

# **Attachment A**

## **Trip Generation**

**Gulliver Academy**  
**Trip Generation Comparison (Maximum)**

Existing ITE Land Use Designation	Size/Units	Daily Vehicle Trips	AM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips			PM Peak of Generator Vehicle Trips		
			In	Out	Total	In	Out	Total	In	Out	Total
Private School (K-8) (Land Use 534)	AM /PM 1,162 Students	4776	582	476	1058	139	163	302	339	382	721
<b>Gross Vehicle Trips</b>		<b>4776</b>	<b>582</b>	<b>476</b>	<b>1058</b>	<b>139</b>	<b>163</b>	<b>302</b>	<b>339</b>	<b>382</b>	<b>721</b>

Proposed ITE Land Use Designation	Size/Units	Daily Vehicle Trips	AM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips			PM Peak of Generator Vehicle Trips		
			In	Out	Total	In	Out	Total	In	Out	Total
Private School (K-8) (Land Use 534)	AM /PM 1,260 Students	5178	631	516	1147	151	177	328	367	414	781
<b>Gross Vehicle Trips</b>		<b>5178</b>	<b>631</b>	<b>516</b>	<b>1147</b>	<b>151</b>	<b>177</b>	<b>328</b>	<b>367</b>	<b>414</b>	<b>781</b>

	Daily Vehicle Trips	AM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips			PM Peak of Generator Vehicle Trips		
		In	Out	Total	In	Out	Total	In	Out	Total
Existing Land Use (1,162 Max Students)	4776	582	476	1058	139	163	302	339	382	721
Proposed Lane Use (1,260 Students)	5178	631	516	1147	151	177	328	367	414	781
<b>Trips Difference (98 Students)</b>	<b>402</b>	<b>49</b>	<b>40</b>	<b>89</b>	<b>12</b>	<b>14</b>	<b>26</b>	<b>28</b>	<b>32</b>	<b>60</b>

**Scenario 2**

Scenario Name: Proposed User Group:  
 Dev. phase: 1 Horizon Year: 2019  
 Analyst Note:

Warning: The time periods among the land uses do not appear to match.

**VEHICLE TRIPS BEFORE REDUCTION**

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
534 - Private School (K-8)	General	Students	1260	Weekday, Peak Hour of Adjacent Street Traffic,	Average	631	516	1147
Data Source: ITE-TGM 10th Edition	Urban/Suburban				0.91	55%	45%	
534(1) - Private School (K-8)	General	Students	1260	Weekday, Peak Hour of Adjacent Street Traffic,	Average	151	177	328
Data Source: ITE-TGM 10th Edition	Urban/Suburban				0.26	46%	54%	
534(2) - Private School (K-8)	General	Students	1260	Weekday, PM Peak Hour of Generator	Average	367	414	781
Data Source: ITE-TGM 10th Edition	Urban/Suburban				0.62	47%	53%	
534(3) - Private School (K-8)	General	Students	1260	Weekday, AM Peak Hour of Generator	Average	2589	2589	5178
Data Source: ITE-TGM 10th Edition	Urban/Suburban				4.11	50%	50%	

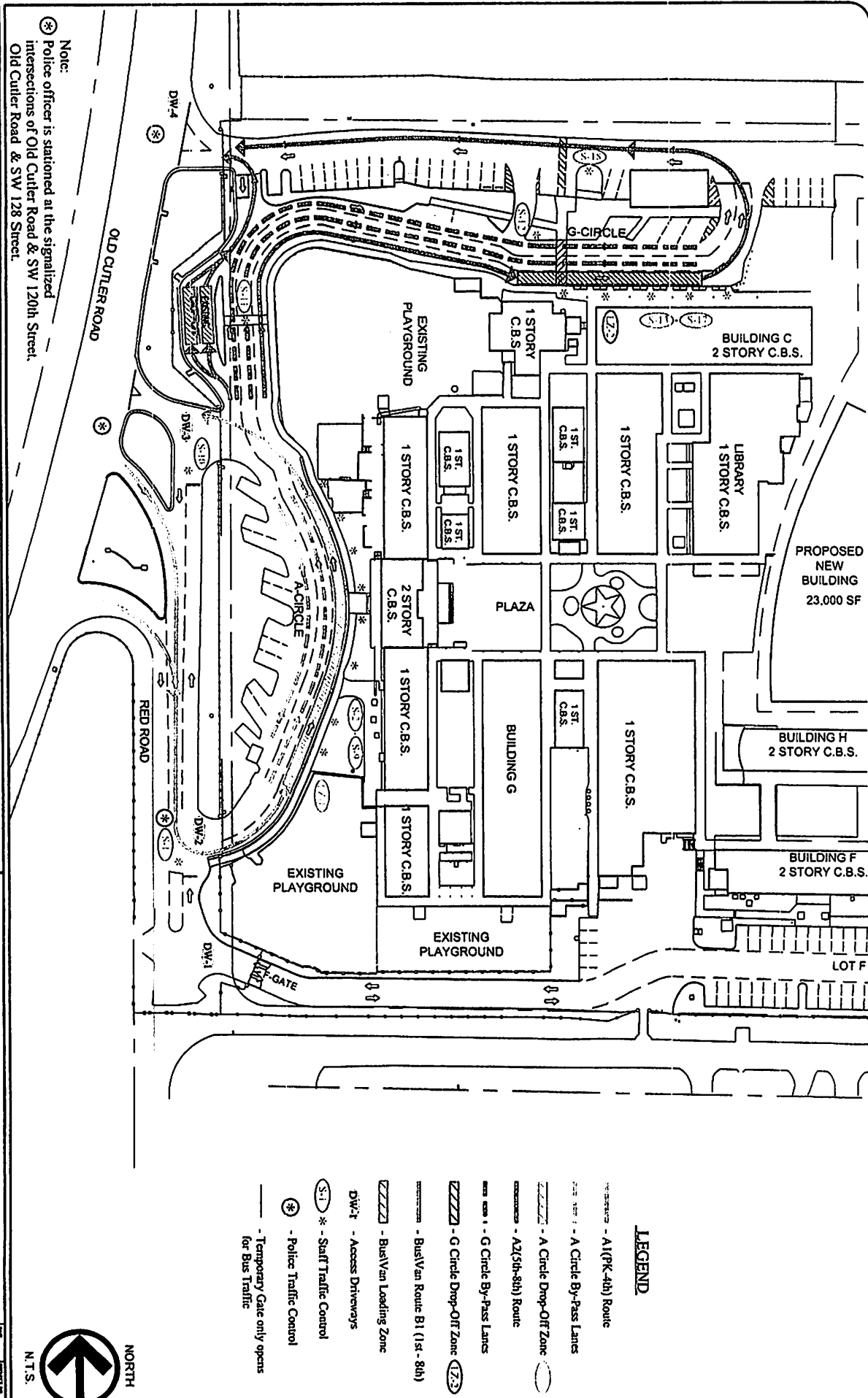
**Scenario 3**

Scenario Name: Maximum User Group:  
 Dev. phase: 1 Horizon Year: 2019  
 Analyst Note:

Warning: The time periods among the land uses do not appear to match.

**VEHICLE TRIPS BEFORE REDUCTION**

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
534 - Private School (K-8)	General	Students	1162	Weekday, Peak Hour of Adjacent Street Traffic,	Average	582	476	1058
Data Source: ITE-TGM 10th Edition	Urban/Suburban				0.91	55%	45%	
534(1) - Private School (K-8)	General	Students	1162	Weekday, Peak Hour of Adjacent Street Traffic,	Average	139	163	302
Data Source: ITE-TGM 10th Edition	Urban/Suburban				0.26	46%	54%	
534(2) - Private School (K-8)	General	Students	1162	Weekday, PM Peak Hour of Generator	Average	339	382	721
Data Source: ITE-TGM 10th Edition	Urban/Suburban				0.62	47%	53%	
534(3) - Private School (K-8)	General	Students	1162	Weekday, AM Peak Hour of Generator	Average	2388	2388	4776
Data Source: ITE-TGM 10th Edition	Urban/Suburban				4.11	50%	50%	



Note:  
 (S-1) Police officer is stationed at the signalized intersections of Old Cutler Road & SW 120th Street, Old Cutler Road & SW 128 Street.



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 1000 N.W. 10th Street, Suite 1000, Fort Lauderdale, FL 33304  
 CERTIFICATE OF AUTHORIZATION: 2690

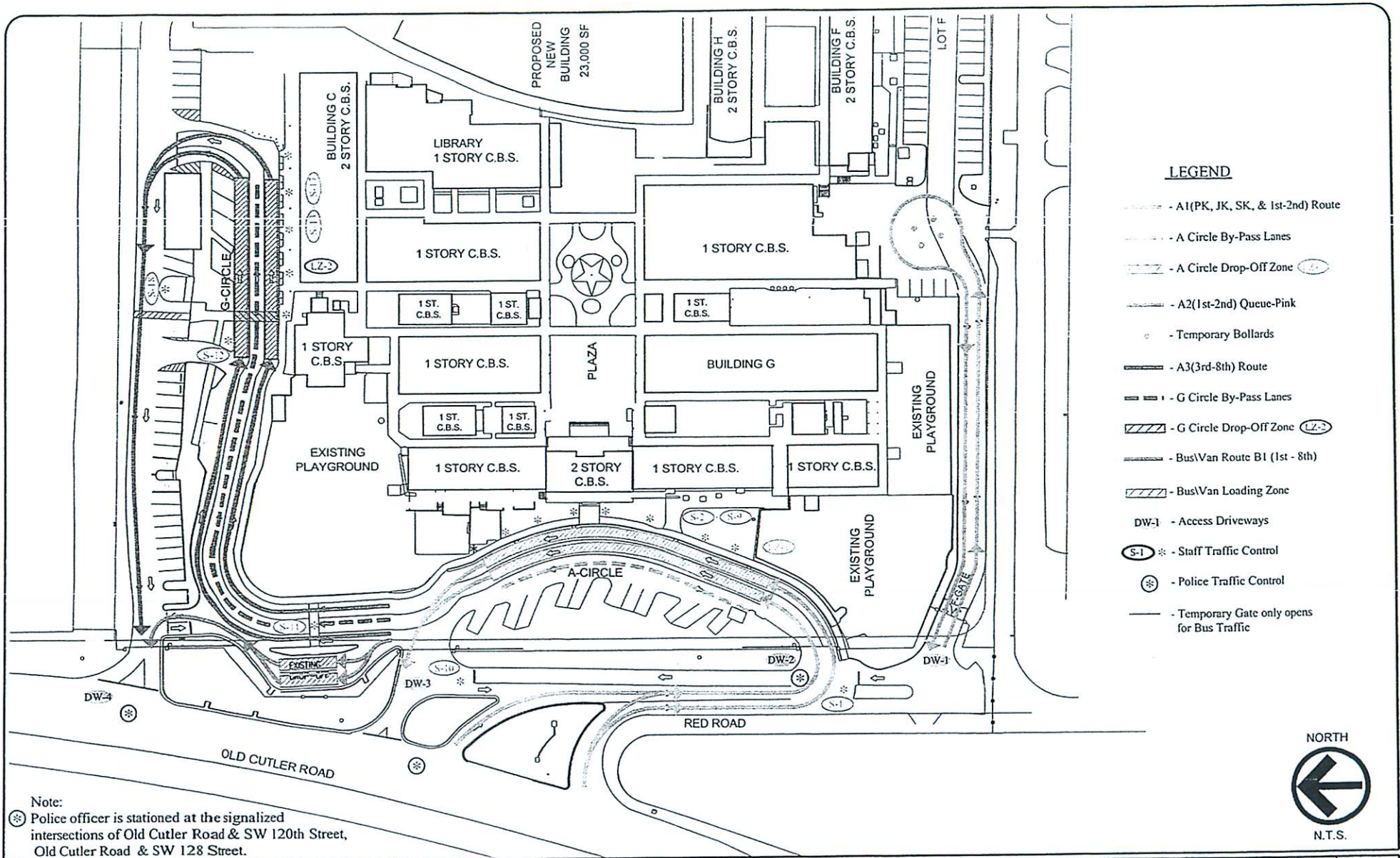
PROJECT:  
 GULLIVER ACADEMY SCHOOL

DATE:  
 TRAFFIC OPERATIONS PLAN  
 (ARRIVAL)

DATE	1/11/17
SCALE	AS SHOWN
PROJECT	GULLIVER ACADEMY SCHOOL
NO.	1

**LEGEND**

- A(PK-4th) Route
- A Circle By-Pass Lanes
- A Circle Drop-Off Zone
- A2(5th-8th) Route
- G Circle By-Pass Lanes
- G Circle Drop-Off Zone
- Bus/Van Route B1 (1st - 8th)
- Bus/Van Loading Zone
- Access Driveways
- Staff Traffic Control
- Police Traffic Control
- Temporary Gate only opens for Bus Traffic



**LEGEND**

- A1(PK, JK, SK, & 1st-2nd) Route
- A Circle By-Pass Lanes
- A Circle Drop-Off Zone
- A2(1st-2nd) Queue-Pink
- Temporary Bollards
- A3(3rd-8th) Route
- G Circle By-Pass Lanes
- G Circle Drop-Off Zone
- Bus/Van Route B1 (1st - 8th)
- Bus/Van Loading Zone
- DW-1 - Access Driveways
- S-1 - Staff Traffic Control
- Police Traffic Control
- Temporary Gate only opens for Bus Traffic

Note:  
 \* Police officer is stationed at the signalized intersections of Old Cutler Road & SW 120th Street, Old Cutler Road & SW 128 Street.



DATE: 02/08/19

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 TRAFFIC ENGINEERING • CIVIL ENGINEERING • TRANSPORTATION PLANNING  
 CORAL GABLES, FL 33134 FORT MYERS, FL 33904  
 1750 PONCE DE LEON BLVD. CORAL GABLES, FL 33134 TELEPHONE: 305/1-817-0000  
 CERTIFICATE OF AUTHORIZATION: 2690

PROJECT: **GULLIVER ACADEMY SCHOOL**

TITLE: **TRAFFIC OPERATIONS PLAN (DISMISSAL)**

DATE: 02/08/19	PROJECT NO: 18872
DRAWN: [blank]	SCALE: [blank]
CHECKED: [blank]	2
APPROVED: [blank]	



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TRAFFIC ENGINEERING • CIVIL ENGINEERING • TRANSPORTATION PLANNING  
CORAL GABLES, FLORIDA 33134  
CERTIFICATE OF AUTHORIZATION: 2690

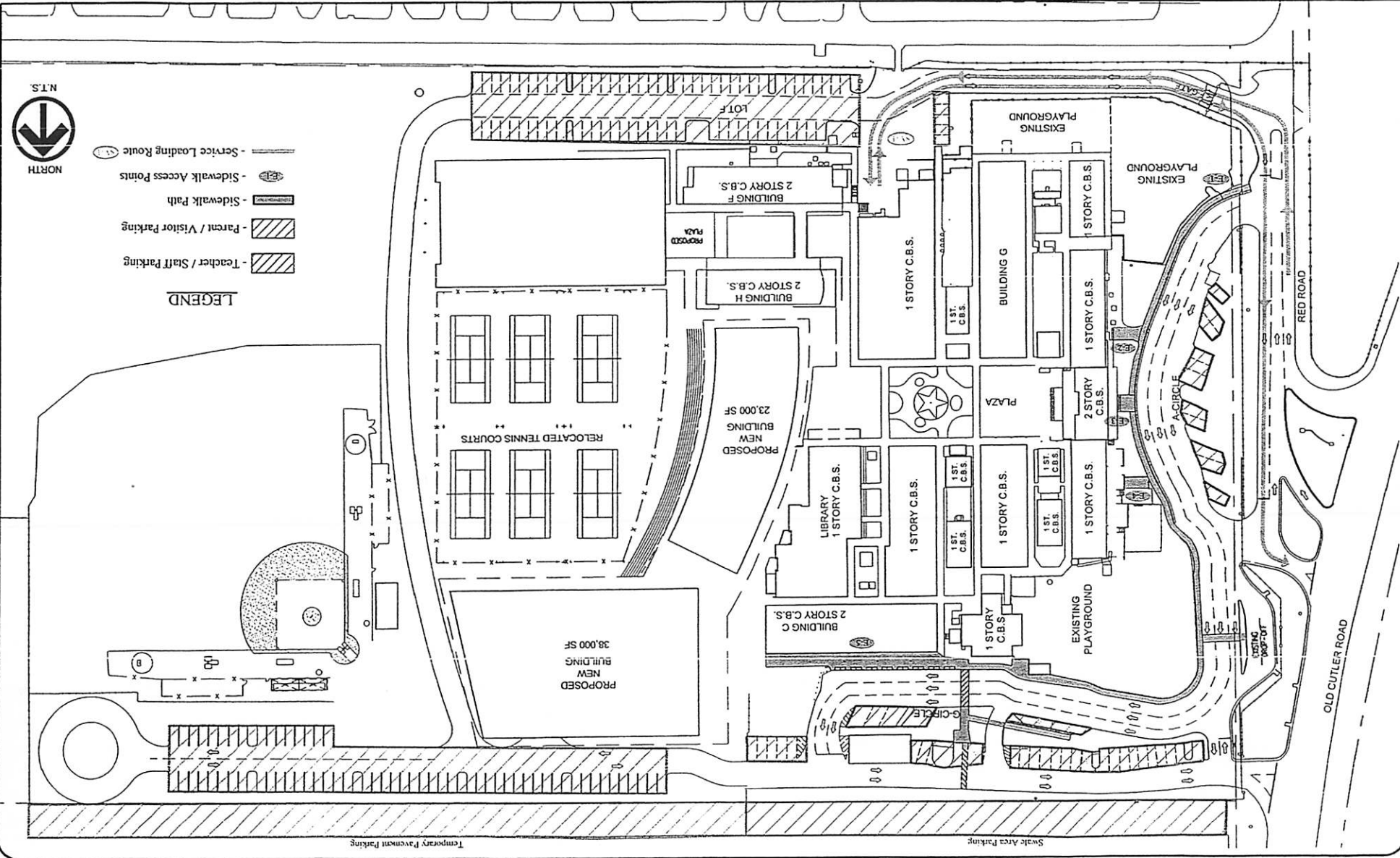
### GULLIVER ACADEMY SCHOOL

### TRAFFIC OPERATIONS PLAN

PROJECT NO.	102715
DATE	02/08/15
DRAWN BY	...
CHECKED BY	...
SCALE	...
SHEET NO.	3



- LEGEND**
- Teacher / Staff Parking
  - Parent / Visitor Parking
  - Sidewalk Path
  - Sidewalk Access Points
  - Service Loading Route



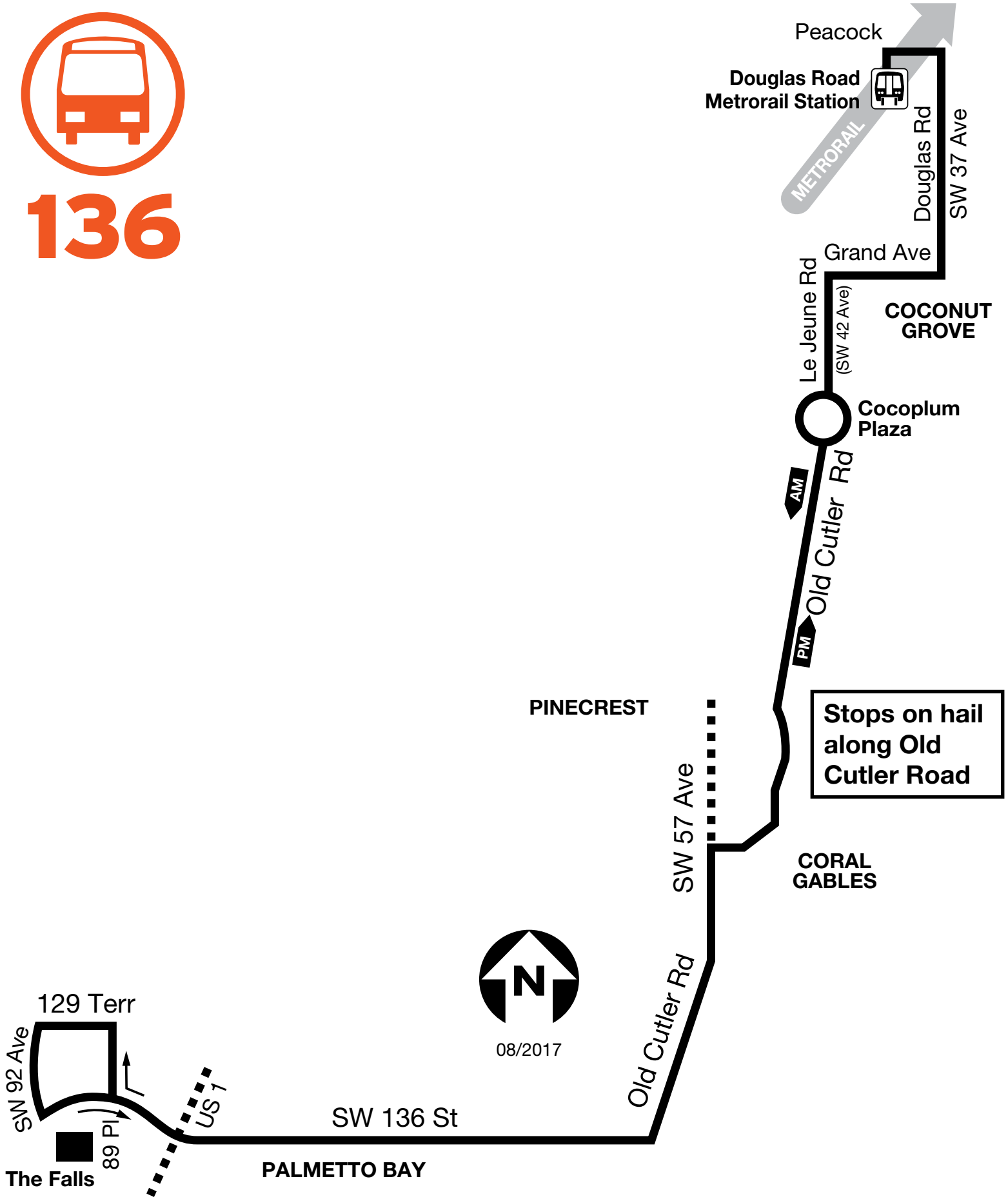
Temporary Pavement Parking

Swale Area Parking

# **Appendix B – Transit Route Information/Data**



# 136





# Appendix C – Traffic Data

# **Appendix D – Miami Dade County Signal Timing Data**

## TOD Schedule Report







for 4418: Old Cutler Rd&SW 128 St

Print Date:  
5/22/2018

Print Time:  
3:01 PM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
4418	Old Cutler Rd&SW 128 St	DOW-3		N/A	0	0	N/A	0	Max 0

### Splits

<u>PH 1</u>	<u>PH 2</u>	<u>PH 3</u>	<u>PH 4</u>	<u>PH 5</u>	<u>PH 6</u>	<u>PH 7</u>	<u>PH 8</u>
NBL	SWT	-	WBT	SBL	NET	-	EBT
0	0	0	0	0	0	0	0
							

Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>			<u>Don't Walk</u>			<u>Min Initial</u>			<u>Veh Ext</u>			<u>Max Limit</u>			<u>Max 2</u>			<u>Yellow</u>	<u>Red</u>
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 NBL	0	0	0	0	0	0	5	5	5	2	2	2	5	5	10	10	5	10	4	2
2 SWT	16	16	16	14	14	14	16	16	16	1	1	1	35	26	35	0	26	35	4	2
3 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 WBT	7	7	7	9	9	9	7	7	7	2.5	2.5	2.5	12	16	15	16	16	15	4	2.3
5 SBL	0	0	0	0	0	0	5	5	5	2	2	2	5	5	10	10	5	10	4	2
6 NET	16	16	16	14	14	14	16	16	16	1	1	1	35	26	35	0	26	35	4	2
7 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 EBT	7	7	7	9	9	9	7	7	7	2.5	2.5	2.5	12	16	15	16	16	15	4	2.3

Last In Service Date: unknown

<b>Permitted Phases</b>	
<b>12345678</b>	
Default	12-456-8
External Permit 0	-2-4-6-8
External Permit 1	-2-4-6-8
External Permit 2	-2-4-6-8

## TOD Schedule Report

for 4418: Old Cutler Rd&SW 128 St

Print Date:  
5/22/2018

Print Time:  
3:01 PM

Current TOD Schedule	Plan	Cycle	Green Time								Ring Offset	Offset
			1 NBL	2 SWT	3 -	4 WBT	5 SBL	6 NET	7 -	8 EBT		
5		70	8	29	0	15	6	31	0	15	0	54
6		80	8	39	0	15	6	41	0	15	0	2
7		120	6	81	0	15	6	81	0	15	0	59
8		80	8	39	0	15	6	41	0	15	0	2
10		70	6	31	0	15	6	31	0	15	0	59
11		70	6	31	0	15	6	31	0	15	0	59
15		70	8	29	0	15	8	29	0	15	0	54
16		80	8	39	0	15	6	41	0	15	0	2
18		80	8	39	0	15	6	41	0	15	0	2

Local TOD Schedule		
Time	Plan	DOW
0000	Free	Su
0000	Flash	M T W Th F
0100	Flash	Su
0530	Free	M T W Th F
0600	Free	Su
0600	5	M T W Th F
0645	6	M T W Th F
0700	15	Su
0730	16	M T W Th F
0800	8	M T W Th F
0845	18	M T W Th F
0900	11	M T W Th F
1345	10	M T W Th F
1430	11	W
1530	7	M T W Th F
2000	15	M T W Th F
2200	Free	Su M T W Th F S

Current Time of Day Function			
Time	Function	Settings *	Day of Week
0000	TOD LOCAL MULTIFU	----4--	SuM T W ThF S
0000	TOD OUTPUTS	-----1	SuM T W ThF S
0530	TOD OUTPUTS	-----1	M T W ThF
0600	TOD OUTPUTS	-----	M T W ThF
0600	TOD LOCAL MULTIFU	-----	SuM T W ThF S
2200	TOD OUTPUTS	-----1	SuM T W ThF S

Local Time of Day Function			
Time	Function	Settings *	Day of Week
0000	TOD LOCAL MULTIFUNCT	----4--	SuM T W ThF S
0000	TOD OUTPUTS	-----1	SuM T W ThF S
0100	TOD OUTPUTS	-----	Su S
0530	TOD OUTPUTS	-----1	M T W ThF
0600	TOD OUTPUTS	-----1	Su S
0600	TOD OUTPUTS	-----	M T W ThF
0600	TOD LOCAL MULTIFUNCT	-----	SuM T W ThF S
0700	TOD OUTPUTS	-----	Su S
2200	TOD OUTPUTS	-----1	SuM T W ThF S

* Settings
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

**No Calendar Defined/Enabled**

**TOD Schedule Report**  
for 5763: Red Rd&SW 120 St


Print Date:  
5/22/2018

Print Time:  
5:45 PM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
5763	Red Rd&SW 120 St	DOW-3		N/A	0	0	N/A	0	Max 0

**Splits**

<u>PH 1</u>	<u>PH 2</u>	<u>PH 3</u>	<u>PH 4</u>	<u>PH 5</u>	<u>PH 6</u>	<u>PH 7</u>	<u>PH 8</u>
NBL	SBT	-	-	-	NBT	-	EBT
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>			<u>Don't Walk</u>			<u>Min Initial</u>			<u>Veh Ext</u>			<u>Max Limit</u>			<u>Max 2</u>			<u>Yellow</u>	<u>Red</u>
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 NBL	0	0	0	0	0	0	5	5	5	2	2	2	7	5	5	10	5	5	4	2
2 SBT	0	0	0	0	0	0	16	16	16	1	1	1	35	115	130	0	120	36	4	2
3 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0
6 NBT	0	0	0	0	0	0	16	16	16	1	1	1	35	115	130	0	120	36	4	2
7 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 EBT	0	0	0	0	0	0	7	7	7	2.5	2.5	2.5	15	28	28	30	14	15	4	2

Last In Service Date: unknown

<b>Permitted Phases</b>	
	<b>12345678</b>
Default	12---6-8
External Permit 0	-2---6-8
External Permit 1	-2---6-8
External Permit 2	-2---6-8

**TOD Schedule Report**  
for 5763: Red Rd&SW 120 St

Print Date:  
5/22/2018

Print Time:  
5:45 PM

Current TOD Schedule	Plan	Cycle	Green Time								Ring Offset	Offset
			1 NBL	2 SBT	3 -	4 -	5 -	6 NBT	7 -	8 EBT		
5		70	4	37	0	0	0	47	0	11	0	34
10		70	6	34	0	0	0	46	0	12	0	24
11		70	4	34	0	0	0	44	0	14	0	24
12		120	5	82	0	0	0	93	0	15	0	36
15		70	4	37	0	0	0	47	0	11	0	26

Local TOD Schedule		
Time	Plan	DOW
0000	Free	Su S
0000	Free	M T W Th F
0100	Free	Su S
0530	Free	M T W Th F
0600	Free	Su S
0600	5	M T W Th F
0645	Free	M T W Th F
0700	15	Su S
0730	Free	M T W Th F
0845	Free	M T W Th F
0900	11	M T W Th F
1345	10	M T W Th F
1430	11	W
1500	12	M T W Th F
2000	15	M T W Th F
2200	Free	Su M T W Th F S

Current Time of Day Function			
Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	----4--	M T W ThF
0600	TOD OUTPUTS	-----	M T W ThF
0645	TOD OUTPUTS	-----1	M T W ThF
0800	TOD OUTPUTS	----3--	M T W ThF
0900	TOD OUTPUTS	-----	M T W ThF
1530	TOD OUTPUTS	-----	M T W ThF
1900	TOD OUTPUTS	-----	M T W ThF
2200	TOD OUTPUTS	----4--	SuM T W ThF S

Local Time of Day Function			
Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	----4--	Su S
0000	TOD OUTPUTS	----4--	M T W ThF
0600	TOD OUTPUTS	-----	M T W ThF
0645	TOD OUTPUTS	-----1	M T W ThF
0700	TOD OUTPUTS	-----	Su S
0800	TOD OUTPUTS	----3--	M T W ThF
0900	TOD OUTPUTS	-----	M T W ThF
1530	TOD OUTPUTS	-----	M T W ThF
1900	TOD OUTPUTS	-----	M T W ThF
2200	TOD OUTPUTS	----4--	SuM T W ThF S

* Settings
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

**No Calendar Defined/Enabled**

# **Appendix E – 2019 Existing Synchro Output Sheets**

HCM 6th Signalized Intersection Summary  
3: Old Cutler Road & SW120th Ave

AM Peak Hour






















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	227	124	237	865	456	45
Future Volume (veh/h)	227	124	237	865	456	45
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	247	135	258	940	496	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	253	225	614	1460	1178	116
Arrive On Green	0.14	0.14	0.04	0.78	0.70	0.70
Sat Flow, veh/h	1781	1585	1781	1870	1675	165
Grp Volume(v), veh/h	247	135	258	940	0	545
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	0	1841
Q Serve(g_s), s	21.4	12.4	6.0	34.4	0.0	19.4
Cycle Q Clear(g_c), s	21.4	12.4	6.0	34.4	0.0	19.4
Prop In Lane	1.00	1.00	1.00			0.09
Lane Grp Cap(c), veh/h	253	225	614	1460	0	1294
V/C Ratio(X)	0.98	0.60	0.42	0.64	0.00	0.42
Avail Cap(c_a), veh/h	253	225	614	1460	0	1294
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	66.2	62.4	8.1	7.5	0.0	9.7
Incr Delay (d2), s/veh	49.9	3.9	0.2	2.2	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.3	5.3	2.3	12.9	0.0	7.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	116.2	66.2	8.2	9.7	0.0	10.7
LnGrp LOS	F	E	A	A	A	B
Approach Vol, veh/h	382			1198	545	
Approach Delay, s/veh	98.5			9.4	10.7	
Approach LOS	F			A	B	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	12.0	115.0			127.0	28.0
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	6.0	109.0			116.0	22.0
Max Q Clear Time (g_c+I1), s	8.0	21.4			36.4	23.4
Green Ext Time (p_c), s	0.0	1.2			2.5	0.0
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			25.7			
HCM 6th LOS			C			



HCM 6th Signalized Intersection Summary  
 22: Old Cutler Rd & SW 128th St

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	138	46	10	14	76	70	7	571	10	6	148	28
Future Volume (veh/h)	138	46	10	14	76	70	7	571	10	6	148	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	150	50	11	15	83	0	8	621	11	7	161	30
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	250	59	13	74	272		775	1112	20	428	929	173
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.00	0.01	0.61	0.61	0.01	0.61	0.61
Sat Flow, veh/h	1091	368	80	136	1711	1585	1781	1832	32	1781	1533	286
Grp Volume(v), veh/h	211	0	0	98	0	0	8	0	632	7	0	191
Grp Sat Flow(s),veh/h/ln	1539	0	0	1847	0	1585	1781	0	1865	1781	0	1819
Q Serve(g_s), s	6.8	0.0	0.0	0.0	0.0	0.0	0.1	0.0	16.1	0.1	0.0	3.7
Cycle Q Clear(g_c), s	10.5	0.0	0.0	3.7	0.0	0.0	0.1	0.0	16.1	0.1	0.0	3.7
Prop In Lane	0.71		0.05	0.15		1.00	1.00		0.02	1.00		0.16
Lane Grp Cap(c), veh/h	322	0	0	346	0		775	0	1132	428	0	1102
V/C Ratio(X)	0.66	0.00	0.00	0.28	0.00		0.01	0.00	0.56	0.02	0.00	0.17
Avail Cap(c_a), veh/h	362	0	0	396	0		935	0	1132	546	0	1102
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.4	0.0	0.0	29.9	0.0	0.0	6.0	0.0	9.3	7.6	0.0	6.9
Incr Delay (d2), s/veh	3.1	0.0	0.0	0.3	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.0	0.0	1.7	0.0	0.0	0.0	0.0	6.0	0.0	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.6	0.0	0.0	30.2	0.0	0.0	6.0	0.0	11.3	7.6	0.0	7.3
LnGrp LOS	D	A	A	C	A		A	A	B	A	A	A
Approach Vol, veh/h		211			98	A		640				198
Approach Delay, s/veh		35.6			30.2			11.3				7.3
Approach LOS		D			C			B				A
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.8	54.5		18.7	6.7	54.6		18.7				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	8.0	39.0		15.0	6.0	41.0		15.0				
Max Q Clear Time (g_c+I1), s	2.1	5.7		5.7	2.1	18.1		12.5				
Green Ext Time (p_c), s	0.0	0.4		0.2	0.0	1.4		0.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				16.7								
HCM 6th LOS				B								
<b>Notes</b>												
User approved pedestrian interval to be less than phase max green.												
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th TWSC  
5: Pine Needle Lane/SW 60th Ave & SW120th Ave

AM Peak Hour

Intersection												
Int Delay, s/veh	11.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	124	303	22	20	198	42	7	52	6	59	63	49
Future Vol, veh/h	124	303	22	20	198	42	7	52	6	59	63	49
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	135	329	24	22	215	46	8	57	7	64	68	53

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	261	0	0	353	0	0	954	916	341	925	905	238
Stage 1	-	-	-	-	-	-	611	611	-	282	282	-
Stage 2	-	-	-	-	-	-	343	305	-	643	623	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1303	-	-	1206	-	-	238	272	701	250	276	801
Stage 1	-	-	-	-	-	-	481	484	-	725	678	-
Stage 2	-	-	-	-	-	-	672	662	-	462	478	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1303	-	-	1206	-	-	154	232	701	179	235	801
Mov Cap-2 Maneuver	-	-	-	-	-	-	154	232	-	179	235	-
Stage 1	-	-	-	-	-	-	419	422	-	631	664	-
Stage 2	-	-	-	-	-	-	551	648	-	345	416	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.2			0.6			26.9			47.3		
HCM LOS							D			E		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	234	1303	-	-	1206	-	-	260
HCM Lane V/C Ratio	0.302	0.103	-	-	0.018	-	-	0.715
HCM Control Delay (s)	26.9	8.1	0	-	8	0	-	47.3
HCM Lane LOS	D	A	A	-	A	A	-	E
HCM 95th %tile Q(veh)	1.2	0.3	-	-	0.1	-	-	4.9

13: Old Cutler Road /Old Cutler Road & Gulliver Schools Proj Dr North

**Intersection**

Int Delay, s/veh 37.3

**Movement**      WBL    WBR    NBT    NBR    SBL    SBT

Lane Configurations	↔		↔			↑
Traffic Vol, veh/h	0	512	597	0	0	676
Future Vol, veh/h	0	512	597	0	0	676
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	557	649	0	0	735

**Major/Minor**      Minor1      Major1      Major2

Conflicting Flow All	1384	649	0	0	-	-
Stage 1	649	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	158	~ 470	-	-	0	-
Stage 1	520	-	-	-	0	-
Stage 2	474	-	-	-	0	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	158	~ 470	-	-	-	-
Mov Cap-2 Maneuver	158	-	-	-	-	-
Stage 1	520	-	-	-	-	-
Stage 2	474	-	-	-	-	-

**Approach**      WB      NB      SB

HCM Control Delay, s	130.2	0	0
HCM LOS	F		

**Minor Lane/Major Mvmt**      NBT    NBRWBLn1    SBT

Capacity (veh/h)	-	-	470	-
HCM Lane V/C Ratio	-	-	1.184	-
HCM Control Delay (s)	-	-	130.2	-
HCM Lane LOS	-	-	F	-
HCM 95th %tile Q(veh)	-	-	20.8	-

**Notes**

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

Intersection						
Int Delay, s/veh	4.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗	↗	↗	↗
Traffic Vol, veh/h	0	14	586	207	512	179
Future Vol, veh/h	0	14	586	207	512	179
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	-	0	-	100	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	15	637	225	557	195

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	637	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	477	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	477	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.8	0	10.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	477	947
HCM Lane V/C Ratio	-	-	0.032	0.588
HCM Control Delay (s)	-	-	12.8	14.1
HCM Lane LOS	-	-	B	B
HCM 95th %tile Q(veh)	-	-	0.1	4

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	22	104	43	27	7	6
Future Vol, veh/h	22	104	43	27	7	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	113	47	29	8	7

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	76	0	-	0	223 62
Stage 1	-	-	-	-	62 -
Stage 2	-	-	-	-	161 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1523	-	-	-	765 1003
Stage 1	-	-	-	-	961 -
Stage 2	-	-	-	-	868 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1523	-	-	-	752 1003
Mov Cap-2 Maneuver	-	-	-	-	752 -
Stage 1	-	-	-	-	945 -
Stage 2	-	-	-	-	868 -

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1523	-	-	-	850
HCM Lane V/C Ratio	0.016	-	-	-	0.017
HCM Control Delay (s)	7.4	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Intersection Delay, s/veh	30.1
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	37	361	4	68	178	38	6	272	110	40	94	15
Future Vol, veh/h	37	361	4	68	178	38	6	272	110	40	94	15
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	392	4	74	193	41	7	296	120	43	102	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	37.9	21.9	33.5	15.5
HCM LOS	E	C	D	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	9%	24%	27%
Vol Thru, %	70%	90%	63%	63%
Vol Right, %	28%	1%	13%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	388	402	284	149
LT Vol	6	37	68	40
Through Vol	272	361	178	94
RT Vol	110	4	38	15
Lane Flow Rate	422	437	309	162
Geometry Grp	1	1	1	1
Degree of Util (X)	0.811	0.847	0.625	0.358
Departure Headway (Hd)	6.923	6.981	7.285	7.957
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	523	516	494	449
Service Time	4.992	5.052	5.365	6.055
HCM Lane V/C Ratio	0.807	0.847	0.626	0.361
HCM Control Delay	33.5	37.9	21.9	15.5
HCM Lane LOS	D	E	C	C
HCM 95th-tile Q	7.8	8.8	4.2	1.6

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	96	1	25	28	25	1	259	6	6	68	7
Future Vol, veh/h	35	96	1	25	28	25	1	259	6	6	68	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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	104	1	27	30	27	1	282	7	7	74	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	8.6	10.3	8.5
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	27%	32%	7%
Vol Thru, %	97%	73%	36%	84%
Vol Right, %	2%	1%	32%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	266	132	78	81
LT Vol	1	35	25	6
Through Vol	259	96	28	68
RT Vol	6	1	25	7
Lane Flow Rate	289	143	85	88
Geometry Grp	1	1	1	1
Degree of Util (X)	0.369	0.198	0.115	0.118
Departure Headway (Hd)	4.594	4.98	4.886	4.806
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	781	717	729	742
Service Time	2.636	3.033	2.944	2.86
HCM Lane V/C Ratio	0.37	0.199	0.117	0.119
HCM Control Delay	10.3	9.3	8.6	8.5
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	1.7	0.7	0.4	0.4

HCM 6th Signalized Intersection Summary  
3: Old Cutler Road & SW120th Ave

PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	68	22	29	489	882	178
Future Volume (veh/h)	68	22	29	489	882	178
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	24	32	532	959	193
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	100	89	285	1578	1159	233
Arrive On Green	0.06	0.06	0.03	0.84	0.77	0.77
Sat Flow, veh/h	1781	1585	1781	1870	1511	304
Grp Volume(v), veh/h	74	24	32	532	0	1152
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	0	1816
Q Serve(g_s), s	4.9	1.7	0.4	7.4	0.0	48.6
Cycle Q Clear(g_c), s	4.9	1.7	0.4	7.4	0.0	48.6
Prop In Lane	1.00	1.00	1.00			0.17
Lane Grp Cap(c), veh/h	100	89	285	1578	0	1392
V/C Ratio(X)	0.74	0.27	0.11	0.34	0.00	0.83
Avail Cap(c_a), veh/h	223	198	310	1578	0	1392
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.8	54.3	13.6	2.0	0.0	8.9
Incr Delay (d2), s/veh	7.7	1.2	0.1	0.6	0.0	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.7	0.4	1.8	0.0	17.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	63.5	55.5	13.7	2.6	0.0	14.7
LnGrp LOS	E	E	B	A	A	B
Approach Vol, veh/h	98			564	1152	
Approach Delay, s/veh	61.5			3.3	14.7	
Approach LOS	E			A	B	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	9.3	98.0			107.3	12.7
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	5.0	82.0			93.0	15.0
Max Q Clear Time (g_c+I1), s	2.4	50.6			9.4	6.9
Green Ext Time (p_c), s	0.0	3.8			1.1	0.1
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			13.7			
HCM 6th LOS			B			



HCM 6th Signalized Intersection Summary  
 22: Old Cutler Rd & SW 128th St

PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	
Traffic Volume (veh/h)	11	68	5	14	32	59	2	318	15	61	887	19
Future Volume (veh/h)	11	68	5	14	32	59	2	318	15	61	887	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	74	5	15	35	0	2	346	16	66	964	21
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	104	7	63	97		370	1324	61	824	1423	31
Arrive On Green	0.07	0.07	0.07	0.07	0.07	0.00	0.00	0.75	0.75	0.04	0.78	0.78
Sat Flow, veh/h	148	1554	99	354	1451	1585	1781	1774	82	1781	1823	40
Grp Volume(v), veh/h	91	0	0	50	0	0	2	0	362	66	0	985
Grp Sat Flow(s),veh/h/ln	1801	0	0	1805	0	1585	1781	0	1856	1781	0	1863
Q Serve(g_s), s	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4	1.0	0.0	29.5
Cycle Q Clear(g_c), s	5.9	0.0	0.0	3.1	0.0	0.0	0.0	0.0	7.4	1.0	0.0	29.5
Prop In Lane	0.13		0.05	0.30		1.00	1.00		0.04	1.00		0.02
Lane Grp Cap(c), veh/h	154	0	0	159	0		370	0	1385	824	0	1455
V/C Ratio(X)	0.59	0.00	0.00	0.31	0.00		0.01	0.00	0.26	0.08	0.00	0.68
Avail Cap(c_a), veh/h	257	0	0	256	0		455	0	1385	847	0	1455
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.0	0.0	0.0	53.7	0.0	0.0	6.5	0.0	4.8	3.1	0.0	6.1
Incr Delay (d2), s/veh	2.7	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.5	0.0	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	1.5	0.0	0.0	0.0	0.0	2.6	0.3	0.0	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.7	0.0	0.0	54.5	0.0	0.0	6.5	0.0	5.3	3.2	0.0	8.7
LnGrp LOS	E	A	A	D	A		A	A	A	A	A	A
Approach Vol, veh/h		91			50	A		364			1051	
Approach Delay, s/veh		57.7			54.5			5.3			8.3	
Approach LOS		E			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	99.7		14.0	10.4	95.6		14.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	6.0	81.0		15.0	6.0	81.0		15.0				
Max Q Clear Time (g_c+I1), s	2.0	31.5		5.1	3.0	9.4		7.9				
Green Ext Time (p_c), s	0.0	2.7		0.1	0.0	0.7		0.2				

Intersection Summary

HCM 6th Ctrl Delay	12.0
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.  
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	67	15	4	176	4	10	3	2	2	18	83
Future Vol, veh/h	16	67	15	4	176	4	10	3	2	2	18	83
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	73	16	4	191	4	11	3	2	2	20	90

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	195	0	0	89	0	0	371	318	81	319	324	193
Stage 1	-	-	-	-	-	-	115	115	-	201	201	-
Stage 2	-	-	-	-	-	-	256	203	-	118	123	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1378	-	-	1506	-	-	586	598	979	634	594	849
Stage 1	-	-	-	-	-	-	890	800	-	801	735	-
Stage 2	-	-	-	-	-	-	749	733	-	887	794	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1378	-	-	1506	-	-	504	588	979	622	584	849
Mov Cap-2 Maneuver	-	-	-	-	-	-	504	588	-	622	584	-
Stage 1	-	-	-	-	-	-	878	790	-	791	733	-
Stage 2	-	-	-	-	-	-	650	731	-	870	784	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.2			0.2			11.7			10.4		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	556	1378	-	-	1506	-	-	781
HCM Lane V/C Ratio	0.029	0.013	-	-	0.003	-	-	0.143
HCM Control Delay (s)	11.7	7.6	0	-	7.4	0	-	10.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.5

Intersection						
Int Delay, s/veh	0.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T			T
Traffic Vol, veh/h	12	42	476	0	0	888
Future Vol, veh/h	12	42	476	0	0	888
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	46	517	0	0	965

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1482	517	0	0	-	-
Stage 1	517	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	138	558	-	-	0	-
Stage 1	598	-	-	-	0	-
Stage 2	370	-	-	-	0	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	138	558	-	-	-	-
Mov Cap-2 Maneuver	138	-	-	-	-	-
Stage 1	598	-	-	-	-	-
Stage 2	370	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	333
HCM Lane V/C Ratio	-	-	0.176
HCM Control Delay (s)	-	-	18.1
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.6

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↖	↗	↖	↖
Traffic Vol, veh/h	0	8	478	1	20	902
Future Vol, veh/h	0	8	478	1	20	902
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	-	0	-	100	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	9	520	1	22	980

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	520	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	556	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	-	556	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	556	1046
HCM Lane V/C Ratio	-	-	0.016	0.021
HCM Control Delay (s)	-	-	11.6	8.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0.1

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	3	77	56	4	14	10
Future Vol, veh/h	3	77	56	4	14	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	84	61	4	15	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	65	0	-	0	153 63
Stage 1	-	-	-	-	63 -
Stage 2	-	-	-	-	90 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1537	-	-	-	839 1002
Stage 1	-	-	-	-	960 -
Stage 2	-	-	-	-	934 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1537	-	-	-	837 1002
Mov Cap-2 Maneuver	-	-	-	-	837 -
Stage 1	-	-	-	-	958 -
Stage 2	-	-	-	-	934 -

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1537	-	-	-	899
HCM Lane V/C Ratio	0.002	-	-	-	0.029
HCM Control Delay (s)	7.3	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	97	8	26	246	8	12	27	6	8	113	56
Future Vol, veh/h	16	97	8	26	246	8	12	27	6	8	113	56
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	105	9	28	267	9	13	29	7	9	123	61
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9	10.8	8.7	9.6
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	27%	13%	9%	5%
Vol Thru, %	60%	80%	88%	64%
Vol Right, %	13%	7%	3%	32%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	45	121	280	177
LT Vol	12	16	26	8
Through Vol	27	97	246	113
RT Vol	6	8	8	56
Lane Flow Rate	49	132	304	192
Geometry Grp	1	1	1	1
Degree of Util (X)	0.071	0.178	0.397	0.259
Departure Headway (Hd)	5.206	4.884	4.693	4.851
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	682	729	764	735
Service Time	3.284	2.95	2.747	2.912
HCM Lane V/C Ratio	0.072	0.181	0.398	0.261
HCM Control Delay	8.7	9	10.8	9.6
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.2	0.6	1.9	1

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↑			↔	
Traffic Vol, veh/h	4	69	0	4	55	7	1	16	1	11	70	30
Future Vol, veh/h	4	69	0	4	55	7	1	16	1	11	70	30
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	75	0	4	60	8	1	17	1	12	76	33
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.8	7.7	7.5	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	5%	6%	10%
Vol Thru, %	89%	95%	83%	63%
Vol Right, %	6%	0%	11%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	18	73	66	111
LT Vol	1	4	4	11
Through Vol	16	69	55	70
RT Vol	1	0	7	30
Lane Flow Rate	20	79	72	121
Geometry Grp	1	1	1	1
Degree of Util (X)	0.024	0.094	0.083	0.136
Departure Headway (Hd)	4.378	4.244	4.187	4.068
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	823	832	842	869
Service Time	2.378	2.332	2.279	2.155
HCM Lane V/C Ratio	0.024	0.095	0.086	0.139
HCM Control Delay	7.5	7.8	7.7	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.3	0.3	0.5

HCM 6th Signalized Intersection Summary  
3: Old Cutler Road & SW120th Ave

Off-Peak Hour






















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	92	94	235	721	705	110
Future Volume (veh/h)	92	94	235	721	705	110
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	102	255	784	766	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	145	129	429	1531	1147	180
Arrive On Green	0.08	0.08	0.04	0.82	0.73	0.73
Sat Flow, veh/h	1781	1585	1781	1870	1579	247
Grp Volume(v), veh/h	100	102	255	784	0	886
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	0	1826
Q Serve(g_s), s	6.6	7.6	4.3	15.7	0.0	30.9
Cycle Q Clear(g_c), s	6.6	7.6	4.3	15.7	0.0	30.9
Prop In Lane	1.00	1.00	1.00			0.14
Lane Grp Cap(c), veh/h	145	129	429	1531	0	1327
V/C Ratio(X)	0.69	0.79	0.59	0.51	0.00	0.67
Avail Cap(c_a), veh/h	223	198	429	1531	0	1327
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.6	54.1	10.8	3.4	0.0	8.7
Incr Delay (d2), s/veh	4.3	8.9	1.6	1.2	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	3.3	2.8	4.5	0.0	11.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	57.9	63.0	12.4	4.6	0.0	11.4
LnGrp LOS	E	E	B	A	A	B
Approach Vol, veh/h				1039	886	
Approach Delay, s/veh	60.5			6.5	11.4	
Approach LOS	E			A	B	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	11.0	93.2			104.2	15.8
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	5.0	82.0			93.0	15.0
Max Q Clear Time (g_c+I1), s	6.3	32.9			17.7	9.6
Green Ext Time (p_c), s	0.0	2.3			1.9	0.2
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			13.7			
HCM 6th LOS			B			



HCM 6th Signalized Intersection Summary  
 22: Old Cutler Rd & SW 128th St

Off-Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	62	15	29	53	73	9	398	15	59	618	15
Future Volume (veh/h)	36	62	15	29	53	73	9	398	15	59	618	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	39	67	16	32	58	0	10	433	16	64	672	16
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	79	91	20	80	104		538	1302	48	728	1367	33
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.00	0.01	0.73	0.73	0.04	0.75	0.75
Sat Flow, veh/h	452	1046	226	452	1202	1585	1781	1792	66	1781	1819	43
Grp Volume(v), veh/h	122	0	0	90	0	0	10	0	449	64	0	688
Grp Sat Flow(s),veh/h/ln	1724	0	0	1654	0	1585	1781	0	1858	1781	0	1863
Q Serve(g_s), s	2.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	10.4	1.1	0.0	17.5
Cycle Q Clear(g_c), s	8.2	0.0	0.0	6.2	0.0	0.0	0.2	0.0	10.4	1.1	0.0	17.5
Prop In Lane	0.32		0.13	0.36		1.00	1.00		0.04	1.00		0.02
Lane Grp Cap(c), veh/h	189	0	0	184	0		538	0	1351	728	0	1400
V/C Ratio(X)	0.65	0.00	0.00	0.49	0.00		0.02	0.00	0.33	0.09	0.00	0.49
Avail Cap(c_a), veh/h	251	0	0	246	0		606	0	1351	751	0	1400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.7	0.0	0.0	52.8	0.0	0.0	5.0	0.0	5.9	4.0	0.0	5.9
Incr Delay (d2), s/veh	2.7	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.7	0.0	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	0.0	2.7	0.0	0.0	0.1	0.0	3.8	0.3	0.0	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.5	0.0	0.0	54.3	0.0	0.0	5.0	0.0	6.6	4.0	0.0	7.1
LnGrp LOS	E	A	A	D	A		A	A	A	A	A	A
Approach Vol, veh/h		122			90	A		459			752	
Approach Delay, s/veh		56.5			54.3			6.5			6.8	
Approach LOS		E			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.4	96.2		16.4	10.4	93.2		16.4				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	6.0	81.0		15.0	6.0	81.0		15.0				
Max Q Clear Time (g_c+I1), s	2.2	19.5		8.2	3.1	12.4		10.2				
Green Ext Time (p_c), s	0.0	1.6		0.1	0.0	0.9		0.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				14.0								
HCM 6th LOS				B								
<b>Notes</b>												
User approved pedestrian interval to be less than phase max green.												
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th TWSC  
5: Pine Needle Lane/SW 60th Ave & SW120th Ave

Off-Peak Hour

Intersection												
Int Delay, s/veh	4.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	146	9	10	311	35	11	10	2	44	38	99
Future Vol, veh/h	20	146	9	10	311	35	11	10	2	44	38	99
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	159	10	11	338	38	12	11	2	48	41	108

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	376	0	0	169	0	0	662	606	164	594	592	357
Stage 1	-	-	-	-	-	-	208	208	-	379	379	-
Stage 2	-	-	-	-	-	-	454	398	-	215	213	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1182	-	-	1409	-	-	375	411	881	417	419	687
Stage 1	-	-	-	-	-	-	794	730	-	643	615	-
Stage 2	-	-	-	-	-	-	586	603	-	787	726	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1182	-	-	1409	-	-	285	398	881	398	406	687
Mov Cap-2 Maneuver	-	-	-	-	-	-	285	398	-	398	406	-
Stage 1	-	-	-	-	-	-	777	715	-	629	609	-
Stage 2	-	-	-	-	-	-	456	597	-	757	711	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.9			0.2			16.1			16.1		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	349	1182	-	-	1409	-	-	520
HCM Lane V/C Ratio	0.072	0.018	-	-	0.008	-	-	0.378
HCM Control Delay (s)	16.1	8.1	0	-	7.6	0	-	16.1
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	1.8

Intersection						
Int Delay, s/veh	30.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↑		↑			↑
Traffic Vol, veh/h	33	428	519	0	0	842
Future Vol, veh/h	33	428	519	0	0	842
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	465	564	0	0	915

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1479	564	0	0	-	-
Stage 1	564	-	-	-	-	-
Stage 2	915	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	138	525	-	-	0	-
Stage 1	569	-	-	-	0	-
Stage 2	390	-	-	-	0	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	138	525	-	-	-	-
Mov Cap-2 Maneuver	138	-	-	-	-	-
Stage 1	569	-	-	-	-	-
Stage 2	390	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	119.3	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	437
HCM Lane V/C Ratio	-	-	1.147
HCM Control Delay (s)	-	-	119.3
HCM Lane LOS	-	-	F
HCM 95th %tile Q(veh)	-	-	18.3

Intersection						
Int Delay, s/veh	1.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↖	↗	↖	↖
Traffic Vol, veh/h	0	74	455	57	174	702
Future Vol, veh/h	0	74	455	57	174	702
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	-	0	-	100	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	80	495	62	189	763

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	495	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	575	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	-	575	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.3	0	1.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	575	1069
HCM Lane V/C Ratio	-	-	0.14	0.177
HCM Control Delay (s)	-	-	12.3	9.1
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.5	0.6

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	6	71	90	8	18	7
Future Vol, veh/h	6	71	90	8	18	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	77	98	9	20	8

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	107	0	-	0	194
Stage 1	-	-	-	-	103
Stage 2	-	-	-	-	91
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1484	-	-	-	795
Stage 1	-	-	-	-	921
Stage 2	-	-	-	-	933
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1484	-	-	-	791
Mov Cap-2 Maneuver	-	-	-	-	791
Stage 1	-	-	-	-	916
Stage 2	-	-	-	-	933

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1484	-	-	-	830
HCM Lane V/C Ratio	0.004	-	-	-	0.033
HCM Control Delay (s)	7.4	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	6	71	90	8	18	7
Future Vol, veh/h	6	71	90	8	18	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	77	98	9	20	8

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	107	0	-	0	194
Stage 1	-	-	-	-	103
Stage 2	-	-	-	-	91
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1484	-	-	-	795
Stage 1	-	-	-	-	921
Stage 2	-	-	-	-	933
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1484	-	-	-	791
Mov Cap-2 Maneuver	-	-	-	-	791
Stage 1	-	-	-	-	916
Stage 2	-	-	-	-	933

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1484	-	-	-	830
HCM Lane V/C Ratio	0.004	-	-	-	0.033
HCM Control Delay (s)	7.4	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	162	18	60	322	23	4	8	9	19	107	30
Future Vol, veh/h	12	162	18	60	322	23	4	8	9	19	107	30
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	176	20	65	350	25	4	9	10	21	116	33
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10	14	8.8	10.3
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	6%	15%	12%
Vol Thru, %	38%	84%	80%	69%
Vol Right, %	43%	9%	6%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	192	405	156
LT Vol	4	12	60	19
Through Vol	8	162	322	107
RT Vol	9	18	23	30
Lane Flow Rate	23	209	440	170
Geometry Grp	1	1	1	1
Degree of Util (X)	0.036	0.285	0.574	0.253
Departure Headway (Hd)	5.628	4.922	4.697	5.367
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	640	722	762	661
Service Time	3.628	3.006	2.766	3.462
HCM Lane V/C Ratio	0.036	0.289	0.577	0.257
HCM Control Delay	8.8	10	14	10.3
HCM Lane LOS	A	A	B	B
HCM 95th-tile Q	0.1	1.2	3.7	1

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	53	1	6	55	13	1	53	4	20	79	13
Future Vol, veh/h	10	53	1	6	55	13	1	53	4	20	79	13
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	58	1	7	60	14	1	58	4	22	86	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.9	7.8	7.7	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	16%	8%	18%
Vol Thru, %	91%	83%	74%	71%
Vol Right, %	7%	2%	18%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	58	64	74	112
LT Vol	1	10	6	20
Through Vol	53	53	55	79
RT Vol	4	1	13	13
Lane Flow Rate	63	70	80	122
Geometry Grp	1	1	1	1
Degree of Util (X)	0.077	0.086	0.097	0.146
Departure Headway (Hd)	4.37	4.46	4.339	4.311
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	822	805	828	834
Service Time	2.383	2.477	2.355	2.324
HCM Lane V/C Ratio	0.077	0.087	0.097	0.146
HCM Control Delay	7.7	7.9	7.8	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.3	0.3	0.5



# **Appendix F – Growth Rate Analysis/ Historical Traffic Data**

2018 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: COUNTY  
 CATEGORY: 8701 MIAMI-DADE SOUTH

MOCF: 0.96

WEEK	DATES	SF	PSCF
1	01/01/2018 - 01/06/2018	1.01	1.05
2	01/07/2018 - 01/13/2018	1.01	1.05
3	01/14/2018 - 01/20/2018	1.00	1.04
4	01/21/2018 - 01/27/2018	0.99	1.03
* 5	01/28/2018 - 02/03/2018	0.98	1.02
* 6	02/04/2018 - 02/10/2018	0.97	1.01
* 7	02/11/2018 - 02/17/2018	0.96	1.00
* 8	02/18/2018 - 02/24/2018	0.96	1.00
* 9	02/25/2018 - 03/03/2018	0.96	1.00
*10	03/04/2018 - 03/10/2018	0.96	1.00
*11	03/11/2018 - 03/17/2018	0.96	1.00
*12	03/18/2018 - 03/24/2018	0.96	1.00
*13	03/25/2018 - 03/31/2018	0.96	1.00
*14	04/01/2018 - 04/07/2018	0.96	1.00
*15	04/08/2018 - 04/14/2018	0.96	1.00
*16	04/15/2018 - 04/21/2018	0.96	1.00
*17	04/22/2018 - 04/28/2018	0.98	1.02
18	04/29/2018 - 05/05/2018	0.99	1.03
19	05/06/2018 - 05/12/2018	1.01	1.05
20	05/13/2018 - 05/19/2018	1.02	1.06
21	05/20/2018 - 05/26/2018	1.03	1.07
22	05/27/2018 - 06/02/2018	1.03	1.07
23	06/03/2018 - 06/09/2018	1.04	1.08
24	06/10/2018 - 06/16/2018	1.04	1.08
25	06/17/2018 - 06/23/2018	1.04	1.08
26	06/24/2018 - 06/30/2018	1.04	1.08
27	07/01/2018 - 07/07/2018	1.05	1.09
28	07/08/2018 - 07/14/2018	1.05	1.09
29	07/15/2018 - 07/21/2018	1.05	1.09
30	07/22/2018 - 07/28/2018	1.04	1.08
31	07/29/2018 - 08/04/2018	1.03	1.07
32	08/05/2018 - 08/11/2018	1.02	1.06
33	08/12/2018 - 08/18/2018	1.01	1.05
34	08/19/2018 - 08/25/2018	1.01	1.05
35	08/26/2018 - 09/01/2018	1.02	1.06
36	09/02/2018 - 09/08/2018	1.02	1.06
37	09/09/2018 - 09/15/2018	1.02	1.06
38	09/16/2018 - 09/22/2018	1.01	1.05
39	09/23/2018 - 09/29/2018	1.01	1.05
40	09/30/2018 - 10/06/2018	1.00	1.04
41	10/07/2018 - 10/13/2018	1.00	1.04
42	10/14/2018 - 10/20/2018	0.99	1.03
43	10/21/2018 - 10/27/2018	1.00	1.04
44	10/28/2018 - 11/03/2018	1.00	1.04
45	11/04/2018 - 11/10/2018	1.01	1.05
46	11/11/2018 - 11/17/2018	1.01	1.05
47	11/18/2018 - 11/24/2018	1.01	1.05
48	11/25/2018 - 12/01/2018	1.01	1.05
49	12/02/2018 - 12/08/2018	1.01	1.05
50	12/09/2018 - 12/15/2018	1.01	1.05
51	12/16/2018 - 12/22/2018	1.01	1.05
52	12/23/2018 - 12/29/2018	1.00	1.04
53	12/30/2018 - 12/31/2018	1.00	1.04

\* PEAK SEASON

28-FEB-2019 15:24:23

830UPD

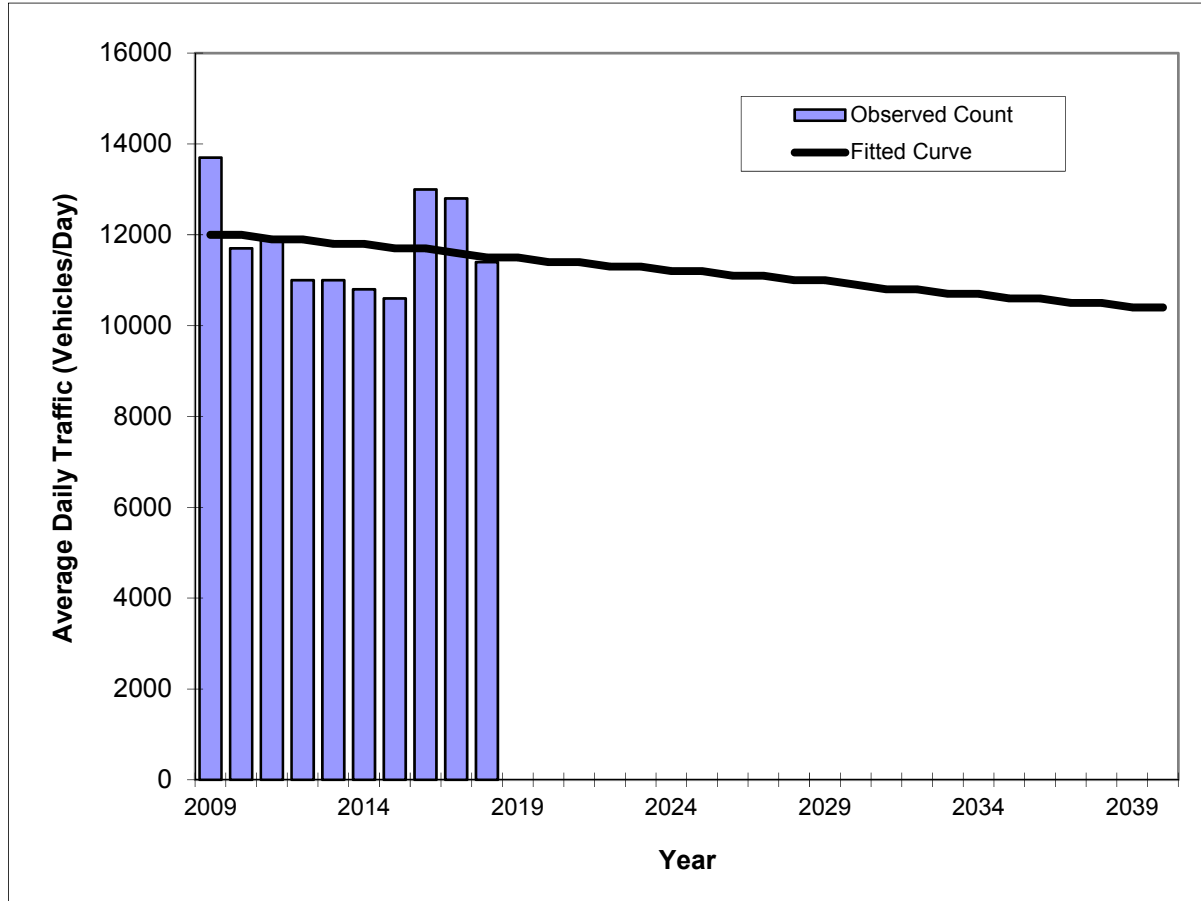
6\_8701\_PKSEASON.TXT

## Traffic Trends - V03.a

**SW 67 AVE -- 300 FT N. of SW 123 Street**

FIN#	0
Location	3

County:	Miami-Dade (87)
Station #:	87-7060
Highway:	SW 67 AVE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2009	13700	12000
2010	11700	12000
2011	11900	11900
2012	11000	11900
2013	11000	11800
2014	10800	11800
2015	10600	11700
2016	13000	11700
2017	12800	11600
2018	11400	11500
<b>2029 Opening Year Trend</b>		
2029	N/A	11000
<b>2030 Mid-Year Trend</b>		
2030	N/A	10900
<b>2035 Design Year Trend</b>		
2035	N/A	10600
<b>TRANPLAN Forecasts/Trends</b>		

** Annual Trend Increase:	-54
Trend R-squared:	2.41%
Trend Annual Historic Growth Rate:	-0.46%
Trend Growth Rate (2018 to Design Year):	-0.46%
Printed:	6-Jun-19
<b>Straight Line Growth Option</b>	

\*Axle-Adjusted

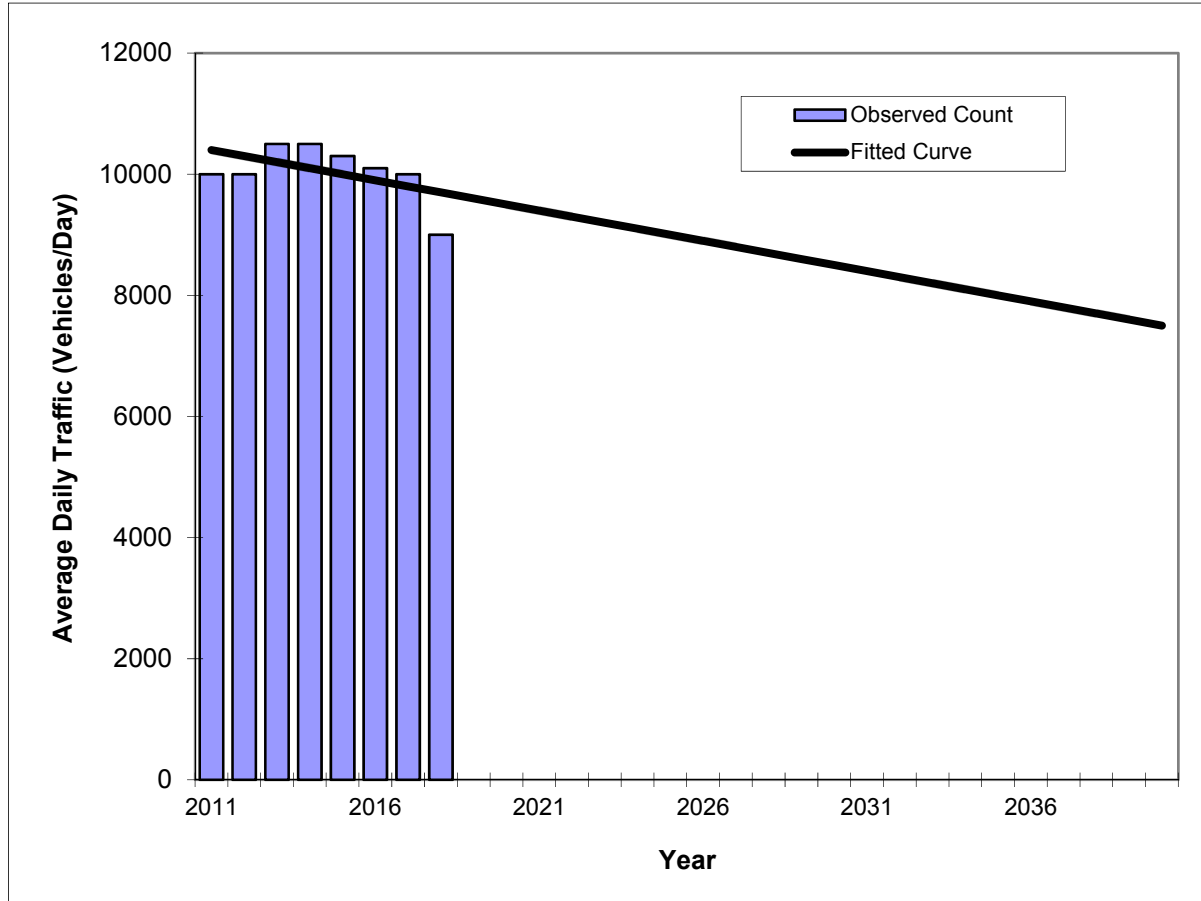


## Traffic Trends - V03.a

**SW 57 AVE -- 200' NORTH OF OLD CUTLER RD**

FIN#	0
Location	3

County:	Miami-Dade (87)
Station #:	87-8300
Highway:	SW 57 AVE



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	10000	10400
2012	10000	10300
2013	10500	10200
2014	10500	10100
2015	10300	10000
2016	10100	9900
2017	10000	9800
2018	9000	9700
<b>2029 Opening Year Trend</b>		
2029	N/A	8600
<b>2030 Mid-Year Trend</b>		
2030	N/A	8500
<b>2035 Design Year Trend</b>		
2035	N/A	8000
<b>TRANPLAN Forecasts/Trends</b>		

** Annual Trend Increase:	-100
Trend R-squared:	26.58%
Trend Annual Historic Growth Rate:	-0.96%
Trend Growth Rate (2018 to Design Year):	-1.03%
Printed:	6-Jun-19

**Straight Line Growth Option**

\*Axle-Adjusted

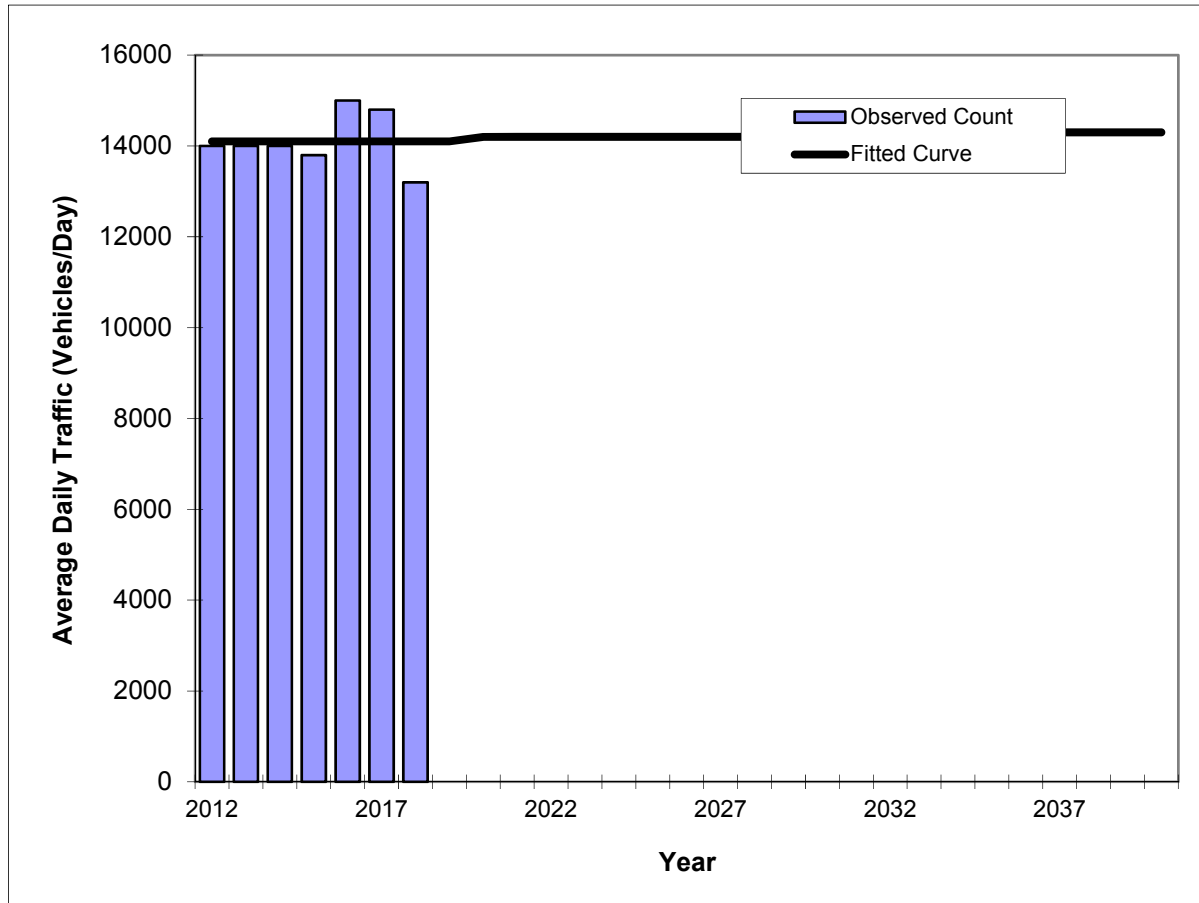


## Traffic Trends - V03.a

**OLD CUTLER RD -- 200' EAST OF LUDLAM RD**

FIN#	0
Location	3

County:	Miami-Dade (87)
Station #:	87-8312
Highway:	OLD CUTLER RD



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2012	14000	14100
2013	14000	14100
2014	14000	14100
2015	13800	14100
2016	15000	14100
2017	14800	14100
2018	13200	14100
<b>2029 Opening Year Trend</b>		
2029	N/A	14200
<b>2030 Mid-Year Trend</b>		
2030	N/A	14200
<b>2035 Design Year Trend</b>		
2035	N/A	14300
<b>TRANPLAN Forecasts/Trends</b>		

** Annual Trend Increase:	7
Trend R-squared:	0.06%
Trend Annual Historic Growth Rate:	0.00%
Trend Growth Rate (2018 to Design Year):	0.08%
Printed:	6-Jun-19

**Straight Line Growth Option**

\*Axle-Adjusted

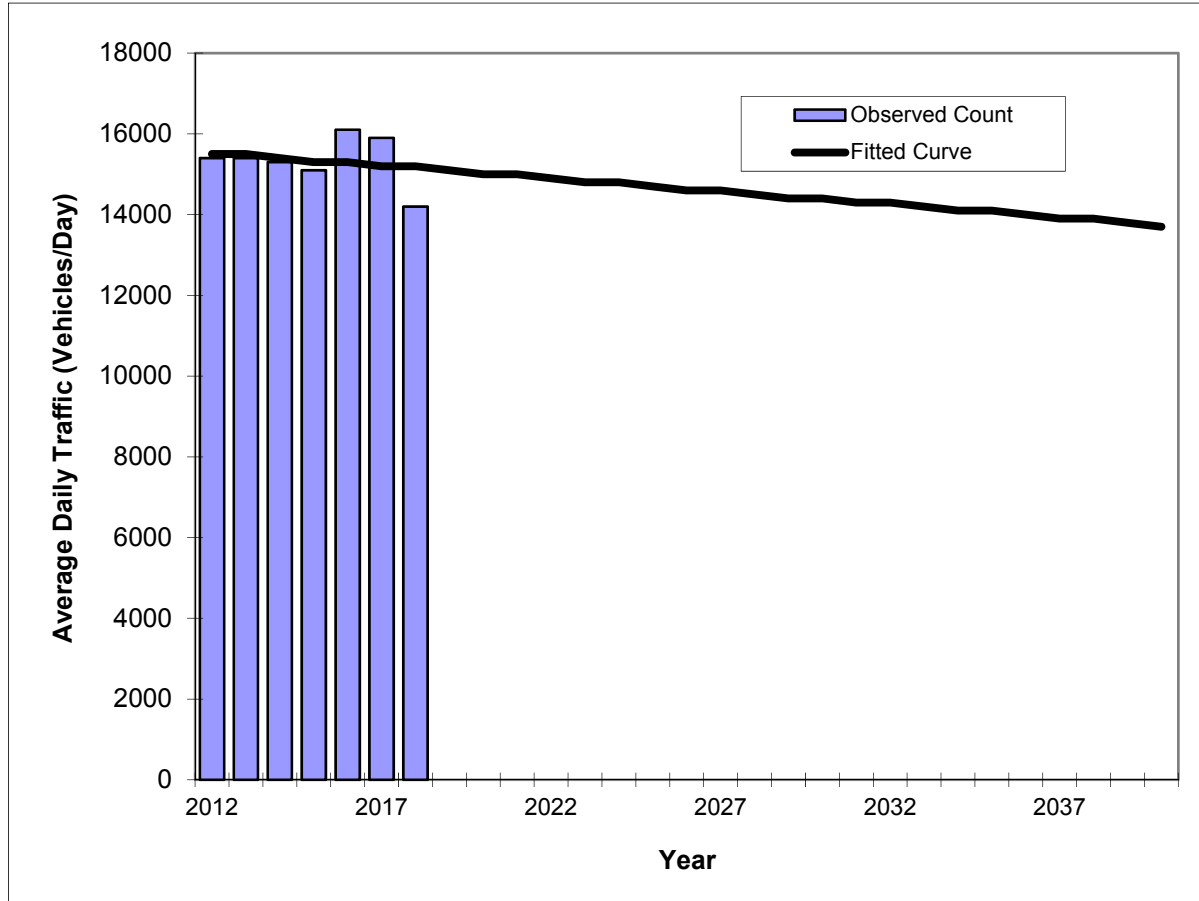


## Traffic Trends - V03.a

**OLD CUTLER RD -- 200' SOUTH OF SW 120TH STREET**

FIN#	0
Location	3

County:	Miami-Dade (87)
Station #:	87-8313
Highway:	OLD CUTLER RD



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2012	15400	15500
2013	15400	15500
2014	15300	15400
2015	15100	15300
2016	16100	15300
2017	15900	15200
2018	14200	15200
2029 Opening Year Trend		
2029	N/A	14400
2030 Mid-Year Trend		
2030	N/A	14400
2035 Design Year Trend		
2035	N/A	14100
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	-64
Trend R-squared:	5.13%
Trend Annual Historic Growth Rate:	-0.32%
Trend Growth Rate (2018 to Design Year):	-0.43%
Printed:	6-Jun-19
<b>Straight Line Growth Option</b>	

\*Axle-Adjusted

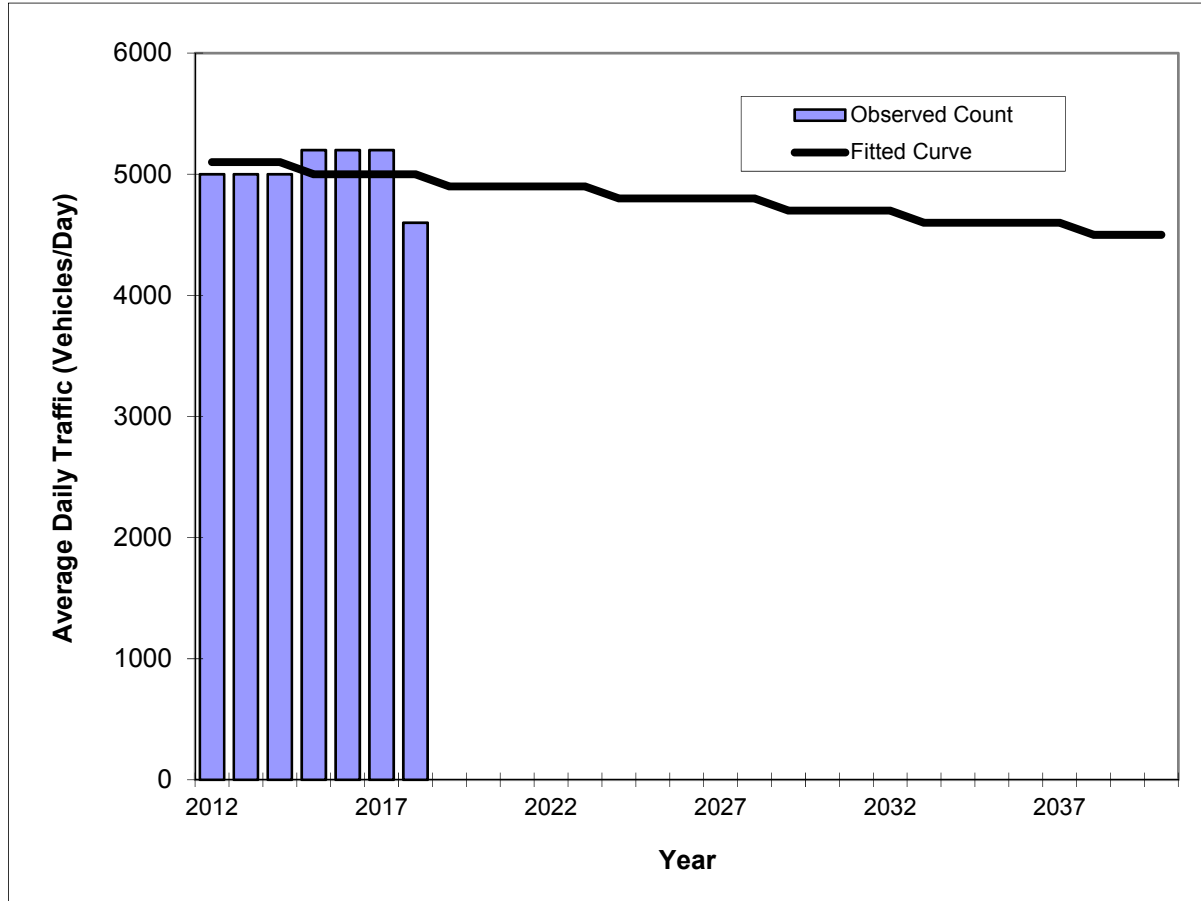


## Traffic Trends - V03.a

**SW 120 ST -- 200' WEST OF SW 68 CT (2011 OFF SYSTEM CYCLE)**

FIN#	0
Location	3

County:	Miami-Dade (87)
Station #:	87-8502
Highway:	SW 120 ST



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2012	5000	5100
2013	5000	5100
2014	5000	5100
2015	5200	5000
2016	5200	5000
2017	5200	5000
2018	4600	5000
2029 Opening Year Trend		
2029	N/A	4700
2030 Mid-Year Trend		
2030	N/A	4700
2035 Design Year Trend		
2035	N/A	4600
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	-21
Trend R-squared:	4.69%
Trend Annual Historic Growth Rate:	-0.33%
Trend Growth Rate (2018 to Design Year):	-0.47%
Printed:	6-Jun-19

**Straight Line Growth Option**

\*Axle-Adjusted



FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRANSPORTATION STATISTICS OFFICE  
 2018 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 7060 - SW 67TH AVENUE 300 FT NORTH OF SW 123RD ST

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR	
2018	11400	S	N	5400	S	6000	9.00	54.30	2.50
2017	12800	F	N	6100	S	6700	9.00	59.30	2.50
2016	13000	C	N	6200	S	6800	9.00	56.10	2.50
2015	10600	F	N	5200	S	5400	9.00	57.40	3.50
2014	10800	C	N	5300	S	5500	9.00	59.30	3.50
2013	11000	F	N	5500	S	5500	9.00	58.90	3.90
2012	11000	C	N	5500	S	5500	9.00	59.70	3.90
2011	11900	F	N	5900	S	6000	9.00	58.20	3.90
2010	11700	C	N	5800	S	5900	7.87	58.27	4.30
2009	13700	C	N	7200	S	6500	7.98	59.96	4.90

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE  
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE  
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

\*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES



FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRANSPORTATION STATISTICS OFFICE  
 2018 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8300 - SW 57TH AVE, 200' NORTH OF OLD CUTLER RD

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR	
2018	9000	F	N	4500	S	4500	9.00	54.30	3.10
2017	10000	C	N	5000	S	5000	9.00	55.70	3.40
2016	10100	T	N	5000	S	5100	9.00	56.10	3.00
2015	10300	S	N	5100	S	5200	9.00	57.40	3.40
2014	10500	F	N	5200	S	5300	9.00	59.30	4.40
2013	10500	C	N	5200	S	5300	9.00	58.90	16.20
2012	10000	F		0		0	9.00	59.70	16.00
2011	10000	C	N	0	S	0	9.00	58.20	14.70

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE  
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE  
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

\*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRANSPORTATION STATISTICS OFFICE  
 2018 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8312 - OLD CUTLER RD, 200' EAST OF LUDLAM RD

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	13200 S	E 6600	W 6600	9.00	54.30	12.10
2017	14800 F	E 7400	W 7400	9.00	55.70	12.60
2016	15000 C	E 7500	W 7500	9.00	56.10	13.50
2015	13800 T	E 7300	W 6500	9.00	57.40	13.70
2014	14000 S	E 7400	W 6600	9.00	59.30	17.40
2013	14000 F	E 7400	W 6600	9.00	58.90	16.20
2012	14000 C	E 7400	W 6600	9.00	59.70	16.00

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE  
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE  
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

\*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRANSPORTATION STATISTICS OFFICE  
 2018 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8313 - OLD CUTLER RD, 200' SOUTH OF SW 120TH STREET

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2018	14200 S	N 7100	S 7100	9.00	54.30	12.10
2017	15900 F	N 7900	S 8000	9.00	55.70	12.60
2016	16100 C	N 8000	S 8100	9.00	56.10	13.50
2015	15100 T	N 8100	S 7000	9.00	57.40	13.70
2014	15300 S	N 8200	S 7100	9.00	59.30	17.40
2013	15400 F	N 8300	S 7100	9.00	58.90	16.20
2012	15400 C	N 8300	S 7100	9.00	59.70	16.00

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE  
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE  
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

\*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRANSPORTATION STATISTICS OFFICE  
 2018 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8502 - SW 120TH STREET, 200' WEST OF SW 68 CT (2011 OFF SYSTEM CYCLE)

YEAR	AADT		DIRECTION 1		DIRECTION 2		*K FACTOR	D FACTOR	T FACTOR
2018	4600	T	E	2200	W	2400	9.00	54.30	3.10
2017	5200	S	E	2500	W	2700	9.00	59.30	3.40
2016	5200	F	E	2500	W	2700	9.00	56.10	3.00
2015	5200	C	E	2500	W	2700	9.00	57.40	3.40
2014	5000	S					9.00	59.30	4.40
2013	5000	F		0		0	9.00	58.90	16.20
2012	5000	C	E	0	W	0	9.00	59.70	16.00

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE  
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE  
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN

\*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

# **Appendix G – 2019 Future Background Synchro Output Sheets**

HCM 6th Signalized Intersection Summary  
3: Old Cutler Road & SW120th Ave




















AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	228	124	238	870	459	46
Future Volume (veh/h)	228	124	238	870	459	46
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	248	135	259	946	499	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	253	225	611	1460	1176	118
Arrive On Green	0.14	0.14	0.04	0.78	0.70	0.70
Sat Flow, veh/h	1781	1585	1781	1870	1673	168
Grp Volume(v), veh/h	248	135	259	946	0	549
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	0	1840
Q Serve(g_s), s	21.5	12.4	6.0	34.8	0.0	19.6
Cycle Q Clear(g_c), s	21.5	12.4	6.0	34.8	0.0	19.6
Prop In Lane	1.00	1.00	1.00			0.09
Lane Grp Cap(c), veh/h	253	225	611	1460	0	1294
V/C Ratio(X)	0.98	0.60	0.42	0.65	0.00	0.42
Avail Cap(c_a), veh/h	253	225	611	1460	0	1294
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	66.3	62.4	8.1	7.5	0.0	9.7
Incr Delay (d2), s/veh	51.0	3.9	0.2	2.2	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.4	5.3	2.3	13.0	0.0	7.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	117.3	66.2	8.3	9.8	0.0	10.7
LnGrp LOS	F	E	A	A	A	B
Approach Vol, veh/h	383			1205	549	
Approach Delay, s/veh	99.3			9.5	10.7	
Approach LOS	F			A	B	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	12.0	115.0			127.0	28.0
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	6.0	109.0			116.0	22.0
Max Q Clear Time (g_c+I1), s	8.0	21.6			36.8	23.5
Green Ext Time (p_c), s	0.0	1.2			2.5	0.0
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			25.9			
HCM 6th LOS			C			

HCM 6th Signalized Intersection Summary  
22: Old Cutler Rd & SW 128th St

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	47	10	14	77	70	7	573	10	6	149	28
Future Volume (veh/h)	139	47	10	14	77	70	7	573	10	6	149	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	151	51	11	15	84	0	8	623	11	7	162	30
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	251	60	13	73	274		773	1110	20	426	928	172
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.00	0.01	0.61	0.61	0.01	0.60	0.60
Sat Flow, veh/h	1088	372	79	134	1713	1585	1781	1832	32	1781	1535	284
Grp Volume(v), veh/h	213	0	0	99	0	0	8	0	634	7	0	192
Grp Sat Flow(s),veh/h/ln	1539	0	0	1847	0	1585	1781	0	1865	1781	0	1819
Q Serve(g_s), s	6.9	0.0	0.0	0.0	0.0	0.0	0.1	0.0	16.2	0.1	0.0	3.7
Cycle Q Clear(g_c), s	10.6	0.0	0.0	3.8	0.0	0.0	0.1	0.0	16.2	0.1	0.0	3.7
Prop In Lane	0.71		0.05	0.15		1.00	1.00		0.02	1.00		0.16
Lane Grp Cap(c), veh/h	323	0	0	348	0		773	0	1130	426	0	1100
V/C Ratio(X)	0.66	0.00	0.00	0.28	0.00		0.01	0.00	0.56	0.02	0.00	0.17
Avail Cap(c_a), veh/h	362	0	0	396	0		933	0	1130	543	0	1100
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.4	0.0	0.0	29.8	0.0	0.0	6.0	0.0	9.4	7.6	0.0	7.0
Incr Delay (d2), s/veh	3.2	0.0	0.0	0.3	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.0	0.0	1.7	0.0	0.0	0.0	0.0	6.1	0.0	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.6	0.0	0.0	30.1	0.0	0.0	6.1	0.0	11.4	7.6	0.0	7.3
LnGrp LOS	D	A	A	C	A		A	A	B	A	A	A
Approach Vol, veh/h		213			99	A		642				199
Approach Delay, s/veh		35.6			30.1			11.4				7.3
Approach LOS		D			C			B				A
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.8	54.4		18.8	6.7	54.5		18.8				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	8.0	39.0		15.0	6.0	41.0		15.0				
Max Q Clear Time (g_c+I1), s	2.1	5.7		5.8	2.1	18.2		12.6				
Green Ext Time (p_c), s	0.0	0.4		0.2	0.0	1.4		0.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				16.8								
HCM 6th LOS				B								
<b>Notes</b>												
User approved pedestrian interval to be less than phase max green.												
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th TWSC  
5: Pine Needle Lane/SW 60th Ave & SW120th Ave

AM Peak Hour

Intersection												
Int Delay, s/veh	11.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	124	304	22	20	199	42	7	52	6	59	63	50
Future Vol, veh/h	124	304	22	20	199	42	7	52	6	59	63	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	135	330	24	22	216	46	8	57	7	64	68	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	262	0	0	354	0	0	956	918	342	927	907	239
Stage 1	-	-	-	-	-	-	612	612	-	283	283	-
Stage 2	-	-	-	-	-	-	344	306	-	644	624	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1302	-	-	1205	-	-	238	272	701	249	276	800
Stage 1	-	-	-	-	-	-	480	484	-	724	677	-
Stage 2	-	-	-	-	-	-	671	662	-	461	478	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1302	-	-	1205	-	-	153	232	701	179	235	800
Mov Cap-2 Maneuver	-	-	-	-	-	-	153	232	-	179	235	-
Stage 1	-	-	-	-	-	-	418	421	-	630	663	-
Stage 2	-	-	-	-	-	-	549	648	-	344	416	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.2			0.6			27			47.3		
HCM LOS							D			E		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	233	1302	-	-	1205	-	-	261
HCM Lane V/C Ratio	0.303	0.104	-	-	0.018	-	-	0.716
HCM Control Delay (s)	27	8.1	0	-	8	0	-	47.3
HCM Lane LOS	D	A	A	-	A	A	-	E
HCM 95th %tile Q(veh)	1.2	0.3	-	-	0.1	-	-	4.9



13: Old Cutler Road /Old Cutler Road & Gulliver Schools Proj Dr North

Intersection						
Int Delay, s/veh	38.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔			↑
Traffic Vol, veh/h	0	514	600	0	0	679
Future Vol, veh/h	0	514	600	0	0	679
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	559	652	0	0	738

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1390	652	0	0	-	-
Stage 1	652	-	-	-	-	-
Stage 2	738	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	157	~ 468	-	-	0	-
Stage 1	518	-	-	-	0	-
Stage 2	473	-	-	-	0	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	157	~ 468	-	-	-	-
Mov Cap-2 Maneuver	157	-	-	-	-	-
Stage 1	518	-	-	-	-	-
Stage 2	473	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	134	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	468
HCM Lane V/C Ratio	-	-	1.194
HCM Control Delay (s)	-	-	134
HCM Lane LOS	-	-	F
HCM 95th %tile Q(veh)	-	-	21.2

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

Intersection						
Int Delay, s/veh	5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↑	↗	↘	↑
Traffic Vol, veh/h	0	14	589	208	514	180
Future Vol, veh/h	0	14	589	208	514	180
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	-	0	-	100	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	15	640	226	559	196

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	640	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	475	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	475	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.8	0	10.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	475	944
HCM Lane V/C Ratio	-	-	0.032	0.592
HCM Control Delay (s)	-	-	12.8	14.2
HCM Lane LOS	-	-	B	B
HCM 95th %tile Q(veh)	-	-	0.1	4

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	22	105	43	27	7	6
Future Vol, veh/h	22	105	43	27	7	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	114	47	29	8	7

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	76	0	-	0	224 62
Stage 1	-	-	-	-	62 -
Stage 2	-	-	-	-	162 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1523	-	-	-	764 1003
Stage 1	-	-	-	-	961 -
Stage 2	-	-	-	-	867 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1523	-	-	-	751 1003
Mov Cap-2 Maneuver	-	-	-	-	751 -
Stage 1	-	-	-	-	945 -
Stage 2	-	-	-	-	867 -

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1523	-	-	-	850
HCM Lane V/C Ratio	0.016	-	-	-	0.017
HCM Control Delay (s)	7.4	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Intersection Delay, s/veh	30.7
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	37	362	4	68	179	38	6	273	111	40	94	16
Future Vol, veh/h	37	362	4	68	179	38	6	273	111	40	94	16
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	393	4	74	195	41	7	297	121	43	102	17
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	38.8	22.2	34.3	15.6
HCM LOS	E	C	D	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	9%	24%	27%
Vol Thru, %	70%	90%	63%	63%
Vol Right, %	28%	1%	13%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	390	403	285	150
LT Vol	6	37	68	40
Through Vol	273	362	179	94
RT Vol	111	4	38	16
Lane Flow Rate	424	438	310	163
Geometry Grp	1	1	1	1
Degree of Util (X)	0.818	0.853	0.63	0.362
Departure Headway (Hd)	6.95	7.013	7.321	7.993
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	517	517	489	447
Service Time	5.02	5.084	5.402	6.091
HCM Lane V/C Ratio	0.82	0.847	0.634	0.365
HCM Control Delay	34.3	38.8	22.2	15.6
HCM Lane LOS	D	E	C	C
HCM 95th-tile Q	8	8.9	4.3	1.6

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	96	1	25	28	25	1	260	6	6	68	7
Future Vol, veh/h	35	96	1	25	28	25	1	260	6	6	68	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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	104	1	27	30	27	1	283	7	7	74	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	8.6	10.3	8.5
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	27%	32%	7%
Vol Thru, %	97%	73%	36%	84%
Vol Right, %	2%	1%	32%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	267	132	78	81
LT Vol	1	35	25	6
Through Vol	260	96	28	68
RT Vol	6	1	25	7
Lane Flow Rate	290	143	85	88
Geometry Grp	1	1	1	1
Degree of Util (X)	0.37	0.199	0.115	0.118
Departure Headway (Hd)	4.594	4.983	4.89	4.808
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	781	717	729	741
Service Time	2.638	3.035	2.948	2.863
HCM Lane V/C Ratio	0.371	0.199	0.117	0.119
HCM Control Delay	10.3	9.3	8.6	8.5
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	1.7	0.7	0.4	0.4

HCM 6th Signalized Intersection Summary  
3: Old Cutler Road & SW120th Ave




















PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	68	22	29	492	886	179
Future Volume (veh/h)	68	22	29	492	886	179
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	24	32	535	963	195
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	100	89	281	1578	1157	234
Arrive On Green	0.06	0.06	0.03	0.84	0.77	0.77
Sat Flow, veh/h	1781	1585	1781	1870	1510	306
Grp Volume(v), veh/h	74	24	32	535	0	1158
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	0	1815
Q Serve(g_s), s	4.9	1.7	0.4	7.5	0.0	49.4
Cycle Q Clear(g_c), s	4.9	1.7	0.4	7.5	0.0	49.4
Prop In Lane	1.00	1.00	1.00			0.17
Lane Grp Cap(c), veh/h	100	89	281	1578	0	1392
V/C Ratio(X)	0.74	0.27	0.11	0.34	0.00	0.83
Avail Cap(c_a), veh/h	223	198	307	1578	0	1392
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.8	54.3	14.0	2.0	0.0	9.0
Incr Delay (d2), s/veh	7.7	1.2	0.1	0.6	0.0	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.7	0.4	1.8	0.0	17.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	63.5	55.5	14.0	2.6	0.0	15.0
LnGrp LOS	E	E	B	A	A	B
Approach Vol, veh/h	98			567	1158	
Approach Delay, s/veh	61.5			3.3	15.0	
Approach LOS	E			A	B	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	9.3	98.0			107.3	12.7
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	5.0	82.0			93.0	15.0
Max Q Clear Time (g_c+I1), s	2.4	51.4			9.5	6.9
Green Ext Time (p_c), s	0.0	3.8			1.1	0.1
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			13.8			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Summary  
22: Old Cutler Rd & SW 128th St

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	68	5	14	32	59	2	320	16	61	891	19
Future Volume (veh/h)	11	68	5	14	32	59	2	320	16	61	891	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	74	5	15	35	0	2	348	17	66	968	21
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	104	7	63	97		368	1320	64	822	1424	31
Arrive On Green	0.07	0.07	0.07	0.07	0.07	0.00	0.00	0.75	0.75	0.04	0.78	0.78
Sat Flow, veh/h	148	1554	99	354	1451	1585	1781	1768	86	1781	1824	40
Grp Volume(v), veh/h	91	0	0	50	0	0	2	0	365	66	0	989
Grp Sat Flow(s),veh/h/ln	1801	0	0	1805	0	1585	1781	0	1855	1781	0	1863
Q Serve(g_s), s	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.5	1.0	0.0	29.8
Cycle Q Clear(g_c), s	5.9	0.0	0.0	3.1	0.0	0.0	0.0	0.0	7.5	1.0	0.0	29.8
Prop In Lane	0.13		0.05	0.30		1.00	1.00		0.05	1.00		0.02
Lane Grp Cap(c), veh/h	154	0	0	159	0		368	0	1384	822	0	1455
V/C Ratio(X)	0.59	0.00	0.00	0.31	0.00		0.01	0.00	0.26	0.08	0.00	0.68
Avail Cap(c_a), veh/h	257	0	0	256	0		452	0	1384	845	0	1455
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.0	0.0	0.0	53.7	0.0	0.0	6.5	0.0	4.8	3.2	0.0	6.2
Incr Delay (d2), s/veh	2.7	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.5	0.0	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	1.5	0.0	0.0	0.0	0.0	2.6	0.3	0.0	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.7	0.0	0.0	54.5	0.0	0.0	6.5	0.0	5.3	3.2	0.0	8.7
LnGrp LOS	E	A	A	D	A		A	A	A	A	A	A
Approach Vol, veh/h		91			50	A		367			1055	
Approach Delay, s/veh		57.7			54.5			5.3			8.4	
Approach LOS		E			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	99.7		14.0	10.4	95.6		14.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	6.0	81.0		15.0	6.0	81.0		15.0				
Max Q Clear Time (g_c+I1), s	2.0	31.8		5.1	3.0	9.5		7.9				
Green Ext Time (p_c), s	0.0	2.7		0.1	0.0	0.7		0.2				

Intersection Summary

HCM 6th Ctrl Delay	12.0
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.  
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	67	16	4	177	4	10	3	2	2	18	84
Future Vol, veh/h	17	67	16	4	177	4	10	3	2	2	18	84
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	73	17	4	192	4	11	3	2	2	20	91

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	196	0	0	90	0	0	376	322	82	322	328	194
Stage 1	-	-	-	-	-	-	118	118	-	202	202	-
Stage 2	-	-	-	-	-	-	258	204	-	120	126	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1377	-	-	1505	-	-	581	595	978	631	591	847
Stage 1	-	-	-	-	-	-	887	798	-	800	734	-
Stage 2	-	-	-	-	-	-	747	733	-	884	792	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1377	-	-	1505	-	-	498	585	978	619	581	847
Mov Cap-2 Maneuver	-	-	-	-	-	-	498	585	-	619	581	-
Stage 1	-	-	-	-	-	-	875	787	-	789	732	-
Stage 2	-	-	-	-	-	-	647	731	-	866	781	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.3			0.2			11.7			10.4		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	550	1377	-	-	1505	-	-	780
HCM Lane V/C Ratio	0.03	0.013	-	-	0.003	-	-	0.145
HCM Control Delay (s)	11.7	7.7	0	-	7.4	0	-	10.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.5



13: Old Cutler Road /Old Cutler Road & Gulliver Schools Proj Dr North

Intersection						
Int Delay, s/veh	0.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	12	42	478	0	0	892
Future Vol, veh/h	12	42	478	0	0	892
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	46	520	0	0	970

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1490	520	0	0	-	-
Stage 1	520	-	-	-	-	-
Stage 2	970	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	136	556	-	-	0	-
Stage 1	597	-	-	-	0	-
Stage 2	368	-	-	-	0	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	136	556	-	-	-	-
Mov Cap-2 Maneuver	136	-	-	-	-	-
Stage 1	597	-	-	-	-	-
Stage 2	368	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	330
HCM Lane V/C Ratio	-	-	0.178
HCM Control Delay (s)	-	-	18.3
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.6

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↖	↗	↖	↖
Traffic Vol, veh/h	0	8	480	1	20	907
Future Vol, veh/h	0	8	480	1	20	907
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	-	0	-	100	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	9	522	1	22	986

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	522	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	555	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	555	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	555	1044
HCM Lane V/C Ratio	-	-	0.016	0.021
HCM Control Delay (s)	-	-	11.6	8.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0.1

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	3	78	56	4	14	10
Future Vol, veh/h	3	78	56	4	14	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	85	61	4	15	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	65	0	-	0	154 63
Stage 1	-	-	-	-	63 -
Stage 2	-	-	-	-	91 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1537	-	-	-	838 1002
Stage 1	-	-	-	-	960 -
Stage 2	-	-	-	-	933 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1537	-	-	-	836 1002
Mov Cap-2 Maneuver	-	-	-	-	836 -
Stage 1	-	-	-	-	958 -
Stage 2	-	-	-	-	933 -

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1537	-	-	-	898
HCM Lane V/C Ratio	0.002	-	-	-	0.029
HCM Control Delay (s)	7.3	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	97	8	26	247	8	12	27	6	8	114	56
Future Vol, veh/h	17	97	8	26	247	8	12	27	6	8	114	56
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	105	9	28	268	9	13	29	7	9	124	61
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9	10.9	8.7	9.6
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	27%	14%	9%	4%
Vol Thru, %	60%	80%	88%	64%
Vol Right, %	13%	7%	3%	31%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	45	122	281	178
LT Vol	12	17	26	8
Through Vol	27	97	247	114
RT Vol	6	8	8	56
Lane Flow Rate	49	133	305	193
Geometry Grp	1	1	1	1
Degree of Util (X)	0.071	0.18	0.399	0.261
Departure Headway (Hd)	5.214	4.892	4.698	4.857
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	681	728	761	735
Service Time	3.294	2.958	2.753	2.92
HCM Lane V/C Ratio	0.072	0.183	0.401	0.263
HCM Control Delay	8.7	9	10.9	9.6
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.2	0.7	1.9	1

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↑			↕	
Traffic Vol, veh/h	4	69	0	4	55	7	1	17	1	11	70	30
Future Vol, veh/h	4	69	0	4	55	7	1	17	1	11	70	30
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	75	0	4	60	8	1	18	1	12	76	33
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.8	7.7	7.5	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	5%	6%	10%
Vol Thru, %	89%	95%	83%	63%
Vol Right, %	5%	0%	11%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	73	66	111
LT Vol	1	4	4	11
Through Vol	17	69	55	70
RT Vol	1	0	7	30
Lane Flow Rate	21	79	72	121
Geometry Grp	1	1	1	1
Degree of Util (X)	0.025	0.094	0.083	0.136
Departure Headway (Hd)	4.379	4.246	4.189	4.069
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	822	832	842	867
Service Time	2.379	2.334	2.281	2.156
HCM Lane V/C Ratio	0.026	0.095	0.086	0.14
HCM Control Delay	7.5	7.8	7.7	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.3	0.3	0.5

HCM 6th Signalized Intersection Summary  
3: Old Cutler Road & SW120th Ave




















Off-Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	92	94	236	725	708	111
Future Volume (veh/h)	92	94	236	725	708	111
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	102	257	788	770	121
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	145	129	425	1531	1147	180
Arrive On Green	0.08	0.08	0.04	0.82	0.73	0.73
Sat Flow, veh/h	1781	1585	1781	1870	1578	248
Grp Volume(v), veh/h	100	102	257	788	0	891
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	0	1826
Q Serve(g_s), s	6.6	7.6	4.3	15.9	0.0	31.2
Cycle Q Clear(g_c), s	6.6	7.6	4.3	15.9	0.0	31.2
Prop In Lane	1.00	1.00	1.00			0.14
Lane Grp Cap(c), veh/h	145	129	425	1531	0	1327
V/C Ratio(X)	0.69	0.79	0.60	0.51	0.00	0.67
Avail Cap(c_a), veh/h	223	198	425	1531	0	1327
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.6	54.1	11.1	3.4	0.0	8.7
Incr Delay (d2), s/veh	4.3	8.9	1.7	1.2	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	3.3	2.9	4.5	0.0	11.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	57.9	63.0	12.8	4.7	0.0	11.5
LnGrp LOS	E	E	B	A	A	B
Approach Vol, veh/h				1045	891	
Approach Delay, s/veh	60.5			6.7	11.5	
Approach LOS	E			A	B	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	11.0	93.2			104.2	15.8
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	5.0	82.0			93.0	15.0
Max Q Clear Time (g_c+I1), s	6.3	33.2			17.9	9.6
Green Ext Time (p_c), s	0.0	2.4			1.9	0.2
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			13.7			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Summary  
 22: Old Cutler Rd & SW 128th St

Off-Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	62	16	29	53	73	9	400	16	59	621	16
Future Volume (veh/h)	36	62	16	29	53	73	9	400	16	59	621	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	39	67	17	32	58	0	10	435	17	64	675	17
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	90	21	80	105		535	1298	51	724	1364	34
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.00	0.01	0.73	0.73	0.04	0.75	0.75
Sat Flow, veh/h	448	1038	238	451	1201	1585	1781	1788	70	1781	1816	46
Grp Volume(v), veh/h	123	0	0	90	0	0	10	0	452	64	0	692
Grp Sat Flow(s),veh/h/ln	1724	0	0	1652	0	1585	1781	0	1858	1781	0	1862
Q Serve(g_s), s	2.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0	10.6	1.1	0.0	17.7
Cycle Q Clear(g_c), s	8.3	0.0	0.0	6.2	0.0	0.0	0.2	0.0	10.6	1.1	0.0	17.7
Prop In Lane	0.32		0.14	0.36		1.00	1.00		0.04	1.00		0.02
Lane Grp Cap(c), veh/h	190	0	0	185	0		535	0	1349	724	0	1399
V/C Ratio(X)	0.65	0.00	0.00	0.49	0.00		0.02	0.00	0.34	0.09	0.00	0.49
Avail Cap(c_a), veh/h	251	0	0	246	0		603	0	1349	748	0	1399
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.7	0.0	0.0	52.7	0.0	0.0	5.1	0.0	5.9	4.0	0.0	5.9
Incr Delay (d2), s/veh	2.8	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.7	0.0	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	0.0	2.7	0.0	0.0	0.1	0.0	3.8	0.3	0.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.5	0.0	0.0	54.2	0.0	0.0	5.1	0.0	6.6	4.0	0.0	7.2
LnGrp LOS	E	A	A	D	A		A	A	A	A	A	A
Approach Vol, veh/h		123			90	A		462			756	
Approach Delay, s/veh		56.5			54.2			6.6			6.9	
Approach LOS		E			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.4	96.1		16.5	10.4	93.1		16.5				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	6.0	81.0		15.0	6.0	81.0		15.0				
Max Q Clear Time (g_c+I1), s	2.2	19.7		8.2	3.1	12.6		10.3				
Green Ext Time (p_c), s	0.0	1.6		0.1	0.0	0.9		0.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				14.0								
HCM 6th LOS				B								
<b>Notes</b>												
User approved pedestrian interval to be less than phase max green.												
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th TWSC  
 5: SW 60th Ave/Pine Needle Ln & SW120th Ave

Off-Peak Hour

Intersection												
Int Delay, s/veh	4.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↗			↕			↕	
Traffic Vol, veh/h	20	147	9	10	313	35	11	10	2	45	38	99
Future Vol, veh/h	20	147	9	10	313	35	11	10	2	45	38	99
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	160	10	11	340	38	12	11	2	49	41	108

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	378	0	0	170	0	0	665	609	165	597	595	359
Stage 1	-	-	-	-	-	-	209	209	-	381	381	-
Stage 2	-	-	-	-	-	-	456	400	-	216	214	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1180	-	-	1407	-	-	374	410	879	415	417	685
Stage 1	-	-	-	-	-	-	793	729	-	641	613	-
Stage 2	-	-	-	-	-	-	584	602	-	786	725	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1180	-	-	1407	-	-	284	397	879	396	404	685
Mov Cap-2 Maneuver	-	-	-	-	-	-	284	397	-	396	404	-
Stage 1	-	-	-	-	-	-	776	714	-	628	607	-
Stage 2	-	-	-	-	-	-	454	596	-	756	710	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.9			0.2			16.2			16.2		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	347	1180	-	-	1407	-	-	517
HCM Lane V/C Ratio	0.072	0.018	-	-	0.008	-	-	0.383
HCM Control Delay (s)	16.2	8.1	0	-	7.6	-	-	16.2
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	1.8



13: Old Cutler Road /Old Cutler Road & Gulliver Schools Proj Dr North

Intersection						
Int Delay, s/veh	31.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↑		↑			↑
Traffic Vol, veh/h	33	431	522	0	0	846
Future Vol, veh/h	33	431	522	0	0	846
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	468	567	0	0	920

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1487	567	0	0	-	-
Stage 1	567	-	-	-	-	-
Stage 2	920	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	137	523	-	-	0	-
Stage 1	568	-	-	-	0	-
Stage 2	388	-	-	-	0	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	137	523	-	-	-	-
Mov Cap-2 Maneuver	137	-	-	-	-	-
Stage 1	568	-	-	-	-	-
Stage 2	388	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	123	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	436
HCM Lane V/C Ratio	-	-	1.157
HCM Control Delay (s)	-	-	123
HCM Lane LOS	-	-	F
HCM 95th %tile Q(veh)	-	-	18.7

Intersection						
Int Delay, s/veh	1.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗	↗	↗	↗
Traffic Vol, veh/h	0	75	458	57	175	706
Future Vol, veh/h	0	75	458	57	175	706
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	-	0	-	100	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	82	498	62	190	767

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	498	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	572	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	572	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.3	0	1.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	572	1066
HCM Lane V/C Ratio	-	-	0.143	0.178
HCM Control Delay (s)	-	-	12.3	9.1
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.5	0.6

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	6	71	90	8	18	7
Future Vol, veh/h	6	71	90	8	18	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	77	98	9	20	8

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	107	0	-	0	194
Stage 1	-	-	-	-	103
Stage 2	-	-	-	-	91
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1484	-	-	-	795
Stage 1	-	-	-	-	921
Stage 2	-	-	-	-	933
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1484	-	-	-	791
Mov Cap-2 Maneuver	-	-	-	-	791
Stage 1	-	-	-	-	916
Stage 2	-	-	-	-	933

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1484	-	-	-	830
HCM Lane V/C Ratio	0.004	-	-	-	0.033
HCM Control Delay (s)	7.4	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Intersection Delay, s/veh	12.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	163	18	60	324	23	4	8	9	19	108	30
Future Vol, veh/h	12	163	18	60	324	23	4	8	9	19	108	30
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	177	20	65	352	25	4	9	10	21	117	33
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10	14.1	8.9	10.3
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	6%	15%	12%
Vol Thru, %	38%	84%	80%	69%
Vol Right, %	43%	9%	6%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	193	407	157
LT Vol	4	12	60	19
Through Vol	8	163	324	108
RT Vol	9	18	23	30
Lane Flow Rate	23	210	442	171
Geometry Grp	1	1	1	1
Degree of Util (X)	0.036	0.287	0.578	0.255
Departure Headway (Hd)	5.642	4.93	4.703	5.376
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	638	722	761	660
Service Time	3.642	3.014	2.772	3.473
HCM Lane V/C Ratio	0.036	0.291	0.581	0.259
HCM Control Delay	8.9	10	14.1	10.3
HCM Lane LOS	A	A	B	B
HCM 95th-tile Q	0.1	1.2	3.8	1

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	53	1	6	55	13	1	53	4	20	80	13
Future Vol, veh/h	10	53	1	6	55	13	1	53	4	20	80	13
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	58	1	7	60	14	1	58	4	22	87	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.9	7.8	7.7	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	16%	8%	18%
Vol Thru, %	91%	83%	74%	71%
Vol Right, %	7%	2%	18%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	58	64	74	113
LT Vol	1	10	6	20
Through Vol	53	53	55	80
RT Vol	4	1	13	13
Lane Flow Rate	63	70	80	123
Geometry Grp	1	1	1	1
Degree of Util (X)	0.077	0.086	0.097	0.147
Departure Headway (Hd)	4.372	4.464	4.343	4.312
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	822	805	828	834
Service Time	2.384	2.479	2.357	2.324
HCM Lane V/C Ratio	0.077	0.087	0.097	0.147
HCM Control Delay	7.7	7.9	7.8	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.3	0.3	0.5

# **Appendix H – TAZ Data/ Cardinal Distribution Data**

# 2010 TAZ Boundaries

## Miami-Dade Long Range Transportation Plan Update to the Year 2040

### Legend

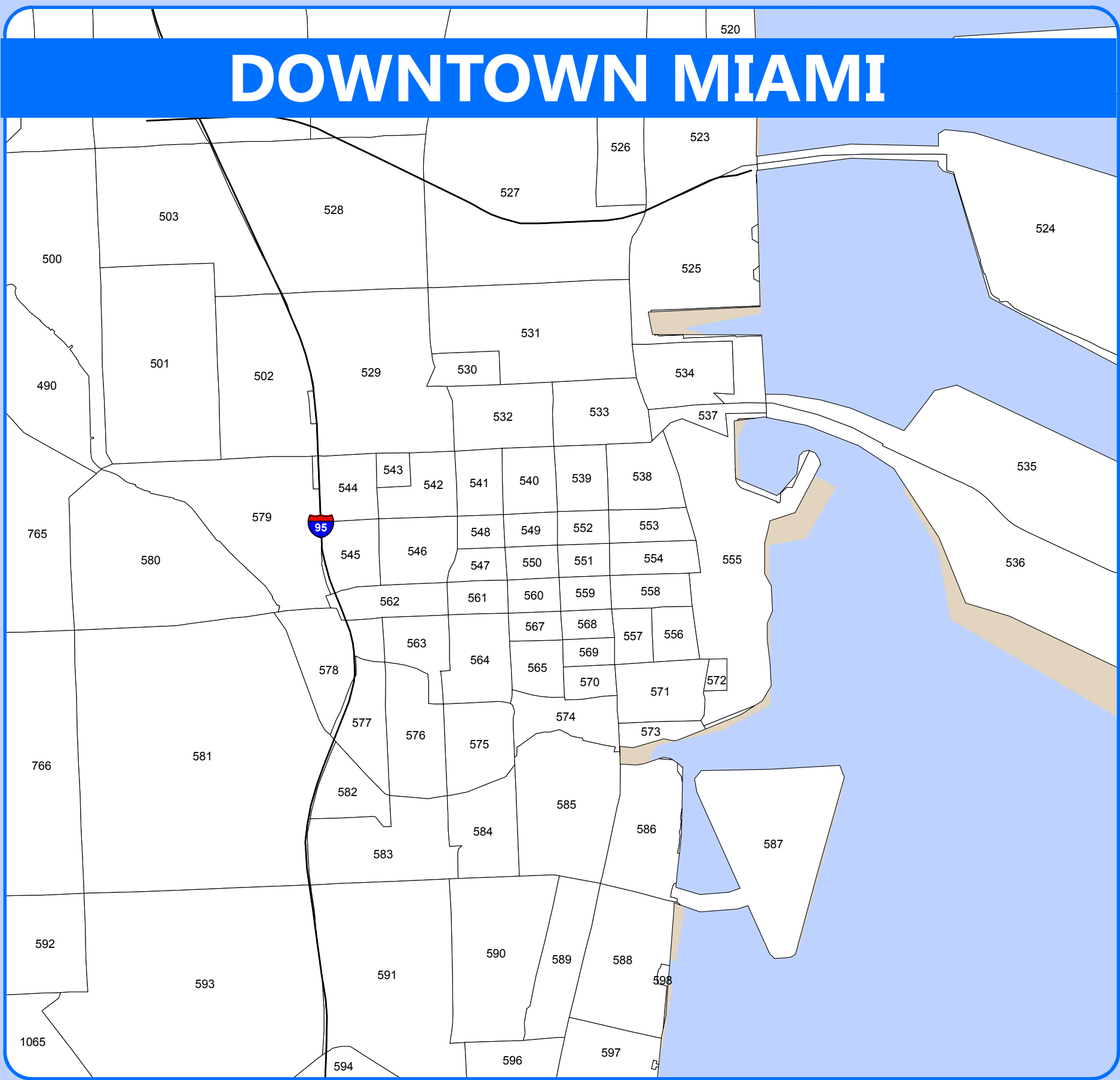
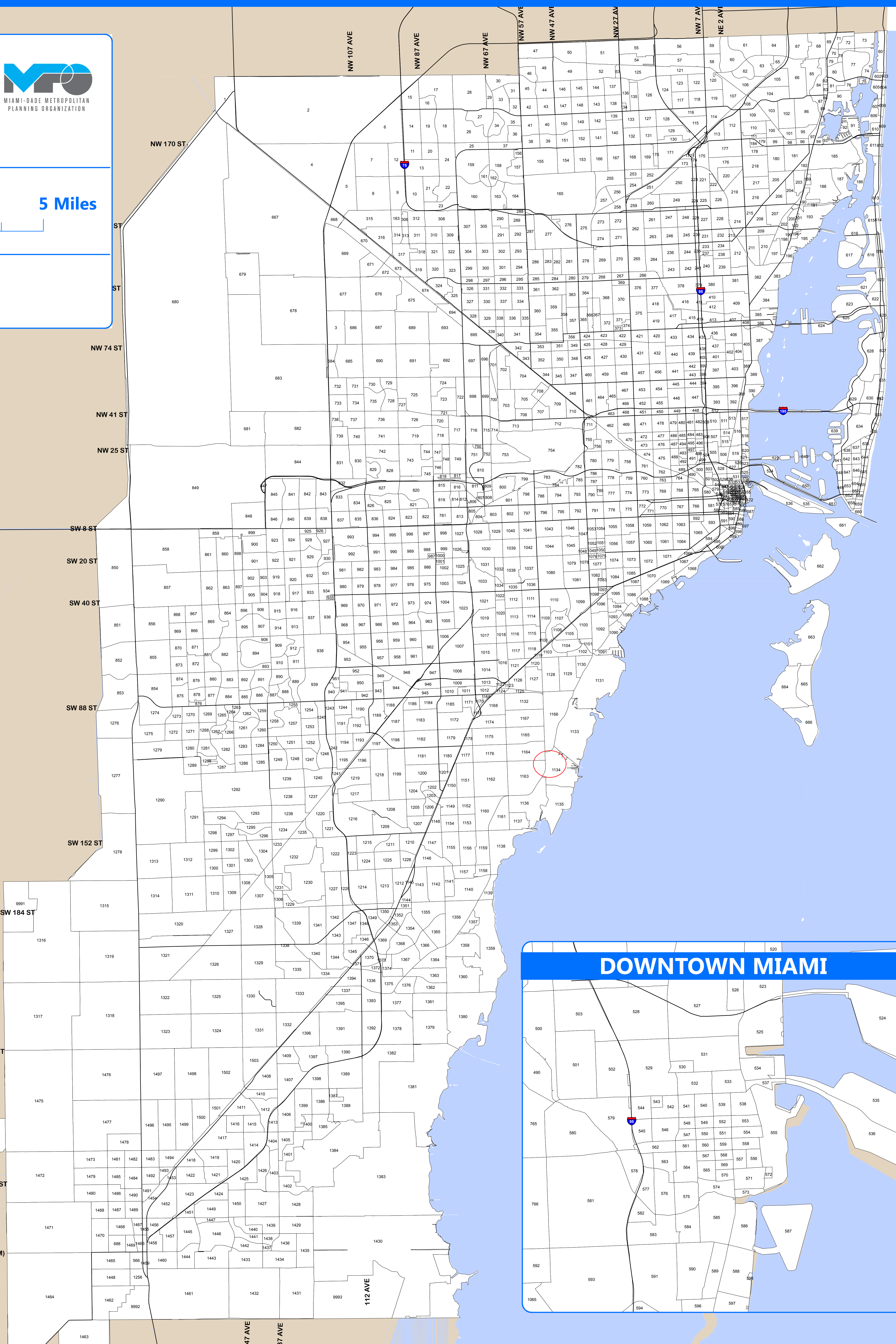
TAZ Labels



0 2.5 5 Miles



MIAMI-DADE METROPOLITAN PLANNING ORGANIZATION





## Miami-Dade 2040 Directional Distribution Summary

Origin TAZ			Cardinal Directions								Total
County TAZ	Regional TAZ		NNE	ENE	ESE	SSE	SSW	WSW	WNW	NNW	
1128	4028	PERCENT	27.9	10.0	1.1	0.5	6.4	21.0	13.0	20.1	
1129	4029	TRIPS	760	141	73	12	145	588	359	578	2,656
1129	4029	PERCENT	28.6	5.3	2.8	0.5	5.5	22.1	13.5	21.8	
1130	4030	TRIPS	307	40	0	15	74	181	151	208	976
1130	4030	PERCENT	31.5	4.1	0.0	1.5	7.6	18.6	15.5	21.3	
1131	4031	TRIPS	1,125	56	4	0	193	794	716	895	3,783
1131	4031	PERCENT	29.7	1.5	0.1	0.0	5.1	21.0	18.9	23.7	
1132	4032	TRIPS	298	110	1	23	136	185	272	246	1,271
1132	4032	PERCENT	23.5	8.7	0.1	1.8	10.7	14.6	21.4	19.4	
1133	4033	TRIPS	289	4	0	0	43	172	237	289	1,034
1133	4033	PERCENT	28.0	0.4	0.0	0.0	4.2	16.6	22.9	28.0	
1134	4034	TRIPS	336	12	0	0	92	242	279	439	1,400
1134	4034	PERCENT	24.0	0.9	0.0	0.0	6.6	17.3	19.9	31.4	
1135	4035	TRIPS	2	0	0	0	0	12	1	7	22
1135	4035	PERCENT	9.1	0.0	0.0	0.0	0.0	54.6	4.6	31.8	
1136	4036	TRIPS	547	12	0	0	144	289	465	681	2,138
1136	4036	PERCENT	25.6	0.6	0.0	0.0	6.7	13.5	21.8	31.9	
1137	4037	TRIPS	96	5	0	0	41	86	155	156	539
1137	4037	PERCENT	17.8	0.9	0.0	0.0	7.6	16.0	28.8	28.9	
1138	4038	TRIPS	291	0	0	0	104	243	357	390	1,385
1138	4038	PERCENT	21.0	0.0	0.0	0.0	7.5	17.6	25.8	28.2	
1139	4039	TRIPS	193	0	0	23	115	304	218	313	1,166
1139	4039	PERCENT	16.6	0.0	0.0	2.0	9.9	26.1	18.7	26.8	
1140	4040	TRIPS	1,002	11	8	145	339	485	449	639	3,078
1140	4040	PERCENT	32.6	0.4	0.3	4.7	11.0	15.8	14.6	20.8	
1141	4041	TRIPS	466	40	4	27	168	255	208	328	1,496
1141	4041	PERCENT	31.2	2.7	0.3	1.8	11.2	17.1	13.9	21.9	
1142	4042	TRIPS	756	107	12	114	569	458	438	694	3,148
1142	4042	PERCENT	24.0	3.4	0.4	3.6	18.1	14.6	13.9	22.1	
1143	4043	TRIPS	1,803	134	100	236	1,263	845	993	888	6,262
1143	4043	PERCENT	28.8	2.1	1.6	3.8	20.2	13.5	15.9	14.2	
1144	4044	TRIPS	821	61	155	247	706	290	313	424	3,017
1144	4044	PERCENT	27.2	2.0	5.1	8.2	23.4	9.6	10.4	14.1	
1145	4045	TRIPS	2,289	326	226	557	2,297	1,095	1,214	1,281	9,285
1145	4045	PERCENT	24.7	3.5	2.4	6.0	24.7	11.8	13.1	13.8	
1146	4046	TRIPS	1,801	216	112	502	1,485	932	927	893	6,868
1146	4046	PERCENT	26.2	3.2	1.6	7.3	21.6	13.6	13.5	13.0	
1147	4047	TRIPS	1,315	112	118	94	1,099	494	556	1,038	4,826
1147	4047	PERCENT	27.3	2.3	2.5	2.0	22.8	10.2	11.5	21.5	
1148	4048	TRIPS	1,883	360	138	326	2,336	1,142	944	1,795	8,924
1148	4048	PERCENT	21.1	4.0	1.6	3.7	26.2	12.8	10.6	20.1	



# **Appendix I – Trip Generation Analysis Data**

# **Land Use: 534**

## **Private School (K-8)**

### **Description**

A private school (K-8) primarily serves students attending kindergarten through the eighth grade but may also include students beginning with pre-K classes. These schools may also offer extended care and day care. Students may travel a long distance to get to private schools. Elementary school (Land Use 520), middle school/junior high school (Land Use 522), high school (Land Use 530), private school (K-12) (Land Use 536), and charter elementary school (Land Use 537) are related uses.

### **Additional Data**

The sites were surveyed in the 1990s, the 2000s, and the 2010s in Arizona, Florida, Maryland, Oregon, Pennsylvania, and Texas.

### **Source Numbers**

355, 444, 516, 536, 634, 905, 940

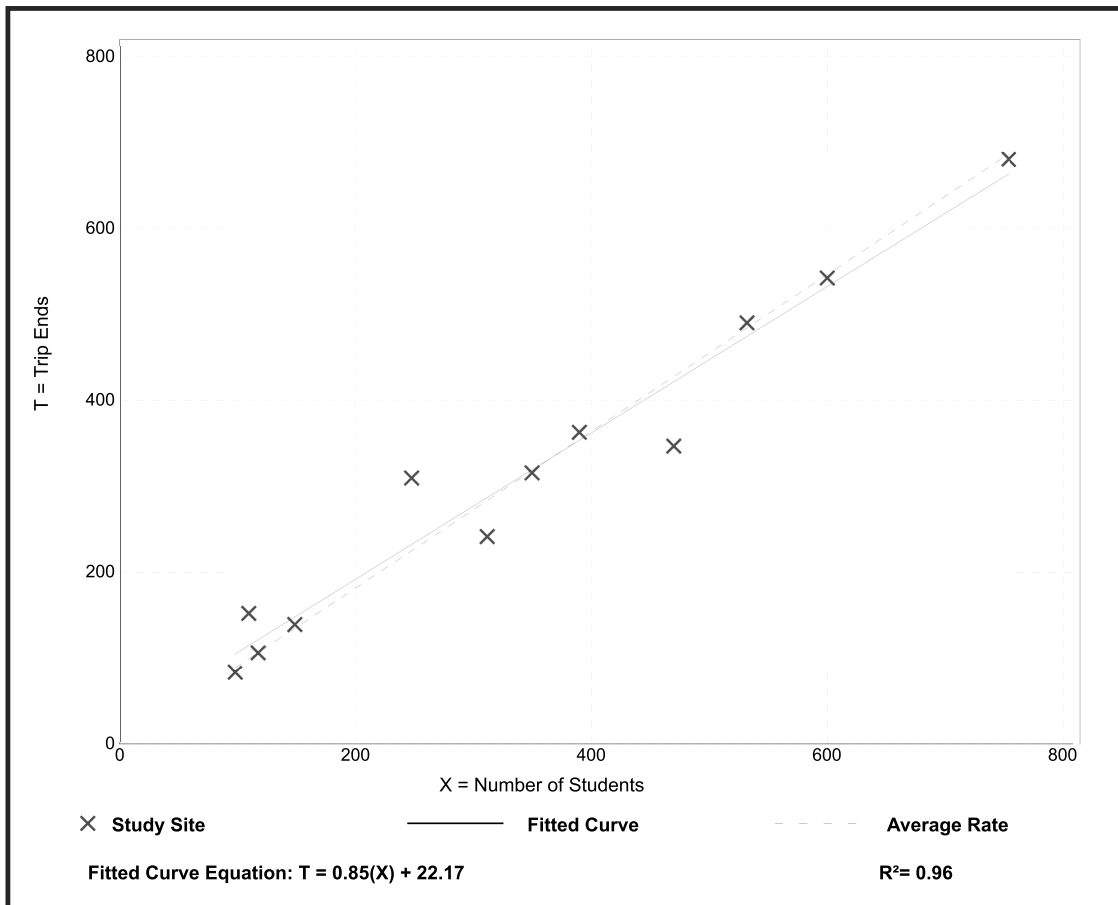
## Private School (K-8) (534)

**Vehicle Trip Ends vs: Students**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 7 and 9 a.m.**  
**Setting/Location: General Urban/Suburban**  
 Number of Studies: 12  
 Avg. Num. of Students: 344  
 Directional Distribution: 55% entering, 45% exiting

### Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.91	0.74 - 1.39	0.14

### Data Plot and Equation



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## Private School (K-8) (534)

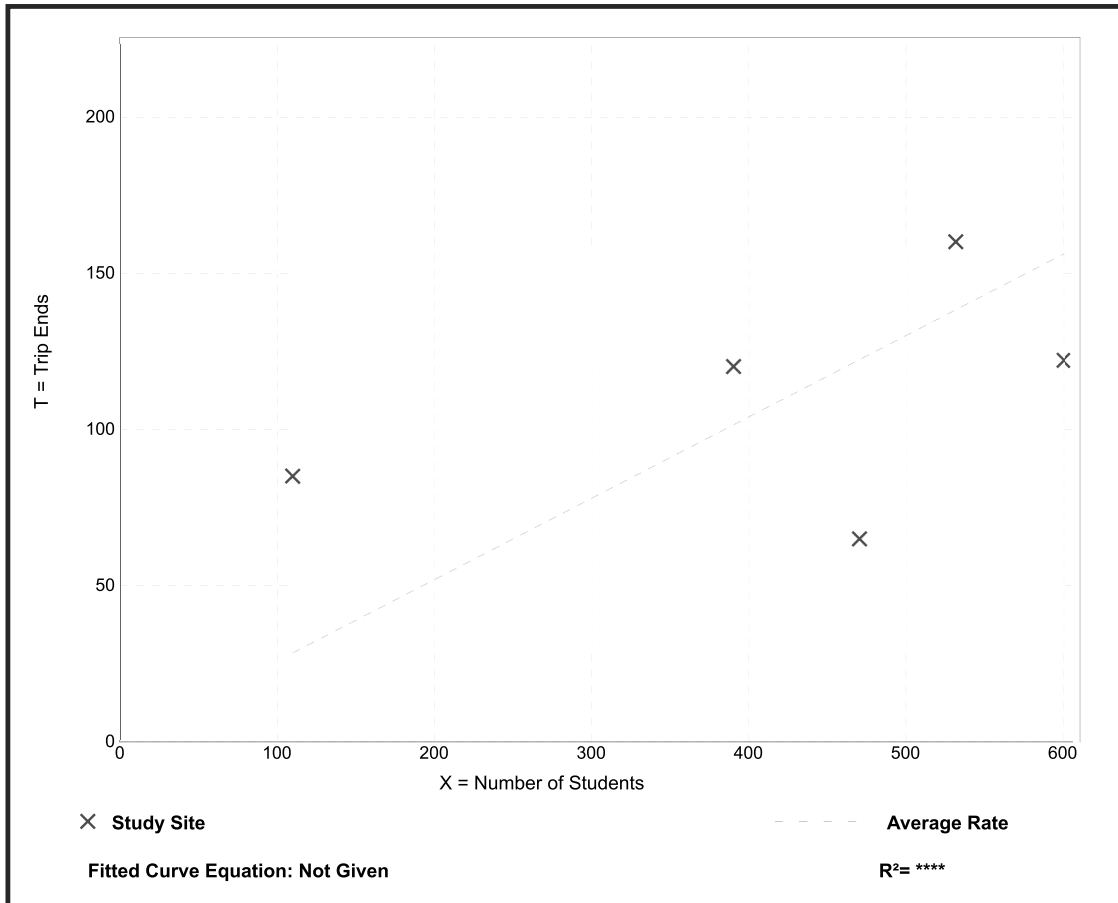
**Vehicle Trip Ends vs: Students**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 4 and 6 p.m.**  
**Setting/Location: General Urban/Suburban**  
 Number of Studies: 5  
 Avg. Num. of Students: 420  
 Directional Distribution: 46% entering, 54% exiting

### Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.26	0.14 - 0.77	0.15

### Data Plot and Equation

*Caution – Small Sample Size*



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## Private School (K-8) (534)

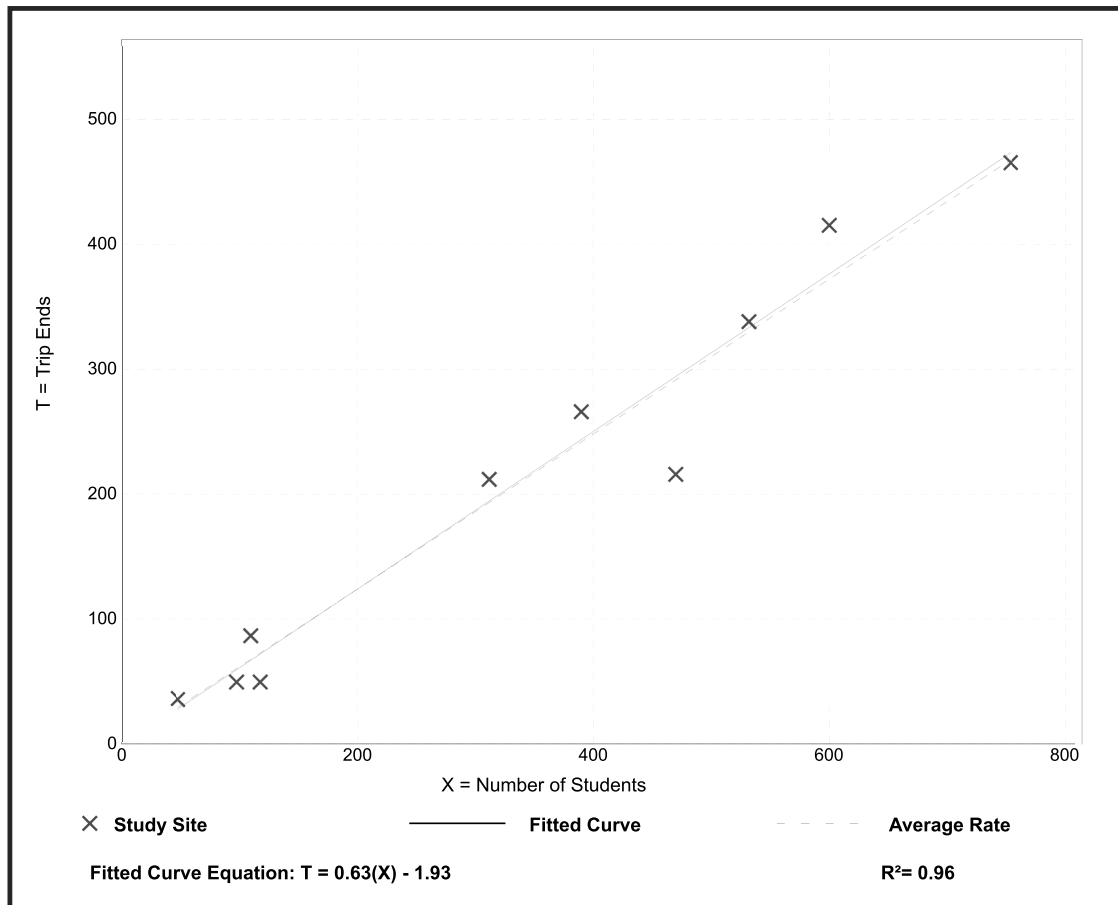
**Vehicle Trip Ends vs: Students**  
**On a: Weekday,**  
**PM Peak Hour of Generator**

**Setting/Location: General Urban/Suburban**  
 Number of Studies: 10  
 Avg. Num. of Students: 343  
 Directional Distribution: 47% entering, 53% exiting

### Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.62	0.42 - 0.79	0.09

### Data Plot and Equation



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## Private School (K-8) (534)

**Vehicle Trip Ends vs: Students**  
**On a: Weekday**

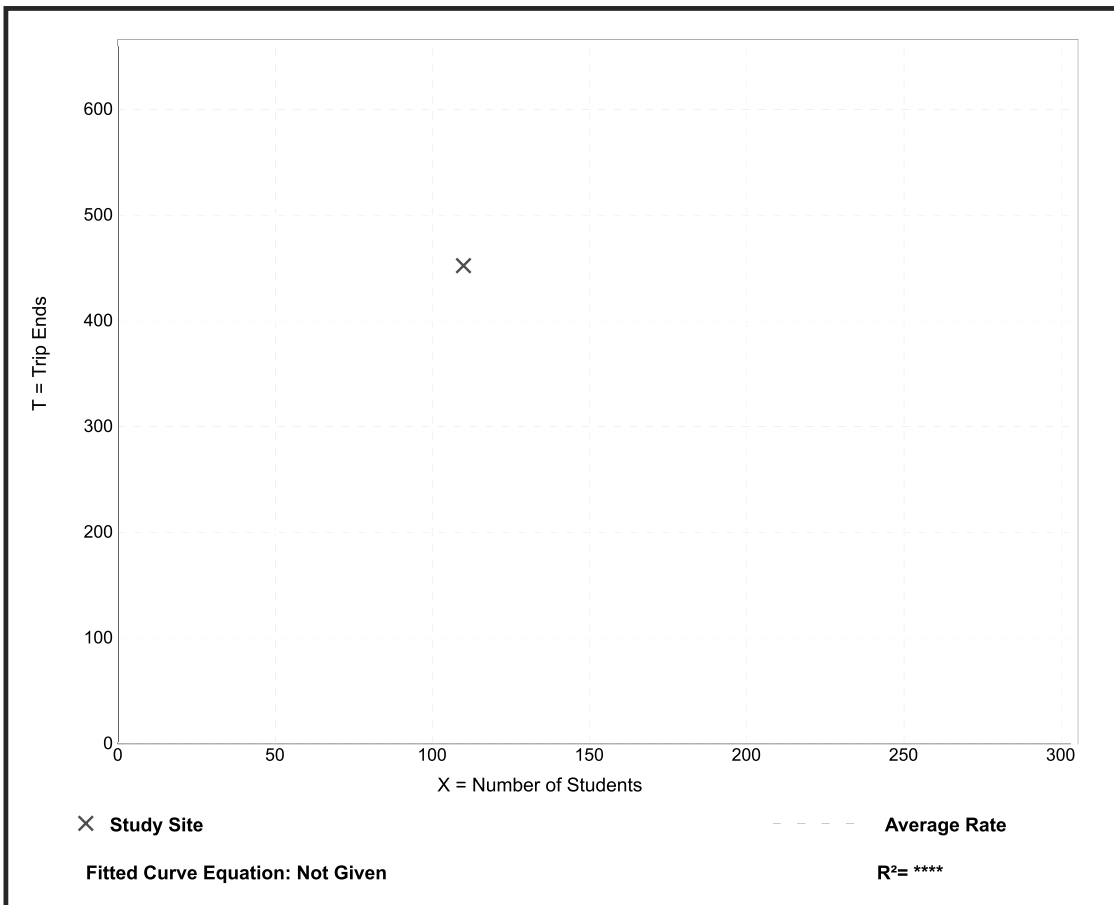
**Setting/Location: General Urban/Suburban**  
Number of Studies: 1  
Avg. Num. of Students: 110  
Directional Distribution: 50% entering, 50% exiting

### Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
4.11	4.11 - 4.11	*

### Data Plot and Equation

*Caution – Small Sample Size*



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# **Appendix J – 2019 Future Total Synchro Output Sheets**

HCM 6th Signalized Intersection Summary  
3: Old Cutler Road & SW120th Ave

AM Peak Hour






















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	228	144	253	884	467	46
Future Volume (veh/h)	228	144	253	884	467	46
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	248	157	275	961	508	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	253	225	604	1460	1178	116
Arrive On Green	0.14	0.14	0.04	0.78	0.70	0.70
Sat Flow, veh/h	1781	1585	1781	1870	1676	165
Grp Volume(v), veh/h	248	157	275	961	0	558
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	0	1841
Q Serve(g_s), s	21.5	14.6	6.0	35.9	0.0	20.0
Cycle Q Clear(g_c), s	21.5	14.6	6.0	35.9	0.0	20.0
Prop In Lane	1.00	1.00	1.00			0.09
Lane Grp Cap(c), veh/h	253	225	604	1460	0	1294
V/C Ratio(X)	0.98	0.70	0.46	0.66	0.00	0.43
Avail Cap(c_a), veh/h	253	225	604	1460	0	1294
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	66.3	63.3	8.9	7.7	0.0	9.8
Incr Delay (d2), s/veh	51.0	8.6	0.2	2.3	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.4	6.5	2.4	13.4	0.0	8.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	117.3	71.9	9.1	10.0	0.0	10.8
LnGrp LOS	F	E	A	B	A	B
Approach Vol, veh/h	405			1236	558	
Approach Delay, s/veh	99.7			9.8	10.8	
Approach LOS	F			A	B	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	12.0	115.0			127.0	28.0
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	6.0	109.0			116.0	22.0
Max Q Clear Time (g_c+I1), s	8.0	22.0			37.9	23.5
Green Ext Time (p_c), s	0.0	1.2			2.6	0.0
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			26.6			
HCM 6th LOS			C			



HCM 6th Signalized Intersection Summary  
 22: Old Cutler Rd & SW 128th St

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	47	10	14	77	73	7	583	10	7	151	35
Future Volume (veh/h)	147	47	10	14	77	73	7	583	10	7	151	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	160	51	11	15	84	0	8	634	11	8	164	38
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	261	59	13	74	285		755	1097	19	411	879	204
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.00	0.01	0.60	0.60	0.01	0.60	0.60
Sat Flow, veh/h	1103	352	76	133	1714	1585	1781	1833	32	1781	1469	340
Grp Volume(v), veh/h	222	0	0	99	0	0	8	0	645	8	0	202
Grp Sat Flow(s),veh/h/ln	1530	0	0	1846	0	1585	1781	0	1865	1781	0	1809
Q Serve(g_s), s	7.4	0.0	0.0	0.0	0.0	0.0	0.1	0.0	17.0	0.1	0.0	4.0
Cycle Q Clear(g_c), s	11.1	0.0	0.0	3.7	0.0	0.0	0.1	0.0	17.0	0.1	0.0	4.0
Prop In Lane	0.72		0.05	0.15		1.00	1.00		0.02	1.00		0.19
Lane Grp Cap(c), veh/h	332	0	0	359	0		755	0	1116	411	0	1083
V/C Ratio(X)	0.67	0.00	0.00	0.28	0.00		0.01	0.00	0.58	0.02	0.00	0.19
Avail Cap(c_a), veh/h	362	0	0	396	0		915	0	1116	527	0	1083
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.1	0.0	0.0	29.3	0.0	0.0	6.3	0.0	9.9	8.0	0.0	7.3
Incr Delay (d2), s/veh	3.7	0.0	0.0	0.3	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.0	0.0	1.7	0.0	0.0	0.0	0.0	6.4	0.0	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.9	0.0	0.0	29.7	0.0	0.0	6.3	0.0	12.0	8.0	0.0	7.6
LnGrp LOS	D	A	A	C	A		A	A	B	A	A	A
Approach Vol, veh/h		222			99	A		653				210
Approach Delay, s/veh		35.9			29.7			12.0				7.7
Approach LOS		D			C			B				A
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.8	53.9		19.3	6.8	53.9		19.3				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	8.0	39.0		15.0	6.0	41.0		15.0				
Max Q Clear Time (g_c+I1), s	2.1	6.0		5.7	2.1	19.0		13.1				
Green Ext Time (p_c), s	0.0	0.4		0.2	0.0	1.4		0.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				17.2								
HCM 6th LOS				B								
<b>Notes</b>												
User approved pedestrian interval to be less than phase max green.												
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th TWSC  
5: Pine Needle Lane/SW 60th Ave & SW120th Ave

AM Peak Hour

Intersection												
Int Delay, s/veh	13.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	124	320	22	21	209	45	7	52	7	62	63	50
Future Vol, veh/h	124	320	22	21	209	45	7	52	7	62	63	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	135	348	24	23	227	49	8	57	8	67	68	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	276	0	0	372	0	0	989	952	360	961	940	252
Stage 1	-	-	-	-	-	-	630	630	-	298	298	-
Stage 2	-	-	-	-	-	-	359	322	-	663	642	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1287	-	-	1186	-	-	226	259	684	236	264	787
Stage 1	-	-	-	-	-	-	470	475	-	711	667	-
Stage 2	-	-	-	-	-	-	659	651	-	450	469	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1287	-	-	1186	-	-	143	219	684	166	224	787
Mov Cap-2 Maneuver	-	-	-	-	-	-	143	219	-	166	224	-
Stage 1	-	-	-	-	-	-	407	412	-	616	652	-
Stage 2	-	-	-	-	-	-	536	636	-	333	407	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.2			0.6			28.6			57.5		
HCM LOS							D			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	223	1287	-	-	1186	-	-	244
HCM Lane V/C Ratio	0.322	0.105	-	-	0.019	-	-	0.78
HCM Control Delay (s)	28.6	8.1	0	-	8.1	0	-	57.5
HCM Lane LOS	D	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	1.3	0.3	-	-	0.1	-	-	5.7

13: Old Cutler Road /Old Cutler Road & Gulliver Schools Proj Dr North

Intersection						
Int Delay, s/veh	56.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔			↑
Traffic Vol, veh/h	10	541	603	0	0	707
Future Vol, veh/h	10	541	603	0	0	707
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	588	655	0	0	768

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1423	655	0	0	-	-
Stage 1	655	-	-	-	-	-
Stage 2	768	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	150	~ 466	-	-	0	-
Stage 1	517	-	-	-	0	-
Stage 2	458	-	-	-	0	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	150	~ 466	-	-	-	-
Mov Cap-2 Maneuver	150	-	-	-	-	-
Stage 1	517	-	-	-	-	-
Stage 2	458	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	190.4	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	449
HCM Lane V/C Ratio	-	-	1.334
HCM Control Delay (s)	-	-	190.4
HCM Lane LOS	-	-	F
HCM 95th %tile Q(veh)	-	-	27

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

Intersection						
Int Delay, s/veh	5.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↗	↗	↗	↗
Traffic Vol, veh/h	0	17	589	229	543	191
Future Vol, veh/h	0	17	589	229	543	191
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	-	0	-	100	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	640	249	590	208

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	640	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	475	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	475	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.9	0	11.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	475	944
HCM Lane V/C Ratio	-	-	0.039	0.625
HCM Control Delay (s)	-	-	12.9	15
HCM Lane LOS	-	-	B	B
HCM 95th %tile Q(veh)	-	-	0.1	4.5

Intersection	
Intersection Delay, s/veh	34.6
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	37	369	4	71	182	43	6	273	117	43	94	16
Future Vol, veh/h	37	369	4	71	182	43	6	273	117	43	94	16
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	401	4	77	198	47	7	297	127	47	102	17
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	44.5	25	38.6	16.5
HCM LOS	E	C	E	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	9%	24%	28%
Vol Thru, %	69%	90%	61%	61%
Vol Right, %	30%	1%	15%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	396	410	296	153
LT Vol	6	37	71	43
Through Vol	273	369	182	94
RT Vol	117	4	43	16
Lane Flow Rate	430	446	322	166
Geometry Grp	1	1	1	1
Degree of Util (X)	0.848	0.887	0.677	0.385
Departure Headway (Hd)	7.211	7.279	7.579	8.327
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	504	499	479	434
Service Time	5.211	5.279	5.579	6.352
HCM Lane V/C Ratio	0.853	0.894	0.672	0.382
HCM Control Delay	38.6	44.5	25	16.5
HCM Lane LOS	E	E	C	C
HCM 95th-tile Q	8.7	9.8	5	1.8

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	98	1	26	29	29	1	260	11	8	68	7
Future Vol, veh/h	35	98	1	26	29	29	1	260	11	8	68	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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	107	1	28	32	32	1	283	12	9	74	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.4	8.7	10.5	8.6
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	26%	31%	10%
Vol Thru, %	96%	73%	35%	82%
Vol Right, %	4%	1%	35%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	272	134	84	83
LT Vol	1	35	26	8
Through Vol	260	98	29	68
RT Vol	11	1	29	7
Lane Flow Rate	296	146	91	90
Geometry Grp	1	1	1	1
Degree of Util (X)	0.379	0.203	0.124	0.121
Departure Headway (Hd)	4.61	5.01	4.896	4.846
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	778	712	728	735
Service Time	2.655	3.067	2.958	2.905
HCM Lane V/C Ratio	0.38	0.205	0.125	0.122
HCM Control Delay	10.5	9.4	8.7	8.6
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	1.8	0.8	0.4	0.4

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	22	113	50	28	7	6
Future Vol, veh/h	22	113	50	28	7	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	123	54	30	8	7

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	84	0	-	0	240 69
Stage 1	-	-	-	-	69 -
Stage 2	-	-	-	-	171 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1513	-	-	-	748 994
Stage 1	-	-	-	-	954 -
Stage 2	-	-	-	-	859 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1513	-	-	-	735 994
Mov Cap-2 Maneuver	-	-	-	-	735 -
Stage 1	-	-	-	-	938 -
Stage 2	-	-	-	-	859 -

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1513	-	-	-	835
HCM Lane V/C Ratio	0.016	-	-	-	0.017
HCM Control Delay (s)	7.4	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 6th Signalized Intersection Summary  
3: Old Cutler Road & SW120th Ave

PM Peak Hour






















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	68	24	32	495	892	179
Future Volume (veh/h)	68	24	32	495	892	179
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	26	35	538	970	195
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	100	89	277	1578	1157	232
Arrive On Green	0.06	0.06	0.03	0.84	0.77	0.77
Sat Flow, veh/h	1781	1585	1781	1870	1512	304
Grp Volume(v), veh/h	74	26	35	538	0	1165
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	0	1816
Q Serve(g_s), s	4.9	1.9	0.5	7.6	0.0	50.5
Cycle Q Clear(g_c), s	4.9	1.9	0.5	7.6	0.0	50.5
Prop In Lane	1.00	1.00	1.00			0.17
Lane Grp Cap(c), veh/h	100	89	277	1578	0	1389
V/C Ratio(X)	0.74	0.29	0.13	0.34	0.00	0.84
Avail Cap(c_a), veh/h	223	198	300	1578	0	1389
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.8	54.3	14.6	2.1	0.0	9.2
Incr Delay (d2), s/veh	7.6	1.3	0.1	0.6	0.0	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.8	0.4	1.8	0.0	17.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	63.4	55.7	14.7	2.6	0.0	15.5
LnGrp LOS	E	E	B	A	A	B
Approach Vol, veh/h	100			573	1165	
Approach Delay, s/veh	61.4			3.4	15.5	
Approach LOS	E			A	B	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	9.4	97.8			107.2	12.8
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	5.0	82.0			93.0	15.0
Max Q Clear Time (g_c+I1), s	2.5	52.5			9.6	6.9
Green Ext Time (p_c), s	0.0	3.9			1.1	0.1
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			14.2			
HCM 6th LOS			B			



HCM 6th Signalized Intersection Summary  
 22: Old Cutler Rd & SW 128th St

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	68	5	14	32	60	2	322	16	62	896	20
Future Volume (veh/h)	13	68	5	14	32	60	2	322	16	62	896	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	74	5	15	35	0	2	350	17	67	974	22
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	103	7	63	99		362	1318	64	818	1420	32
Arrive On Green	0.07	0.07	0.07	0.07	0.07	0.00	0.00	0.74	0.74	0.04	0.78	0.78
Sat Flow, veh/h	175	1522	96	351	1455	1585	1781	1769	86	1781	1822	41
Grp Volume(v), veh/h	93	0	0	50	0	0	2	0	367	67	0	996
Grp Sat Flow(s),veh/h/ln	1794	0	0	1806	0	1585	1781	0	1855	1781	0	1863
Q Serve(g_s), s	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6	1.0	0.0	30.4
Cycle Q Clear(g_c), s	6.1	0.0	0.0	3.1	0.0	0.0	0.0	0.0	7.6	1.0	0.0	30.4
Prop In Lane	0.15		0.05	0.30		1.00	1.00		0.05	1.00		0.02
Lane Grp Cap(c), veh/h	156	0	0	162	0		362	0	1382	818	0	1452
V/C Ratio(X)	0.59	0.00	0.00	0.31	0.00		0.01	0.00	0.27	0.08	0.00	0.69
Avail Cap(c_a), veh/h	257	0	0	257	0		446	0	1382	841	0	1452
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.9	0.0	0.0	53.6	0.0	0.0	6.7	0.0	4.9	3.2	0.0	6.3
Incr Delay (d2), s/veh	2.7	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.5	0.0	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	1.5	0.0	0.0	0.0	0.0	2.7	0.3	0.0	10.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.6	0.0	0.0	54.3	0.0	0.0	6.7	0.0	5.3	3.2	0.0	8.9
LnGrp LOS	E	A	A	D	A		A	A	A	A	A	A
Approach Vol, veh/h		93			50	A		369			1063	
Approach Delay, s/veh		57.6			54.3			5.3			8.6	
Approach LOS		E			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	99.5		14.2	10.5	95.4		14.2				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	6.0	81.0		15.0	6.0	81.0		15.0				
Max Q Clear Time (g_c+I1), s	2.0	32.4		5.1	3.0	9.6		8.1				
Green Ext Time (p_c), s	0.0	2.8		0.1	0.0	0.7		0.2				

Intersection Summary

HCM 6th Ctrl Delay	12.2
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.  
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC  
 5: SW 60th Ave/Pine Needle Ln & SW120th Ave

PM Peak Hour

Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	69	16	4	180	4	10	3	2	3	18	84
Future Vol, veh/h	17	69	16	4	180	4	10	3	2	3	18	84
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	75	17	4	196	4	11	3	2	3	20	91

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	200	0	0	92	0	0	382	328	84	328	334	198
Stage 1	-	-	-	-	-	-	120	120	-	206	206	-
Stage 2	-	-	-	-	-	-	262	208	-	122	128	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1372	-	-	1503	-	-	576	591	975	625	586	843
Stage 1	-	-	-	-	-	-	884	796	-	796	731	-
Stage 2	-	-	-	-	-	-	743	730	-	882	790	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1372	-	-	1503	-	-	494	581	975	613	576	843
Mov Cap-2 Maneuver	-	-	-	-	-	-	494	581	-	613	576	-
Stage 1	-	-	-	-	-	-	872	785	-	785	729	-
Stage 2	-	-	-	-	-	-	643	728	-	864	779	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.3			0.2			11.8			10.5		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	546	1372	-	-	1503	-	-	773
HCM Lane V/C Ratio	0.03	0.013	-	-	0.003	-	-	0.148
HCM Control Delay (s)	11.8	7.7	0	-	7.4	0	-	10.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.5

13: Old Cutler Road /Old Cutler Road & Gulliver Schools Proj Dr North

Intersection						
Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔			↑
Traffic Vol, veh/h	19	48	479	0	0	900
Future Vol, veh/h	19	48	479	0	0	900
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	52	521	0	0	978

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1499	521	0	0	-	-
Stage 1	521	-	-	-	-	-
Stage 2	978	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	135	555	-	-	0	-
Stage 1	596	-	-	-	0	-
Stage 2	364	-	-	-	0	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	135	555	-	-	-	-
Mov Cap-2 Maneuver	135	-	-	-	-	-
Stage 1	596	-	-	-	-	-
Stage 2	364	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.2	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	295
HCM Lane V/C Ratio	-	-	0.247
HCM Control Delay (s)	-	-	21.2
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	1

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↖	↗	↖	↖
Traffic Vol, veh/h	0	9	480	5	28	914
Future Vol, veh/h	0	9	480	5	28	914
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Free	-	None
Storage Length	-	0	-	100	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	10	522	5	30	993

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	522	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	555	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	555	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBTWBLn1	SBL	SBT
Capacity (veh/h)	-	555	1044
HCM Lane V/C Ratio	-	0.018	0.029
HCM Control Delay (s)	-	11.6	8.6
HCM Lane LOS	-	B	A
HCM 95th %tile Q(veh)	-	0.1	0.1

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	3	79	57	4	15	10
Future Vol, veh/h	3	79	57	4	15	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	86	62	4	16	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	66	0	-	0	156 64
Stage 1	-	-	-	-	64 -
Stage 2	-	-	-	-	92 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1536	-	-	-	835 1000
Stage 1	-	-	-	-	959 -
Stage 2	-	-	-	-	932 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1536	-	-	-	833 1000
Mov Cap-2 Maneuver	-	-	-	-	833 -
Stage 1	-	-	-	-	957 -
Stage 2	-	-	-	-	932 -

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1536	-	-	-	893
HCM Lane V/C Ratio	0.002	-	-	-	0.03
HCM Control Delay (s)	7.3	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	98	8	27	249	9	12	27	6	9	114	56
Future Vol, veh/h	17	98	8	27	249	9	12	27	6	9	114	56
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	107	9	29	271	10	13	29	7	10	124	61
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	11	8.7	9.7
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	27%	14%	9%	5%
Vol Thru, %	60%	80%	87%	64%
Vol Right, %	13%	7%	3%	31%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	45	123	285	179
LT Vol	12	17	27	9
Through Vol	27	98	249	114
RT Vol	6	8	9	56
Lane Flow Rate	49	134	310	195
Geometry Grp	1	1	1	1
Degree of Util (X)	0.071	0.182	0.405	0.263
Departure Headway (Hd)	5.23	4.901	4.703	4.872
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	678	727	762	732
Service Time	3.312	2.968	2.757	2.937
HCM Lane V/C Ratio	0.072	0.184	0.407	0.266
HCM Control Delay	8.7	9.1	11	9.7
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.2	0.7	2	1.1

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↑			↕	
Traffic Vol, veh/h	4	70	0	5	55	7	1	17	1	12	70	30
Future Vol, veh/h	4	70	0	5	55	7	1	17	1	12	70	30
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	76	0	5	60	8	1	18	1	13	76	33
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.8	7.7	7.5	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	5%	7%	11%
Vol Thru, %	89%	95%	82%	62%
Vol Right, %	5%	0%	10%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	74	67	112
LT Vol	1	4	5	12
Through Vol	17	70	55	70
RT Vol	1	0	7	30
Lane Flow Rate	21	80	73	122
Geometry Grp	1	1	1	1
Degree of Util (X)	0.025	0.095	0.085	0.138
Departure Headway (Hd)	4.387	4.248	4.195	4.074
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	821	831	840	866
Service Time	2.387	2.339	2.289	2.165
HCM Lane V/C Ratio	0.026	0.096	0.087	0.141
HCM Control Delay	7.5	7.8	7.7	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.3	0.3	0.5

HCM 6th Signalized Intersection Summary  
3: Old Cutler Road & SW120th Ave

Off-Peak Hour






















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	92	102	245	735	719	111
Future Volume (veh/h)	92	102	245	735	719	111
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	111	266	799	782	121
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	155	138	411	1521	1141	177
Arrive On Green	0.09	0.09	0.04	0.81	0.72	0.72
Sat Flow, veh/h	1781	1585	1781	1870	1582	245
Grp Volume(v), veh/h	100	111	266	799	0	903
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	0	1826
Q Serve(g_s), s	6.5	8.3	4.6	16.7	0.0	32.7
Cycle Q Clear(g_c), s	6.5	8.3	4.6	16.7	0.0	32.7
Prop In Lane	1.00	1.00	1.00			0.13
Lane Grp Cap(c), veh/h	155	138	411	1521	0	1317
V/C Ratio(X)	0.65	0.81	0.65	0.53	0.00	0.69
Avail Cap(c_a), veh/h	223	198	411	1521	0	1317
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.0	53.8	12.2	3.7	0.0	9.2
Incr Delay (d2), s/veh	3.3	12.4	2.8	1.3	0.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	3.8	3.4	4.9	0.0	12.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	56.3	66.1	15.0	5.0	0.0	12.1
LnGrp LOS	E	E	B	A	A	B
Approach Vol, veh/h				1065	903	
Approach Delay, s/veh				7.5	12.1	
Approach LOS				A	B	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	11.0	92.6			103.6	16.4
Change Period (Y+Rc), s	6.0	6.0			6.0	6.0
Max Green Setting (Gmax), s	5.0	82.0			93.0	15.0
Max Q Clear Time (g_c+I1), s	6.6	34.7			18.7	10.3
Green Ext Time (p_c), s	0.0	2.4			1.9	0.2
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			14.6			
HCM 6th LOS			B			



HCM 6th Signalized Intersection Summary  
22: Old Cutler Rd & SW 128th St

Off-Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	62	16	29	53	75	9	405	16	61	629	19
Future Volume (veh/h)	40	62	16	29	53	75	9	405	16	61	629	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	67	17	32	58	0	10	440	17	66	684	21
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	90	21	81	108		523	1293	50	717	1350	41
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.00	0.01	0.72	0.72	0.04	0.75	0.75
Sat Flow, veh/h	483	997	229	445	1202	1585	1781	1789	69	1781	1805	55
Grp Volume(v), veh/h	127	0	0	90	0	0	10	0	457	66	0	705
Grp Sat Flow(s),veh/h/ln	1709	0	0	1647	0	1585	1781	0	1858	1781	0	1860
Q Serve(g_s), s	2.5	0.0	0.0	0.0	0.0	0.0	0.2	0.0	10.8	1.1	0.0	18.4
Cycle Q Clear(g_c), s	8.6	0.0	0.0	6.2	0.0	0.0	0.2	0.0	10.8	1.1	0.0	18.4
Prop In Lane	0.34		0.13	0.36		1.00	1.00		0.04	1.00		0.03
Lane Grp Cap(c), veh/h	194	0	0	189	0		523	0	1343	717	0	1392
V/C Ratio(X)	0.65	0.00	0.00	0.48	0.00		0.02	0.00	0.34	0.09	0.00	0.51
Avail Cap(c_a), veh/h	251	0	0	246	0		591	0	1343	740	0	1392
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.5	0.0	0.0	52.4	0.0	0.0	5.2	0.0	6.1	4.1	0.0	6.1
Incr Delay (d2), s/veh	3.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.7	0.0	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	0.0	2.7	0.0	0.0	0.1	0.0	4.0	0.3	0.0	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.5	0.0	0.0	53.7	0.0	0.0	5.3	0.0	6.8	4.1	0.0	7.4
LnGrp LOS	E	A	A	D	A		A	A	A	A	A	A
Approach Vol, veh/h		127			90	A		467			771	
Approach Delay, s/veh		56.5			53.7			6.8			7.2	
Approach LOS		E			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.4	95.8		16.8	10.4	92.7		16.8				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	6.0	81.0		15.0	6.0	81.0		15.0				
Max Q Clear Time (g_c+I1), s	2.2	20.4		8.2	3.1	12.8		10.6				
Green Ext Time (p_c), s	0.0	1.6		0.1	0.0	0.9		0.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				14.2								
HCM 6th LOS				B								
<b>Notes</b>												
User approved pedestrian interval to be less than phase max green.												
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th TWSC  
5: Pine Needle Lane/SW 60th Ave & SW120th Ave

Off-Peak Hour

Intersection												
Int Delay, s/veh	4.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	152	9	11	320	36	11	10	2	47	38	99
Future Vol, veh/h	20	152	9	11	320	36	11	10	2	47	38	99
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	165	10	12	348	39	12	11	2	51	41	108

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	387	0	0	175	0	0	680	625	170	613	611	368
Stage 1	-	-	-	-	-	-	214	214	-	392	392	-
Stage 2	-	-	-	-	-	-	466	411	-	221	219	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1171	-	-	1401	-	-	365	401	874	405	409	677
Stage 1	-	-	-	-	-	-	788	725	-	633	606	-
Stage 2	-	-	-	-	-	-	577	595	-	781	722	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1171	-	-	1401	-	-	276	388	874	386	396	677
Mov Cap-2 Maneuver	-	-	-	-	-	-	276	388	-	386	396	-
Stage 1	-	-	-	-	-	-	771	710	-	620	599	-
Stage 2	-	-	-	-	-	-	447	588	-	751	707	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.9			0.2			16.5			16.7		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	339	1171	-	-	1401	-	-	506
HCM Lane V/C Ratio	0.074	0.019	-	-	0.009	-	-	0.395
HCM Control Delay (s)	16.5	8.1	0	-	7.6	0	-	16.7
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	1.9

13: Old Cutler Road /Old Cutler Road & Gulliver Schools Proj Dr North

Intersection						
Int Delay, s/veh	49.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔			↑
Traffic Vol, veh/h	46	448	524	0	0	900
Future Vol, veh/h	46	448	524	0	0	900
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	487	570	0	0	978

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1548	570	0	0	-	-
Stage 1	570	-	-	-	-	-
Stage 2	978	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	126	521	-	-	0	-
Stage 1	566	-	-	-	0	-
Stage 2	364	-	-	-	0	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	126	521	-	-	-	-
Mov Cap-2 Maneuver	126	-	-	-	-	-
Stage 1	566	-	-	-	-	-
Stage 2	364	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	193.4	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	403
HCM Lane V/C Ratio	-	-	1.332
HCM Control Delay (s)	-	-	193.4
HCM Lane LOS	-	-	F
HCM 95th %tile Q(veh)	-	-	24.8

Intersection						
Int Delay, s/veh	1.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↖	↗	↖	↖
Traffic Vol, veh/h	0	76	458	68	193	719
Future Vol, veh/h	0	76	458	68	193	719
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	-	0	-	100	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	83	498	74	210	782

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	498	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	572	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	572	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.4	0	1.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	572	1066
HCM Lane V/C Ratio	-	-	0.144	0.197
HCM Control Delay (s)	-	-	12.4	9.2
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.5	0.7

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	6	74	93	8	18	7
Future Vol, veh/h	6	74	93	8	18	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	80	101	9	20	8

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	110	0	-	0	200
Stage 1	-	-	-	-	106
Stage 2	-	-	-	-	94
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1480	-	-	-	789
Stage 1	-	-	-	-	918
Stage 2	-	-	-	-	930
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1480	-	-	-	785
Mov Cap-2 Maneuver	-	-	-	-	785
Stage 1	-	-	-	-	913
Stage 2	-	-	-	-	930

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1480	-	-	-	825
HCM Lane V/C Ratio	0.004	-	-	-	0.033
HCM Control Delay (s)	7.4	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	165	18	62	329	23	4	8	9	21	108	30
Future Vol, veh/h	12	165	18	62	329	23	4	8	9	21	108	30
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	179	20	67	358	25	4	9	10	23	117	33
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.1	14.4	8.9	10.5
HCM LOS	B	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	6%	15%	13%
Vol Thru, %	38%	85%	79%	68%
Vol Right, %	43%	9%	6%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	195	414	159
LT Vol	4	12	62	21
Through Vol	8	165	329	108
RT Vol	9	18	23	30
Lane Flow Rate	23	212	450	173
Geometry Grp	1	1	1	1
Degree of Util (X)	0.036	0.291	0.589	0.264
Departure Headway (Hd)	5.676	4.949	4.715	5.503
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	634	716	756	657
Service Time	3.683	3.045	2.795	3.503
HCM Lane V/C Ratio	0.036	0.296	0.595	0.263
HCM Control Delay	8.9	10.1	14.4	10.5
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.1	1.2	3.9	1.1

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	54	1	7	56	14	1	53	5	21	80	13
Future Vol, veh/h	10	54	1	7	56	14	1	53	5	21	80	13
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	59	1	8	61	15	1	58	5	23	87	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.9	7.9	7.8	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	15%	9%	18%
Vol Thru, %	90%	83%	73%	70%
Vol Right, %	8%	2%	18%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	59	65	77	114
LT Vol	1	10	7	21
Through Vol	53	54	56	80
RT Vol	5	1	14	13
Lane Flow Rate	64	71	84	124
Geometry Grp	1	1	1	1
Degree of Util (X)	0.078	0.088	0.101	0.149
Departure Headway (Hd)	4.373	4.473	4.348	4.325
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	822	803	826	831
Service Time	2.388	2.488	2.363	2.339
HCM Lane V/C Ratio	0.078	0.088	0.102	0.149
HCM Control Delay	7.8	7.9	7.9	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.3	0.3	0.5