



MEMORANDUM

TO: Michael Smith, City of Dunwoody Public Works
FROM: Karla Poshedly, Moreland Altobelli Associates, Inc.
SUBJECT: Requested revaluations for the 244 Perimeter Center Parkway, DRI #2567
DATE: April 8, 2016

The City of Dunwoody requested MA to revise the DRI #2567 with the following changes:

- Reevaluate with Synchro the existing signals with existing signal timings.
The results of the Synchro reevaluation with existing signal timings are shown in Table 2: Summary of Intersection Capacity Analysis, Existing Traffic Conditions on Page 2 of this memorandum.
- Revise the percentage of overall trip reduction due to transit options from 25% to 20%
Table 4: Trip Generation, Dunwoody Crown Towers Development was revised and is shown on Page 2 of this memorandum.
- Revise the trip distribution for the office and retail trips of the Dunwoody Crown Towers Development.
Figure 6: Trip Distribution of Office & Retail Trips was revised and is shown on Page 4 of this memorandum.
- Reevaluate the 2026 build scenario with improvements in light of the changes in trip reduction and trip distribution.
Figure 8: 2026 Build Traffic Volumes with Dunwoody Crown Towers Development's Proposed Zoning was revised and is shown on Page 5. The results of the Synchro reevaluation with the revised 2026 traffic volumes are shown in Table 6: Summary of Intersection Capacity Analysis, Scenario 2 (2026 Build with Recommended Improvements) on Page 3 of this memorandum.

The Synchro analysis sheets for the existing conditions and 2026 build conditions with improvements are attached.



Table 1: Summary of Intersection Capacity Analysis
Existing Traffic Conditions

Name of Intersection	LOS STD	AM Peak Hour		PM Peak Hour	
		LOS	Delay	LOS	Delay
Perimeter Center Parkway at Hammond Drive	D	C	20.8	C	34.1
Perimeter Center Parkway at Gold Kist Drive	D	A	4.6	A	3.4
Perimeter Center Parkway at Lake Hearn Drive	D	B	10.5	B	16.9
Hammond Drive at Ashford-Dunwoody Road	D/E AM/PM	D	42.5	E*	62.2
Hammond Drive at Shopping Center Driveway	D	A	2.7	B	14.6

**The existing phasing and signal timing was initially used but it was observed that when a pedestrian call is given on Phase 8, the pedestrian does have enough time to cross. Therefore, the pedestrian phase timing was adjusted but the cycle length was maintained at its existing 180 second cycle length and the result was a LOS E overall.*

Table 2: Trip Generation
Dunwoody Crown Towers Development

Land Use Dunwoody Crown Towers Development	ITE Code	Weekday Daily Trips	AM Peak Hour		PM Peak Hour	
			Enter	Exit	Enter	Exit
1,134,000 SF, Office – Two Towers	710	8,312	1,175	160	230	1,120
500-room Hotel – Tower 356,200 SF	310	4,102	155	110	155	145
32,452 SF Restaurant	931	292	15	10	165	80
63,442 SF Conference Center	715	739	100	15	15	100
380 units High-Rise Condominium	232	1,656	25	115	90	55
150-room Luxury Hotel	310	969	45	35	45	45
43,700 SF Retail Center	826	1,936	60	35	55	70
Gross Trips	-	18,006	1,575	480	755	1,615
20% Reduction Transit*	-	-3,601	-315	-96	-151	-323
Mixed-Use Reduction**	-	-828	-0	-0	-35	-74
Trip Generation of Proposed Zoning	-	13,577	1,260	384	569	1,218
Rounded Values Used in Traffic Study	-	13,580	1,260	385	570	1,220

*Transit reduction recommended by the City based on proximity of development to MARTA transit station.

**Mixed-Use Reduction due to Internal Capture (Source: *Chapter 7, ITE Trip Generation Handbook, an ITE Proposed Recommended Practice, Third Edition, 2014*)



**Table 3: Summary of Intersection Capacity Analysis
Scenario 2 (2026 Build with Recommended Improvements)**

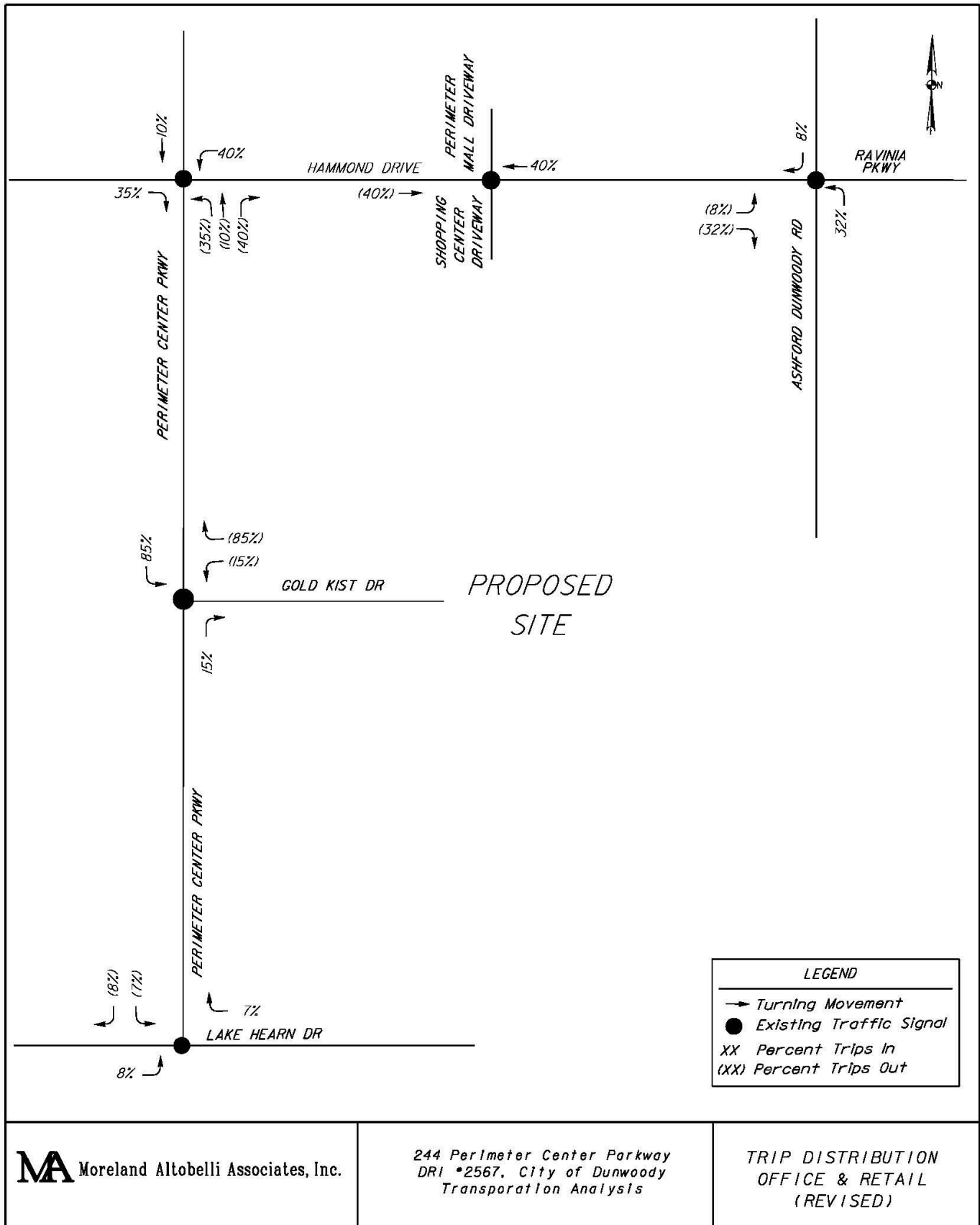
Intersections	2026 Build With Recommended Improvements			
	AM		PM	
	LOS	Delay	LOS	Delay
Perimeter Center Parkway at Hammond Drive	D	53.9	D	51.4
Perimeter Center Parkway at Gold Kist Drive	C	20.6	C	22.4
Perimeter Center Parkway at East-West Connector	A	8.9	B	12.1
Perimeter Center Parkway at Lake Hearn Drive	C	22.1	C	20.0
Hammond Drive at Ashford-Dunwoody Road	E	68.3	F	83.7
Hammond Drive at Shopping Center Driveway	A	8.2	D	46.5

The recommended improvements for the roadway network are the same as in DRI #2567 with the two exceptions:

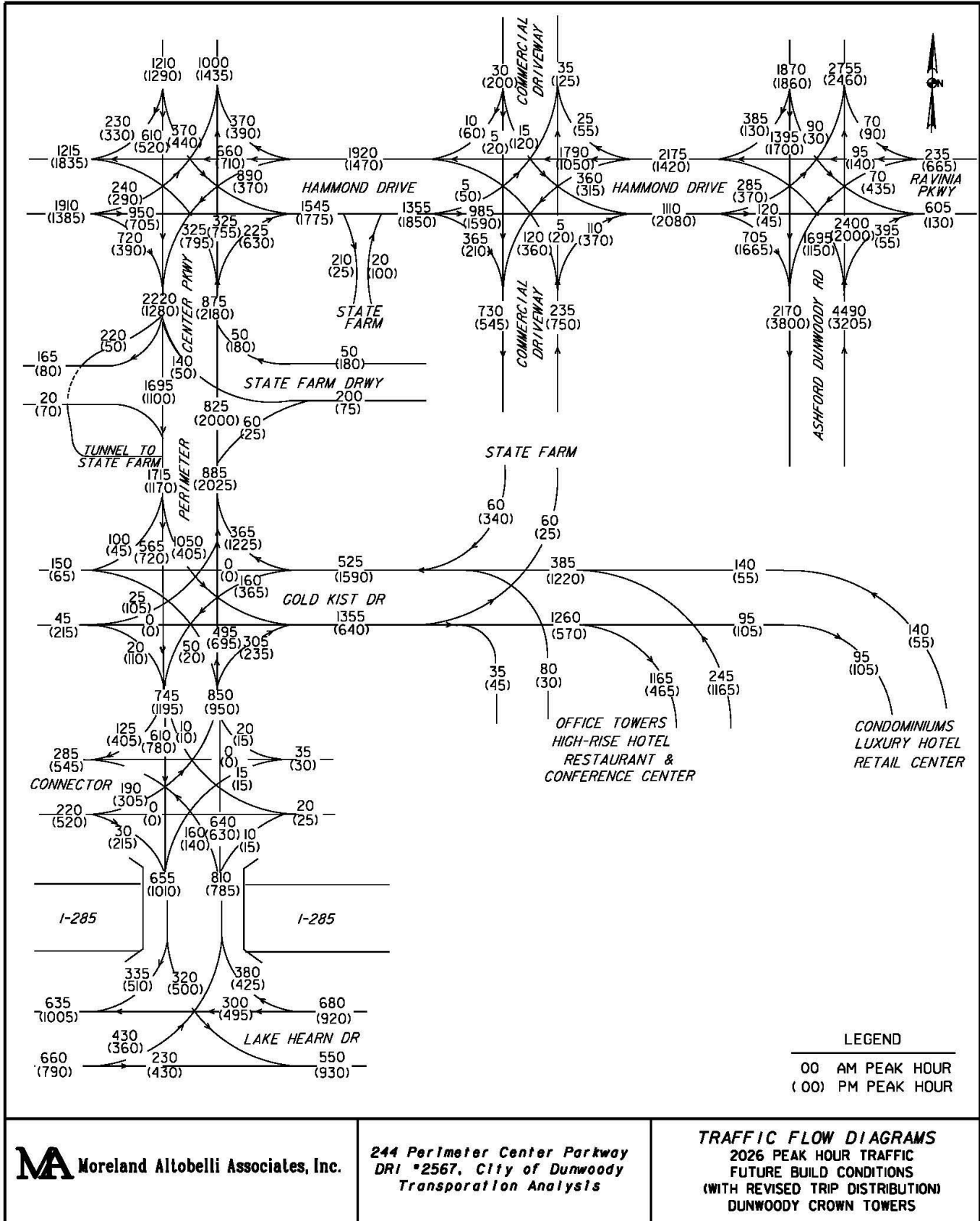
- 1) The westbound approach of Gold Kist Drive at Perimeter Center Parkway. The change in trip distribution resulted in the need for an additional right-turn lane in lieu of the additional left-turn lane recommended in the DRI. This would be a striping change.
- 2) The westbound approach of Hammond Drive at Perimeter Center Parkway. The change in trip distribution results in the need for one of the through lanes to be striped as a triple left-turn. The triple left-turn would flow into the double left-turn at Gold Kist Drive. The northbound approach of Perimeter Center Parkway at Hammond Drive has an increased right-turn due to the trip distribution and a right-turn was added but it makes very little difference and if right-of-way is not available could be eliminated.

The new trip distribution assumes that 85% of the traffic comes to and from the north of the site. This is not practical because if the travel path is too difficult to enter and exit, motorists will travel a southern path from I-285 to get to the site. Also, 85% of the traffic exiting would not necessarily travel north because of the east-west connector between Perimeter Center Parkway and Peachtree-Dunwoody Road. This connector will allow motorists to access I-285 eastbound at Peachtree-Dunwoody Road in lieu of traveling north on Perimeter Center Parkway to Hammond Drive to Ashford-Dunwoody Road to access I-285 eastbound. Also, the new trip distribution assumes that 8% will travel north on Perimeter Center Parkway to Hammond Drive and then left onto Ashford-Dunwoody Road. These motorists could travel north from Perimeter Center Parkway cross Hammond Drive and access Ashford-Dunwoody Road without traveling through the congested intersection of Ashford-Dunwoody Road at Hammond Drive.

Figure 6: Trip Distribution of Office & Retail Trips



**Figure 8: 2026 Build Traffic Volumes
With Dunwoody Crown Towers Development's Proposed Zoning**



Lanes, Volumes, Timings

1: Perimeter Center Pkwy/Perimeter Center Pkwy. & Hammond Dr.

4/7/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	135	325	160	105	515	230	95	135	55	40	150	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	250		500	160		0	250		300
Storage Lanes	2		0	1		1	1		0	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	0.95	1.00
Frt		0.950				0.850		0.957				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3362	0	1770	3539	1583	1770	3387	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.506			0.950		
Satd. Flow (perm)	3433	3362	0	1770	3539	1583	943	3387	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		118				250		55				282
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		2029			963			670			786	
Travel Time (s)		39.5			18.8			13.1			15.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	147	353	174	114	560	250	103	147	60	43	163	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	147	527	0	114	560	250	103	207	0	43	163	120
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases						8	6					2
Detector Phase	7	4		3	8	8	1	6		5	2	2

Lanes, Volumes, Timings

1: Perimeter Center Pkwy/Perimeter Center Pkwy. & Hammond Dr.

4/7/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	10.7	43.0		10.2	40.0	40.0	10.7	15.0		10.7	15.0	15.0
Total Split (s)	14.9	45.0		17.0	47.1	47.1	13.0	17.3		10.7	15.0	15.0
Total Split (%)	16.6%	50.0%		18.9%	52.3%	52.3%	14.4%	19.2%		11.9%	16.7%	16.7%
Maximum Green (s)	8.2	38.3		10.8	40.4	40.4	6.3	10.3		4.0	8.0	8.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.4	4.5		3.4	4.5	4.5
All-Red Time (s)	3.7	2.7		3.2	2.7	2.7	3.3	2.5		3.3	2.5	2.5
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)	6.7	6.7		6.2	6.7	6.7	6.7	7.0		6.7	7.0	7.0
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		29.0			26.0	26.0		22.0			26.0	26.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effect Green (s)	8.2	44.8		9.7	43.2	43.2	15.8	11.8		4.0	7.8	7.8
Actuated g/C Ratio	0.09	0.50		0.11	0.48	0.48	0.18	0.13		0.04	0.09	0.09
v/c Ratio	0.47	0.30		0.60	0.33	0.28	0.46	0.42		0.28	0.53	0.30
Control Delay	44.2	12.6		48.6	13.9	1.7	36.1	29.4		46.5	46.1	2.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	44.2	12.6		48.6	13.9	1.7	36.1	29.4		46.5	46.1	2.0
LOS	D	B		D	B	A	D	C		D	D	A
Approach Delay		19.5			14.9			31.6			29.9	
Approach LOS		B			B			C			C	
90th %ile Green (s)	8.2	38.3		10.8	40.4	40.4	6.3	10.3		4.0	8.0	8.0
90th %ile Term Code	Max	Coord		Max	Coord	Coord	Max	Max		Max	Max	Max
70th %ile Green (s)	8.2	38.3		10.8	40.4	40.4	6.3	10.3		4.0	8.0	8.0
70th %ile Term Code	Max	Coord		Max	Coord	Coord	Max	Max		Max	Max	Max
50th %ile Green (s)	8.2	38.3		10.8	40.4	40.4	6.3	10.3		4.0	8.0	8.0
50th %ile Term Code	Max	Coord		Max	Coord	Coord	Max	Hold		Max	Max	Max
30th %ile Green (s)	8.2	39.8		9.3	40.4	40.4	6.3	21.0		0.0	8.0	8.0
30th %ile Term Code	Max	Coord		Gap	Coord	Coord	Max	Hold		Skip	Max	Max
10th %ile Green (s)	8.2	69.4		0.0	54.5	54.5	0.0	6.9		0.0	6.9	6.9
10th %ile Term Code	Hold	Coord		Skip	Coord	Coord	Skip	Hold		Skip	Gap	Gap
Queue Length 50th (ft)	41	77		47	75	0	48	43		12	47	0
Queue Length 95th (ft)	72	116		89	82	21	92	77		29	80	0
Internal Link Dist (ft)		1949			883			590			706	
Turn Bay Length (ft)	260			250		500	160			250		300
Base Capacity (vph)	312	1733		212	1699	890	223	515		152	314	397
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.47	0.30		0.54	0.33	0.28	0.46	0.40		0.28	0.52	0.30
Intersection Summary												
Area Type:	Other											
Cycle Length: 90												

Lanes, Volumes, Timings

1: Perimeter Center Pkwy/Perimeter Center Pkwy. & Hammond Dr.

4/7/2016

Actuated Cycle Length: 90

Offset: 80 (89%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 20.8

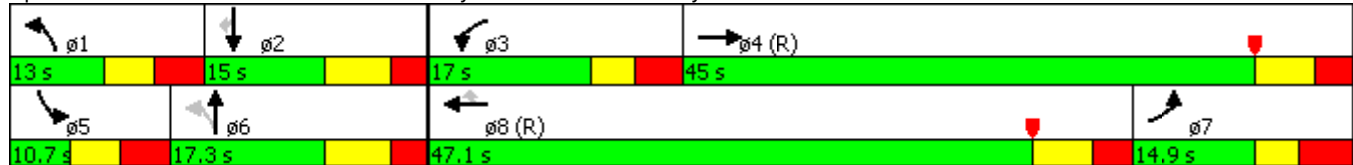
Intersection LOS: C

Intersection Capacity Utilization 51.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Perimeter Center Pkwy/Perimeter Center Pkwy. & Hammond Dr.



Lanes, Volumes, Timings
2: Shopping Center & Hammond Dr.

4/7/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 						 	
Volume (vph)	5	410	5	5	840	25	0	0	5	15	5	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		250	200		200	100		0	0		0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.996				0.850		0.897	
Flt Protected	0.950			0.950						0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3525	0	1863	1863	1583	1770	1671	0
Flt Permitted	0.302			0.485						0.909		
Satd. Flow (perm)	563	5085	1583	903	3525	0	1863	1863	1583	1693	1671	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			44		8				483		11	
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		963			979			533			748	
Travel Time (s)		18.8			19.1			14.5			20.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	446	5	5	913	27	0	0	5	16	5	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	446	5	5	940	0	0	0	5	16	16	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	custom	Perm	NA		Perm		Perm	Perm	NA	
Protected Phases		6			2			8			4	
Permitted Phases	6		2	2			8		8	4		
Detector Phase	6	6	2	2	2		8	8	8	4	4	

Existing 2015- current timings and phasings 8:00 am 12/16/2019 PM Peak Hour
D. Fairlie - MAAI

Synchro 8 Report
Page 4

Lanes, Volumes, Timings
2: Shopping Center & Hammond Dr.

4/7/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0	24.7	24.7	24.7		15.0	15.0	15.0	15.0	15.0	
Total Split (s)	69.0	69.0	69.0	69.0	69.0		21.0	21.0	21.0	21.0	21.0	
Total Split (%)	76.7%	76.7%	76.7%	76.7%	76.7%		23.3%	23.3%	23.3%	23.3%	23.3%	
Maximum Green (s)	63.3	63.3	63.3	63.3	63.3		14.4	14.4	14.4	14.4	14.4	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	1.7	1.7	1.7	1.7	1.7		3.3	3.3	3.3	3.3	3.3	
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)	5.7	5.7	5.7	5.7	5.7		6.6	6.6	6.6	6.6	6.6	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max		None	None	None	None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	9.0	9.0	12.0	12.0	12.0		26.0	26.0	26.0	22.0	22.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0	0	0	0	
Act Effect Green (s)	78.2	78.2	78.2	78.2	78.2				6.6	6.6	6.6	
Actuated g/C Ratio	0.87	0.87	0.87	0.87	0.87				0.07	0.07	0.07	
v/c Ratio	0.01	0.10	0.00	0.01	0.31				0.01	0.13	0.12	
Control Delay	2.0	1.4	0.0	2.4	2.3				0.0	40.6	25.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0	
Total Delay	2.0	1.4	0.0	2.4	2.3				0.0	40.6	25.7	
LOS	A	A	A	A	A				A	D	C	
Approach Delay		1.4			2.3							33.1
Approach LOS		A			A							C
90th %ile Green (s)	69.3	69.3	69.3	69.3	69.3		8.4	8.4	8.4	8.4	8.4	
90th %ile Term Code	Coord	Coord	Coord	Coord	Coord		Hold	Hold	Hold	Gap	Gap	
70th %ile Green (s)	70.5	70.5	70.5	70.5	70.5		7.2	7.2	7.2	7.2	7.2	
70th %ile Term Code	Coord	Coord	Coord	Coord	Coord		Hold	Hold	Hold	Gap	Gap	
50th %ile Green (s)	71.3	71.3	71.3	71.3	71.3		6.4	6.4	6.4	6.4	6.4	
50th %ile Term Code	Coord	Coord	Coord	Coord	Coord		Hold	Hold	Hold	Gap	Gap	
30th %ile Green (s)	84.3	84.3	84.3	84.3	84.3		0.0	0.0	0.0	0.0	0.0	
30th %ile Term Code	Coord	Coord	Coord	Coord	Coord		Skip	Skip	Skip	Skip	Skip	
10th %ile Green (s)	84.3	84.3	84.3	84.3	84.3		0.0	0.0	0.0	0.0	0.0	
10th %ile Term Code	Coord	Coord	Coord	Coord	Coord		Skip	Skip	Skip	Skip	Skip	
Queue Length 50th (ft)	0	12	0	1	58				0	9	3	
Queue Length 95th (ft)	m1	19	m0	3	88				0	28	22	
Internal Link Dist (ft)		883			899			453			668	
Turn Bay Length (ft)	250		250	200								
Base Capacity (vph)	489	4419	1381	785	3064				659	270	276	
Starvation Cap Reductn	0	0	0	0	0				0	0	0	
Spillback Cap Reductn	0	0	0	0	0				0	0	0	
Storage Cap Reductn	0	0	0	0	0				0	0	0	
Reduced v/c Ratio	0.01	0.10	0.00	0.01	0.31				0.01	0.06	0.06	
Intersection Summary												
Area Type:	Other											
Cycle Length: 90												

Lanes, Volumes, Timings

2: Shopping Center & Hammond Dr.

4/7/2016

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.31

Intersection Signal Delay: 2.7

Intersection LOS: A

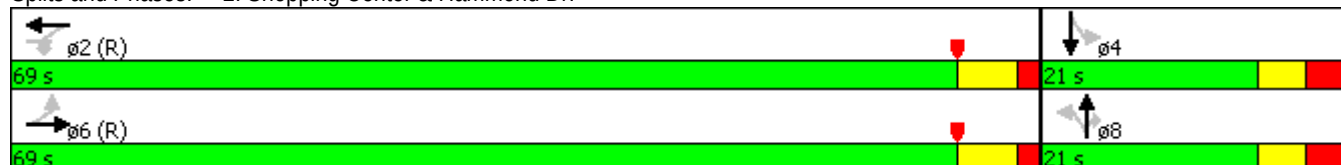
Intersection Capacity Utilization 37.6%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Shopping Center & Hammond Dr.



Lanes, Volumes, Timings
3: Ashford-Dunwoody Rd. & Hammond Dr.

4/7/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	155	65	210	20	10	40	680	2180	320	20	1345	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	210		0	0		0	300		0	261		276
Storage Lanes	1		2	2		1	2		0	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.88	0.97	1.00	1.00	0.97	0.86	0.86	0.97	0.86	1.00
Frt			0.850			0.850		0.981				0.850
Flt Protected	0.950	0.980		0.950			0.950			0.950		
Satd. Flow (prot)	1681	1734	2787	3433	1863	1583	3433	6286	0	3433	6408	1583
Flt Permitted	0.950	0.980		0.950			0.950			0.950		
Satd. Flow (perm)	1681	1734	2787	3433	1863	1583	3433	6286	0	3433	6408	1583
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)						226		25				179
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		979			481			1611			970	
Travel Time (s)		19.1			9.4			24.4			14.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	168	71	228	22	11	43	739	2370	348	22	1462	196
Shared Lane Traffic (%)	30%											
Lane Group Flow (vph)	118	121	228	22	11	43	739	2718	0	22	1462	196
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	custom	Split	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	4	4	7 1	3	3		1	6		5	2	
Permitted Phases						3						2
Detector Phase	4	4	7 1	3	3	3	1	6		5	2	2

Lanes, Volumes, Timings
3: Ashford-Dunwoody Rd. & Hammond Dr.

4/7/2016

Lane Group	ø7	ø8
Lane Configurations		
Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	7	8
Permitted Phases		
Detector Phase		

Lanes, Volumes, Timings
3: Ashford-Dunwoody Rd. & Hammond Dr.

4/7/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	15.0	15.0		13.0	13.0	13.0	12.2	44.0		11.7	48.0	48.0
Total Split (s)	52.0	52.0		33.0	33.0	33.0	27.0	62.0		13.0	48.0	48.0
Total Split (%)	32.5%	32.5%		20.6%	20.6%	20.6%	16.9%	38.8%		8.1%	30.0%	30.0%
Maximum Green (s)	44.2	44.2		25.1	25.1	25.1	18.8	55.0		5.3	41.0	41.0
Yellow Time (s)	3.4	3.4		3.0	3.0	3.0	3.0	4.5		3.0	4.5	4.5
All-Red Time (s)	4.4	4.4		4.9	4.9	4.9	5.2	2.5		4.7	2.5	2.5
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)	7.8	7.8		7.9	7.9	7.9	8.2	7.0		7.7	7.0	7.0
Lead/Lag							Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		Min	Min	Min	None	C-Max		None	C-Max	C-Max
Walk Time (s)	5.0	5.0		5.0	5.0	5.0		5.0			5.0	5.0
Flash Dont Walk (s)	33.0	33.0		20.0	20.0	20.0		19.0			16.0	16.0
Pedestrian Calls (#/hr)	10	10		10	10	10		10			10	10
Act Effect Green (s)	25.9	25.9	64.0	13.6	13.6	13.6	45.2	90.0		5.3	44.4	44.4
Actuated g/C Ratio	0.16	0.16	0.40	0.08	0.08	0.08	0.28	0.56		0.03	0.28	0.28
v/c Ratio	0.43	0.43	0.20	0.08	0.07	0.13	0.76	0.77		0.19	0.82	0.35
Control Delay	61.9	61.7	29.7	62.7	62.2	0.8	56.0	31.9		79.4	58.9	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	61.9	61.7	29.7	62.7	62.2	0.8	56.0	31.9		79.4	58.9	9.7
LOS	E	E	C	E	E	A	E	C		E	E	A
Approach Delay		46.1			27.6			37.0			53.4	
Approach LOS		D			C			D			D	
90th %ile Green (s)	44.3	44.3		25.0	25.0	25.0	18.8	55.0		5.3	41.0	41.0
90th %ile Term Code	Hold	Hold		Ped	Ped	Ped	Max	Coord		Max	Coord	Coord
70th %ile Green (s)	44.3	44.3		25.0	25.0	25.0	18.8	55.0		5.3	41.0	41.0
70th %ile Term Code	Hold	Hold		Ped	Ped	Ped	Max	Coord		Max	Coord	Coord
50th %ile Green (s)	16.6	16.6		6.5	6.5	6.5	51.4	101.2		5.3	54.6	54.6
50th %ile Term Code	Gap	Gap		Gap	Gap	Gap	Gap	Coord		Max	Coord	Coord
30th %ile Green (s)	14.1	14.1		5.9	5.9	5.9	64.9	117.3		0.0	44.2	44.2
30th %ile Term Code	Gap	Gap		Gap	Gap	Gap	Gap	Coord		Skip	Coord	Coord
10th %ile Green (s)	10.4	10.4		5.5	5.5	5.5	72.2	121.4		0.0	41.0	41.0
10th %ile Term Code	Gap	Gap		Gap	Gap	Gap	Max	Coord		Skip	Coord	Coord
Queue Length 50th (ft)	127	130	73	11	11	0	345	505		11	380	12
Queue Length 95th (ft)	165	167	110	24	30	0	#730	#1086		28	480	82
Internal Link Dist (ft)		899			401			1531			890	
Turn Bay Length (ft)	210						300			261		276
Base Capacity (vph)	464	479	1114	538	292	438	970	3546		113	1776	568
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.25	0.25	0.20	0.04	0.04	0.10	0.76	0.77		0.19	0.82	0.35
Intersection Summary												
Area Type:	Other											
Cycle Length: 160												

Lanes, Volumes, Timings
3: Ashford-Dunwoody Rd. & Hammond Dr.

4/7/2016

Lane Group	ø7	ø8
Switch Phase		
Minimum Initial (s)	4.0	4.0
Minimum Split (s)	13.0	39.0
Total Split (s)	13.0	39.0
Total Split (%)	8%	24%
Maximum Green (s)	7.6	36.0
Yellow Time (s)	3.4	3.0
All-Red Time (s)	2.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		4.0
Flash Dont Walk (s)		32.0
Pedestrian Calls (#/hr)		10
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
90th %ile Green (s)	7.7	36.0
90th %ile Term Code	Max	Ped
70th %ile Green (s)	7.7	36.0
70th %ile Term Code	Max	Ped
50th %ile Green (s)	19.0	0.0
50th %ile Term Code	Hold	Skip
30th %ile Green (s)	16.5	0.0
30th %ile Term Code	Hold	Skip
10th %ile Green (s)	12.8	0.0
10th %ile Term Code	Hold	Skip
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Lanes, Volumes, Timings

3: Ashford-Dunwoody Rd. & Hammond Dr.

4/7/2016

Actuated Cycle Length: 160

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green, Master Intersection

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 42.5

Intersection LOS: D

Intersection Capacity Utilization 71.7%

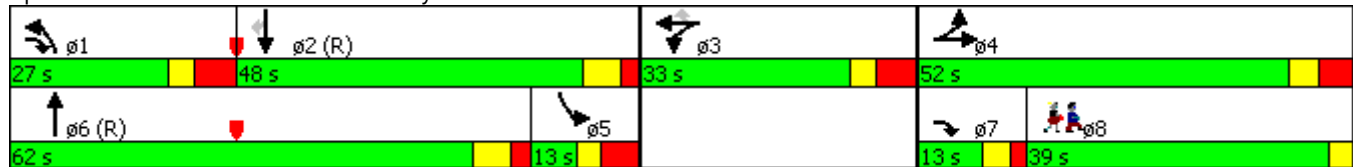
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Ashford-Dunwoody Rd. & Hammond Dr.



Lanes, Volumes, Timings
4: Perimeter Center Pkwy & Goldkist Dr.

4/7/2016

								
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø4	ø8
Lane Configurations								
Volume (vph)	5	75	210	5	30	385		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0	0		0	200			
Storage Lanes	1	1		0	1			
Taper Length (ft)	25				25			
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95		
Frt		0.850	0.997					
Flt Protected	0.950				0.950			
Satd. Flow (prot)	1770	1583	3529	0	1770	3539		
Flt Permitted	0.950				0.607			
Satd. Flow (perm)	1770	1583	3529	0	1131	3539		
Right Turn on Red		Yes		Yes				
Satd. Flow (RTOR)		82	3					
Link Speed (mph)	35		35			35		
Link Distance (ft)	661		742			670		
Travel Time (s)	12.9		14.5			13.1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Adj. Flow (vph)	5	82	228	5	33	418		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	5	82	233	0	33	418		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Right	Left	Left		
Median Width(ft)	12		12			12		
Link Offset(ft)	0		0			0		
Crosswalk Width(ft)	16		16			16		
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9		9	15			
Number of Detectors	1	1	2		1	2		
Detector Template	Left	Right	Thru		Left	Thru		
Leading Detector (ft)	20	20	100		20	100		
Trailing Detector (ft)	0	0	0		0	0		
Detector 1 Position(ft)	0	0	0		0	0		
Detector 1 Size(ft)	20	20	6		20	6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel								
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0		
Detector 2 Position(ft)			94			94		
Detector 2 Size(ft)			6			6		
Detector 2 Type			Cl+Ex			Cl+Ex		
Detector 2 Channel								
Detector 2 Extend (s)			0.0			0.0		
Turn Type	Prot	Prot	NA		pm+pt	NA		
Protected Phases	3	7	6		5	2	4	8
Permitted Phases					2			
Detector Phase	3	7	6		5	2		

Lanes, Volumes, Timings
4: Perimeter Center Pkwy & Goldkist Dr.

4/7/2016



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø4	ø8
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	15.0	15.0	41.4		10.5	20.0	38.0	40.0
Total Split (s)	15.0	15.0	58.0		15.0	73.0	12.0	12.0
Total Split (%)	15.0%	15.0%	58.0%		15.0%	73.0%	12%	12%
Maximum Green (s)	9.3	9.9	51.6		8.5	66.6	6.0	6.0
Yellow Time (s)	3.1	3.1	4.0		3.0	4.0	4.0	4.0
All-Red Time (s)	2.6	2.0	2.4		3.5	2.4	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0		
Total Lost Time (s)	5.7	5.1	6.4		6.5	6.4		
Lead/Lag	Lead	Lead	Lead		Lag		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min		None	C-Min	None	None
Walk Time (s)			7.0				7.0	7.0
Flash Dont Walk (s)			28.0				25.0	27.0
Pedestrian Calls (#/hr)			0				0	0
Act Effect Green (s)	6.4	7.1	77.5		84.6	84.8		
Actuated g/C Ratio	0.06	0.07	0.78		0.85	0.85		
v/c Ratio	0.04	0.43	0.09		0.03	0.14		
Control Delay	43.6	17.5	4.4		2.0	2.0		
Queue Delay	0.0	0.0	0.0		0.0	0.0		
Total Delay	43.6	17.5	4.4		2.0	2.0		
LOS	D	B	A		A	A		
Approach Delay	19.0		4.4			2.0		
Approach LOS	B		A			A		
90th %ile Green (s)	9.4	10.0	66.3		5.7	78.5	0.0	0.0
90th %ile Term Code	Hold	Gap	Coord		Gap	Coord	Skip	Skip
70th %ile Green (s)	0.0	7.3	69.1		5.6	81.2	6.4	0.0
70th %ile Term Code	Skip	Gap	Coord		Gap	Coord	Hold	Skip
50th %ile Green (s)	0.0	6.4	70.0		5.6	82.1	5.5	0.0
50th %ile Term Code	Skip	Hold	Coord		Gap	Coord	Hold	Skip
30th %ile Green (s)	0.0	6.4	82.1		0.0	82.1	5.5	0.0
30th %ile Term Code	Skip	Hold	Coord		Skip	Coord	Hold	Skip
10th %ile Green (s)	0.0	0.0	93.6		0.0	93.6	0.0	0.0
10th %ile Term Code	Skip	Skip	Coord		Skip	Coord	Skip	Skip
Queue Length 50th (ft)	3	0	21		3	20		
Queue Length 95th (ft)	14	44	38		9	37		
Internal Link Dist (ft)	581		662			590		
Turn Bay Length (ft)					200			
Base Capacity (vph)	164	230	2735		1037	3000		
Starvation Cap Reductn	0	0	0		0	0		
Spillback Cap Reductn	0	0	0		0	0		
Storage Cap Reductn	0	0	0		0	0		
Reduced v/c Ratio	0.03	0.36	0.09		0.03	0.14		

Intersection Summary

Area Type: Other
Cycle Length: 100

Lanes, Volumes, Timings

4: Perimeter Center Pkwy & Goldkist Dr.

4/7/2016

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.43

Intersection Signal Delay: 4.6

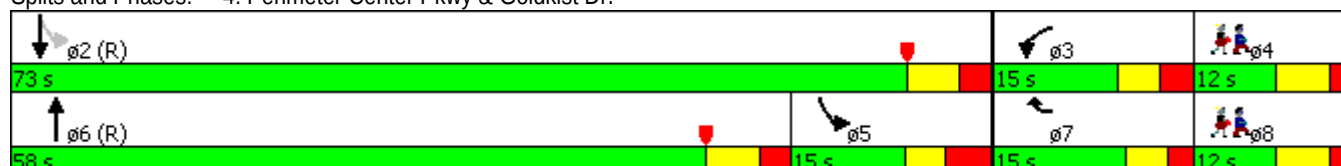
Intersection LOS: A

Intersection Capacity Utilization 28.1%

ICU Level of Service A

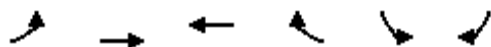
Analysis Period (min) 15

Splits and Phases: 4: Perimeter Center Pkwy & Goldkist Dr.



Lanes, Volumes, Timings
5: Lake Hearn Dr. & Perimeter Center Pkwy

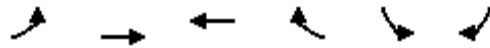
4/7/2016



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖↖	↗↗	↖↖	↖↖	↖↖	↖
Volume (vph)	55	210	290	120	235	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	301			0	425	0
Storage Lanes	2			2	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	0.88	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3090	3185	3185	2508	3090	1425
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3090	3185	3185	2508	3090	1425
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				130		87
Link Speed (mph)		35	35		35	
Link Distance (ft)		806	1749		1830	
Travel Time (s)		15.7	34.1		35.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	228	315	130	255	87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	60	228	315	130	255	87
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Detector Phase	5	2	6	6	4	4

Lanes, Volumes, Timings
5: Lake Hearn Dr. & Perimeter Center Pkwy

4/7/2016



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	20.0	29.0	29.0	39.0	39.0
Total Split (s)	12.0	41.0	29.0	29.0	39.0	39.0
Total Split (%)	15.0%	51.3%	36.3%	36.3%	48.8%	48.8%
Maximum Green (s)	6.0	35.0	23.0	23.0	33.0	33.0
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	Lead		Lag		Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	None	None
Walk Time (s)			7.0	7.0	7.0	7.0
Flash Dont Walk (s)			16.0	16.0	26.0	26.0
Pedestrian Calls (#/hr)			0	0	0	0
Act Effect Green (s)	6.2	15.7	11.9	11.9	9.1	9.1
Actuated g/C Ratio	0.17	0.42	0.32	0.32	0.24	0.24
v/c Ratio	0.12	0.17	0.31	0.15	0.34	0.21
Control Delay	17.3	6.9	12.6	4.0	14.4	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	6.9	12.6	4.0	14.4	6.1
LOS	B	A	B	A	B	A
Approach Delay		9.1	10.1		12.3	
Approach LOS		A	B		B	
90th %ile Green (s)	6.0	26.2	14.2	14.2	11.9	11.9
90th %ile Term Code	Max	Hold	Gap	Gap	Gap	Gap
70th %ile Green (s)	6.0	23.5	11.5	11.5	10.0	10.0
70th %ile Term Code	Max	Hold	Gap	Gap	Gap	Gap
50th %ile Green (s)	0.0	9.4	9.4	9.4	8.9	8.9
50th %ile Term Code	Skip	Hold	Gap	Gap	Gap	Gap
30th %ile Green (s)	0.0	7.5	7.5	7.5	7.2	7.2
30th %ile Term Code	Skip	Hold	Gap	Gap	Gap	Gap
10th %ile Green (s)	0.0	16.0	16.0	16.0	6.7	6.7
10th %ile Term Code	Skip	Dwell	Dwell	Dwell	Gap	Gap
Queue Length 50th (ft)	4	13	18	0	15	0
Queue Length 95th (ft)	21	29	65	16	57	26
Internal Link Dist (ft)		726	1669		1750	
Turn Bay Length (ft)	301				425	
Base Capacity (vph)	523	2846	2069	1674	2679	1247
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.08	0.15	0.08	0.10	0.07

Intersection Summary

Area Type: CBD
Cycle Length: 80

Lanes, Volumes, Timings

5: Lake Hearn Dr. & Perimeter Center Pkwy

4/7/2016

Actuated Cycle Length: 37.5

Natural Cycle: 80

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.34

Intersection Signal Delay: 10.5

Intersection LOS: B

Intersection Capacity Utilization 34.7%

ICU Level of Service A

Analysis Period (min) 15

90th %ile Actuated Cycle: 50.1

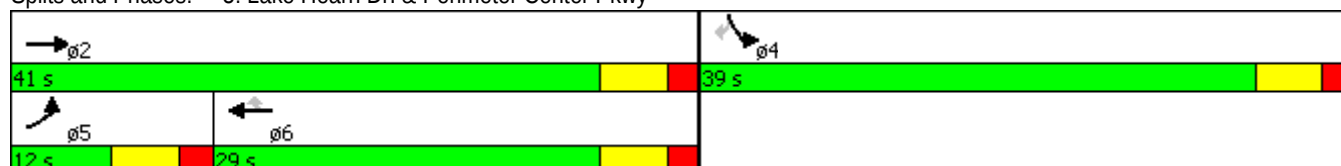
70th %ile Actuated Cycle: 45.5

50th %ile Actuated Cycle: 30.3

30th %ile Actuated Cycle: 26.7

10th %ile Actuated Cycle: 34.7

Splits and Phases: 5: Lake Hearn Dr. & Perimeter Center Pkwy



Lanes, Volumes, Timings

1: Perimeter Center Pkwy/Perimeter Center Pkwy. & Hammond Dr.

4/7/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	225	575	90	70	400	240	275	260	85	230	315	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	250		500	160		0	250		300
Storage Lanes	2		0	1		1	1		0	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	0.95	1.00
Frt		0.980				0.850		0.963				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3468	0	1770	3539	1583	1770	3408	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.357			0.950		
Satd. Flow (perm)	3433	3468	0	1770	3539	1583	665	3408	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15				261		34				310
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		2029			963			670			786	
Travel Time (s)		39.5			18.8			13.1			15.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	245	625	98	76	435	261	299	283	92	250	342	310
Shared Lane Traffic (%)												
Lane Group Flow (vph)	245	723	0	76	435	261	299	375	0	250	342	310
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases						8	6					2
Detector Phase	7	4		3	8	8	1	6		5	2	2

Lanes, Volumes, Timings

1: Perimeter Center Pkwy/Perimeter Center Pkwy. & Hammond Dr.

4/7/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	10.7	43.0		10.2	40.0	40.0	10.7	15.0		10.7	15.0	15.0
Total Split (s)	20.0	44.0		17.0	41.0	41.0	24.0	35.0		24.0	35.0	35.0
Total Split (%)	16.7%	36.7%		14.2%	34.2%	34.2%	20.0%	29.2%		20.0%	29.2%	29.2%
Maximum Green (s)	13.3	37.3		10.8	34.3	34.3	17.3	28.0		17.3	28.0	28.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.4	4.5		3.4	4.5	4.5
All-Red Time (s)	3.7	2.7		3.2	2.7	2.7	3.3	2.5		3.3	2.5	2.5
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)	6.7	6.7		6.2	6.7	6.7	6.7	7.0		6.7	7.0	7.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		29.0			26.0	26.0		22.0			26.0	26.0
Pedestrian Calls (#/hr)		0			0	0		0			0	0
Act Effect Green (s)	13.8	51.0		9.9	44.1	44.1	38.3	21.1		13.9	18.1	18.1
Actuated g/C Ratio	0.12	0.42		0.08	0.37	0.37	0.32	0.18		0.12	0.15	0.15
v/c Ratio	0.62	0.49		0.52	0.33	0.35	0.81	0.60		0.63	0.64	0.62
Control Delay	57.4	27.8		55.3	21.3	2.0	45.3	41.6		57.6	53.1	10.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	57.4	27.8		55.3	21.3	2.0	45.3	41.6		57.6	53.1	10.5
LOS	E	C		E	C	A	D	D		E	D	B
Approach Delay		35.3			18.1			43.2			39.7	
Approach LOS		D			B			D			D	
90th %ile Green (s)	17.5	41.5		10.8	34.3	34.3	17.3	23.8		17.3	23.8	23.8
90th %ile Term Code	Max	Coord		Max	Coord	Coord	Max	Hold		Max	Gap	Gap
70th %ile Green (s)	15.3	44.9		10.8	39.9	39.9	17.3	22.2		15.5	20.4	20.4
70th %ile Term Code	Gap	Coord		Max	Coord	Coord	Max	Hold		Gap	Gap	Gap
50th %ile Green (s)	13.8	47.5		10.8	44.0	44.0	17.3	21.1		14.0	17.8	17.8
50th %ile Term Code	Gap	Coord		Hold	Coord	Coord	Max	Hold		Gap	Gap	Gap
30th %ile Green (s)	12.3	49.3		10.8	47.3	47.3	17.3	20.8		12.5	16.0	16.0
30th %ile Term Code	Gap	Coord		Hold	Coord	Coord	Max	Hold		Gap	Gap	Gap
10th %ile Green (s)	10.1	71.8		0.0	55.0	55.0	15.3	17.6		10.2	12.5	12.5
10th %ile Term Code	Gap	Coord		Skip	Coord	Coord	Gap	Hold		Gap	Gap	Gap
Queue Length 50th (ft)	94	216		57	70	0	180	129		96	133	0
Queue Length 95th (ft)	133	301		110	94	14	#270	177		136	173	78
Internal Link Dist (ft)		1949			883			590			706	
Turn Bay Length (ft)	260			250		500	160			250		300
Base Capacity (vph)	418	1482		159	1300	746	373	821		494	825	607
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.59	0.49		0.48	0.33	0.35	0.80	0.46		0.51	0.41	0.51

Intersection Summary

Area Type: Other

Cycle Length: 120

Lanes, Volumes, Timings

1: Perimeter Center Pkwy/Perimeter Center Pkwy. & Hammond Dr.

4/7/2016

Actuated Cycle Length: 120

Offset: 11.3 (9%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 34.1

Intersection LOS: C

Intersection Capacity Utilization 68.8%

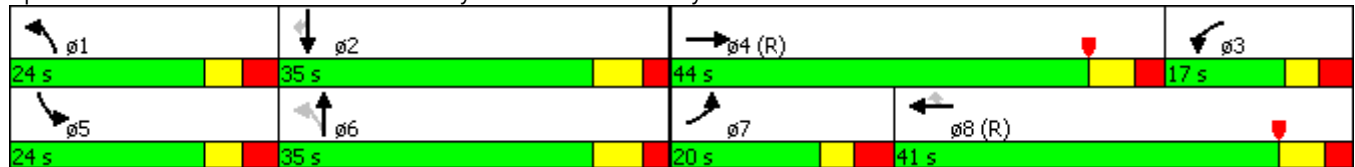
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Perimeter Center Pkwy/Perimeter Center Pkwy. & Hammond Dr.



Lanes, Volumes, Timings
2: Shopping Center & Hammond Dr.

4/7/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 						 	
Volume (vph)	45	800	45	40	615	55	40	20	60	110	20	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		250	200		200	100		0	0		0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.988				0.850		0.890	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3497	0	1770	1863	1583	1770	1658	0
Flt Permitted	0.343			0.296			0.704			0.553		
Satd. Flow (perm)	639	5085	1583	551	3497	0	1311	1863	1583	1030	1658	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		12				137		60	
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		963			979			533			748	
Travel Time (s)		18.8			19.1			14.5			20.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	870	49	43	668	60	43	22	65	120	22	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	870	49	43	728	0	43	22	65	120	82	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	custom	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		2	2			8		8	4		
Detector Phase	1	6	2	5	2		3	8	8	7	4	

Existing 2015- current timings and phasings 5:00 pm 12/16/2019 PM Peak Hour
D. Fairlie - MAAI

Synchro 8 Report
Page 4

Lanes, Volumes, Timings
2: Shopping Center & Hammond Dr.

4/7/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	10.0	22.0	24.7	10.2	24.7		10.1	15.0	15.0	10.2	15.0	
Total Split (s)	15.0	70.0	70.0	15.0	70.0		15.0	20.0	20.0	15.0	20.0	
Total Split (%)	12.5%	58.3%	58.3%	12.5%	58.3%		12.5%	16.7%	16.7%	12.5%	16.7%	
Maximum Green (s)	9.0	64.3	64.3	8.8	64.3		8.9	13.4	13.4	8.8	13.4	
Yellow Time (s)	3.0	4.0	4.0	3.2	4.0		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	3.0	1.7	1.7	3.0	1.7		2.8	3.3	3.3	2.9	3.3	
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	5.7	5.7	6.2	5.7		6.1	6.6	6.6	6.2	6.6	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max		None	None	None	None	None	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		9.0	12.0		12.0			26.0	26.0		22.0	
Pedestrian Calls (#/hr)		0	0		0			0	0		0	
Act Effect Green (s)	82.3	77.1	77.2	82.0	77.2		14.7	7.8	7.8	16.4	8.9	
Actuated g/C Ratio	0.69	0.64	0.64	0.68	0.64		0.12	0.06	0.06	0.14	0.07	
v/c Ratio	0.10	0.27	0.05	0.10	0.32		0.23	0.18	0.28	0.62	0.46	
Control Delay	6.5	10.3	0.7	6.6	11.5		42.1	55.1	3.0	57.1	28.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	6.5	10.3	0.7	6.6	11.5		42.1	55.1	3.0	57.1	28.2	
LOS	A	B	A	A	B		D	E	A	E	C	
Approach Delay		9.6			11.2			24.8			45.4	
Approach LOS		A			B			C			D	
90th %ile Green (s)	7.8	67.2	67.1	7.5	67.1		8.9	11.8	11.8	8.8	11.8	
90th %ile Term Code	Gap	Coord	Coord	Gap	Coord		Max	Hold	Hold	Max	Gap	
70th %ile Green (s)	6.9	70.7	70.8	6.8	70.8		8.9	9.0	9.0	8.8	9.0	
70th %ile Term Code	Gap	Coord	Coord	Gap	Coord		Max	Hold	Hold	Max	Gap	
50th %ile Green (s)	6.4	73.4	73.5	6.3	73.5		7.9	6.8	6.8	8.8	7.8	
50th %ile Term Code	Gap	Coord	Coord	Gap	Coord		Gap	Gap	Gap	Max	Hold	
30th %ile Green (s)	6.0	74.6	74.7	5.9	74.7		6.8	6.0	6.0	8.8	8.1	
30th %ile Term Code	Gap	Coord	Coord	Gap	Coord		Gap	Gap	Gap	Max	Hold	
10th %ile Green (s)	0.0	99.8	99.8	0.0	99.8		0.0	0.0	0.0	8.3	7.9	
10th %ile Term Code	Skip	Coord	Coord	Skip	Coord		Skip	Skip	Skip	Gap	Hold	
Queue Length 50th (ft)	11	93	1	9	133		28	17	0	82	16	
Queue Length 95th (ft)	m23	110	m5	23	196		58	43	0	134	66	
Internal Link Dist (ft)		883			899			453			668	
Turn Bay Length (ft)	250		250	200			100					
Base Capacity (vph)	532	3268	1069	473	2253		209	208	298	195	238	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.09	0.27	0.05	0.09	0.32		0.21	0.11	0.22	0.62	0.34	
Intersection Summary												
Area Type:	Other											
Cycle Length: 120												

Lanes, Volumes, Timings

2: Shopping Center & Hammond Dr.

4/7/2016

Actuated Cycle Length: 120

Offset: 44.3 (37%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 14.6

Intersection LOS: B

Intersection Capacity Utilization 50.1%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Shopping Center & Hammond Dr.

 ø1	 ø2 (R)	 ø3	 ø4
15 s	70 s	15 s	20 s
 ø5	 ø6 (R)	 ø7	 ø8
15 s	70 s	15 s	20 s

Lanes, Volumes, Timings
3: Ashford-Dunwoody Rd. & Hammond Dr.

4/7/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	20	750	325	60	30	545	1735	50	10	1790	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	210		0	0		0	300		0	261		276
Storage Lanes	1		2	2		1	2		0	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.88	0.97	1.00	1.00	0.97	0.86	0.86	0.97	0.86	1.00
Frt			0.850			0.850		0.996				0.850
Flt Protected	0.950	0.961		0.950			0.950			0.950		
Satd. Flow (prot)	1681	1701	2787	3433	1863	1583	3433	6382	0	3433	6408	1583
Flt Permitted	0.950	0.961		0.950			0.950			0.950		
Satd. Flow (perm)	1681	1701	2787	3433	1863	1583	3433	6382	0	3433	6408	1583
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)						201		4				159
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		979			481			1611			970	
Travel Time (s)		19.1			9.4			24.4			14.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	22	815	353	65	33	592	1886	54	11	1946	114
Shared Lane Traffic (%)	45%											
Lane Group Flow (vph)	119	120	815	353	65	33	592	1940	0	11	1946	114
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	custom	Split	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	4	4	7 1	3	3		1	6		5	2	
Permitted Phases						3						2
Detector Phase	4	4	7 1	3	3	3	1	6		5	2	2

Existing 2015- current timings and phasings 5:00 pm 12/16/2019 PM Peak Hour
D. Fairlie - MAAI

Synchro 8 Report
Page 7

Lanes, Volumes, Timings

3: Ashford-Dunwoody Rd. & Hammond Dr.

4/7/2016

Lane Group	ø7	ø8
Lane Configurations		
Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	7	8
Permitted Phases		
Detector Phase		

Lanes, Volumes, Timings
3: Ashford-Dunwoody Rd. & Hammond Dr.

4/7/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	15.0	15.0		13.0	13.0	13.0	12.2	31.0		11.7	28.0	28.0
Total Split (s)	52.0	52.0		34.0	34.0	34.0	36.0	79.0		15.0	58.0	58.0
Total Split (%)	28.9%	28.9%		18.9%	18.9%	18.9%	20.0%	43.9%		8.3%	32.2%	32.2%
Maximum Green (s)	44.2	44.2		26.1	26.1	26.1	27.8	72.0		7.3	51.0	51.0
Yellow Time (s)	3.4	3.4		3.0	3.0	3.0	3.0	4.5		3.0	4.5	4.5
All-Red Time (s)	4.4	4.4		4.9	4.9	4.9	5.2	2.5		4.7	2.5	2.5
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)	7.8	7.8		7.9	7.9	7.9	8.2	7.0		7.7	7.0	7.0
Lead/Lag							Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		Min	Min	Min	None	C-Max		None	C-Max	C-Max
Walk Time (s)	5.0	5.0		5.0	5.0	5.0		5.0			5.0	5.0
Flash Dont Walk (s)	33.0	33.0		20.0	20.0	20.0		19.0			16.0	16.0
Pedestrian Calls (#/hr)	10	10		10	10	10		10			10	10
Act Effect Green (s)	27.0	27.0	66.9	23.1	23.1	23.1	47.0	101.2		6.3	52.0	52.0
Actuated g/C Ratio	0.15	0.15	0.37	0.13	0.13	0.13	0.26	0.56		0.04	0.29	0.29
v/c Ratio	0.47	0.47	0.79	0.80	0.27	0.09	0.66	0.54		0.09	1.05	0.20
Control Delay	73.1	73.0	52.5	90.3	73.0	0.5	63.3	29.5		85.2	96.1	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	73.1	73.0	52.5	90.3	73.0	0.5	63.3	29.5		85.2	96.1	2.1
LOS	E	E	D	F	E	A	E	C		F	F	A
Approach Delay		57.2			81.3			37.4			90.9	
Approach LOS		E			F			D			F	
90th %ile Green (s)	44.2	44.2		26.1	26.1	26.1	27.8	72.0		7.3	51.0	51.0
90th %ile Term Code	Hold	Hold		Max	Max	Max	Max	Coord		Hold	Coord	Coord
70th %ile Green (s)	44.2	44.2		26.1	26.1	26.1	27.8	72.0		7.3	51.0	51.0
70th %ile Term Code	Hold	Hold		Max	Max	Max	Max	Coord		Hold	Coord	Coord
50th %ile Green (s)	18.1	18.1		23.7	23.7	23.7	51.3	115.5		0.0	56.0	56.0
50th %ile Term Code	Gap	Gap		Gap	Gap	Gap	Gap	Coord		Skip	Coord	Coord
30th %ile Green (s)	15.3	15.3		21.4	21.4	21.4	61.4	120.6		0.0	51.0	51.0
30th %ile Term Code	Gap	Gap		Gap	Gap	Gap	Max	Coord		Skip	Coord	Coord
10th %ile Green (s)	13.2	13.2		18.1	18.1	18.1	66.8	126.0		0.0	51.0	51.0
10th %ile Term Code	Hold	Hold		Gap	Gap	Gap	Max	Coord		Skip	Coord	Coord
Queue Length 50th (ft)	146	147	427	211	70	0	314	328		6	665	0
Queue Length 95th (ft)	190	192	#828	268	122	0	#540	615		19	#807	13
Internal Link Dist (ft)		899			401			1531			890	
Turn Bay Length (ft)	210						300			261		276
Base Capacity (vph)	412	417	1035	497	270	401	897	3590		139	1851	570
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.29	0.29	0.79	0.71	0.24	0.08	0.66	0.54		0.08	1.05	0.20
Intersection Summary												
Area Type:	Other											
Cycle Length: 180												

Lanes, Volumes, Timings
3: Ashford-Dunwoody Rd. & Hammond Dr.

4/7/2016

Lane Group	ø7	ø8
Switch Phase		
Minimum Initial (s)	4.0	4.0
Minimum Split (s)	13.0	39.0
Total Split (s)	13.0	39.0
Total Split (%)	7%	22%
Maximum Green (s)	7.6	36.0
Yellow Time (s)	3.4	3.0
All-Red Time (s)	2.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		4.0
Flash Dont Walk (s)		32.0
Pedestrian Calls (#/hr)		10
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
90th %ile Green (s)	7.6	36.0
90th %ile Term Code	Max	Ped
70th %ile Green (s)	7.6	36.0
70th %ile Term Code	Max	Ped
50th %ile Green (s)	20.5	0.0
50th %ile Term Code	Hold	Skip
30th %ile Green (s)	17.7	0.0
30th %ile Term Code	Hold	Skip
10th %ile Green (s)	15.6	0.0
10th %ile Term Code	Max	Skip
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Lanes, Volumes, Timings

3: Ashford-Dunwoody Rd. & Hammond Dr.

4/7/2016

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green, Master Intersection

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 62.2

Intersection LOS: E

Intersection Capacity Utilization 78.4%

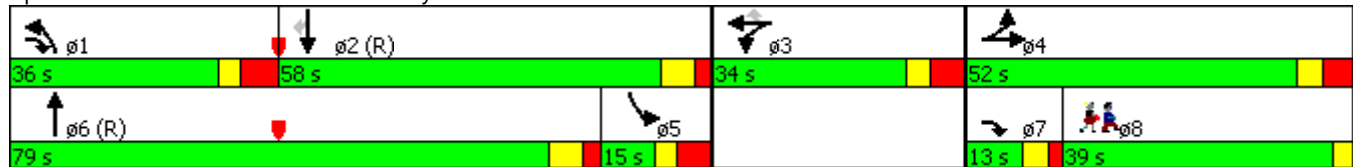
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Ashford-Dunwoody Rd. & Hammond Dr.



Lanes, Volumes, Timings
4: Perimeter Center Pkwy & Goldkist Dr.

4/7/2016

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø4	ø8
Lane Configurations								
Volume (vph)	5	25	595	0	45	430		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0	0		0	200			
Storage Lanes	1	1		0	1			
Taper Length (ft)	25				25			
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95		
Frt		0.850						
Flt Protected	0.950				0.950			
Satd. Flow (prot)	1770	1583	3539	0	1770	3539		
Flt Permitted	0.950				0.372			
Satd. Flow (perm)	1770	1583	3539	0	693	3539		
Right Turn on Red		Yes		Yes				
Satd. Flow (RTOR)		27						
Link Speed (mph)	35		35			35		
Link Distance (ft)	661		742			670		
Travel Time (s)	12.9		14.5			13.1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Adj. Flow (vph)	5	27	647	0	49	467		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	5	27	647	0	49	467		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Right	Left	Left		
Median Width(ft)	12		12			12		
Link Offset(ft)	0		0			0		
Crosswalk Width(ft)	16		16			16		
Two way Left Turn Lane								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9		9	15			
Number of Detectors	1	1	2		1	2		
Detector Template	Left	Right	Thru		Left	Thru		
Leading Detector (ft)	20	20	100		20	100		
Trailing Detector (ft)	0	0	0		0	0		
Detector 1 Position(ft)	0	0	0		0	0		
Detector 1 Size(ft)	20	20	6		20	6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel								
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0		
Detector 2 Position(ft)			94			94		
Detector 2 Size(ft)			6			6		
Detector 2 Type			Cl+Ex			Cl+Ex		
Detector 2 Channel								
Detector 2 Extend (s)			0.0			0.0		
Turn Type	Prot	Prot	NA		pm+pt	NA		
Protected Phases	3	7	6		5	2	4	8
Permitted Phases					2			
Detector Phase	3	7	6		5	2		

Lanes, Volumes, Timings
4: Perimeter Center Pkwy & Goldkist Dr.

4/7/2016



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø4	ø8
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	15.0	15.0	41.4		10.5	20.0	38.0	40.0
Total Split (s)	16.0	16.0	77.0		15.0	92.0	12.0	12.0
Total Split (%)	13.3%	13.3%	64.2%		12.5%	76.7%	10%	10%
Maximum Green (s)	10.3	10.9	70.6		8.5	85.6	6.0	6.0
Yellow Time (s)	3.1	3.1	4.0		3.0	4.0	4.0	4.0
All-Red Time (s)	2.6	2.0	2.4		3.5	2.4	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0		
Total Lost Time (s)	5.7	5.1	6.4		6.5	6.4		
Lead/Lag	Lead	Lead	Lag		Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min		None	C-Min	None	None
Walk Time (s)			7.0				7.0	7.0
Flash Dont Walk (s)			28.0				25.0	27.0
Pedestrian Calls (#/hr)			0				0	0
Act Effect Green (s)	6.1	6.4	97.5		106.2	108.9		
Actuated g/C Ratio	0.05	0.05	0.81		0.88	0.91		
v/c Ratio	0.06	0.25	0.22		0.07	0.15		
Control Delay	54.8	24.2	4.0		1.3	1.0		
Queue Delay	0.0	0.0	0.0		0.0	0.0		
Total Delay	54.8	24.2	4.0		1.3	1.0		
LOS	D	C	A		A	A		
Approach Delay	29.0		4.0			1.0		
Approach LOS	C		A			A		
90th %ile Green (s)	7.6	8.2	87.2		6.6	100.3	0.0	0.0
90th %ile Term Code	Hold	Gap	Coord		Gap	Coord	Skip	Skip
70th %ile Green (s)	0.0	6.6	89.2		6.2	101.9	5.7	0.0
70th %ile Term Code	Skip	Gap	Coord		Gap	Coord	Hold	Skip
50th %ile Green (s)	0.0	6.4	89.6		6.0	102.1	5.5	0.0
50th %ile Term Code	Skip	Hold	Coord		Gap	Coord	Hold	Skip
30th %ile Green (s)	0.0	0.0	101.6		5.5	113.6	0.0	0.0
30th %ile Term Code	Skip	Skip	Coord		Gap	Coord	Skip	Skip
10th %ile Green (s)	0.0	0.0	113.6		0.0	113.6	0.0	0.0
10th %ile Term Code	Skip	Skip	Coord		Skip	Coord	Skip	Skip
Queue Length 50th (ft)	4	0	71		4	19		
Queue Length 95th (ft)	17	30	99		m7	24		
Internal Link Dist (ft)	581		662			590		
Turn Bay Length (ft)					200			
Base Capacity (vph)	151	168	2876		689	3210		
Starvation Cap Reductn	0	0	0		0	0		
Spillback Cap Reductn	0	0	0		0	0		
Storage Cap Reductn	0	0	0		0	0		
Reduced v/c Ratio	0.03	0.16	0.22		0.07	0.15		

Intersection Summary

Area Type: Other
Cycle Length: 120

Lanes, Volumes, Timings

4: Perimeter Center Pkwy & Goldkist Dr.

4/7/2016

Actuated Cycle Length: 120

Offset: 40 (33%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.25

Intersection Signal Delay: 3.4

Intersection LOS: A

Intersection Capacity Utilization 38.6%

ICU Level of Service A

Analysis Period (min) 15

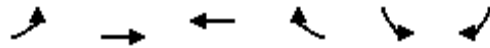
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Perimeter Center Pkwy & Goldkist Dr.

 ø2 (R)		 ø3		 ø4	
92 s		16 s		12 s	
 ø5	 ø6 (R)	 ø7		 ø8	
15 s	77 s	16 s		12 s	

Lanes, Volumes, Timings
5: Lake Hearn Dr. & Perimeter Center Pkwy

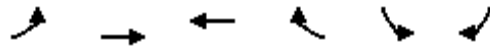
4/7/2016



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰↰	↱↱	↰↰	↰↰	↰↰	↰
Volume (vph)	210	410	475	265	510	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	301			0	425	0
Storage Lanes	2			2	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	0.88	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3090	3185	3185	2508	3090	1425
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3090	3185	3185	2508	3090	1425
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				288		239
Link Speed (mph)		35	35		35	
Link Distance (ft)		806	1749		1830	
Travel Time (s)		15.7	34.1		35.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	228	446	516	288	554	239
Shared Lane Traffic (%)						
Lane Group Flow (vph)	228	446	516	288	554	239
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Detector Phase	5	2	6	6	4	4

Lanes, Volumes, Timings
5: Lake Hearn Dr. & Perimeter Center Pkwy

4/7/2016



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	20.0	29.0	29.0	39.0	39.0
Total Split (s)	12.0	41.0	29.0	29.0	39.0	39.0
Total Split (%)	15.0%	51.3%	36.3%	36.3%	48.8%	48.8%
Maximum Green (s)	6.0	35.0	23.0	23.0	33.0	33.0
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	Lead		Lag		Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	None	None
Walk Time (s)			7.0	7.0	7.0	7.0
Flash Dont Walk (s)			16.0	16.0	26.0	26.0
Pedestrian Calls (#/hr)			0	0	0	0
Act Effect Green (s)	6.2	28.1	15.8	15.8	16.2	16.2
Actuated g/C Ratio	0.11	0.50	0.28	0.28	0.29	0.29
v/c Ratio	0.68	0.28	0.58	0.32	0.63	0.41
Control Delay	40.1	9.4	20.8	3.6	21.5	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.1	9.4	20.8	3.6	21.5	5.2
LOS	D	A	C	A	C	A
Approach Delay	19.8		14.6	16.6		
Approach LOS	B		B	B		
90th %ile Green (s)	6.0	35.0	23.0	23.0	23.5	23.5
90th %ile Term Code	Max	Hold	Max	Max	Gap	Gap
70th %ile Green (s)	6.0	31.0	19.0	19.0	19.1	19.1
70th %ile Term Code	Max	Hold	Gap	Gap	Gap	Gap
50th %ile Green (s)	6.0	27.9	15.9	15.9	16.4	16.4
50th %ile Term Code	Max	Hold	Gap	Gap	Gap	Gap
30th %ile Green (s)	6.0	24.9	12.9	12.9	13.1	13.1
30th %ile Term Code	Max	Hold	Gap	Gap	Gap	Gap
10th %ile Green (s)	6.0	21.7	9.7	9.7	10.4	10.4
10th %ile Term Code	Max	Hold	Gap	Gap	Gap	Gap
Queue Length 50th (ft)	39	42	77	0	81	0
Queue Length 95th (ft)	#111	84	137	26	144	44
Internal Link Dist (ft)	726		1669	1750		
Turn Bay Length (ft)	301				425	
Base Capacity (vph)	336	2022	1329	1214	1850	949
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.22	0.39	0.24	0.30	0.25

Intersection Summary

Area Type: CBD
Cycle Length: 80

Lanes, Volumes, Timings

5: Lake Hearn Dr. & Perimeter Center Pkwy

4/7/2016

Actuated Cycle Length: 56.6

Natural Cycle: 80

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 16.9

Intersection LOS: B

Intersection Capacity Utilization 52.4%

ICU Level of Service A

Analysis Period (min) 15

90th %ile Actuated Cycle: 70.5

70th %ile Actuated Cycle: 62.1

50th %ile Actuated Cycle: 56.3

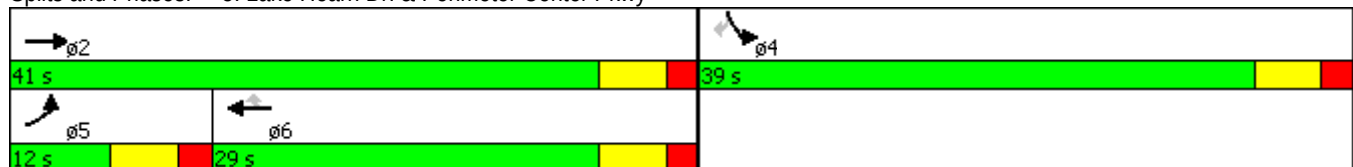
30th %ile Actuated Cycle: 50

10th %ile Actuated Cycle: 44.1

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: Lake Hearn Dr. & Perimeter Center Pkwy



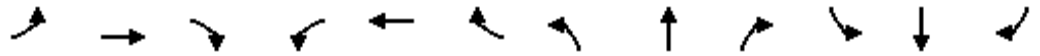
1: Perimeter Center Pkwy & Hammond Dr.

AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	240	950	720	890	660	370	325	325	225	370	610	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	250		500	80		0	250		300
Storage Lanes	2		1	3		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.94	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	4990	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	4990	3539	1583	3433	3539	1583	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			204			245			143
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2029			963			330			786	
Travel Time (s)		30.7			14.6			5.0			11.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	261	1033	783	967	717	402	353	353	245	402	663	250
Shared Lane Traffic (%)												
Lane Group Flow (vph)	261	1033	783	967	717	402	353	353	245	402	663	250
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	8	7	4	5

1: Perimeter Center Pkwy & Hammond Dr.

AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.5	31.5	8.5	9.5	31.5	8.5	8.5	44.5	44.5	8.5	37.5	9.5
Total Split (s)	18.4	32.6	30.1	29.8	44.0	21.1	30.1	46.5	46.5	21.1	37.5	18.4
Total Split (%)	14.2%	25.1%	23.2%	22.9%	33.8%	16.2%	23.2%	35.8%	35.8%	16.2%	28.8%	14.2%
Maximum Green (s)	12.9	27.1	25.6	24.3	38.5	16.6	25.6	42.0	42.0	16.6	33.0	12.9
Yellow Time (s)	4.5	4.5	3.5	4.5	4.5	3.5	3.5	3.5	3.5	3.5	3.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	4.5	5.5	5.5	4.5	4.5	4.5	4.5	4.5	4.5	5.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None	C-Min	None	None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0			19.0			33.0	33.0		26.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effect Green (s)	13.3	27.1	58.2	27.9	41.7	63.8	25.6	38.4	38.4	16.6	29.4	47.2
Actuated g/C Ratio	0.10	0.21	0.45	0.21	0.32	0.49	0.20	0.30	0.30	0.13	0.23	0.36
v/c Ratio	0.74	0.97	1.02	0.90	0.63	0.46	0.52	0.34	0.38	0.92	0.83	0.38
Control Delay	70.0	73.2	69.4	64.0	36.8	8.6	49.9	36.3	5.6	82.7	57.4	13.5
Queue Delay	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 Delay	70.0	73.2	69.4	64.0	36.8	8.6	49.9	36.3	5.6	82.7	57.4	13.5
LOS	E	E	E	E	D	A	D	D	A	F	E	B
Approach Delay		71.4			44.0			33.5			56.8	
Approach LOS		E			D			C			E	
90th %ile Green (s)	12.9	27.1	25.6	24.3	38.5	16.6	25.6	42.0	42.0	16.6	33.0	12.9
90th %ile Term Code	Max	Coord	Max	Max	Coord	Max	Max	Hold	Hold	Max	Max	Max
70th %ile Green (s)	13.3	27.1	25.6	24.7	38.5	16.6	25.6	41.6	41.6	16.6	32.6	13.3
70th %ile Term Code	Max	Coord	Max	Max	Coord	Max	Max	Hold	Hold	Max	Gap	Max
50th %ile Green (s)	15.4	27.1	25.6	27.1	38.8	16.6	25.6	39.2	39.2	16.6	30.2	15.4
50th %ile Term Code	Gap	Coord	Max	Max	Coord	Max	Max	Hold	Hold	Max	Gap	Gap
30th %ile Green (s)	13.7	27.1	25.6	29.5	42.9	16.6	25.6	36.8	36.8	16.6	27.8	13.7
30th %ile Term Code	Gap	Coord	Max	Max	Coord	Max	Max	Hold	Hold	Max	Gap	Gap
10th %ile Green (s)	11.4	27.1	25.6	34.0	49.7	16.6	25.6	32.3	32.3	16.6	23.3	11.4
10th %ile Term Code	Gap	Coord	Max	Max	Coord	Max	Max	Hold	Hold	Max	Gap	Gap
Queue Length 50th (ft)	109	319	~648	256	284	118	138	121	0	175	280	59
Queue Length 95th (ft)	#172	#416	#897	#413	228	m76	189	160	59	#269	342	127
Internal Link Dist (ft)		1949			883			250			706	
Turn Bay Length (ft)	260			250		500	80			250		300
Base Capacity (vph)	360	1060	766	1071	1134	880	676	1143	677	438	898	669
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.97	1.02	0.90	0.63	0.46	0.52	0.31	0.36	0.92	0.74	0.37

Intersection Summary

Area Type: Other

Cycle Length: 130

1: Perimeter Center Pkwy & Hammond Dr.

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 53.9

Intersection LOS: D

Intersection Capacity Utilization 90.5%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Perimeter Center Pkwy & Hammond Dr.

 ø1	 ø2 (R)	 ø3	 ø4
29.8 s	32.6 s	30.1 s	37.5 s
 ø5	 ø6 (R)	 ø7	 ø8
18.4 s	44 s	21.1 s	46.5 s

2: Shopping Center & Hammond Dr.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Volume (vph)	5	985	365	360	1790	25	120	5	110	15	5	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		250	200		200	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.897	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1863	1583	1770	1671	0
Flt Permitted	0.100			0.196			0.541					
Satd. Flow (perm)	186	5085	1583	365	5085	1583	1008	1863	1583	1863	1671	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			397			97			151		11	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		963			979			533			748	
Travel Time (s)		14.6			14.8			8.1			11.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	1071	397	391	1946	27	130	5	120	16	5	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	1071	397	391	1946	27	130	5	120	16	16	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	

2: Shopping Center & Hammond Dr.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.5	24.5	24.5	9.5	21.5	21.5	8.5	44.5	44.5	8.5	39.5	39.5
Total Split (s)	9.5	39.9	39.9	37.0	67.4	67.4	10.9	44.6	44.6	8.5	42.2	42.2
Total Split (%)	7.3%	30.7%	30.7%	28.5%	51.8%	51.8%	8.4%	34.3%	34.3%	6.5%	32.5%	32.5%
Maximum Green (s)	4.0	34.4	34.4	31.5	61.9	61.9	6.4	40.1	40.1	4.0	37.7	37.7
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	4.5	4.5	4.5	4.5	4.5	4.5
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
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		12.0	12.0		9.0	9.0		33.0	33.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	77.1	71.5	71.5	105.6	103.3	103.3	13.6	11.0	11.0	8.1	6.3	6.3
Actuated g/C Ratio	0.59	0.55	0.55	0.81	0.79	0.79	0.10	0.08	0.08	0.06	0.05	0.05
v/c Ratio	0.03	0.38	0.38	0.65	0.48	0.02	0.80	0.03	0.44	0.14	0.18	0.18
Control Delay	1.4	2.5	0.5	14.0	5.7	0.0	88.8	55.8	9.2	54.1	38.4	38.4
Queue Delay	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 Delay	1.4	2.5	0.5	14.0	5.7	0.0	88.8	55.8	9.2	54.1	38.4	38.4
LOS	A	A	A	B	A	A	F	E	A	D	D	D
Approach Delay		2.0			7.0			50.7			46.2	46.2
Approach LOS		A			A			D			D	D
90th %ile Green (s)	5.8	60.0	60.0	35.7	89.9	89.9	6.4	10.3	10.3	4.0	7.9	7.9
90th %ile Term Code	Gap	Coord	Coord	Gap	Coord	Coord	Max	Hold	Hold	Max	Gap	Gap
70th %ile Green (s)	0.0	65.1	65.1	31.7	102.3	102.3	6.5	9.1	9.1	4.1	6.7	6.7
70th %ile Term Code	Skip	Coord	Coord	Gap	Coord	Coord	Max	Hold	Hold	Max	Gap	Gap
50th %ile Green (s)	0.0	70.8	70.8	29.1	105.4	105.4	14.6	14.6	14.6	0.0	0.0	0.0
50th %ile Term Code	Skip	Coord	Coord	Gap	Coord	Coord	Gap	Hold	Hold	Skip	Skip	Skip
30th %ile Green (s)	0.0	76.7	76.7	25.7	107.9	107.9	12.1	12.1	12.1	0.0	0.0	0.0
30th %ile Term Code	Skip	Coord	Coord	Gap	Coord	Coord	Gap	Hold	Hold	Skip	Skip	Skip
10th %ile Green (s)	0.0	85.0	85.0	20.6	111.1	111.1	8.9	8.9	8.9	0.0	0.0	0.0
10th %ile Term Code	Skip	Coord	Coord	Gap	Coord	Coord	Gap	Hold	Hold	Skip	Skip	Skip
Queue Length 50th (ft)	0	21	0	83	149	0	107	4	0	13	4	4
Queue Length 95th (ft)	m0	m27	m0	202	308	0	#208	18	35	35	29	29
Internal Link Dist (ft)		883			899			453			668	668
Turn Bay Length (ft)	250		250	200		200	100					
Base Capacity (vph)	178	2797	1049	646	4041	1277	162	574	592	112	492	492
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.38	0.38	0.61	0.48	0.02	0.80	0.01	0.20	0.14	0.03	0.03
Intersection Summary												
Area Type:	Other											
Cycle Length: 130												

2: Shopping Center & Hammond Dr.

Actuated Cycle Length: 130

Offset: 39 (30%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 8.2

Intersection LOS: A

Intersection Capacity Utilization 65.2%

ICU Level of Service C

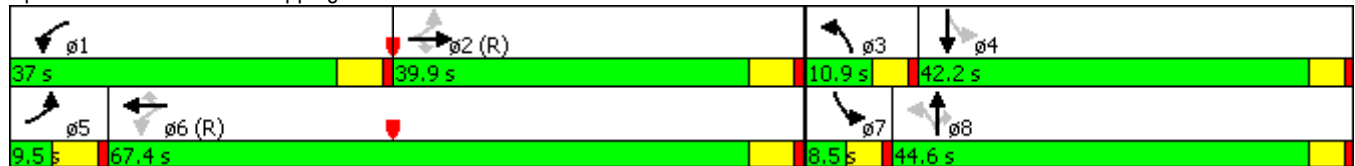
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Shopping Center & Hammond Dr.

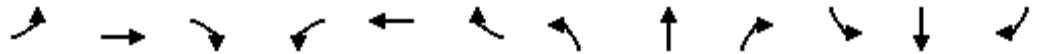


1: Perimeter Center Pkwy & Hammond Dr.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	290	705	390	370	710	390	795	755	630	440	520	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	250		500	80		0	250		300
Storage Lanes	2		1	3		1	2		1	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.94	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	4990	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	4990	3539	1583	3433	3539	1583	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			59			97			240			97
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2029			963			330			786	
Travel Time (s)		30.7			14.6			5.0			11.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	315	766	424	402	772	424	864	821	685	478	565	359
Shared Lane Traffic (%)												
Lane Group Flow (vph)	315	766	424	402	772	424	864	821	685	478	565	359
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8		7	4	5
Permitted Phases			2			6			8			4
Detector Phase	5	2	3	1	6	7	3	8	8	7	4	5

1: Perimeter Center Pkwy & Hammond Dr.

AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.5	31.5	8.5	9.5	31.5	8.5	8.5	44.5	44.5	8.5	37.5	9.5
Total Split (s)	18.6	35.1	38.2	19.2	35.7	23.8	38.2	51.9	51.9	23.8	37.5	18.6
Total Split (%)	14.3%	27.0%	29.4%	14.8%	27.5%	18.3%	29.4%	39.9%	39.9%	18.3%	28.8%	14.3%
Maximum Green (s)	13.1	29.6	33.7	13.7	30.2	19.3	33.7	47.4	47.4	19.3	33.0	13.1
Yellow Time (s)	4.5	4.5	3.5	4.5	4.5	3.5	3.5	3.5	3.5	3.5	3.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	4.5	5.5	5.5	4.5	4.5	4.5	4.5	4.5	4.5	5.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None	C-Min	None	None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		19.0			19.0			33.0	33.0		26.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effect Green (s)	13.3	31.2	70.6	13.4	31.3	56.2	33.9	46.0	46.0	19.4	31.5	49.3
Actuated g/C Ratio	0.10	0.24	0.54	0.10	0.24	0.43	0.26	0.35	0.35	0.15	0.24	0.38
v/c Ratio	0.90	0.63	0.48	0.78	0.91	0.57	0.97	0.66	0.96	0.93	0.66	0.54
Control Delay	85.7	47.3	18.1	73.9	55.0	18.6	70.4	38.1	51.7	80.9	48.4	25.6
Queue Delay	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 Delay	85.7	47.3	18.1	73.9	55.0	18.6	70.4	38.1	51.7	80.9	48.4	25.6
LOS	F	D	B	E	E	B	E	D	D	F	D	C
Approach Delay		47.1			50.1			53.8			53.6	
Approach LOS		D			D			D			D	
90th %ile Green (s)	13.1	29.6	33.7	13.7	30.2	19.3	33.7	47.4	47.4	19.3	33.0	13.1
90th %ile Term Code	Max	Coord	Max	Max	Coord	Max	Max	Max	Max	Max	Hold	Max
70th %ile Green (s)	13.1	29.6	33.7	13.7	30.2	19.3	33.7	47.4	47.4	19.3	33.0	13.1
70th %ile Term Code	Max	Coord	Max	Max	Coord	Max	Max	Max	Max	Max	Hold	Max
50th %ile Green (s)	13.1	29.6	33.7	13.7	30.2	19.3	33.7	47.4	47.4	19.3	33.0	13.1
50th %ile Term Code	Max	Coord	Max	Max	Coord	Max	Max	Max	Max	Max	Hold	Max
30th %ile Green (s)	13.1	29.6	33.7	13.7	30.2	19.3	33.7	47.4	47.4	19.3	33.0	13.1
30th %ile Term Code	Max	Coord	Max	Max	Coord	Max	Max	Max	Max	Max	Hold	Max
10th %ile Green (s)	14.2	37.6	34.8	12.3	35.7	19.9	34.8	40.2	40.2	19.9	25.3	14.2
10th %ile Term Code	Gap	Coord	Gap	Gap	Coord	Gap	Gap	Gap	Gap	Gap	Hold	Gap
Queue Length 50th (ft)	137	216	188	128	347	124	373	299	400	208	223	168
Queue Length 95th (ft)	#224	264	278	m139	m291	m139	#506	370	#663	#311	286	266
Internal Link Dist (ft)		1949			883			250			706	
Turn Bay Length (ft)	260			250		500	80			250		300
Base Capacity (vph)	351	1220	886	525	852	739	895	1290	729	512	898	660
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.63	0.48	0.77	0.91	0.57	0.97	0.64	0.94	0.93	0.63	0.54

Intersection Summary

Area Type: Other

Cycle Length: 130

1: Perimeter Center Pkwy & Hammond Dr.

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 51.4

Intersection LOS: D

Intersection Capacity Utilization 81.6%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Perimeter Center Pkwy & Hammond Dr.

 ø1	 ø2 (R)	 ø3	 ø4
19.2 s	35.1 s	38.2 s	37.5 s
 ø5	 ø6 (R)	 ø7	 ø8
18.6 s	35.7 s	23.8 s	51.9 s

2: Shopping Center & Hammond Dr.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Volume (vph)	50	1590	210	315	1050	55	360	20	370	120	20	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		250	200		200	100		0	0		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.888	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1863	1583	1770	1654	0
Flt Permitted	0.237			0.063			0.464			0.743		
Satd. Flow (perm)	441	5085	1583	117	5085	1583	864	1863	1583	1384	1654	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			180			134			288		65	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		963			979			533			748	
Travel Time (s)		14.6			14.8			8.1			11.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	1728	228	342	1141	60	391	22	402	130	22	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	1728	228	342	1141	60	391	22	402	130	87	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	

2: Shopping Center & Hammond Dr.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.5	24.5	24.5	9.5	21.5	21.5	8.5	44.5	44.5	8.5	39.5	39.5
Total Split (s)	11.2	50.4	50.4	25.6	64.8	64.8	14.4	45.0	45.0	9.0	39.6	39.6
Total Split (%)	8.6%	38.8%	38.8%	19.7%	49.8%	49.8%	11.1%	34.6%	34.6%	6.9%	30.5%	30.5%
Maximum Green (s)	5.7	44.9	44.9	20.1	59.3	59.3	9.9	40.5	40.5	4.5	35.1	35.1
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	4.5	4.5	4.5	4.5	4.5	4.5
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
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		12.0	12.0		9.0	9.0		33.0	33.0		28.0	28.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effect Green (s)	64.4	57.6	57.6	92.5	82.4	82.4	27.5	18.5	18.5	17.6	13.1	13.1
Actuated g/C Ratio	0.50	0.44	0.44	0.71	0.63	0.63	0.21	0.14	0.14	0.14	0.10	0.10
v/c Ratio	0.19	0.77	0.28	0.75	0.35	0.06	1.55	0.08	0.85	0.65	0.39	0.39
Control Delay	7.3	23.3	2.1	44.9	13.3	0.1	301.6	44.4	32.1	61.5	21.9	21.9
Queue Delay	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 Delay	7.3	23.3	2.1	44.9	13.3	0.1	301.6	44.4	32.1	61.5	21.9	21.9
LOS	A	C	A	D	B	A	F	D	C	E	C	C
Approach Delay		20.4			19.8			161.8				45.6
Approach LOS		C			B			F				D
90th %ile Green (s)	8.6	44.9	44.9	29.4	65.7	65.7	9.9	31.2	31.2	4.5	25.8	25.8
90th %ile Term Code	Gap	Coord	Coord	Max	Coord	Coord	Max	Gap	Gap	Max	Hold	Hold
70th %ile Green (s)	7.3	52.5	52.5	30.6	75.8	75.8	9.9	22.4	22.4	4.5	17.0	17.0
70th %ile Term Code	Gap	Coord	Coord	Gap	Coord	Coord	Max	Gap	Gap	Max	Hold	Hold
50th %ile Green (s)	6.6	59.2	59.2	29.4	82.0	82.0	9.9	16.9	16.9	4.5	11.5	11.5
50th %ile Term Code	Gap	Coord	Coord	Gap	Coord	Coord	Max	Gap	Gap	Max	Hold	Hold
30th %ile Green (s)	6.0	65.4	65.4	28.8	88.2	88.2	9.9	11.3	11.3	4.5	5.9	5.9
30th %ile Term Code	Gap	Coord	Coord	Gap	Coord	Coord	Max	Gap	Gap	Max	Hold	Hold
10th %ile Green (s)	0.0	66.0	66.0	28.6	100.1	100.1	9.9	10.9	10.9	4.5	5.5	5.5
10th %ile Term Code	Skip	Coord	Coord	Gap	Coord	Coord	Max	Hold	Hold	Max	Gap	Gap
Queue Length 50th (ft)	8	395	2	213	157	0	~473	17	98	96	17	17
Queue Length 95th (ft)	m16	m#617	m14	#352	256	0	#592	38	203	136	62	62
Internal Link Dist (ft)		883			899			453				668
Turn Bay Length (ft)	250		250	200		200	100					
Base Capacity (vph)	288	2253	801	456	3221	1051	252	580	691	201	494	494
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.77	0.28	0.75	0.35	0.06	1.55	0.04	0.58	0.65	0.18	0.18
Intersection Summary												
Area Type:	Other											
Cycle Length: 130												

2: Shopping Center & Hammond Dr.

Actuated Cycle Length: 130

Offset: 24 (18%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.55

Intersection Signal Delay: 46.5

Intersection LOS: D

Intersection Capacity Utilization 87.7%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

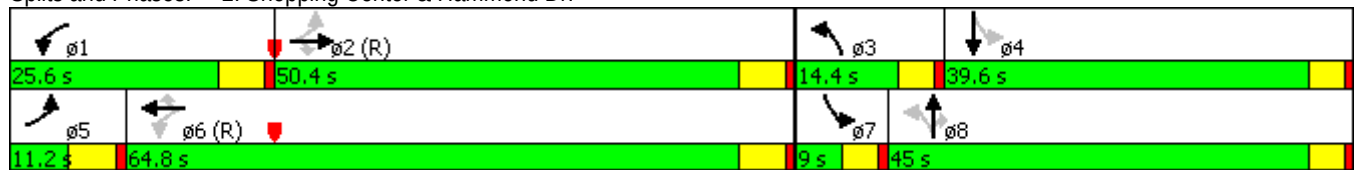
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Shopping Center & Hammond Dr.



3: Ashford-Dunwoody Rd. & Hammond Dr.

AM

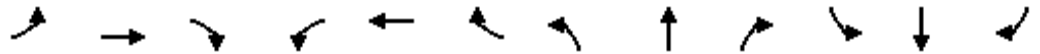
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	370	45	1665	435	140	90	1150	2000	55	30	1700	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	300		0	0		0
Storage Lanes	1		2	2		1	3		0	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	0.91	0.97	1.00	1.00	0.94	0.86	0.86	0.97	0.86	1.00
Frt		0.862	0.850			0.850		0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1461	2882	3433	1863	1583	4990	6382	0	3433	6408	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1461	2882	3433	1863	1583	4990	6382	0	3433	6408	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		320	406			212		4				169
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		979			481			1611			970	
Travel Time (s)		14.8			7.3			24.4			14.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	402	49	1810	473	152	98	1250	2174	60	33	1848	141
Shared Lane Traffic (%)			32%									
Lane Group Flow (vph)	402	628	1231	473	152	98	1250	2234	0	33	1848	141
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	custom	Split	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	4	4	7 1	3	3		1	6		5	2	
Permitted Phases						3						2
Detector Phase	4	4	7 1	3	3	3	1	6		5	2	2

3: Ashford-Dunwoody Rd. & Hammond Dr.

Lane Group	ø7	ø8
Lane Configurations		
Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	7	8
Permitted Phases		
Detector Phase		

3: Ashford-Dunwoody Rd. & Hammond Dr.

AM



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	15.0	15.0		13.0	13.0	13.0	12.2	44.0		11.7	48.0	48.0
Total Split (s)	45.0	45.0		27.0	27.0	27.0	43.0	85.3		12.7	55.0	55.0
Total Split (%)	26.5%	26.5%		15.9%	15.9%	15.9%	25.3%	50.2%		7.5%	32.4%	32.4%
Maximum Green (s)	37.2	37.2		19.1	19.1	19.1	34.8	78.3		5.0	48.0	48.0
Yellow Time (s)	3.4	3.4		3.0	3.0	3.0	3.0	4.5		3.0	4.5	4.5
All-Red Time (s)	4.4	4.4		4.9	4.9	4.9	5.2	2.5		4.7	2.5	2.5
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)	7.8	7.8		7.9	7.9	7.9	8.2	7.0		7.7	7.0	7.0
Lead/Lag							Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		Min	Min	Min	None	Max		None	Max	Max
Walk Time (s)	5.0	5.0		5.0	5.0	5.0		5.0			5.0	5.0
Flash Dont Walk (s)	22.0	22.0		20.0	20.0	20.0		31.0			35.0	35.0
Pedestrian Calls (#/hr)	10	10		10	10	10		10			10	10
Act Effect Green (s)	37.2	37.2	71.5	21.4	21.4	21.4	34.8	80.9		5.0	48.0	48.0
Actuated g/C Ratio	0.22	0.22	0.41	0.12	0.12	0.12	0.20	0.47		0.03	0.28	0.28
v/c Ratio	1.05	1.11	0.86	1.11	0.66	0.26	1.24	0.75		0.33	1.04	0.25
Control Delay	123.1	100.3	35.2	143.4	86.0	1.6	170.9	39.9		92.1	90.4	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	123.1	100.3	35.2	143.4	86.0	1.6	170.9	39.9		92.1	90.4	3.9
LOS	F	F	D	F	F	A	F	D		F	F	A
Approach Delay		68.9			112.1			86.9			84.4	
Approach LOS		E			F			F			F	
90th %ile Green (s)	37.2	37.2		25.0	25.0	25.0	34.8	78.3		5.0	48.0	48.0
90th %ile Term Code	Max	Max		Ped	Ped	Ped	Max	MaxR		Max	MaxR	MaxR
70th %ile Green (s)	37.2	37.2		25.0	25.0	25.0	34.8	78.3		5.0	48.0	48.0
70th %ile Term Code	Max	Max		Ped	Ped	Ped	Max	MaxR		Max	MaxR	MaxR
50th %ile Green (s)	37.2	37.2		19.1	19.1	19.1	34.8	78.3		5.0	48.0	48.0
50th %ile Term Code	Max	Max		Max	Max	Max	Max	MaxR		Max	MaxR	MaxR
30th %ile Green (s)	37.2	37.2		19.1	19.1	19.1	34.8	78.3		5.0	48.0	48.0
30th %ile Term Code	Max	Max		Max	Max	Max	Max	MaxR		Max	MaxR	MaxR
10th %ile Green (s)	37.2	37.2		19.1	19.1	19.1	34.8	91.0		0.0	48.0	48.0
10th %ile Term Code	Max	Max		Max	Max	Max	Max	Hold		Skip	MaxR	MaxR
Queue Length 50th (ft)	~481	~547	431	~332	167	0	~604	593		19	~632	0
Queue Length 95th (ft)	#738	#853	#786	#403	251	0	#735	676		40	#747	32
Internal Link Dist (ft)		899			401			1531			890	
Turn Bay Length (ft)							300					
Base Capacity (vph)	382	566	1433	426	231	382	1007	2997		99	1785	562
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.05	1.11	0.86	1.11	0.66	0.26	1.24	0.75		0.33	1.04	0.25

Intersection Summary

Area Type: Other

Cycle Length: 170

3: Ashford-Dunwoody Rd. & Hammond Dr.

Lane Group	ø7	ø8
Switch Phase		
Minimum Initial (s)	4.0	4.0
Minimum Split (s)	13.0	23.0
Total Split (s)	22.0	23.0
Total Split (%)	13%	14%
Maximum Green (s)	16.6	20.0
Yellow Time (s)	3.4	3.0
All-Red Time (s)	2.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		4.0
Flash Dont Walk (s)		15.0
Pedestrian Calls (#/hr)		10
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
90th %ile Green (s)	16.6	20.0
90th %ile Term Code	Max	Hold
70th %ile Green (s)	16.6	20.0
70th %ile Term Code	Max	Hold
50th %ile Green (s)	39.6	0.0
50th %ile Term Code	Hold	Skip
30th %ile Green (s)	39.6	0.0
30th %ile Term Code	Hold	Skip
10th %ile Green (s)	39.6	0.0
10th %ile Term Code	Hold	Skip
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

3: Ashford-Dunwoody Rd. & Hammond Dr.

Actuated Cycle Length: 172.4

Natural Cycle: 150

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.24

Intersection Signal Delay: 83.7

Intersection LOS: F

Intersection Capacity Utilization 107.6%

ICU Level of Service G

Analysis Period (min) 15

90th %ile Actuated Cycle: 175.9

70th %ile Actuated Cycle: 175.9

50th %ile Actuated Cycle: 170

30th %ile Actuated Cycle: 170

10th %ile Actuated Cycle: 170

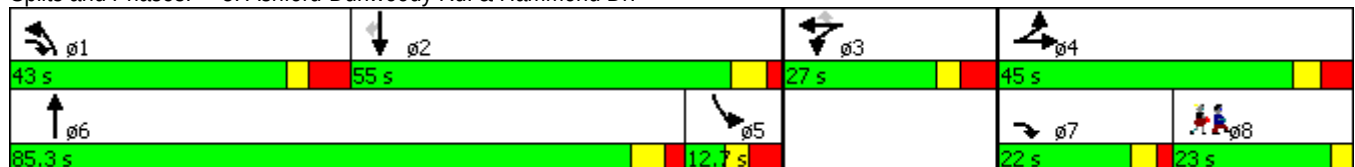
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Ashford-Dunwoody Rd. & Hammond Dr.



4: Perimeter Center Pkwy & State Farm Driveway

AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	20	0	0	180	0	2000	25	50	1100	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	80		0
Storage Lanes	1		1	0		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.865		0.998			0.990	
Flt Protected										0.950		
Satd. Flow (prot)	1863	0	1583	0	0	1611	0	3532	0	1770	3504	0
Flt Permitted										0.950		
Satd. Flow (perm)	1863	0	1583	0	0	1611	0	3532	0	1770	3504	0
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		391			524			338			330	
Travel Time (s)		5.9			7.9			5.1			5.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	22	0	0	196	0	2174	27	54	1196	87
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	22	0	0	196	0	2201	0	54	1283	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	73.9%						ICU Level of Service D					
Analysis Period (min)	15											

5: Perimeter Center Pkwy & Goldkist Dr.

AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	25	0	20	365	0	1225	20	695	235	405	720	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		200	150		0
Storage Lanes	1		0	1		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.850			0.850	0.850			0.850		0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1583	0	1770	1504	1504	1770	3539	1583	3433	3507	0
Flt Permitted	0.533			0.464			0.339			0.950		
Satd. Flow (perm)	993	1583	0	864	1504	1504	631	3539	1583	3433	3507	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		204			599	599			255		7	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		402			1304			742			338	
Travel Time (s)		6.1			19.8			11.2			5.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	0	22	397	0	1332	22	755	255	440	783	49
Shared Lane Traffic (%)						50%						
Lane Group Flow (vph)	27	22	0	397	666	666	22	755	255	440	832	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2			
Detector Phase	7	4		3	8	8	5	2	2	1	6	

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D. Fairlie - MAAI

Synchro 8 Report

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5: Perimeter Center Pkwy & Goldkist Dr.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	27.5	27.5		27.5	27.5	27.5	9.0	24.0	24.0	9.0	21.0	
Total Split (s)	27.5	27.5		27.5	27.5	27.5	9.0	27.0	27.0	18.0	36.0	
Total Split (%)	27.5%	27.5%		27.5%	27.5%	27.5%	9.0%	27.0%	27.0%	18.0%	36.0%	
Maximum Green (s)	23.0	23.0		23.0	23.0	23.0	4.0	22.0	22.0	13.0	31.0	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
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)	4.5	4.5		4.5	4.5	4.5	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Min	C-Min	None	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)	16.0	16.0		16.0	16.0	16.0		12.0	12.0		9.0	
Pedestrian Calls (#/hr)	0	0		0	0	0		0	0		0	
Act Effect Green (s)	14.3	10.8		33.4	26.3	26.3	39.6	34.0	34.0	18.0	53.0	
Actuated g/C Ratio	0.14	0.11		0.33	0.26	0.26	0.40	0.34	0.34	0.18	0.53	
v/c Ratio	0.14	0.06		0.78	0.80	0.80	0.07	0.63	0.36	0.71	0.45	
Control Delay	25.1	0.4		38.4	11.9	11.9	11.4	28.7	3.9	46.6	19.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	25.1	0.4		38.4	11.9	11.9	11.4	28.7	3.9	46.6	19.5	
LOS	C	A		D	B	B	B	C	A	D	B	
Approach Delay		14.0			18.0			22.2			28.8	
Approach LOS		B			B			C			C	
90th %ile Green (s)	8.1	23.0		23.0	37.9	37.9	4.0	22.0	22.0	13.0	31.0	
90th %ile Term Code	Gap	Hold		Max	Max	Max	Max	Coord	Coord	Max	Coord	
70th %ile Green (s)	7.1	14.7		23.0	30.6	30.6	6.6	22.2	22.2	21.1	36.7	
70th %ile Term Code	Gap	Hold		Max	Gap	Gap	Gap	Coord	Coord	Gap	Coord	
50th %ile Green (s)	6.9	0.0		32.6	21.2	21.2	0.0	33.1	33.1	19.8	57.9	
50th %ile Term Code	Gap	Skip		Hold	Gap	Gap	Skip	Coord	Coord	Gap	Coord	
30th %ile Green (s)	0.0	0.0		23.0	23.0	23.0	0.0	43.5	43.5	19.0	67.5	
30th %ile Term Code	Skip	Skip		Max	Hold	Hold	Skip	Coord	Coord	Gap	Coord	
10th %ile Green (s)	0.0	0.0		18.8	18.8	18.8	0.0	49.4	49.4	17.3	71.7	
10th %ile Term Code	Skip	Skip		Gap	Hold	Hold	Skip	Coord	Coord	Gap	Coord	
Queue Length 50th (ft)	17	0		218	37	37	5	252	11	134	142	
Queue Length 95th (ft)	22	0		232	151	151	m12	#356	22	#246	322	
Internal Link Dist (ft)		322			1224			662			258	
Turn Bay Length (ft)							200		200	150		
Base Capacity (vph)	482	521		521	847	847	312	1204	707	619	1860	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.06	0.04		0.76	0.79	0.79	0.07	0.63	0.36	0.71	0.45	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												

5: Perimeter Center Pkwy & Goldkist Dr.

Actuated Cycle Length: 100

Offset: 1 (1%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 22.4

Intersection LOS: C

Intersection Capacity Utilization 84.8%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Perimeter Center Pkwy & Goldkist Dr.

 ø1	 ø2 (R)	 ø3	 ø4
18 s	27 s	27.5 s	27.5 s
 ø5	 ø6 (R)	 ø7	 ø8
9 s	36 s	27.5 s	27.5 s

6: Perimeter Center Pkwy & East-West Connector

AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	305	0	215	15	0	15	140	630	15	10	780	405
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	0		0	300		0	300		300
Storage Lanes	1		0	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.850			0.932			0.997				0.850
Flt Protected	0.950				0.976		0.950			0.950		
Satd. Flow (prot)	1770	1583	0	0	1694	0	1770	3529	0	1770	3539	1583
Flt Permitted	0.736				0.847		0.291			0.354		
Satd. Flow (perm)	1371	1583	0	0	1470	0	542	3529	0	659	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		138			22			4				440
Link Speed (mph)		45			45			45				45
Link Distance (ft)		654			1393			1830				742
Travel Time (s)		9.9			21.1			27.7				11.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	332	0	234	16	0	16	152	685	16	11	848	440
Shared Lane Traffic (%)												
Lane Group Flow (vph)	332	234	0	0	32	0	152	701	0	11	848	440
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6

6: Perimeter Center Pkwy & East-West Connector

AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	27.5	27.5		27.5	27.5		21.0	21.0		21.0	21.0	21.0
Total Split (s)	41.0	41.0		41.0	41.0		59.0	59.0		59.0	59.0	59.0
Total Split (%)	41.0%	41.0%		41.0%	41.0%		59.0%	59.0%		59.0%	59.0%	59.0%
Maximum Green (s)	36.5	36.5		36.5	36.5		54.0	54.0		54.0	54.0	54.0
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5			4.5		5.0	5.0		5.0	5.0	5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	C-Min
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0		16.0	16.0		9.0	9.0		9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effect Green (s)	29.2	29.2			29.2		61.3	61.3		61.3	61.3	61.3
Actuated g/C Ratio	0.29	0.29			0.29		0.61	0.61		0.61	0.61	0.61
v/c Ratio	0.83	0.42			0.07		0.46	0.32		0.03	0.39	0.39
Control Delay	50.1	12.9			11.9		12.3	5.2		8.1	8.1	1.6
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	50.1	12.9			11.9		12.3	5.2		8.1	8.1	1.6
LOS	D	B			B		B	A		A	A	A
Approach Delay		34.7			11.9			6.5			5.9	
Approach LOS		C			B			A			A	
90th %ile Green (s)	36.5	36.5		36.5	36.5		54.0	54.0		54.0	54.0	54.0
90th %ile Term Code	Max	Max		Hold	Hold		Coord	Coord		Coord	Coord	Coord
70th %ile Green (s)	34.1	34.1		34.1	34.1		56.4	56.4		56.4	56.4	56.4
70th %ile Term Code	Gap	Gap		Hold	Hold		Coord	Coord		Coord	Coord	Coord
50th %ile Green (s)	30.4	30.4		30.4	30.4		60.1	60.1		60.1	60.1	60.1
50th %ile Term Code	Gap	Gap		Hold	Hold		Coord	Coord		Coord	Coord	Coord
30th %ile Green (s)	25.6	25.6		25.6	25.6		64.9	64.9		64.9	64.9	64.9
30th %ile Term Code	Gap	Gap		Hold	Hold		Coord	Coord		Coord	Coord	Coord
10th %ile Green (s)	19.5	19.5		19.5	19.5		71.0	71.0		71.0	71.0	71.0
10th %ile Term Code	Gap	Gap		Hold	Hold		Coord	Coord		Coord	Coord	Coord
Queue Length 50th (ft)	194	45			4		23	52		2	127	22
Queue Length 95th (ft)	277	100			24		154	60		m4	98	m11
Internal Link Dist (ft)		574			1313			1750			662	
Turn Bay Length (ft)	300						300			300		300
Base Capacity (vph)	500	665			550		331	2164		403	2168	1140
Starvation Cap Reductn	0	0			0		0	0		0	0	0
Spillback Cap Reductn	0	0			0		0	0		0	0	0
Storage Cap Reductn	0	0			0		0	0		0	0	0
Reduced v/c Ratio	0.66	0.35			0.06		0.46	0.32		0.03	0.39	0.39
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												

6: Perimeter Center Pkwy & East-West Connector

Actuated Cycle Length: 100

Offset: 94 (94%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 12.1

Intersection LOS: B

Intersection Capacity Utilization 65.0%

ICU Level of Service C

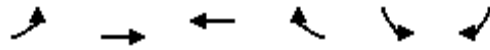
Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Perimeter Center Pkwy & East-West Connector

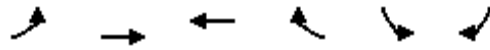
 ø2 (L)	 ø4
59 s	41 s
 ø6 (R)	 ø8
59 s	41 s

7: Lake Hearn Dr. & Perimeter Center Pkwy



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔↔	↑↑	↑↑	↔↔	↔↔	↔
Volume (vph)	360	430	495	425	500	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			0	300	0
Storage Lanes	2			2	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	0.88	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	3539	3539	2787	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	3539	3539	2787	3433	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				462		508
Link Speed (mph)		45	45		45	
Link Distance (ft)		806	1941		1830	
Travel Time (s)		12.2	29.4		27.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	467	538	462	543	554
Shared Lane Traffic (%)						
Lane Group Flow (vph)	391	467	538	462	543	554
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (ft)	20	100	100	20	20	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	6	20	20	20
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		CI+Ex	CI+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Detector Phase	5	2	6	6	4	4

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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	20.5	28.0	28.0	38.0	38.0
Total Split (s)	25.0	57.0	32.0	32.0	43.0	43.0
Total Split (%)	25.0%	57.0%	32.0%	32.0%	43.0%	43.0%
Maximum Green (s)	20.0	52.0	27.0	27.0	38.0	38.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lag		Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	C-Min	None	None
Walk Time (s)			7.0	7.0	7.0	7.0
Flash Dont Walk (s)			16.0	16.0	26.0	26.0
Pedestrian Calls (#/hr)			0	0	0	0
Act Effect Green (s)	16.6	67.3	45.8	45.8	22.7	22.7
Actuated g/C Ratio	0.17	0.67	0.46	0.46	0.23	0.23
v/c Ratio	0.69	0.20	0.33	0.30	0.70	0.74
Control Delay	45.6	7.0	19.6	2.6	33.1	14.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.6	7.0	19.6	2.6	33.1	14.9
LOS	D	A	B	A	C	B
Approach Delay		24.6	11.8		23.9	
Approach LOS		C	B		C	
90th %ile Green (s)	20.8	61.0	35.2	35.2	29.0	29.0
90th %ile Term Code	Gap	Coord	Coord	Coord	Gap	Gap
70th %ile Green (s)	18.3	64.9	41.6	41.6	25.1	25.1
70th %ile Term Code	Gap	Coord	Coord	Coord	Gap	Gap
50th %ile Green (s)	16.6	67.0	45.4	45.4	23.0	23.0
50th %ile Term Code	Gap	Coord	Coord	Coord	Gap	Gap
30th %ile Green (s)	14.8	69.9	50.1	50.1	20.1	20.1
30th %ile Term Code	Gap	Coord	Coord	Coord	Gap	Gap
10th %ile Green (s)	12.3	73.9	56.6	56.6	16.1	16.1
10th %ile Term Code	Gap	Coord	Coord	Coord	Gap	Gap
Queue Length 50th (ft)	122	53	112	0	177	169
Queue Length 95th (ft)	162	89	184	35	167	84
Internal Link Dist (ft)		726	1861		1750	
Turn Bay Length (ft)					300	
Base Capacity (vph)	692	2383	1620	1526	1304	916
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.20	0.33	0.30	0.42	0.60

Intersection Summary

Area Type: Other

Cycle Length: 100

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Actuated Cycle Length: 100

Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 20.0

Intersection LOS: B

Intersection Capacity Utilization 53.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 7: Lake Hearn Dr. & Perimeter Center Pkwy

