ 487	\$ 206,833	10%		\$20,683
	Roundabout	\$ 549,000	\$ -	10%		\$0
	Signal - New	\$ 200,000	\$ -	10%		\$0
	Signal - Major Upgrade	\$ 175,000	\$ -	10%		\$0
	Signal - Minor Upgrade	\$ 75,000	\$ -	10%		\$0
	Milling and Resurfacing (per lane per linear ft)	\$ 44	\$ -	10%		\$0
	Speed Hump	\$ 2,130	\$ -	10%		\$0
	Chicanes	\$ 8,050	\$ -	10%		\$0
	Island	\$ 10,460	\$ -	10%		\$0
	Diverter	\$ 22,790	\$ -	10%		\$0
	Street light	\$ 3,600	\$ -	10%		\$0
	Bridges	N/A	\$ -	\$ -	10%	
Active Transportation (Sidewalks, Trails, Bike Lanes)	Multi-Use Trails (Assume 12' wide) - Asphalt	\$ 329,000	\$ -	10%		\$0
	Multi-Use Trails (Assume 12' Wide) - Concrete	\$ 788,000	\$ -	10%		\$0
	Sidewalks Along Project	\$ 312,000	\$ -	10%		\$0
	Bike Lanes in one direction (includes sidewalk)	\$ 833,000	\$ -	10%		\$0
	Bikeway	\$ 833,000	\$ -	10%		\$0
	Multi-Use Trails (Unpaved)	\$ 83,870	\$ -	10%		\$0
	Signed Bicycle Route	\$ 27,240	\$ -	10%		\$0
	High Visibility Crosswalk	\$ 3,070	\$ -	10%		\$0
	Raised Crosswalk	\$ 7,110	\$ -	10%		\$0
	Pedestrian Hybrid Beacon (High Intensity Activated Crosswalk - HAWK)	\$ 51,460	\$ -	10%		\$0
	Rectangular Rapid Flashing Beacons (RRFB)	\$ 14,160	\$ -	10%		\$0
	Pedestrian Overpass - Wooden	\$ 122,610	\$ -	10%		\$0
	Pedestrian Overpass - PreFab Steel	\$ 191,400	\$ -	10%		\$0
	Shade shelters	\$ 30,000	\$ -	10%		\$0
	Gazebos	\$ 53,000	\$ -	10%		\$0
	Picnic Tables	\$ 1,683	\$ -	10%		\$0
	Tree Grates	\$ 2,000	\$ -	10%		\$0
	Trees	\$ 460	\$ -	10%		\$0
	Bench	\$ 1,660	\$ -	10%		\$0
	Bus Shelter	\$ 11,490	\$ -	10%		\$0
Trash Receptical	\$ 1,330	\$ -	10%		\$0	
Bicycle signal	\$ 12,800	\$ -	10%		\$0	
Walls (Sound Barrier, Retaining)	N/A	\$ -	\$ -	10%		\$0
Intelligent Transportation Systems (ITS)	N/A	\$ -	\$ -	5%		\$0

ROW	Unit (acres)	Total ROW Cost
Right-of-Way Acquisition	0.00	\$0

Environmental Mitigation	Default Percentage	Contingency Override percentage	Environmental Mitigation
Environmental Mitigation	2%		\$9,497

**ATLANTA REGIONAL COMMISSION
PLANNING LEVEL COST ESTIMATION TOOL**

PLANNING LEVEL COST ESTIMATION TOOL

Project Name:	Arnold Mill Rd	ARC Project ID:	N/A
From Limit:	N Arnold Mill Rd	To Limit:	N Arnold Mill Rd
County:	Cherokee	Area:	Urban

Improvement: WBR+EBL+SBR

Activity	Begin (Year)
Preliminary Engineering	2021
Right of Way	2021
Construction	2021

Default Annual Inflation Rate	Override
2%	0%

Current Year
2019

ESTIMATED PROJECT COST		
Activity	Base Estimate	Year of Expenditure
Preliminary Engineering	\$47,483	\$49,000
Right of Way	\$0	\$0
Construction	\$474,833	\$494,000
Contingency	\$56,980	\$59,000
Total	\$579,297	\$602,000

**ATLANTA REGIONAL COMMISSION
PLANNING LEVEL COST ESTIMATION TOOL**

Input Data Verification

Project Name:	Arnold Mill Rd	ARC Project ID:	N/A
From Limit:	Mountain Rd / English Ivy Way	To Limit:	Mountain Rd / English Ivy Way
County:	Cherokee	Area:	Urban

Improvement: Traffic Signal + EBL

Project Elements	Detailed Project Type	Unit	Total Construction Cost	Contingency%	Contingency% Override	Contingency \$
Freeway Widening	N/A	\$ -	\$ -	35%		\$0
Arterial Capacity	N/A	\$ 3,569,000	\$ -	20%		\$0
Interchanges & Grade Separations	Diverging Diamond Interchange - New Interchange	\$ -	\$ -	30%		\$0
Intersection Improvements	Turning Lanes - Left	\$ 800	\$ 536,000	10%		\$53,600
	Turning Lanes - Right	\$ 487	\$ -	10%		\$0
	Roundabout	\$ 659,000	\$ -	10%		\$0
	Signal - New	\$ 200,000	\$ 200,000	10%		\$20,000
	Signal - Major Upgrade	\$ 175,000	\$ -	10%		\$0
	Signal - Minor Upgrade	\$ 75,000	\$ -	10%		\$0
	Milling and Resurfacing (per lane per linear ft)	\$ 44	\$ -	10%		\$0
	Speed Hump	\$ 2,130	\$ -	10%		\$0
	Chicanes	\$ 8,050	\$ -	10%		\$0
	Island	\$ 10,460	\$ -	10%		\$0
	Diverter	\$ 22,790	\$ -	10%		\$0
	Street light	\$ 3,600	\$ -	10%		\$0
	Bridges	N/A	\$ -	\$ -	10%	
Active Transportation (Sidewalks, Trails, Bike Lanes)	Multi-Use Trails (Assume 12' wide) - Asphalt	\$ 329,000	\$ -	10%		\$0
	Multi-Use Trails (Assume 12' Wide) - Concrete	\$ 788,000	\$ -	10%		\$0
	Sidewalks Along Project	\$ 312,000	\$ -	10%		\$0
	Bike Lanes in one direction (includes sidewalk)	\$ 833,000	\$ -	10%		\$0
	Bikeway	\$ 833,000	\$ -	10%		\$0
	Multi-Use Trails (Unpaved)	\$ 83,870	\$ -	10%		\$0
	Signed Bicycle Route	\$ 27,240	\$ -	10%		\$0
	High Visibility Crosswalk	\$ 3,070	\$ -	10%		\$0
	Raised Crosswalk	\$ 7,110	\$ -	10%		\$0
	Pedestrian Hybrid Beacon (High Intensity Activated Crosswalk - HAWK)	\$ 51,460	\$ -	10%		\$0
	Rectangular Rapid Flashing Beacons (RRFB)	\$ 14,160	\$ -	10%		\$0
	Pedestrian Overpass - Wooden	\$ 122,610	\$ -	10%		\$0
	Pedestrian Overpass - PreFab Steel	\$ 191,400	\$ -	10%		\$0
	Shade shelters	\$ 30,000	\$ -	10%		\$0
	Gazebos	\$ 53,000	\$ -	10%		\$0
	Picnic Tables	\$ 1,683	\$ -	10%		\$0
	Tree Grates	\$ 2,000	\$ -	10%		\$0
	Trees	\$ 460	\$ -	10%		\$0
	Bench	\$ 1,660	\$ -	10%		\$0
	Bus Shelter	\$ 11,490	\$ -	10%		\$0
Trash Receptical	\$ 1,330	\$ -	10%		\$0	
Bicycle signal	\$ 12,800	\$ -	10%		\$0	
Walls (Sound Barrier, Retaining)	N/A	\$ -	\$ -	10%		\$0
Intelligent Transportation Systems (ITS)	N/A	\$ -	\$ -	5%		\$0

ROW	Unit (acres)	Total ROW Cost
Right-of-Way Acquisition	0.10	\$25,000

Environmental Mitigation	Default Percentage	Contingency Override percentage	Environmental Mitigation
Environmental Mitigation	2%		\$14,720

**ATLANTA REGIONAL COMMISSION
PLANNING LEVEL COST ESTIMATION TOOL**

PLANNING LEVEL COST ESTIMATION TOOL

Project Name:	Arnold Mill Rd	ARC Project ID:	N/A
From Limit:	Mountain Rd / English Ivy Way	To Limit:	Mountain Rd / English Ivy Way
County:	Cherokee	Area:	Urban

Improvement: Traffic Signal + EBL

Activity	Begin (Year)
Preliminary Engineering	2029
Right of Way	2029
Construction	2029

Default Annual Inflation Rate	Override
2%	0%

Current Year
2019

ESTIMATED PROJECT COST		
Activity	Base Estimate	Year of Expenditure
Preliminary Engineering	\$73,600	\$90,000
Right of Way	\$25,000	\$30,000
Construction	\$736,000	\$897,000
Contingency	\$88,320	\$108,000
Total	\$922,920	\$1,125,000

**ATLANTA REGIONAL COMMISSION
PLANNING LEVEL COST ESTIMATION TOOL**

Input Data Verification

Project Name:	Arnold Mill Rd	ARC Project ID:	N/A
From Limit:	River Laurel Way	To Limit:	River Laurel Way
County:	Cherokee	Area:	Urban

Improvement: WBL

Project Elements	Detailed Project Type	Unit	Total Construction Cost	Contingency%	Contingency% Override	Contingency \$
Freeway Widening	N/A	\$ -	\$ -	35%		\$0
Arterial Capacity	N/A	\$ 3,569,000	\$ -	20%		\$0
Interchanges & Grade Separations	Diverging Diamond Interchange - New Interchange	\$ -	\$ -	30%		\$0
Intersection Improvements	Turning Lanes - Left	\$ 800	\$ 268,000	10%		\$26,800
	Turning Lanes - Right	\$ 487	\$ -	10%		\$0
	Roundabout	\$ 549,000	\$ -	10%		\$0
	Signal - New	\$ 200,000	\$ -	10%		\$0
	Signal - Major Upgrade	\$ 175,000	\$ -	10%		\$0
	Signal - Minor Upgrade	\$ 75,000	\$ -	10%		\$0
	Milling and Resurfacing (per lane per linear ft)	\$ 44	\$ -	10%		\$0
	Speed Hump	\$ 2,130	\$ -	10%		\$0
	Chicanes	\$ 8,050	\$ -	10%		\$0
	Island	\$ 10,460	\$ -	10%		\$0
	Diverter	\$ 22,790	\$ -	10%		\$0
	Street light	\$ 3,600	\$ -	10%		\$0
Bridges	N/A	\$ -	\$ -	10%		\$0
Active Transportation (Sidewalks, Trails, Bike Lanes)	Multi-Use Trails (Assume 12' wide) - Asphalt	\$ 329,000	\$ -	10%		\$0
	Multi-Use Trails (Assume 12' Wide) - Concrete	\$ 788,000	\$ -	10%		\$0
	Sidewalks Along Project	\$ 312,000	\$ -	10%		\$0
	Bike Lanes in one direction (includes sidewalk)	\$ 833,000	\$ -	10%		\$0
	Bikeway	\$ 833,000	\$ -	10%		\$0
	Multi-Use Trails (Unpaved)	\$ 83,870	\$ -	10%		\$0
	Signed Bicycle Route	\$ 27,240	\$ -	10%		\$0
	High Visibility Crosswalk	\$ 3,070	\$ -	10%		\$0
	Raised Crosswalk	\$ 7,110	\$ -	10%		\$0
	Pedestrian Hybrid Beacon (High Intensity Activated Crosswalk - HAWK)	\$ 51,460	\$ -	10%		\$0
	Rectangular Rapid Flashing Beacons (RRFB)	\$ 14,160	\$ -	10%		\$0
	Pedestrian Overpass - Wooden	\$ 122,610	\$ -	10%		\$0
	Pedestrian Overpass - PreFab Steel	\$ 191,400	\$ -	10%		\$0
	Shade shelters	\$ 30,000	\$ -	10%		\$0
	Gazebos	\$ 53,000	\$ -	10%		\$0
	Picnic Tables	\$ 1,683	\$ -	10%		\$0
	Tree Grates	\$ 2,000	\$ -	10%		\$0
	Trees	\$ 460	\$ -	10%		\$0
	Bench	\$ 1,660	\$ -	10%		\$0
	Bus Shelter	\$ 11,490	\$ -	10%		\$0
Trash Receptical	\$ 1,330	\$ -	10%		\$0	
Bicycle signal	\$ 12,800	\$ -	10%		\$0	
Walls (Sound Barrier, Retaining)	N/A	\$ -	\$ -	10%		\$0
Intelligent Transportation Systems (ITS)	N/A	\$ -	\$ -	5%		\$0

ROW	Unit (acres)	Total ROW Cost
Right-of-Way Acquisition	0.00	\$0

Environmental Mitigation	Default Percentage	Contingency Override percentage	Environmental Mitigation
Environmental Mitigation	2%		\$5,360

**ATLANTA REGIONAL COMMISSION
PLANNING LEVEL COST ESTIMATION TOOL**

PLANNING LEVEL COST ESTIMATION TOOL

Project Name:	Arnold Mill Rd	ARC Project ID:	N/A
From Limit:	River Laurel Way	To Limit:	River Laurel Way
County:	Cherokee	Area:	Urban

Improvement: WBL

Activity	Begin (Year)
Preliminary Engineering	2021
Right of Way	2021
Construction	2021

Default Annual Inflation Rate	Override
2%	0%

Current Year
2019

ESTIMATED PROJECT COST		
Activity	Base Estimate	Year of Expenditure
Preliminary Engineering	\$26,800	\$28,000
Right of Way	\$0	\$0
Construction	\$268,000	\$279,000
Contingency	\$32,160	\$33,000
Total	\$326,960	\$340,000

**ATLANTA REGIONAL COMMISSION
PLANNING LEVEL COST ESTIMATION TOOL**

Input Data Verification

Project Name:	Arnold Mill Rd	ARC Project ID:	N/A
From Limit:	River Laurel Way	To Limit:	River Laurel Way
County:	Cherokee	Area:	Urban

Improvement: SBL

Project Elements	Detailed Project Type	Unit	Total Construction Cost	Contingency%	Contingency% Override	Contingency \$
Freeway Widening	N/A	\$ -	\$ -	35%		\$0
Arterial Capacity	N/A	\$ 3,569,000	\$ -	20%		\$0
Interchanges & Grade Separations	Diverging Diamond Interchange - New Interchange	\$ -	\$ -	30%		\$0
Intersection Improvements	Turning Lanes - Left	\$ 800	\$ 108,000	10%		\$10,800
	Turning Lanes - Right	\$ 487	\$ -	10%		\$0
	Roundabout	\$ 549,000	\$ -	10%		\$0
	Signal - New	\$ 200,000	\$ -	10%		\$0
	Signal - Major Upgrade	\$ 175,000	\$ -	10%		\$0
	Signal - Minor Upgrade	\$ 75,000	\$ -	10%		\$0
	Milling and Resurfacing (per lane per linear ft)	\$ 44	\$ -	10%		\$0
	Speed Hump	\$ 2,130	\$ -	10%		\$0
	Chicanes	\$ 8,050	\$ -	10%		\$0
	Island	\$ 10,460	\$ -	10%		\$0
	Diverter	\$ 22,790	\$ -	10%		\$0
	Street light	\$ 3,600	\$ -	10%		\$0
Bridges	N/A	\$ -	\$ -	10%		\$0
Active Transportation (Sidewalks, Trails, Bike Lanes)	Multi-Use Trails (Assume 12' wide) - Asphalt	\$ 329,000	\$ -	10%		\$0
	Multi-Use Trails (Assume 12' Wide) - Concrete	\$ 788,000	\$ -	10%		\$0
	Sidewalks Along Project	\$ 312,000	\$ -	10%		\$0
	Bike Lanes in one direction (includes sidewalk)	\$ 833,000	\$ -	10%		\$0
	Bikeway	\$ 833,000	\$ -	10%		\$0
	Multi-Use Trails (Unpaved)	\$ 83,870	\$ -	10%		\$0
	Signed Bicycle Route	\$ 27,240	\$ -	10%		\$0
	High Visibility Crosswalk	\$ 3,070	\$ -	10%		\$0
	Raised Crosswalk	\$ 7,110	\$ -	10%		\$0
	Pedestrian Hybrid Beacon (High Intensity Activated Crosswalk - HAWK)	\$ 51,460	\$ -	10%		\$0
	Rectangular Rapid Flashing Beacons (RRFB)	\$ 14,160	\$ -	10%		\$0
	Pedestrian Overpass - Wooden	\$ 122,610	\$ -	10%		\$0
	Pedestrian Overpass - PreFab Steel	\$ 191,400	\$ -	10%		\$0
	Shade shelters	\$ 30,000	\$ -	10%		\$0
	Gazebos	\$ 53,000	\$ -	10%		\$0
	Picnic Tables	\$ 1,683	\$ -	10%		\$0
	Tree Grates	\$ 2,000	\$ -	10%		\$0
	Trees	\$ 460	\$ -	10%		\$0
	Bench	\$ 1,660	\$ -	10%		\$0
	Bus Shelter	\$ 11,490	\$ -	10%		\$0
Trash Receptical	\$ 1,330	\$ -	10%		\$0	
Bicycle signal	\$ 12,800	\$ -	10%		\$0	
Walls (Sound Barrier, Retaining)	N/A	\$ -	\$ -	10%		\$0
Intelligent Transportation Systems (ITS)	N/A	\$ -	\$ -	5%		\$0

ROW	Unit (acres)	Total ROW Cost
Right-of-Way Acquisition	0.00	\$0

Environmental Mitigation	Default Percentage	Contingency Override percentage	Environmental Mitigation
Environmental Mitigation	2%		\$2,160

**ATLANTA REGIONAL COMMISSION
PLANNING LEVEL COST ESTIMATION TOOL**

PLANNING LEVEL COST ESTIMATION TOOL

Project Name:	Arnold Mill Rd	ARC Project ID:	N/A
From Limit:	River Laurel Way	To Limit:	River Laurel Way
County:	Cherokee	Area:	Urban

Improvement: SBL

Activity	Begin (Year)
Preliminary Engineering	2029
Right of Way	2029
Construction	2029

Default Annual Inflation Rate	Override
2%	0%

Current Year
2019

ESTIMATED PROJECT COST		
Activity	Base Estimate	Year of Expenditure
Preliminary Engineering	\$10,800	\$13,000
Right of Way	\$0	\$0
Construction	\$108,000	\$132,000
Contingency	\$12,960	\$16,000
Total	\$131,760	\$161,000

**ATLANTA REGIONAL COMMISSION
PLANNING LEVEL COST ESTIMATION TOOL**

Input Data Verification

Project Name:	Arnold Mill Rd	ARC Project ID:	N/A
From Limit:	SR 140	To Limit:	SR 140
County:	Cherokee	Area:	Urban

Improvement: Signalization

Project Elements	Detailed Project Type	Unit	Total Construction Cost	Contingency%	Contingency% Override	Contingency \$
Freeway Widening	N/A	\$ -	\$ -	35%		\$0
Arterial Capacity	N/A	\$ 3,569,000	\$ -	20%		\$0
Interchanges & Grade Separations	2039	\$ -	\$ -	30%		\$0
Intersection Improvements	Turning Lanes - Left	\$ 800	\$ -	10%		\$0
	Turning Lanes - Right	\$ 487	\$ -	10%		\$0
	Roundabout	\$ 549,000	\$ -	10%		\$0
	Signal - New	\$ 200,000	\$ 200,000	10%		\$20,000
	Signal - Major Upgrade	\$ 175,000	\$ -	10%		\$0
	Signal - Minor Upgrade	\$ 75,000	\$ -	10%		\$0
	Milling and Resurfacing (per lane per linear ft)	\$ 44	\$ -	10%		\$0
	Speed Hump	\$ 2,130	\$ -	10%		\$0
	Chicanes	\$ 8,050	\$ -	10%		\$0
	Island	\$ 10,460	\$ -	10%		\$0
	Diverter	\$ 22,790	\$ -	10%		\$0
	Street light	\$ 3,600	\$ -	10%		\$0
	Bridges	N/A	\$ -	\$ -	10%	
Active Transportation (Sidewalks, Trails, Bike Lanes)	Multi-Use Trails (Assume 12' wide) - Asphalt	\$ 329,000	\$ -	10%		\$0
	Multi-Use Trails (Assume 12' Wide) - Concrete	\$ 788,000	\$ -	10%		\$0
	Sidewalks Along Project	\$ 312,000	\$ -	10%		\$0
	Bike Lanes in one direction (includes sidewalk)	\$ 833,000	\$ -	10%		\$0
	Bikeway	\$ 833,000	\$ -	10%		\$0
	Multi-Use Trails (Unpaved)	\$ 83,870	\$ -	10%		\$0
	Signed Bicycle Route	\$ 27,240	\$ -	10%		\$0
	High Visibility Crosswalk	\$ 3,070	\$ -	10%		\$0
	Raised Crosswalk	\$ 7,110	\$ -	10%		\$0
	Pedestrian Hybrid Beacon (High Intensity Activated Crosswalk - HAWK)	\$ 51,460	\$ -	10%		\$0
	Rectangular Rapid Flashing Beacons (RRFB)	\$ 14,160	\$ -	10%		\$0
	Pedestrian Overpass - Wooden	\$ 122,610	\$ -	10%		\$0
	Pedestrian Overpass - PreFab Steel	\$ 191,400	\$ -	10%		\$0
	Shade shelters	\$ 30,000	\$ -	10%		\$0
	Gazebos	\$ 53,000	\$ -	10%		\$0
	Picnic Tables	\$ 1,683	\$ -	10%		\$0
	Tree Grates	\$ 2,000	\$ -	10%		\$0
	Trees	\$ 460	\$ -	10%		\$0
	Bench	\$ 1,660	\$ -	10%		\$0
	Bus Shelter	\$ 11,490	\$ -	10%		\$0
Trash Receptical	\$ 1,330	\$ -	10%		\$0	
Bicycle signal	\$ 12,800	\$ -	10%		\$0	
Walls (Sound Barrier, Retaining)	N/A	\$ -	\$ -	10%		\$0
Intelligent Transportation Systems (ITS)	N/A	\$ -	\$ -	5%		\$0

ROW	Unit (acres)	Total ROW Cost
Right-of-Way Acquisition	0.00	\$0

Environmental Mitigation	Default Percentage	Contingency Override percentage	Environmental Mitigation
Environmental Mitigation	2%		\$4,000

**ATLANTA REGIONAL COMMISSION
PLANNING LEVEL COST ESTIMATION TOOL**

PLANNING LEVEL COST ESTIMATION TOOL

Project Name:	Arnold Mill Rd	ARC Project ID:	N/A
From Limit:	SR 140	To Limit:	SR 140
County:	Cherokee	Area:	Urban

Improvement: Signalization

Activity	Begin (Year)
Preliminary Engineering	2039
Right of Way	2039
Construction	2039

Default Annual Inflation Rate	Override
2%	0%

Current Year
2019

ESTIMATED PROJECT COST		
Activity	Base Estimate	Year of Expenditure
Preliminary Engineering	\$20,000	\$30,000
Right of Way	\$0	\$0
Construction	\$200,000	\$297,000
Contingency	\$24,000	\$36,000
Total	\$244,000	\$363,000

Appendix G: Turn Lane Warrant and Signal Warrant Analysis



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

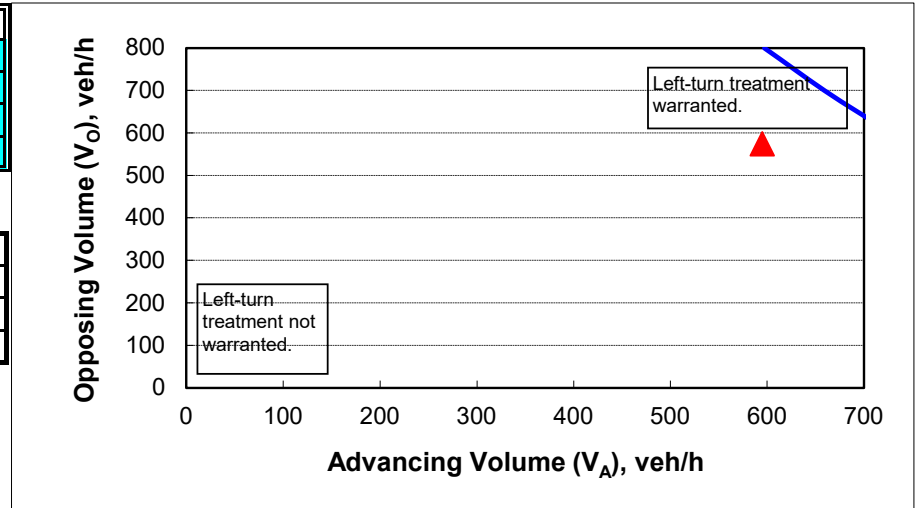
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	1%
Advancing volume (V_A), veh/h:	595
Opposing volume (V_O), veh/h:	574

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	748
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

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

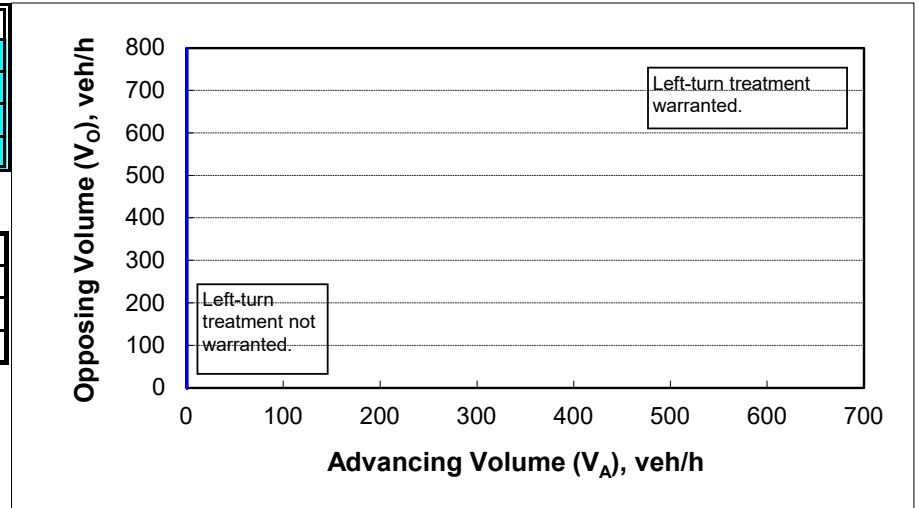
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	0%
Advancing volume (V_A), veh/h:	808
Opposing volume (V_O), veh/h:	757

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	#DIV/0!
Guidance for determining the need for a major-road left-turn bay:	
#DIV/0!	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

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

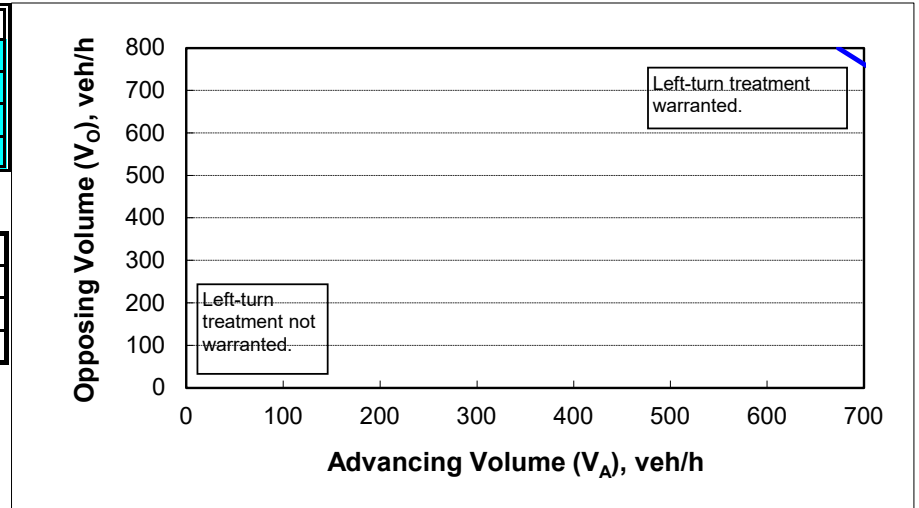
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	1%
Advancing volume (V_A), veh/h:	759
Opposing volume (V_O), veh/h:	734

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	719
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	1816
Percentage of right-turns on minor road, %:	0%
Minor-road volume (one direction), veh/h:	4

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	44
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.2	3.3
Left-turn and through capacity veh/h:	6.5	4.0

* according to Table 17 - 5 of the HCM

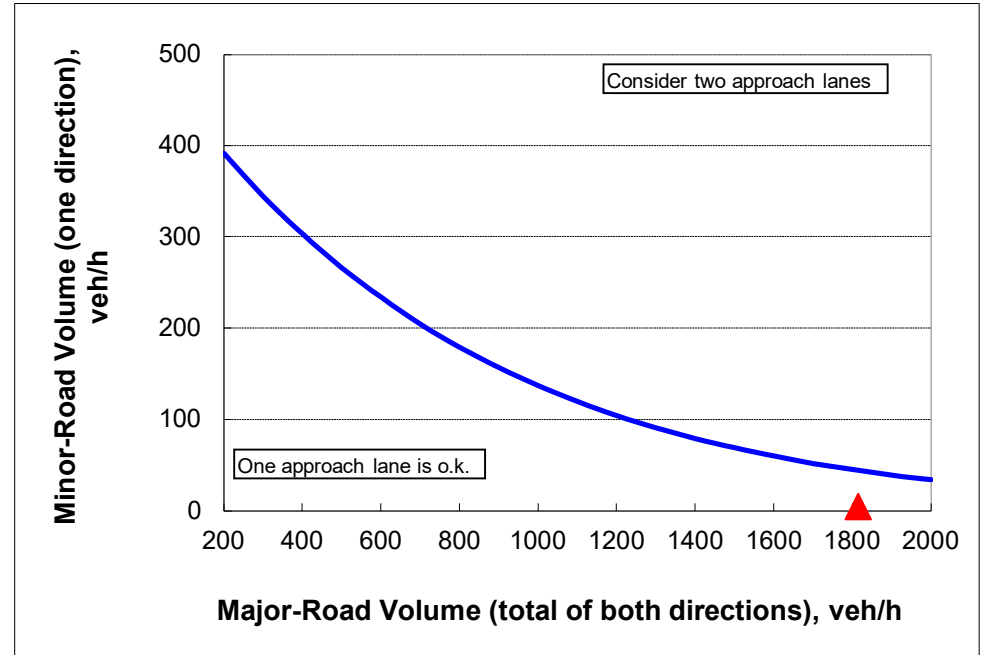


Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	1731
Percentage of right-turns on minor road, %:	64%
Minor-road volume (one direction), veh/h:	11

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	102
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.2	3.3
Left-turn and through capacity veh/h:	6.5	4.0

* according to Table 17 - 5 of the HCM

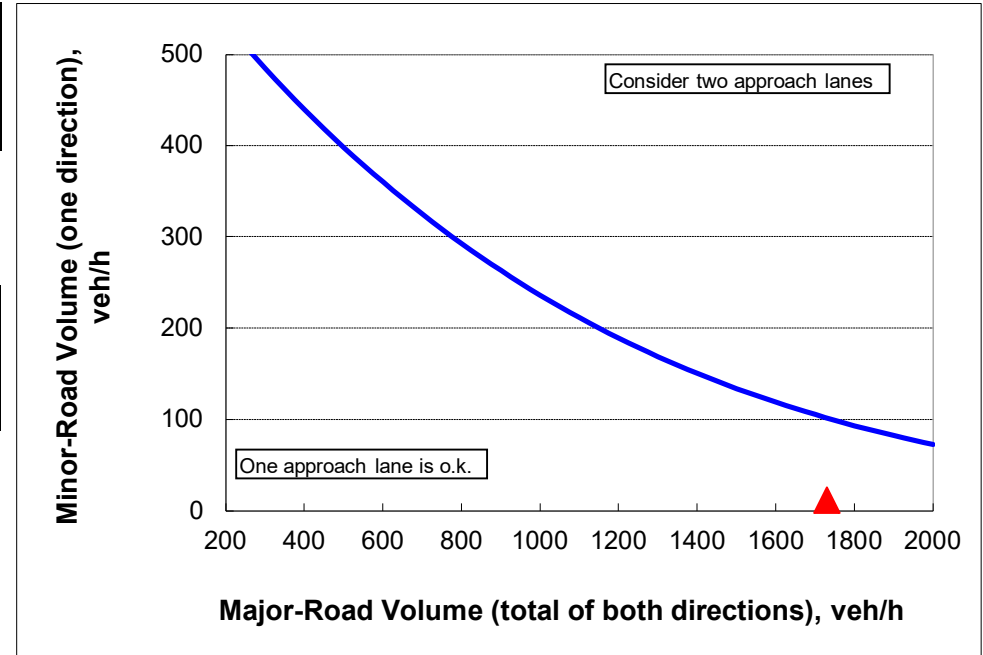


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	878
Right-turn volume, veh/h:	4

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	15
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

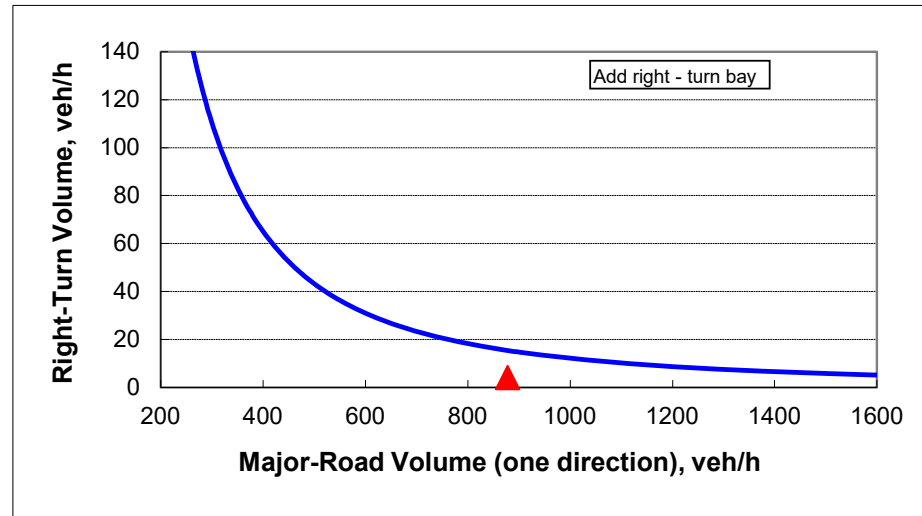


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	851
Right-turn volume, veh/h:	4

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	16
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

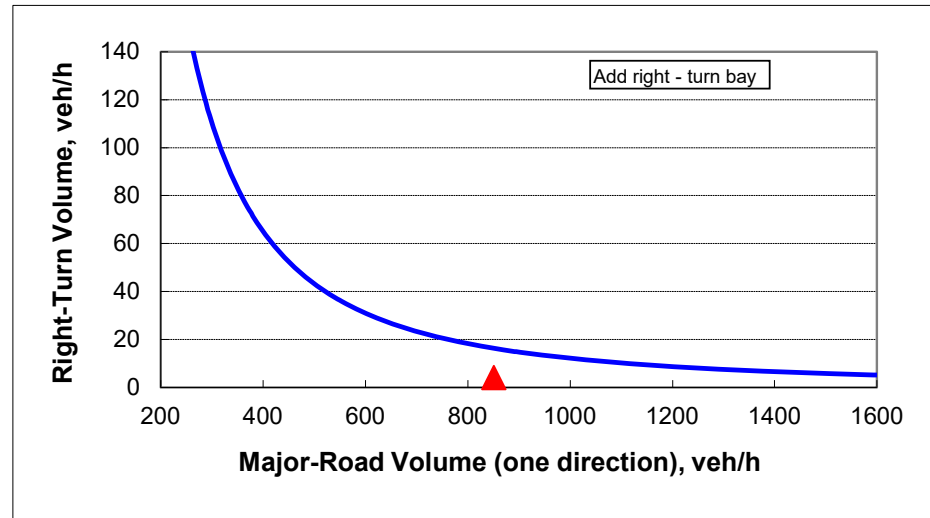


Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

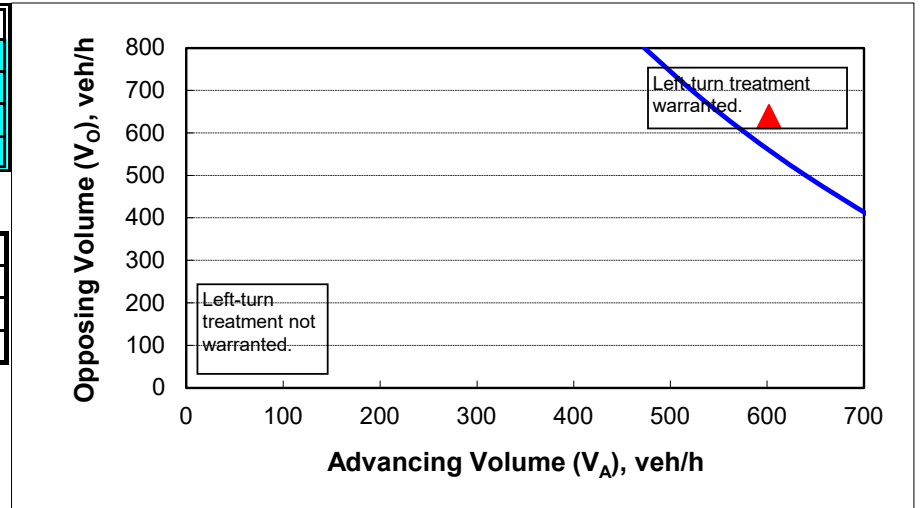
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	2%
Advancing volume (V_A), veh/h:	602
Opposing volume (V_O), veh/h:	638

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	556
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

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

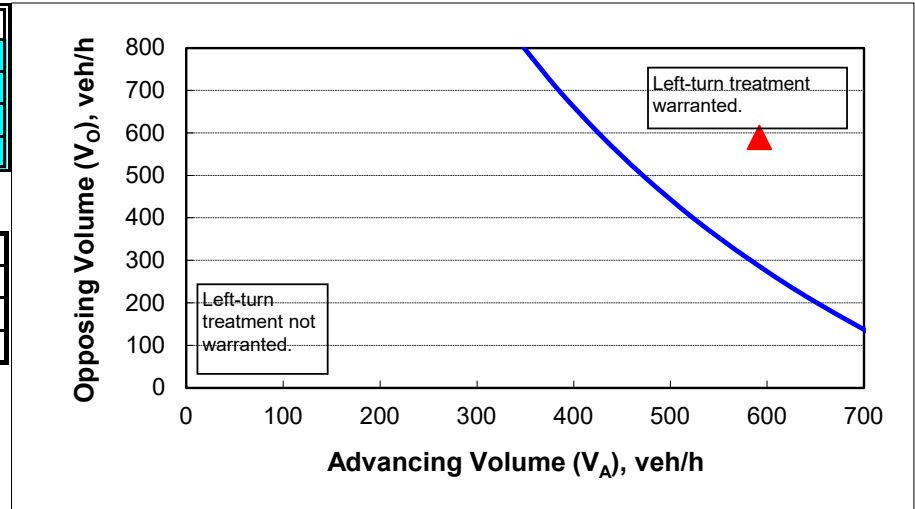
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	4%
Advancing volume (V_A), veh/h:	592
Opposing volume (V_O), veh/h:	589

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	430
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	1835
Percentage of right-turns on minor road, %:	79%
Minor-road volume (one direction), veh/h:	19

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	121
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.2	3.3
Left-turn and through capacity veh/h:	6.5	4.0

* according to Table 17 - 5 of the HCM

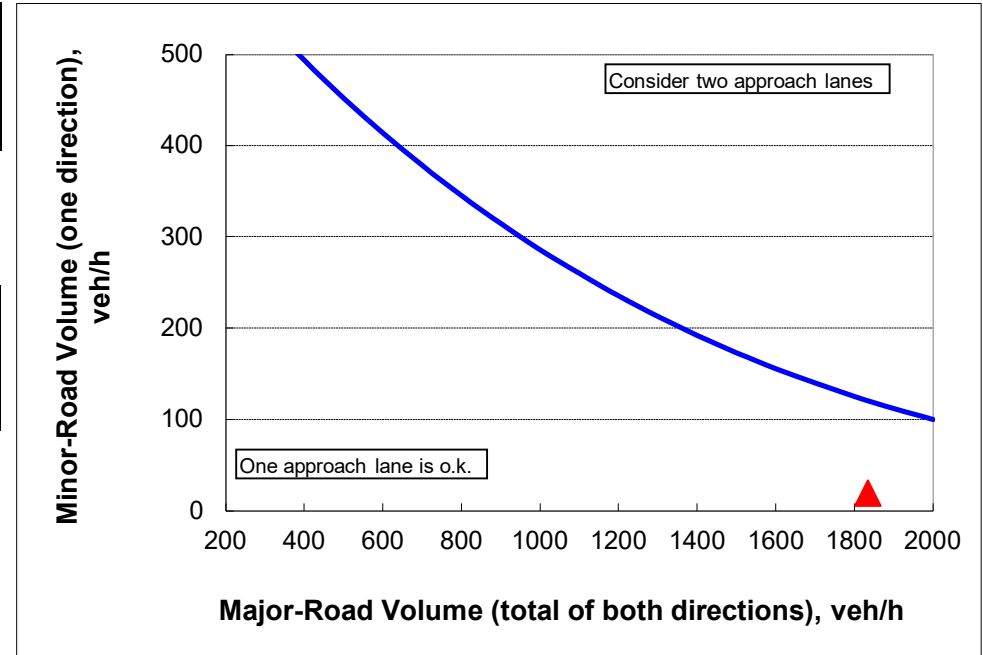


Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	1738
Percentage of right-turns on minor road, %:	61%
Minor-road volume (one direction), veh/h:	23

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	96
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.2	3.3
Left-turn and through capacity veh/h:	6.5	4.0

* according to Table 17 - 5 of the HCM

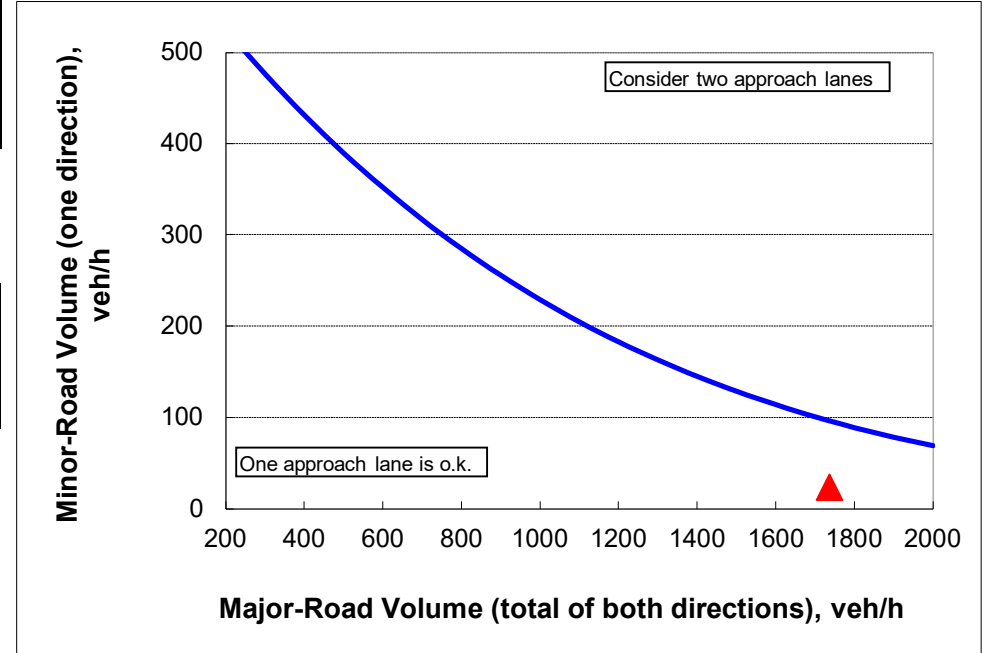


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	947
Right-turn volume, veh/h:	3

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	13
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

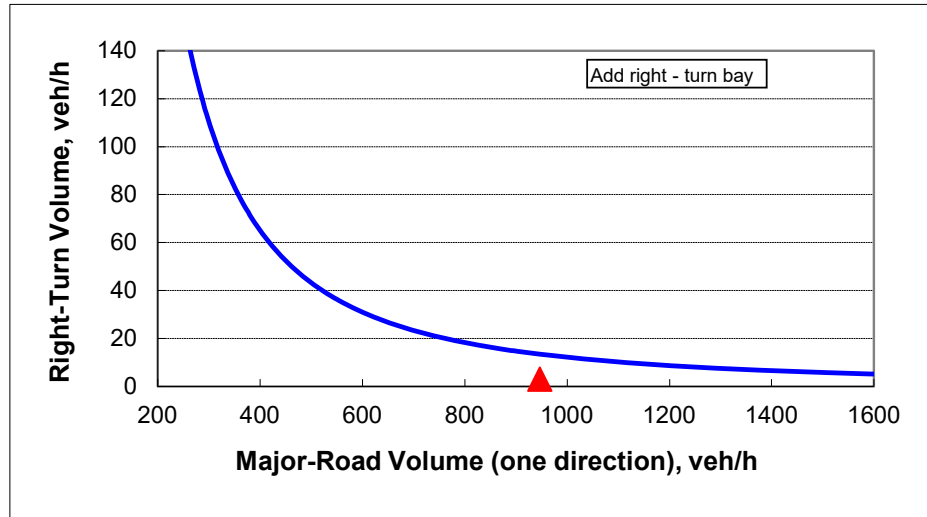


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	870
Right-turn volume, veh/h:	11

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	16
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

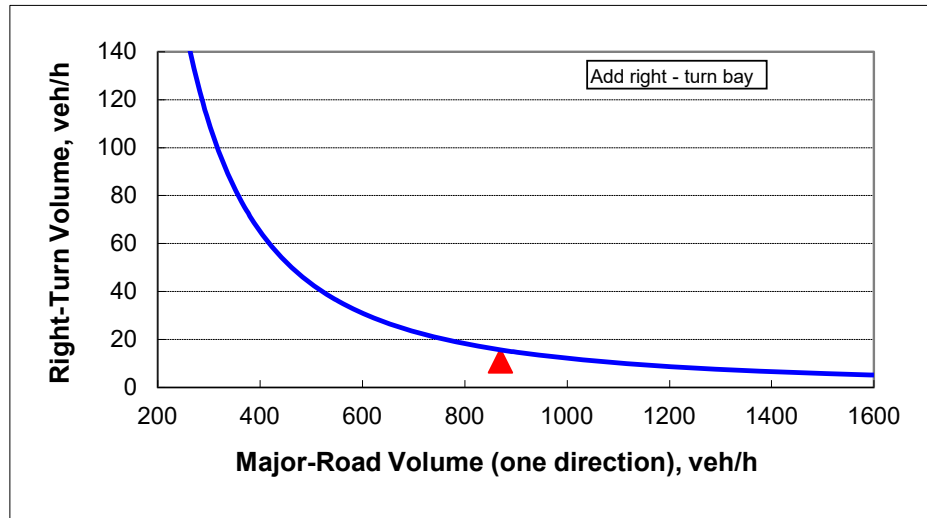


Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

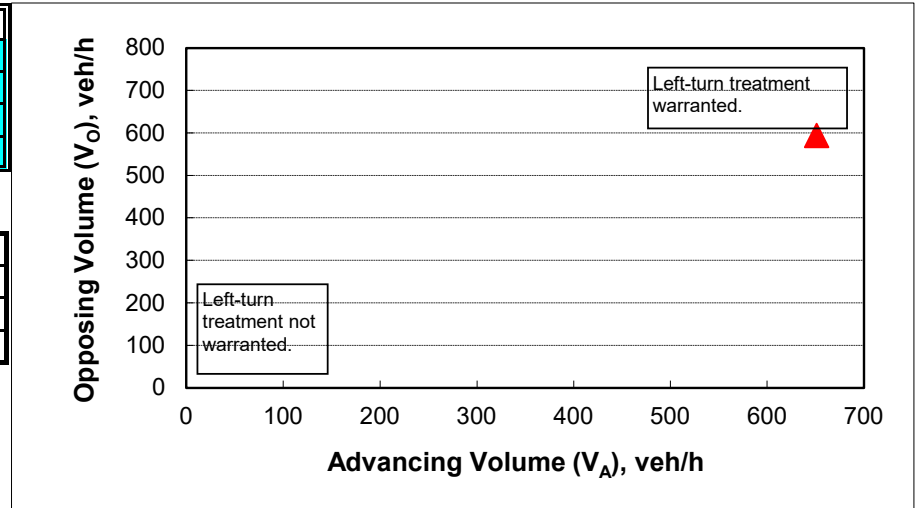
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	1%
Advancing volume (V_A), veh/h:	651
Opposing volume (V_O), veh/h:	594

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1081
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

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

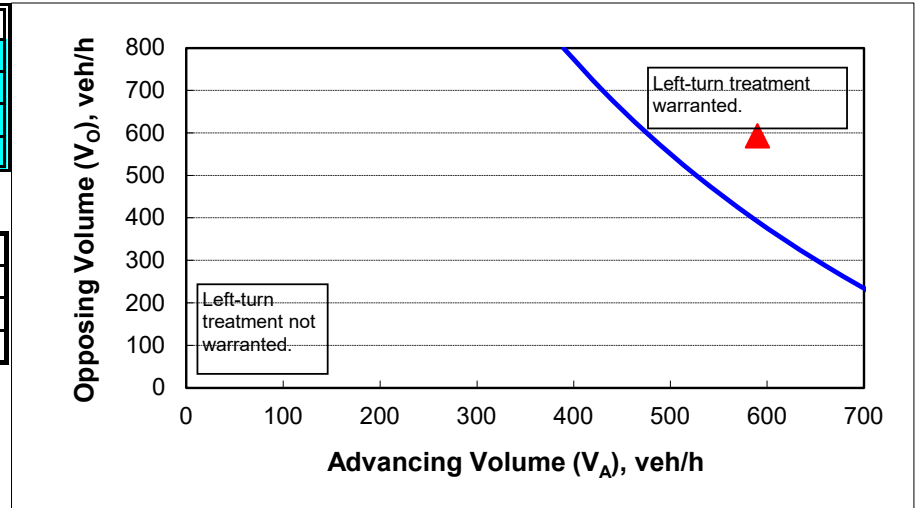
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	3%
Advancing volume (V_A), veh/h:	590
Opposing volume (V_O), veh/h:	593

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	479
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	1845
Percentage of right-turns on minor road, %:	52%
Minor-road volume (one direction), veh/h:	21

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	74
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.2	3.3
Left-turn and through capacity veh/h:	6.5	4.0

* according to Table 17 - 5 of the HCM

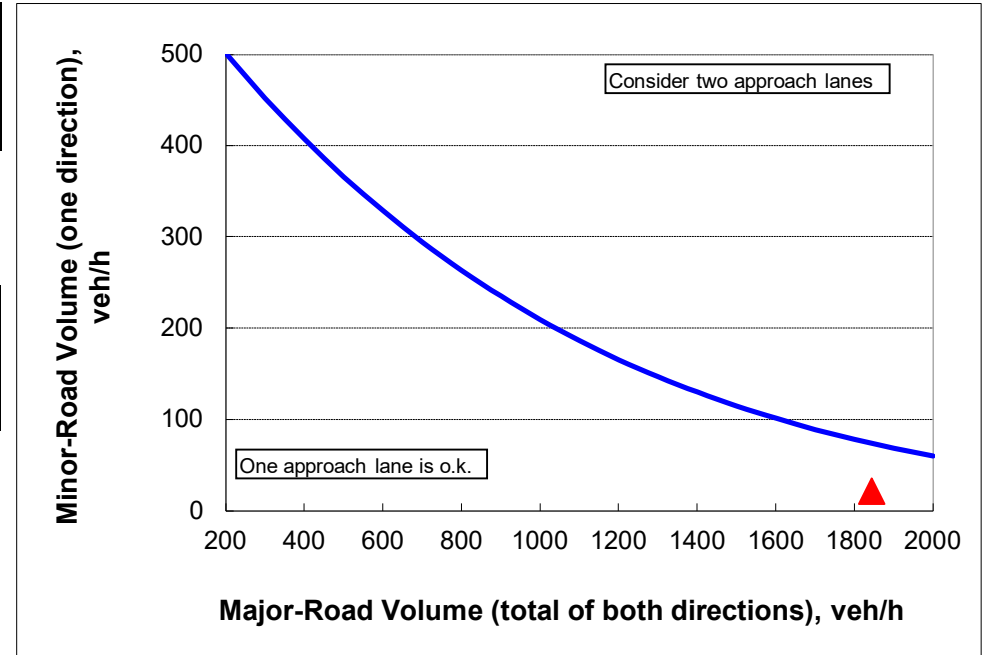


Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	1744
Percentage of right-turns on minor road, %:	56%
Minor-road volume (one direction), veh/h:	16

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	89
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.2	3.3
Left-turn and through capacity veh/h:	6.5	4.0

* according to Table 17 - 5 of the HCM

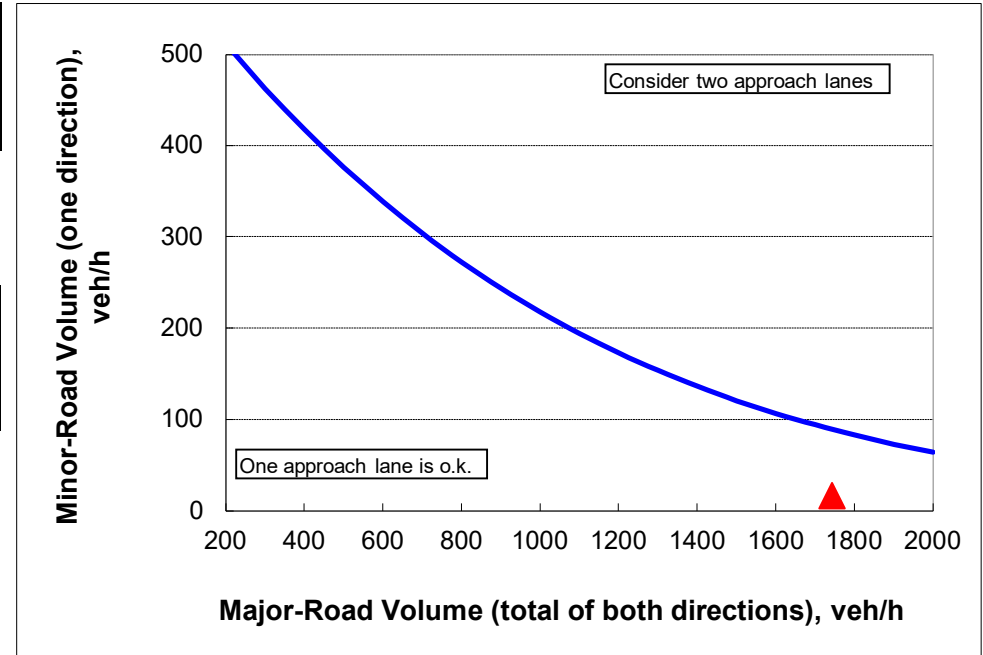


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	880
Right-turn volume, veh/h:	5

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	15
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

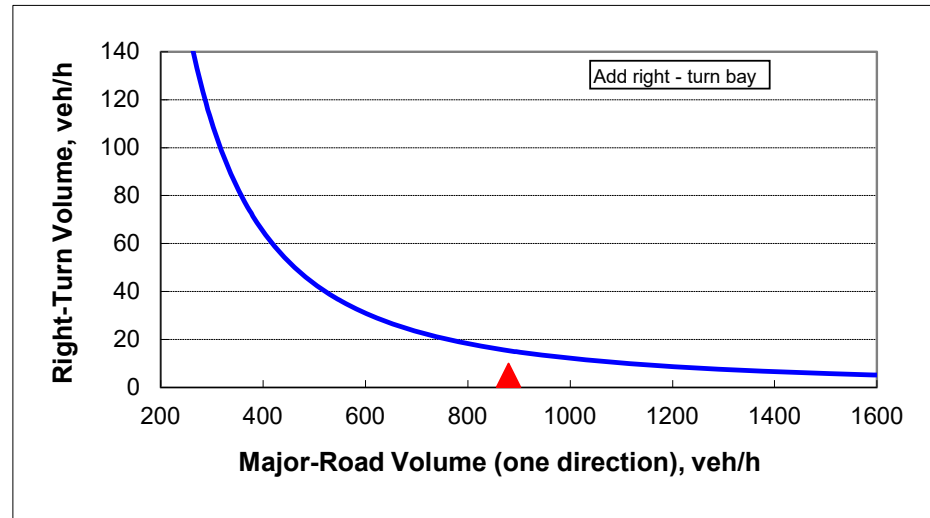


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	877
Right-turn volume, veh/h:	8

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	15
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

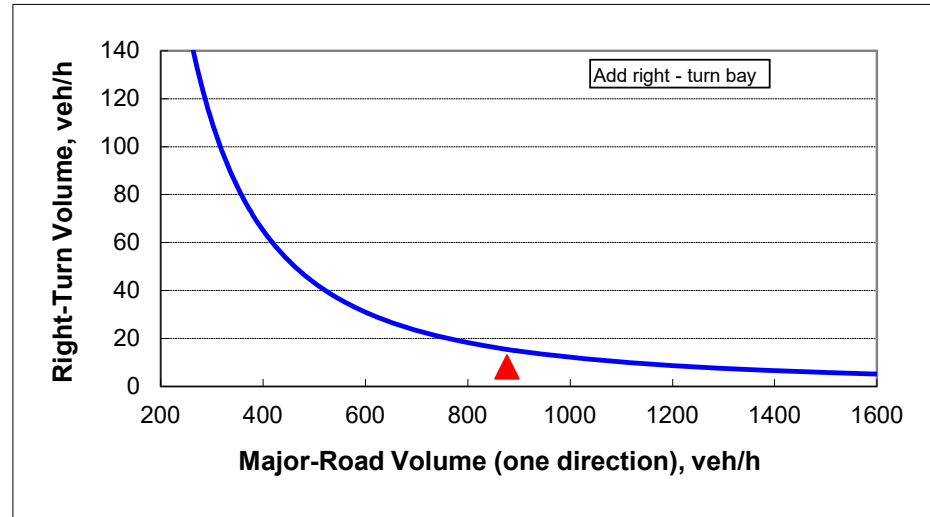


Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	2316
Percentage of right-turns on minor road, %:	0%
Minor-road volume (one direction), veh/h:	2

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	21
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.2	3.3
Left-turn and through capacity veh/h:	6.5	4.0

* according to Table 17 - 5 of the HCM

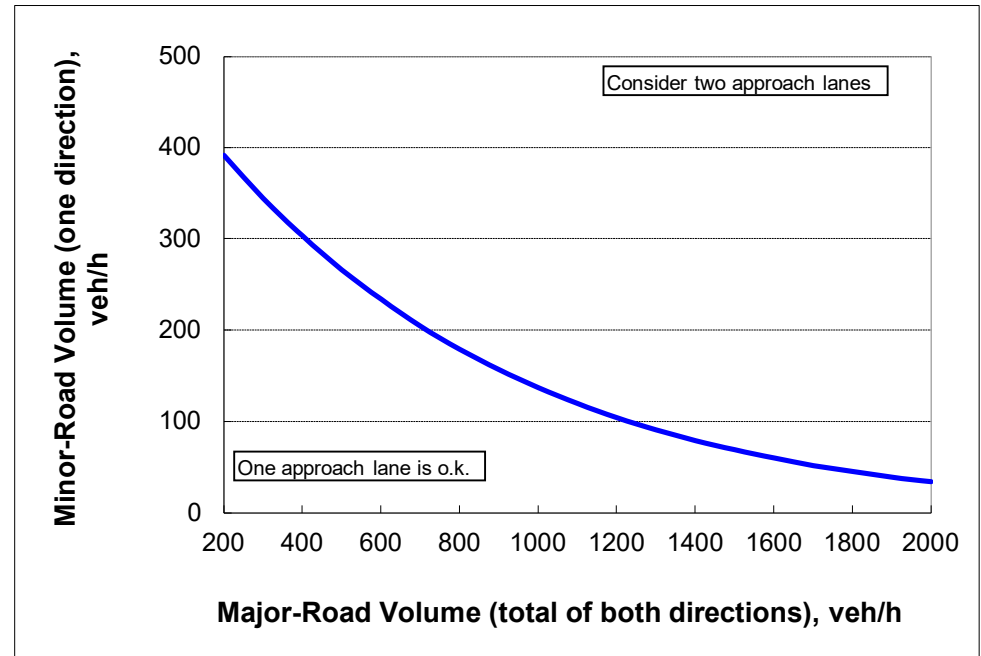


Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	2678
Percentage of right-turns on minor road, %:	43%
Minor-road volume (one direction), veh/h:	7

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	21
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.2	3.3
Left-turn and through capacity veh/h:	6.5	4.0

* according to Table 17 - 5 of the HCM

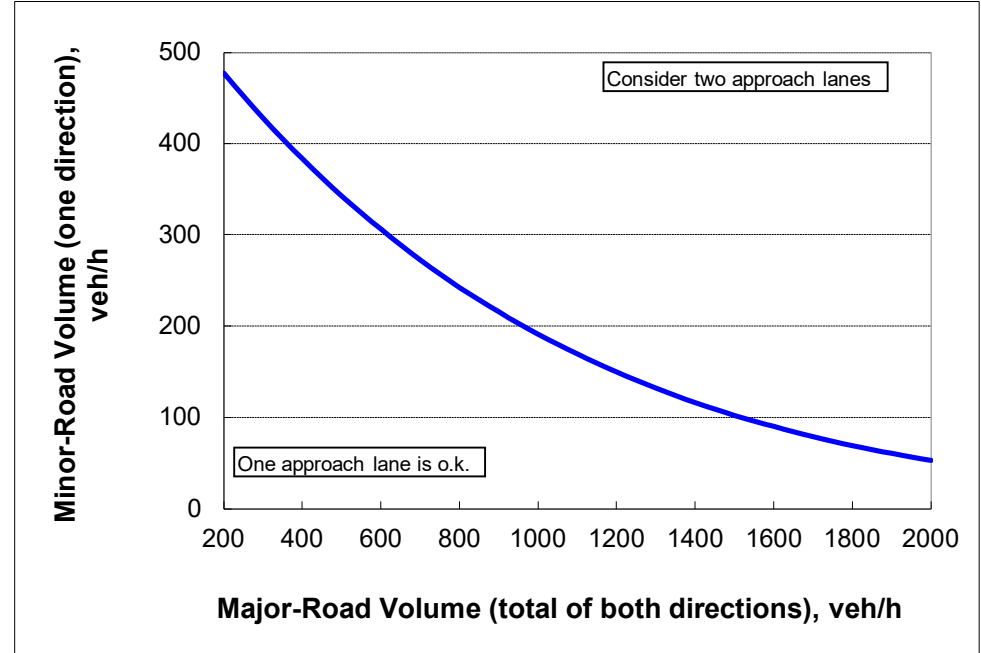


Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

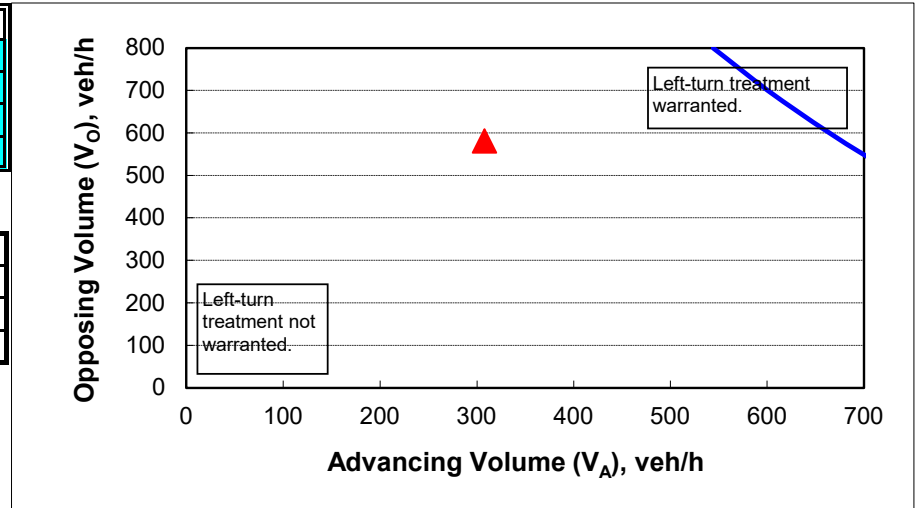
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	2%
Advancing volume (V_A), veh/h:	308
Opposing volume (V_O), veh/h:	581

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	677
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

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

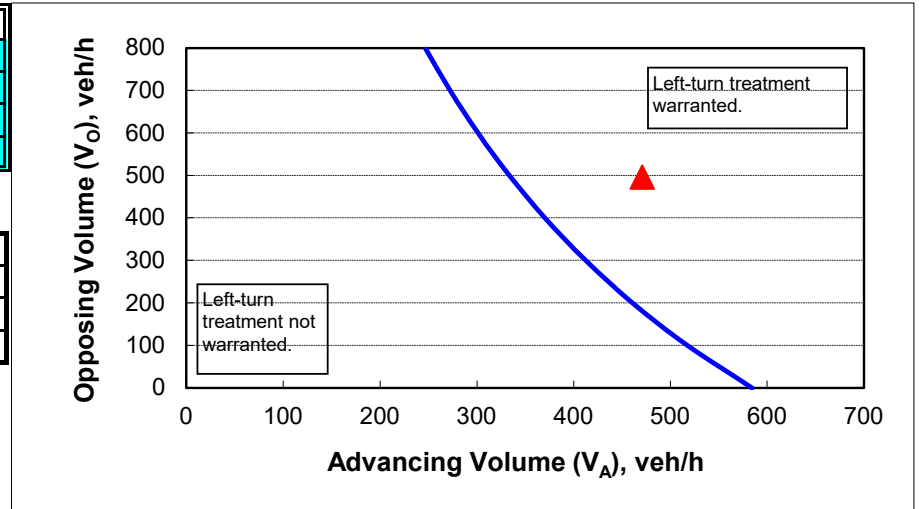
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	8%
Advancing volume (V_A), veh/h:	471
Opposing volume (V_O), veh/h:	496

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	335
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

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

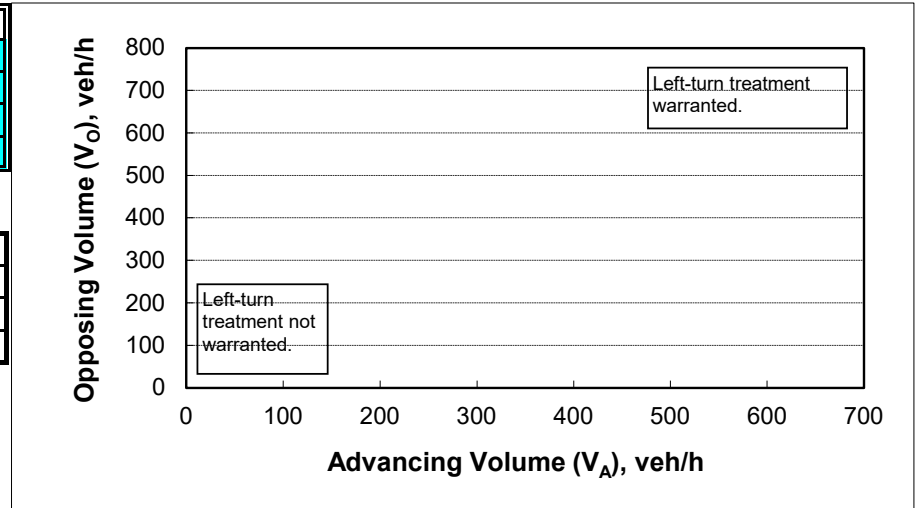
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	0%
Advancing volume (V_A), veh/h:	859
Opposing volume (V_O), veh/h:	447

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	2038
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

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

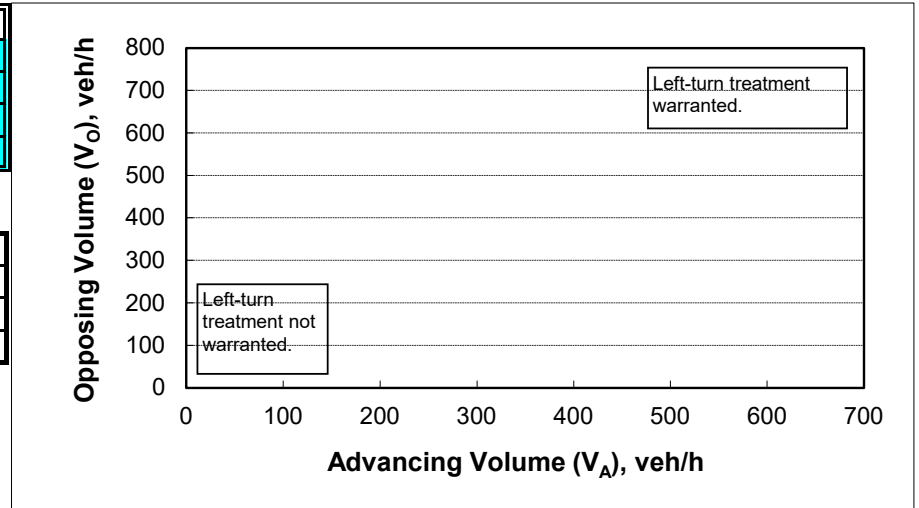
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	0%
Advancing volume (V_A), veh/h:	737
Opposing volume (V_O), veh/h:	634

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1559
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	1311
Percentage of right-turns on minor road, %:	82%
Minor-road volume (one direction), veh/h:	39

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	222
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.2	3.3
Left-turn and through capacity veh/h:	6.5	4.0

* according to Table 17 - 5 of the HCM

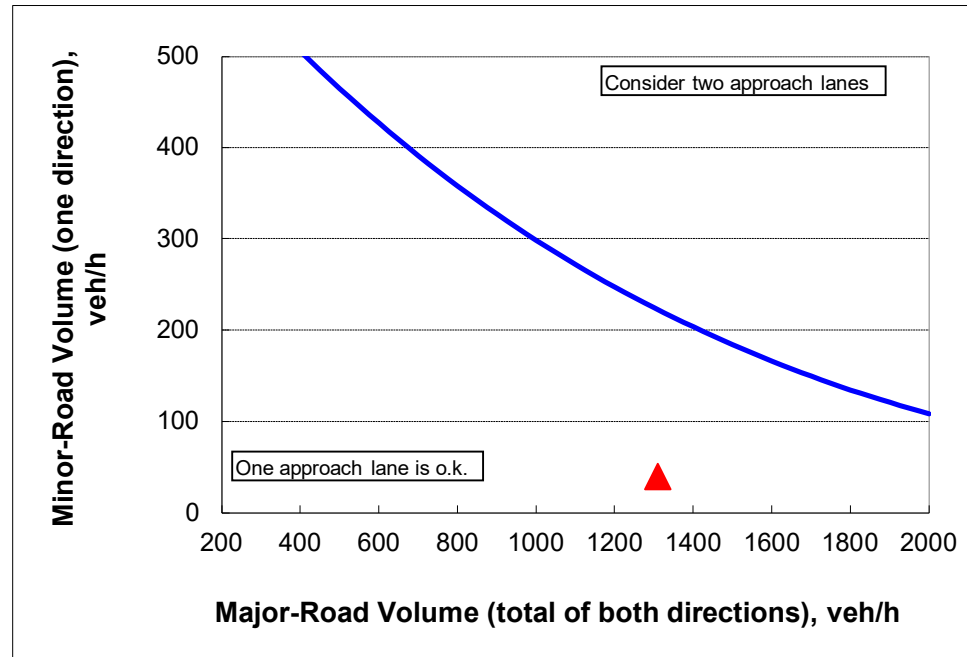


Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	1411
Percentage of right-turns on minor road, %:	91%
Minor-road volume (one direction), veh/h:	34

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	244
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.2	3.3
Left-turn and through capacity veh/h:	6.5	4.0

* according to Table 17 - 5 of the HCM

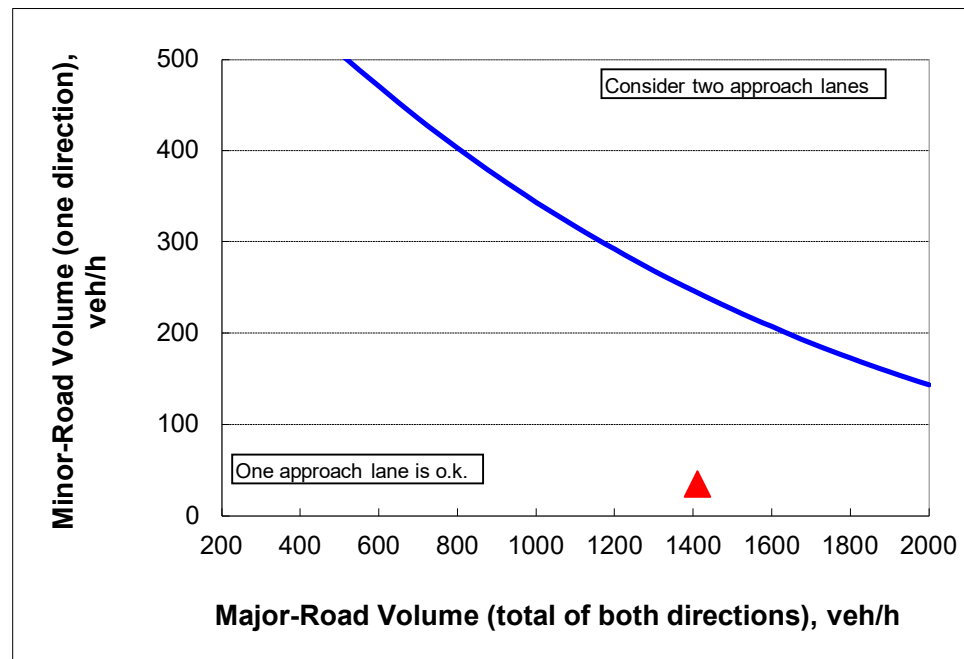


Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	1311
Percentage of right-turns on minor road, %:	18%
Minor-road volume (one direction), veh/h:	17

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	103
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.2	3.3
Left-turn and through capacity veh/h:	6.5	4.0

* according to Table 17 - 5 of the HCM

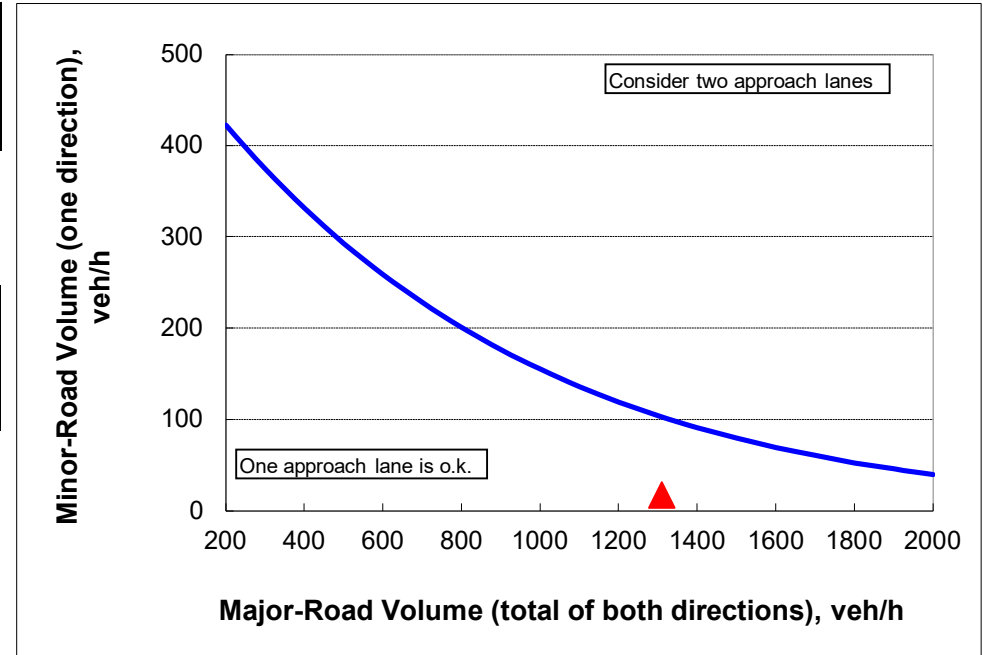


Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	1411
Percentage of right-turns on minor road, %:	9%
Minor-road volume (one direction), veh/h:	11

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	84
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.2	3.3
Left-turn and through capacity veh/h:	6.5	4.0

* according to Table 17 - 5 of the HCM

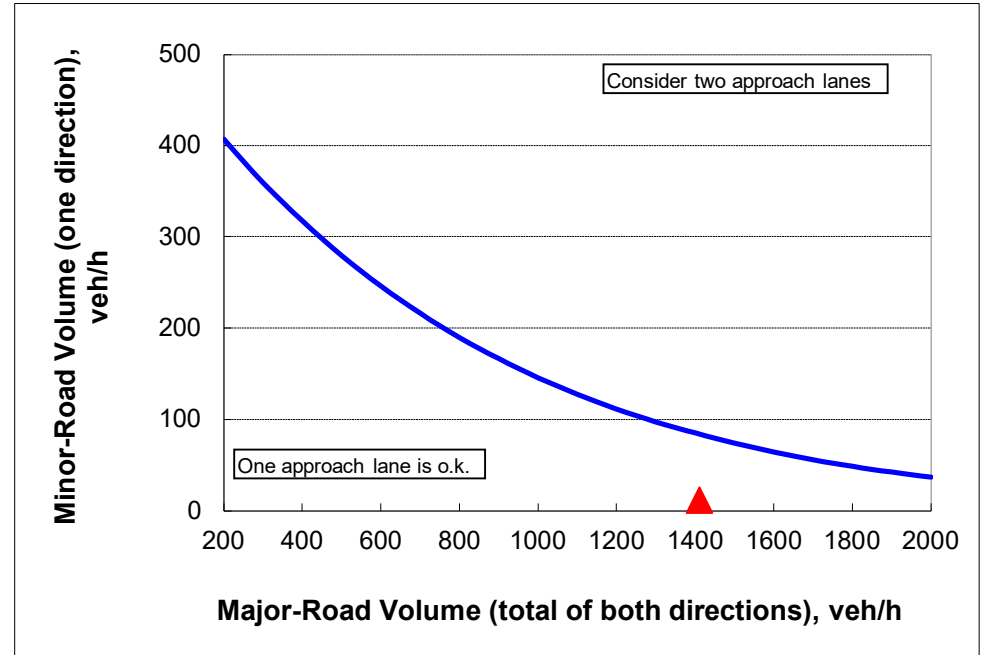


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	452
Right-turn volume, veh/h:	5

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	52
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

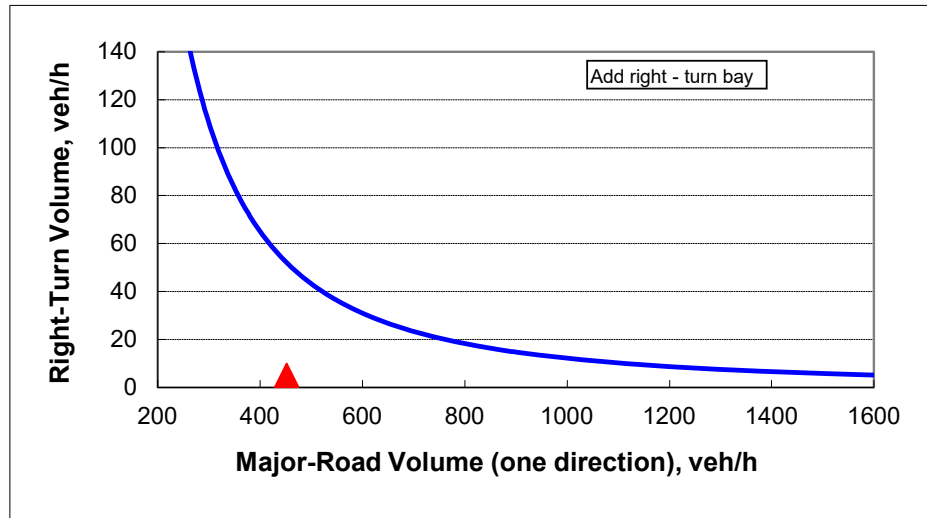


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	674
Right-turn volume, veh/h:	13

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	25
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

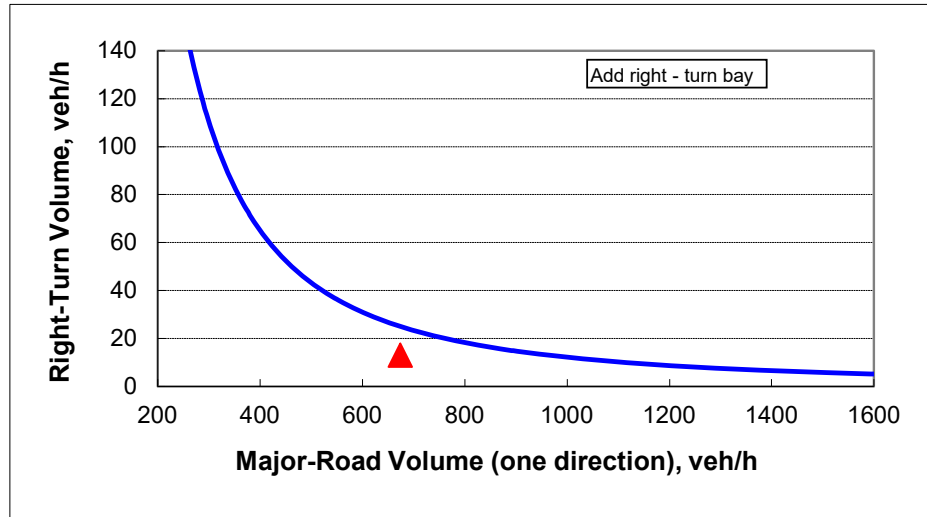


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	859
Right-turn volume, veh/h:	6

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	16
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

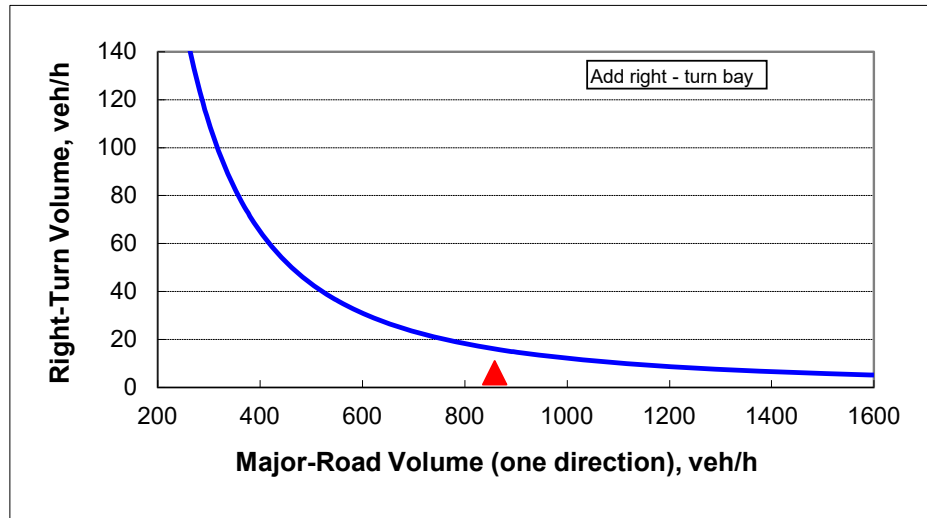


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	737
Right-turn volume, veh/h:	5

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	21
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

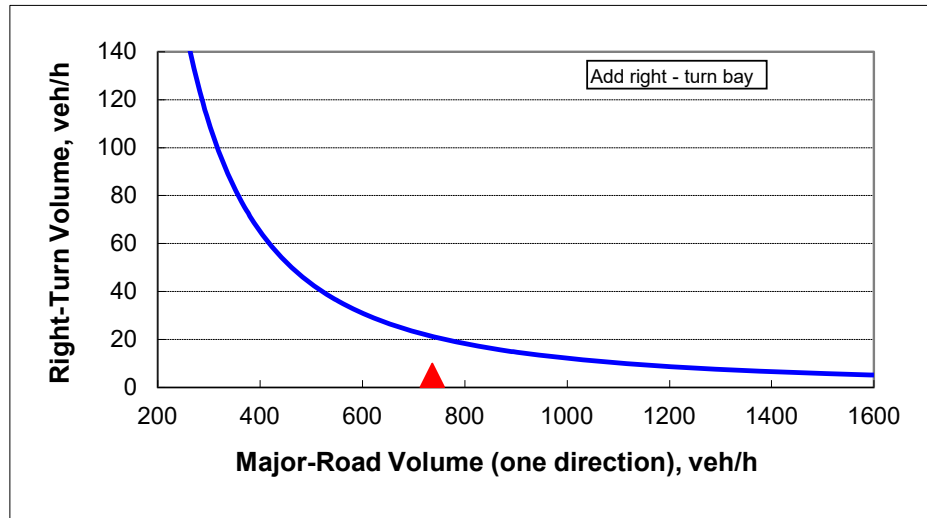


Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

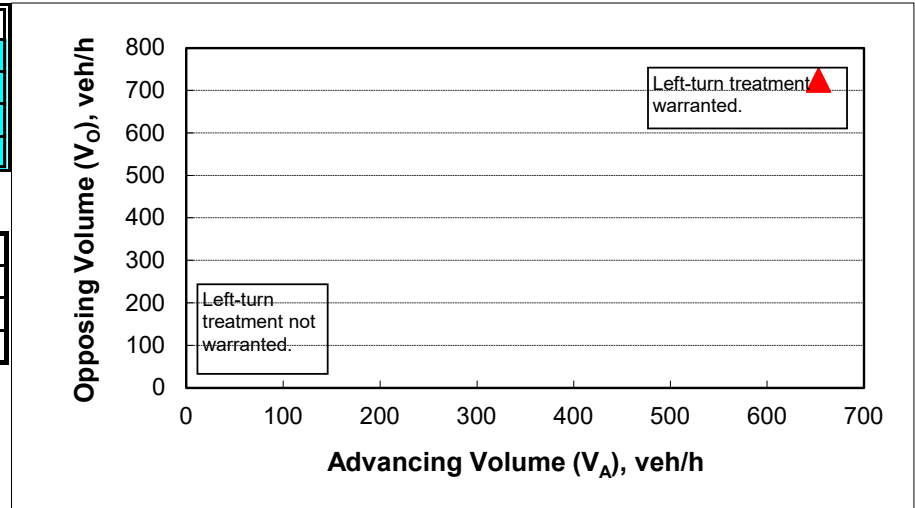
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	0%
Advancing volume (V_A), veh/h:	653
Opposing volume (V_O), veh/h:	724

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1896
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

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

2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	1%
Advancing volume (V_A), veh/h:	561
Opposing volume (V_O), veh/h:	880

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	573
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

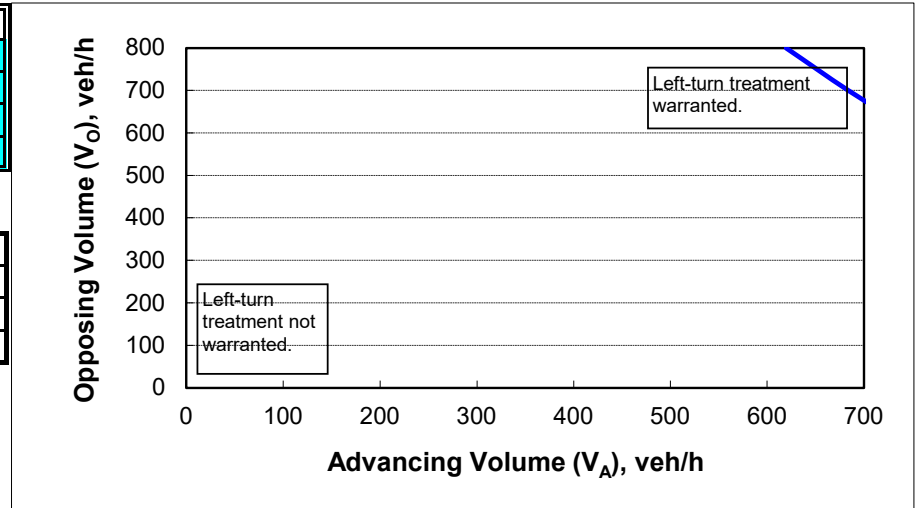


Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	1377
Percentage of right-turns on minor road, %:	17%
Minor-road volume (one direction), veh/h:	70

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	94
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.2	3.3
Left-turn and through capacity veh/h:	6.5	4.0

* according to Table 17 - 5 of the HCM

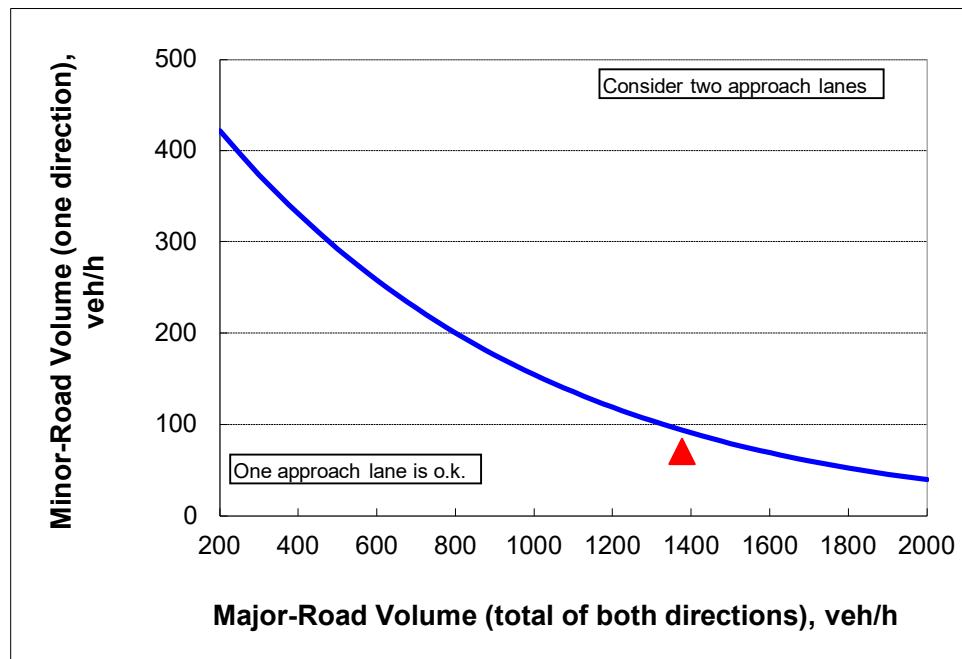


Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	1441
Percentage of right-turns on minor road, %:	55%
Minor-road volume (one direction), veh/h:	11

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	127
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.2	3.3
Left-turn and through capacity veh/h:	6.5	4.0

* according to Table 17 - 5 of the HCM

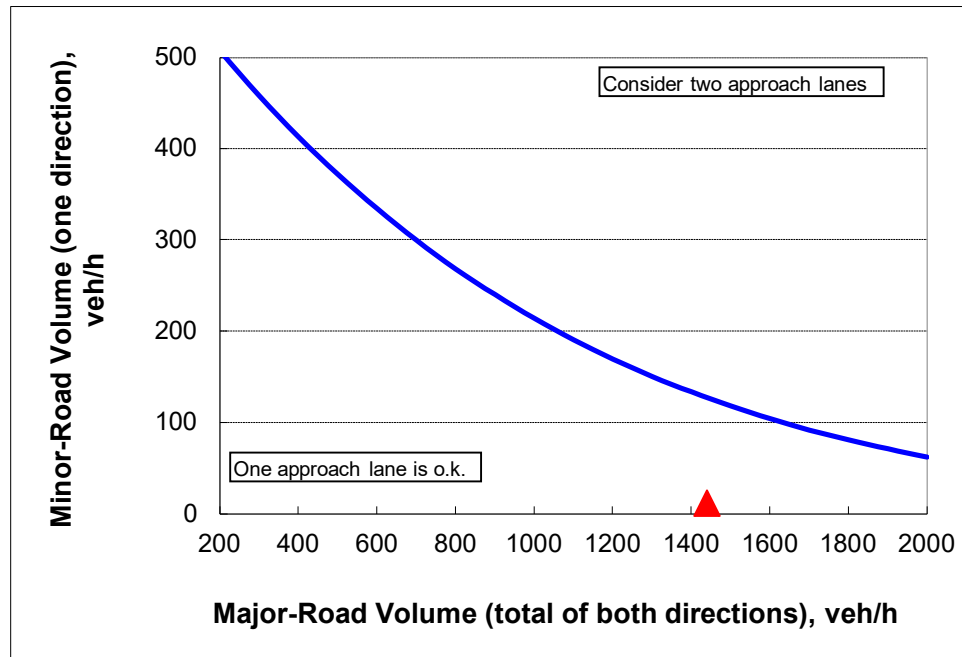


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	488
Right-turn volume, veh/h:	30

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	45
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

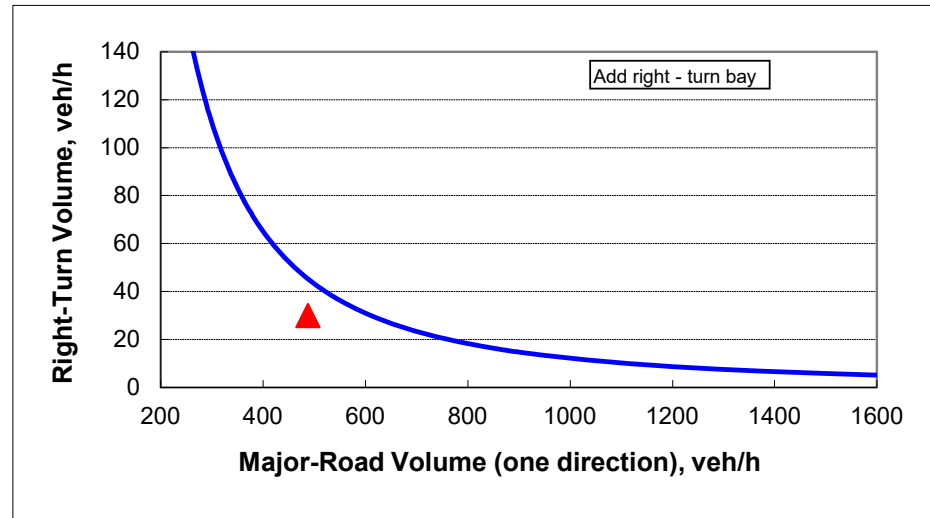


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	592
Right-turn volume, veh/h:	9

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	32
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

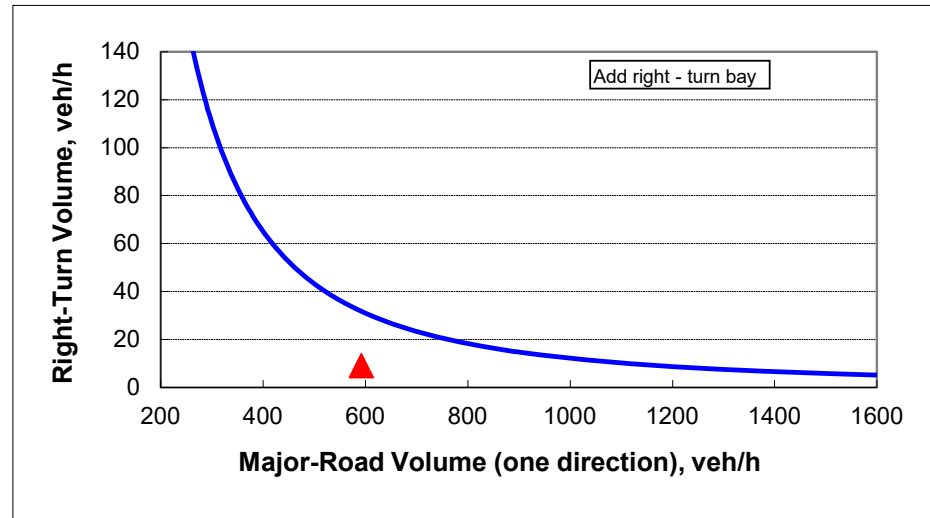


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	624
Right-turn volume, veh/h:	38

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	29
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Add right-turn bay.	

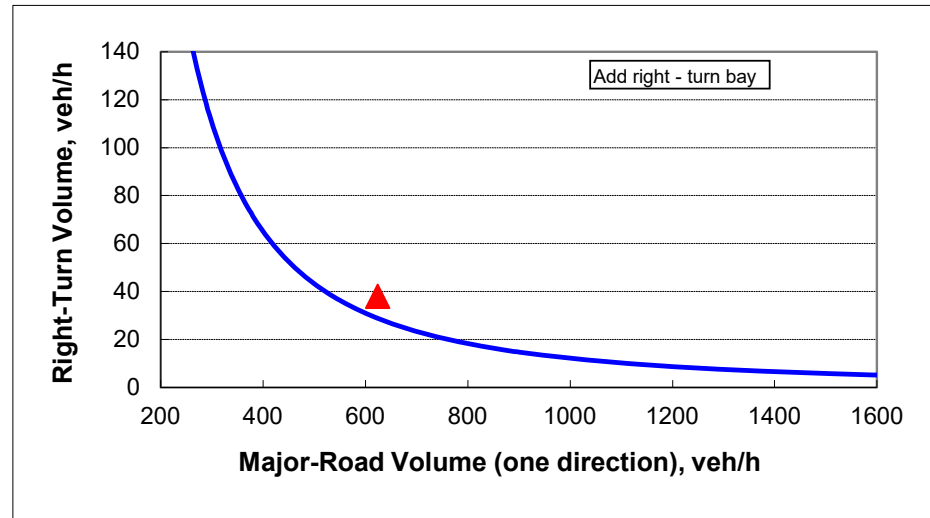


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	758
Right-turn volume, veh/h:	12

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	20
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

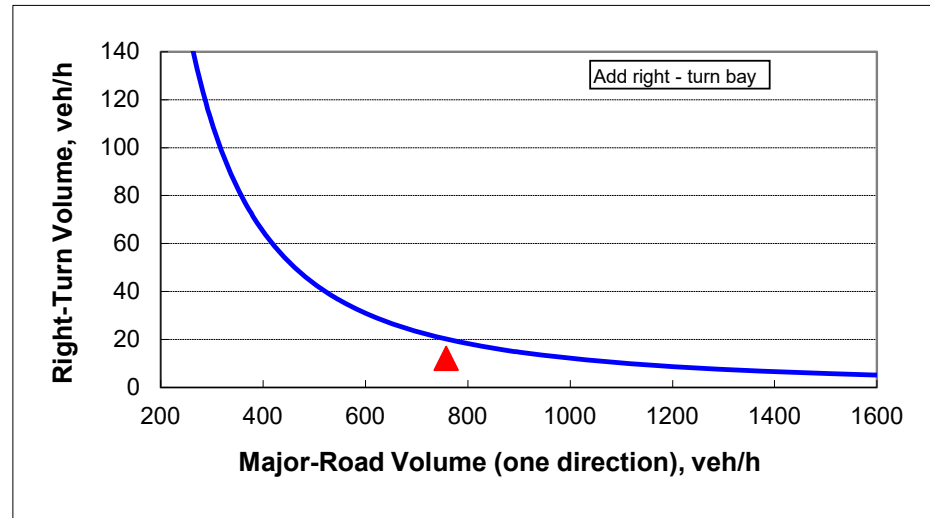


Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

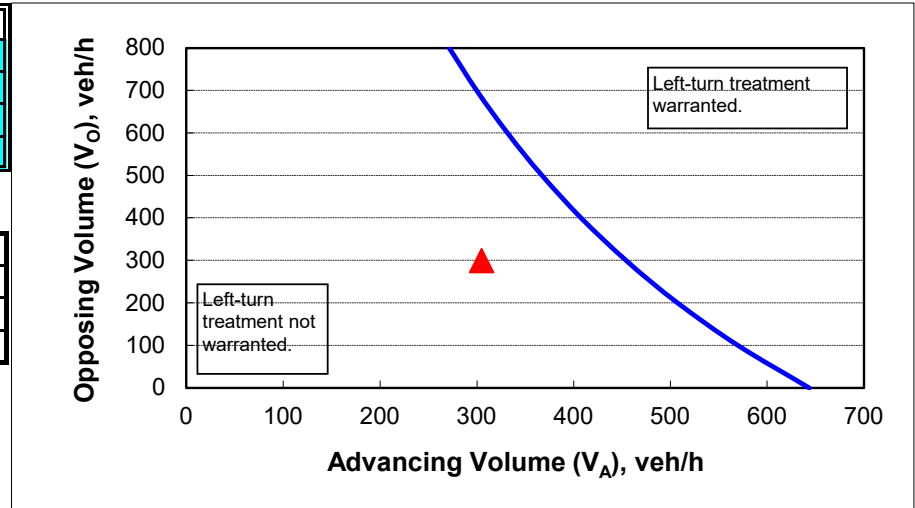
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	7%
Advancing volume (V_A), veh/h:	305
Opposing volume (V_O), veh/h:	299

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	454
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

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

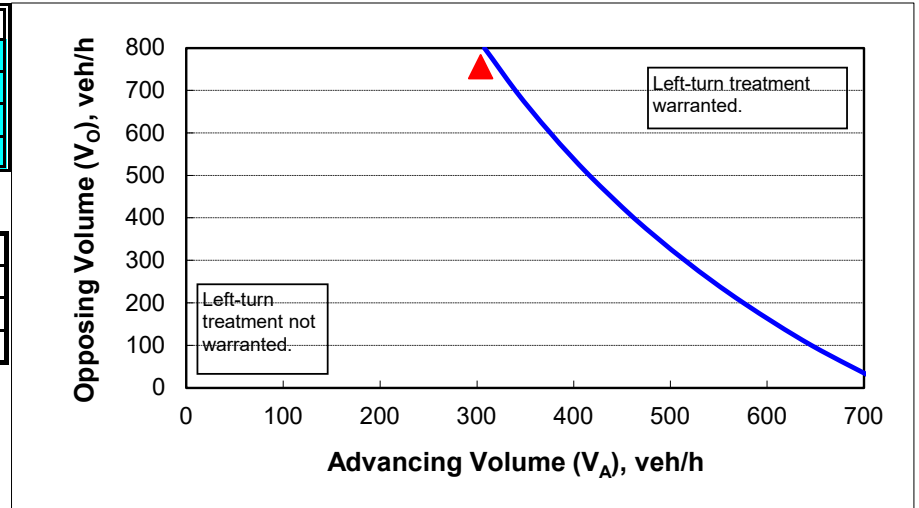
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	5%
Advancing volume (V_A), veh/h:	304
Opposing volume (V_O), veh/h:	756

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	322
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

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

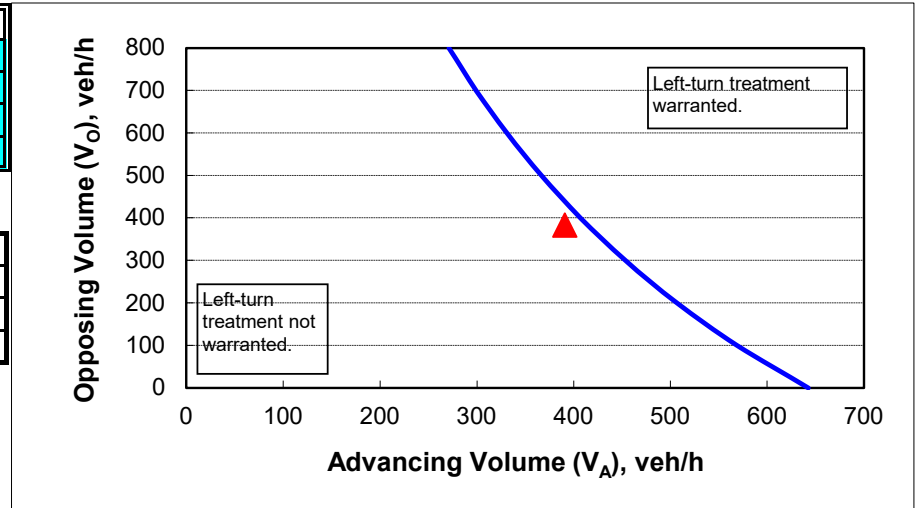
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	7%
Advancing volume (V_A), veh/h:	391
Opposing volume (V_O), veh/h:	383

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	415
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

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

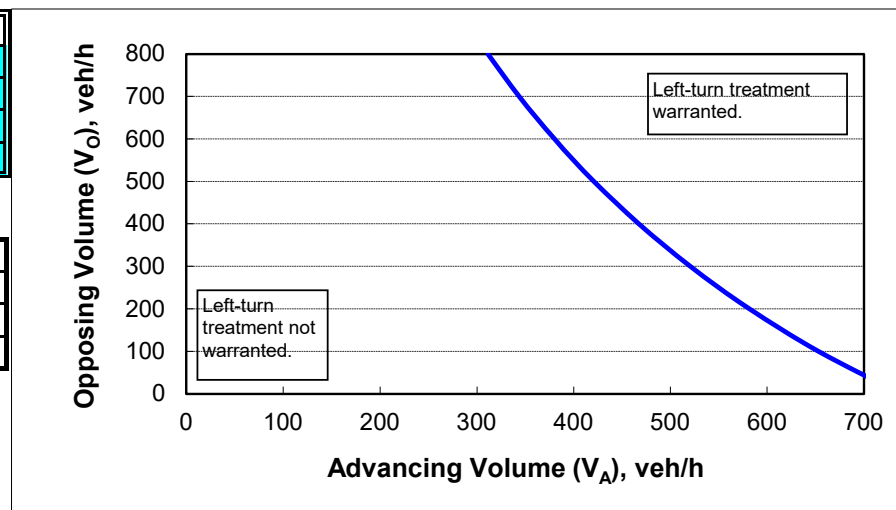
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	5%
Advancing volume (V_A), veh/h:	389
Opposing volume (V_O), veh/h:	967

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	265
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	604
Percentage of right-turns on minor road, %:	15%
Minor-road volume (one direction), veh/h:	295

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	253
Guidance for determining minor-road approach geometry:	
Consider TWO approach lanes	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.2	3.3
Left-turn and through capacity veh/h:	6.5	4.0

* according to Table 17 - 5 of the HCM

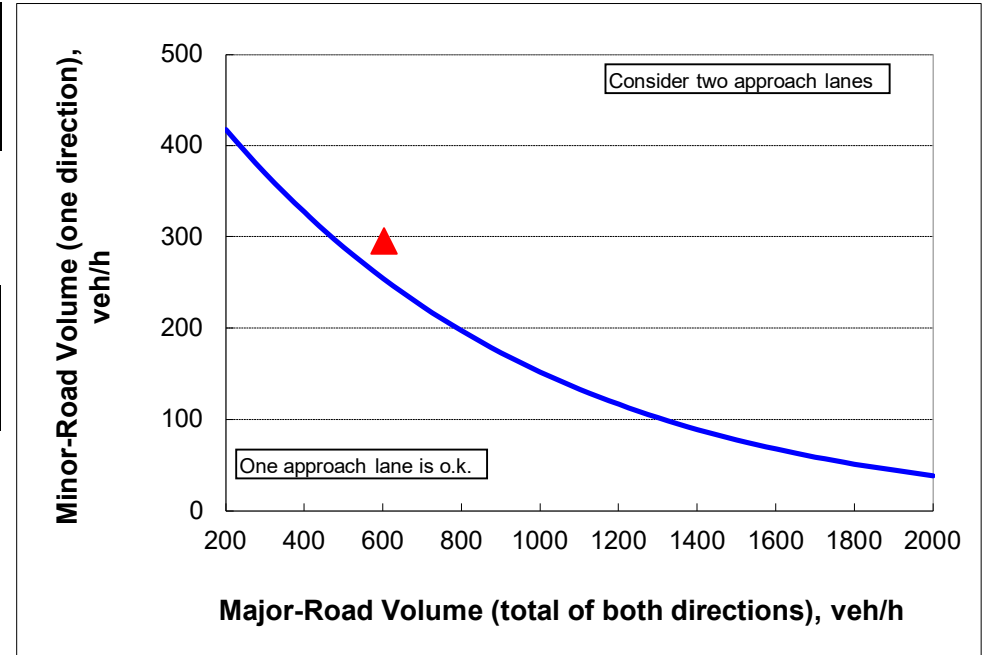


Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	1060
Percentage of right-turns on minor road, %:	19%
Minor-road volume (one direction), veh/h:	109

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	145
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.2	3.3
Left-turn and through capacity veh/h:	6.5	4.0

* according to Table 17 - 5 of the HCM

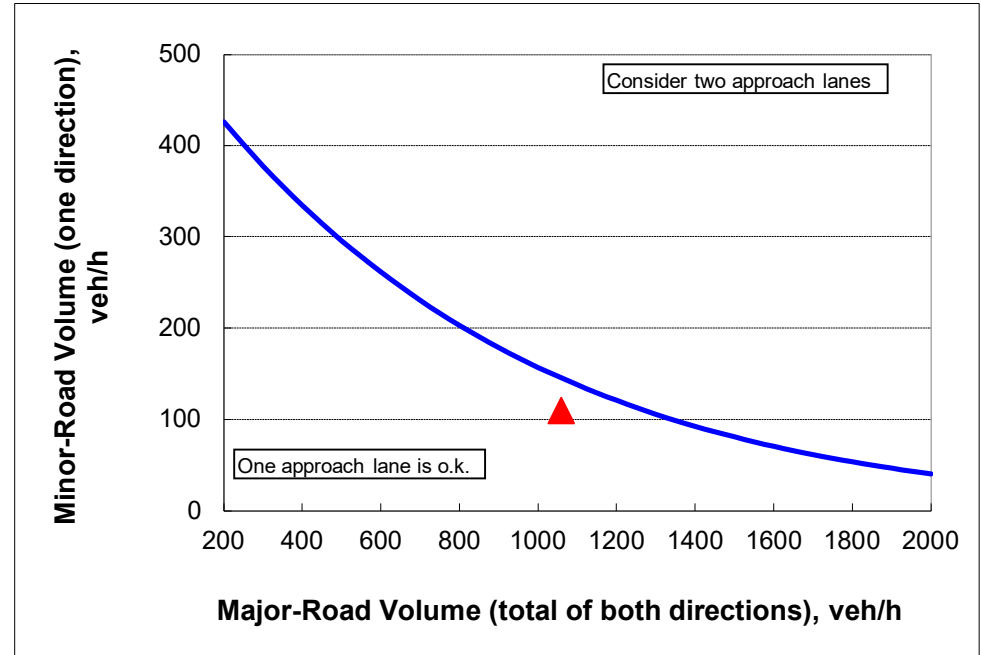


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	299
Right-turn volume, veh/h:	63

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	111
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

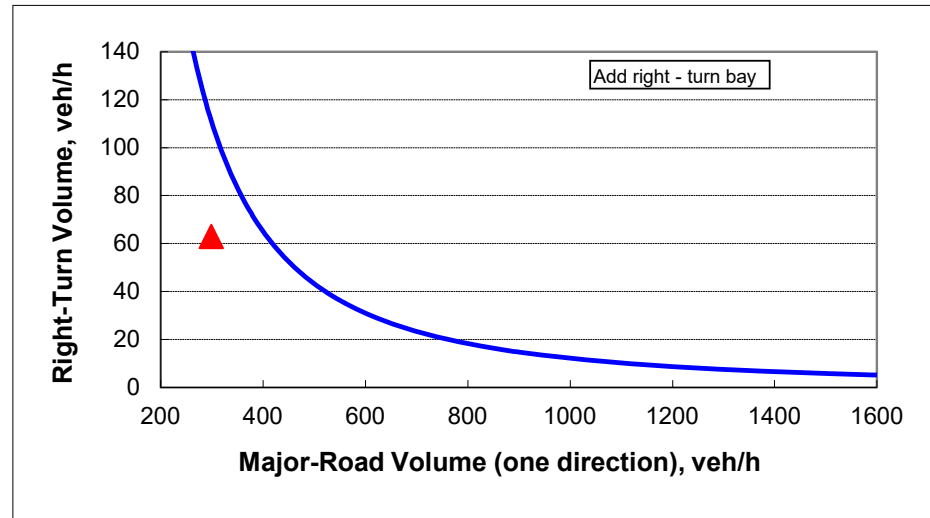


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	756
Right-turn volume, veh/h:	237

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	20
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Add right-turn bay.	

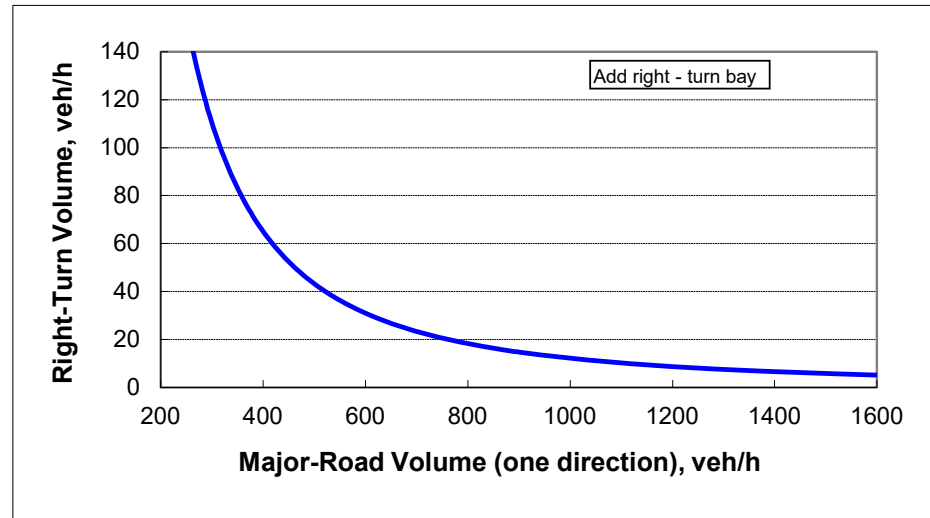


Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

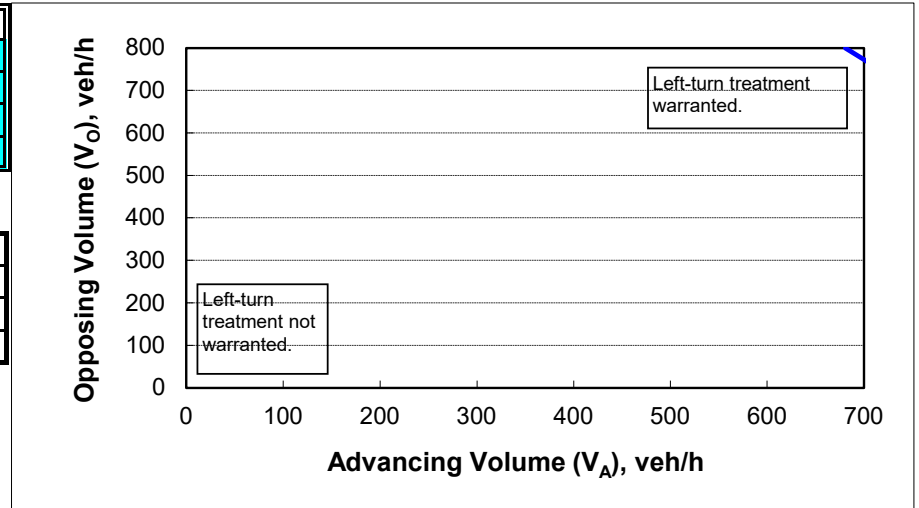
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	1%
Advancing volume (V_A), veh/h:	776
Opposing volume (V_O), veh/h:	155

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1339
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

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

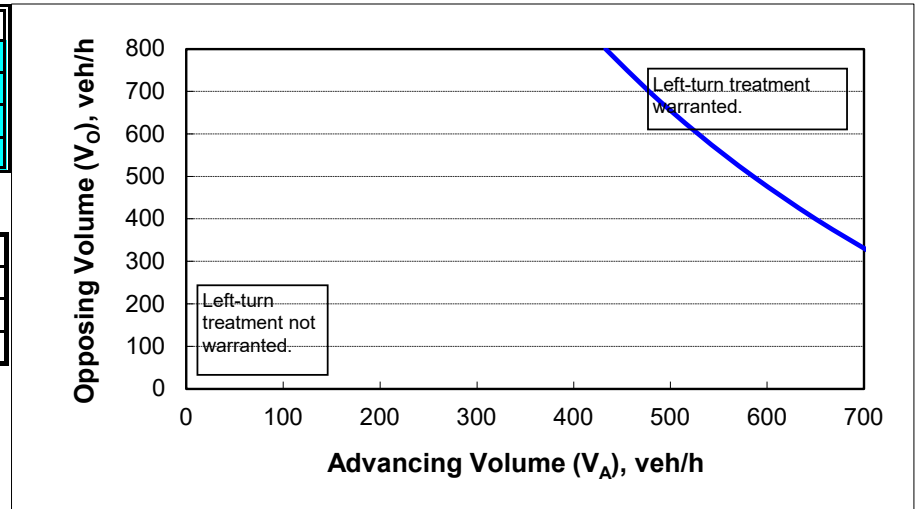
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	3%
Advancing volume (V_A), veh/h:	309
Opposing volume (V_O), veh/h:	987

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	361
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

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

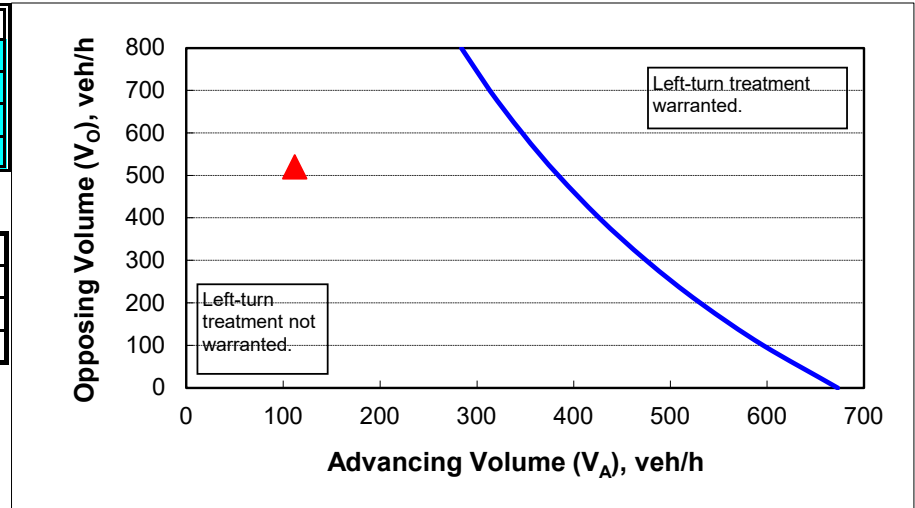
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	6%
Advancing volume (V_A), veh/h:	112
Opposing volume (V_O), veh/h:	520

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	376
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

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

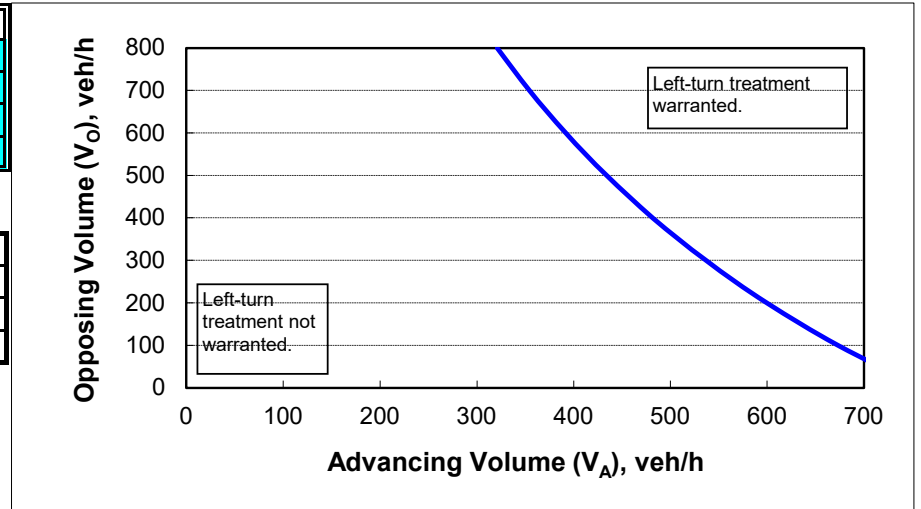
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	5%
Advancing volume (V_A), veh/h:	705
Opposing volume (V_O), veh/h:	211

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	592
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	938
Percentage of right-turns on minor road, %:	69%
Minor-road volume (one direction), veh/h:	86

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	267
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.2	3.3
Left-turn and through capacity veh/h:	6.5	4.0

* according to Table 17 - 5 of the HCM

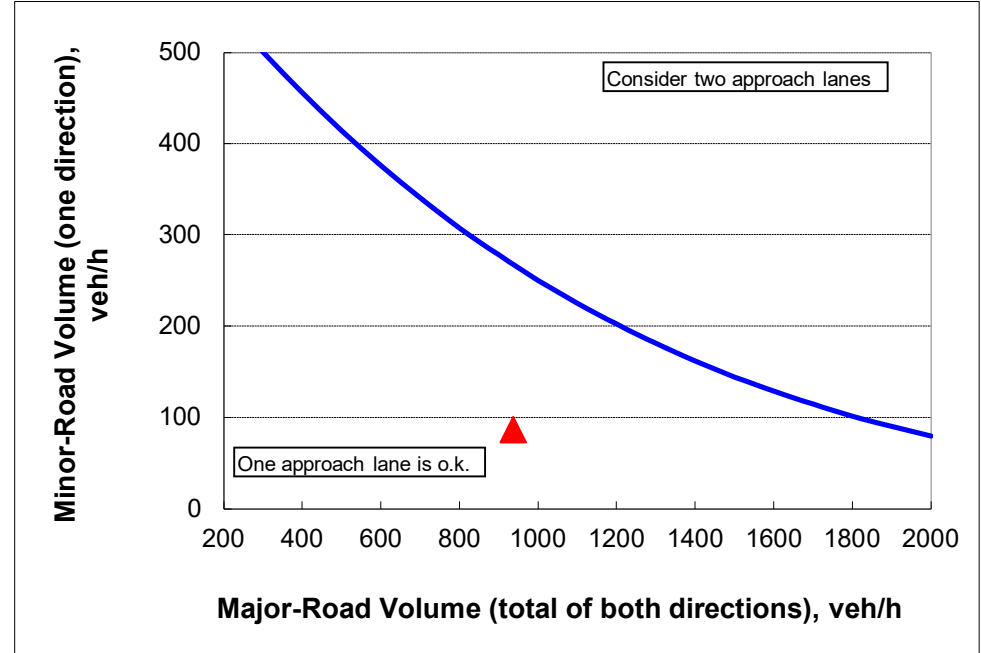


Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	1330
Percentage of right-turns on minor road, %:	76%
Minor-road volume (one direction), veh/h:	34

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	198
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.2	3.3
Left-turn and through capacity veh/h:	6.5	4.0

* according to Table 17 - 5 of the HCM

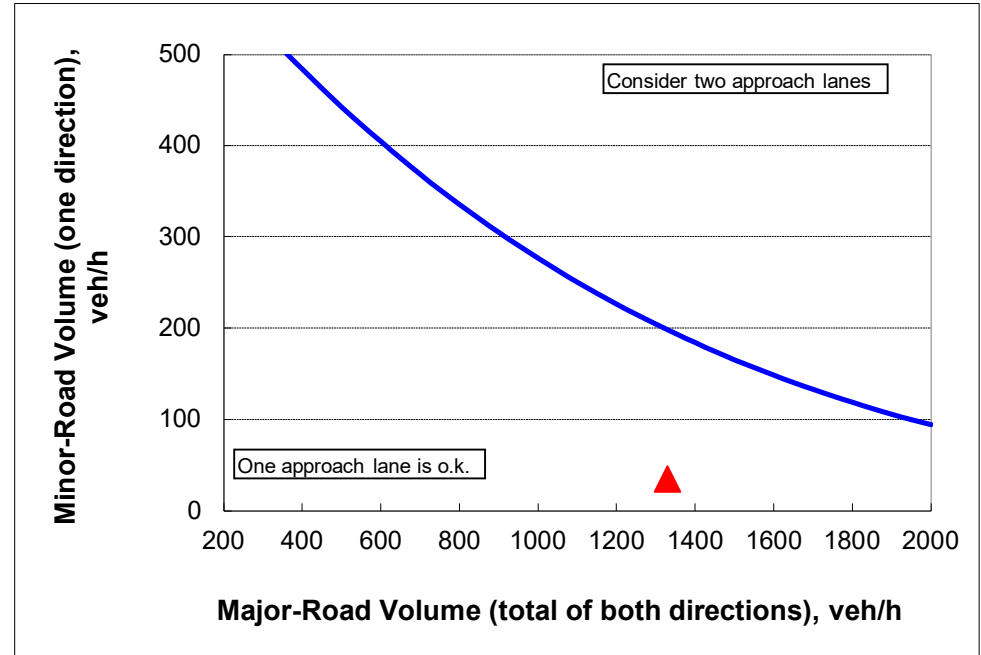


Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	938
Percentage of right-turns on minor road, %:	52%
Minor-road volume (one direction), veh/h:	44

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	225
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.2	3.3
Left-turn and through capacity veh/h:	6.5	4.0

* according to Table 17 - 5 of the HCM

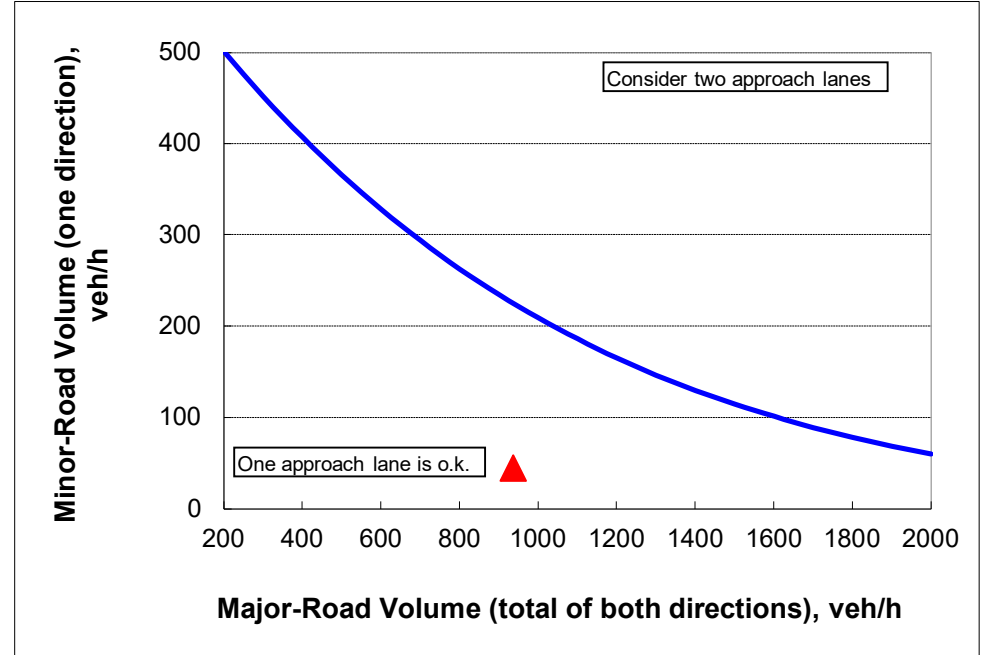


Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	1330
Percentage of right-turns on minor road, %:	25%
Minor-road volume (one direction), veh/h:	20

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	107
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.2	3.3
Left-turn and through capacity veh/h:	6.5	4.0

* according to Table 17 - 5 of the HCM

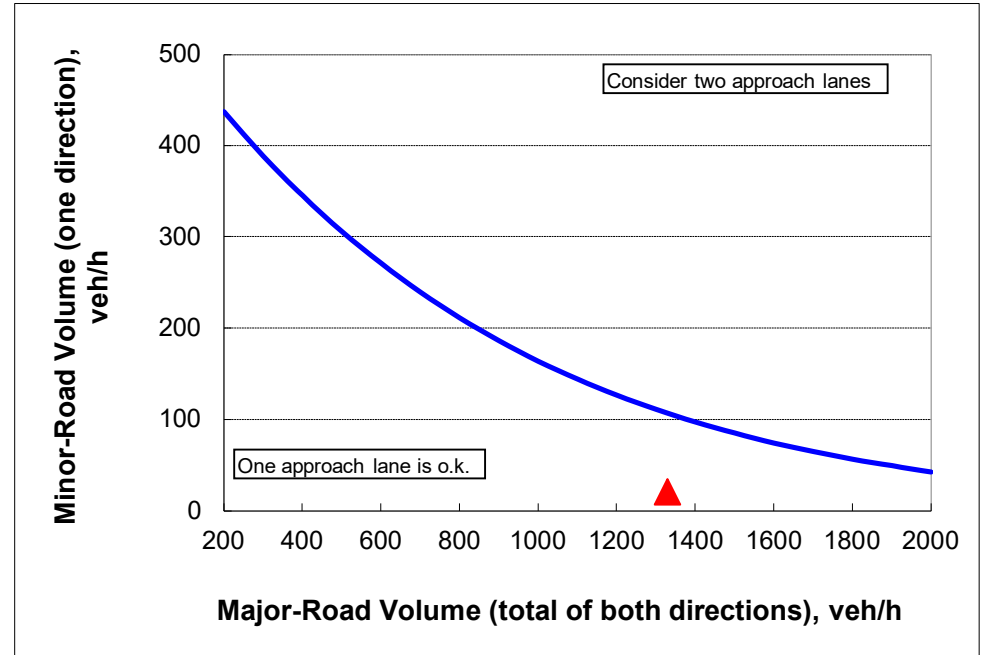


Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

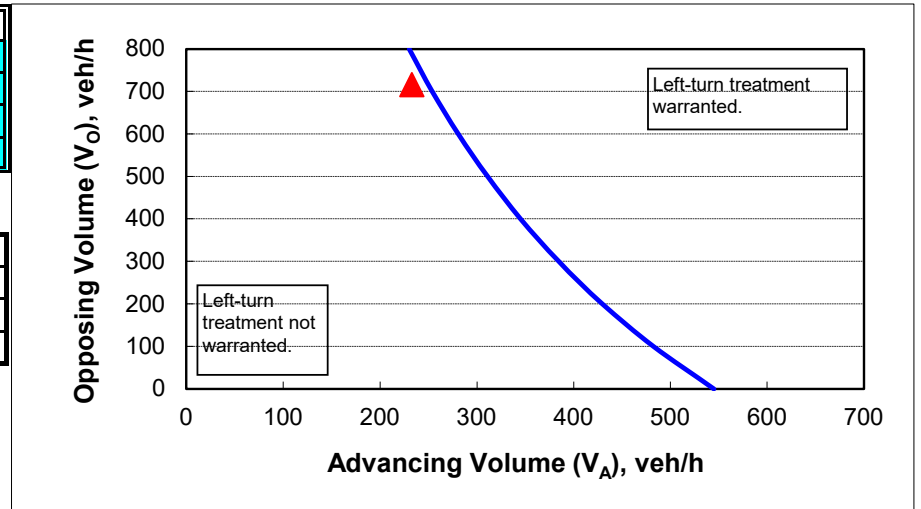
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	20
Percent of left-turns in advancing volume (V_A), %:	19%
Advancing volume (V_A), veh/h:	233
Opposing volume (V_O), veh/h:	716

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	250
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

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

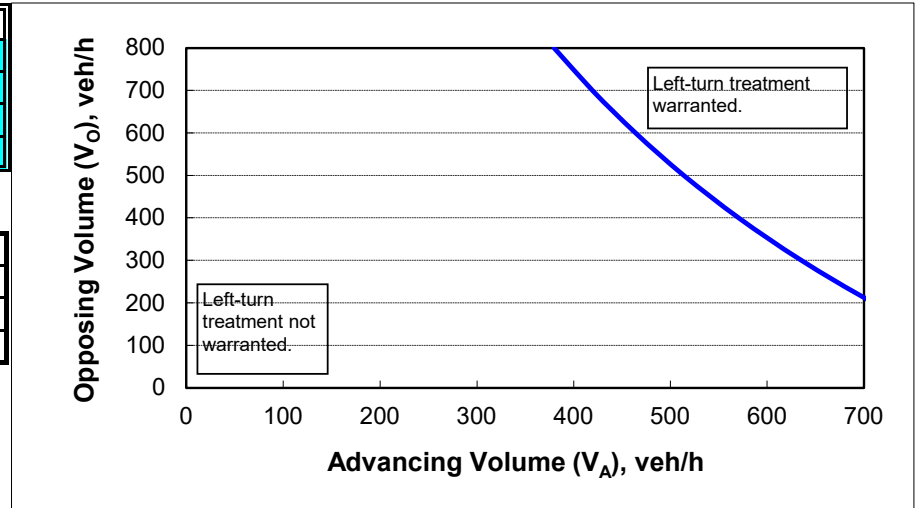
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	20
Percent of left-turns in advancing volume (V_A), %:	6%
Advancing volume (V_A), veh/h:	754
Opposing volume (V_O), veh/h:	101

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	796
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

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

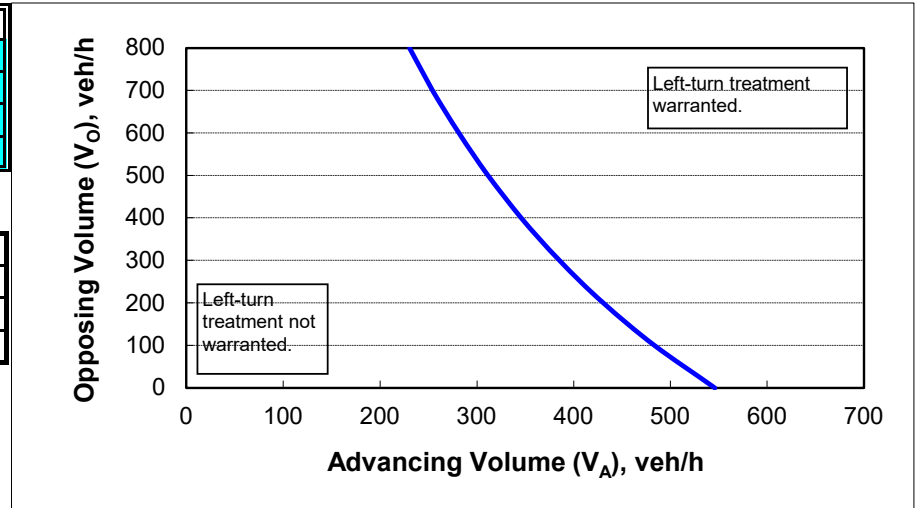
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	20
Percent of left-turns in advancing volume (V_A), %:	19%
Advancing volume (V_A), veh/h:	298
Opposing volume (V_O), veh/h:	916

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	206
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	992
Percentage of right-turns on minor road, %:	62%
Minor-road volume (one direction), veh/h:	84

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	234
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.2	3.3
Left-turn and through capacity veh/h:	6.5	4.0

* according to Table 17 - 5 of the HCM

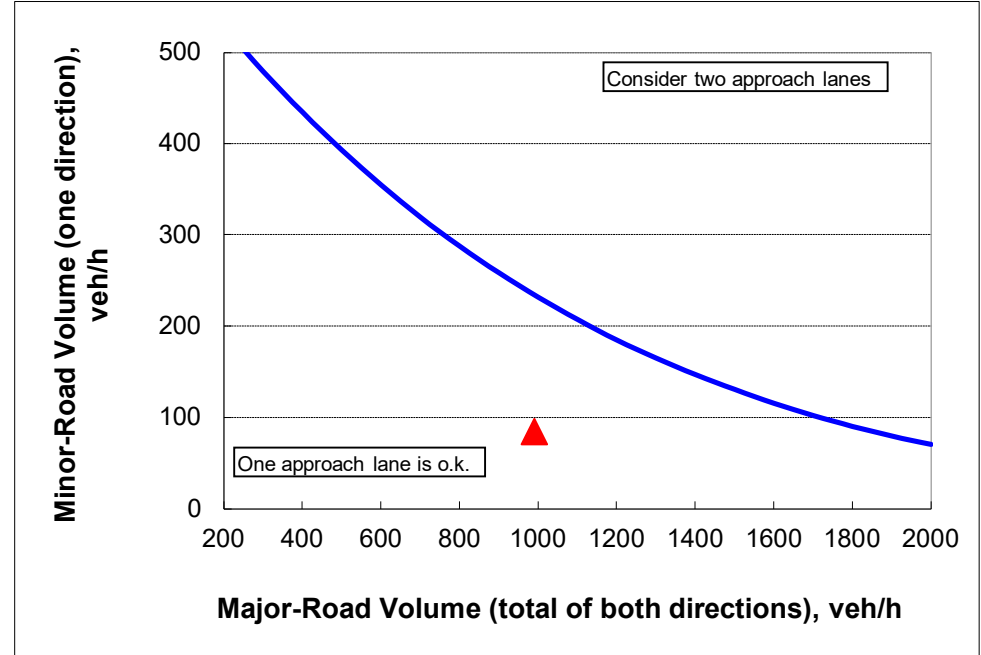


Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	1409
Percentage of right-turns on minor road, %:	97%
Minor-road volume (one direction), veh/h:	39

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	287
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.2	3.3
Left-turn and through capacity veh/h:	6.5	4.0

* according to Table 17 - 5 of the HCM

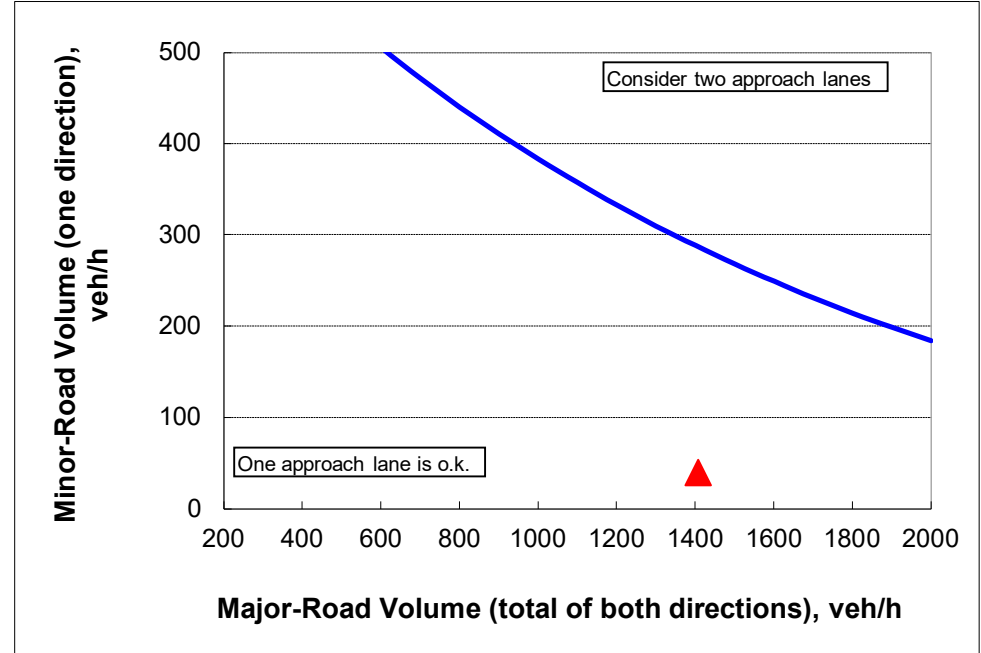


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	20
Major-road volume (one direction), veh/h:	117
Right-turn volume, veh/h:	0

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	462380157
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

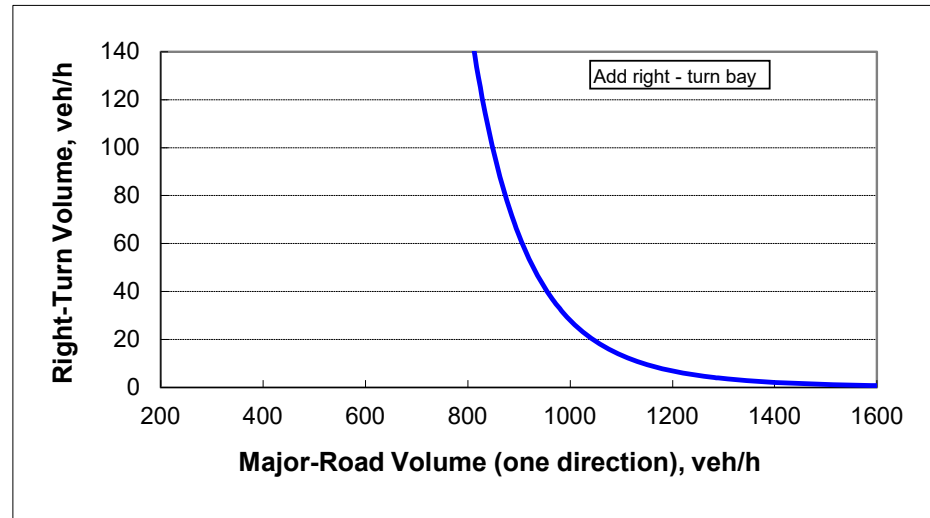


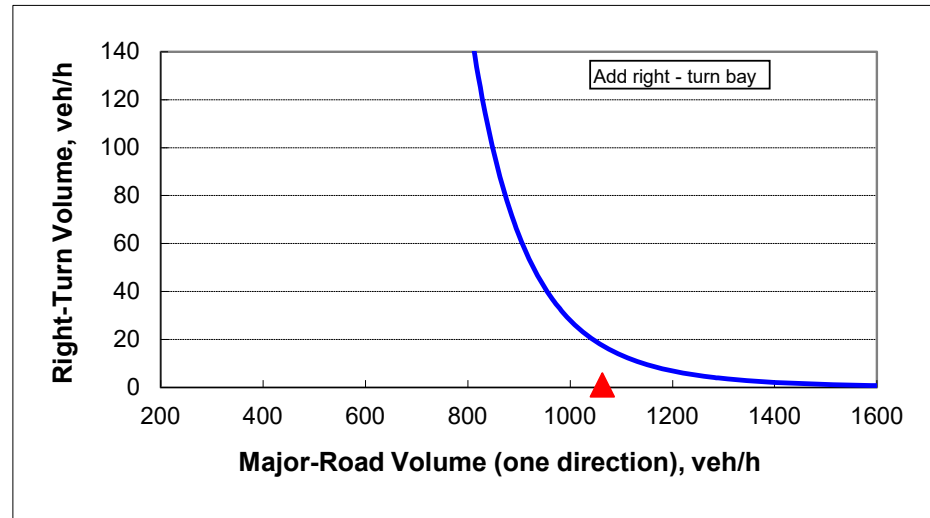
Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	20
Major-road volume (one direction), veh/h:	1063
Right-turn volume, veh/h:	1

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	17
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	



Warrant 1 - Eight-Hour Vehicular Volume

Based on Section 4C.02 of the Manual on Uniform Traffic Control Devices, 2009 Edition (rev. 2)



Name Number of Lanes by Approach	Major Road Arnold Mill Rd	Minor Road Mountain Rd
	1	1

% of Volume	100%	Data Year	2039
Right Turn Reduction?	Yes	Future Year	2039
15 Min Interval Start	0	Growth Rate	0.00%
Mainline Left as Minor?	No		

Time Of Day	Arnold Mill Rd		Mountain Rd		Warrant 1, Condition A		Warrant 1, Condition B		Warrant 1, Combination A&B			
	Major Road Volume (vph)		Minor Road Volume (vph)		Major Road Condition Met?		Minor Road Condition Met?		Condition A		Condition B	
	Both Approaches	Highest Approach	> 500 vph	> 150 vph	> 750 vph	> 75 vph	> 400 vph	> 120 vph	> 600 vph	> 60 vph		
12:00 AM to 1:00 AM	0	0	No	No	No	No	No	No	No	No		
1:00 AM to 2:00 AM	0	0	No	No	No	No	No	No	No	No		
2:00 AM to 3:00 AM	0	0	No	No	No	No	No	No	No	No		
3:00 AM to 4:00 AM	0	0	No	No	No	No	No	No	No	No		
4:00 AM to 5:00 AM	0	0	No	No	No	No	No	No	No	No		
5:00 AM to 6:00 AM	0	0	No	No	No	No	No	No	No	No		
6:00 AM to 7:00 AM	773	4	Yes	No	Yes	No	Yes	No	Yes	No		
7:00 AM to 8:00 AM	1175	10	Yes	No	Yes	No	Yes	No	Yes	No		
8:00 AM to 9:00 AM	886	11	Yes	No	Yes	No	Yes	No	Yes	No		
9:00 AM to 10:00 AM	782	8	Yes	No	Yes	No	Yes	No	Yes	No		
10:00 AM to 11:00 AM	655	12	Yes	No	No	No	Yes	No	Yes	No		
11:00 AM to 12:00 PM	637	6	Yes	No	No	No	Yes	No	Yes	No		
12:00 PM to 1:00 PM	651	5	Yes	No	No	No	Yes	No	Yes	No		
1:00 PM to 2:00 PM	723	5	Yes	No	No	No	Yes	No	Yes	No		
2:00 PM to 3:00 PM	748	6	Yes	No	No	No	Yes	No	Yes	No		
3:00 PM to 4:00 PM	1007	4	Yes	No	Yes	No	Yes	No	Yes	No		
4:00 PM to 5:00 PM	1361	6	Yes	No	Yes	No	Yes	No	Yes	No		
5:00 PM to 6:00 PM	1466	6	Yes	No	Yes	No	Yes	No	Yes	No		
6:00 PM to 7:00 PM	0	0	No	No	No	No	No	No	No	No		
7:00 PM to 8:00 PM	0	0	No	No	No	No	No	No	No	No		
8:00 PM to 9:00 PM	0	0	No	No	No	No	No	No	No	No		
9:00 PM to 10:00 PM	0	0	No	No	No	No	No	No	No	No		
10:00 PM to 11:00 PM	0	0	No	No	No	No	No	No	No	No		
11:00 PM to 12:00 AM	0	0	No	No	No	No	No	No	No	No		
Total Hours Condition is Met			0		0		0					
Meets Warrant?			No - Warrant is Not Met		No - Warrant is Not Met		No - Warrant is Not Met					

Warrant 2 - Four-Hour Vehicular Volume

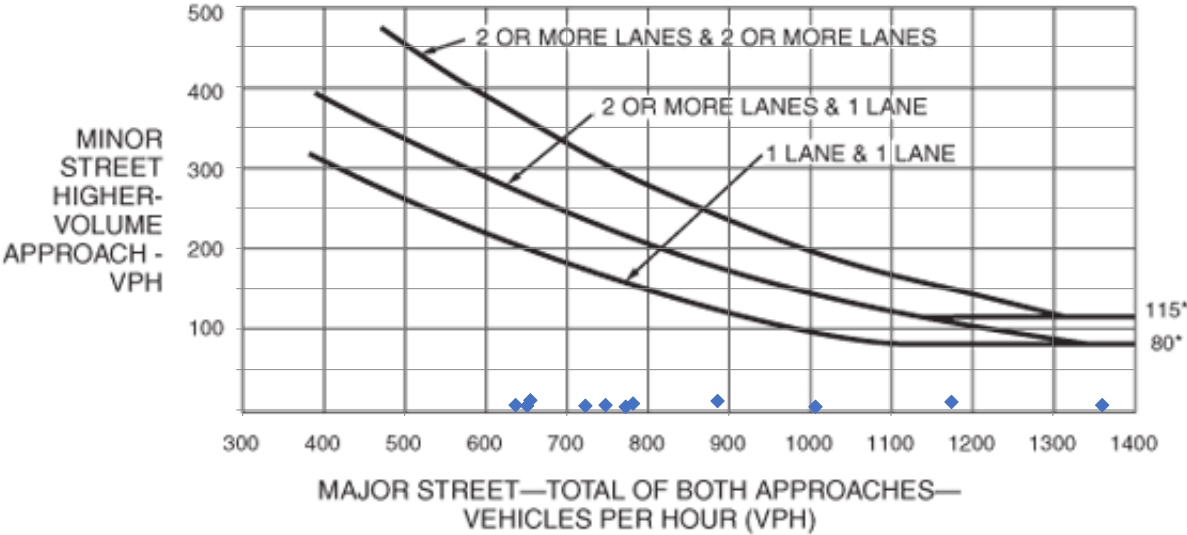
Based on Section 4C.02 of the Manual on Uniform Traffic Control Devices, 2009 Edition (rev. 2)

	Major Road	Minor Road
Name	Arnold Mill Rd	Mountain Rd
Number of Lanes by Approach	1	1

% of Volume	100%	Data Year	2039
Right Turn Reduction?	Yes	Future Year	2039
15 Min Interval Start	0	Growth Rate	0.00%
Mainline Left as Minor?	No		

Time Of Day	Arnold Mill Rd	Mountain Rd	Warrant 2 Four-Hour Vehicular Volume Condition Met?
	Major Road Volume (vph) Both Approaches	Minor Road Volume (vph) Highest Approach	
12:00 AM to 1:00 AM	0	0	No
1:00 AM to 2:00 AM	0	0	No
2:00 AM to 3:00 AM	0	0	No
3:00 AM to 4:00 AM	0	0	No
4:00 AM to 5:00 AM	0	0	No
5:00 AM to 6:00 AM	0	0	No
6:00 AM to 7:00 AM	773	4	No
7:00 AM to 8:00 AM	1175	10	No
8:00 AM to 9:00 AM	886	11	No
9:00 AM to 10:00 AM	782	8	No
10:00 AM to 11:00 AM	655	12	No
11:00 AM to 12:00 PM	637	6	No
12:00 PM to 1:00 PM	651	5	No
1:00 PM to 2:00 PM	723	5	No
2:00 PM to 3:00 PM	748	6	No
3:00 PM to 4:00 PM	1007	4	No
4:00 PM to 5:00 PM	1361	6	No
5:00 PM to 6:00 PM	1466	6	No
6:00 PM to 7:00 PM	0	0	No
7:00 PM to 8:00 PM	0	0	No
8:00 PM to 9:00 PM	0	0	No
9:00 PM to 10:00 PM	0	0	No
10:00 PM to 11:00 PM	0	0	No
11:00 PM to 12:00 AM	0	0	No
Total Hours Condition is Met			0
Meets Warrant?			No - Warrant is Not Met

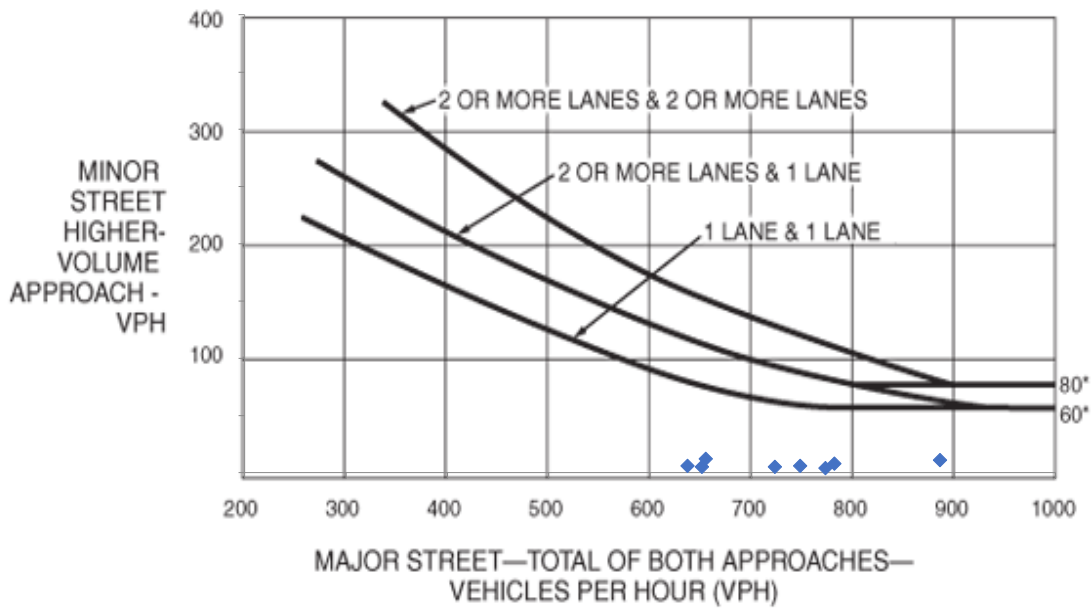
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.



Warrant 1 - Peak-Hour Vehicular Volume

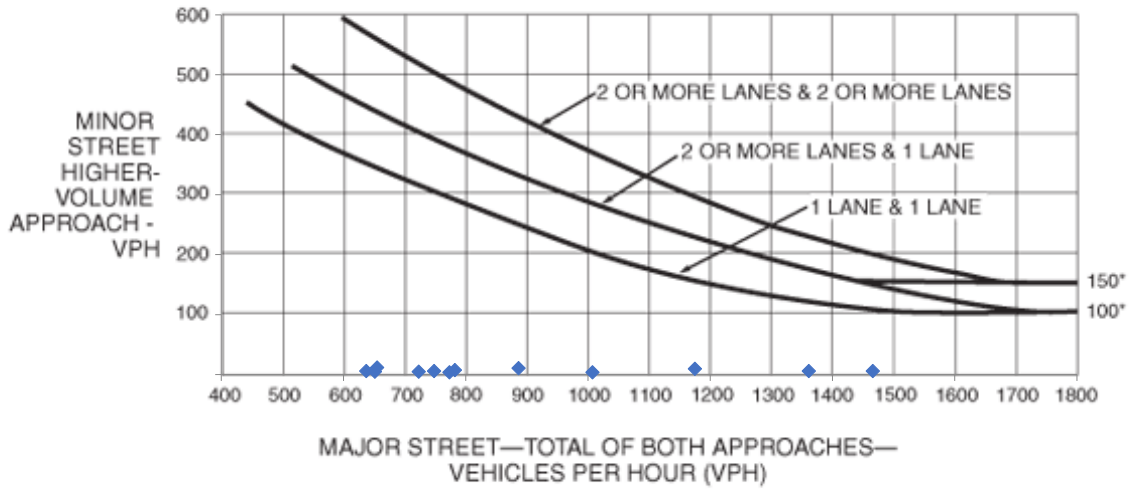
Based on Section 4C.02 of the Manual on Uniform Traffic Control Devices, 2009 Edition (rev. 2)

	Major Road	Minor Road
Name	Arnold Mill Rd	Mountain Rd
Number of Lanes by Approach	2	1

% of Volume	100%	Data Year	2039
Right Turn Reduction?	Yes	Future Year	2039
15 Min Interval Start	0	Growth Rate	0.00%
Mainline Left as Minor?	No		

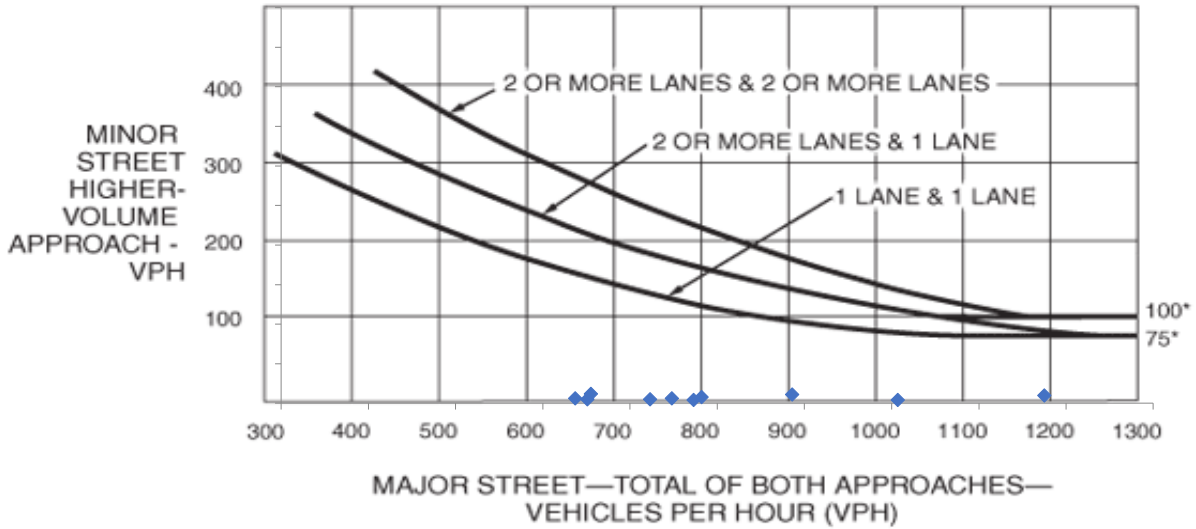
Time Of Day	Arnold Mill Rd	Mountain Rd	Warrant 3 Peak-Hour Vehicular Volume Condition Met?
	Major Road Volume (vph) Both Approaches	Minor Road Volume (vph) Highest Approach	
12:00 AM to 1:00 AM	0	0	No
1:00 AM to 2:00 AM	0	0	No
2:00 AM to 3:00 AM	0	0	No
3:00 AM to 4:00 AM	0	0	No
4:00 AM to 5:00 AM	0	0	No
5:00 AM to 6:00 AM	0	0	No
6:00 AM to 7:00 AM	773	4	No
7:00 AM to 8:00 AM	1175	10	No
8:00 AM to 9:00 AM	886	11	No
9:00 AM to 10:00 AM	782	8	No
10:00 AM to 11:00 AM	655	12	No
11:00 AM to 12:00 PM	637	6	No
12:00 PM to 1:00 PM	651	5	No
1:00 PM to 2:00 PM	723	5	No
2:00 PM to 3:00 PM	748	6	No
3:00 PM to 4:00 PM	1007	4	No
4:00 PM to 5:00 PM	1361	6	No
5:00 PM to 6:00 PM	1466	6	No
6:00 PM to 7:00 PM	0	0	No
7:00 PM to 8:00 PM	0	0	No
8:00 PM to 9:00 PM	0	0	No
9:00 PM to 10:00 PM	0	0	No
10:00 PM to 11:00 PM	0	0	No
11:00 PM to 12:00 AM	0	0	No
Total Hours Condition is Met			0
Meets Warrant?			No - Warrant is Not Met

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
 (COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 1 - Eight-Hour Vehicular Volume

Based on Section 4C.02 of the Manual on Uniform Traffic Control Devices, 2009 Edition (rev. 2)



Name	Major Road	Minor Road
	SR 140	Arnold Mill Rd
Number of Lanes by Approach	1	1

% of Volume	100%	Data Year 2039
Right Turn Reduction?	Yes	Future Year 2039
15 Min Interval Start	0	Growth Rate 0.00%
Mainline Left as Minor?	Northbound	

Time Of Day	SR 140		Warrant 1, Condition A		Warrant 1, Condition B		Warrant 1, Combination A&B			
	Major Road	SR 140	Major Road	Northbound Left	Major Road	Northbound Left	Condition A		Condition B	
	Volume (vph)	Northbound Left	Condition Met?	Condition Met?	Condition Met?	Condition Met?	Major Road	Northbound Left	Major Road	Northbound Left
	Opposite Approach	Left Turn	> 500 vph	> 150 vph	> 750 vph	> 75 vph	> 400 vph	> 120 vph	> 600 vph	> 60 vph
12:00 AM to 1:00 AM	0	0	No	No	No	No	No	No	No	No
1:00 AM to 2:00 AM	0	0	No	No	No	No	No	No	No	No
2:00 AM to 3:00 AM	0	0	No	No	No	No	No	No	No	No
3:00 AM to 4:00 AM	0	0	No	No	No	No	No	No	No	No
4:00 AM to 5:00 AM	0	0	No	No	No	No	No	No	No	No
5:00 AM to 6:00 AM	0	0	No	No	No	No	No	No	No	No
6:00 AM to 7:00 AM	1148	51	Yes	No	Yes	No	Yes	No	Yes	No
7:00 AM to 8:00 AM	861	113	Yes	No	Yes	Yes	Yes	No	Yes	Yes
8:00 AM to 9:00 AM	842	166	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9:00 AM to 10:00 AM	914	185	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10:00 AM to 11:00 AM	842	167	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11:00 AM to 12:00 PM	666	182	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
12:00 PM to 1:00 PM	588	244	Yes	Yes	No	Yes	Yes	Yes	No	Yes
1:00 PM to 2:00 PM	609	302	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
2:00 PM to 3:00 PM	599	317	Yes	Yes	No	Yes	Yes	Yes	No	Yes
3:00 PM to 4:00 PM	552	522	Yes	Yes	No	Yes	Yes	Yes	No	Yes
4:00 PM to 5:00 PM	536	898	Yes	Yes	No	Yes	Yes	Yes	No	Yes
5:00 PM to 6:00 PM	649	1008	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
6:00 PM to 7:00 PM	0	0	No	No	No	No	No	No	No	No
7:00 PM to 8:00 PM	0	0	No	No	No	No	No	No	No	No
8:00 PM to 9:00 PM	0	0	No	No	No	No	No	No	No	No
9:00 PM to 10:00 PM	0	0	No	No	No	No	No	No	No	No
10:00 PM to 11:00 PM	0	0	No	No	No	No	No	No	No	No
11:00 PM to 12:00 AM	0	0	No	No	No	No	No	No	No	No
Total Hours Condition is Met			10		4		11			
Meets Warrant?			Yes - Warrant is Met		No - Warrant is Not Met		Yes - Warrant is Met			



Warrant 2 - Four-Hour Vehicular Volume

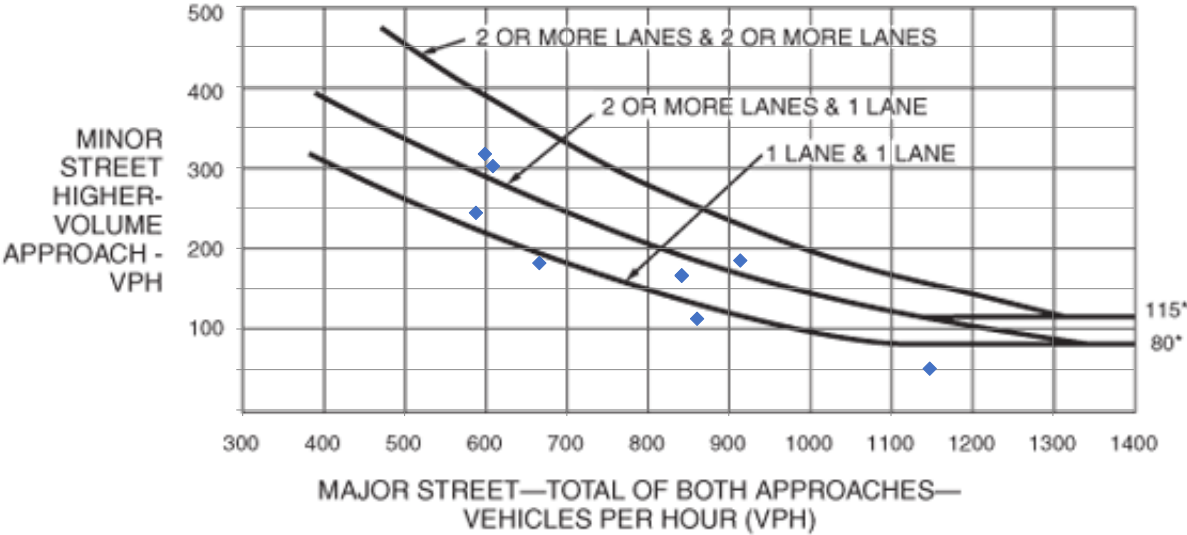
Based on Section 4C.02 of the Manual on Uniform Traffic Control Devices, 2009 Edition (rev. 2)

	Major Road	Minor Road
Name	SR 140	Arnold Mill Rd
Number of Lanes by Approach	1	1

% of Volume	100%	Data Year	2039
Right Turn Reduction?	Yes	Future Year	2039
15 Min Interval Start	0	Growth Rate	0.00%
Mainline Left as Minor?	Northbound		

Time Of Day	SR 140	SR 140	Warrant 2 Four-Hour Vehicular Volume Condition Met?
	Major Road Volume (vph) Opposite Approach	Northbound Left Volume (vph) Left Turn	
12:00 AM to 1:00 AM	0	0	No
1:00 AM to 2:00 AM	0	0	No
2:00 AM to 3:00 AM	0	0	No
3:00 AM to 4:00 AM	0	0	No
4:00 AM to 5:00 AM	0	0	No
5:00 AM to 6:00 AM	0	0	No
6:00 AM to 7:00 AM	1148	51	No
7:00 AM to 8:00 AM	861	113	No
8:00 AM to 9:00 AM	842	166	Yes
9:00 AM to 10:00 AM	914	185	Yes
10:00 AM to 11:00 AM	842	167	Yes
11:00 AM to 12:00 PM	666	182	No
12:00 PM to 1:00 PM	588	244	Yes
1:00 PM to 2:00 PM	609	302	Yes
2:00 PM to 3:00 PM	599	317	Yes
3:00 PM to 4:00 PM	552	522	Yes
4:00 PM to 5:00 PM	536	898	Yes
5:00 PM to 6:00 PM	649	1008	Yes
6:00 PM to 7:00 PM	0	0	No
7:00 PM to 8:00 PM	0	0	No
8:00 PM to 9:00 PM	0	0	No
9:00 PM to 10:00 PM	0	0	No
10:00 PM to 11:00 PM	0	0	No
11:00 PM to 12:00 AM	0	0	No
Total Hours Condition is Met			9
Meets Warrant?			Yes - Warrant is Met

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.



Warrant 1 - Peak-Hour Vehicular Volume

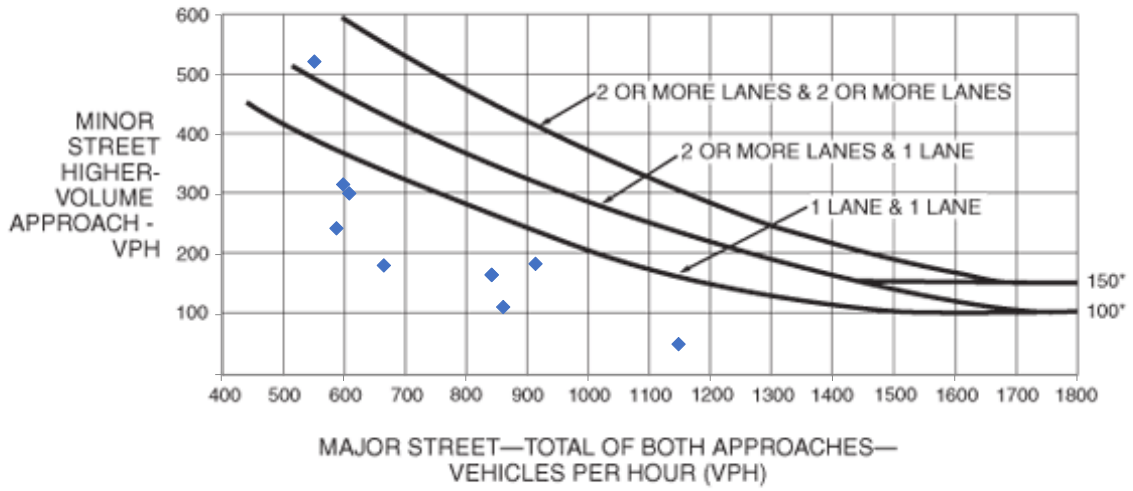
Based on Section 4C.02 of the Manual on Uniform Traffic Control Devices, 2009 Edition (rev. 2)

	Major Road	Minor Road
Name	SR 140	Arnold Mill Rd
Number of Lanes by Approach	2	1

% of Volume	100%	Data Year	2039
Right Turn Reduction?	Yes	Future Year	2039
15 Min Interval Start	0	Growth Rate	0.00%
Mainline Left as Minor?	Northbound		

Time Of Day	SR 140	SR 140	Warrant 3 Peak-Hour Vehicular Volume Condition Met?
	Major Road Volume (vph) Opposite Approach	Northbound Left Volume (vph) Left Turn	
12:00 AM to 1:00 AM	0	0	No
1:00 AM to 2:00 AM	0	0	No
2:00 AM to 3:00 AM	0	0	No
3:00 AM to 4:00 AM	0	0	No
4:00 AM to 5:00 AM	0	0	No
5:00 AM to 6:00 AM	0	0	No
6:00 AM to 7:00 AM	1148	51	No
7:00 AM to 8:00 AM	861	113	No
8:00 AM to 9:00 AM	842	166	No
9:00 AM to 10:00 AM	914	185	No
10:00 AM to 11:00 AM	842	167	No
11:00 AM to 12:00 PM	666	182	No
12:00 PM to 1:00 PM	588	244	No
1:00 PM to 2:00 PM	609	302	No
2:00 PM to 3:00 PM	599	317	No
3:00 PM to 4:00 PM	552	522	Yes
4:00 PM to 5:00 PM	536	898	Yes
5:00 PM to 6:00 PM	649	1008	Yes
6:00 PM to 7:00 PM	0	0	No
7:00 PM to 8:00 PM	0	0	No
8:00 PM to 9:00 PM	0	0	No
9:00 PM to 10:00 PM	0	0	No
10:00 PM to 11:00 PM	0	0	No
11:00 PM to 12:00 AM	0	0	No
Total Hours Condition is Met			3
Meets Warrant?			Yes - Warrant is Met

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.