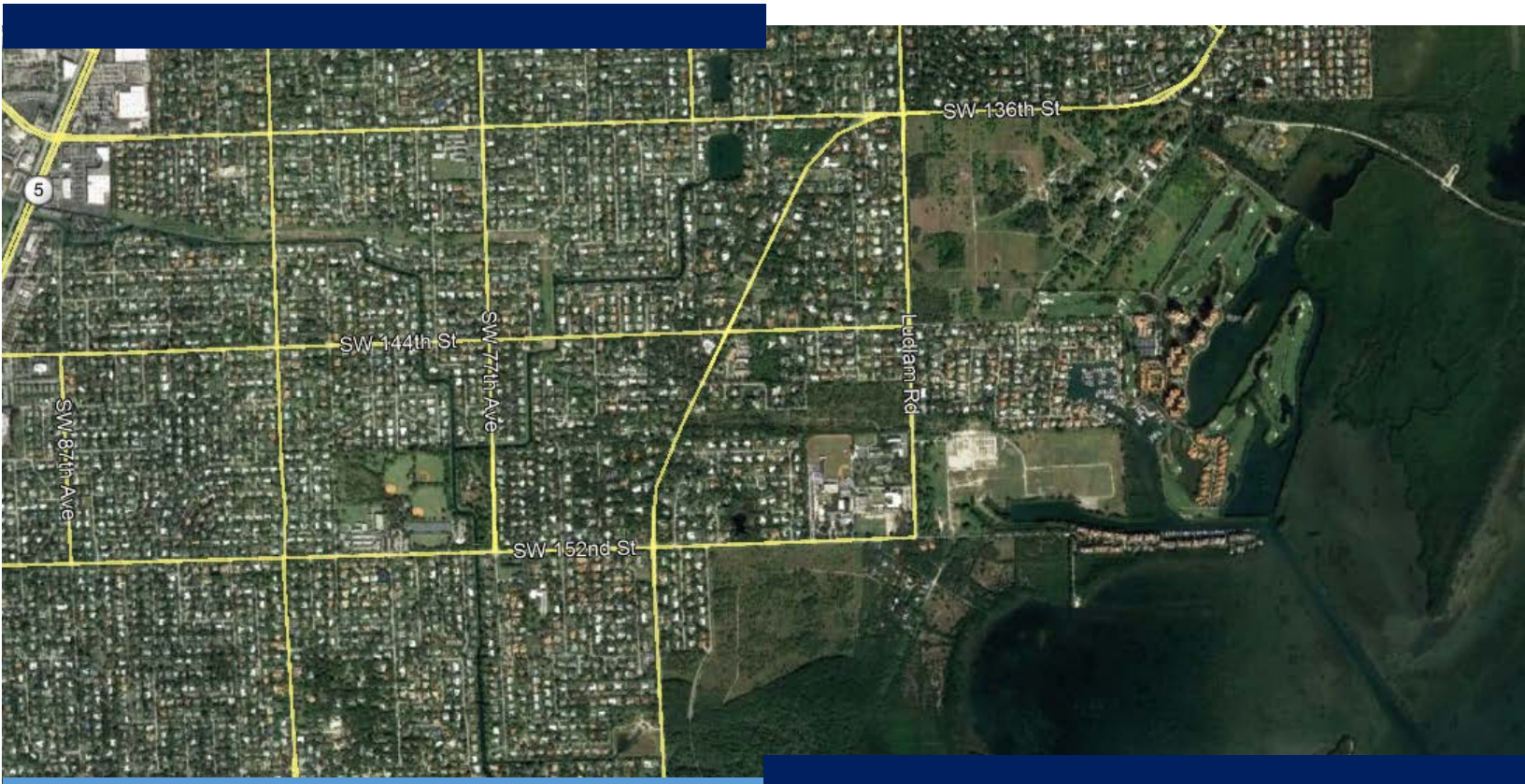
April 2019



Traffic Concurrency Analysis

6525 SW 152nd Street

DRAFT REPORT

PREPARED FOR

Village of Palmetto Bay

PREPARED BY

MARLIN Engineering, Inc.

1700 NW 66th Avenue, Suite 106

Plantation, FL 33313

954.870.5070 | www.marlinengineering.com

Executive Summary

The purpose of this report is to document the results of the Traffic Concurrency Analysis for the future development of the "Village of Palmetto Bay", located on north east corner of SW 152nd Street and SW 67th Avenue in Palmetto Bay, Florida. The property is currently designated as Institutional and Public Facility with Interim Zoning. The proposal is to change the land use to residential with zoning to Estate-Single Family (E-1). The proposed residential land use resulted in 176 Dwelling Units (DUs) whereas with the proposed zoning it resulted in 70 DUs.

It is proposed that the entrance/exit driveway for the development will be located along SW 152nd Street about 400 feet east of Ludlam Road. The second driveway is proposed along SW 67th Avenue/Ludlam Road north of SW 152nd Street. Based on coordination with the Village 20% of the project traffic is assigned to the driveway along SW 67th Avenue and 80% of the project traffic is assigned to SW 152nd Street.

The proposed Residential land use amendment with 176 dwelling Units (DUs) would be expected to generate 1,661 net new daily trips, with 130 and 174 trips during the AM and PM peak hours respectively. As of proposed residential use with proposed zoning with 70 DUs would be expected to generate 661 net new daily trips, with 52 and 69 net new trips during the AM and PM peak hours respectively. The trip generation was also performed for the current land use, Institutional and Public office building development with 2,107 SF. This development is expected to generate 47,597 net new daily trips. Another use under the current land use, Hospital building development with 2,107 SF would be expected to generate 22,587 net new daily trips. The site is currently a vacant lot.

As suspected by the Village Council, the study area showed abnormal peaking characteristics for the PM peak hour. The turning movement counts showed the early peak hour around 3:00 PM for the intersections along Old Cutler Road at SW 152nd Street and SW 168th Street, and along Ludlam Road at SW 144th Street and SW 152nd Street.

The Level of Service (LOS) analysis demonstrated that the new trips generated by the proposed land use amendment with the proposed zoning (70DUs) along with the 304 multi-family units (analyzed as committed development), all the roads in the study area will continue to operate acceptably at the anticipated 2035 build-out year. However, Old Cutler Road shows excessive delays (LOS "F") during the PM peak hour for the segment between Ludlam Road and SW 168th Street for all the scenarios, including existing traffic conditions. The intersections along Old Cutler Road at SW 152nd Street and Ludlam Road show similar failing conditions for the existing and all future traffic condition scenarios.

In order to alleviate capacity failing conditions Old Cutler Road following was explored:

- The review of the Miami-Dade Transportation Improvement Plan (TIP) showed capacity improvements at two locations within the study area, reversible lane options along Old Cutler Road at SW 152nd Street and at SW 144th Street. Upon further investigation it was determined that the Village, Miami-Dade County and the transportation consultant for this project (Marlin Engineering Inc.) are exploring other type of improvements along these segments. Hence, this project is under progress and yet to be finalized therefore, it is not included in future condition analysis. However, it is highly expected that this project will alleviate background roadway capacity deficiencies considerably.

- It is also determined that there is no transit service provided within the study area, therefore, it is recommended that at least transit service options be explored in order to provide convenient access to regional transit stations which are proposed to be implemented within the Village.

- The heavy traffic experienced along Old Cutler Road could be because of the School Zone along Ludlam Road during early peak hour. Therefore, investigations could be carried out to eliminate any undesirable traffic diversions from Ludlam Road southbound to Old Cutler Road southbound.

Table of Contents

1. Introduction 1
2. Project Access 2
3. Study Area 2
4. Study Roadway Segments and Intersections and Existing Transit Service 3
5. Existing 2019 Traffic Conditions 5
6. Growth Rate to Build-Out Year (2035) 10
7. TIP and LRTP Improvements and Committed Trips 12
8. Trip Generation 13
9. Trip Distribution and Trip Assignments 15
10. Future Background 2035 Traffic Conditions 19
11. Future 2035 Traffic Conditions (Scenario 1- 176 DUs) 20
12. Future 2035 Traffic Conditions (Scenario 2- 70 DUs) 23
13. Conclusions and Recommendations 26

List of Figures

Figure 1 - Location Map 1
Figure 2 - Transit Service in the Study Area 5
Figure 3 - Existing AM (PM) Peak Hour Turning Movement Counts 8
Figure 4 - 2035 Background AM (PM) Peak Hour Turning Movement Counts 11
Figure 5 - TIP and LRTP Improvements around Study Area 12
Figure 6 - Cardinal Trip Distribution for study Traffic Analysis Zone 15
Figure 7 - Distribution Percentages for Project Trips 16
Figure 8 - Trip Assignments for AM Project Trips for 176 DUs Scenario 17
Figure 9 - Trip Assignments for PM Project Trips for 176 DUs Scenario 18
Figure 10 - Scenario-1 (176 DUs) Future 2035 AM (PM) Peak Hour Turning Movement Counts 21
Figure 11 - Scenario-2 (70 DUs) Future AM (PM) Peak Hour Turning Movement Counts 24

List of Tables

Table 1 - Data Collection Summary 3
Table 2 - Existing traffic conditions at the study intersections..... 9
Table 3 - Existing traffic conditions along study segments 9
Table 4 - Background Traffic Growth Rate Analysis Summary 10
Table 5 - TIP and LRTP Improvements details in the Study Area..... 13
Table 6 - AM, PM and Daily Trip Generation related to proposed Development..... 14
Table 7 - Future background 2035 traffic conditions without project at the study intersections ... 19
Table 8 - Future background 2035 traffic conditions without project at the study segments..... 20
Table 9 - Scenario-1 (176 DUs) Future 2035 traffic conditions at the study intersections 22
Table 10 - Scenario-1 (176 DUs) Future 2035 traffic conditions at the study segments 22
Table 11 - Scenario-2 (70 DUs) Future 2035 traffic conditions at the study intersections 25
Table 12 - Scenario-2 (70 DUs) Future 2035 traffic conditions at the study segments 25

Appendices

Appendix A - Turning Movement Counts and 72-Hour Machine Counts
Appendix B - Methodology approved by the Village of Palmetto Bay
Appendix C - Existing Traffic Signal Timing Data
Appendix D – PSCF Factor and QLOS Tables from FDOT
Appendix E - Synchro printouts- Existing AM Peak Hour
Appendix F - Synchro printouts- Existing PM Peak Hour
Appendix G - Growth Rate Analysis/Historical Traffic Data
Appendix H - Trip Generation, Cardinal Distributions and Trip Assignments for Committed Trips
Appendix I - ITE Trip Generation, Land Use Codes (730, 610, 221 and 210)
Appendix J – Cardinal Percentages, Trip Distributions and Trip Assignments
Appendix K - Synchro printouts- Future 2035 AM Peak Hour
Appendix L - Synchro printouts- Future 2035 PM Peak Hour

1. Introduction

The purpose of this report is to document the results of the Traffic Concurrency Analysis for the future development of the "Village of Palmetto Bay", located on the north east corner of SW 152nd Street and SW 67th Avenue in Palmetto Bay, Florida as depicted in **Figure 1**. The property is currently designated as Institutional and Public Facility with Interim Zoning. The proposal is to change the land use to residential with zoning to Estate-Single Family (E-1). The proposed residential land use resulted in 176 Dwelling Units (DUs) whereas with the proposed zoning it resulted in 70 DUs.

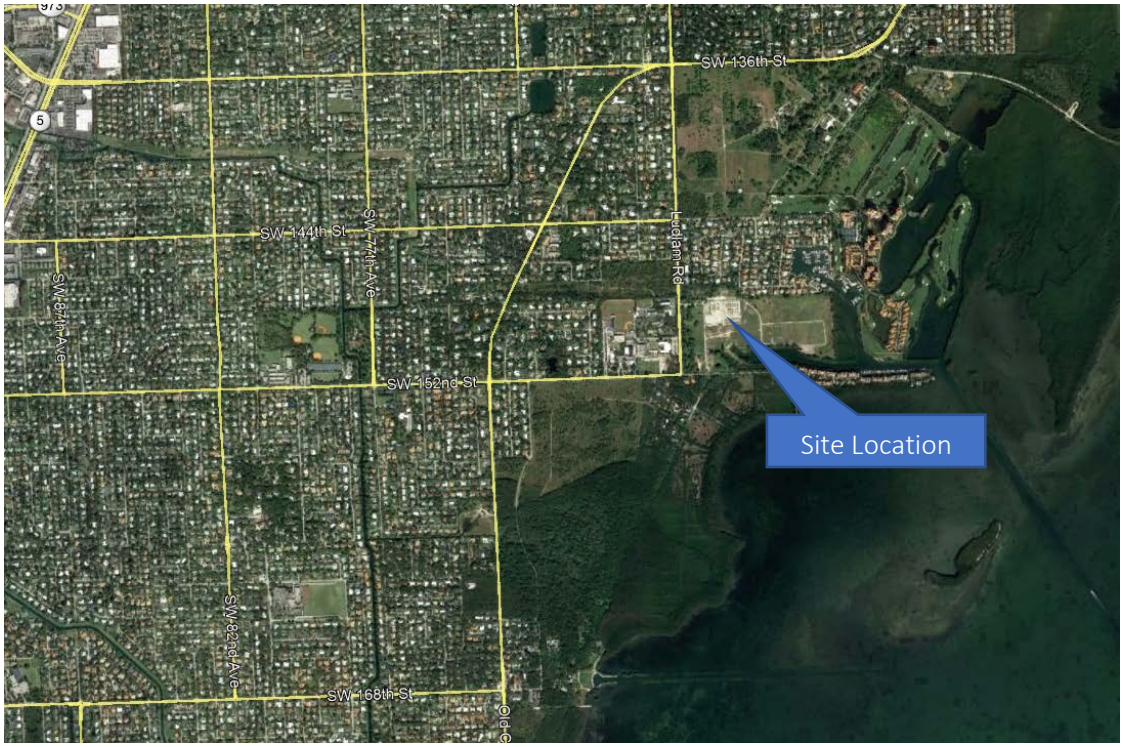
Marlin Engineering, Inc. (MEI) has been requested by the Village of Palmetto Bay to perform a traffic concurrency analysis for a proposed comprehensive plan land use amendment and proposed zoning map amendment. The site is located at 6525 SW 152nd Street and comprised of 70.73 acres.

The purpose of the study is to assess the project's impact on the surrounding transportation network and determine if adequate capacity is available to support future demand.

The study's methodology is consistent with the requirements outlined by the Village of Palmetto Bay for traffic concurrency analysis. This report summarizes the traffic data collection, existing and horizon year 2035 background analysis, Comprehensive Development Master Plan (CDMP) amendment transportation analysis. The methodology provided was by the Village of Palmetto Bay and is included in **Appendix B**.

The following sections summarize the results of the traffic study, and provide a list of options to be considered to mitigate any potential impacts of the project.

Figure 1 - Location Map



2. Project Access

At this time a detailed site plan is not available for the site. However, two access points/driveways are proposed for the site. The main entrance/exit driveway will be located along SW 152nd Street about 400 feet east of Ludlam Road. The second driveway is proposed along SW 67th Avenue/Ludlam Road north of SW 152nd Street.

This traffic impact analysis (TIA) analyzed existing conditions, and proposed conditions at build-out, which is scheduled to occur in 2035.

3. Study Area

As the proposed Residential land use with proposed zoning is projected to generate no more than 174 two-way peak hour external trips (this occurs during the PM Peak hour). The study area is limited to SW 168th Street to the south and SW 136th Street to the north. Since the proposed site is easily accessed via the regional roadway system, the area of influence, where most of the traffic entering and exiting the project will be concentrated, is limited to adjacent roadways and intersections in close proximity to the site.

Intersections to be analyzed in the study area include:

- SW 144th Street at Ludlam Road (Unsignalized/Flashing Beacons Operations)
- SW 152nd Street at Ludlam Road (Unsignalized)
- SW 136th Street at Ludlam Road (Signalized)
- SW 152nd Street at Old Cutler Road (Signalized)
- SW 168th Street at Old Cutler Road (Signalized)

Eight-hour turning movement counts (TMCs) were collected at the above intersections from 7:00 AM to 9:00 AM and 1:00 PM to 7:00 PM on a typical weekday, which was Thursday, March 21, 2019. Except intersections SW 144th St at SW 67th Avenue; and SW 152nd St at SW 67th Avenue, TMCs for these intersections were collected on Tuesday, April 2, 2019. The turning movement counts are included in Appendix A.

Roadway segment to be analyzed in the study area are:

- SW 152nd Street from Paradise Point to US-1
- SW 67th Avenue from SW 152nd Street to SW 136th Street /Old Cutler Road
- Old Cutler Road from Village Limits at SW 136th Street to SW 168th Street
- SW 144th Street from Old Cutler Road to US-1
- SW 168th Street from Old Cutler Road to US-1

The 72-hour machine counts were collected at the above locations. These were collected during weekdays (Tuesday, Wednesday and Thursday) March, 2019 for Old Cutler Road; and April, 2019 for Ludlam Road. These counts are included in Appendix A. A methodology describing the traffic impact analysis process for this development was submitted to the Village of Palmetto Bay. The approved methodology is attached as Appendix B. The collected turning movement counts were adjusted for seasonal variations by applying a peak season conversion factor (PSCF). The peak season conversion factors were obtained from the 2017 Florida Traffic Information & Highway Online. The data collection date and corresponding peak season conversion factors are shown in Table 1. Existing traffic signal timing plans for the signalized intersections

were obtained from Miami-Dade Traffic Signal and Sign Division from the Miami-Dade County Advanced Traffic Management System (ATMS) Website and are included in Appendix C.

Table 1 - Data Collection Summary

Intersection	Date	Peak Season Factor
SW 144th Street at Ludlam Road	4/2/2019	0.99
SW 152nd Street at Ludlam Road	4/2/2019	0.99
SW 136th Street at Ludlam Road	3/21/2019	1.00
SW 152nd Street at Old Cutler Road	3/21/2019	1.00
SW 168th Street at Old Cutler Road	3/21/2019	1.00

The intersections of SW 136th Street at Ludlam Road, SW 152nd Street at Old Cutler Road and SW 168th Street at Old Cutler Road are controlled by traffic signals, except SW 144th Street at Ludlam Road, and SW 152nd Street at Ludlam Road (T-intersection) are controlled by STOP-signs.

A peak hour factor was used for hourly variation of the traffic flow in the peak period, as prescribed by the Florida Department of Transportation (FDOT) within the Quality/Level of Service Handbook. The peak hour factors for each intersection were obtained from the collected turning movement counts.

The factors to account for seasonal variations in collected traffic data will was adjusted to convert raw counts to reflect average annual for typical weekday and weekend conditions. These factors were obtained from the FDOT Florida Traffic Online. The peak seasonal factor report is included in Appendix D.

In addition to the traffic data counts, existing characteristics of the roadway network including intersection geometry, lane geometry and posted speed limits within the traffic study area were verified. These details are provided in the following section.

4. Study Roadway Segments and Intersections and Existing Transit Service

SW 144th Street has one travel lane in each direction with dedicated left-turn lanes at most approaches at the intersections of Old Cutler Road and Ludlam Road in the study area. It has an urban typical section with a posted of 30 miles per hour (mph) speed limit.

SW 152nd Street has one shared travel lane in each direction with dedicated left-turn lane at the study intersection. It has an urban typical section with a posted of 35 mph speed limit.

SW 136th Street is an east-west roadway and has one travel lane in each direction with dedicated left-turn lane at the study intersection. It has an urban typical section with a posted of 30 mph speed limit.

SW 168th Street is an east-west roadway with one travel lane in each direction and a dedicated left-turn lane at the study intersection. It has an urban typical section with a posted of 30 mph speed limit.

Old Cutler Road is a north-south roadway with one travel lane in each direction with dedicated left-turn lane at the study intersection. It has an urban typical section with a posted of 35 mph speed limit.

SW 67th Avenue/Ludlam Road is a north-south roadway with one travel lane in each direction with dedicated left-turn lane at the study intersection. It has an urban typical section with a posted of 30 mph speed limit.

SW 144th Street at Ludlam Road, is a 4-legged intersection controlled by flashing beacon of these two major urban collectors. Left-turns are controlled by permissive phasing. It was noted that the dedicated left turn lane, although the dedicated left-turn lane is very short in length. The approximate turn lane storage lengths are: SBL: 50 feet, NBL: 50 feet, EBL: 50 feet. For Synchro analysis it was assumed as a Stop-Controlled intersection.

SW 152nd Street at Ludlam Road, is a T- intersection controlled by stop signs in all directions of these two major urban collectors.

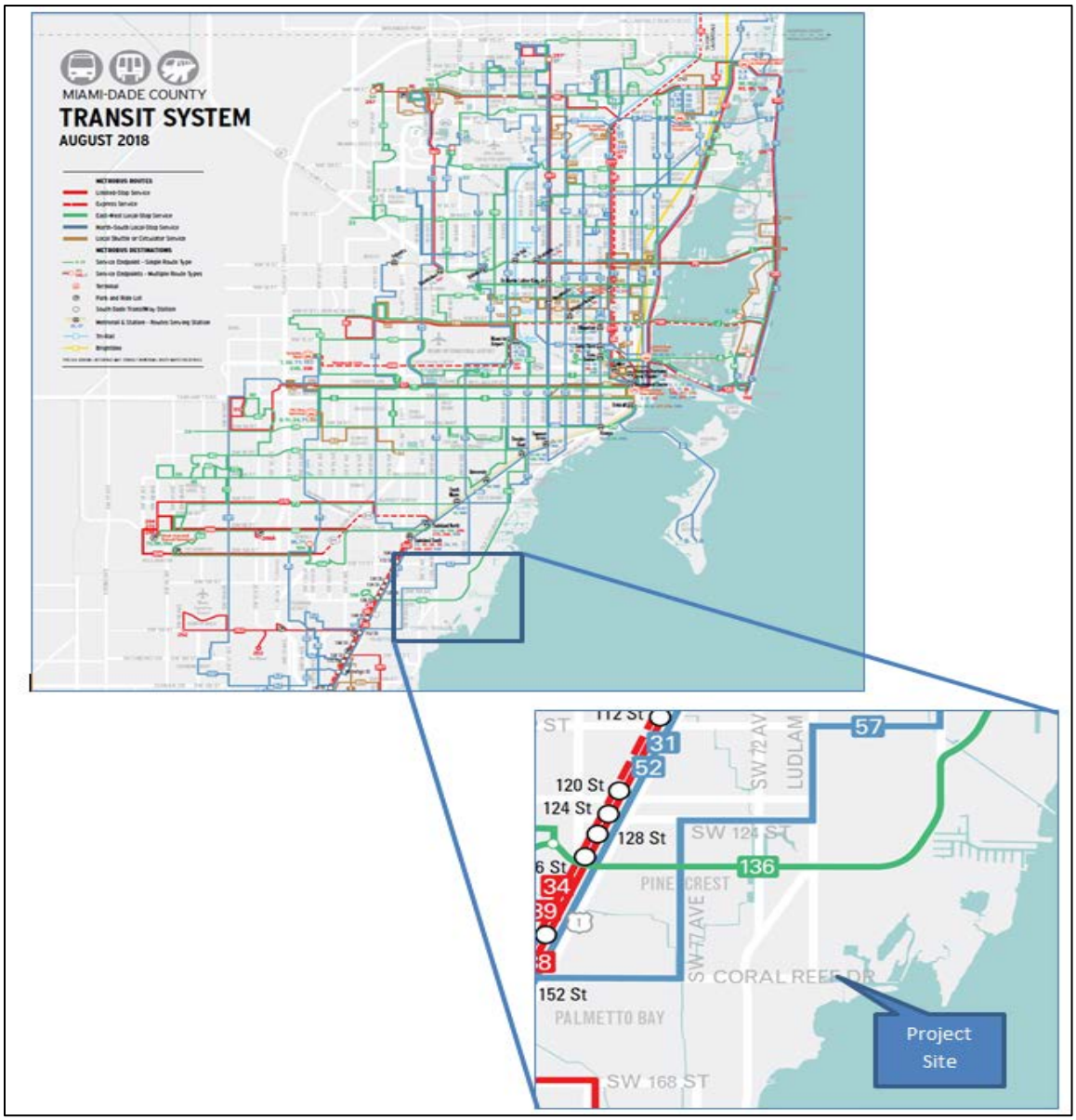
SW 136th Street at Ludlam Road, is a 4-legged signalized intersection of these two major roadways. Left-turns are controlled by permissive phasing. Each approach has one through travel lane, one dedicated left-turn lane, except NB approach had dedicated left/right turn lanes. The intersection has pedestrian crosswalks across all four legs, controlled by pedestrian signals with pushbutton detectors. Approximate turn lane storage lengths are: EBL: 150 feet, NBL: 150 feet, NBR: 125 feet, WBL: 85 feet, SBR: 100 feet.

SW 152nd Street at Old Cutler Road, is a 4-legged signalized intersection. Left-turns are controlled by permissive phasing. Each approach has one through travel lane, one dedicated left-turn lane. The intersection has pedestrian crosswalks across all four legs, controlled by pedestrian signals with pushbutton detectors. Approximate turn lane storage lengths are: EBL: 150 feet, NBL: 125 feet, WBL: 75 feet, SBL: 100 feet.

SW 168th Street at Old Cutler Road, is a 4-legged signalized intersection. Left-turns are controlled by permissive phasing. Each approach has one through travel lane, one dedicated left-turn lane. The intersection has pedestrian crosswalks across all four legs, controlled by pedestrian signals with pushbutton detectors. Approximate turn lane storage lengths are: EBL: 85 feet, NBL: 55 feet, WBL: 75 feet, SBL: 50 feet.

A review of the Miami-Dade County transit service master plan map was performed to identify availability of any transit service in the study area. As shown in the **Figure 2** below there is no transit service available by Miami-Dade County within the study area or at a walkable distance i.e. around 1/4 to ½ mile. Therefore, it is assumed that the transit or pedestrian reduction in this case is negligible.

Figure 2 - Transit Service in the Study Area



5. Existing 2019 Traffic Conditions

Eight-hour turning movement counts were collected at the study intersections. The peak hour for both the AM peak hour and PM peak hour was determined. The AM peak hour and PM peak hour for all of the intersections combined was determined so that the SYNCHRO model would be analyzing all of the study intersections on the same peak hours of the intersections. The AM peak hour occurs within the normal peak period between 7:00 AM to 9:00 AM. However, the PM peak hour showed mix characteristics mostly it occurred at an early hour as compared to normal peak period of 4:00 PM to 6:00 PM. For most intersections it started around 3:00 PM as indicated by the Village. The turning movement counts were then factored by the Florida Department of Transportation (FDOT) Peak Season Conversion Factor (PSCF) for Miami-Dade County, which was obtained from the Florida Traffic Online website. The report page is included as Appendix D. The PSCF adjusts the counts to emulate peak season conditions. In order to correct

the data peak seasonal factor was applied to correct the data. The factor is 1.00 since the counts were taken between March 19 and March 25; 0.99 for the counts taken between April 2 and April 8. **Figure 3** shows the existing turning movement counts at the study intersections after being factored by PSCF. With each turning movement volume, the first number is the AM peak volume, and the second number in parenthesis is the PM peak volume.

Level of Service and Delays

Level of service, or LOS, is a qualitative measure used to relate the quality of motor vehicle traffic service. LOS is used to analyze roadways and intersections by categorizing traffic flow and assigning quality levels of traffic based on performance measure like vehicle speed, density, congestion, and other factors.

As per the *Highway Capacity Manual 2010* (Transportation Research Board, 2010):

"Signalized intersection level of service (LOS) is defined in terms of a weighted average control delay for the entire intersection. Control delay quantifies the increase in travel time that a vehicle experiences due to the traffic signal control as well as provides a surrogate measure for driver discomfort and fuel consumption. Signalized intersection LOS is stated in terms of average control delay per vehicle (in seconds) during a specified time period (e.g., weekday PM peak hour).

Level of Service Criteria for Signalized Intersections

LOS	Average Intersection Delay	General Description
A	Less than or equal to 10 seconds	Free flow
B	Greater than 10 to 20 seconds	Stable flow (slight delays)
C	Greater than 20 to 35 seconds	Stable flow (acceptable delays)
D	Greater than 35 to 55 seconds	Approaching unstable flow (tolerable delays)
E	Greater than 55 to 80 seconds	Unstable flow (intolerable delays)
F	Greater than 80 seconds	Forced flow (congested; queues failing to clear)

Unsignalized intersection LOS criteria can be further reduced into three intersection types: all-way stop, two-way stop, and roundabout control. All-way stop and roundabout control intersection LOS is expressed in terms of the weighted average control delay of the overall intersection or by approach. Two-way stop-controlled intersection LOS is defined in terms of the average control delay for each minor-street movement (or shared movement) as well as major-street left-turns. This approach is because major-street through vehicles are assumed to experience zero delay, a weighted average of all movements results in very low overall average delay, and this calculated low delay could mask deficiencies of minor movements.

Level of Service Criteria for Unsignalized Intersections

LOS	Average Control Delay
A	Less than or equal to 10 seconds
B	Greater than 10 to 15 seconds
C	Greater than 15 to 25 seconds
D	Greater than 25 to 35 seconds
E	Greater than 35 to 50 seconds
F	Greater than 50 seconds"

Note that the delays per LOS "grade" are lower for unsignalized intersections than signalized intersections. This is due to motorist expectation- when at a signalized intersection, motorists instinctively understand that they are at an intersection with supposedly higher traffic volumes which would justify it being signalized and they are conditioned to expect delays to be higher than they would expect to encounter at an usually smaller unsignalized intersection. Control delays of LOS E or F on individual approaches at the unsignalized intersections were determined to indicate unacceptable/failing conditions.

The AM/PM peak-hour existing operating conditions of the study area intersections were evaluated using Synchro 10 software, which utilizes analysis methodologies contained in the 2010 Highway Capacity Manual. Existing peak hour turning movement volumes, existing roadway geometry, and traffic signal timings were utilized in the analyses. Based on the Synchro analyses, the existing overall level of service (LOS) and average delay for the study's four signalized and one unsignalized intersections are as follows. The signalized intersection delay is shown as the average delay for all of the approaches of the intersection combined. The delays for the unsignalized intersection are shown as control delay per approach. Synchro printouts for the existing conditions are included in **Appendix E** and **Appendix F** for AM and PM peak hours respectively.

The Level of Service analysis was also performed for the study roadway segments as listed above and according to the methodology provided to the Village. The service volumes for the roadway segments are based upon Two-Way Peak Hour from the 2012 **FDOT Quality/LOS Handbook**. These FDOT Generalized Tables are included in the **Appendix D**.

As indicated by the Village, the study area showed early peaking characteristics for the PM peak hour. The turning movement counts showed the early peak hour for the intersections along Old Cutler Road at SW 152nd Street and SW 168th Street, and along Ludlam Road at SW 144th Street and SW 152nd Street. This peak hour start mostly just after 3:00 PM. Hence, it can be said that the study area experiences an extended or broadened peak period from 3 PM to 6 PM. It may be due to the traffic traversing from the northern part of the County from the County's Business District to the Village and to the further south. This higher traffic may also be due to the reason that the traffic is trying to avoid school zone along Ludlam Road between SW 152nd Street and SW 136th Street. It should also be noted that the intersection experiencing the heaviest traffic among all the intersections analyzed is Ludlam Road at SW 136th Street, hence showing the highest average delays among all the scenarios. The TMCs for existing traffic conditions are shown in **Figure 3**. **Table 2** and **Table 3** provide details of existing traffic conditions during the AM and PM peak hours at study intersections and study segments respectively. Upon review of existing traffic conditions shown in **Table 2** and **Table 3**, it is evident that the Old Cutler Road is suffering excessive delays during AM and PM peak hours for the segment between SW 152nd Street and SW 168th Street. Whereas, the intersections along Old Cutler Road at SW 152nd Street and Ludlam Road showed similar failing conditions.

Figure 3 - Existing AM (PM) Peak Hour Turning Movement Counts

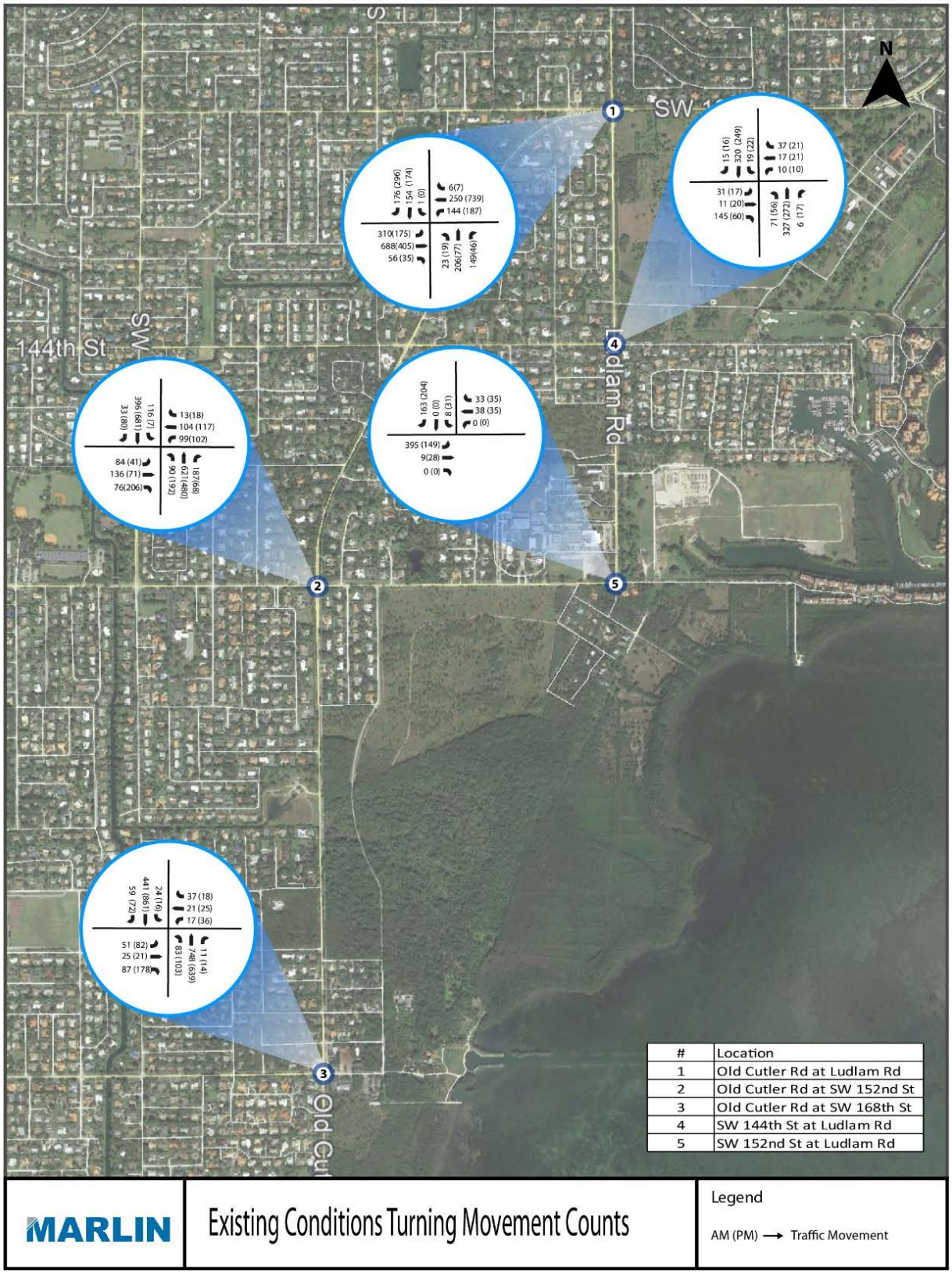


Table 2 - Existing traffic conditions at the study intersections

Intersection (Signalized)	Overall LOS	Intersection Delay (sec/veh)
1) Old Cutler Road at Ludlam Road	F (F)	105.4 (56.0)
2) Old Cutler Road at SW 152nd Street	E (F)	64.2 (97.8)
3) Old Cutler Road at SW 168th Street	B (D)	18.8 (35.6)
Intersection (Unsignalized)	**Approach LOS**	**Control Delay (sec/veh)**
4) SW 144th Street at Ludlam Road (STOP-control for SW 144th Street)	SB Left-A (A)	8.4 (8.0)
	NB Left-A (A)	8.8 (8.0)
	WB Left/ Through/Right-F (C)	63.0 (17.7)
	EB Left-F (C)	81.6 (22.0)
	EB Through/Right-C (B)	22.1 (12.6)
	NB Through/Right-free-flow	-
	SB Through/Right-free-flow	-
5) SW 152nd Street at Ludlam Road (ALL-Way-STOP- Control)	EB Left/Through-D (B) WB Through/Right-B (A) SB Left/Right-B (A)	31.7 (10.4) 10.6 (8.4) 12.3 (9.6)

Approaches not listed under unsignalized are free-flow, AM (PM) traffic conditions

Table 3 - Existing traffic conditions along study segments

No	Segment	Volume						LOS	
		NB/EB		SB/WB		Total		AM	PM
		AM	PM	AM	PM	AM	PM		
1	SW 152nd Street from Paradise Point to US-1	439	146	201	239	640	385	**D**	**C**
2	SW 67th Avenue from SW 152nd Street to SW 136th Street /Old Cutler Road	428	184	475	319	903	503	**D**	**C**
3	Old Cutler Road from Village Limits at SW 136th Street to SW 168th Street	718	539	449	1054	1167	1593	**D**	**F**
4	SW 144th Street from Old Cutler Road to US-1	310	96	143	493	453	589	**C**	**C**
5	SW 168th Street from Old Cutler Road to US-1	530	222	295	332	825	554	**D**	**C**

6. Growth Rate to Build-Out Year (2035)

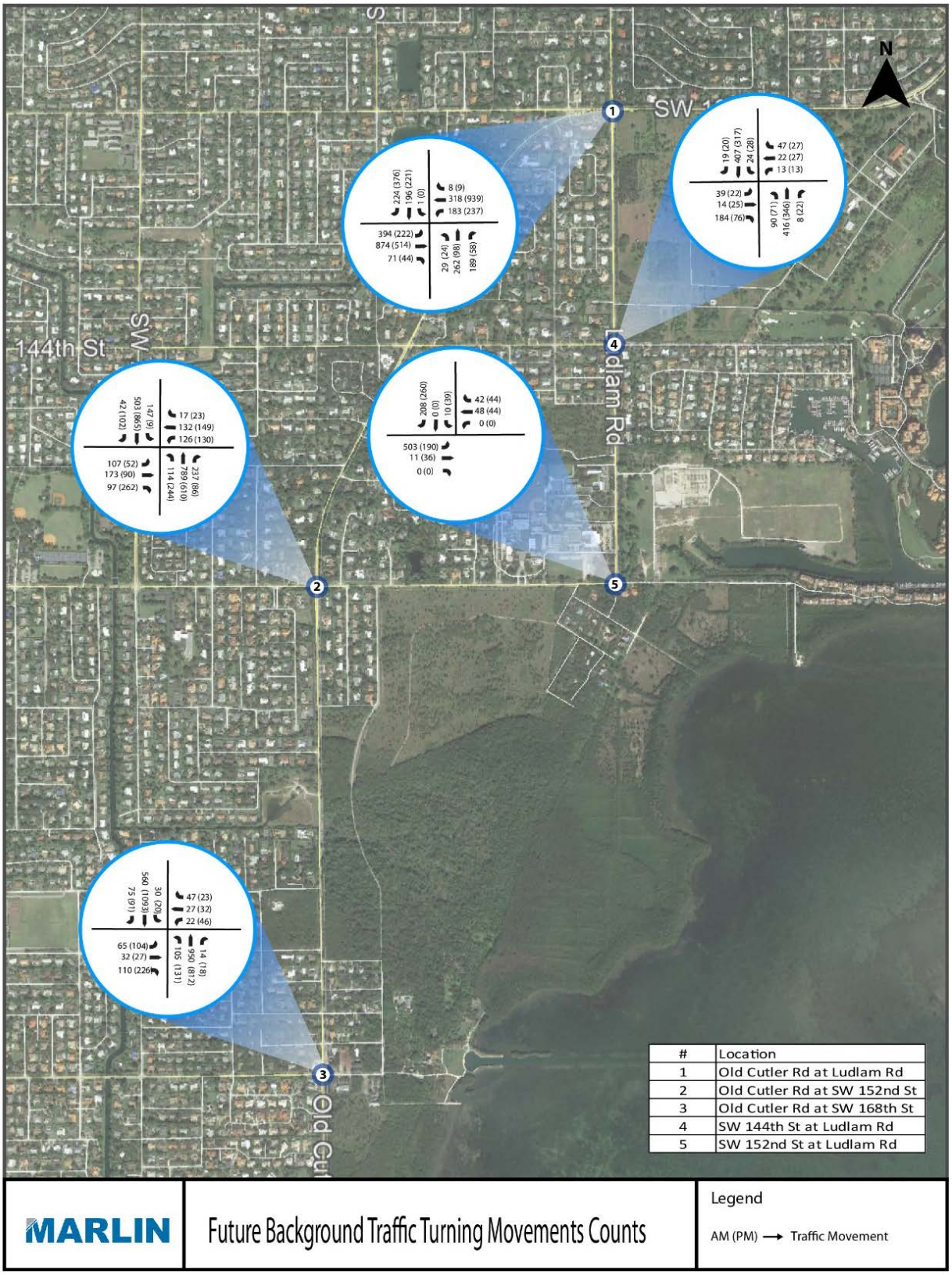
Background traffic was calculated to account for traffic growth in the area. Future background traffic for this study was developed by applying a yearly growth rate to the seasonally adjusted 2019 traffic counts to estimate the background traffic for the year 2035 which is the project's anticipated build out year.

The growth rate utilized was 1.49 percent (%) per year to represent the expected traffic growth within the entire traffic impact area. This growth rate was then applied to the 2019 existing turning movement counts shown in **Figure 3** to derive 2035 traffic volumes (turning movement counts) as shown in **Figure 4**. Same growth rate is applied to roadway segment volumes to achieve 2035 roadway segment volumes. **Table 4** provides a summary of the analysis. The following FDOT count stations were used for the traffic growth analysis. Detailed data from FDOT and growth rate analysis are provided in **Appendix G.**

Table 4 - Background Traffic Growth Rate Analysis Summary

Station No	Growth Rate		
	Location of the Station	5-year Historical	Recommended(*) Growth Rate
87- 8207	Old Cutler Road, 200 feet south of SW 152nd Street	2.28%	1.49%
87- 8274	SW 152nd Street/Coral Reef Drive, 200 feet east of US-1	0.0%	
87- 8312	Old Cutler Road, 200 feet east of Ludlam Road	1.45%	
87-8377	SW 144th Street/Mitchell Drive, 200 feet west of SW 79th	2.22%	
Average	Area wide	1.4875%	

Figure 4 - 2035 Background AM (PM) Peak Hour Turning Movement Counts



7. TIP and LRTP Improvements and Committed Trips

Upon review of the Miami-Dade Transportation Plan, Interactive Project Tool some improvements were found. The roadway, transit, pedestrian and bicycle improvements are depicted in **Figure 5** and are summarized in **Table 5**. Most of these improvements are either away from the influence area of the project or do not affect capacity of the network significantly, except two improvements along Old Cutler Road at SW 152nd Street and SW 144th Street. Upon research it was determined that these are still in process. These are expected to improvements capacity conditional along Old Cutler Road within the study area. Also, according to the information provided by the Village for as-of-right residential project with 304 Multi-Family housing units were used as a committed project for 2035 background traffic and are part of 2035 background traffic. As-of-right (committed trip project), the detailed trip distributions, trip assignments and supporting documents are included in **Appendix H**.

Figure 5 - TIP and LRTP Improvements around Study Area

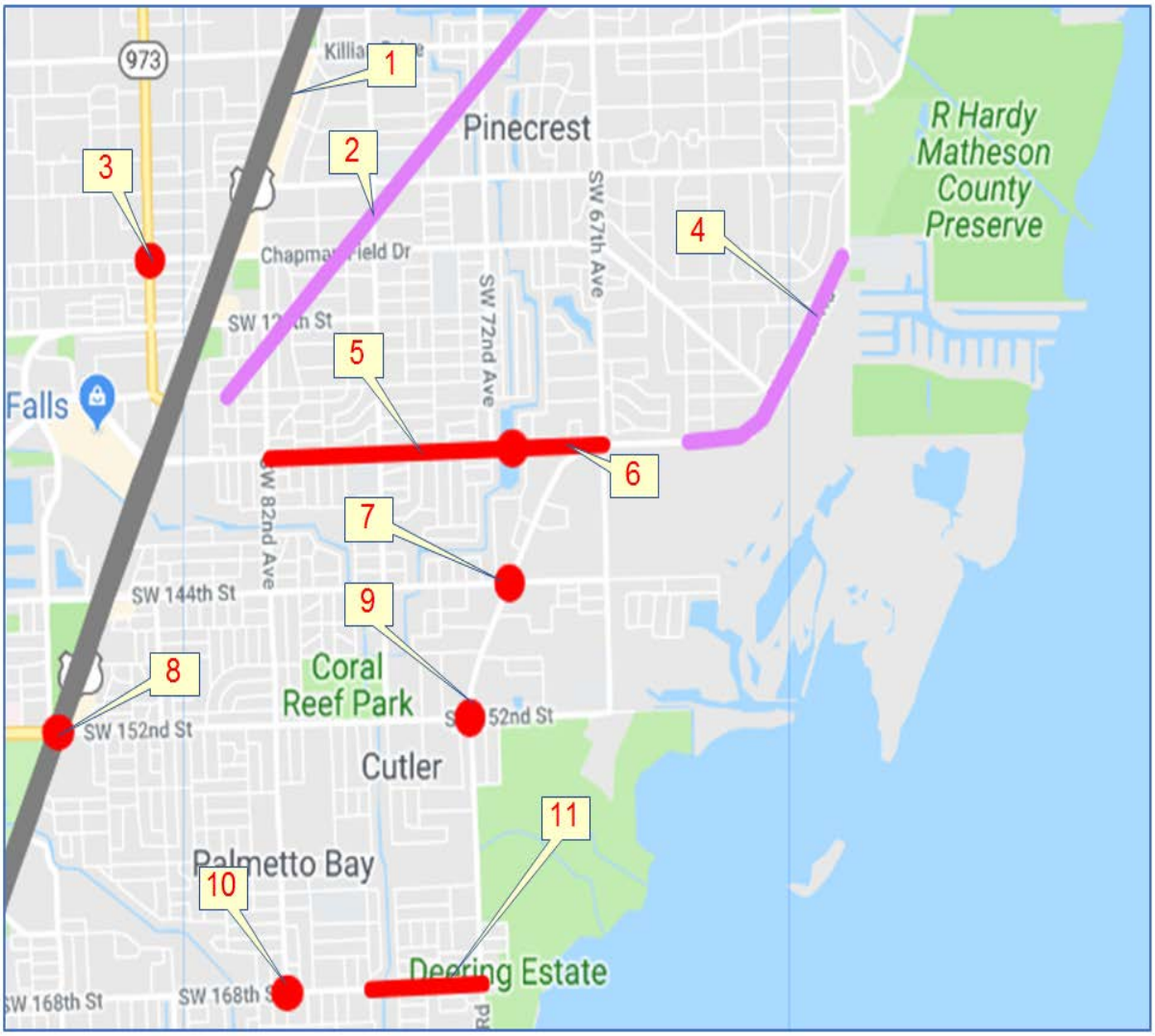


Table 5 - TIP and LRTP Improvements details in the Study Area

S. No.	MPO Project No.	location	Type of Project	Type of Work	Description
1	TAMDT286	South Dade Transit way at SW 344 ST to Dadeland South	Transit	PD&E Study	Project development, design and construction phases of a premium transit system on the South Dade Transitway.
2	DT4346871	Village od Pinecrest	Pedestrian/ Bicycle	BIKE PATH/TRAIL	Citywide bicycling improvements
3	PW1000024	SW 87th Avenue & SW 128 Street	Arterial/Collector Road	New Construction: 2 lanes	Development of 2 lanes on North side of the intersection.
4	DT2512656	From SW 136th St/SW 63 Ave to Cartagena Plaza	Pedestrian/ Bicycle	BIKE PATH/TRAIL	Pedestrian/Bicycle
5	PW000775	SW 136th Street East of SW 72 Avenue	Arterial/Collector Road	Bridge replacement (#874420)	Bridge replacement. Prior Years' Funding as follows: $286,000 for PE, $2,036,000 for CST.
6	PW000875	SW 136th Street from Old Cutler Rd to SW 82 Avenue	Arterial/Collector Road	Resurfacing	Resurfacing. Prior Years' Funding as follows: $385,00 for CST.
7	PW0000998	SW 144th Street and Old Cutler Road	Arterial/Collector Road	Intersection improvement/Reversible lane	Intersection improvement/Reversible lane. Prior Years' Funding as follows: $534,000 for PE/CST.
8	PW000828	SW 152nd Street and US-1	Arterial/Collector Road	Intersection improvement	Intersection improvement. Prior Years' Funding as follows: $32,000 for PE, $183,000 for CST. (Under design)
9	PW0000999	SW 152nd Street and Old Cutler Road	Arterial/Collector Road	Intersection improvement/Reversible lane	Intersection improvement/Reversible lane. Prior Years' Funding as follows: $500,000 for PE/CST.
10	PW000991	SW 82nd Avenue and SW 168 Street	Arterial/Collector Road	Traffic circle	Traffic circle. Prior Years' Funding as follows: $115,000 for PE, $285,000 for CST (Construction completed)
11	PW000826	SW 168th Street From SW 78 Ave to Old Cutler Rd	Arterial/Collector Road	Resurfacing	Resurfacing. Prior Years' Funding as follows: $105,000 for CST.

8. Trip Generation

All trip generation data which follows was determined based on trip generation equations and rates provided in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition. This is the latest edition. For the AM Peak, PM Peak Hour of Adjacent Street Traffic, One Hour Between 7AM-9AM, and 4PM-6PM criteria, respectively, was utilized. The day of the week utilized was Weekday. The daily trip generation was also calculated to give an idea of the weekday trip generation estimate of during different scenarios. As a result of coordination with the Village of Palmetto Bay the Land Use Code 210, for the proposed land use for residential and Land Use Code 730 was used for the current designated land use Institution and Public Facility, the Government Office Building. In order to compare different scenarios of development program the following **Table 6** was developed. All trip generation data was based on the average rate. Detailed trips generations for different scenarios and ITE Trip Generation Manual printouts, with a description of Land Use Code 210, 220, 610 and 730, are attached in **Appendix I**. As a result of the Trip Generation analysis, it was determined that these two LUCs of Government Building and Hospital

generate significantly high number of trips as shown in Table 6. In order to analyze these trips, a regional transportation analysis may be warranted. As such, the transportation concurrency analysis was performed for proposed land use and proposed zoning.

Table 6 - AM, PM and Daily Trip Generation related to proposed Development

Scenarios	Uses and ITE LUC	Units of Development	Timeframe	Gross Trip	Trips In	Trips Out
Maximum Allowed under current designated land Use (Institution and Public)	Government Office Building, 730	2,107 KSF	AM Peak Hour	7,037	5,278	1,759
			PM Peak Hour	3,603	901	2,702
			Daily	47,597	23,798	23,799
Maximum Allowed under current designated land Use (Hospital)	Hospital, 610	2,107 KSF	AM Peak Hour	1,875	1275	600
			PM Peak Hour	2,044	654	1,390
			Daily	22,587	11,293	11,294
Maximum Allowed under proposed land Use	Residential, 210	176 DU	AM Peak Hour	130	32	98
			PM Peak Hour	174	110	64
			Daily	1,661	830	831
Maximum Allowed under proposed land Use and Proposed Zoning	Residential, 210	70 DU	AM Peak Hour	52	13	39
			PM Peak Hour	69	43	26
			Daily	661	330	331
As-of-right Residential MF Units in TAZ 1139	Residential, 221	304 DU	AM Peak Hour	109	28	81
			PM Peak Hour	134	82	52
			Daily	1,654	827	827

The residential land use under proposed zoning is expected to generate 52 AM peak hour (13 In, 39 Out), gross trips and 69 PM peak hour (43 In, 26 Out), gross trips. The site is currently a vacant lot. A review of the available transit service in the study area did not reveal any significant transit service available within ¼ mile of the site. Therefore, no transit reduction or non-motorized reduction is used for the gross trips, hence gross trips are used as net trip generation for the proposed residential project.

9. Trip Distribution and Trip Assignments

The trip distributions for the proposed land use scenario and with the proposed zoning scenario were obtained for the Project Traffic Analysis Zone (TAZ) 1137. This was achieved through interpolation for the Year 2035 using the Year 2010 and Year 2040 Cardinal Directions from the updated Directional Trip Distributions Report from the 2040 Long Range Transportation Plan (LRTP) by Miami-Dade MPO per the approved transportation model. The project traffic assignment to the surrounding study area roadways and intersections has been established using these percentages for the year 2035. The TAZ in calculations and trip assignment for proposed zoning are shown in Figure 6 to Figure 9. Also, according to the information provided by the Village for as-of-right residential project with 304 Multi-Family housing units were used as a committed project for 2035 background traffic and trip distribution and assignment information was calculated. These detailed trip distributions, trip assignments and supporting documents are included in Appendix J.

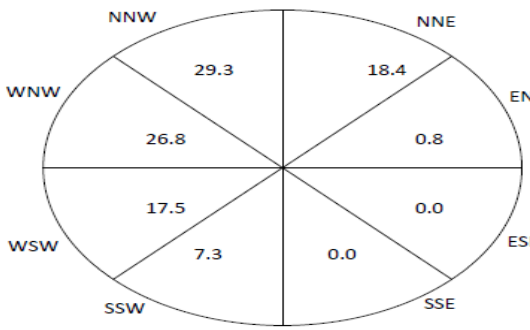
Figure 6 - Cardinal Trip Distribution for study Traffic Analysis Zone

Miami-Dade 2010-2040 Directional Distribution Summary

	2010	2040	2035
NNE	21.4	17.8	18.4
ENE	0.0	0.9	0.8
ESE	0.0	0.0	0.0
SSE	0.0	0.0	0.0
SSW	5.9	7.6	7.3
WSW	24.9	16.0	17.5
WNW	16.7	28.8	26.8
NNW	31.1	28.9	29.3

Analysis Year

Study Area TAZ(s)=1137



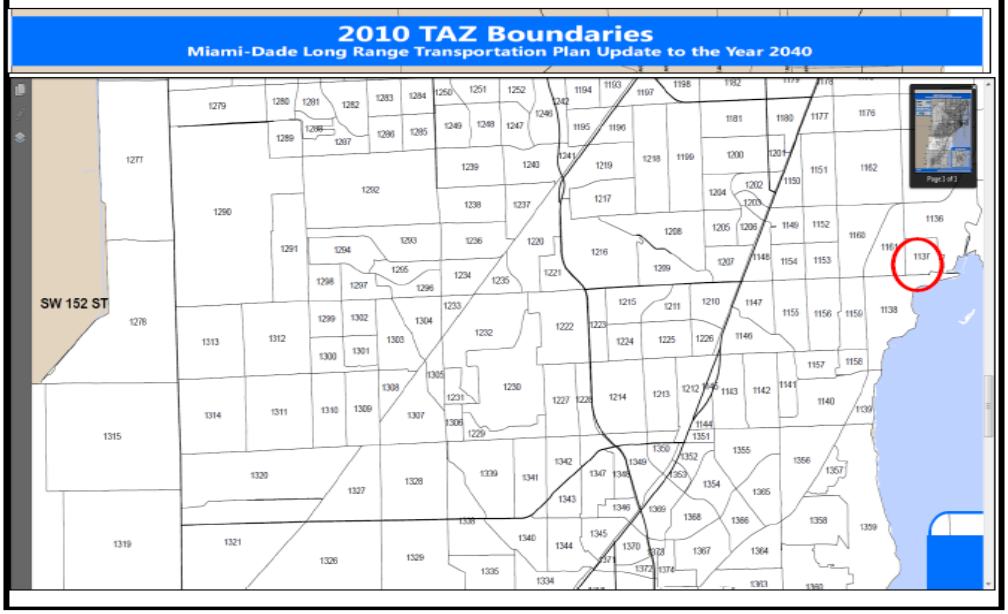


Figure 7 - Distribution Percentages for Project Trips

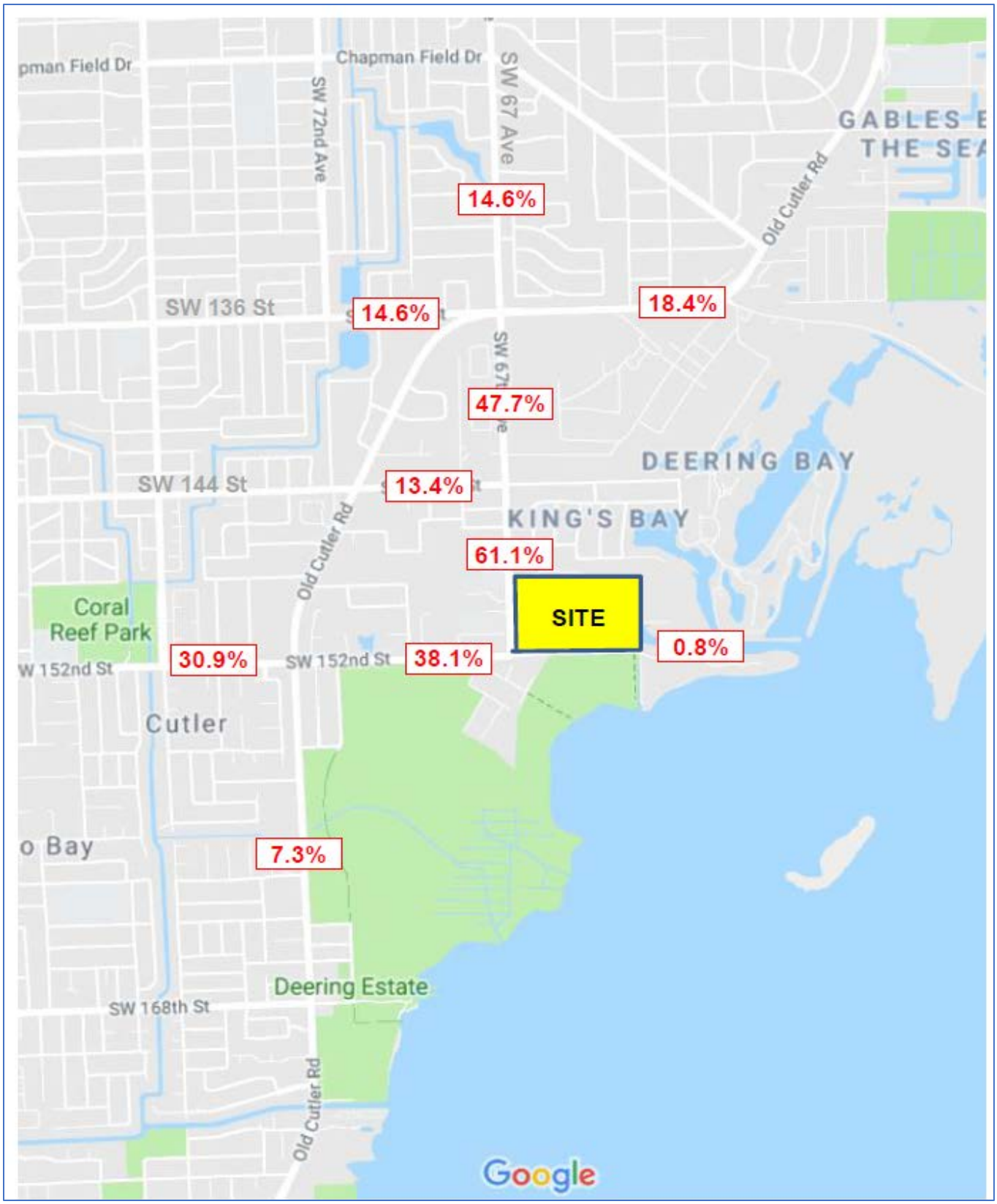


Figure 8 - Trip Assignments for AM Project Trips for 176 DUs Scenario

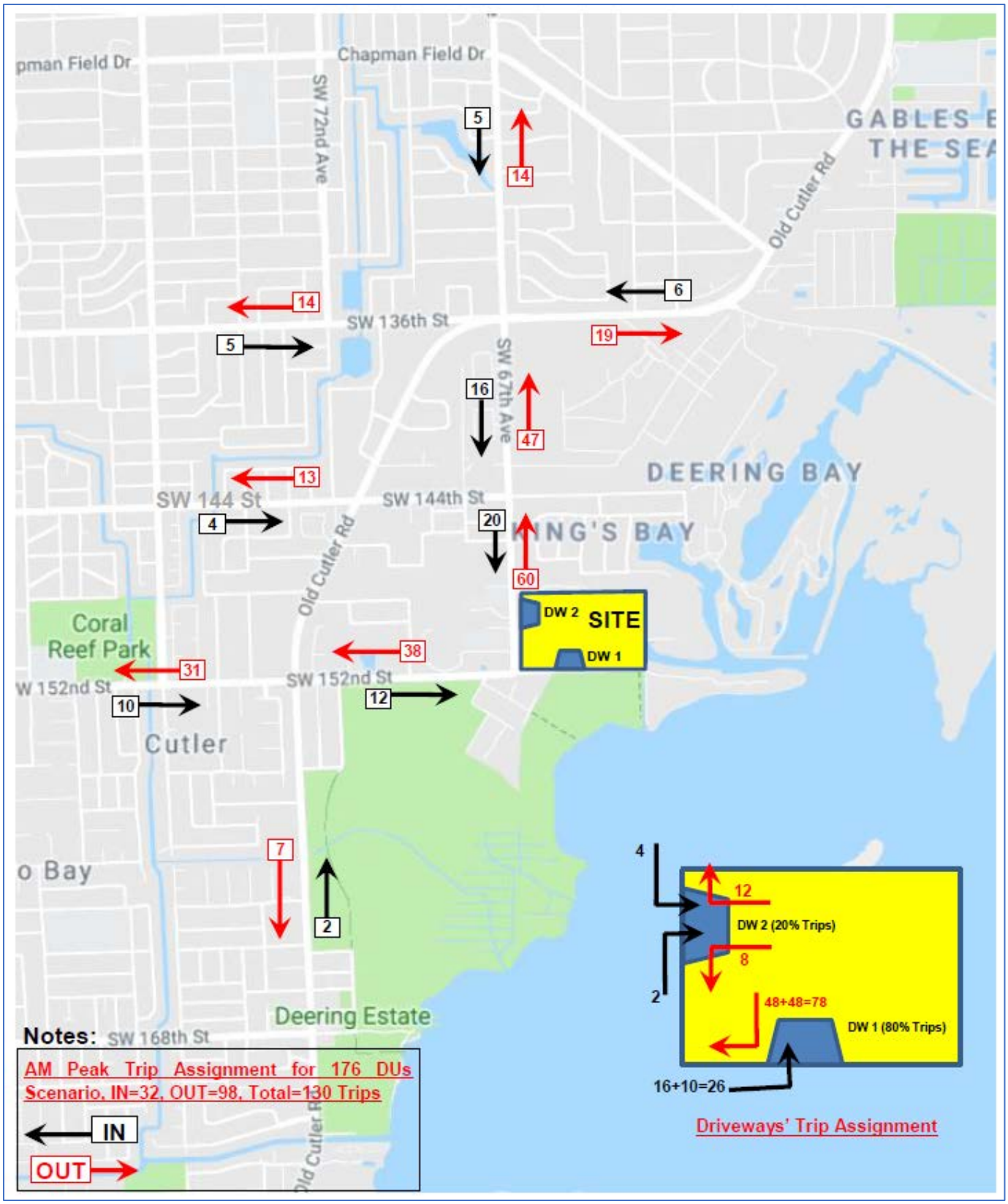
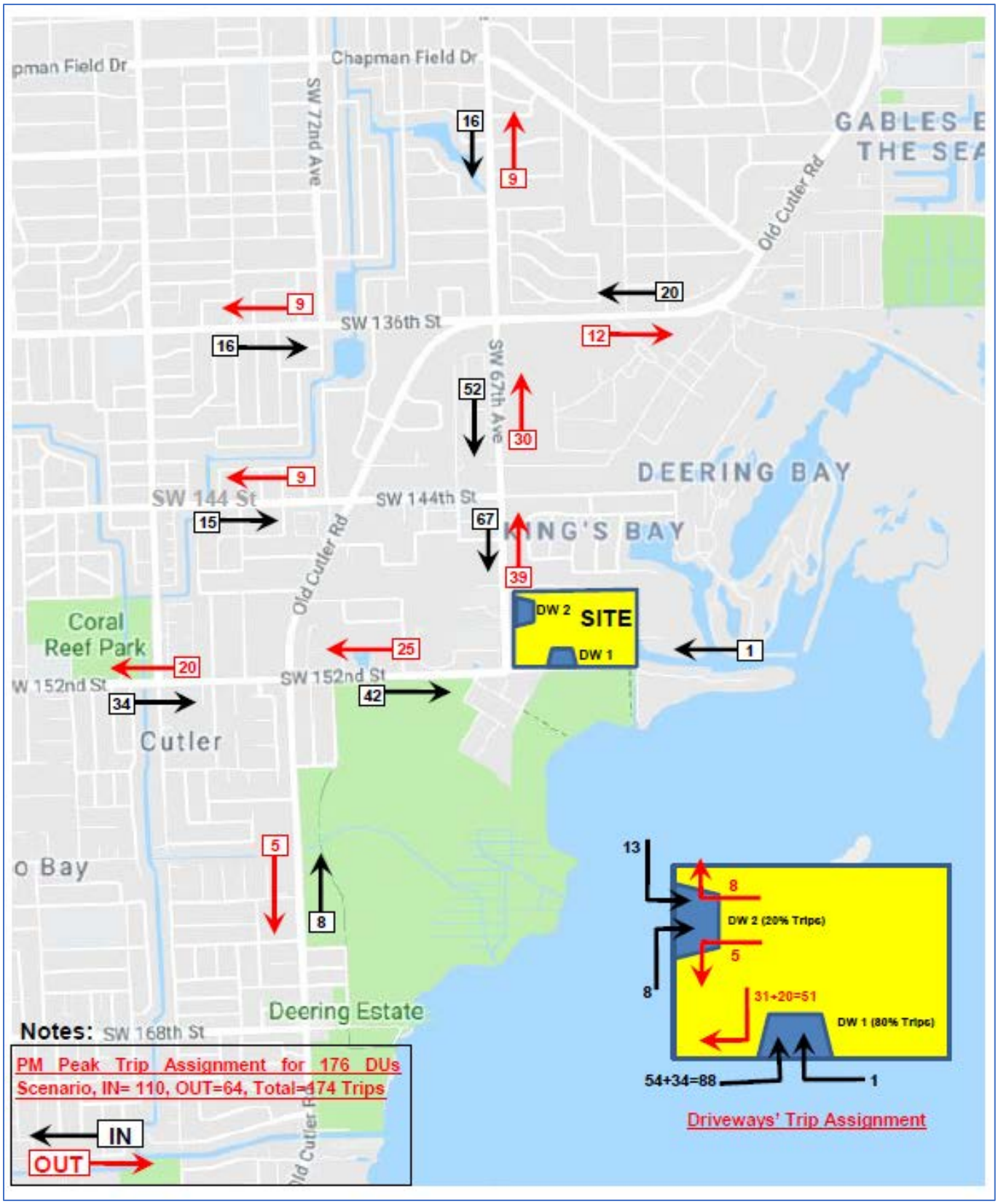


Figure 9 - Trip Assignments for PM Project Trips for 176 DUs Scenario



10. Future Background 2035 Traffic Conditions

Figure 4 shows the future 2035 background traffic volumes without the project traffic including background committed project trips in **Appendix H.** The background 2035 turning movement volumes were arrived at through applying a 1.27 growth factor from 2019 turning movement volumes in **Figure 3**. The turning movement volumes in **Figure 4** were then utilized to analyze the study intersections under future background traffic conditions without the project. The following **Table 7** and **Table 8** provide details of future traffic conditions without the project. Old Cutler Road continues to show failing conditions particularly during the PM peak hour.

The minor approaches at the unsignalized intersection of SW 144th Street show significant delays. The detailed Synchro LOS reports are included in **Appendix K** and **Appendix L** for AM and PM traffic conditions respectively.

For the roadway segment analysis showed failing conditions during AM and PM for Old Cutler Road from Ludlam Road to SW 168th Street.

Table 7 - Future background 2035 traffic conditions without project at the study intersections

Intersection (Signalized)	Overall LOS	Intersection Delay (sec/veh)
1) Old Cutler Road at Ludlam Road	F (F)	255.7 (107.1)
2) Old Cutler Road at SW 152nd Street	F (F)	179.1 (223.2)
3) Old Cutler Road at SW 168th Street	C (E)	25.5 (62.3)
Intersection (Unsignalized)	**Approach LOS**	**Control Delay (sec/veh)**
4) SW 144th Street at Ludlam Road (STOP-control for SW 144th Street)	SB Left-A (A)	8.9 (8.2)
	NB Left-A (A)	9.5 (8.3)
	WB Left/ Through/Right-F (D)	613.7 (27.9)
	EB Left-F (D)	642.6 (34.7)
	EB Through/Right-F (C)	72 (15.5)
	NB Through/Right-free-flow	-
	SB Through/Right-free-flow	-
5) SW 152nd Street at Ludlam Road (ALL-Way-STOP- Control)	EB Left/Through-F (B)	116.4 (12.5)
	WB Through/Right –B (A)	12.1 (9.1)
	SB Left/Right-C (B)	16.4 (11.4)

Approaches not listed under unsignalized are free-flow, AM (PM) traffic conditions

Table 8 - Future background 2035 traffic conditions without project at the study segments

No	Segment	Volume						LOS	
		NB/EB		SB/WB		Total		AM	PM
		AM	PM	AM	PM	AM	PM		
1	SW 152nd Street from Paradise Point to US-1	558	185	255	304	813	489	**D**	**C**
2	SW 67th Avenue from SW 152nd Street to SW 136th Street /Old Cutler Road	544	234	603	405	1147	639	**D**	**D**
3	Old Cutler Road from Village Limits at SW 136th Street to SW 168th Street	912	685	570	1339	1482	2023	**F**	**F**
4	SW 144th Street from Old Cutler Road to US-1	394	122	182	626	575	748	**C**	**D**
5	SW 168th Street from Old Cutler Road to US-1	673	282	375	422	1048	704	**D**	**D**

11. Future 2035 Traffic Conditions (Scenario 1- 176 DUs)

Figure 10 is the summation of 2035 background traffic volumes (Figure 4) and background committed project trips in Appendix H and project net new trips assigned as a result of proposed land use amendment trips (176 DUs) in Figure 8 and Figure 9. The background 2035 turning movement volumes were arrived at through applying a 1.27 growth factor from 2019 turning movement volumes in Figure 3. The turning movement volumes in Figure 10 were then utilized to analyze the study intersections under future conditions along with the new driveways at SW 152nd Street and SW 67th Avenue. Table 9 and Table 10 provide details of future traffic conditions with proposed residential land use amendment during the AM and PM peak hours at study intersections and study segments respectively. Old Cutler Road continues to show failing conditions particularly during PM peak hour.

The minor approaches at the unsignalized intersection of SW 144th Street show significant increase in delays. The project driveways operate at acceptable LOS without causing significant delay. The detailed Synchro LOS reports are included in Appendix K and Appendix L for AM and PM traffic conditions respectively.

For the roadway segment analysis result remain the same except the Ludlam Road segment between SW 136th Street and SW 152nd Street which showed LOS "E" as compare to "D" for future without project conditions. The Old Cutler Road segment continues to show failing conditions.

Figure 10 - Scenario-1 (176 DUs) Future 2035 AM (PM) Peak Hour Turning Movement Counts

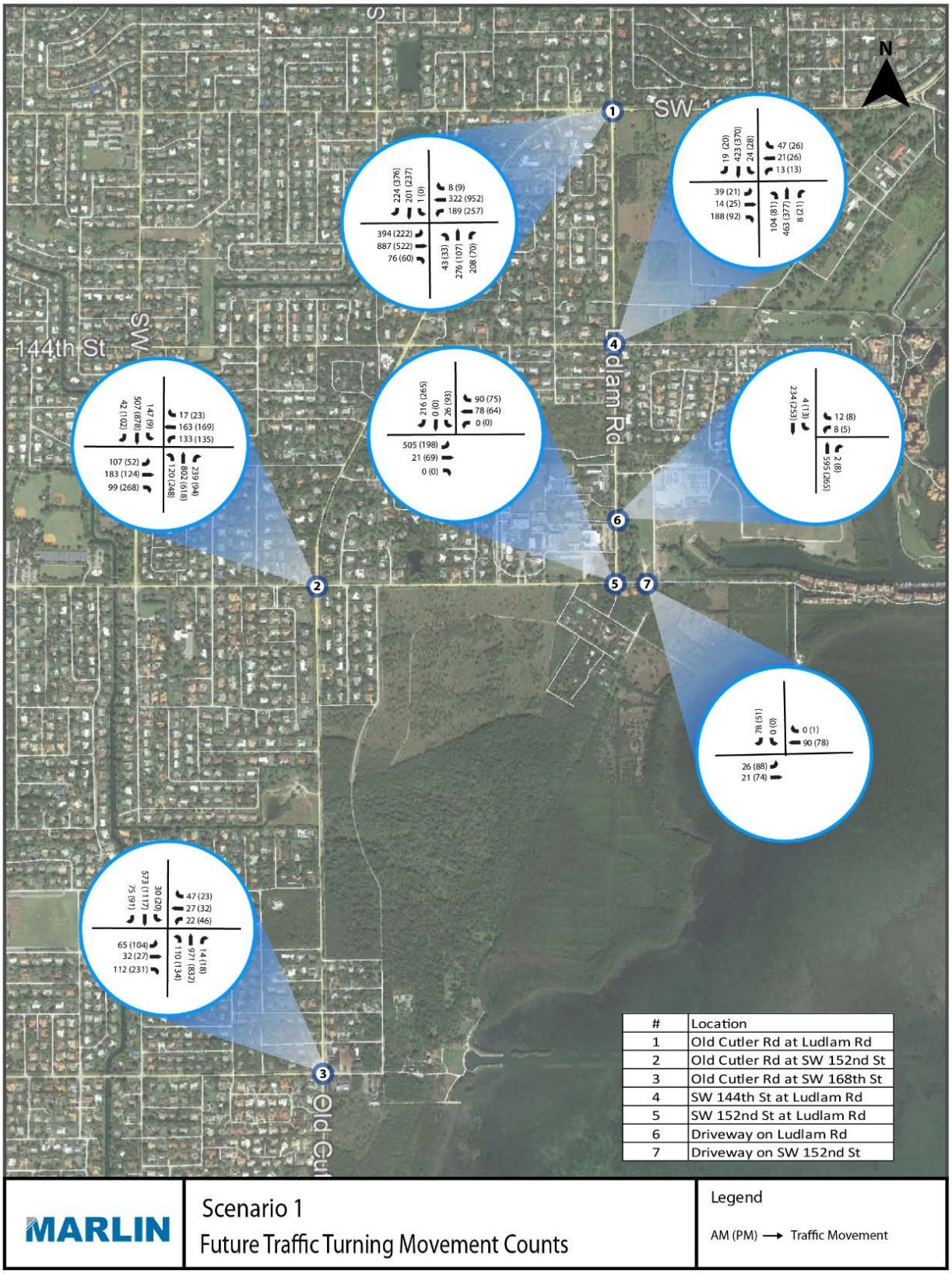


Table 9 - Scenario-1 (176 DUs) Future 2035 traffic conditions at the study intersections

Intersection (Signalized)	Overall LOS	Intersection Delay (sec/veh)
1) Old Cutler Road at Ludlam Road	F (F)	305.0 (107.0)
2) Old Cutler Road at SW 152nd Street	F (F)	188.8 (244.5)
3) Old Cutler Road at SW 168th Street	C (E)	25.8 (67.8)
Intersection (Unsignalized)	**Approach LOS**	**Control Delay (sec/veh)**
4) SW 144th Street at Ludlam Road (STOP-control for SW 144th Street)	SB Left-A (A)	9.2 (8.3)
	NB Left-A (A)	9.8 (8.5)
	WB Left/ Through/Right-F (E)	1002.9 (36.8)
	EB Left-F (E)	1339.9 (43.5)
	EB Through/Right-F(C)	111.0 (17.6)
	NB Through/Right-free-flow	-
	SB Through/Right-free-flow	-
5) SW 152nd Street at Ludlam Road (ALL-Way-STOP- Control)	EB Left/Through-F (C)	164.6 (16.1)
	WB Through/Right-C (B)	16.2 (10.6)
	SB Left/Right-C (C)	20.9 (15.5)
6) Driveway on Ludlam Road (STOP-Control for the driveway)	WB Left/Right-B (B)	14.9 (11.1)
	SB Left/ Through-A (A)	8.9 (7.9)
7) Driveway on SW 152nd Street Road (STOP-Control for the driveway)	EB Left/Through-A (A)	7.5 (7.5)
	SB Left/Right-A (A)	9.1 (8.9)

Approaches not listed under unsignalized are free-flow, AM (PM) traffic conditions

Table 10 - Scenario-1 (176 DUs) Future 2035 traffic conditions at the study segments

No	Segment	Volume						LOS	
		NB/EB		SB/WB		Total		AM	PM
		AM	PM	AM	PM	AM	PM		
1	SW 152nd Street from Paradise Point to US-1	569	227	294	329	863	556	**D**	**C**
2	SW 67th Avenue from SW 152nd Street to SW 136th Street /Old Cutler Road	595	273	624	475	1219	748	**E**	**D**
3	Old Cutler Road from Village Limits at SW 136th Street to SW 168th Street	926	693	589	1361	1515	2054	**F**	**F**
4	SW 144th Street from Old Cutler Road to US-1	398	137	195	635	593	772	**C**	**D**
5	SW 168th Street from Old Cutler Road to US-1	675	287	380	425	1055	712	**D**	**D**

12. Future 2035 Traffic Conditions (Scenario 2- 70 DUs)

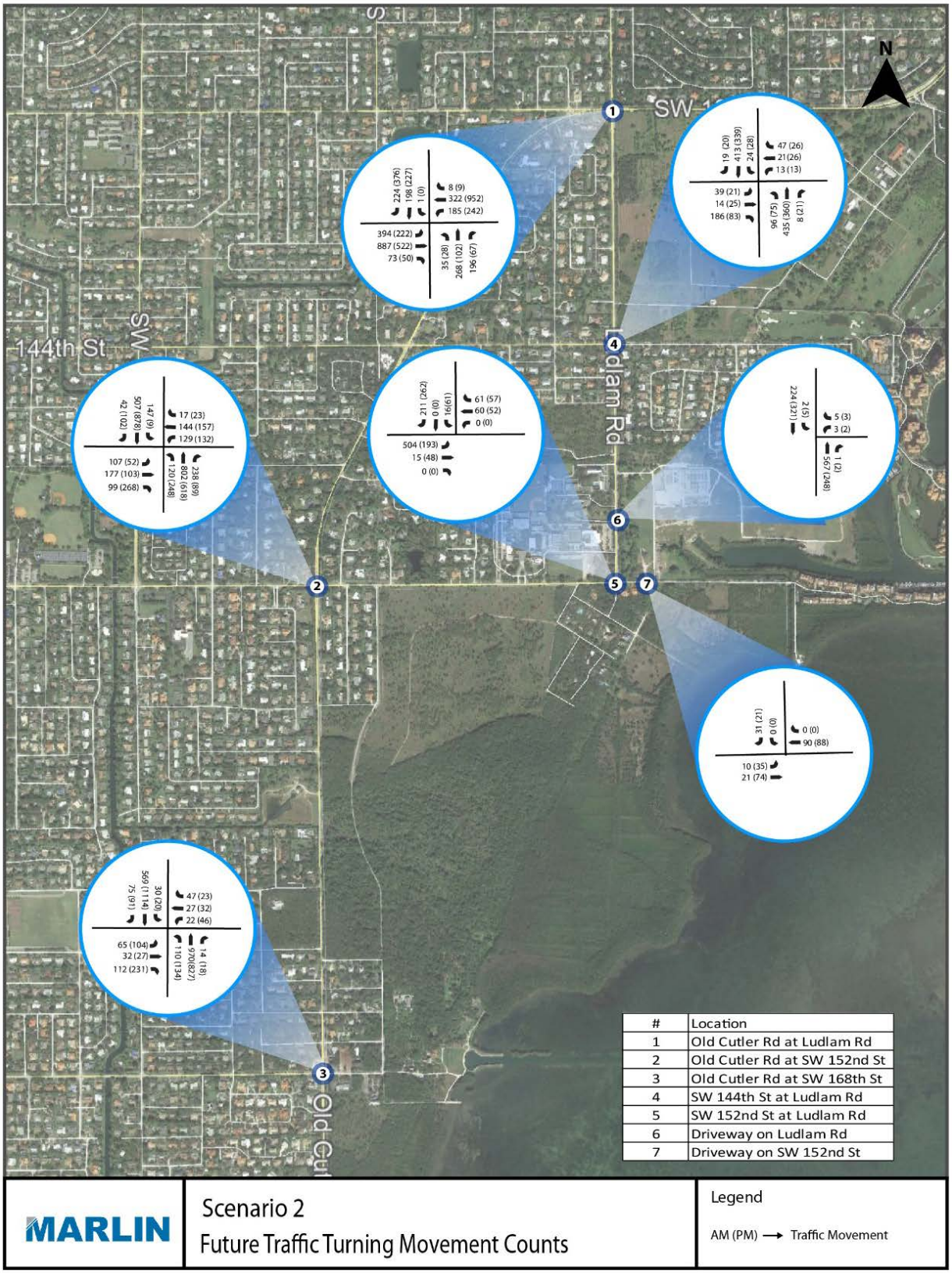
Figure 11 is the summation of 2035 background traffic volumes (**Figure 4**) and background committed project trips in **Appendix H** and project net new assigned trips as a result of proposed zoning (70 DUs) which are included in **Appendix J**. The background 2035 turning movement volumes were arrived at through applying a 1.27 growth factor from 2019 turning movement volumes in **Figure 3**. The turning movement volumes in **Figure 11** were then utilized to analyze the study intersections under future conditions along with the new driveways at SW 152nd Street and SW 67th Avenue. The following **Table 11** and **Table 12** provide details of future traffic conditions with proposed residential land use and proposed zoning during the AM and PM peak hours at study intersections and study segments respectively.

Mostly these results resemble the background traffic conditions as shown in **Table 7** and **Table 8**. The minor approaches at unsignalized intersection of SW 144th Street show significant increase in delays. The project driveways operate at acceptable LOS without causing significant delay.

For the roadway segment analysis result remain the same except the Ludlam Road segment between SW 1364th Street and SW 152nd Street which showed LOS "D" as compare to "E" for future 2035 Scenario-1(176DUs) traffic conditions. The Old Cutler Road segment continues to show failing conditions. The detailed Synchro LOS reports are included in **Appendix K** and **Appendix L** for AM and PM traffic conditions respectively.

Upon review of scenarios 1 and 2, it was found that the proposed land use amendment with proposed zoning have the least impacts on the surrounding roadway network. Old Cutler Road due to heavy existing volume continues to show mostly failing conditions during both the scenarios.

Figure 11 - Scenario-2 (70 DUs) Future AM (PM) Peak Hour Turning Movement Counts



#	Location
1	Old Cutler Rd at Ludlam Rd
2	Old Cutler Rd at SW 152nd St
3	Old Cutler Rd at SW 168th St
4	SW 144th St at Ludlam Rd
5	SW 152nd St at Ludlam Rd
6	Driveway on Ludlam Rd
7	Driveway on SW 152nd St

Table 11 - Scenario-2 (70 DUs) Future 2035 traffic conditions at the study intersections

Intersection (Signalized)	Overall LOS	Intersection Delay (sec/veh)
1) Old Cutler Road at Ludlam Road	F (F)	286.4 (106.8)
2) Old Cutler Road at SW 152nd Street	F (F)	183.9 (246)
3) Old Cutler Road at SW 168th Street	C (E)	25.8 (67.6)
Intersection (Unsignalized)	**Approach LOS**	**Control Delay (sec/veh)**
4) SW 144th Street at Ludlam Road (STOP-control for SW 144th Street)	SB Left-A (A)	9.0 (8.2)
	NB Left-A (A)	9.6 (8.4)
	WB Left/ Through/Right-F (D)	730.3 (30.8)
	EB Left-F (E)	846 (37.6)
	EB Through/Right-F (C)	84.3 (16.3)
	NB Through/Right-free-flow	-
	SB Through/Right-free-flow	-
5) SW 152nd Street at Ludlam Road (ALL-Way-STOP- Control)	EB Left/Through-F (B)	132.9 (13.7)
	WB Through/Right-B (A)	13.4 (9.6)
	SB Left/Right-C (B)	17.8 (12.8)
6) Driveway on Ludlam Road (STOP-Control for the driveway)	WB Left/Right-B (B)	13.9 (11.1)
	SB Left/ Through-A (A)	8.7 (7.8)
7) Driveway on SW 152nd Street Road (STOP-Control for the driveway)	EB Left/Through-A (A)	7.4 (7.5)
	SB Left/Right-A (A)	8.9 (8.8)

Approaches not listed under unsignalized are free-flow, AM (PM) traffic conditions

Table 12 - Scenario-2 (70 DUs) Future 2035 traffic conditions at the study segments

No	Segment	Volume						LOS	
		NB/EB		SB/WB		Total		AM	PM
		AM	PM	AM	PM	AM	PM		
1	SW 152nd Street from Paradise Point to US-1	562	201	271	314	833	515	**D**	**C**
2	SW 67th Avenue from SW 152nd Street to SW 136th Street /Old Cutler Road	565	250	612	435	1177	685	**D**	**D**
3	Old Cutler Road from Village Limits at SW 136th Street to SW 168th Street	926	693	581	1356	1507	2049	**F**	**F**
4	SW 144th Street from Old Cutler Road to US-1	396	128	187	629	583	757	**C**	**D**
5	SW 168th Street from Old Cutler Road to US-1	675	287	380	425	1055	712	**D**	**D**

13. Conclusions and Recommendations

The purpose of this report is to document the results of the Traffic Concurrency Analysis for the future development of the "Village of Palmetto Bay", located on north east corner of SW 152nd Street and SW 67th Avenue in Palmetto Bay, Florida. The property is currently designated as Institutional and Public Facility with Interim Zoning. The proposal is to change the land use to residential with zoning to Estate-Single Family (E-1). The proposed residential land use resulted in 176 Dwelling Units (DUs) whereas with the proposed zoning it resulted in 70 DUs.

It is proposed that the entrance/exit driveway for the development will be located along SW 152nd Street about 400 feet east of Ludlam Road. The second driveway is proposed along SW 67th Avenue/Ludlam Road north of SW 152nd Street. Based on coordination with the Village 20% of the project traffic is assigned to the driveway along SW 67th Avenue and 80% of the project traffic is assigned to SW 152nd Street.

The proposed Residential land use amendment with 176 dwelling Units (DUs) would be expected to generate 1,661 net new daily trips, with 130 and 174 trips during the AM and PM peak hours respectively. As of proposed residential use with proposed zoning with 70 DUs would be expected to generate 661 net new daily trips, with 52 and 69 net new trips during the AM and PM peak hours respectively. The trip generation was also performed for the current land use, Institutional and Public office building development with 2,107 SF. This development is expected to generate 47,597 net new daily trips. Another use under the current land use, Hospital building development with 2,107 SF would be expected to generate 22,587 net new daily trips. The site is currently a vacant lot.

As suspected by the Village Council, the study area showed abnormal peaking characteristics for the PM peak hour. The turning movement counts showed the early peak hour around 3:00 PM for the intersections along Old Cutler Road at SW 152nd Street and SW 168th Street, and along Ludlam Road at SW 144th Street and SW 152nd Street.

The Level of Service (LOS) analysis demonstrated that the new trips generated by the proposed land use amendment with the proposed zoning (70DUs) along with the 304 multi-family units (analyzed as committed development), all the roads in the study area will continue to operate acceptably at the anticipated 2035 build-out year. However, Old Cutler Road shows excessive delays (LOS "F") during the PM peak hour for the segment between Ludlam Road and SW 168th Street for all the scenarios, including existing traffic conditions. The intersections along Old Cutler Road at SW 152nd Street and Ludlam Road show similar failing conditions for the existing and all future traffic condition scenarios.

In order to alleviate capacity failing conditions Old Cutler Road following was explored:

- The review of the Miami-Dade Transportation Improvement Plan (TIP) showed capacity improvements at two locations within the study area, reversible lane options along Old Cutler Road at SW 152nd Street and at SW 144th Street. Upon further investigation it was determined that the Village, Miami-Dade County and the transportation consultant for this project (Marlin Engineering Inc.) are exploring other type of improvements along these segments. Hence, this project is under progress and yet to be finalized therefore, it is not included in future condition analysis. However, it is highly expected that this project will alleviate background roadway capacity deficiencies considerably.

- It is also determined that there is no transit service provided within the study area, therefore, it is recommended that at least transit service options be explored in order to provide convenient access to regional transit stations which are proposed to be implemented within the Village.

- The heavy traffic experienced along Old Cutler Road could be because of the School Zone along Ludlam Road during early peak hour. Therefore, investigations could be carried out to eliminate any undesirable traffic diversions from Ludlam Road southbound to Old Cutler Road southbound.

Appendix A

Turning Movement Counts and 72-Hour Machine Counts

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: SW 144th St at SW 67th Ave
Site Code: SW 144th St at SW 67th Ave
Start Date: 04/02/2019

Turning Movement Data

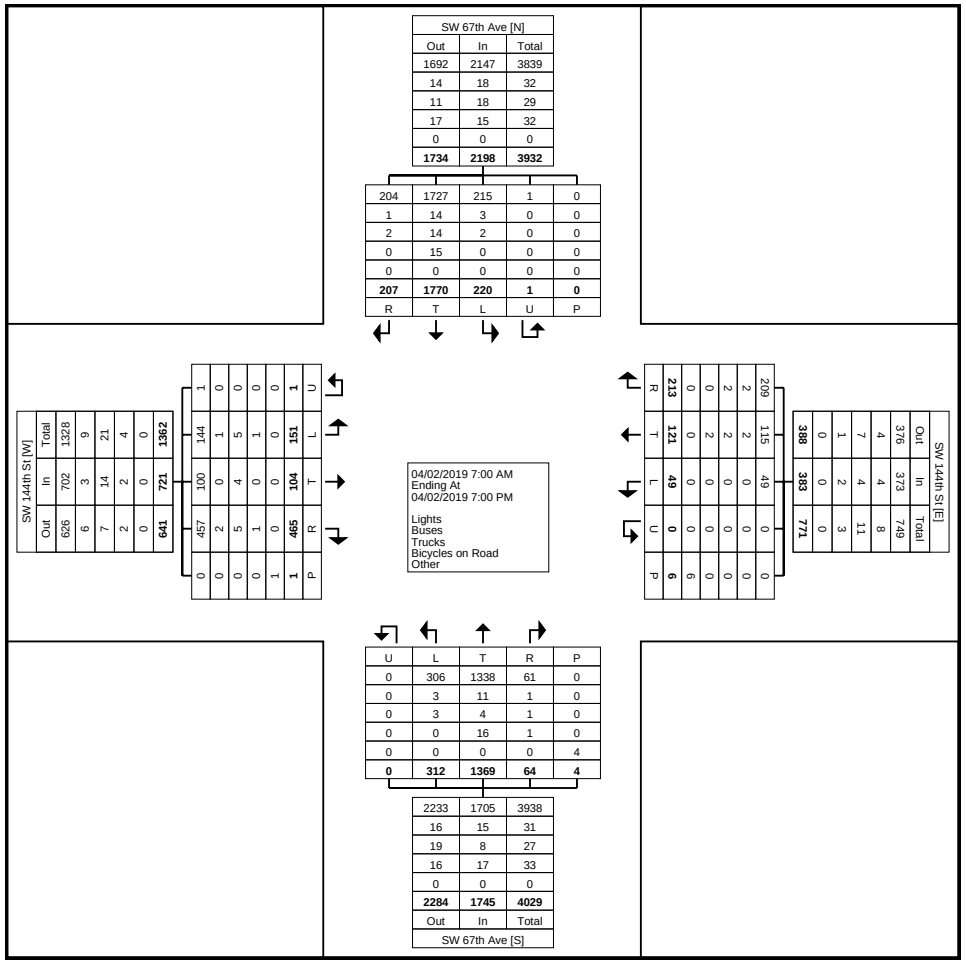
Start Time	SW 67th Ave Southbound						SW 144th St Westbound						SW 67th Ave Northbound						SW 144th St Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
7:00 AM	0	30	1	0	0	31	12	2	3	0	0	17	4	66	3	0	0	73	17	0	6	0	0	23	144
7:15 AM	3	64	3	0	0	70	7	2	3	0	0	12	2	61	4	0	0	67	24	1	10	0	0	35	184
7:30 AM	3	104	2	0	0	109	10	4	4	0	0	18	1	84	6	0	0	91	52	0	7	0	0	59	277
7:45 AM	4	113	4	0	0	121	10	8	1	0	0	19	2	119	25	0	0	146	49	4	7	0	0	60	346
Hourly Total	10	311	10	0	0	331	39	16	11	0	0	66	9	330	38	0	0	377	142	5	30	0	0	177	951
8:00 AM	5	42	10	0	0	57	10	3	2	0	2	15	1	66	37	0	2	104	21	6	7	0	0	34	210
8:15 AM	4	52	5	0	0	61	10	5	2	0	2	17	1	39	11	0	0	51	17	4	8	0	0	29	158
8:30 AM	3	38	4	0	0	45	4	2	1	0	0	7	0	59	21	0	0	80	8	2	8	0	1	18	150
8:45 AM	3	15	7	0	0	25	11	5	0	0	1	16	1	32	4	0	1	37	7	6	11	0	0	24	102
Hourly Total	15	147	26	0	0	188	35	15	5	0	5	55	3	196	73	0	3	272	53	18	34	0	1	105	620
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1:00 PM	5	10	4	0	0	19	0	2	0	0	0	2	2	13	1	0	0	16	7	3	2	1	0	13	50
1:15 PM	4	22	4	0	0	30	5	1	1	0	0	7	1	13	1	0	0	15	2	2	3	0	0	7	59
1:30 PM	3	8	5	0	0	16	10	3	0	0	0	13	1	8	0	0	0	9	1	5	4	0	0	10	48
1:45 PM	3	13	8	0	0	24	3	0	1	0	0	4	1	12	5	0	0	18	4	4	2	0	0	10	56
Hourly Total	15	53	21	0	0	89	18	6	2	0	0	26	5	46	7	0	0	58	14	14	11	1	0	40	213
2:00 PM	4	27	8	0	0	39	9	4	0	0	0	13	0	14	4	0	0	18	7	3	4	0	0	14	84
2:15 PM	1	38	4	0	0	43	13	6	1	0	0	20	2	12	6	0	0	20	10	7	6	0	0	23	106
2:30 PM	5	60	9	0	0	74	5	3	1	0	0	9	0	17	8	0	0	25	25	1	3	0	0	29	137
2:45 PM	3	58	5	0	0	66	4	3	3	0	0	10	0	45	6	0	0	51	31	3	4	0	0	38	165
Hourly Total	13	183	26	0	0	222	31	16	5	0	0	52	2	88	24	0	0	114	73	14	17	0	0	104	492
3:00 PM	2	62	4	0	0	68	4	7	3	0	0	14	1	96	22	0	0	119	26	5	4	0	0	35	236
3:15 PM	5	56	8	0	0	69	6	3	4	0	0	13	5	73	17	0	0	95	13	5	4	0	0	22	199
3:30 PM	4	63	4	0	0	71	3	6	2	0	0	11	5	40	11	0	0	56	8	5	4	0	0	17	155
3:45 PM	5	71	6	0	0	82	8	5	1	0	0	14	6	66	7	0	1	79	14	5	5	0	0	24	199
Hourly Total	16	252	22	0	0	290	21	21	10	0	0	52	17	275	57	0	1	349	61	20	17	0	0	98	789
4:00 PM	3	78	14	1	0	96	15	5	1	0	0	21	4	59	7	0	0	70	18	3	9	0	0	30	217
4:15 PM	11	70	9	0	0	90	4	9	2	0	0	15	2	50	10	0	0	62	11	3	2	0	0	16	183
4:30 PM	9	63	10	0	0	82	4	3	1	0	0	8	2	44	16	0	0	62	16	4	4	0	0	24	176
4:45 PM	7	61	9	0	0	77	5	5	4	0	0	14	1	36	16	0	0	53	12	3	2	0	0	17	161
Hourly Total	30	272	42	1	0	345	28	22	8	0	0	58	9	189	49	0	0	247	57	13	17	0	0	87	737
5:00 PM	4	53	9	0	0	66	4	5	0	0	0	9	4	23	10	0	0	37	13	4	6	0	0	23	135
5:15 PM	20	80	10	0	0	110	2	4	0	0	0	6	1	30	11	0	0	42	4	1	4	0	0	9	167
5:30 PM	12	74	7	0	0	93	12	2	3	0	0	17	4	32	9	0	0	45	13	2	4	0	0	19	174
5:45 PM	14	86	7	0	0	107	5	3	3	0	1	11	1	32	8	0	0	41	12	2	2	0	0	16	175
Hourly Total	50	293	33	0	0	376	23	14	6	0	1	43	10	117	38	0	0	165	42	9	16	0	0	67	651
6:00 PM	20	72	9	0	0	101	2	1	0	0	0	3	2	57	10	0	0	69	8	3	2	0	0	13	186

6:15 PM	14	79	16	0	0	109	5	4	1	0	0	10	3	31	7	0	0	41	8	4	3	0	0	15	175
6:30 PM	10	64	10	0	0	84	6	1	0	0	0	7	2	26	6	0	0	34	5	3	2	0	0	10	135
6:45 PM	14	44	5	0	0	63	5	5	1	0	0	11	2	14	3	0	0	19	2	1	2	0	0	5	98
Hourly Total	58	259	40	0	0	357	18	11	2	0	0	31	9	128	26	0	0	163	23	11	9	0	0	43	594
Grand Total	207	1770	220	1	0	2198	213	121	49	0	6	383	64	1369	312	0	4	1745	465	104	151	1	1	721	5047
Approach %	9.4	80.5	10.0	0.0	-	-	55.6	31.6	12.8	0.0	-	-	3.7	78.5	17.9	0.0	-	-	64.5	14.4	20.9	0.1	-	-	-
Total %	4.1	35.1	4.4	0.0	-	43.6	4.2	2.4	1.0	0.0	-	7.6	1.3	27.1	6.2	0.0	-	34.6	9.2	2.1	3.0	0.0	-	14.3	-
Lights	204	1727	215	1	-	2147	209	115	49	0	-	373	61	1338	306	0	-	1705	457	100	144	1	-	702	4927
% Lights	98.6	97.6	97.7	100.0	-	97.7	98.1	95.0	100.0	-	-	97.4	95.3	97.7	98.1	-	-	97.7	98.3	96.2	95.4	100.0	-	97.4	97.6
Buses	1	14	3	0	-	18	2	2	0	0	-	4	1	11	3	0	-	15	2	0	1	0	-	3	40
% Buses	0.5	0.8	1.4	0.0	-	0.8	0.9	1.7	0.0	-	-	1.0	1.6	0.8	1.0	-	-	0.9	0.4	0.0	0.7	0.0	-	0.4	0.8
Trucks	2	14	2	0	-	18	2	2	0	0	-	4	1	4	3	0	-	8	5	4	5	0	-	14	44
% Trucks	1.0	0.8	0.9	0.0	-	0.8	0.9	1.7	0.0	-	-	1.0	1.6	0.3	1.0	-	-	0.5	1.1	3.8	3.3	0.0	-	1.9	0.9
Bicycles on Road	0	15	0	0	-	15	0	2	0	0	-	2	1	16	0	0	-	17	1	0	1	0	-	2	36
% Bicycles on Road	0.0	0.8	0.0	0.0	-	0.7	0.0	1.7	0.0	-	-	0.5	1.6	1.2	0.0	-	-	1.0	0.2	0.0	0.7	0.0	-	0.3	0.7
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	6	-	-	-	-	-	4	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: SW 144th St at SW 67th Ave
Site Code: SW 144th St at SW 67th Ave
Start Date: 04/02/2019



Turning Movement Data Plot

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: SW 144th St at SW 67th Ave
Site Code: SW 144th St at SW 67th Ave
Start Date: 04/02/2019

Turning Movement Peak Hour Data (7:15 AM)

Start Time	SW 67th Ave Southbound						SW 144th St Westbound						SW 67th Ave Northbound						SW 144th St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:15 AM	3	64	3	0	0	70	7	2	3	0	0	12	2	61	4	0	0	67	24	1	10	0	0	35	184
7:30 AM	3	104	2	0	0	109	10	4	4	0	0	18	1	84	6	0	0	91	52	0	7	0	0	59	277
7:45 AM	4	113	4	0	0	121	10	8	1	0	0	19	2	119	25	0	0	146	49	4	7	0	0	60	346
8:00 AM	5	42	10	0	0	57	10	3	2	0	2	15	1	66	37	0	2	104	21	6	7	0	0	34	210
Total	15	323	19	0	0	357	37	17	10	0	2	64	6	330	72	0	2	408	146	11	31	0	0	188	1017
Approach %	4.2	90.5	5.3	0.0	-	-	57.8	26.6	15.6	0.0	-	-	1.5	80.9	17.6	0.0	-	-	77.7	5.9	16.5	0.0	-	-	-
Total %	1.5	31.8	1.9	0.0	-	35.1	3.6	1.7	1.0	0.0	-	6.3	0.6	32.4	7.1	0.0	-	40.1	14.4	1.1	3.0	0.0	-	18.5	-
PHF	0.750	0.715	0.475	0.000	-	0.738	0.925	0.531	0.625	0.000	-	0.842	0.750	0.693	0.486	0.000	-	0.699	0.702	0.458	0.775	0.000	-	0.783	0.735
Lights	15	318	19	0	-	352	37	17	10	0	-	64	6	326	72	0	-	404	146	11	31	0	-	188	1008
% Lights	100.0	98.5	100.0	-	-	98.6	100.0	100.0	100.0	-	-	100.0	100.0	98.8	100.0	-	-	99.0	100.0	100.0	100.0	-	-	100.0	99.1
Buses	0	3	0	0	-	3	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	4
% Buses	0.0	0.9	0.0	-	-	0.8	0.0	0.0	0.0	-	-	0.0	0.0	0.3	0.0	-	-	0.2	0.0	0.0	0.0	-	-	0.0	0.4
Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	1
% Trucks	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.3	0.0	-	-	0.2	0.0	0.0	0.0	-	-	0.0	0.1
Bicycles on Road	0	2	0	0	-	2	0	0	0	0	-	0	0	2	0	0	-	2	0	0	0	0	-	0	4
% Bicycles on Road	0.0	0.6	0.0	-	-	0.6	0.0	0.0	0.0	-	-	0.0	0.0	0.6	0.0	-	-	0.5	0.0	0.0	0.0	-	-	0.0	0.4
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: SW 144th St at SW 67th Ave
Site Code: SW 144th St at SW 67th Ave
Start Date: 04/02/2019
Page No: 5

Peak Hour Data

04/02/2019 7:15 AM
Ending At
04/02/2019 8:15 AM

Lights
Buses
Trucks
Bicycles on Road
Other

SW 67th Ave [N]

Out	In	Total
394	352	746
1	3	4
1	0	1
2	2	4
0	0	0
398	**357**	**755**

R	T	L	U	P
15	318	19	0	0
0	3	0	0	0
0	0	0	0	0
0	2	0	0	0
0	0	0	0	0
15	**323**	**19**	**0**	**0**

SW 144th St [W]

Out	In	Total
104	188	292
0	0	0
0	0	0
0	0	0
0	0	0
104	**188**	**292**

U	L	T	R	P
0	31	11	146	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	**31**	**11**	**146**	**0**

SW 144th St [E]

Out	In	Total
36	64	100
0	0	0
0	0	0
0	0	0
0	0	0
36	**64**	**100**

R	T	L	U	P
37	17	10	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	2
37	**17**	**10**	**0**	**2**

SW 67th Ave [S]

U	L	T	R	P
0	72	326	6	0
0	0	1	0	0
0	0	1	0	0
0	0	2	0	0
0	0	0	0	2
0	**72**	**330**	**6**	**2**

Out	In	Total
474	404	878
3	1	4
0	1	1
2	2	4
0	0	0
479	**408**	**887**

Turning Movement Peak Hour Data Plot (7:15 AM)

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: SW 144th St at SW 67th Ave
Site Code: SW 144th St at SW 67th Ave
Start Date: 04/02/2019

Turning Movement Peak Hour Data (3:00 PM)

Start Time	SW 67th Ave Southbound						SW 144th St Westbound						SW 67th Ave Northbound						SW 144th St Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
3:00 PM	2	62	4	0	0	68	4	7	3	0	0	14	1	96	22	0	0	119	26	5	4	0	0	35	236
3:15 PM	5	56	8	0	0	69	6	3	4	0	0	13	5	73	17	0	0	95	13	5	4	0	0	22	199
3:30 PM	4	63	4	0	0	71	3	6	2	0	0	11	5	40	11	0	0	56	8	5	4	0	0	17	155
3:45 PM	5	71	6	0	0	82	8	5	1	0	0	14	6	66	7	0	1	79	14	5	5	0	0	24	199
Total	16	252	22	0	0	290	21	21	10	0	0	52	17	275	57	0	1	349	61	20	17	0	0	98	789
Approach %	5.5	86.9	7.6	0.0	-	-	40.4	40.4	19.2	0.0	-	-	4.9	78.8	16.3	0.0	-	-	62.2	20.4	17.3	0.0	-	-	-
Total %	2.0	31.9	2.8	0.0	-	36.8	2.7	2.7	1.3	0.0	-	6.6	2.2	34.9	7.2	0.0	-	44.2	7.7	2.5	2.2	0.0	-	12.4	-
PHF	0.800	0.887	0.688	0.000	-	0.884	0.656	0.750	0.625	0.000	-	0.929	0.708	0.716	0.648	0.000	-	0.733	0.587	1.000	0.850	0.000	-	0.700	0.836
Lights	16	249	22	0	-	287	21	21	10	0	-	52	17	272	55	0	-	344	59	20	14	0	-	93	776
% Lights	100.0	98.8	100.0	-	-	99.0	100.0	100.0	100.0	-	-	100.0	100.0	98.9	96.5	-	-	98.6	96.7	100.0	82.4	-	-	94.9	98.4
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	2	2	0	-	4	1	0	1	0	-	2	6
% Buses	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.7	3.5	-	-	1.1	1.6	0.0	5.9	-	-	2.0	0.8
Trucks	0	2	0	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	1	0	2	0	-	3	5
% Trucks	0.0	0.8	0.0	-	-	0.7	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	1.6	0.0	11.8	-	-	3.1	0.6
Bicycles on Road	0	1	0	0	-	1	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	2
% Bicycles on Road	0.0	0.4	0.0	-	-	0.3	0.0	0.0	0.0	-	-	0.0	0.0	0.4	0.0	-	-	0.3	0.0	0.0	0.0	-	-	0.0	0.3
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

MARLIN
Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: SW 144th St at SW 67th Ave
Site Code: SW 144th St at SW 67th Ave
Start Date: 04/02/2019

Peak Hour Data

04/02/2019 3:00 PM
Ending At
04/02/2019 4:00 PM

Lights
Buses
Trucks
Bicycles on Road
Other

SW 67th Ave [N]

Out	In	Total
307	287	594
3	0	3
2	2	4
1	1	2
0	0	0
313	**290**	**603**

R	T	L	U	P
16	249	22	0	0
0	0	0	0	0
0	2	0	0	0
0	1	0	0	0
0	0	0	0	0
16	**252**	**22**	**0**	**0**

SW 144th St [W]

Out	In	Total
92	93	185
2	2	4
0	3	3
0	0	0
0	0	0
94	**98**	**192**

U	L	T	R	P
0	14	20	59	0
0	1	0	1	0
0	2	0	1	0
0	0	0	0	0
0	0	0	0	0
0	**17**	**20**	**61**	**0**

SW 144th St [E]

Out	In	Total
59	52	111
0	0	0
0	0	0
0	0	0
0	0	0
59	**52**	**111**

R	T	L	U	P
21	21	10	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
21	**21**	**10**	**0**	**0**

U	L	T	R	P
0	55	272	17	0
0	2	2	0	0
0	0	0	0	0
0	0	1	0	0
0	0	0	0	1
0	**57**	**275**	**17**	**1**

Out	In	Total
318	344	662
1	4	5
3	0	3
1	1	2
0	0	0
323	**349**	**672**

SW 67th Ave [S]

Turning Movement Peak Hour Data Plot (3:00 PM)

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: SW 144th St at SW 67th Ave
Site Code: SW 144th St at SW 67th Ave
Start Date: 04/02/2019

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: SW 152nd Street at SW 67th Ave
Site Code: SW 152nd Street at SW 67th Ave
Start Date: 04/02/2019

Turning Movement Data

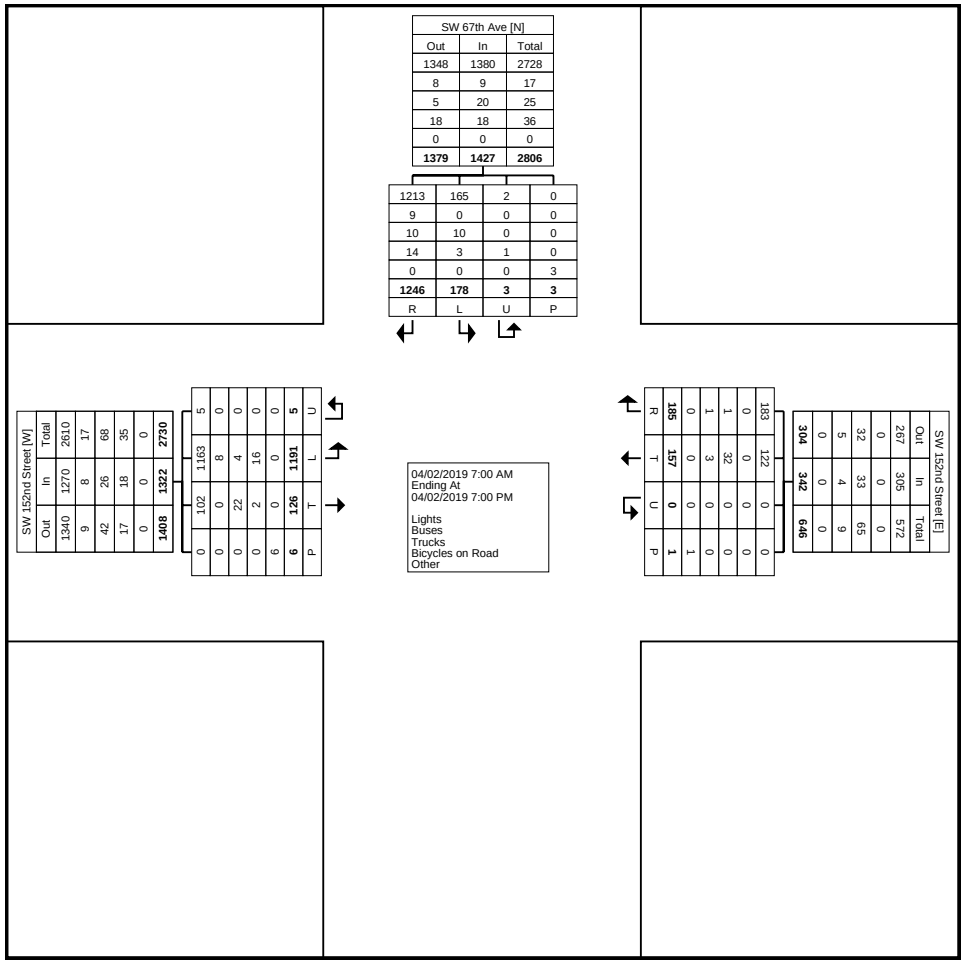
Start Time	SW 67th Ave Southbound					SW 152nd Street Westbound					SW 152nd Street Eastbound					
	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:00 AM	18	4	0	0	22	7	15	0	0	22	2	74	0	0	76	120
7:15 AM	33	2	0	0	35	10	16	0	0	26	0	86	0	1	86	147
7:30 AM	49	1	0	0	50	8	2	0	0	10	3	90	0	0	93	153
7:45 AM	65	1	0	0	66	8	5	0	0	13	4	149	0	0	153	232
Hourly Total	165	8	0	0	173	33	38	0	0	71	9	399	0	1	408	652
8:00 AM	16	9	0	0	25	3	5	0	0	8	5	38	0	0	43	76
8:15 AM	14	5	0	0	19	4	3	0	0	7	2	19	0	2	21	47
8:30 AM	17	6	0	0	23	10	2	0	0	12	6	22	0	0	28	63
8:45 AM	12	4	0	0	16	14	4	0	0	18	2	18	0	0	20	54
Hourly Total	59	24	0	0	83	31	14	0	0	45	15	97	0	2	112	240
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1:00 PM	13	5	1	0	19	4	2	0	0	6	2	12	1	0	15	40
1:15 PM	8	11	1	0	20	7	0	0	0	7	5	6	0	0	11	38
1:30 PM	5	4	0	0	9	2	3	0	0	5	0	6	0	0	6	20
1:45 PM	12	4	1	0	17	6	2	0	0	8	2	6	0	0	8	33
Hourly Total	38	24	3	0	65	19	7	0	0	26	9	30	1	0	40	131
2:00 PM	16	6	0	0	22	7	2	0	0	9	1	13	0	0	14	45
2:15 PM	11	5	0	0	16	6	2	0	0	8	7	26	0	0	33	57
2:30 PM	19	10	0	0	29	3	6	0	0	9	0	44	0	0	44	82
2:45 PM	33	6	0	0	39	7	7	0	0	14	2	65	0	0	67	120
Hourly Total	79	27	0	0	106	23	17	0	0	40	10	148	0	0	158	304
3:00 PM	36	6	0	0	42	4	3	0	0	7	2	86	0	0	88	137
3:15 PM	53	4	0	0	57	6	3	0	0	9	6	37	1	0	44	110
3:30 PM	44	5	0	0	49	5	4	0	0	9	9	33	1	0	43	101
3:45 PM	37	7	0	1	44	12	6	0	0	18	9	45	0	1	54	116
Hourly Total	170	22	0	1	192	27	16	0	0	43	26	201	2	1	229	464
4:00 PM	51	8	0	0	59	9	11	0	1	20	7	56	0	0	63	142
4:15 PM	59	7	0	0	66	10	11	0	0	21	5	34	2	0	41	128
4:30 PM	59	9	0	0	68	4	7	0	0	11	7	16	0	0	23	102
4:45 PM	63	4	0	0	67	5	6	0	0	11	6	20	0	0	26	104
Hourly Total	232	28	0	0	260	28	35	0	1	63	25	126	2	0	153	476
5:00 PM	58	4	0	0	62	2	3	0	0	5	1	28	0	0	29	96
5:15 PM	65	2	0	0	67	2	6	0	0	8	5	27	0	0	32	107
5:30 PM	74	6	0	0	80	0	2	0	0	2	8	21	0	0	29	111
5:45 PM	67	11	0	0	78	1	5	0	0	6	3	27	0	0	30	114
Hourly Total	264	23	0	0	287	5	16	0	0	21	17	103	0	0	120	428
6:00 PM	59	8	0	0	67	6	7	0	0	13	6	26	0	0	32	112
6:15 PM	78	4	0	0	82	5	3	0	0	8	3	28	0	0	31	121

6:30 PM	65	3	0	0	68	4	1	0	0	5	3	20	0	1	23	96
6:45 PM	37	7	0	2	44	4	3	0	0	7	3	13	0	1	16	67
Hourly Total	239	22	0	2	261	19	14	0	0	33	15	87	0	2	102	396
Grand Total	1246	178	3	3	1427	185	157	0	1	342	126	1191	5	6	1322	3091
Approach %	87.3	12.5	0.2	-	-	54.1	45.9	0.0	-	-	9.5	90.1	0.4	-	-	-
Total %	40.3	5.8	0.1	-	46.2	6.0	5.1	0.0	-	11.1	4.1	38.5	0.2	-	42.8	-
Lights	1213	165	2	-	1380	183	122	0	-	305	102	1163	5	-	1270	2955
% Lights	97.4	92.7	66.7	-	96.7	98.9	77.7	-	-	89.2	81.0	97.6	100.0	-	96.1	95.6
Buses	9	0	0	-	9	0	0	0	-	0	0	8	0	-	8	17
% Buses	0.7	0.0	0.0	-	0.6	0.0	0.0	-	-	0.0	0.0	0.7	0.0	-	0.6	0.5
Trucks	10	10	0	-	20	1	32	0	-	33	22	4	0	-	26	79
% Trucks	0.8	5.6	0.0	-	1.4	0.5	20.4	-	-	9.6	17.5	0.3	0.0	-	2.0	2.6
Bicycles on Road	14	3	1	-	18	1	3	0	-	4	2	16	0	-	18	40
% Bicycles on Road	1.1	1.7	33.3	-	1.3	0.5	1.9	-	-	1.2	1.6	1.3	0.0	-	1.4	1.3
Bicycles on Crosswalk	-	-	-	2	-	-	-	-	0	-	-	-	-	3	-	-
% Bicycles on Crosswalk	-	-	-	66.7	-	-	-	-	0.0	-	-	-	-	50.0	-	-
Pedestrians	-	-	-	1	-	-	-	-	1	-	-	-	-	3	-	-
% Pedestrians	-	-	-	33.3	-	-	-	-	100.0	-	-	-	-	50.0	-	-

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: SW 152nd Street at SW 67th Ave
Site Code: SW 152nd Street at SW 67th Ave
Start Date: 04/02/2019



Turning Movement Data Plot

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: SW 152nd Street at SW 67th Ave
Site Code: SW 152nd Street at SW 67th Ave
Start Date: 04/02/2019

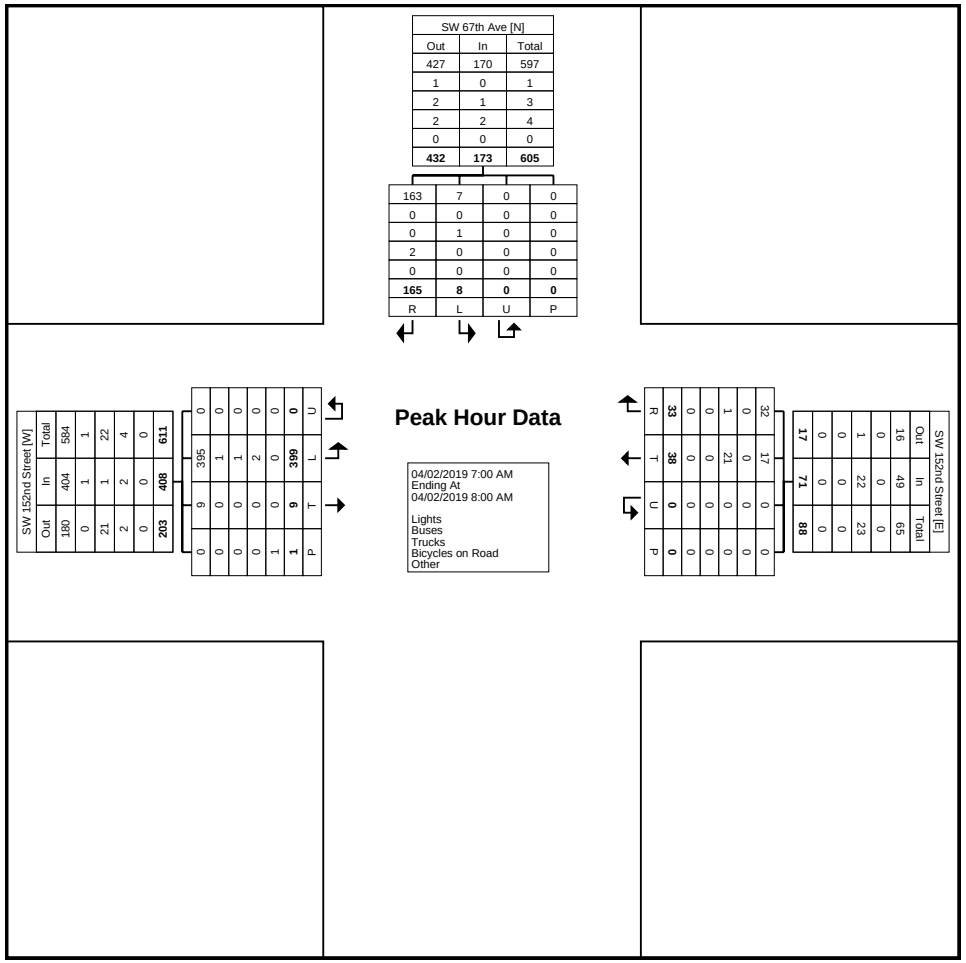
Turning Movement Peak Hour Data (7:00 AM)

Start Time	SW 67th Ave Southbound					SW 152nd Street Westbound					SW 152nd Street Eastbound					
	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:00 AM	18	4	0	0	22	7	15	0	0	22	2	74	0	0	76	120
7:15 AM	33	2	0	0	35	10	16	0	0	26	0	86	0	1	86	147
7:30 AM	49	1	0	0	50	8	2	0	0	10	3	90	0	0	93	153
7:45 AM	65	1	0	0	66	8	5	0	0	13	4	149	0	0	153	232
Total	165	8	0	0	173	33	38	0	0	71	9	399	0	1	408	652
Approach %	95.4	4.6	0.0	-	-	46.5	53.5	0.0	-	-	2.2	97.8	0.0	-	-	-
Total %	25.3	1.2	0.0	-	26.5	5.1	5.8	0.0	-	10.9	1.4	61.2	0.0	-	62.6	-
PHF	0.635	0.500	0.000	-	0.655	0.825	0.594	0.000	-	0.683	0.563	0.669	0.000	-	0.667	0.703
Lights	163	7	0	-	170	32	17	0	-	49	9	395	0	-	404	623
% Lights	98.8	87.5	-	-	98.3	97.0	44.7	-	-	69.0	100.0	99.0	-	-	99.0	95.6
Buses	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	1
% Buses	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.3	-	-	0.2	0.2
Trucks	0	1	0	-	1	1	21	0	-	22	0	1	0	-	1	24
% Trucks	0.0	12.5	-	-	0.6	3.0	55.3	-	-	31.0	0.0	0.3	-	-	0.2	3.7
Bicycles on Road	2	0	0	-	2	0	0	0	-	0	0	2	0	-	2	4
% Bicycles on Road	1.2	0.0	-	-	1.2	0.0	0.0	-	-	0.0	0.0	0.5	-	-	0.5	0.6
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: SW 152nd Street at SW 67th Ave
Site Code: SW 152nd Street at SW 67th Ave
Start Date: 04/02/2019



SW 67th Ave [N]		
Out	In	Total
427	170	597
1	0	1
2	1	3
2	2	4
0	0	0
432	**173**	**605**

163	7	0	0
0	0	0	0
0	1	0	0
2	0	0	0
0	0	0	0
165	**8**	**0**	**0**
R	L	U	P

Turning Movement Peak Hour Data Plot (7:00 AM)

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: SW 152nd Street at SW 67th Ave
Site Code: SW 152nd Street at SW 67th Ave
Start Date: 04/02/2019

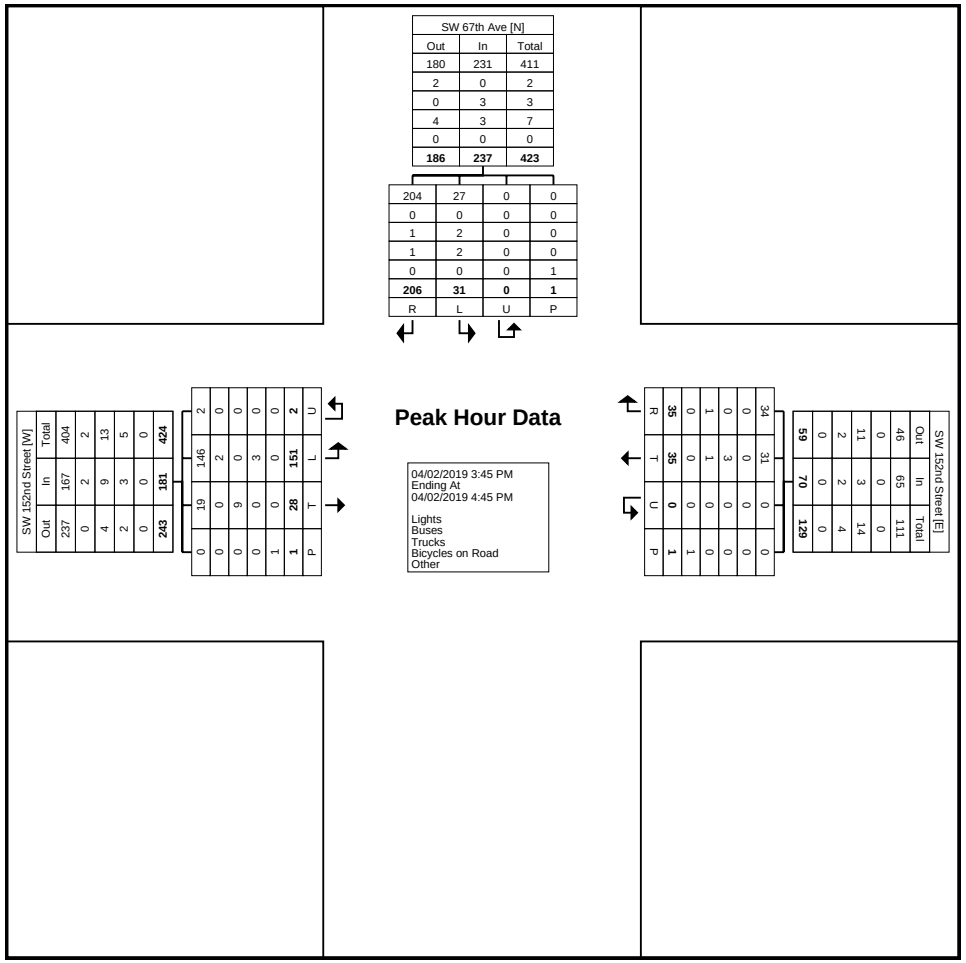
Turning Movement Peak Hour Data (3:45 PM)

Start Time	SW 67th Ave Southbound					SW 152nd Street Westbound					SW 152nd Street Eastbound					
	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	Int. Total
3:45 PM	37	7	0	1	44	12	6	0	0	18	9	45	0	1	54	116
4:00 PM	51	8	0	0	59	9	11	0	1	20	7	56	0	0	63	142
4:15 PM	59	7	0	0	66	10	11	0	0	21	5	34	2	0	41	128
4:30 PM	59	9	0	0	68	4	7	0	0	11	7	16	0	0	23	102
Total	206	31	0	1	237	35	35	0	1	70	28	151	2	1	181	488
Approach %	86.9	13.1	0.0	-	-	50.0	50.0	0.0	-	-	15.5	83.4	1.1	-	-	-
Total %	42.2	6.4	0.0	-	48.6	7.2	7.2	0.0	-	14.3	5.7	30.9	0.4	-	37.1	-
PHF	0.873	0.861	0.000	-	0.871	0.729	0.795	0.000	-	0.833	0.778	0.674	0.250	-	0.718	0.859
Lights	204	27	0	-	231	34	31	0	-	65	19	146	2	-	167	463
% Lights	99.0	87.1	-	-	97.5	97.1	88.6	-	-	92.9	67.9	96.7	100.0	-	92.3	94.9
Buses	0	0	0	-	0	0	0	0	-	0	0	2	0	-	2	2
% Buses	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	1.3	0.0	-	1.1	0.4
Trucks	1	2	0	-	3	0	3	0	-	3	9	0	0	-	9	15
% Trucks	0.5	6.5	-	-	1.3	0.0	8.6	-	-	4.3	32.1	0.0	0.0	-	5.0	3.1
Bicycles on Road	1	2	0	-	3	1	1	0	-	2	0	3	0	-	3	8
% Bicycles on Road	0.5	6.5	-	-	1.3	2.9	2.9	-	-	2.9	0.0	2.0	0.0	-	1.7	1.6
Bicycles on Crosswalk	-	-	-	1	-	-	-	-	0	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	100.0	-	-	-	-	0.0	-	-	-	-	100.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
% Pedestrians	-	-	-	0.0	-	-	-	-	100.0	-	-	-	-	0.0	-	-

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: SW 152nd Street at SW 67th Ave
Site Code: SW 152nd Street at SW 67th Ave
Start Date: 04/02/2019



Turning Movement Peak Hour Data Plot (3:45 PM)

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: SW 152nd Street at SW 67th Ave
Site Code: SW 152nd Street at SW 67th Ave
Start Date: 04/02/2019

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: Old Cutler Road at Ludlam Road
Site Code: Old Cutler Road at Ludlam Road
Start Date: 03/21/2019

Turning Movement Data

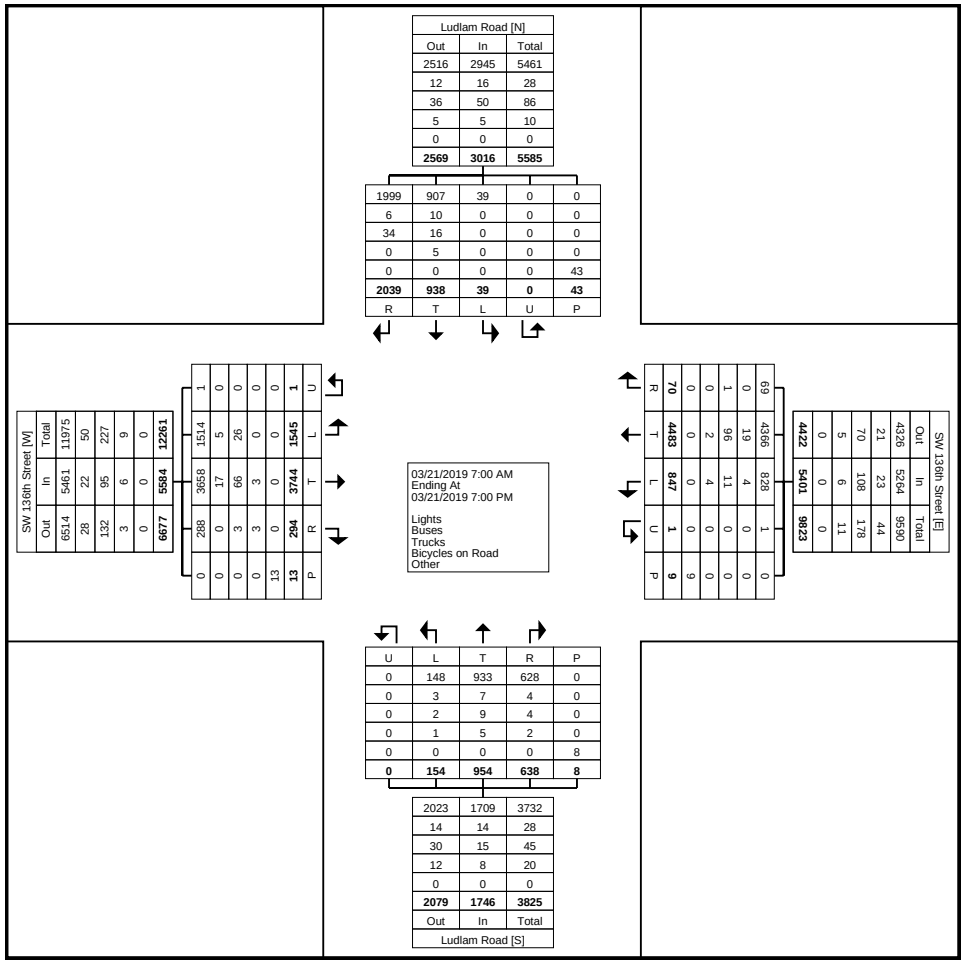
Start Time	Ludlam Road Southbound						SW 136th Street Westbound						Ludlam Road Northbound						SW 136th Street Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
7:00 AM	24	14	1	0	3	39	0	50	5	0	0	55	65	37	0	0	0	102	3	203	71	0	1	277	473
7:15 AM	47	28	0	0	1	75	2	58	17	0	0	77	43	47	0	0	0	90	6	183	57	0	1	246	488
7:30 AM	48	54	0	0	1	102	2	56	42	0	0	100	38	49	3	0	0	90	16	203	76	0	1	295	587
7:45 AM	44	60	1	0	1	105	1	68	59	0	0	128	33	67	9	0	0	109	23	163	69	0	0	255	597
Hourly Total	163	156	2	0	6	321	5	232	123	0	0	360	179	200	12	0	0	391	48	752	273	0	3	1073	2145
8:00 AM	40	13	0	0	1	53	2	63	21	0	2	86	45	47	6	0	1	98	3	152	88	0	0	243	480
8:15 AM	44	27	0	0	2	71	1	63	22	0	0	86	33	43	5	0	0	81	14	170	77	0	0	261	499
8:30 AM	43	15	1	0	1	59	3	79	11	0	1	93	29	41	4	0	1	74	3	174	61	0	0	238	464
8:45 AM	46	14	2	0	1	62	1	80	6	0	0	87	34	35	10	0	0	79	11	185	53	0	0	249	477
Hourly Total	173	69	3	0	5	245	7	285	60	0	3	352	141	166	25	0	2	332	31	681	279	0	0	991	1920
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1:00 PM	46	12	2	0	3	60	6	97	11	0	0	114	13	16	1	0	0	30	6	110	59	0	2	175	379
1:15 PM	45	25	5	0	0	75	5	89	14	0	0	108	9	15	6	0	0	30	8	97	41	0	0	146	359
1:30 PM	42	14	2	0	0	58	1	115	20	0	0	136	6	10	2	0	0	18	3	111	47	0	0	161	373
1:45 PM	54	29	4	0	1	87	7	96	24	0	0	127	25	19	7	0	0	51	13	87	45	0	0	145	410
Hourly Total	187	80	13	0	4	280	19	397	69	0	0	485	53	60	16	0	0	129	30	405	192	0	2	627	1521
2:00 PM	62	24	2	0	2	88	2	126	23	1	0	152	22	39	5	0	0	66	12	90	50	0	0	152	458
2:15 PM	59	22	2	0	0	83	4	177	6	0	0	187	34	51	7	0	0	92	8	111	47	0	0	166	528
2:30 PM	80	29	0	0	0	109	3	134	11	0	0	148	18	28	2	0	0	48	11	107	51	0	0	169	474
2:45 PM	92	27	2	0	0	121	4	168	12	0	0	184	21	30	3	0	0	54	9	100	40	0	0	149	508
Hourly Total	293	102	6	0	2	401	13	605	52	1	0	671	95	148	17	0	0	260	40	408	188	0	0	636	1968
3:00 PM	76	25	0	0	0	101	6	134	13	0	0	153	20	45	13	0	0	78	7	82	31	0	0	120	452
3:15 PM	101	24	2	0	2	127	2	179	21	0	0	202	8	33	2	0	0	43	17	92	37	0	2	146	518
3:30 PM	81	25	2	0	0	108	3	195	17	0	0	215	13	32	6	0	0	51	1	139	51	0	0	191	565
3:45 PM	85	19	2	0	2	106	1	185	22	0	0	208	14	32	6	0	0	52	8	102	52	0	2	162	528
Hourly Total	343	93	6	0	4	442	12	693	73	0	0	778	55	142	27	0	0	224	33	415	171	0	4	619	2063
4:00 PM	75	27	0	0	1	102	3	212	26	0	0	241	8	22	5	0	0	35	4	84	39	0	1	127	505
4:15 PM	76	28	0	0	0	104	2	192	36	0	1	230	6	22	4	0	0	32	6	100	42	0	0	148	514
4:30 PM	76	27	0	0	3	103	1	210	31	0	0	242	9	26	1	0	0	36	11	86	43	0	0	140	521
4:45 PM	82	40	0	0	0	122	0	197	34	0	0	231	9	22	7	0	0	38	14	66	30	0	0	110	501
Hourly Total	309	122	0	0	4	431	6	811	127	0	1	944	32	92	17	0	0	141	35	336	154	0	1	525	2041
5:00 PM	76	31	1	0	3	108	0	206	37	0	2	243	12	10	5	0	1	27	14	86	32	0	0	132	510
5:15 PM	71	53	0	0	5	124	1	184	35	0	0	220	12	22	3	0	0	37	6	116	36	0	0	158	539
5:30 PM	73	39	0	0	0	112	1	182	52	0	0	235	9	29	2	0	0	40	11	110	52	0	0	173	560
5:45 PM	80	49	0	0	2	129	2	167	51	0	0	220	9	12	5	0	0	26	9	89	50	0	0	148	523
Hourly Total	300	172	1	0	10	473	4	739	175	0	2	918	42	73	15	0	1	130	40	401	170	0	0	611	2132
6:00 PM	72	33	0	0	4	105	3	206	49	0	0	258	16	14	9	0	0	39	9	90	37	0	0	136	538

6:15 PM	86	39	2	0	3	127	1	171	58	0	0	230	6	25	6	0	2	37	10	98	33	0	2	141	535
6:30 PM	54	32	1	0	1	87	0	191	44	0	1	235	13	15	3	0	0	31	11	87	20	1	1	119	472
6:45 PM	59	40	5	0	0	104	0	153	17	0	2	170	6	19	7	0	3	32	7	71	28	0	0	106	412
Hourly Total	271	144	8	0	8	423	4	721	168	0	3	893	41	73	25	0	5	139	37	346	118	1	3	502	1957
Grand Total	2039	938	39	0	43	3016	70	4483	847	1	9	5401	638	954	154	0	8	1746	294	3744	1545	1	13	5584	15747
Approach %	67.6	31.1	1.3	0.0	-	-	1.3	83.0	15.7	0.0	-	-	36.5	54.6	8.8	0.0	-	-	5.3	67.0	27.7	0.0	-	-	-
Total %	12.9	6.0	0.2	0.0	-	19.2	0.4	28.5	5.4	0.0	-	34.3	4.1	6.1	1.0	0.0	-	11.1	1.9	23.8	9.8	0.0	-	35.5	-
Lights	1999	907	39	0	-	2945	69	4366	828	1	-	5264	628	933	148	0	-	1709	288	3658	1514	1	-	5461	15379
% Lights	98.0	96.7	100.0	-	-	97.6	98.6	97.4	97.8	100.0	-	97.5	98.4	97.8	96.1	-	-	97.9	98.0	97.7	98.0	100.0	-	97.8	97.7
Buses	6	10	0	0	-	16	0	19	4	0	-	23	4	7	3	0	-	14	0	17	5	0	-	22	75
% Buses	0.3	1.1	0.0	-	-	0.5	0.0	0.4	0.5	0.0	-	0.4	0.6	0.7	1.9	-	-	0.8	0.0	0.5	0.3	0.0	-	0.4	0.5
Trucks	34	16	0	0	-	50	1	96	11	0	-	108	4	9	2	0	-	15	3	66	26	0	-	95	268
% Trucks	1.7	1.7	0.0	-	-	1.7	1.4	2.1	1.3	0.0	-	2.0	0.6	0.9	1.3	-	-	0.9	1.0	1.8	1.7	0.0	-	1.7	1.7
Bicycles on Road	0	5	0	0	-	5	0	2	4	0	-	6	2	5	1	0	-	8	3	3	0	0	-	6	25
% Bicycles on Road	0.0	0.5	0.0	-	-	0.2	0.0	0.0	0.5	0.0	-	0.1	0.3	0.5	0.6	-	-	0.5	1.0	0.1	0.0	0.0	-	0.1	0.2
Bicycles on Crosswalk	-	-	-	-	32	-	-	-	-	-	8	-	-	-	-	-	8	-	-	-	-	-	12	-	-
% Bicycles on Crosswalk	-	-	-	-	74.4	-	-	-	-	-	88.9	-	-	-	-	-	100.0	-	-	-	-	-	92.3	-	-
Pedestrians	-	-	-	-	11	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	25.6	-	-	-	-	-	11.1	-	-	-	-	-	0.0	-	-	-	-	-	7.7	-	-

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: Old Cutler Road at Ludlam Road
Site Code: Old Cutler Road at Ludlam Road
Start Date: 03/21/2019



Turning Movement Data Plot

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: Old Cutler Road at Ludlam Road
Site Code: Old Cutler Road at Ludlam Road
Start Date: 03/21/2019

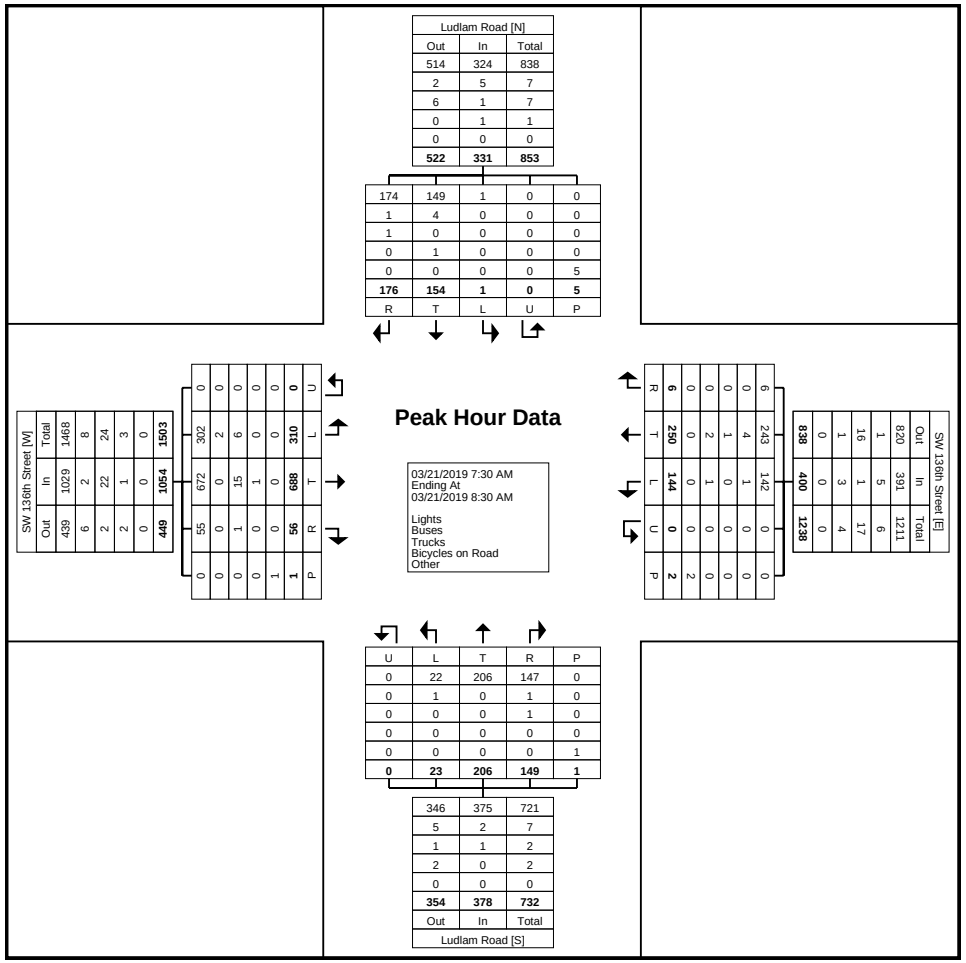
Turning Movement Peak Hour Data (7:30 AM)

Start Time	Ludlam Road Southbound						SW 136th Street Westbound						Ludlam Road Northbound						SW 136th Street Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:30 AM	48	54	0	0	1	102	2	56	42	0	0	100	38	49	3	0	0	90	16	203	76	0	1	295	587
7:45 AM	44	60	1	0	1	105	1	68	59	0	0	128	33	67	9	0	0	109	23	163	69	0	0	255	597
8:00 AM	40	13	0	0	1	53	2	63	21	0	2	86	45	47	6	0	1	98	3	152	88	0	0	243	480
8:15 AM	44	27	0	0	2	71	1	63	22	0	0	86	33	43	5	0	0	81	14	170	77	0	0	261	499
Total	176	154	1	0	5	331	6	250	144	0	2	400	149	206	23	0	1	378	56	688	310	0	1	1054	2163
Approach %	53.2	46.5	0.3	0.0	-	-	1.5	62.5	36.0	0.0	-	-	39.4	54.5	6.1	0.0	-	-	5.3	65.3	29.4	0.0	-	-	-
Total %	8.1	7.1	0.0	0.0	-	15.3	0.3	11.6	6.7	0.0	-	18.5	6.9	9.5	1.1	0.0	-	17.5	2.6	31.8	14.3	0.0	-	48.7	-
PHF	0.917	0.642	0.250	0.000	-	0.788	0.750	0.919	0.610	0.000	-	0.781	0.828	0.769	0.639	0.000	-	0.867	0.609	0.847	0.881	0.000	-	0.893	0.906
Lights	174	149	1	0	-	324	6	243	142	0	-	391	147	206	22	0	-	375	55	672	302	0	-	1029	2119
% Lights	98.9	96.8	100.0	-	-	97.9	100.0	97.2	98.6	-	-	97.8	98.7	100.0	95.7	-	-	99.2	98.2	97.7	97.4	-	-	97.6	98.0
Buses	1	4	0	0	-	5	0	4	1	0	-	5	1	0	1	0	-	2	0	0	2	0	-	2	14
% Buses	0.6	2.6	0.0	-	-	1.5	0.0	1.6	0.7	-	-	1.3	0.7	0.0	4.3	-	-	0.5	0.0	0.0	0.6	-	-	0.2	0.6
Trucks	1	0	0	0	-	1	0	1	0	0	-	1	1	0	0	0	-	1	1	15	6	0	-	22	25
% Trucks	0.6	0.0	0.0	-	-	0.3	0.0	0.4	0.0	-	-	0.3	0.7	0.0	0.0	-	-	0.3	1.8	2.2	1.9	-	-	2.1	1.2
Bicycles on Road	0	1	0	0	-	1	0	2	1	0	-	3	0	0	0	0	-	0	0	1	0	0	-	1	5
% Bicycles on Road	0.0	0.6	0.0	-	-	0.3	0.0	0.8	0.7	-	-	0.8	0.0	0.0	0.0	-	-	0.0	0.0	0.1	0.0	-	-	0.1	0.2
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	40.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-
Pedestrians	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	60.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: Old Cutler Road at Ludlam Road
Site Code: Old Cutler Road at Ludlam Road
Start Date: 03/21/2019



Turning Movement Peak Hour Data Plot (7:30 AM)

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: Old Cutler Road at Ludlam Road
Site Code: Old Cutler Road at Ludlam Road
Start Date: 03/21/2019

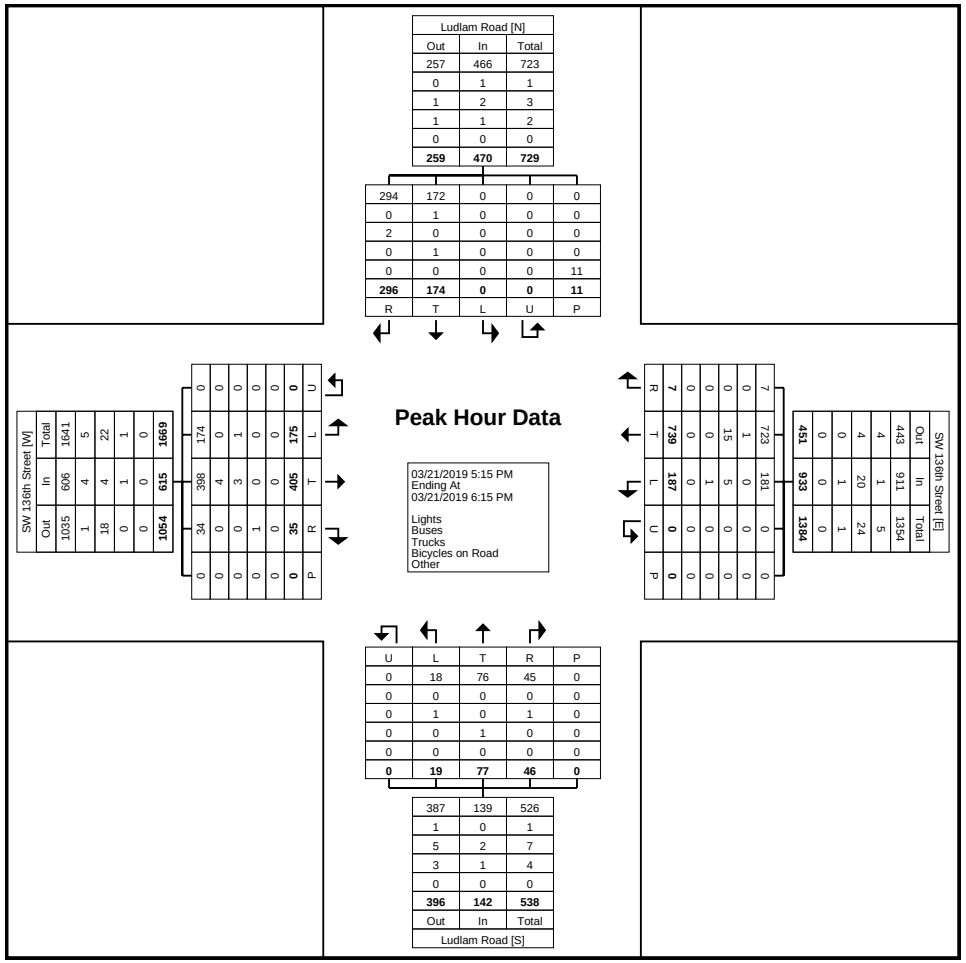
Turning Movement Peak Hour Data (5:15 PM)

Start Time	Ludlam Road Southbound						SW 136th Street Westbound						Ludlam Road Northbound						SW 136th Street Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
5:15 PM	71	53	0	0	5	124	1	184	35	0	0	220	12	22	3	0	0	37	6	116	36	0	0	158	539
5:30 PM	73	39	0	0	0	112	1	182	52	0	0	235	9	29	2	0	0	40	11	110	52	0	0	173	560
5:45 PM	80	49	0	0	2	129	2	167	51	0	0	220	9	12	5	0	0	26	9	89	50	0	0	148	523
6:00 PM	72	33	0	0	4	105	3	206	49	0	0	258	16	14	9	0	0	39	9	90	37	0	0	136	538
Total	296	174	0	0	11	470	7	739	187	0	0	933	46	77	19	0	0	142	35	405	175	0	0	615	2160
Approach %	63.0	37.0	0.0	0.0	-	-	0.8	79.2	20.0	0.0	-	-	32.4	54.2	13.4	0.0	-	-	5.7	65.9	28.5	0.0	-	-	-
Total %	13.7	8.1	0.0	0.0	-	21.8	0.3	34.2	8.7	0.0	-	43.2	2.1	3.6	0.9	0.0	-	6.6	1.6	18.8	8.1	0.0	-	28.5	-
PHF	0.925	0.821	0.000	0.000	-	0.911	0.583	0.897	0.899	0.000	-	0.904	0.719	0.664	0.528	0.000	-	0.888	0.795	0.873	0.841	0.000	-	0.889	0.964
Lights	294	172	0	0	-	466	7	723	181	0	-	911	45	76	18	0	-	139	34	398	174	0	-	606	2122
% Lights	99.3	98.9	-	-	-	99.1	100.0	97.8	96.8	-	-	97.6	97.8	98.7	94.7	-	-	97.9	97.1	98.3	99.4	-	-	98.5	98.2
Buses	0	1	0	0	-	1	0	1	0	0	-	1	0	0	0	0	-	0	0	4	0	0	-	4	6
% Buses	0.0	0.6	-	-	-	0.2	0.0	0.1	0.0	-	-	0.1	0.0	0.0	0.0	-	-	0.0	0.0	1.0	0.0	-	-	0.7	0.3
Trucks	2	0	0	0	-	2	0	15	5	0	-	20	1	0	1	0	-	2	0	3	1	0	-	4	28
% Trucks	0.7	0.0	-	-	-	0.4	0.0	2.0	2.7	-	-	2.1	2.2	0.0	5.3	-	-	1.4	0.0	0.7	0.6	-	-	0.7	1.3
Bicycles on Road	0	1	0	0	-	1	0	0	1	0	-	1	0	1	0	0	-	1	1	0	0	0	-	1	4
% Bicycles on Road	0.0	0.6	-	-	-	0.2	0.0	0.0	0.5	-	-	0.1	0.0	1.3	0.0	-	-	0.7	2.9	0.0	0.0	-	-	0.2	0.2
Bicycles on Crosswalk	-	-	-	-	9	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	81.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	18.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: Old Cutler Road at Ludlam Road
Site Code: Old Cutler Road at Ludlam Road
Start Date: 03/21/2019



Turning Movement Peak Hour Data Plot (5:15 PM)

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: Old Cutler Road at SW 152nd Street
Site Code: Old Cutler Road at SW 152nd Street
Start Date: 03/21/2019

Turning Movement Data

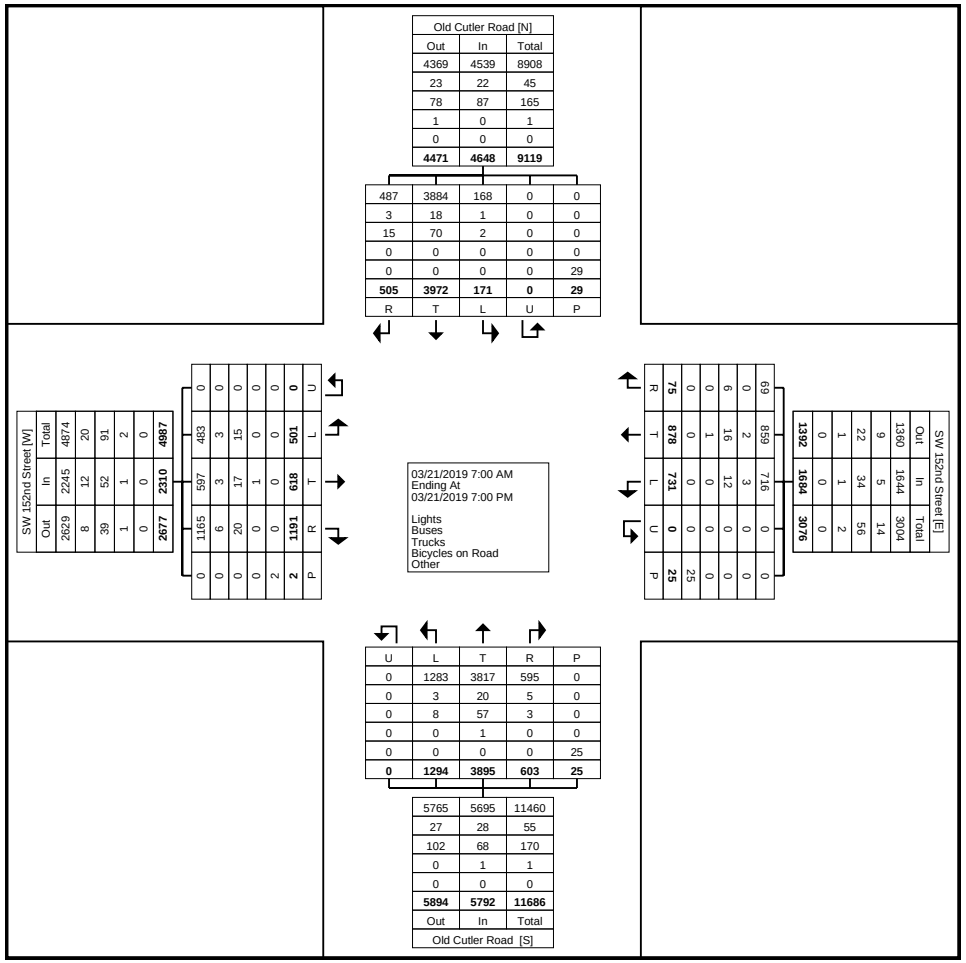
Start Time	Old Cutler Road Southbound						SW 152nd Street Westbound						Old Cutler Road Northbound						SW 152nd Street Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
7:00 AM	5	72	2	0	0	79	0	10	12	0	1	22	38	174	16	0	0	228	15	36	29	0	0	80	409
7:15 AM	7	109	10	0	0	126	1	10	15	0	2	26	57	156	19	0	1	232	17	47	28	0	1	92	476
7:30 AM	4	107	45	0	0	156	3	21	24	0	1	48	61	144	26	0	1	231	17	37	12	0	0	66	501
7:45 AM	11	105	53	0	1	169	4	37	35	0	2	76	52	143	22	0	1	217	23	41	25	0	0	89	551
Hourly Total	27	393	110	0	1	530	8	78	86	0	6	172	208	617	83	0	3	908	72	161	94	0	1	327	1937
8:00 AM	11	75	8	0	1	94	5	36	25	0	0	66	17	178	23	0	0	218	19	11	19	0	0	49	427
8:15 AM	8	80	5	0	1	93	1	21	6	0	0	28	15	169	37	0	1	221	45	17	34	0	0	96	438
8:30 AM	6	82	2	0	1	90	2	9	7	0	1	18	12	186	36	0	5	234	36	15	24	0	0	75	417
8:45 AM	16	85	1	0	0	102	3	17	6	0	0	26	9	192	61	0	1	262	28	16	22	0	0	66	456
Hourly Total	41	322	16	0	3	379	11	83	44	0	1	138	53	725	157	0	7	935	128	59	99	0	0	286	1738
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1:00 PM	20	97	3	0	1	120	3	11	7	0	2	21	11	115	47	0	0	173	31	11	17	0	0	59	373
1:15 PM	15	101	2	0	3	118	3	6	12	0	0	21	9	119	59	0	0	187	53	17	12	0	0	82	408
1:30 PM	20	111	1	0	0	132	2	12	3	0	0	17	20	127	60	0	0	207	45	26	13	0	0	84	440
1:45 PM	8	121	5	0	1	134	5	37	19	0	1	61	22	107	43	0	1	172	39	23	21	0	0	83	450
Hourly Total	63	430	11	0	5	504	13	66	41	0	3	120	62	468	209	0	1	739	168	77	63	0	0	308	1671
2:00 PM	24	118	4	0	1	146	2	42	38	0	1	82	16	131	45	0	0	192	39	16	10	0	0	65	485
2:15 PM	23	158	3	0	0	184	8	46	19	0	0	73	6	115	42	0	1	163	43	12	16	0	0	71	491
2:30 PM	18	191	4	0	0	213	2	23	17	0	1	42	10	120	35	0	0	165	44	8	10	0	0	62	482
2:45 PM	17	182	6	0	0	205	0	24	23	0	0	47	21	79	39	0	0	139	54	19	13	0	0	86	477
Hourly Total	82	649	17	0	1	748	12	135	97	0	2	244	53	445	161	0	1	659	180	55	49	0	0	284	1935
3:00 PM	19	186	0	0	0	205	5	40	26	0	0	71	17	81	46	0	0	144	55	15	11	0	0	81	501
3:15 PM	21	163	3	0	1	187	4	23	25	0	0	52	15	118	43	0	0	176	53	21	11	0	0	85	500
3:30 PM	30	151	1	0	0	182	5	38	26	0	0	69	17	160	46	0	0	223	60	19	9	0	0	88	562
3:45 PM	10	181	3	0	1	194	4	16	25	0	1	45	19	121	57	0	0	197	38	16	10	0	0	64	500
Hourly Total	80	681	7	0	2	768	18	117	102	0	1	237	68	480	192	0	0	740	206	71	41	0	0	318	2063
4:00 PM	23	142	1	0	0	166	1	25	25	0	2	51	10	103	41	0	0	154	52	13	8	0	0	73	444
4:15 PM	18	154	1	0	0	173	0	36	30	0	1	66	10	99	45	0	1	154	47	21	18	0	0	86	479
4:30 PM	11	145	1	0	1	157	3	31	25	0	0	59	7	118	42	0	0	167	31	13	6	0	0	50	433
4:45 PM	13	142	0	0	3	155	0	36	40	0	0	76	14	79	40	0	1	133	42	20	11	0	0	73	437
Hourly Total	65	583	3	0	4	651	4	128	120	0	3	252	41	399	168	0	2	608	172	67	43	0	0	282	1793
5:00 PM	19	123	1	0	0	143	1	33	21	0	1	55	14	101	50	0	4	165	44	13	15	0	0	72	435
5:15 PM	13	98	2	0	1	113	2	26	39	0	3	67	21	103	54	0	0	178	35	22	15	0	0	72	430
5:30 PM	20	115	1	0	4	136	0	36	29	0	1	65	21	116	39	0	0	176	29	21	13	0	0	63	440
5:45 PM	16	102	0	0	1	118	2	47	40	0	1	89	13	95	34	0	2	142	39	18	13	0	0	70	419
Hourly Total	68	438	4	0	6	510	5	142	129	0	6	276	69	415	177	0	6	661	147	74	56	0	0	277	1724
6:00 PM	21	110	0	0	0	131	1	37	23	0	1	61	12	104	37	0	1	153	30	11	12	0	0	53	398

6:15 PM	14	111	2	0	0	127	0	37	29	0	1	66	18	77	45	0	3	140	32	15	14	0	0	61	394
6:30 PM	13	135	0	0	7	148	1	20	24	0	1	45	10	86	27	0	0	123	26	17	16	0	0	59	375
6:45 PM	31	120	1	0	0	152	2	35	36	0	0	73	9	79	38	0	1	126	30	11	14	0	1	55	406
Hourly Total	79	476	3	0	7	558	4	129	112	0	3	245	49	346	147	0	5	542	118	54	56	0	1	228	1573
Grand Total	505	3972	171	0	29	4648	75	878	731	0	25	1684	603	3895	1294	0	25	5792	1191	618	501	0	2	2310	14434
Approach %	10.9	85.5	3.7	0.0	-	-	4.5	52.1	43.4	0.0	-	-	10.4	67.2	22.3	0.0	-	-	51.6	26.8	21.7	0.0	-	-	-
Total %	3.5	27.5	1.2	0.0	-	32.2	0.5	6.1	5.1	0.0	-	11.7	4.2	27.0	9.0	0.0	-	40.1	8.3	4.3	3.5	0.0	-	16.0	-
Lights	487	3884	168	0	-	4539	69	859	716	0	-	1644	595	3817	1283	0	-	5695	1165	597	483	0	-	2245	14123
% Lights	96.4	97.8	98.2	-	-	97.7	92.0	97.8	97.9	-	-	97.6	98.7	98.0	99.1	-	-	98.3	97.8	96.6	96.4	-	-	97.2	97.8
Buses	3	18	1	0	-	22	0	2	3	0	-	5	5	20	3	0	-	28	6	3	3	0	-	12	67
% Buses	0.6	0.5	0.6	-	-	0.5	0.0	0.2	0.4	-	-	0.3	0.8	0.5	0.2	-	-	0.5	0.5	0.5	0.6	-	-	0.5	0.5
Trucks	15	70	2	0	-	87	6	16	12	0	-	34	3	57	8	0	-	68	20	17	15	0	-	52	241
% Trucks	3.0	1.8	1.2	-	-	1.9	8.0	1.8	1.6	-	-	2.0	0.5	1.5	0.6	-	-	1.2	1.7	2.8	3.0	-	-	2.3	1.7
Bicycles on Road	0	0	0	0	-	0	0	1	0	0	-	1	0	1	0	0	-	1	0	1	0	0	-	1	3
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	0.1	0.0	-	-	0.1	0.0	0.0	0.0	-	-	0.0	0.0	0.2	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	8	-	-	-	-	-	19	-	-	-	-	-	6	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	27.6	-	-	-	-	-	76.0	-	-	-	-	-	24.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	21	-	-	-	-	-	6	-	-	-	-	-	19	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	72.4	-	-	-	-	-	24.0	-	-	-	-	-	76.0	-	-	-	-	-	100.0	-	-

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: Old Cutler Road at SW 152nd Street
Site Code: Old Cutler Road at SW 152nd Street
Start Date: 03/21/2019



Turning Movement Data Plot

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: Old Cutler Road at SW 152nd Street
Site Code: Old Cutler Road at SW 152nd Street
Start Date: 03/21/2019

Turning Movement Peak Hour Data (7:15 AM)

Start Time	Old Cutler Road Southbound						SW 152nd Street Westbound						Old Cutler Road Northbound						SW 152nd Street Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:15 AM	7	109	10	0	0	126	1	10	15	0	2	26	57	156	19	0	1	232	17	47	28	0	1	92	476
7:30 AM	4	107	45	0	0	156	3	21	24	0	1	48	61	144	26	0	1	231	17	37	12	0	0	66	501
7:45 AM	11	105	53	0	1	169	4	37	35	0	2	76	52	143	22	0	1	217	23	41	25	0	0	89	551
8:00 AM	11	75	8	0	1	94	5	36	25	0	0	66	17	178	23	0	0	218	19	11	19	0	0	49	427
Total	33	396	116	0	2	545	13	104	99	0	5	216	187	621	90	0	3	898	76	136	84	0	1	296	1955
Approach %	6.1	72.7	21.3	0.0	-	-	6.0	48.1	45.8	0.0	-	-	20.8	69.2	10.0	0.0	-	-	25.7	45.9	28.4	0.0	-	-	-
Total %	1.7	20.3	5.9	0.0	-	27.9	0.7	5.3	5.1	0.0	-	11.0	9.6	31.8	4.6	0.0	-	45.9	3.9	7.0	4.3	0.0	-	15.1	-
PHF	0.750	0.908	0.547	0.000	-	0.806	0.650	0.703	0.707	0.000	-	0.711	0.766	0.872	0.865	0.000	-	0.968	0.826	0.723	0.750	0.000	-	0.804	0.887
Lights	33	386	115	0	-	534	10	100	97	0	-	207	187	607	89	0	-	883	71	134	78	0	-	283	1907
% Lights	100.0	97.5	99.1	-	-	98.0	76.9	96.2	98.0	-	-	95.8	100.0	97.7	98.9	-	-	98.3	93.4	98.5	92.9	-	-	95.6	97.5
Buses	0	6	1	0	-	7	0	0	0	0	-	0	0	0	1	0	-	1	0	2	0	0	-	2	10
% Buses	0.0	1.5	0.9	-	-	1.3	0.0	0.0	0.0	-	-	0.0	0.0	0.0	1.1	-	-	0.1	0.0	1.5	0.0	-	-	0.7	0.5
Trucks	0	4	0	0	-	4	3	4	2	0	-	9	0	14	0	0	-	14	5	0	6	0	-	11	38
% Trucks	0.0	1.0	0.0	-	-	0.7	23.1	3.8	2.0	-	-	4.2	0.0	2.3	0.0	-	-	1.6	6.6	0.0	7.1	-	-	3.7	1.9
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	5	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	100.0	-	-	-	-	-	33.3	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	0.0	-	-	-	-	-	66.7	-	-	-	-	-	100.0	-	-

MARLIN
Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: Old Cutler Road at SW 152nd Street
Site Code: Old Cutler Road at SW 152nd Street
Start Date: 03/21/2019

Peak Hour Data

03/21/2019 7:15 AM
Ending At
03/21/2019 8:15 AM

Lights
Buses
Trucks
Bicycles on Road
Other

Old Cutler Road [N]

Out	In	Total
695	534	1229
0	7	7
23	4	27
0	0	0
0	0	0
718	**545**	**1263**

R	T	L	U	P
33	386	115	0	0
0	6	1	0	0
0	4	0	0	0
0	0	0	0	0
0	0	0	0	2
33	**396**	**116**	**0**	**2**

SW 152nd Street [W]

Out	In	Total
222	283	505
1	2	3
4	11	15
0	0	0
0	0	0
227	**296**	**523**

U	L	T	R	P
0	78	134	71	0
0	0	2	0	0
0	6	0	5	0
0	0	0	0	0
0	0	0	0	1
0	**84**	**136**	**76**	**1**

SW 152nd Street [E]

Out	In	Total
436	207	643
3	0	3
0	9	9
0	0	0
0	0	0
439	**216**	**655**

R	T	L	U	P
10	100	97	0	0
0	0	0	0	0
3	4	2	0	0
0	0	0	0	0
0	0	0	0	5
13	**104**	**99**	**0**	**5**

U	L	T	R	P
0	89	607	187	0
0	1	0	0	0
0	0	14	0	0
0	0	0	0	0
0	0	0	0	3
0	**90**	**621**	**187**	**3**

Out	In	Total
554	883	1437
6	1	7
11	14	25
0	0	0
0	0	0
571	**898**	**1469**

Old Cutler Road [S]

Turning Movement Peak Hour Data Plot (7:15 AM)

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: Old Cutler Road at SW 152nd Street
Site Code: Old Cutler Road at SW 152nd Street
Start Date: 03/21/2019

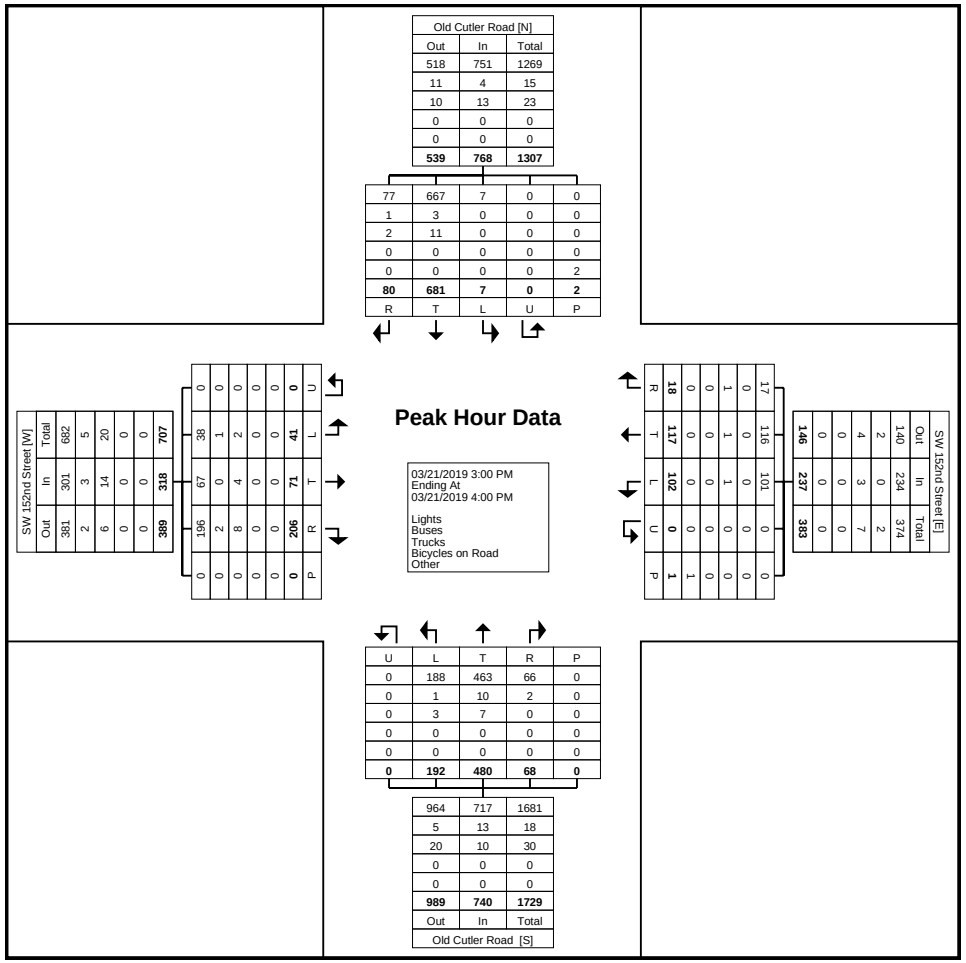
Turning Movement Peak Hour Data (3:00 PM)

Start Time	Old Cutler Road Southbound						SW 152nd Street Westbound						Old Cutler Road Northbound						SW 152nd Street Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
3:00 PM	19	186	0	0	0	205	5	40	26	0	0	71	17	81	46	0	0	144	55	15	11	0	0	81	501
3:15 PM	21	163	3	0	1	187	4	23	25	0	0	52	15	118	43	0	0	176	53	21	11	0	0	85	500
3:30 PM	30	151	1	0	0	182	5	38	26	0	0	69	17	160	46	0	0	223	60	19	9	0	0	88	562
3:45 PM	10	181	3	0	1	194	4	16	25	0	1	45	19	121	57	0	0	197	38	16	10	0	0	64	500
Total	80	681	7	0	2	768	18	117	102	0	1	237	68	480	192	0	0	740	206	71	41	0	0	318	2063
Approach %	10.4	88.7	0.9	0.0	-	-	7.6	49.4	43.0	0.0	-	-	9.2	64.9	25.9	0.0	-	-	64.8	22.3	12.9	0.0	-	-	-
Total %	3.9	33.0	0.3	0.0	-	37.2	0.9	5.7	4.9	0.0	-	11.5	3.3	23.3	9.3	0.0	-	35.9	10.0	3.4	2.0	0.0	-	15.4	-
PHF	0.667	0.915	0.583	0.000	-	0.937	0.900	0.731	0.981	0.000	-	0.835	0.895	0.750	0.842	0.000	-	0.830	0.858	0.845	0.932	0.000	-	0.903	0.918
Lights	77	667	7	0	-	751	17	116	101	0	-	234	66	463	188	0	-	717	196	67	38	0	-	301	2003
% Lights	96.3	97.9	100.0	-	-	97.8	94.4	99.1	99.0	-	-	98.7	97.1	96.5	97.9	-	-	96.9	95.1	94.4	92.7	-	-	94.7	97.1
Buses	1	3	0	0	-	4	0	0	0	0	-	0	2	10	1	0	-	13	2	0	1	0	-	3	20
% Buses	1.3	0.4	0.0	-	-	0.5	0.0	0.0	0.0	-	-	0.0	2.9	2.1	0.5	-	-	1.8	1.0	0.0	2.4	-	-	0.9	1.0
Trucks	2	11	0	0	-	13	1	1	1	0	-	3	0	7	3	0	-	10	8	4	2	0	-	14	40
% Trucks	2.5	1.6	0.0	-	-	1.7	5.6	0.9	1.0	-	-	1.3	0.0	1.5	1.6	-	-	1.4	3.9	5.6	4.9	-	-	4.4	1.9
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	50.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	50.0	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: Old Cutler Road at SW 152nd Street
Site Code: Old Cutler Road at SW 152nd Street
Start Date: 03/21/2019



Turning Movement Peak Hour Data Plot (3:00 PM)

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: Old Cutler Road at SW 168th Street
Site Code: Old Cutler Road at SW 168th Street
Start Date: 03/21/2019
Page No: 1

Turning Movement Data

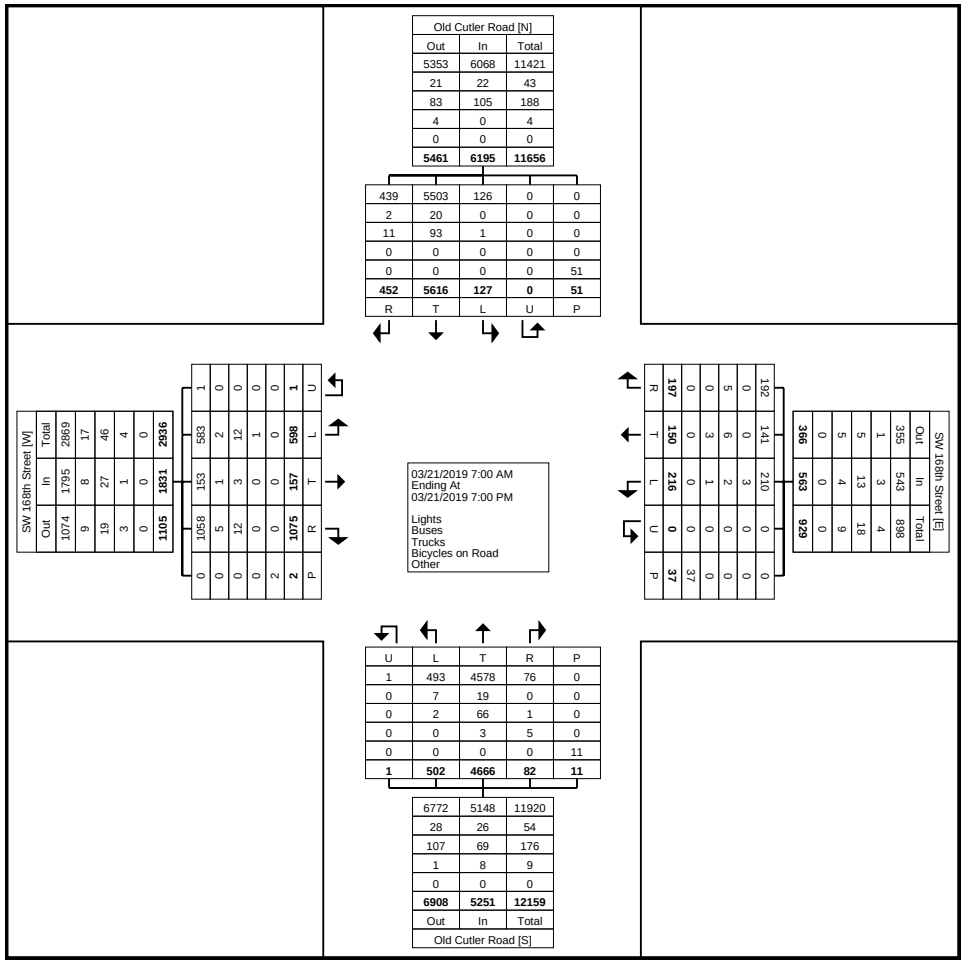
Start Time	Old Cutler Road Southbound						SW 168th Street Westbound						Old Cutler Road Northbound						SW 168th Street Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
7:00 AM	2	78	9	0	0	89	10	3	7	0	0	20	2	177	11	1	0	191	14	9	18	0	0	41	341
7:15 AM	5	106	5	0	1	116	10	3	4	0	0	17	1	192	10	0	0	203	14	9	22	0	0	45	381
7:30 AM	6	142	12	0	2	160	7	3	7	0	0	17	2	158	7	0	0	167	25	9	23	0	0	57	401
7:45 AM	12	152	3	0	1	167	9	4	7	0	1	20	3	181	16	0	0	200	28	8	13	0	0	49	436
Hourly Total	25	478	29	0	4	532	36	13	25	0	1	74	8	708	44	1	0	761	81	35	76	0	0	192	1559
8:00 AM	17	129	7	0	1	153	6	7	3	0	2	16	1	152	0	0	1	153	20	4	15	0	1	39	361
8:15 AM	12	101	2	0	0	115	12	4	3	0	2	19	2	195	18	0	0	215	22	5	11	0	0	38	387
8:30 AM	14	101	9	0	3	124	10	3	8	0	0	21	3	198	33	0	0	234	16	7	12	0	0	35	414
8:45 AM	16	110	6	0	0	132	9	7	3	0	1	19	5	203	32	0	0	240	29	9	13	0	0	51	442
Hourly Total	59	441	24	0	4	524	37	21	17	0	5	75	11	748	83	0	1	842	87	25	51	0	1	163	1604
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1:00 PM	20	122	5	0	3	147	4	4	9	0	4	17	2	147	8	0	0	157	23	3	18	0	0	44	365
1:15 PM	19	108	4	0	1	131	5	6	14	0	2	25	4	143	10	0	0	157	20	3	31	0	0	54	367
1:30 PM	18	150	1	0	0	169	6	4	4	0	0	14	5	157	14	0	0	176	19	5	27	1	0	52	411
1:45 PM	15	135	2	0	2	152	5	6	6	0	1	17	2	132	10	0	0	144	16	9	23	0	0	48	361
Hourly Total	72	515	12	0	6	599	20	20	33	0	7	73	13	579	42	0	0	634	78	20	99	1	0	198	1504
2:00 PM	10	162	3	0	3	175	8	5	6	0	2	19	2	155	18	0	0	175	12	1	20	0	0	33	402
2:15 PM	25	185	7	0	1	217	11	3	14	0	1	28	3	136	19	0	1	158	22	7	21	0	1	50	453
2:30 PM	29	200	4	0	2	233	8	5	6	0	0	19	1	129	7	0	0	137	18	2	21	0	0	41	430
2:45 PM	24	218	5	0	0	247	3	6	5	0	1	14	4	114	15	0	0	133	24	4	14	0	0	42	436
Hourly Total	88	765	19	0	6	872	30	19	31	0	4	80	10	534	59	0	1	603	76	14	76	0	1	166	1721
3:00 PM	24	217	2	0	0	243	3	1	8	0	1	12	4	117	17	0	0	138	31	2	14	0	0	47	440
3:15 PM	22	219	4	0	1	245	3	5	8	0	2	16	4	162	16	0	0	182	39	7	20	0	0	66	509
3:30 PM	19	197	5	0	1	221	5	7	14	0	0	26	2	207	28	0	0	237	39	6	20	0	0	65	549
3:45 PM	20	231	6	0	0	257	5	7	8	0	0	20	5	144	39	0	0	188	46	3	18	0	0	67	532
Hourly Total	85	864	17	0	2	966	16	20	38	0	3	74	15	630	100	0	0	745	155	18	72	0	0	245	2030
4:00 PM	11	214	1	0	2	226	5	6	6	0	1	17	3	126	20	0	0	149	54	5	24	0	0	83	475
4:15 PM	17	216	1	0	0	234	3	2	7	0	0	12	1	128	12	0	2	141	37	2	17	0	0	56	443
4:30 PM	11	215	1	0	0	227	5	2	13	0	1	20	2	134	15	0	0	151	37	1	24	0	0	62	460
4:45 PM	14	234	2	0	0	250	7	6	6	0	1	19	4	113	9	0	3	126	26	1	13	0	0	40	435
Hourly Total	53	879	5	0	2	937	20	16	32	0	3	68	10	501	56	0	5	567	154	9	78	0	0	241	1813
5:00 PM	13	207	3	0	1	223	8	7	7	0	0	22	2	129	13	0	0	144	45	6	18	0	0	69	458
5:15 PM	13	210	2	0	4	225	4	5	6	0	1	15	2	158	27	0	0	187	52	3	18	0	0	73	500
5:30 PM	6	183	4	0	4	193	3	3	8	0	4	14	0	142	14	0	0	156	78	6	18	0	0	102	465
5:45 PM	8	211	1	0	5	220	6	6	3	0	1	15	1	118	12	0	4	131	70	5	21	0	0	96	462
Hourly Total	40	811	10	0	14	861	21	21	24	0	6	66	5	547	66	0	4	618	245	20	75	0	0	340	1885
6:00 PM	7	206	4	0	4	217	4	6	3	0	2	13	2	118	14	0	0	134	58	6	15	0	0	79	443

6:15 PM	5	201	3	0	5	209	7	4	4	0	2	15	8	104	15	0	0	127	64	2	18	0	0	84	435
6:30 PM	6	223	1	0	1	230	4	5	5	0	4	14	0	101	13	0	0	114	44	2	21	0	0	67	425
6:45 PM	12	233	3	0	3	248	2	5	4	0	0	11	0	96	10	0	0	106	33	6	17	0	0	56	421
Hourly Total	30	863	11	0	13	904	17	20	16	0	8	53	10	419	52	0	0	481	199	16	71	0	0	286	1724
Grand Total	452	5616	127	0	51	6195	197	150	216	0	37	563	82	4666	502	1	11	5251	1075	157	598	1	2	1831	13840
Approach %	7.3	90.7	2.1	0.0	-	-	35.0	26.6	38.4	0.0	-	-	1.6	88.9	9.6	0.0	-	-	58.7	8.6	32.7	0.1	-	-	-
Total %	3.3	40.6	0.9	0.0	-	44.8	1.4	1.1	1.6	0.0	-	4.1	0.6	33.7	3.6	0.0	-	37.9	7.8	1.1	4.3	0.0	-	13.2	-
Lights	439	5503	126	0	-	6068	192	141	210	0	-	543	76	4578	493	1	-	5148	1058	153	583	1	-	1795	13554
% Lights	97.1	98.0	99.2	-	-	97.9	97.5	94.0	97.2	-	-	96.4	92.7	98.1	98.2	100.0	-	98.0	98.4	97.5	97.5	100.0	-	98.0	97.9
Buses	2	20	0	0	-	22	0	0	3	0	-	3	0	19	7	0	-	26	5	1	2	0	-	8	59
% Buses	0.4	0.4	0.0	-	-	0.4	0.0	0.0	1.4	-	-	0.5	0.0	0.4	1.4	0.0	-	0.5	0.5	0.6	0.3	0.0	-	0.4	0.4
Trucks	11	93	1	0	-	105	5	6	2	0	-	13	1	66	2	0	-	69	12	3	12	0	-	27	214
% Trucks	2.4	1.7	0.8	-	-	1.7	2.5	4.0	0.9	-	-	2.3	1.2	1.4	0.4	0.0	-	1.3	1.1	1.9	2.0	0.0	-	1.5	1.5
Bicycles on Road	0	0	0	0	-	0	0	3	1	0	-	4	5	3	0	0	-	8	0	0	1	0	-	1	13
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	2.0	0.5	-	-	0.7	6.1	0.1	0.0	0.0	-	0.2	0.0	0.0	0.2	0.0	-	0.1	0.1
Bicycles on Crosswalk	-	-	-	-	24	-	-	-	-	-	14	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	47.1	-	-	-	-	-	37.8	-	-	-	-	-	9.1	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	27	-	-	-	-	-	23	-	-	-	-	-	10	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	52.9	-	-	-	-	-	62.2	-	-	-	-	-	90.9	-	-	-	-	-	100.0	-	-

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: Old Cutler Road at SW 168th Street
Site Code: Old Cutler Road at SW 168th Street
Start Date: 03/21/2019



Turning Movement Data Plot

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: Old Cutler Road at SW 168th Street
Site Code: Old Cutler Road at SW 168th Street
Start Date: 03/21/2019

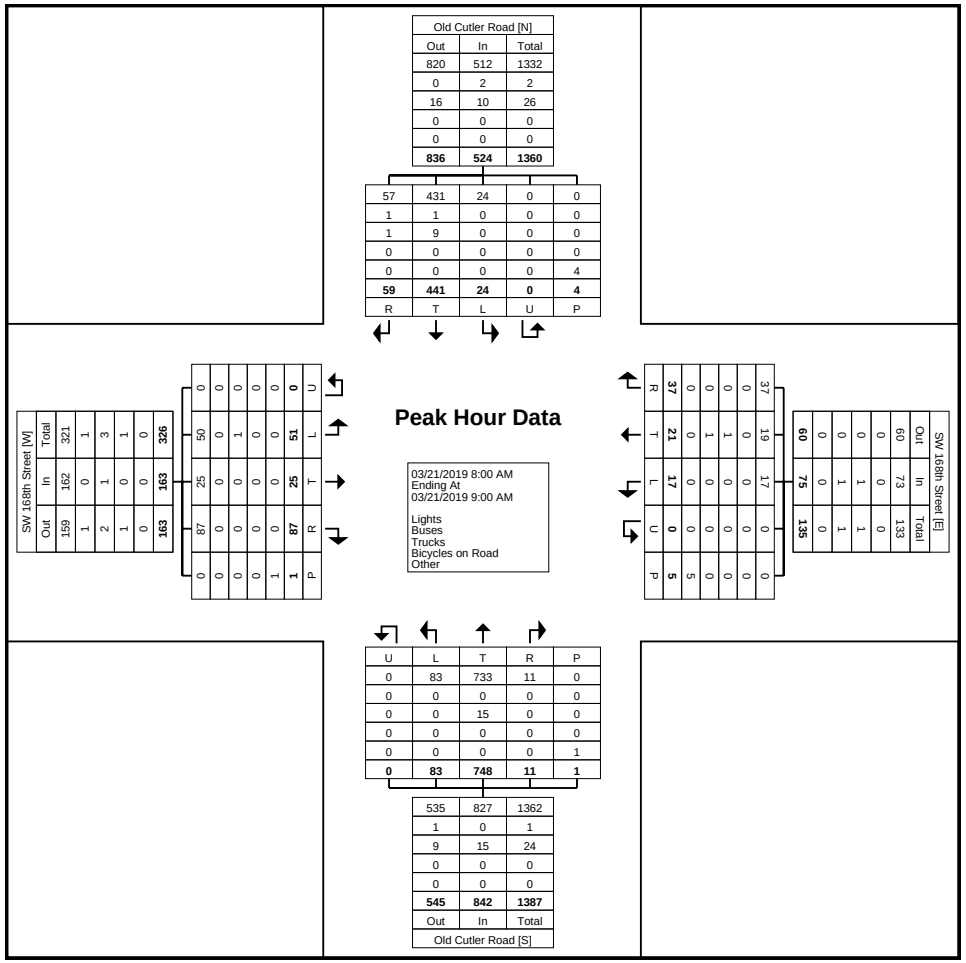
Turning Movement Peak Hour Data (8:00 AM)

Start Time	Old Cutler Road Southbound						SW 168th Street Westbound						Old Cutler Road Northbound						SW 168th Street Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
8:00 AM	17	129	7	0	1	153	6	7	3	0	2	16	1	152	0	0	1	153	20	4	15	0	1	39	361
8:15 AM	12	101	2	0	0	115	12	4	3	0	2	19	2	195	18	0	0	215	22	5	11	0	0	38	387
8:30 AM	14	101	9	0	3	124	10	3	8	0	0	21	3	198	33	0	0	234	16	7	12	0	0	35	414
8:45 AM	16	110	6	0	0	132	9	7	3	0	1	19	5	203	32	0	0	240	29	9	13	0	0	51	442
Total	59	441	24	0	4	524	37	21	17	0	5	75	11	748	83	0	1	842	87	25	51	0	1	163	1604
Approach %	11.3	84.2	4.6	0.0	-	-	49.3	28.0	22.7	0.0	-	-	1.3	88.8	9.9	0.0	-	-	53.4	15.3	31.3	0.0	-	-	-
Total %	3.7	27.5	1.5	0.0	-	32.7	2.3	1.3	1.1	0.0	-	4.7	0.7	46.6	5.2	0.0	-	52.5	5.4	1.6	3.2	0.0	-	10.2	-
PHF	0.868	0.855	0.667	0.000	-	0.856	0.771	0.750	0.531	0.000	-	0.893	0.550	0.921	0.629	0.000	-	0.877	0.750	0.694	0.850	0.000	-	0.799	0.907
Lights	57	431	24	0	-	512	37	19	17	0	-	73	11	733	83	0	-	827	87	25	50	0	-	162	1574
% Lights	96.6	97.7	100.0	-	-	97.7	100.0	90.5	100.0	-	-	97.3	100.0	98.0	100.0	-	-	98.2	100.0	100.0	98.0	-	-	99.4	98.1
Buses	1	1	0	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	2
% Buses	1.7	0.2	0.0	-	-	0.4	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.1
Trucks	1	9	0	0	-	10	0	1	0	0	-	1	0	15	0	0	-	15	0	0	1	0	-	1	27
% Trucks	1.7	2.0	0.0	-	-	1.9	0.0	4.8	0.0	-	-	1.3	0.0	2.0	0.0	-	-	1.8	0.0	0.0	2.0	-	-	0.6	1.7
Bicycles on Road	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	4.8	0.0	-	-	1.3	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	40.0	-	-	-	-	-	100.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	4	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	60.0	-	-	-	-	-	0.0	-	-	-	-	-	100.0	-	-

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: Old Cutler Road at SW 168th Street
Site Code: Old Cutler Road at SW 168th Street
Start Date: 03/21/2019



Turning Movement Peak Hour Data Plot (8:00 AM)

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: Old Cutler Road at SW 168th Street
Site Code: Old Cutler Road at SW 168th Street
Start Date: 03/21/2019

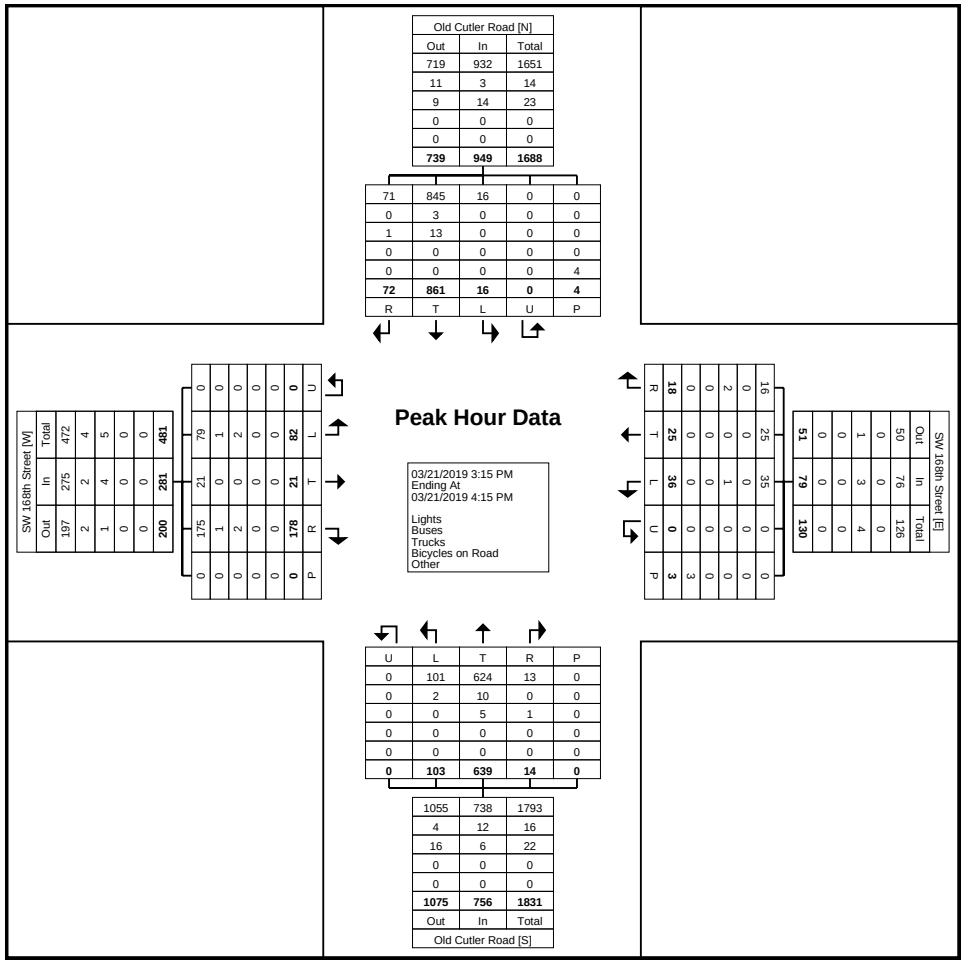
Turning Movement Peak Hour Data (3:15 PM)

Start Time	Old Cutler Road Southbound						SW 168th Street Westbound						Old Cutler Road Northbound						SW 168th Street Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
3:15 PM	22	219	4	0	1	245	3	5	8	0	2	16	4	162	16	0	0	182	39	7	20	0	0	66	509
3:30 PM	19	197	5	0	1	221	5	7	14	0	0	26	2	207	28	0	0	237	39	6	20	0	0	65	549
3:45 PM	20	231	6	0	0	257	5	7	8	0	0	20	5	144	39	0	0	188	46	3	18	0	0	67	532
4:00 PM	11	214	1	0	2	226	5	6	6	0	1	17	3	126	20	0	0	149	54	5	24	0	0	83	475
Total	72	861	16	0	4	949	18	25	36	0	3	79	14	639	103	0	0	756	178	21	82	0	0	281	2065
Approach %	7.6	90.7	1.7	0.0	-	-	22.8	31.6	45.6	0.0	-	-	1.9	84.5	13.6	0.0	-	-	63.3	7.5	29.2	0.0	-	-	-
Total %	3.5	41.7	0.8	0.0	-	46.0	0.9	1.2	1.7	0.0	-	3.8	0.7	30.9	5.0	0.0	-	36.6	8.6	1.0	4.0	0.0	-	13.6	-
PHF	0.818	0.932	0.667	0.000	-	0.923	0.900	0.893	0.643	0.000	-	0.760	0.700	0.772	0.660	0.000	-	0.797	0.824	0.750	0.854	0.000	-	0.846	0.940
Lights	71	845	16	0	-	932	16	25	35	0	-	76	13	624	101	0	-	738	175	21	79	0	-	275	2021
% Lights	98.6	98.1	100.0	-	-	98.2	88.9	100.0	97.2	-	-	96.2	92.9	97.7	98.1	-	-	97.6	98.3	100.0	96.3	-	-	97.9	97.9
Buses	0	3	0	0	-	3	0	0	0	0	-	0	0	10	2	0	-	12	1	0	1	0	-	2	17
% Buses	0.0	0.3	0.0	-	-	0.3	0.0	0.0	0.0	-	-	0.0	0.0	1.6	1.9	-	-	1.6	0.6	0.0	1.2	-	-	0.7	0.8
Trucks	1	13	0	0	-	14	2	0	1	0	-	3	1	5	0	0	-	6	2	0	2	0	-	4	27
% Trucks	1.4	1.5	0.0	-	-	1.5	11.1	0.0	2.8	-	-	3.8	7.1	0.8	0.0	-	-	0.8	1.1	0.0	2.4	-	-	1.4	1.3
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	75.0	-	-	-	-	-	66.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	25.0	-	-	-	-	-	33.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Marlin Engineering Inc.
1700 NW 66th Avenue, Suite 106

Fort Lauderdale, Florida, United States 33313
P: 954.870.5070 mgonzalez@marlinengineering.com

Count Name: Old Cutler Road at SW 168th Street
Site Code: Old Cutler Road at SW 168th Street
Start Date: 03/21/2019



Turning Movement Peak Hour Data Plot (3:15 PM)

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at Ludlam Road
Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	19-Mar-19 Tue	SB	WB	NB	EB					Total
12:00 AM		3	17	0	3					23
12:15		1	11	0	4					16
12:30		3	8	1	8					20
12:45		1	4	0	2					7
01:00		0	8	4	4					16
01:15		0	3	0	1					4
01:30		2	6	0	3					11
01:45		1	5	0	2					8
02:00		0	4	0	4					8
02:15		0	7	1	3					11
02:30		2	2	0	2					6
02:45		1	3	0	10					14
03:00		1	1	0	14					16
03:15		0	0	0	24					24
03:30		5	3	0	17					25
03:45		6	3	0	40					49
04:00		5	1	1	77					84
04:15		8	5	0	134					147
04:30		19	5	1	157					182
04:45		14	7	1	**229**					251
05:00		12	7	2	**237**					258
05:15		19	8	2	**264**					293
05:30		18	10	7	**256**					291
05:45		29	11	9	209					258
06:00		47	12	12	227					298
06:15		**99**	13	29	185					326
06:30		**118**	28	69	232					447
06:45		**69**	28	**97**	192					386
07:00		**68**	57	**100**	206					431
07:15		78	**80**	**98**	199					**455**
07:30		64	**135**	**97**	246					**542**
07:45		54	**98**	97	188					**437**
08:00		44	**86**	74	231					**435**
08:15		44	79	57	238					418
08:30		46	87	68	219					420
08:45		43	104	50	212					409
09:00		38	67	58	205					368
09:15		33	81	37	186					337
09:30		32	70	45	193					340
09:45		48	69	43	154					314
10:00		40	97	29	145					311
10:15		34	67	43	165					309
10:30		32	71	21	141					265
10:45		43	75	17	132					267
11:00		70	93	25	109					297
11:15		49	80	26	108					263
11:30		45	101	22	99					267
11:45		43	76	29	102					250
Total		1431	1893	1272	6018					10614
Percent		13.5%	17.8%	12.0%	56.7%					
Peak	-	06:15	07:15	06:45	04:45	-	-	-	-	07:15
Vol.	-	354	399	392	986	-	-	-	-	1869
P.H.F.		0.750	0.739	0.980	0.934					0.862

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at Ludlam Road
Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	19-Mar-19 Tue	SB	WB	NB	EB					Total
12:00 PM		33	64	18	98					213
12:15		58	115	28	116					317
12:30		50	91	22	123					286
12:45		53	102	28	113					296
01:00		93	90	23	107					313
01:15		83	96	19	125					323
01:30		**117**	118	19	110					364
01:45		**127**	119	13	117					376
02:00		**100**	124	20	102					346
02:15		**127**	125	13	**138**					403
02:30		111	158	48	**147**					464
02:45		109	201	**57**	**118**					485
03:00		97	186	**119**	**106**					**508**
03:15		97	201	**80**	124					**502**
03:30		100	227	**76**	106					**509**
03:45		89	230	52	117					**488**
04:00		121	216	51	98					486
04:15		125	219	35	93					472
04:30		102	239	35	94					470
04:45		94	242	28	95					459
05:00		98	211	21	110					440
05:15		91	**254**	30	83					458
05:30		84	**249**	25	110					468
05:45		66	**246**	13	85					410
06:00		75	**228**	21	75					399
06:15		62	202	23	72					359
06:30		57	217	21	67					362
06:45		48	145	14	69					276
07:00		49	164	14	48					275
07:15		45	164	26	58					293
07:30		31	137	20	46					234
07:45		28	134	9	42					213
08:00		38	115	9	38					200
08:15		49	109	12	36					206
08:30		34	117	7	29					187
08:45		28	104	4	29					165
09:00		29	98	1	33					161
09:15		11	83	9	18					121
09:30		20	77	38	20					155
09:45		15	67	4	10					96
10:00		11	67	3	24					105
10:15		12	45	3	14					74
10:30		8	40	2	12					62
10:45		9	42	2	10					63
11:00		8	29	1	7					45
11:15		4	33	1	4					42
11:30		4	26	3	7					40
11:45		6	29	3	4					42
Total		2906	6595	1123	3407					14031
Percent		20.7%	47.0%	8.0%	24.3%					
Peak	-	13:30	17:15	14:45	14:15	-	-	-	-	15:00
Vol.	-	471	977	332	509	-	-	-	-	2007
P.H.F.		0.927	0.962	0.697	0.866					0.986

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at Ludlam Road
Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	20-Mar-19 Wed	SB	WB	NB	EB					Total
12:00 AM		4	24	0	5					33
12:15		4	22	0	2					28
12:30		0	13	3	5					21
12:45		3	7	1	4					15
01:00		0	5	0	1					6
01:15		1	7	2	3					13
01:30		0	7	0	5					12
01:45		5	7	2	1					15
02:00		1	6	0	2					9
02:15		2	4	0	2					8
02:30		1	4	0	8					13
02:45		1	3	0	4					8
03:00		0	0	0	7					7
03:15		1	2	0	21					24
03:30		4	1	0	25					30
03:45		2	4	0	41					47
04:00		6	1	0	73					80
04:15		11	4	2	120					137
04:30		19	3	1	149					172
04:45		18	1	2	227					248
05:00		12	2	0	244					258
05:15		22	7	4	223					256
05:30		18	11	7	235					271
05:45		32	9	10	215					266
06:00		**63**	10	10	258					341
06:15		**107**	20	38	218					383
06:30		**123**	25	99	242					489
06:45		**67**	29	**104**	234					434
07:00		47	70	**80**	189					386
07:15		72	**84**	**81**	233					**470**
07:30		51	**111**	**111**	219					**492**
07:45		44	**92**	96	206					**438**
08:00		63	**84**	65	232					**444**
08:15		50	82	66	**201**					399
08:30		37	91	78	**278**					484
08:45		52	94	70	**245**					461
09:00		36	79	57	**237**					409
09:15		40	64	43	189					336
09:30		42	66	56	217					381
09:45		43	69	45	207					364
10:00		34	73	32	170					309
10:15		49	74	37	200					360
10:30		51	90	28	155					324
10:45		47	91	31	159					328
11:00		75	85	31	158					349
11:15		70	69	28	149					316
11:30		51	90	31	137					309
11:45		53	100	30	112					295
Total		1534	1896	1381	6467					11278
Percent		13.6%	16.8%	12.2%	57.3%					
Peak	-	06:00	07:15	06:45	08:15	-	-	-	-	07:15
Vol.	-	360	371	376	961	-	-	-	-	1844
P.H.F.		0.732	0.836	0.847	0.864					0.937

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at Ludlam Road
Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	20-Mar-19 Wed	SB	WB	NB	EB					Total
12:00 PM		45	78	24	123					270
12:15		66	150	24	141					381
12:30		48	120	17	**141**					326
12:45		67	151	20	**119**					357
01:00		96	141	19	**127**					383
01:15		84	120	24	**157**					385
01:30		125	115	12	133					385
01:45		119	127	25	87					358
02:00		114	150	17	85					366
02:15		111	196	25	116					448
02:30		98	159	29	169					455
02:45		119	187	43	102					451
03:00		117	201	**93**	122					533
03:15		126	201	**79**	101					507
03:30		111	232	**73**	119					535
03:45		105	232	**47**	98					482
04:00		111	232	60	127					530
04:15		**116**	233	42	122					513
04:30		**135**	234	38	129					**536**
04:45		**111**	242	30	102					**485**
05:00		**128**	245	42	113					**528**
05:15		104	253	46	121					**524**
05:30		98	245	46	93					482
05:45		94	**259**	23	96					472
06:00		84	**252**	27	94					457
06:15		72	**246**	37	91					446
06:30		80	**257**	29	67					433
06:45		55	241	13	72					381
07:00		59	211	27	58					355
07:15		55	198	34	56					343
07:30		44	165	23	57					289
07:45		31	162	19	35					247
08:00		44	169	23	29					265
08:15		37	141	16	12					206
08:30		26	134	13	8					181
08:45		36	111	7	16					170
09:00		28	96	20	13					157
09:15		26	110	37	5					178
09:30		24	64	56	6					150
09:45		27	76	20	11					134
10:00		17	73	29	6					125
10:15		14	62	30	5					111
10:30		14	36	19	4					73
10:45		5	44	26	7					82
11:00		10	51	13	4					78
11:15		4	39	23	0					66
11:30		3	34	6	0					43
11:45		2	31	5	4					42
Total		3245	7506	1450	3503					15704
Percent		20.7%	47.8%	9.2%	22.3%					
Peak	-	16:15	17:45	15:00	12:30	-	-	-	-	16:30
Vol.	-	490	1014	292	544	-	-	-	-	2073
P.H.F.		0.907	0.979	0.785	0.866					0.967

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at Ludlam Road
Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	21-Mar-19 Thu	SB	WB	NB	EB					Total
12:00 AM		4	26	7	1					38
12:15		4	19	5	1					29
12:30		7	15	1	1					24
12:45		5	8	4	2					19
01:00		2	9	6	1					18
01:15		4	9	2	1					16
01:30		1	8	4	0					13
01:45		1	3	1	1					6
02:00		0	10	1	1					12
02:15		2	6	2	0					10
02:30		2	5	2	1					10
02:45		0	4	2	0					6
03:00		0	2	2	3					7
03:15		0	6	5	22					33
03:30		1	4	3	18					26
03:45		0	3	6	35					44
04:00		5	3	4	80					92
04:15		7	3	0	121					131
04:30		20	2	0	167					189
04:45		21	2	0	228					251
05:00		11	5	0	**250**					266
05:15		24	8	1	**257**					290
05:30		25	11	6	**229**					271
05:45		32	8	13	**265**					318
06:00		44	14	20	203					281
06:15		**89**	19	40	188					336
06:30		**114**	24	89	263					490
06:45		**70**	33	**95**	224					422
07:00		**56**	59	**90**	221					426
07:15		77	92	**95**	227					**491**
07:30		56	**143**	**101**	204					**504**
07:45		61	**94**	95	205					**455**
08:00		54	**77**	79	241					**451**
08:15		49	**96**	63	225					433
08:30		37	88	69	249					443
08:45		35	88	58	207					388
09:00		28	77	49	192					346
09:15		37	73	39	197					346
09:30		37	61	35	187					320
09:45		43	74	24	186					327
10:00		43	81	27	164					315
10:15		50	84	22	163					319
10:30		40	100	31	170					341
10:45		47	97	32	147					323
11:00		62	107	22	127					318
11:15		56	84	30	141					311
11:30		63	99	26	107					295
11:45		64	81	18	161					324
Total		1490	2024	1326	6284					11124
Percent		13.4%	18.2%	11.9%	56.5%					
Peak	-	06:15	07:30	06:45	05:00	-	-	-	-	07:15
Vol.	-	329	410	381	1001	-	-	-	-	1901
P.H.F.		0.721	0.717	0.943	0.944					0.943

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at Ludlam Road
Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	21-Mar-19 Thu	SB	WB	NB	EB					Total
12:00 PM		67	100	37	151					355
12:15		64	124	42	118					348
12:30		72	140	26	126					364
12:45		88	128	27	**146**					389
01:00		99	110	29	**132**					370
01:15		84	126	27	**129**					366
01:30		125	125	28	**154**					432
01:45		106	144	46	118					414
02:00		110	166	**90**	110					476
02:15		124	178	**66**	126					494
02:30		111	178	**43**	147					479
02:45		128	160	**66**	111					465
03:00		100	180	59	126					465
03:15		102	213	42	126					483
03:30		**120**	236	53	116					525
03:45		**108**	228	42	105					483
04:00		**126**	**266**	36	105					**533**
04:15		**122**	**254**	24	143					**543**
04:30		108	**244**	40	140					**532**
04:45		119	**255**	32	141					**547**
05:00		119	233	30	120					502
05:15		113	248	34	112					507
05:30		100	244	40	98					482
05:45		79	243	27	96					445
06:00		88	249	28	108					473
06:15		94	242	40	106					482
06:30		100	225	24	75					424
06:45		95	186	18	75					374
07:00		95	126	31	71					323
07:15		65	145	32	58					300
07:30		40	157	27	49					273
07:45		35	114	29	68					246
08:00		52	116	55	54					277
08:15		31	188	25	71					315
08:30		29	106	4	51					190
08:45		39	113	7	53					212
09:00		43	118	5	11					177
09:15		38	126	5	16					185
09:30		28	97	31	10					166
09:45		33	83	11	8					135
10:00		30	90	38	8					166
10:15		16	60	31	7					114
10:30		14	65	20	3					102
10:45		10	56	18	6					90
11:00		5	54	7	5					71
11:15		7	37	15	2					61
11:30		8	38	11	5					62
11:45		7	29	6	2					44
Total		3496	7343	1504	3918					16261
Percent		21.5%	45.2%	9.2%	24.1%					
Peak	-	15:30	16:00	14:00	12:45	-	-	-	-	16:00
Vol.	-	476	1019	265	561	-	-	-	-	2155
P.H.F.		0.930	0.958	0.736	0.911					0.985
Grand Total		14102	27257	8056	29597					79012
Percent		17.8%	34.5%	10.2%	37.5%					
ADT		ADT 26,329		AADT 26,329						

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at SW 144th Street

Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	19-Mar-19 Tue	SB	EB	WB						Total
12:00 AM		8	1	0						9
12:15		4	2	0						6
12:30		9	0	2						11
12:45		6	0	0						6
01:00		2	2	0						4
01:15		7	4	1						12
01:30		5	1	0						6
01:45		2	1	0						3
02:00		0	0	0						0
02:15		1	0	0						1
02:30		2	1	0						3
02:45		3	1	1						5
03:00		1	1	2						4
03:15		3	1	0						4
03:30		6	1	0						7
03:45		8	1	0						9
04:00		7	0	0						7
04:15		6	0	0						6
04:30		9	0	0						9
04:45		16	1	0						17
05:00		15	2	2						19
05:15		15	2	1						18
05:30		35	11	1						47
05:45		38	11	0						49
06:00		72	18	1						91
06:15		**124**	27	2						153
06:30		**157**	35	6						198
06:45		**144**	52	3						199
07:00		**107**	**53**	6						166
07:15		113	**74**	13						**200**
07:30		111	**91**	18						**220**
07:45		118	**82**	**43**						**243**
08:00		108	52	**44**						**204**
08:15		91	67	**24**						182
08:30		76	55	**28**						159
08:45		85	58	19						162
09:00		80	65	19						164
09:15		86	39	18						143
09:30		71	36	9						116
09:45		72	31	10						113
10:00		94	24	12						130
10:15		93	29	10						132
10:30		88	22	7						117
10:45		82	30	7						119
11:00		86	30	8						124
11:15		124	32	4						160
11:30		94	24	10						128
11:45		89	36	15						140
Total		2573	1106	346						4025
Percent		63.9%	27.5%	8.6%						
Peak	-	06:15	07:00	07:45	-	-	-	-	-	07:15
Vol.	-	532	300	139	-	-	-	-	-	867
P.H.F.		0.847	0.824	0.790						0.892

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at SW 144th Street

Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	19-Mar-19 Tue	SB	EB	WB						Total
12:00 PM		99	28	27						154
12:15		127	25	11						163
12:30		110	27	7						144
12:45		128	27	8						163
01:00		139	27	11						177
01:15		157	24	11						192
01:30		201	33	8						242
01:45		220	28	11						259
02:00		**227**	35	11						**273**
02:15		**220**	37	13						**270**
02:30		**222**	**50**	20						**292**
02:45		**241**	**66**	14						**321**
03:00		186	**49**	**33**						268
03:15		173	**42**	**31**						246
03:30		221	36	**29**						286
03:45		220	36	**29**						285
04:00		213	33	16						262
04:15		194	42	30						266
04:30		222	27	26						275
04:45		197	24	27						248
05:00		217	21	22						260
05:15		182	19	37						238
05:30		178	29	25						232
05:45		176	27	26						229
06:00		158	19	34						211
06:15		183	22	22						227
06:30		155	30	24						209
06:45		145	35	24						204
07:00		136	23	16						175
07:15		144	24	22						190
07:30		130	19	12						161
07:45		104	20	5						129
08:00		126	14	8						148
08:15		94	15	9						118
08:30		76	11	6						93
08:45		90	14	5						109
09:00		85	7	5						97
09:15		51	14	2						67
09:30		35	9	7						51
09:45		45	9	2						56
10:00		33	7	1						41
10:15		32	1	0						33
10:30		33	4	1						38
10:45		35	2	1						38
11:00		31	3	0						34
11:15		18	2	1						21
11:30		21	3	0						24
11:45		12	5	0						17
Total		6442	1104	690						8236
Percent		78.2%	13.4%	8.4%						
Peak	-	14:00	14:30	15:00	-	-	-	-	-	14:00
Vol.	-	910	207	122	-	-	-	-	-	1156
P.H.F.		0.944	0.784	0.924						0.900

Marlin Engineering
1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at SW 144th Street

Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	20-Mar-19 Wed	SB	EB	WB						Total
12:00 AM		7	2	1						10
12:15		6	2	0						8
12:30		9	0	0						9
12:45		7	1	0						8
01:00		2	1	0						3
01:15		3	0	0						3
01:30		5	0	0						5
01:45		1	1	0						2
02:00		5	0	1						6
02:15		1	0	0						1
02:30		0	0	0						0
02:45		3	0	0						3
03:00		2	0	0						2
03:15		2	1	0						3
03:30		4	0	0						4
03:45		4	4	0						8
04:00		5	0	0						5
04:15		3	2	0						5
04:30		7	0	1						8
04:45		14	1	1						16
05:00		10	1	0						11
05:15		25	2	0						27
05:30		28	12	1						41
05:45		35	11	1						47
06:00		85	18	0						103
06:15		**129**	25	3						157
06:30		**152**	47	6						205
06:45		**127**	48	6						181
07:00		**121**	**72**	7						200
07:15		103	**61**	12						176
07:30		111	**93**	17						**221**
07:45		108	**77**	**33**						**218**
08:00		118	57	**63**						**238**
08:15		108	68	**28**						**204**
08:30		85	65	**21**						171
08:45		75	69	29						173
09:00		72	96	15						183
09:15		87	47	10						144
09:30		91	33	13						137
09:45		78	29	9						116
10:00		88	24	9						121
10:15		82	29	8						119
10:30		94	35	11						140
10:45		119	27	5						151
11:00		78	21	13						112
11:15		148	20	7						175
11:30		138	28	11						177
11:45		136	29	11						176
Total		2721	1159	353						4233
Percent		64.3%	27.4%	8.3%						
Peak	-	06:15	07:00	07:45	-	-	-	-	-	07:30
Vol.	-	529	303	145	-	-	-	-	-	881
P.H.F.		0.870	0.815	0.575						0.925

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at SW 144th Street

Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	20-Mar-19 Wed	SB	EB	WB						Total
12:00 PM		139	43	13						195
12:15		122	27	12						161
12:30		135	21	4						160
12:45		131	28	3						162
01:00		186	30	12						228
01:15		206	37	9						252
01:30		214	43	20						277
01:45		228	55	9						292
02:00		211	36	14						261
02:15		**218**	**47**	7						272
02:30		**224**	**38**	19						**281**
02:45		**248**	**61**	13						**322**
03:00		**222**	**49**	29						**300**
03:15		218	35	38						**291**
03:30		188	37	20						245
03:45		227	40	21						288
04:00		221	42	20						283
04:15		205	25	20						250
04:30		215	40	26						281
04:45		165	29	23						217
05:00		176	21	27						224
05:15		202	28	**26**						256
05:30		199	23	**22**						244
05:45		229	28	**38**						295
06:00		219	32	**35**						286
06:15		189	28	22						239
06:30		187	28	26						241
06:45		172	25	11						208
07:00		179	27	11						217
07:15		169	18	12						199
07:30		155	17	12						184
07:45		124	15	9						148
08:00		112	17	13						142
08:15		0	16	9						25
08:30		1	15	4						20
08:45		1	18	4						23
09:00		1	14	5						20
09:15		0	23	4						27
09:30		0	11	8						19
09:45		0	10	1						11
10:00		0	9	1						10
10:15		1	6	1						8
10:30		0	6	2						8
10:45		0	6	1						7
11:00		0	7	2						9
11:15		0	2	2						4
11:30		0	2	1						3
11:45		0	5	3						8
Total		6239	1220	644						8103
Percent		77.0%	15.1%	7.9%						
Peak	-	14:15	14:15	17:15	-	-	-	-	-	14:30
Vol.	-	912	195	121	-	-	-	-	-	1194
P.H.F.		0.919	0.799	0.796						0.927

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at SW 144th Street

Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	21-Mar-19 Thu	SB	EB	WB						Total
12:00 AM		3	2	2						7
12:15		0	4	1						5
12:30		0	0	1						1
12:45		0	0	0						0
01:00		0	1	0						1
01:15		0	0	1						1
01:30		0	2	0						2
01:45		0	0	0						0
02:00		1	0	1						2
02:15		0	0	0						0
02:30		0	0	0						0
02:45		0	0	0						0
03:00		2	0	0						2
03:15		2	1	0						3
03:30		0	0	0						0
03:45		4	0	0						4
04:00		5	1	0						6
04:15		9	2	0						11
04:30		9	0	1						10
04:45		15	1	3						19
05:00		16	0	0						16
05:15		21	4	1						26
05:30		39	11	0						50
05:45		37	14	1						52
06:00		89	14	1						104
06:15		125	24	4						153
06:30		137	48	6						191
06:45		149	56	6						211
07:00		100	51	6						157
07:15		111	70	14						195
07:30		122	**101**	10						**233**
07:45		108	**71**	**40**						**219**
08:00		116	**63**	**59**						**238**
08:15		93	**75**	**31**						**199**
08:30		58	63	**21**						142
08:45		97	67	18						182
09:00		63	66	13						142
09:15		73	52	10						135
09:30		78	54	13						145
09:45		81	46	12						139
10:00		94	44	7						145
10:15		102	34	6						142
10:30		91	35	12						138
10:45		83	26	7						116
11:00		**116**	36	7						159
11:15		**191**	32	7						230
11:30		**147**	29	10						186
11:45		**131**	37	13						181
Total		2718	1237	345						4300
Percent		63.2%	28.8%	8.0%						
Peak	-	11:00	07:30	07:45	-	-	-	-	-	07:30
Vol.	-	585	310	151	-	-	-	-	-	889
P.H.F.		0.766	0.767	0.640						0.934

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at SW 144th Street

Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	21-Mar-19 Thu	SB	EB	WB						Total
12:00 PM		126	23	9						158
12:15		130	24	13						167
12:30		139	29	6						174
12:45		146	21	11						178
01:00		164	24	6						194
01:15		216	40	7						263
01:30		233	39	14						286
01:45		240	34	11						285
02:00		212	**47**	26						285
02:15		**248**	**44**	20						**312**
02:30		**252**	**34**	13						**299**
02:45		**204**	**46**	11						**261**
03:00		**250**	38	22						**310**
03:15		227	25	**20**						272
03:30		218	43	**29**						290
03:45		218	23	**15**						256
04:00		217	34	**25**						276
04:15		213	27	18						258
04:30		206	26	12						244
04:45		165	30	24						219
05:00		212	22	17						251
05:15		233	29	17						279
05:30		223	21	12						256
05:45		154	22	18						194
06:00		130	24	19						173
06:15		162	29	10						201
06:30		184	21	18						223
06:45		164	32	13						209
07:00		149	36	11						196
07:15		195	23	11						229
07:30		162	21	12						195
07:45		117	14	4						135
08:00		122	19	4						145
08:15		107	15	5						127
08:30		86	15	6						107
08:45		111	8	5						124
09:00		21	8	3						32
09:15		1	7	4						12
09:30		0	6	9						15
09:45		0	8	0						8
10:00		0	2	0						2
10:15		0	2	0						2
10:30		0	9	2						11
10:45		0	4	3						7
11:00		0	4	0						4
11:15		0	3	1						4
11:30		0	2	0						2
11:45		0	5	0						5
Total		6557	1062	516						8135
Percent		80.6%	13.1%	6.3%						
Peak	-	14:15	14:00	15:15	-	-	-	-	-	14:15
Vol.	-	954	171	89	-	-	-	-	-	1182
P.H.F.		0.946	0.910	0.767						0.947
Grand Total		27250	6888	2894						37032
Percent		73.6%	18.6%	7.8%						
ADT		ADT 12,342		AADT 12,342						

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at SW 152nd Street
Old Cutler Road at SW 152nd Street
Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	19-Mar-19 Tue	SB	WB	NB	EB					Total
12:00 AM		7	1	8	7					23
12:15		3	0	9	3					15
12:30		9	0	6	5					20
12:45		5	0	4	2					11
01:00		1	0	6	3					10
01:15		6	0	6	2					14
01:30		7	0	4	0					11
01:45		3	0	6	1					10
02:00		0	2	4	2					8
02:15		2	0	3	4					9
02:30		2	0	5	1					8
02:45		4	0	0	1					5
03:00		4	1	6	2					13
03:15		2	1	3	3					9
03:30		8	1	7	1					17
03:45		8	0	21	7					36
04:00		7	2	22	6					37
04:15		2	0	38	19					59
04:30		12	0	29	30					71
04:45		24	5	75	47					151
05:00		15	6	129	65					215
05:15		15	4	183	**91**					293
05:30		32	16	239	**94**					381
05:45		38	7	**303**	**89**					437
06:00		80	17	**253**	**90**					440
06:15		**131**	**43**	**254**	80					**508**
06:30		**170**	**61**	**249**	74					**554**
06:45		**164**	**83**	249	86					**582**
07:00		**106**	**66**	234	59					**465**
07:15		102	24	257	100					483
07:30		93	16	215	57					381
07:45		106	20	228	87					441
08:00		99	16	225	88					428
08:15		86	15	227	76					404
08:30		80	16	249	76					421
08:45		73	18	235	66					392
09:00		76	17	231	58					382
09:15		83	8	230	64					385
09:30		57	18	245	62					382
09:45		90	11	236	42					379
10:00		82	17	247	49					395
10:15		88	8	219	70					385
10:30		75	16	185	43					319
10:45		79	17	175	68					339
11:00		74	26	146	51					297
11:15		126	18	158	48					350
11:30		83	9	152	80					324
11:45		77	19	141	63					300
Total		2496	625	6356	2122					11599
Percent		21.5%	5.4%	54.8%	18.3%					
Peak	-	06:15	06:15	05:45	05:15	-	-	-	-	06:15
Vol.	-	571	253	1059	364	-	-	-	-	2109
P.H.F.		0.840	0.762	0.874	0.968					0.906

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at SW 152nd Street
Old Cutler Road at SW 152nd Street
Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	19-Mar-19 Tue	SB	WB	NB	EB					Total
12:00 PM		105	26	140	56					327
12:15		110	16	150	73					349
12:30		108	19	129	49					305
12:45		113	12	126	58					309
01:00		138	19	134	64					355
01:15		143	33	146	60					382
01:30		186	37	160	**81**					464
01:45		180	**65**	140	**84**					469
02:00		**189**	**104**	163	**86**					**542**
02:15		**186**	**88**	160	**108**					**542**
02:30		**177**	**61**	178	72					**488**
02:45		**203**	59	**170**	69					**501**
03:00		165	73	**140**	76					454
03:15		171	67	**204**	57					499
03:30		174	42	**213**	76					505
03:45		179	66	134	67					446
04:00		174	54	152	78					458
04:15		175	58	147	64					444
04:30		158	54	145	73					430
04:45		151	44	112	50					357
05:00		137	57	153	51					398
05:15		159	37	136	71					403
05:30		177	49	149	71					446
05:45		146	37	135	64					382
06:00		143	17	137	84					381
06:15		166	23	122	61					372
06:30		144	42	126	73					385
06:45		129	17	119	63					328
07:00		140	11	96	65					312
07:15		135	8	100	81					324
07:30		125	8	89	58					280
07:45		94	8	80	50					232
08:00		111	8	73	45					237
08:15		105	11	52	52					220
08:30		76	29	55	32					192
08:45		88	9	36	33					166
09:00		73	3	36	32					144
09:15		52	3	40	33					128
09:30		39	5	35	31					110
09:45		42	3	34	20					99
10:00		35	1	34	30					100
10:15		37	1	23	9					70
10:30		31	2	28	17					78
10:45		34	0	19	17					70
11:00		30	0	22	12					64
11:15		21	1	19	12					53
11:30		13	0	17	9					39
11:45		17	1	12	12					42
Total		5684	1388	5020	2589					14681
Percent		38.7%	9.5%	34.2%	17.6%					
Peak	-	14:00	13:45	14:45	13:30	-	-	-	-	14:00
Vol.	-	755	318	727	359	-	-	-	-	2073
P.H.F.		0.930	0.764	0.853	0.831					0.956

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at SW 152nd Street
Old Cutler Road at SW 152nd Street
Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	20-Mar-19 Wed	SB	WB	NB	EB					Total
12:00 AM		7	1	5	2					15
12:15		7	0	8	4					19
12:30		10	0	5	3					18
12:45		5	0	6	3					14
01:00		4	0	5	2					11
01:15		3	0	1	2					6
01:30		6	3	6	2					17
01:45		1	0	4	0					5
02:00		4	0	2	2					8
02:15		2	1	3	1					7
02:30		2	0	7	0					9
02:45		4	1	3	2					10
03:00		2	0	4	1					7
03:15		2	0	8	3					13
03:30		6	2	9	2					19
03:45		4	1	11	7					23
04:00		6	0	25	6					37
04:15		4	3	33	15					55
04:30		5	2	42	27					76
04:45		18	3	70	38					129
05:00		11	16	106	66					199
05:15		22	20	173	69					284
05:30		27	24	**249**	87					387
05:45		33	6	**295**	102					436
06:00		82	15	**257**	105					459
06:15		**129**	**35**	**247**	98					**509**
06:30		**170**	**51**	245	76					**542**
06:45		**102**	**79**	239	89					**509**
07:00		**139**	**44**	253	79					**515**
07:15		93	25	233	81					432
07:30		87	23	217	79					406
07:45		97	28	227	86					438
08:00		83	12	181	82					358
08:15		91	10	247	**109**					457
08:30		65	27	244	**103**					439
08:45		77	14	255	**95**					441
09:00		71	16	252	**102**					441
09:15		70	14	230	76					390
09:30		85	21	255	58					419
09:45		82	19	235	73					409
10:00		115	13	251	57					436
10:15		116	21	210	69					416
10:30		83	15	253	65					416
10:45		113	24	182	66					385
11:00		78	16	176	76					346
11:15		136	17	211	76					440
11:30		129	20	159	57					365
11:45		130	20	149	62					361
Total		2618	662	6488	2365					12133
Percent		21.6%	5.5%	53.5%	19.5%					
Peak	-	06:15	06:15	05:30	08:15	-	-	-	-	06:15
Vol.	-	540	209	1048	409	-	-	-	-	2075
P.H.F.		0.794	0.661	0.888	0.938					0.957

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at SW 152nd Street
Old Cutler Road at SW 152nd Street
Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	20-Mar-19 Wed	SB	WB	NB	EB					Total
12:00 PM		131	17	179	63					390
12:15		117	23	159	72					371
12:30		132	19	155	60					366
12:45		116	12	146	50					324
01:00		192	8	176	115					491
01:15		183	15	165	80					443
01:30		213	35	186	**105**					**539**
01:45		175	63	153	**98**					**489**
02:00		**211**	**108**	181	**108**					**608**
02:15		**210**	**102**	190	**95**					**597**
02:30		**201**	**67**	162	77					507
02:45		**208**	**68**	151	74					501
03:00		186	78	147	104					515
03:15		182	65	**191**	76					514
03:30		147	83	**251**	77					558
03:45		216	67	**183**	72					538
04:00		161	73	**178**	67					479
04:15		191	39	147	73					450
04:30		162	82	157	74					475
04:45		131	70	140	72					413
05:00		146	95	205	64					510
05:15		181	70	172	81					504
05:30		145	62	147	79					433
05:45		176	56	152	70					454
06:00		178	47	159	78					462
06:15		182	61	154	71					468
06:30		201	55	131	78					465
06:45		193	29	116	87					425
07:00		161	41	97	62					361
07:15		184	16	105	92					397
07:30		143	11	84	92					330
07:45		121	12	91	69					293
08:00		109	11	95	69					284
08:15		44	13	66	69					192
08:30		72	35	63	66					236
08:45		33	16	52	57					158
09:00		50	10	73	49					182
09:15		59	6	46	47					158
09:30		38	8	55	44					145
09:45		32	9	37	25					103
10:00		37	10	39	34					120
10:15		33	10	39	26					108
10:30		36	6	38	12					92
10:45		19	6	39	18					82
11:00		28	5	33	18					84
11:15		16	0	25	19					60
11:30		13	4	14	7					38
11:45		6	2	13	6					27
Total		6101	1800	5737	3101					16739
Percent		36.4%	10.8%	34.3%	18.5%					
Peak	-	14:00	14:00	15:15	13:30	-	-	-	-	13:30
Vol.	-	830	345	803	406	-	-	-	-	2233
P.H.F.		0.983	0.799	0.800	0.940					0.918

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at SW 152nd Street
Old Cutler Road at SW 152nd Street
Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	21-Mar-19 Thu	SB	WB	NB	EB					Total
12:00 AM		5	0	11	9					25
12:15		7	2	8	4					21
12:30		7	4	5	2					18
12:45		7	0	8	6					21
01:00		5	2	5	1					13
01:15		6	1	8	4					19
01:30		3	0	4	2					9
01:45		4	0	1	1					6
02:00		3	3	2	1					9
02:15		0	0	5	2					7
02:30		3	1	2	1					7
02:45		3	0	2	5					10
03:00		2	2	9	1					14
03:15		2	1	9	2					14
03:30		1	1	10	3					15
03:45		3	3	9	5					20
04:00		6	0	20	8					34
04:15		10	0	28	12					50
04:30		9	1	34	24					68
04:45		18	3	68	40					129
05:00		16	2	109	72					199
05:15		13	9	169	**99**					290
05:30		45	16	**273**	**97**					431
05:45		34	24	**286**	**91**					435
06:00		78	24	**280**	**82**					**464**
06:15		**115**	**47**	**249**	92					**503**
06:30		**171**	**45**	262	70					**548**
06:45		**172**	**84**	242	78					**576**
07:00		**102**	**36**	252	65					455
07:15		88	23	233	92					436
07:30		91	17	230	77					415
07:45		102	19	224	81					426
08:00		97	18	206	71					392
08:15		69	8	225	84					386
08:30		53	14	236	68					371
08:45		75	16	263	60					414
09:00		71	25	273	63					432
09:15		71	17	269	73					430
09:30		75	18	267	69					429
09:45		74	14	241	62					391
10:00		81	10	205	80					376
10:15		95	19	225	70					409
10:30		84	19	209	72					384
10:45		80	18	186	83					367
11:00		80	15	185	60					340
11:15		166	19	178	69					432
11:30		136	29	156	57					378
11:45		122	17	164	59					362
Total		2560	646	6545	2229					11980
Percent		21.4%	5.4%	54.6%	18.6%					
Peak	-	06:15	06:15	05:30	05:15	-	-	-	-	06:00
Vol.	-	560	212	1088	369	-	-	-	-	2091
P.H.F.		0.814	0.631	0.951	0.932					0.908

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at SW 152nd Street
Old Cutler Road at SW 152nd Street
Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	21-Mar-19 Thu	SB	WB	NB	EB					Total
12:00 PM		123	22	196	67					408
12:15		118	20	152	85					375
12:30		138	14	178	100					430
12:45		147	66	183	80					476
01:00		146	98	185	78					507
01:15		**207**	59	185	66					**517**
01:30		**221**	44	196	75					**536**
01:45		**216**	53	180	**93**					**542**
02:00		**221**	64	171	**78**					**534**
02:15		195	53	172	**90**					510
02:30		211	62	151	**85**					509
02:45		220	43	153	81					497
03:00		196	56	124	77					453
03:15		225	58	**215**	81					579
03:30		174	69	**236**	57					536
03:45		188	68	**144**	74					474
04:00		172	57	**171**	86					486
04:15		174	59	156	69					458
04:30		151	**79**	154	77					461
04:45		161	**73**	140	64					438
05:00		156	**69**	182	55					462
05:15		170	**62**	184	61					477
05:30		181	67	158	67					473
05:45		177	56	143	54					430
06:00		123	71	159	76					429
06:15		146	31	138	57					372
06:30		175	41	129	54					399
06:45		152	28	109	56					345
07:00		140	75	119	52					386
07:15		181	47	129	62					419
07:30		151	9	91	54					305
07:45		122	9	97	57					285
08:00		116	35	92	55					298
08:15		98	17	72	62					249
08:30		94	32	58	42					226
08:45		95	12	72	48					227
09:00		71	12	80	35					198
09:15		49	8	62	52					171
09:30		43	16	62	39					160
09:45		52	17	57	37					163
10:00		42	11	44	35					132
10:15		34	12	45	23					114
10:30		26	5	40	16					87
10:45		29	3	23	23					78
11:00		23	3	34	9					69
11:15		13	8	31	11					63
11:30		8	2	16	5					31
11:45		11	3	19	13					46
Total		6282	1878	5887	2773					16820
Percent		37.3%	11.2%	35.0%	16.5%					
Peak	-	13:15	16:30	15:15	13:45	-	-	-	-	13:15
Vol.	-	865	283	766	346	-	-	-	-	2129
P.H.F.		0.979	0.896	0.811	0.865					0.982
Grand Total		25741	6999	36033	15179					83952
Percent		30.7%	8.3%	42.9%	18.1%					
ADT		ADT 27,978		AADT 27,978						

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at SW 168th Street

Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	19-Mar-19 Tue	SB	WB	NB	EB					Total
12:00 AM		12	0	6	0					18
12:15		5	1	7	2					15
12:30		12	0	2	1					15
12:45		6	0	6	0					12
01:00		3	0	4	1					8
01:15		9	0	2	0					11
01:30		5	0	6	1					12
01:45		3	0	0	1					4
02:00		2	0	9	0					11
02:15		5	0	3	0					8
02:30		2	0	7	2					11
02:45		8	0	19	0					27
03:00		3	0	20	0					23
03:15		4	0	36	1					41
03:30		9	0	21	0					30
03:45		10	0	71	0					81
04:00		5	1	105	0					111
04:15		9	0	177	1					187
04:30		12	2	**222**	2					238
04:45		29	1	**287**	1					318
05:00		23	2	**246**	6					277
05:15		23	0	**232**	10					265
05:30		45	5	191	13					254
05:45		51	5	202	23					281
06:00		79	3	188	36					306
06:15		**161**	1	183	41					386
06:30		**175**	0	188	44					407
06:45		**166**	5	152	28					351
07:00		**131**	5	211	42					**389**
07:15		140	1	207	45					**393**
07:30		127	5	212	52					**396**
07:45		117	4	249	41					**411**
08:00		119	11	184	36					350
08:15		101	7	207	**59**					374
08:30		85	6	226	**67**					384
08:45		96	5	215	**67**					383
09:00		94	6	199	**63**					362
09:15		97	5	181	58					341
09:30		80	7	170	50					307
09:45		88	4	161	45					298
10:00		104	4	142	39					289
10:15		111	8	134	45					298
10:30		107	6	133	23					269
10:45		105	4	133	34					276
11:00		113	**8**	136	30					287
11:15		132	**9**	142	30					313
11:30		121	**7**	127	27					282
11:45		96	**12**	112	42					262
Total		3040	150	6073	1109					10372
Percent		29.3%	1.4%	58.6%	10.7%					
Peak	-	06:15	11:00	04:30	08:15	-	-	-	-	07:00
Vol.	-	633	36	987	256	-	-	-	-	1589
P.H.F.		0.904	0.750	0.860	0.955					0.967

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at SW 168th Street

Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	19-Mar-19 Tue	SB	WB	NB	EB					Total
12:00 PM		130	9	117	36					292
12:15		142	7	134	35					318
12:30		140	6	155	33					334
12:45		134	4	130	33					301
01:00		166	6	153	31					356
01:15		176	7	143	36					362
01:30		218	9	161	42					430
01:45		236	11	146	36					429
02:00		241	5	136	32					414
02:15		221	13	**213**	39					**486**
02:30		227	6	**233**	49					**515**
02:45		262	**12**	**158**	54					**486**
03:00		188	**10**	**157**	68					**423**
03:15		232	**15**	135	66					448
03:30		**223**	**10**	132	50					415
03:45		**258**	11	116	85					470
04:00		**248**	5	146	72					471
04:15		**249**	10	139	55					453
04:30		217	7	145	52					421
04:45		216	8	142	41					407
05:00		224	13	119	50					406
05:15		241	11	121	**70**					443
05:30		243	7	115	**65**					430
05:45		232	2	113	**84**					431
06:00		204	5	108	**84**					401
06:15		201	9	97	69					376
06:30		203	2	86	42					333
06:45		178	5	79	51					313
07:00		164	5	76	35					280
07:15		193	3	55	27					278
07:30		159	3	57	22					241
07:45		119	3	40	32					194
08:00		129	1	36	25					191
08:15		125	1	39	23					188
08:30		104	2	31	17					154
08:45		115	3	35	13					166
09:00		93	2	33	17					145
09:15		76	1	22	18					117
09:30		59	1	30	15					105
09:45		57	6	11	3					77
10:00		57	0	18	10					85
10:15		35	2	13	9					59
10:30		43	0	20	6					69
10:45		40	0	12	7					59
11:00		37	1	11	6					55
11:15		25	1	8	3					37
11:30		30	0	6	3					39
11:45		23	0	5	0					28
Total		7533	260	4387	1751					13931
Percent		54.1%	1.9%	31.5%	12.6%					
Peak	-	15:30	14:45	14:15	17:15	-	-	-	-	14:15
Vol.	-	978	47	761	303	-	-	-	-	1910
P.H.F.		0.948	0.783	0.817	0.891					0.927

Marlin Engineering
1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at SW 168th Street

Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	20-Mar-19 Wed	SB	WB	NB	EB					Total
12:00 AM		9	0	6	1					16
12:15		11	1	0	2					14
12:30		11	0	9	0					20
12:45		8	0	2	0					10
01:00		5	0	1	1					7
01:15		3	0	3	1					7
01:30		8	0	6	0					14
01:45		1	1	5	2					9
02:00		4	0	5	0					9
02:15		3	0	7	1					11
02:30		1	0	9	0					10
02:45		7	0	9	0					16
03:00		3	0	18	0					21
03:15		2	0	37	0					39
03:30		7	1	37	1					46
03:45		4	0	61	0					65
04:00		7	0	98	1					106
04:15		10	0	153	1					164
04:30		10	1	**237**	2					250
04:45		23	0	**279**	7					309
05:00		25	1	**245**	6					277
05:15		34	4	**195**	12					245
05:30		39	1	178	12					230
05:45		39	9	188	27					263
06:00		92	7	175	43					317
06:15		**147**	5	151	30					333
06:30		**171**	5	168	45					389
06:45		**137**	4	130	41					312
07:00		**165**	2	168	53					**388**
07:15		118	7	187	48					**360**
07:30		141	10	254	73					**478**
07:45		127	7	254	45					**433**
08:00		103	7	232	36					378
08:15		99	6	196	45					346
08:30		92	4	196	48					340
08:45		90	9	213	**63**					375
09:00		96	10	214	**89**					409
09:15		86	8	181	**74**					349
09:30		105	9	223	**61**					398
09:45		113	**11**	188	43					355
10:00		123	**9**	153	44					329
10:15		133	**10**	196	38					377
10:30		98	**12**	163	36					309
10:45		140	11	134	33					318
11:00		118	8	162	48					336
11:15		164	6	169	44					383
11:30		151	12	146	29					338
11:45		150	12	145	38					345
Total		3233	210	6186	1224					10853
Percent		29.8%	1.9%	57.0%	11.3%					
Peak	-	06:15	09:45	04:30	08:45	-	-	-	-	07:00
Vol.	-	620	42	956	287	-	-	-	-	1659
P.H.F.		0.906	0.875	0.857	0.806					0.868

Marlin Engineering
1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at SW 168th Street

Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	20-Mar-19 Wed	SB	WB	NB	EB					Total
12:00 PM		162	20	173	35					390
12:15		139	11	148	36					334
12:30		156	8	176	45					385
12:45		140	16	147	31					334
01:00		213	8	180	40					441
01:15		213	7	170	32					422
01:30		252	14	156	42					464
01:45		223	14	120	33					390
02:00		**254**	8	162	44					468
02:15		**237**	**20**	**178**	53					**488**
02:30		**241**	**12**	**259**	58					**570**
02:45		**258**	**11**	**172**	58					**499**
03:00		226	**14**	**167**	66					**473**
03:15		234	5	136	57					432
03:30		199	14	166	50					429
03:45		253	11	145	82					491
04:00		236	18	183	78					515
04:15		258	3	170	69					500
04:30		214	23	170	57					464
04:45		218	5	137	66					426
05:00		229	4	162	63					458
05:15		235	11	148	**79**					473
05:30		239	6	133	**70**					448
05:45		241	8	128	**75**					452
06:00		226	6	84	**71**					387
06:15		218	12	108	70					408
06:30		236	12	85	77					410
06:45		229	14	78	56					377
07:00		195	2	92	47					336
07:15		233	7	59	39					338
07:30		193	11	61	24					289
07:45		155	19	42	34					250
08:00		148	12	60	32					252
08:15		96	3	65	25					189
08:30		133	0	45	23					201
08:45		83	1	44	36					164
09:00		92	5	43	29					169
09:15		99	3	36	25					163
09:30		80	2	35	23					140
09:45		57	0	37	15					109
10:00		70	4	28	7					109
10:15		65	3	28	4					100
10:30		49	0	15	6					70
10:45		42	0	13	7					62
11:00		44	0	11	4					59
11:15		28	0	8	6					42
11:30		22	0	6	1					29
11:45		14	0	6	4					24
Total		8077	387	4975	1984					15423
Percent		52.4%	2.5%	32.3%	12.9%					
Peak	-	14:00	14:15	14:15	17:15	-	-	-	-	14:15
Vol.	-	990	57	776	295	-	-	-	-	2030
P.H.F.		0.959	0.713	0.749	0.934					0.890

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at SW 168th Street

Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	21-Mar-19 Thu	SB	WB	NB	EB					Total
12:00 AM		8	0	6	1					15
12:15		12	0	8	1					21
12:30		10	0	3	0					13
12:45		12	0	2	1					15
01:00		4	0	2	1					7
01:15		12	0	5	0					17
01:30		4	0	3	0					7
01:45		4	1	2	0					7
02:00		6	0	6	2					14
02:15		1	0	9	0					10
02:30		6	0	8	0					14
02:45		5	0	11	0					16
03:00		4	0	19	1					24
03:15		4	0	25	0					29
03:30		3	1	28	0					32
03:45		7	0	73	2					82
04:00		9	1	95	2					107
04:15		10	1	155	1					167
04:30		12	1	244	1					258
04:45		21	3	274	4					302
05:00		17	2	252	5					276
05:15		24	2	193	14					233
05:30		52	5	203	12					272
05:45		62	7	223	23					315
06:00		104	7	198	50					359
06:15		**149**	7	207	51					414
06:30		**160**	2	164	29					355
06:45		**173**	4	173	33					383
07:00		**119**	3	179	49					350
07:15		130	7	**244**	47					**428**
07:30		129	5	**240**	62					**436**
07:45		122	6	**251**	48					**427**
08:00		122	16	**237**	38					**413**
08:15		90	5	219	45					359
08:30		66	8	252	45					371
08:45		90	3	208	**59**					360
09:00		80	5	201	**59**					345
09:15		90	6	189	**55**					340
09:30		103	5	191	**48**					347
09:45		90	7	172	43					312
10:00		115	18	180	28					341
10:15		126	8	162	37					333
10:30		114	11	159	42					326
10:45		121	14	168	43					346
11:00		115	**21**	180	43					359
11:15		154	**18**	160	36					368
11:30		158	**10**	159	35					362
11:45		143	**16**	180	37					376
Total		3172	236	6522	1133					11063
Percent		28.7%	2.1%	59.0%	10.2%					
Peak	-	06:15	11:00	07:15	08:45	-	-	-	-	07:15
Vol.	-	601	65	972	221	-	-	-	-	1704
P.H.F.		0.868	0.774	0.887	0.936					0.977

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at SW 168th Street

Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	21-Mar-19 Thu	SB	WB	NB	EB					Total
12:00 PM		129	13	153	44					339
12:15		156	11	174	35					376
12:30		173	6	165	40					384
12:45		179	16	156	28					379
01:00		192	10	170	63					435
01:15		232	20	169	47					468
01:30		**257**	15	148	55					475
01:45		**262**	8	151	46					467
02:00		**254**	4	128	32					418
02:15		**237**	14	**214**	46					**511**
02:30		251	11	**245**	48					**555**
02:45		266	12	**174**	43					**495**
03:00		234	12	**165**	69					**480**
03:15		237	**15**	144	62					458
03:30		247	**21**	154	60					482
03:45		241	**18**	134	84					477
04:00		236	**17**	163	76					492
04:15		231	9	189	71					500
04:30		183	2	146	50					381
04:45		225	9	148	53					435
05:00		240	12	154	79					485
05:15		221	7	137	76					441
05:30		225	6	125	**109**					465
05:45		264	8	113	**90**					475
06:00		211	8	105	**89**					413
06:15		189	9	114	**80**					392
06:30		215	12	82	64					373
06:45		200	12	95	67					374
07:00		184	6	88	62					340
07:15		224	9	73	48					354
07:30		171	6	60	42					279
07:45		136	6	73	33					248
08:00		153	5	63	42					263
08:15		129	4	62	26					221
08:30		123	5	60	25					213
08:45		123	3	55	33					214
09:00		98	4	45	29					176
09:15		96	6	40	19					161
09:30		83	7	31	19					140
09:45		94	0	24	14					132
10:00		80	2	26	16					124
10:15		62	0	28	14					104
10:30		52	0	22	10					84
10:45		42	0	16	6					64
11:00		31	0	15	4					50
11:15		25	0	7	4					36
11:30		13	0	6	1					20
11:45		25	0	9	0					34
Total		8131	380	5018	2153					15682
Percent		51.8%	2.4%	32.0%	13.7%					
Peak	-	13:30	15:15	14:15	17:30	-	-	-	-	14:15
Vol.	-	1010	71	798	368	-	-	-	-	2041
P.H.F.		0.964	0.845	0.814	0.844					0.919
Grand Total		33186	1623	33161	9354					77324
Percent		42.9%	2.1%	42.9%	12.1%					
ADT		ADT 25,772		AADT 25,772						

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at SW 184th Street
Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	19-Mar-19 Tue	NB	WB	SB	EB					Total
12:00 AM		7	0	13	4					24
12:15		9	0	21	2					32
12:30		3	0	17	1					21
12:45		7	0	14	2					23
01:00		6	0	9	3					18
01:15		3	0	5	0					8
01:30		3	0	13	0					16
01:45		0	0	7	5					12
02:00		5	0	3	1					9
02:15		2	0	7	0					9
02:30		2	0	6	3					11
02:45		3	0	3	0					6
03:00		8	0	2	4					14
03:15		11	0	4	4					19
03:30		14	0	3	5					22
03:45		9	0	6	10					25
04:00		15	1	4	14					34
04:15		27	1	3	18					49
04:30		30	0	8	24					62
04:45		45	0	6	31					82
05:00		102	0	6	22					130
05:15		**156**	1	5	14					176
05:30		**237**	2	12	10					261
05:45		**267**	1	25	31					324
06:00		**198**	0	17	22					237
06:15		140	4	28	46					218
06:30		173	0	47	48					268
06:45		180	0	48	59					287
07:00		175	2	61	38					276
07:15		157	**7**	107	**61**					332
07:30		116	**4**	**127**	**47**					294
07:45		146	**10**	**125**	**70**					351
08:00		90	**4**	**101**	**51**					246
08:15		116	3	**111**	55					285
08:30		191	6	101	36					**334**
08:45		206	8	110	31					**355**
09:00		163	3	84	39					**289**
09:15		199	7	76	53					**335**
09:30		193	4	69	49					315
09:45		173	9	82	44					308
10:00		156	3	73	28					260
10:15		130	1	98	30					259
10:30		139	0	75	34					248
10:45		118	1	71	34					224
11:00		127	7	67	35					236
11:15		117	4	91	33					245
11:30		112	3	94	26					235
11:45		107	6	98	32					243
Total		4593	102	2163	1209					8067
Percent		56.9%	1.3%	26.8%	15.0%					
Peak	-	05:15	07:15	07:30	07:15	-	-	-	-	08:30
Vol.	-	858	25	464	229	-	-	-	-	1313
P.H.F.		0.803	0.625	0.913	0.818					0.925

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at SW 184th Street
Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	19-Mar-19 Tue	NB	WB	SB	EB					Total
12:00 PM		109	12	86	33					240
12:15		100	12	112	36					260
12:30		97	15	106	29					247
12:45		92	14	85	30					221
01:00		102	9	109	46					266
01:15		121	10	118	28					277
01:30		96	7	113	35					251
01:45		**134**	8	120	**42**					304
02:00		**139**	6	150	**51**					346
02:15		**121**	6	132	**90**					349
02:30		**149**	4	187	**40**					380
02:45		102	9	191	37					339
03:00		112	16	204	47					379
03:15		128	11	194	24					357
03:30		136	11	209	36					392
03:45		108	5	252	35					400
04:00		109	20	237	37					403
04:15		121	14	244	28					407
04:30		89	29	231	32					381
04:45		88	17	**255**	35					395
05:00		87	**89**	**236**	33					**445**
05:15		110	**42**	**271**	25					**448**
05:30		97	**61**	**234**	42					**434**
05:45		108	**34**	243	32					**417**
06:00		92	37	247	25					401
06:15		95	38	239	31					403
06:30		101	22	247	16					386
06:45		94	11	240	20					365
07:00		61	16	193	16					286
07:15		72	8	207	14					301
07:30		67	4	165	10					246
07:45		74	4	176	14					268
08:00		57	12	154	14					237
08:15		44	2	187	14					247
08:30		50	3	139	16					208
08:45		40	3	115	13					171
09:00		40	4	102	11					157
09:15		42	2	108	12					164
09:30		31	1	103	5					140
09:45		24	3	101	2					130
10:00		40	5	74	5					124
10:15		28	1	72	4					105
10:30		25	0	55	3					83
10:45		21	2	59	1					83
11:00		27	1	53	1					82
11:15		17	0	36	5					58
11:30		12	1	33	1					47
11:45		10	0	33	1					44
Total		3819	641	7457	1157					13074
Percent		29.2%	4.9%	57.0%	8.8%					
Peak	-	13:45	17:00	16:45	13:45	-	-	-	-	17:00
Vol.	-	543	226	996	223	-	-	-	-	1744
P.H.F.		0.911	0.635	0.919	0.619					0.973

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at SW 184th Street
Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	20-Mar-19 Wed	NB	WB	SB	EB					Total
12:00 AM		4	0	36	0					40
12:15		14	0	27	2					43
12:30		4	0	20	1					25
12:45		2	0	20	0					22
01:00		6	0	7	2					15
01:15		3	0	11	1					15
01:30		3	0	12	0					15
01:45		2	0	5	0					7
02:00		2	0	5	2					9
02:15		1	0	5	2					8
02:30		6	0	6	2					14
02:45		3	0	0	0					3
03:00		2	0	5	1					8
03:15		16	0	2	3					21
03:30		12	0	2	4					18
03:45		5	0	5	10					20
04:00		15	2	2	7					26
04:15		34	0	2	15					51
04:30		33	0	7	21					61
04:45		52	0	2	43					97
05:00		94	0	2	36					132
05:15		**152**	0	6	24					182
05:30		**252**	0	14	29					295
05:45		**265**	1	14	25					305
06:00		**179**	1	19	43					242
06:15		117	1	35	39					192
06:30		149	0	39	49					237
06:45		174	1	43	71					289
07:00		178	3	64	**82**					327
07:15		153	3	**97**	**66**					319
07:30		81	2	**129**	**92**					304
07:45		52	7	**89**	**88**					236
08:00		93	9	**123**	77					302
08:15		151	3	85	49					288
08:30		183	5	105	41					**334**
08:45		213	3	102	39					**357**
09:00		174	9	120	59					**362**
09:15		194	7	91	38					**330**
09:30		166	9	70	55					300
09:45		181	7	73	50					311
10:00		147	4	89	43					283
10:15		164	11	68	35					278
10:30		131	6	83	45					265
10:45		115	4	94	50					263
11:00		105	**9**	108	45					267
11:15		103	**6**	98	34					241
11:30		102	**12**	91	39					244
11:45		118	**9**	105	37					269
Total		4405	134	2237	1496					8272
Percent		53.3%	1.6%	27.0%	18.1%					
Peak	-	05:15	11:00	07:15	07:00	-	-	-	-	08:30
Vol.	-	848	36	438	328	-	-	-	-	1383
P.H.F.		0.800	0.750	0.849	0.891					0.955

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at SW 184th Street
Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	20-Mar-19 Wed	NB	WB	SB	EB					Total
12:00 PM		115	20	123	43					301
12:15		124	17	129	38					308
12:30		110	21	106	44					281
12:45		136	12	130	39					317
01:00		121	14	157	52					344
01:15		112	9	110	45					276
01:30		**144**	7	144	32					327
01:45		**155**	15	121	38					329
02:00		**131**	8	195	35					369
02:15		**146**	10	192	**96**					444
02:30		119	3	200	**60**					382
02:45		117	7	197	**35**					356
03:00		110	17	217	**42**					386
03:15		127	15	211	43					396
03:30		155	10	226	32					423
03:45		133	13	249	35					430
04:00		103	23	266	31					423
04:15		120	15	241	21					397
04:30		130	38	221	46					435
04:45		94	24	**273**	48					**439**
05:00		97	**85**	**254**	48					**484**
05:15		124	**39**	**283**	35					**481**
05:30		101	**45**	**253**	42					**441**
05:45		94	**36**	254	36					420
06:00		84	45	268	28					425
06:15		95	33	268	23					419
06:30		97	20	249	23					389
06:45		96	12	246	23					377
07:00		61	16	246	23					346
07:15		69	7	239	14					329
07:30		69	9	240	18					336
07:45		67	6	227	14					314
08:00		67	4	196	23					290
08:15		50	5	201	19					275
08:30		52	3	185	21					261
08:45		38	5	148	16					207
09:00		54	1	144	16					215
09:15		35	2	115	10					162
09:30		27	2	111	13					153
09:45		41	1	77	3					122
10:00		21	10	87	8					126
10:15		24	1	92	7					124
10:30		23	0	71	2					96
10:45		18	1	60	1					80
11:00		19	1	67	5					92
11:15		13	1	63	1					78
11:30		24	1	46	0					71
11:45		8	0	43	2					53
Total		4070	689	8441	1329					14529
Percent		28.0%	4.7%	58.1%	9.1%					
Peak	-	13:30	17:00	16:45	14:15	-	-	-	-	16:45
Vol.	-	576	205	1063	233	-	-	-	-	1845
P.H.F.		0.929	0.603	0.939	0.607					0.953

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at SW 184th Street
Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	21-Mar-19 Thu	NB	WB	SB	EB					Total
12:00 AM		6	0	42	3					51
12:15		11	0	26	1					38
12:30		6	0	21	0					27
12:45		8	0	11	0					19
01:00		6	0	12	1					19
01:15		3	0	7	0					10
01:30		3	0	10	0					13
01:45		1	0	11	0					12
02:00		2	0	4	2					8
02:15		0	0	9	1					10
02:30		5	0	3	0					8
02:45		3	0	1	2					6
03:00		3	0	5	4					12
03:15		11	1	2	4					18
03:30		9	0	3	5					17
03:45		11	0	9	10					30
04:00		15	0	3	7					25
04:15		26	1	5	14					46
04:30		29	0	5	22					56
04:45		51	0	5	30					86
05:00		96	0	7	33					136
05:15		**138**	0	10	19					167
05:30		**224**	0	13	22					259
05:45		**225**	0	12	23					260
06:00		**185**	1	21	31					238
06:15		82	0	21	36					139
06:30		58	1	56	40					155
06:45		39	0	58	47					144
07:00		29	3	86	45					163
07:15		27	3	**96**	**73**					199
07:30		19	3	**126**	**66**					214
07:45		36	4	**131**	**90**					261
08:00		27	2	**113**	**62**					204
08:15		38	5	89	44					176
08:30		81	5	96	41					223
08:45		98	**9**	102	47					256
09:00		47	**6**	87	41					181
09:15		106	**8**	73	52					239
09:30		121	**7**	60	49					237
09:45		178	9	92	34					**313**
10:00		170	4	67	50					**291**
10:15		169	6	80	43					**298**
10:30		155	8	86	36					**285**
10:45		144	4	70	40					258
11:00		112	6	97	40					255
11:15		108	4	106	36					254
11:30		113	5	107	43					268
11:45		115	9	117	36					277
Total		3149	114	2273	1325					6861
Percent		45.9%	1.7%	33.1%	19.3%					
Peak	-	05:15	08:45	07:15	07:15	-	-	-	-	09:45
Vol.	-	772	30	466	291	-	-	-	-	1187
P.H.F.		0.858	0.833	0.889	0.808					0.948

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

Old Cutler Road at SW 184th Street
Date Start: 19-Mar-19
Date End: 22-Mar-19

Start Time	21-Mar-19 Thu	NB	WB	SB	EB					Total
12:00 PM		100	24	86	53					263
12:15		104	20	132	40					296
12:30		89	15	118	42					264
12:45		100	11	132	49					292
01:00		102	12	115	36					265
01:15		110	11	122	45					288
01:30		**129**	12	153	**47**					341
01:45		**137**	4	151	**34**					326
02:00		**136**	13	160	**40**					349
02:15		**137**	3	213	**107**					460
02:30		115	6	225	34					380
02:45		103	14	212	39					368
03:00		118	21	219	36					394
03:15		118	10	219	43					390
03:30		134	18	220	39					411
03:45		132	16	263	38					449
04:00		101	21	272	47					441
04:15		117	17	253	60					447
04:30		110	32	259	42					443
04:45		105	19	246	45					415
05:00		105	**80**	243	47					**475**
05:15		88	**52**	266	37					**443**
05:30		90	**47**	245	33					**415**
05:45		109	**31**	**282**	41					**463**
06:00		81	50	**261**	47					439
06:15		98	31	**263**	26					418
06:30		99	22	**266**	21					408
06:45		81	21	270	34					406
07:00		73	11	212	21					317
07:15		61	10	188	23					282
07:30		63	2	202	38					305
07:45		48	8	202	19					277
08:00		71	11	180	25					287
08:15		51	1	191	20					263
08:30		55	1	160	17					233
08:45		40	2	143	25					210
09:00		34	2	147	21					204
09:15		37	0	136	18					191
09:30		40	1	116	13					170
09:45		29	1	108	12					150
10:00		29	12	94	8					143
10:15		22	0	86	8					116
10:30		17	1	80	5					103
10:45		18	2	82	8					110
11:00		19	0	72	4					95
11:15		15	1	54	2					72
11:30		15	1	51	1					68
11:45		11	0	44	2					57
Total		3796	700	8414	1492					14402
Percent		26.4%	4.9%	58.4%	10.4%					
Peak	-	13:30	17:00	17:45	13:30	-	-	-	-	17:00
Vol.	-	539	210	1072	228	-	-	-	-	1796
P.H.F.		0.984	0.656	0.950	0.533					0.945
Grand Total		23832	2380	30985	8008					65205
Percent		36.5%	3.7%	47.5%	12.3%					
ADT		ADT 21,725		AADT 21,725						

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 144th St at SW 67th Ave

Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	02-Apr-19 Tue	EB	SB	WB						Total
12:00 AM		0	1	0						1
12:15		2	2	0						4
12:30		0	0	0						0
12:45		0	2	1						3
01:00		0	0	0						0
01:15		1	2	1						4
01:30		2	0	0						2
01:45		0	0	0						0
02:00		0	1	1						2
02:15		0	1	0						1
02:30		1	1	0						2
02:45		1	0	3						4
03:00		2	0	1						3
03:15		0	0	2						2
03:30		1	0	0						1
03:45		1	0	1						2
04:00		0	0	0						0
04:15		0	0	0						0
04:30		0	0	0						0
04:45		0	2	0						2
05:00		2	2	1						5
05:15		2	5	2						9
05:30		2	11	3						16
05:45		5	17	9						31
06:00		3	4	6						13
06:15		3	7	12						22
06:30		15	11	8						34
06:45		22	12	12						46
07:00		25	31	19						75
07:15		**30**	**71**	14						**115**
07:30		**72**	**115**	**28**						**215**
07:45		**52**	**114**	**23**						**189**
08:00		**39**	**55**	**22**						**116**
08:15		26	66	**21**						113
08:30		20	37	17						74
08:45		22	25	19						66
09:00		25	21	19						65
09:15		12	13	20						45
09:30		10	21	14						45
09:45		8	12	25						45
10:00		10	13	20						43
10:15		8	12	15						35
10:30		6	24	17						47
10:45		9	15	19						43
11:00		15	14	14						43
11:15		9	16	11						36
11:30		11	18	10						39
11:45		5	16	25						46
Total		479	790	435						1704
Percent		28.1%	46.4%	25.5%						
Peak	-	07:15	07:15	07:30	-	-	-	-	-	07:15
Vol.	-	193	355	94	-	-	-	-	-	635
P.H.F.		0.670	0.772	0.839						0.738

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 144th St at SW 67th Ave

Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	02-Apr-19 Tue	EB	SB	WB						Total
12:00 PM		6	20	19						45
12:15		12	15	15						42
12:30		9	27	12						48
12:45		5	17	15						37
01:00		12	16	0						28
01:15		6	30	10						46
01:30		10	18	19						47
01:45		9	23	9						41
02:00		14	44	18						76
02:15		**28**	40	27						95
02:30		**34**	71	10						115
02:45		**37**	67	12						116
03:00		**33**	69	22						124
03:15		22	67	17						106
03:30		16	76	**17**						109
03:45		32	78	**22**						**132**
04:00		28	97	**33**						**158**
04:15		18	92	**25**						**135**
04:30		25	79	12						**116**
04:45		16	76	23						115
05:00		23	75	15						113
05:15		9	**106**	7						122
05:30		19	**93**	27						139
05:45		19	**112**	19						150
06:00		10	**103**	3						116
06:15		19	103	14						136
06:30		8	90	13						111
06:45		8	63	13						84
07:00		9	87	21						117
07:15		16	82	16						114
07:30		7	46	8						61
07:45		11	36	8						55
08:00		8	25	7						40
08:15		5	23	11						39
08:30		7	14	10						31
08:45		8	12	9						29
09:00		4	10	9						23
09:15		9	36	2						47
09:30		4	18	6						28
09:45		3	13	1						17
10:00		6	6	1						13
10:15		1	7	0						8
10:30		0	3	3						6
10:45		0	10	0						10
11:00		0	1	1						2
11:15		1	3	3						7
11:30		0	1	0						1
11:45		2	2	1						5
Total		588	2202	565						3355
Percent		17.5%	65.6%	16.8%						
Peak	-	14:15	17:15	15:30	-	-	-	-	-	15:45
Vol.	-	132	414	97	-	-	-	-	-	541
P.H.F.		0.892	0.924	0.735						0.856

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 144th St at SW 67th Ave

Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	03-Apr-19 Wed	EB	SB	WB						Total
12:00 AM		2	1	2						5
12:15		0	1	0						1
12:30		0	1	0						1
12:45		0	0	1						1
01:00		0	1	0						1
01:15		0	1	0						1
01:30		0	0	0						0
01:45		0	1	1						2
02:00		0	3	0						3
02:15		0	0	0						0
02:30		0	1	1						2
02:45		0	0	0						0
03:00		0	0	0						0
03:15		0	1	0						1
03:30		0	0	0						0
03:45		1	0	0						1
04:00		0	0	0						0
04:15		0	0	0						0
04:30		0	1	0						1
04:45		0	1	1						2
05:00		1	3	2						6
05:15		1	4	1						6
05:30		4	17	0						21
05:45		6	10	4						20
06:00		3	5	7						15
06:15		3	9	15						27
06:30		18	15	13						46
06:45		23	19	11						53
07:00		**34**	36	24						**94**
07:15		**37**	**66**	16						**119**
07:30		**78**	**125**	**27**						**230**
07:45		**63**	**128**	**15**						**206**
08:00		21	**46**	**21**						88
08:15		30	61	**21**						112
08:30		20	34	15						69
08:45		19	35	23						77
09:00		15	26	15						56
09:15		17	25	22						64
09:30		13	17	19						49
09:45		8	19	13						40
10:00		12	10	17						39
10:15		5	17	19						41
10:30		13	13	22						48
10:45		13	13	14						40
11:00		12	18	11						41
11:15		8	21	10						39
11:30		10	24	12						46
11:45		9	24	11						44
Total		499	853	406						1758
Percent		28.4%	48.5%	23.1%						
Peak	-	07:00	07:15	07:30	-	-	-	-	-	07:00
Vol.	-	212	365	84	-	-	-	-	-	649
P.H.F.		0.679	0.713	0.778						0.705

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 144th St at SW 67th Ave

Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	03-Apr-19 Wed	EB	SB	WB						Total
12:00 PM		12	22	20						54
12:15		7	15	14						36
12:30		8	19	11						38
12:45		8	13	13						34
01:00		16	19	16						51
01:15		10	23	13						46
01:30		8	19	25						52
01:45		11	23	11						45
02:00		19	41	9						69
02:15		26	47	14						87
02:30		**30**	71	21						122
02:45		**30**	75	17						122
03:00		**32**	66	**20**						118
03:15		**27**	70	**22**						119
03:30		22	89	**11**						**122**
03:45		32	104	**29**						**165**
04:00		18	86	10						**114**
04:15		18	96	16						**130**
04:30		16	75	9						100
04:45		22	106	13						141
05:00		12	97	20						129
05:15		16	80	15						111
05:30		8	**96**	6						110
05:45		15	**110**	22						147
06:00		13	**94**	8						115
06:15		12	**100**	23						135
06:30		17	56	22						95
06:45		12	65	9						86
07:00		10	64	5						79
07:15		12	52	13						77
07:30		6	38	15						59
07:45		7	21	12						40
08:00		11	18	7						36
08:15		6	15	10						31
08:30		8	9	2						19
08:45		8	12	1						21
09:00		9	15	8						32
09:15		11	36	4						51
09:30		2	11	2						15
09:45		1	12	6						19
10:00		5	14	3						22
10:15		2	10	1						13
10:30		3	7	6						16
10:45		1	7	1						9
11:00		2	5	2						9
11:15		0	2	2						4
11:30		2	4	2						8
11:45		2	3	4						9
Total		585	2132	545						3262
Percent		17.9%	65.4%	16.7%						
Peak	-	14:30	17:30	15:00	-	-	-	-	-	15:30
Vol.	-	119	400	82	-	-	-	-	-	531
P.H.F.		0.930	0.909	0.707						0.805

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 144th St at SW 67th Ave

Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	04-Apr-19 Thu	EB	SB	WB						Total
12:00 AM		1	2	2						5
12:15		0	2	0						2
12:30		1	3	2						6
12:45		0	1	0						1
01:00		1	0	0						1
01:15		0	1	1						2
01:30		1	0	0						1
01:45		0	6	1						7
02:00		0	2	1						3
02:15		0	0	0						0
02:30		0	5	0						5
02:45		0	0	0						0
03:00		0	0	0						0
03:15		0	0	0						0
03:30		0	1	0						1
03:45		0	1	0						1
04:00		0	0	0						0
04:15		1	1	0						2
04:30		0	0	3						3
04:45		0	1	5						6
05:00		0	1	0						1
05:15		0	7	2						9
05:30		3	11	0						14
05:45		3	14	9						26
06:00		3	4	5						12
06:15		7	4	10						21
06:30		14	8	17						39
06:45		31	15	20						66
07:00		33	24	15						72
07:15		**44**	50	22						**116**
07:30		**65**	**121**	16						**202**
07:45		**44**	**128**	23						**195**
08:00		**35**	**50**	17						**102**
08:15		23	**69**	23						115
08:30		27	33	16						76
08:45		16	29	**16**						61
09:00		20	20	**18**						58
09:15		16	12	**26**						54
09:30		13	20	**23**						56
09:45		11	19	13						43
10:00		9	8	13						30
10:15		6	14	11						31
10:30		12	14	14						40
10:45		9	17	15						41
11:00		7	16	13						36
11:15		11	14	23						48
11:30		16	23	12						51
11:45		10	11	8						29
Total		493	782	415						1690
Percent		29.2%	46.3%	24.6%						
Peak	-	07:15	07:30	08:45	-	-	-	-	-	07:15
Vol.	-	188	368	83	-	-	-	-	-	615
P.H.F.		0.723	0.719	0.798						0.761

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 144th St at SW 67th Ave

Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	04-Apr-19 Thu	EB	SB	WB						Total
12:00 PM		11	18	21						50
12:15		18	25	9						52
12:30		14	9	11						34
12:45		9	14	5						28
01:00		16	17	12						45
01:15		20	39	16						75
01:30		**30**	65	6						101
01:45		**26**	51	6						83
02:00		**21**	42	14						77
02:15		**24**	34	6						64
02:30		18	46	11						75
02:45		25	49	**21**						95
03:00		26	62	**19**						107
03:15		17	62	**10**						89
03:30		23	46	**18**						87
03:45		13	53	11						77
04:00		13	58	15						86
04:15		21	87	17						125
04:30		15	60	7						82
04:45		12	73	13						98
05:00		10	**77**	10						**97**
05:15		17	**90**	15						**122**
05:30		10	**82**	9						**101**
05:45		22	**87**	14						**123**
06:00		15	59	11						85
06:15		12	75	12						99
06:30		12	50	17						79
06:45		5	54	13						72
07:00		11	50	10						71
07:15		15	38	11						64
07:30		8	29	15						52
07:45		6	22	7						35
08:00		5	20	7						32
08:15		9	15	5						29
08:30		5	21	9						35
08:45		3	16	7						26
09:00		3	15	4						22
09:15		4	20	9						33
09:30		7	13	4						24
09:45		2	12	2						16
10:00		0	8	2						10
10:15		0	6	5						11
10:30		4	6	7						17
10:45		1	5	2						8
11:00		1	4	2						7
11:15		2	6	1						9
11:30		1	3	0						4
11:45		2	3	1						6
Total		564	1796	459						2819
Percent		20.0%	63.7%	16.3%						
Peak	-	13:30	17:00	14:45	-	-	-	-	-	17:00
Vol.	-	101	336	68	-	-	-	-	-	443
P.H.F.		0.842	0.933	0.810						0.900
Grand Total		3208	8555	2825						14588
Percent		22.0%	58.6%	19.4%						
ADT		ADT 4,861		AADT 4,861						

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 144th Street Btwn SW 77th Ave
and SW 82nd Ave
Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	02-Apr-19 Tue	WB	EB							Total
12:00 AM		2	2							4
12:15		4	1							5
12:30		2	3							5
12:45		0	3							3
01:00		1	2							3
01:15		2	1							3
01:30		0	1							1
01:45		0	1							1
02:00		2	0							2
02:15		1	1							2
02:30		0	0							0
02:45		0	1							1
03:00		1	1							2
03:15		0	1							1
03:30		0	1							1
03:45		0	1							1
04:00		0	0							0
04:15		0	1							1
04:30		2	2							4
04:45		0	1							1
05:00		2	3							5
05:15		0	2							2
05:30		4	11							15
05:45		4	10							14
06:00		4	28							32
06:15		6	58							64
06:30		16	88							104
06:45		23	**138**							161
07:00		22	**137**							159
07:15		29	**159**							188
07:30		29	**151**							**180**
07:45		43	138							**181**
08:00		**78**	134							**212**
08:15		**57**	147							**204**
08:30		**56**	93							149
08:45		**53**	87							140
09:00		53	70							123
09:15		39	53							92
09:30		32	59							91
09:45		30	44							74
10:00		33	32							65
10:15		32	50							82
10:30		28	36							64
10:45		37	36							73
11:00		35	31							66
11:15		34	39							73
11:30		30	37							67
11:45		32	37							69
Total		858	1932							2790
Percent		30.8%	69.2%							
Peak	-	08:00	06:45	-	-	-	-	-	-	07:30
Vol.	-	244	585	-	-	-	-	-	-	777
P.H.F.		0.782	0.920							0.916

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 144th Street Btwn SW 77th Ave
and SW 82nd Ave
Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	02-Apr-19 Tue	WB	EB						Total
12:00 PM		39	39						78
12:15		46	32						78
12:30		38	39						77
12:45		36	38						74
01:00		35	37						72
01:15		33	41						74
01:30		43	57						100
01:45		50	37						87
02:00		61	52						113
02:15		45	**64**						109
02:30		83	**64**						**147**
02:45		72	**82**						**154**
03:00		92	**76**						**168**
03:15		108	44						**152**
03:30		80	49						129
03:45		69	49						118
04:00		90	54						144
04:15		103	48						151
04:30		110	33						143
04:45		86	41						127
05:00		83	37						120
05:15		112	37						149
05:30		**104**	37						141
05:45		**114**	32						146
06:00		**111**	38						149
06:15		**118**	23						141
06:30		99	42						141
06:45		76	39						115
07:00		64	37						101
07:15		71	26						97
07:30		71	31						102
07:45		50	27						77
08:00		41	18						59
08:15		35	16						51
08:30		24	14						38
08:45		23	18						41
09:00		23	8						31
09:15		16	8						24
09:30		34	10						44
09:45		22	12						34
10:00		15	4						19
10:15		7	3						10
10:30		6	7						13
10:45		1	3						4
11:00		4	3						7
11:15		5	1						6
11:30		2	1						3
11:45		1	4						5
Total		2651	1512						4163
Percent		63.7%	36.3%						
Peak	-	17:30	14:15	-	-	-	-	-	-	14:30
Vol.	-	447	286	-	-	-	-	-	-	621
P.H.F.		0.947	0.872							0.924

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 144th Street Btwn SW 77th Ave
and SW 82nd Ave
Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	03-Apr-19 Wed	WB	EB							Total
12:00 AM		2	1							3
12:15		0	2							2
12:30		1	0							1
12:45		0	0							0
01:00		1	1							2
01:15		0	0							0
01:30		1	0							1
01:45		0	0							0
02:00		0	0							0
02:15		0	0							0
02:30		0	0							0
02:45		0	0							0
03:00		0	0							0
03:15		0	1							1
03:30		0	0							0
03:45		0	2							2
04:00		0	0							0
04:15		0	1							1
04:30		0	2							2
04:45		1	1							2
05:00		1	3							4
05:15		0	3							3
05:30		2	11							13
05:45		2	15							17
06:00		5	26							31
06:15		4	69							73
06:30		10	86							96
06:45		24	**164**							188
07:00		20	**145**							165
07:15		25	**138**							163
07:30		21	**135**							**156**
07:45		**59**	127							**186**
08:00		**68**	140							**208**
08:15		**67**	128							**195**
08:30		**48**	95							143
08:45		55	111							166
09:00		37	92							129
09:15		31	57							88
09:30		38	42							80
09:45		19	48							67
10:00		29	34							63
10:15		34	42							76
10:30		32	41							73
10:45		39	27							66
11:00		51	36							87
11:15		68	30							98
11:30		52	33							85
11:45		37	48							85
Total		884	1937							2821
Percent		31.3%	68.7%							
Peak	-	07:45	06:45	-	-	-	-	-	-	07:30
Vol.	-	242	582	-	-	-	-	-	-	745
P.H.F.		0.890	0.887							0.895

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 144th Street Btwn SW 77th Ave
and SW 82nd Ave
Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	03-Apr-19 Wed	WB	EB						Total
12:00 PM		42	45						87
12:15		45	34						79
12:30		38	36						74
12:45		35	39						74
01:00		48	41						89
01:15		49	41						90
01:30		40	**69**						109
01:45		62	**69**						131
02:00		79	**50**						129
02:15		61	**63**						124
02:30		87	55						142
02:45		97	60						157
03:00		102	53						155
03:15		100	55						155
03:30		83	57						140
03:45		88	67						155
04:00		81	56						137
04:15		112	45						157
04:30		94	46						140
04:45		90	37						127
05:00		97	53						150
05:15		102	33						135
05:30		**109**	44						**153**
05:45		**105**	41						**146**
06:00		**125**	38						**163**
06:15		**111**	37						**148**
06:30		102	37						139
06:45		87	36						123
07:00		59	36						95
07:15		48	24						72
07:30		36	21						57
07:45		49	27						76
08:00		41	23						64
08:15		45	16						61
08:30		21	19						40
08:45		23	21						44
09:00		22	20						42
09:15		13	19						32
09:30		19	18						37
09:45		13	11						24
10:00		8	13						21
10:15		7	5						12
10:30		8	6						14
10:45		10	8						18
11:00		9	4						13
11:15		5	3						8
11:30		3	4						7
11:45		2	3						5
Total		2712	1638						4350
Percent		62.3%	37.7%						
Peak	-	17:30	13:30	-	-	-	-	-	-	17:30
Vol.	-	450	251	-	-	-	-	-	-	610
P.H.F.		0.900	0.909							0.936

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 144th Street Btwn SW 77th Ave
and SW 82nd Ave
Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	04-Apr-19 Thu	WB	EB							Total
12:00 AM		3	0							3
12:15		0	4							4
12:30		2	1							3
12:45		1	0							1
01:00		2	1							3
01:15		0	1							1
01:30		0	2							2
01:45		1	0							1
02:00		1	0							1
02:15		1	1							2
02:30		0	0							0
02:45		0	0							0
03:00		0	0							0
03:15		1	1							2
03:30		0	0							0
03:45		1	0							1
04:00		1	0							1
04:15		1	3							4
04:30		0	1							1
04:45		2	1							3
05:00		0	1							1
05:15		1	4							5
05:30		1	10							11
05:45		2	14							16
06:00		5	31							36
06:15		5	47							52
06:30		9	89							98
06:45		20	**169**							189
07:00		17	**139**							156
07:15		35	**158**							193
07:30		26	**142**							**168**
07:45		48	137							**185**
08:00		**66**	132							**198**
08:15		**60**	163							**223**
08:30		**57**	85							142
08:45		**49**	85							134
09:00		45	81							126
09:15		38	58							96
09:30		40	70							110
09:45		40	59							99
10:00		28	45							73
10:15		32	56							88
10:30		31	45							76
10:45		27	38							65
11:00		29	46							75
11:15		58	42							100
11:30		45	35							80
11:45		42	37							79
Total		873	2034							2907
Percent		30.0%	70.0%							
Peak	-	08:00	06:45	-	-	-	-	-	-	07:30
Vol.	-	232	608	-	-	-	-	-	-	774
P.H.F.		0.879	0.899							0.868

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 144th Street Btwn SW 77th Ave
and SW 82nd Ave
Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	04-Apr-19 Thu	WB	EB						Total
12:00 PM		45	31						76
12:15		44	30						74
12:30		45	38						83
12:45		30	39						69
01:00		35	37						72
01:15		39	38						77
01:30		36	50						86
01:45		63	57						120
02:00		72	47						119
02:15		68	**65**						133
02:30		79	**47**						**126**
02:45		75	**72**						**147**
03:00		95	**50**						**145**
03:15		102	52						**154**
03:30		67	47						114
03:45		81	46						127
04:00		63	49						112
04:15		108	39						147
04:30		93	36						129
04:45		84	40						124
05:00		**101**	33						134
05:15		**105**	40						145
05:30		**109**	27						136
05:45		**98**	33						131
06:00		93	29						122
06:15		71	37						108
06:30		67	30						97
06:45		52	31						83
07:00		50	37						87
07:15		42	19						61
07:30		42	23						65
07:45		36	21						57
08:00		24	24						48
08:15		18	16						34
08:30		28	18						46
08:45		22	18						40
09:00		12	12						24
09:15		18	9						27
09:30		19	12						31
09:45		11	10						21
10:00		11	6						17
10:15		10	5						15
10:30		8	11						19
10:45		7	10						17
11:00		9	4						13
11:15		5	1						6
11:30		2	1						3
11:45		3	3						6
Total		2397	1430						3827
Percent		62.6%	37.4%						
Peak	-	17:00	14:15	-	-	-	-	-	14:30
Vol.	-	413	234	-	-	-	-	-	572
P.H.F.		0.947	0.813						0.929
Grand Total		10375	10483						20858
Percent		49.7%	50.3%						
ADT		ADT 6,951		AADT 6,951					

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 144th Street Btwn Old Cutler Road and SW 77th Ave
Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	02-Apr-19 Tue	WB	EB						Total
12:00 AM		0	1						1
12:15		3	2						5
12:30		2	0						2
12:45		0	0						0
01:00		1	2						3
01:15		1	4						5
01:30		3	1						4
01:45		0	1						1
02:00		0	0						0
02:15		1	0						1
02:30		0	1						1
02:45		1	1						2
03:00		1	1						2
03:15		0	1						1
03:30		0	1						1
03:45		0	1						1
04:00		0	0						0
04:15		1	0						1
04:30		0	0						0
04:45		0	1						1
05:00		3	2						5
05:15		2	2						4
05:30		4	11						15
05:45		1	11						12
06:00		6	18						24
06:15		3	27						30
06:30		8	35						43
06:45		7	52						59
07:00		8	**53**						61
07:15		11	**74**						85
07:30		24	**91**						**115**
07:45		40	**82**						**122**
08:00		44	52						**96**
08:15		31	67						**98**
08:30		**38**	55						93
08:45		**35**	58						93
09:00		**62**	65						127
09:15		**40**	39						79
09:30		21	36						57
09:45		16	31						47
10:00		32	24						56
10:15		25	29						54
10:30		21	22						43
10:45		36	30						66
11:00		30	30						60
11:15		27	32						59
11:30		31	24						55
11:45		31	36						67
Total		651	1106						1757
Percent		37.1%	62.9%						
Peak	-	08:30	07:00	-	-	-	-	-	-	07:30
Vol.	-	175	300	-	-	-	-	-	-	431
P.H.F.		0.706	0.824							0.883

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 144th Street Btwn Old Cutler Road and SW 77th Ave
Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	02-Apr-19 Tue	WB	EB						Total
12:00 PM		27	28						55
12:15		40	25						65
12:30		38	27						65
12:45		23	27						50
01:00		28	27						55
01:15		35	24						59
01:30		30	33						63
01:45		34	28						62
02:00		37	35						72
02:15		37	37						74
02:30		39	**51**						90
02:45		49	**66**						115
03:00		63	**49**						112
03:15		89	**42**						131
03:30		75	36						111
03:45		71	36						107
04:00		72	33						105
04:15		90	42						132
04:30		110	27						137
04:45		103	24						127
05:00		113	21						134
05:15		115	19						134
05:30		104	29						133
05:45		**132**	27						**159**
06:00		**138**	19						**157**
06:15		**126**	22						**148**
06:30		**120**	30						**150**
06:45		69	35						104
07:00		65	23						88
07:15		76	24						100
07:30		86	19						105
07:45		35	20						55
08:00		31	14						45
08:15		28	15						43
08:30		19	11						30
08:45		13	14						27
09:00		25	7						32
09:15		19	14						33
09:30		41	9						50
09:45		19	9						28
10:00		12	7						19
10:15		8	1						9
10:30		5	4						9
10:45		2	2						4
11:00		2	3						5
11:15		4	2						6
11:30		3	3						6
11:45		1	5						6
Total		2501	1105						3606
Percent		69.4%	30.6%						
Peak	-	17:45	14:30	-	-	-	-	-	-	17:45
Vol.	-	516	208	-	-	-	-	-	-	614
P.H.F.		0.935	0.788							0.965

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 144th Street Btwn Old Cutler Road and SW 77th Ave
Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	03-Apr-19 Wed	WB	EB						Total
12:00 AM		2	2						4
12:15		2	2						4
12:30		2	0						2
12:45		0	1						1
01:00		1	1						2
01:15		0	0						0
01:30		0	0						0
01:45		0	1						1
02:00		0	0						0
02:15		1	0						1
02:30		0	0						0
02:45		0	0						0
03:00		0	0						0
03:15		0	1						1
03:30		0	0						0
03:45		0	4						4
04:00		1	0						1
04:15		1	2						3
04:30		1	0						1
04:45		1	1						2
05:00		1	1						2
05:15		0	2						2
05:30		4	12						16
05:45		1	11						12
06:00		3	18						21
06:15		3	25						28
06:30		7	47						54
06:45		9	48						57
07:00		9	**72**						81
07:15		14	**61**						75
07:30		27	**96**						123
07:45		39	**77**						116
08:00		49	57						106
08:15		31	68						**99**
08:30		39	65						**104**
08:45		41	69						**110**
09:00		40	96						**136**
09:15		32	47						79
09:30		38	33						71
09:45		20	29						49
10:00		21	24						45
10:15		25	29						54
10:30		24	35						59
10:45		23	27						50
11:00		**65**	21						86
11:15		**70**	20						90
11:30		**47**	28						75
11:45		**29**	29						58
Total		723	1162						1885
Percent		38.4%	61.6%						
Peak	-	11:00	07:00	-	-	-	-	-	-	08:15
Vol.	-	211	306	-	-	-	-	-	-	449
P.H.F.		0.754	0.797							0.825

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 144th Street Btwn Old Cutler Road and SW 77th Ave
Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	03-Apr-19 Wed	WB	EB						Total
12:00 PM		48	43						91
12:15		35	27						62
12:30		32	21						53
12:45		32	28						60
01:00		29	30						59
01:15		43	37						80
01:30		48	43						91
01:45		32	55						87
02:00		48	36						84
02:15		36	**47**						83
02:30		58	**38**						96
02:45		57	**61**						118
03:00		81	**49**						130
03:15		94	35						129
03:30		88	37						125
03:45		77	40						117
04:00		66	42						108
04:15		94	25						119
04:30		93	40						133
04:45		89	29						118
05:00		101	21						122
05:15		**115**	28						**143**
05:30		**139**	23						**162**
05:45		**150**	29						**179**
06:00		**153**	32						**185**
06:15		115	28						143
06:30		122	28						150
06:45		95	25						120
07:00		46	27						73
07:15		34	18						52
07:30		35	17						52
07:45		43	15						58
08:00		37	17						54
08:15		33	16						49
08:30		18	15						33
08:45		14	18						32
09:00		22	14						36
09:15		5	23						28
09:30		14	11						25
09:45		9	10						19
10:00		5	9						14
10:15		6	6						12
10:30		10	6						16
10:45		11	6						17
11:00		7	7						14
11:15		3	2						5
11:30		5	2						7
11:45		1	5						6
Total		2528	1221						3749
Percent		67.4%	32.6%						
Peak	-	17:15	14:15	-	-	-	-	-	-	17:15
Vol.	-	557	195	-	-	-	-	-	-	669
P.H.F.		0.910	0.799							0.904

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 144th Street Btwn Old Cutler Road and SW 77th Ave
Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	04-Apr-19 Thu	WB	EB						Total
12:00 AM		2	2						4
12:15		1	4						5
12:30		1	0						1
12:45		1	0						1
01:00		3	1						4
01:15		2	0						2
01:30		0	2						2
01:45		1	0						1
02:00		1	0						1
02:15		2	0						2
02:30		0	0						0
02:45		0	0						0
03:00		0	0						0
03:15		1	1						2
03:30		0	0						0
03:45		0	0						0
04:00		1	1						2
04:15		2	2						4
04:30		0	0						0
04:45		4	1						5
05:00		0	0						0
05:15		1	4						5
05:30		4	11						15
05:45		5	14						19
06:00		0	14						14
06:15		4	24						28
06:30		7	48						55
06:45		8	56						64
07:00		8	51						59
07:15		14	70						84
07:30		23	**101**						**124**
07:45		42	**71**						**113**
08:00		51	**63**						**114**
08:15		27	**75**						**102**
08:30		**41**	63						104
08:45		**38**	67						105
09:00		**53**	66						119
09:15		**36**	52						88
09:30		29	54						83
09:45		29	46						75
10:00		26	44						70
10:15		21	34						55
10:30		25	35						60
10:45		29	26						55
11:00		16	36						52
11:15		38	32						70
11:30		50	29						79
11:45		39	37						76
Total		686	1237						1923
Percent		35.7%	64.3%						
Peak	-	08:30	07:30	-	-	-	-	-	-	07:30
Vol.	-	168	310	-	-	-	-	-	-	453
P.H.F.		0.792	0.767							0.913

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 144th Street Btwn Old Cutler Road and SW 77th Ave
Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	04-Apr-19 Thu	WB	EB							Total
12:00 PM		48	23							71
12:15		35	24							59
12:30		36	29							65
12:45		33	21							54
01:00		28	24							52
01:15		31	40							71
01:30		36	39							75
01:45		39	34							73
02:00		52	**47**							99
02:15		43	**44**							87
02:30		39	**34**							73
02:45		40	**46**							86
03:00		72	38							110
03:15		67	25							92
03:30		80	43							123
03:45		52	23							75
04:00		65	34							99
04:15		93	27							120
04:30		86	26							112
04:45		107	30							137
05:00		98	22							120
05:15		**131**	29							**160**
05:30		**116**	21							**137**
05:45		**129**	22							**151**
06:00		**117**	24							**141**
06:15		70	29							99
06:30		64	21							85
06:45		41	32							73
07:00		40	36							76
07:15		34	23							57
07:30		39	21							60
07:45		33	14							47
08:00		24	19							43
08:15		19	15							34
08:30		26	15							41
08:45		29	8							37
09:00		12	8							20
09:15		11	7							18
09:30		17	6							23
09:45		12	8							20
10:00		7	2							9
10:15		4	2							6
10:30		8	9							17
10:45		3	4							7
11:00		7	4							11
11:15		5	3							8
11:30		5	2							7
11:45		3	5							8
Total		2186	1062							3248
Percent		67.3%	32.7%							
Peak	-	17:15	14:00	-	-	-	-	-	-	17:15
Vol.	-	493	171	-	-	-	-	-	-	589
P.H.F.		0.941	0.910							0.920
Grand Total		9275	6893							16168
Percent		57.4%	42.6%							
ADT		ADT 5,388		AADT 5,388						

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 152nd St at SW 67th Ave
Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	02-Apr-19 Tue	WB	EB	SB						Total
12:00 AM		1	0	0						1
12:15		0	0	1						1
12:30		1	1	0						2
12:45		1	0	1						2
01:00		0	1	0						1
01:15		0	0	3						3
01:30		1	0	0						1
01:45		1	0	1						2
02:00		0	0	0						0
02:15		0	0	0						0
02:30		1	0	1						2
02:45		0	0	0						0
03:00		0	0	0						0
03:15		0	0	0						0
03:30		0	0	0						0
03:45		0	0	0						0
04:00		0	0	0						0
04:15		0	1	0						1
04:30		1	0	0						1
04:45		0	0	1						1
05:00		2	2	2						6
05:15		4	14	3						21
05:30		2	25	11						38
05:45		0	24	18						42
06:00		2	8	3						13
06:15		2	26	6						34
06:30		9	46	9						64
06:45		11	75	8						94
07:00		7	**78**	23						**108**
07:15		11	**86**	**36**						**133**
07:30		10	**94**	**51**						**155**
07:45		8	**154**	**69**						**231**
08:00		5	42	**26**						73
08:15		7	23	17						47
08:30		**11**	26	25						62
08:45		**17**	19	19						55
09:00		**10**	19	7						36
09:15		**8**	23	19						50
09:30		9	19	19						47
09:45		13	15	10						38
10:00		12	16	11						39
10:15		9	12	8						29
10:30		6	8	15						29
10:45		5	12	10						27
11:00		11	16	13						40
11:15		5	16	14						35
11:30		11	13	9						33
11:45		3	16	9						28
Total		217	930	478						1625
Percent		13.4%	57.2%	29.4%						
Peak	-	08:30	07:00	07:15	-	-	-	-	-	07:00
Vol.	-	46	412	182	-	-	-	-	-	627
P.H.F.		0.676	0.669	0.659						0.679

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 152nd St at SW 67th Ave
Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	02-Apr-19 Tue	WB	EB	SB						Total
12:00 PM		12	21	8						41
12:15		5	12	12						29
12:30		6	10	15						31
12:45		1	9	7						17
01:00		6	20	16						42
01:15		6	12	23						41
01:30		2	8	9						19
01:45		8	10	17						35
02:00		10	16	24						50
02:15		6	31	17						54
02:30		10	**45**	34						89
02:45		13	**66**	48						**127**
03:00		6	**91**	44						**141**
03:15		**10**	**46**	61						**117**
03:30		**5**	41	48						**94**
03:45		**10**	50	45						105
04:00		**18**	67	60						145
04:15		5	37	64						106
04:30		5	26	65						96
04:45		7	25	67						99
05:00		4	28	62						94
05:15		8	30	72						110
05:30		0	33	**79**						112
05:45		9	27	**79**						115
06:00		2	31	**67**						100
06:15		10	24	**83**						117
06:30		5	24	67						96
06:45		7	16	48						71
07:00		8	23	64						95
07:15		8	12	55						75
07:30		4	10	33						47
07:45		3	10	34						47
08:00		4	10	18						32
08:15		2	6	16						24
08:30		0	2	6						8
08:45		4	5	8						17
09:00		5	14	10						29
09:15		2	10	13						25
09:30		3	6	24						33
09:45		3	2	13						18
10:00		1	1	7						9
10:15		0	3	3						6
10:30		0	2	8						10
10:45		1	2	8						11
11:00		1	2	2						5
11:15		1	2	2						5
11:30		1	1	0						2
11:45		1	0	1						2
Total		248	979	1566						2793
Percent		8.9%	35.1%	56.1%						
Peak	-	15:15	14:30	17:30	-	-	-	-	-	14:45
Vol.	-	43	248	308	-	-	-	-	-	479
P.H.F.		0.597	0.681	0.928						0.849

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 152nd St at SW 67th Ave
Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	03-Apr-19 Wed	WB	EB	SB						Total
12:00 AM		0	1	2						3
12:15		0	0	1						1
12:30		0	3	0						3
12:45		0	0	0						0
01:00		0	0	1						1
01:15		1	1	1						3
01:30		0	0	0						0
01:45		0	0	0						0
02:00		0	0	2						2
02:15		1	0	0						1
02:30		0	0	1						1
02:45		0	0	0						0
03:00		0	0	0						0
03:15		0	0	0						0
03:30		0	0	0						0
03:45		0	0	0						0
04:00		0	0	0						0
04:15		0	1	0						1
04:30		1	0	1						2
04:45		0	2	1						3
05:00		1	3	3						7
05:15		1	10	3						14
05:30		3	28	15						46
05:45		4	26	12						42
06:00		2	9	4						15
06:15		7	25	9						41
06:30		4	55	12						71
06:45		9	78	15						102
07:00		7	**93**	21						**121**
07:15		10	**86**	**34**						**130**
07:30		8	**112**	**53**						**173**
07:45		6	**136**	**73**						**215**
08:00		**7**	60	**28**						95
08:15		**10**	31	19						60
08:30		**14**	20	17						51
08:45		**11**	36	18						65
09:00		4	17	5						26
09:15		8	26	18						52
09:30		4	18	9						31
09:45		9	18	5						32
10:00		9	8	11						28
10:15		5	12	8						25
10:30		6	13	9						28
10:45		14	19	13						46
11:00		6	13	8						27
11:15		9	11	18						38
11:30		5	10	20						35
11:45		6	15	21						42
Total		192	996	491						1679
Percent		11.4%	59.3%	29.2%						
Peak	-	08:00	07:00	07:15	-	-	-	-	-	07:00
Vol.	-	42	427	188	-	-	-	-	-	639
P.H.F.		0.750	0.785	0.644						0.743

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 152nd St at SW 67th Ave
Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	03-Apr-19 Wed	WB	EB	SB						Total
12:00 PM		4	19	14						37
12:15		9	11	11						31
12:30		8	13	14						35
12:45		9	9	14						32
01:00		2	9	15						26
01:15		7	16	12						35
01:30		6	8	8						22
01:45		7	8	25						40
02:00		5	12	21						38
02:15		7	19	17						43
02:30		4	44	24						72
02:45		12	**68**	31						111
03:00		7	**68**	51						126
03:15		**8**	**60**	61						**129**
03:30		**9**	**45**	56						**110**
03:45		**12**	40	71						**123**
04:00		**8**	67	70						**145**
04:15		3	28	67						98
04:30		8	34	81						123
04:45		5	35	**76**						116
05:00		9	35	**79**						123
05:15		6	25	**74**						105
05:30		9	36	**87**						132
05:45		7	45	70						122
06:00		5	29	70						104
06:15		7	19	79						105
06:30		7	23	52						82
06:45		5	9	46						60
07:00		5	24	51						80
07:15		6	17	35						58
07:30		7	11	27						45
07:45		4	9	12						25
08:00		3	11	9						23
08:15		4	3	8						15
08:30		5	8	6						19
08:45		3	4	7						14
09:00		4	3	8						15
09:15		3	8	16						27
09:30		2	6	25						33
09:45		3	2	5						10
10:00		0	3	14						17
10:15		3	2	5						10
10:30		0	2	3						5
10:45		1	7	4						12
11:00		2	3	3						8
11:15		1	2	2						5
11:30		0	0	2						2
11:45		0	1	3						4
Total		251	960	1541						2752
Percent		9.1%	34.9%	56.0%						
Peak	-	15:15	14:45	16:45	-	-	-	-	-	15:15
Vol.	-	37	241	316	-	-	-	-	-	507
P.H.F.		0.771	0.886	0.908						0.874

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 152nd St at SW 67th Ave
Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	04-Apr-19 Thu	WB	EB	SB						Total
12:00 AM		0	1	11						12
12:15		0	1	1						2
12:30		3	0	1						4
12:45		1	0	2						3
01:00		0	0	1						1
01:15		1	0	1						2
01:30		0	0	0						0
01:45		1	0	4						5
02:00		0	0	0						0
02:15		0	0	0						0
02:30		0	0	4						4
02:45		0	0	0						0
03:00		0	0	0						0
03:15		0	0	0						0
03:30		0	0	1						1
03:45		0	0	0						0
04:00		0	0	0						0
04:15		0	0	0						0
04:30		0	0	1						1
04:45		0	1	0						1
05:00		2	3	1						6
05:15		4	5	6						15
05:30		0	22	13						35
05:45		0	25	13						38
06:00		1	16	2						19
06:15		8	25	4						37
06:30		5	50	7						62
06:45		11	91	7						109
07:00		6	**92**	17						**115**
07:15		11	**120**	**32**						**163**
07:30		7	**96**	**47**						**150**
07:45		4	**201**	**82**						**287**
08:00		7	66	**21**						94
08:15		11	44	18						73
08:30		10	35	19						64
08:45		10	33	23						66
09:00		**9**	25	14						48
09:15		**14**	34	11						59
09:30		**7**	18	15						40
09:45		**15**	22	17						54
10:00		9	18	6						33
10:15		11	17	10						38
10:30		8	13	11						32
10:45		3	17	11						31
11:00		8	16	10						34
11:15		12	17	7						36
11:30		13	10	14						37
11:45		6	18	7						31
Total		218	1152	472						1842
Percent		11.8%	62.5%	25.6%						
Peak	-	09:00	07:00	07:15	-	-	-	-	-	07:00
Vol.	-	45	509	182	-	-	-	-	-	715
P.H.F.		0.750	0.633	0.555						0.623

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 152nd St at SW 67th Ave
Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	04-Apr-19 Thu	WB	EB	SB						Total
12:00 PM		7	13	22						42
12:15		12	16	15						43
12:30		6	19	7						32
12:45		3	20	14						37
01:00		8	16	10						34
01:15		6	24	16						46
01:30		9	**50**	22						**81**
01:45		13	**62**	24						**99**
02:00		3	**89**	38						**130**
02:15		5	**38**	36						**79**
02:30		11	34	25						70
02:45		7	45	27						79
03:00		3	45	32						80
03:15		**11**	31	37						79
03:30		**4**	27	28						59
03:45		**16**	18	35						69
04:00		**9**	34	40						83
04:15		6	21	61						88
04:30		3	23	60						86
04:45		6	17	**68**						91
05:00		6	15	**71**						92
05:15		6	17	**78**						101
05:30		4	22	**75**						101
05:45		11	17	67						95
06:00		7	18	55						80
06:15		8	9	66						83
06:30		8	26	48						82
06:45		5	10	34						49
07:00		10	8	36						54
07:15		6	18	24						48
07:30		6	8	26						40
07:45		7	11	14						32
08:00		5	6	19						30
08:15		8	9	5						22
08:30		6	9	17						32
08:45		5	12	15						32
09:00		2	4	8						14
09:15		2	6	6						14
09:30		1	8	19						28
09:45		1	5	6						12
10:00		2	4	4						10
10:15		3	5	7						15
10:30		1	6	6						13
10:45		0	3	1						4
11:00		2	1	3						6
11:15		1	1	4						6
11:30		2	1	3						6
11:45		1	1	0						2
Total		274	902	1334						2510
Percent		10.9%	35.9%	53.1%						
Peak	-	15:15	13:30	16:45	-	-	-	-	-	13:30
Vol.	-	40	239	292	-	-	-	-	-	389
P.H.F.		0.625	0.671	0.936						0.748
Grand Total		1400	5919	5882						13201
Percent		10.6%	44.8%	44.6%						
ADT		ADT 4,399		AADT 4,399						

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 152nd Street Btwn SW 77th Ave
and SW 82nd Ave
Date Start: 02-Apr-19
Date End: 03-Apr-19

Start Time	02-Apr-19 Tue	WB	EB							Total
12:00 AM		5	2							7
12:15		8	4							12
12:30		3	1							4
12:45		3	1							4
01:00		2	2							4
01:15		2	0							2
01:30		1	3							4
01:45		0	1							1
02:00		3	1							4
02:15		1	0							1
02:30		1	0							1
02:45		2	0							2
03:00		1	0							1
03:15		1	2							3
03:30		1	2							3
03:45		0	1							1
04:00		1	0							1
04:15		3	3							6
04:30		2	5							7
04:45		3	9							12
05:00		3	9							12
05:15		4	28							32
05:30		5	53							58
05:45		11	120							131
06:00		9	155							164
06:15		19	**217**							**236**
06:30		19	**191**							**210**
06:45		32	**194**							**226**
07:00		43	**184**							**227**
07:15		35	168							203
07:30		35	122							157
07:45		59	90							149
08:00		66	74							140
08:15		54	32							86
08:30		57	68							125
08:45		50	89							139
09:00		63	103							166
09:15		44	100							144
09:30		55	104							159
09:45		71	90							161
10:00		55	67							122
10:15		46	51							97
10:30		62	66							128
10:45		51	50							101
11:00		**69**	62							131
11:15		**55**	43							98
11:30		**65**	56							121
11:45		**62**	48							110
Total		1242	2671							3913
Percent		31.7%	68.3%							
Peak	-	11:00	06:15	-	-	-	-	-	-	06:15
Vol.	-	251	786	-	-	-	-	-	-	899
P.H.F.		0.909	0.906							0.952

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 152nd Street Btwn SW 77th Ave
and SW 82nd Ave
Date Start: 02-Apr-19
Date End: 03-Apr-19

Start Time	02-Apr-19 Tue	WB	EB						Total
12:00 PM		60	52						112
12:15		81	50						131
12:30		54	48						102
12:45		42	59						101
01:00		62	49						111
01:15		71	58						129
01:30		53	51						104
01:45		58	53						111
02:00		54	38						92
02:15		45	58						103
02:30		60	58						118
02:45		43	53						96
03:00		53	21						74
03:15		72	37						109
03:30		106	46						152
03:45		111	**66**						177
04:00		107	**60**						167
04:15		**131**	**60**						**191**
04:30		**146**	**50**						**196**
04:45		**148**	57						**205**
05:00		**148**	65						**213**
05:15		110	53						163
05:30		142	60						202
05:45		136	51						187
06:00		123	49						172
06:15		133	47						180
06:30		152	40						192
06:45		150	62						212
07:00		128	54						182
07:15		127	43						170
07:30		133	41						174
07:45		92	50						142
08:00		74	33						107
08:15		80	33						113
08:30		49	35						84
08:45		44	19						63
09:00		57	20						77
09:15		26	24						50
09:30		33	14						47
09:45		12	10						22
10:00		18	10						28
10:15		19	16						35
10:30		16	2						18
10:45		13	10						23
11:00		8	4						12
11:15		10	7						17
11:30		6	5						11
11:45		10	3						13
Total		3606	1884						5490
Percent		65.7%	34.3%						
Peak	-	16:15	15:45	-	-	-	-	-	16:15
Vol.	-	573	236	-	-	-	-	-	805
P.H.F.		0.968	0.894						0.945
Grand Total		4848	4555						9403
Percent		51.6%	48.4%						
ADT		ADT 9,400		AADT 9,400					

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 152nd Street Btwn Old Cutler Road and SW 77th Ave
Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	02-Apr-19 Tue	WB	EB						Total
12:00 AM		5	11						16
12:15		8	9						17
12:30		3	5						8
12:45		5	6						11
01:00		3	0						3
01:15		2	1						3
01:30		0	2						2
01:45		1	2						3
02:00		3	4						7
02:15		1	2						3
02:30		1	1						2
02:45		2	1						3
03:00		1	1						2
03:15		4	2						6
03:30		9	3						12
03:45		5	2						7
04:00		12	0						12
04:15		6	0						6
04:30		15	3						18
04:45		18	8						26
05:00		34	7						41
05:15		38	20						58
05:30		65	30						95
05:45		67	40						107
06:00		51	55						106
06:15		50	104						154
06:30		55	97						152
06:45		52	**101**						**153**
07:00		44	**120**						**164**
07:15		54	**124**						**178**
07:30		57	**121**						**178**
07:45		64	89						153
08:00		84	67						151
08:15		67	68						135
08:30		63	71						134
08:45		**85**	78						163
09:00		**90**	81						171
09:15		**90**	64						154
09:30		**91**	67						158
09:45		81	66						147
10:00		83	58						141
10:15		69	52						121
10:30		71	76						147
10:45		68	60						128
11:00		77	58						135
11:15		80	46						126
11:30		66	63						129
11:45		75	66						141
Total		1975	2012						3987
Percent		49.5%	50.5%						
Peak	-	08:45	06:45	-	-	-	-	-	-	06:45
Vol.	-	356	466	-	-	-	-	-	-	673
P.H.F.		0.978	0.940							0.945

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 152nd Street Btwn Old Cutler Road and SW 77th Ave
Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	02-Apr-19 Tue	WB	EB							Total
12:00 PM		83	65							148
12:15		85	45							130
12:30		64	61							125
12:45		61	68							129
01:00		77	57							134
01:15		81	72							153
01:30		81	53							134
01:45		83	57							140
02:00		85	62							147
02:15		70	64							134
02:30		83	83							166
02:45		92	69							161
03:00		100	85							185
03:15		113	83							**196**
03:30		118	**85**							**203**
03:45		105	**79**							**184**
04:00		95	**100**							**195**
04:15		96	**98**							194
04:30		101	60							161
04:45		**113**	74							187
05:00		**105**	79							184
05:15		**108**	69							177
05:30		**121**	64							185
05:45		108	61							169
06:00		109	57							166
06:15		102	83							185
06:30		114	59							173
06:45		94	67							161
07:00		76	69							145
07:15		83	77							160
07:30		68	65							133
07:45		75	65							140
08:00		59	67							126
08:15		59	58							117
08:30		40	72							112
08:45		50	58							108
09:00		43	53							96
09:15		31	55							86
09:30		39	35							74
09:45		22	36							58
10:00		20	41							61
10:15		23	31							54
10:30		18	25							43
10:45		15	34							49
11:00		13	22							35
11:15		13	16							29
11:30		9	14							23
11:45		9	12							21
Total		3412	2864							6276
Percent		54.4%	45.6%							
Peak	-	16:45	15:30	-	-	-	-	-	-	15:15
Vol.	-	447	362	-	-	-	-	-	-	778
P.H.F.		0.924	0.905							0.958

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 152nd Street Btwn Old Cutler Road and SW 77th Ave
Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	03-Apr-19 Wed	WB	EB							Total
12:00 AM		3	9							12
12:15		7	11							18
12:30		5	5							10
12:45		4	5							9
01:00		5	1							6
01:15		2	10							12
01:30		2	3							5
01:45		4	3							7
02:00		2	1							3
02:15		3	2							5
02:30		2	0							2
02:45		2	2							4
03:00		3	1							4
03:15		6	3							9
03:30		4	0							4
03:45		4	2							6
04:00		6	1							7
04:15		15	2							17
04:30		14	5							19
04:45		23	9							32
05:00		24	5							29
05:15		45	9							54
05:30		59	31							90
05:45		85	45							130
06:00		49	49							98
06:15		41	99							140
06:30		65	111							176
06:45		50	**95**							145
07:00		45	**129**							**174**
07:15		63	**121**							**184**
07:30		62	**119**							**181**
07:45		65	93							**158**
08:00		73	88							161
08:15		74	78							152
08:30		60	70							130
08:45		83	86							169
09:00		71	94							165
09:15		75	94							169
09:30		67	93							160
09:45		90	68							158
10:00		78	62							140
10:15		89	59							148
10:30		**101**	50							151
10:45		**78**	56							134
11:00		**87**	49							136
11:15		**94**	57							151
11:30		78	54							132
11:45		77	61							138
Total		2044	2100							4144
Percent		49.3%	50.7%							
Peak	-	10:30	06:45	-	-	-	-	-	-	07:00
Vol.	-	360	464	-	-	-	-	-	-	697
P.H.F.		0.891	0.899							0.947

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 152nd Street Btwn Old Cutler Road and SW 77th Ave
Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	03-Apr-19 Wed	WB	EB							Total
12:00 PM		88	58							146
12:15		86	61							147
12:30		68	59							127
12:45		74	61							135
01:00		82	71							153
01:15		82	75							157
01:30		101	53							154
01:45		91	55							146
02:00		90	83							173
02:15		81	69							150
02:30		77	**93**							170
02:45		101	**88**							189
03:00		107	**84**							191
03:15		121	**86**							**207**
03:30		113	88							**201**
03:45		87	89							**176**
04:00		132	85							**217**
04:15		106	74							180
04:30		109	70							179
04:45		113	77							190
05:00		111	56							167
05:15		**118**	72							190
05:30		**133**	72							205
05:45		**113**	76							189
06:00		**133**	71							204
06:15		104	88							192
06:30		109	68							177
06:45		83	86							169
07:00		94	91							185
07:15		69	55							124
07:30		82	64							146
07:45		74	85							159
08:00		62	97							159
08:15		57	65							122
08:30		53	65							118
08:45		34	53							87
09:00		41	51							92
09:15		28	70							98
09:30		32	36							68
09:45		26	37							63
10:00		16	42							58
10:15		24	23							47
10:30		19	26							45
10:45		19	34							53
11:00		10	29							39
11:15		9	14							23
11:30		10	26							36
11:45		15	11							26
Total		3587	3042							6629
Percent		54.1%	45.9%							
Peak	-	17:15	14:30	-	-	-	-	-	-	15:15
Vol.	-	497	351	-	-	-	-	-	-	801
P.H.F.		0.934	0.944							0.923

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 152nd Street Btwn Old Cutler Road and SW 77th Ave
Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	04-Apr-19 Thu	WB	EB						Total
12:00 AM		8	10						18
12:15		3	10						13
12:30		3	9						12
12:45		4	6						10
01:00		1	3						4
01:15		4	7						11
01:30		3	5						8
01:45		1	4						5
02:00		5	4						9
02:15		2	5						7
02:30		3	3						6
02:45		4	2						6
03:00		1	0						1
03:15		3	1						4
03:30		8	2						10
03:45		4	4						8
04:00		8	0						8
04:15		8	4						12
04:30		13	5						18
04:45		17	5						22
05:00		28	8						36
05:15		38	10						48
05:30		46	22						68
05:45		73	36						109
06:00		49	60						109
06:15		46	82						128
06:30		56	95						151
06:45		41	98						139
07:00		44	**94**						138
07:15		35	**128**						**163**
07:30		52	**138**						**190**
07:45		64	**113**						**177**
08:00		89	76						**165**
08:15		64	98						162
08:30		76	68						144
08:45		80	86						166
09:00		75	89						164
09:15		63	94						157
09:30		59	93						152
09:45		50	106						156
10:00		**78**	81						159
10:15		**72**	74						146
10:30		**87**	54						141
10:45		**83**	65						148
11:00		74	51						125
11:15		66	74						140
11:30		71	59						130
11:45		74	61						135
Total		1836	2202						4038
Percent		45.5%	54.5%						
Peak	-	10:00	07:00	-	-	-	-	-	-	07:15
Vol.	-	320	473	-	-	-	-	-	-	695
P.H.F.		0.920	0.857							0.914

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 152nd Street Btwn Old Cutler Road and SW 77th Ave
Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	04-Apr-19 Thu	WB	EB						Total
12:00 PM		83	61						144
12:15		79	57						136
12:30		86	55						141
12:45		67	55						122
01:00		62	52						114
01:15		68	**71**						139
01:30		61	**84**						145
01:45		99	**89**						188
02:00		103	**75**						178
02:15		107	67						174
02:30		76	75						151
02:45		86	74						160
03:00		85	73						158
03:15		94	88						182
03:30		112	72						184
03:45		89	68						157
04:00		102	77						**179**
04:15		110	83						**193**
04:30		113	72						**185**
04:45		108	77						**185**
05:00		105	72						177
05:15		**115**	72						187
05:30		**110**	63						173
05:45		**107**	74						181
06:00		**114**	63						177
06:15		88	68						156
06:30		105	61						166
06:45		64	70						134
07:00		77	69						146
07:15		61	79						140
07:30		70	72						142
07:45		66	70						136
08:00		70	61						131
08:15		48	74						122
08:30		55	63						118
08:45		43	69						112
09:00		29	61						90
09:15		22	63						85
09:30		47	63						110
09:45		25	32						57
10:00		27	32						59
10:15		18	42						60
10:30		17	18						35
10:45		10	26						36
11:00		10	26						36
11:15		15	20						35
11:30		14	18						32
11:45		7	11						18
Total		3329	2937						6266
Percent		53.1%	46.9%						
Peak	-	17:15	13:15	-	-	-	-	-	16:00
Vol.	-	446	319	-	-	-	-	-	742
P.H.F.		0.970	0.896						0.961
Grand Total		16183	15157						31340
Percent		51.6%	48.4%						
ADT		ADT 10,443	AADT 10,443						

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 168th Street Btwn SW 87nd Ave and US1

Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	02-Apr-19 Tue	WB	EB						Total
12:00 AM		4	5						9
12:15		2	1						3
12:30		3	3						6
12:45		3	2						5
01:00		4	1						5
01:15		1	3						4
01:30		1	3						4
01:45		0	2						2
02:00		1	3						4
02:15		0	0						0
02:30		0	0						0
02:45		0	1						1
03:00		2	2						4
03:15		2	0						2
03:30		2	3						5
03:45		2	0						2
04:00		2	1						3
04:15		1	1						2
04:30		4	3						7
04:45		6	4						10
05:00		8	7						15
05:15		7	12						19
05:30		8	18						26
05:45		10	30						40
06:00		19	58						77
06:15		24	80						104
06:30		37	69						106
06:45		31	84						115
07:00		39	85						124
07:15		33	**99**						132
07:30		42	**107**						**149**
07:45		**72**	**129**						**201**
08:00		**85**	**147**						**232**
08:15		**86**	87						**173**
08:30		**80**	61						141
08:45		63	57						120
09:00		52	47						99
09:15		45	73						118
09:30		32	52						84
09:45		42	41						83
10:00		53	36						89
10:15		50	40						90
10:30		41	43						84
10:45		36	34						70
11:00		70	48						118
11:15		58	32						90
11:30		61	33						94
11:45		62	44						106
Total		1286	1691						2977
Percent		43.2%	56.8%						
Peak	-	07:45	07:15	-	-	-	-	-	-	07:30
Vol.	-	323	482	-	-	-	-	-	-	755
P.H.F.		0.939	0.820							0.814

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 168th Street Btwn SW 87nd Ave and US1

Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	02-Apr-19 Tue	WB	EB						Total
12:00 PM		53	43						96
12:15		47	34						81
12:30		53	40						93
12:45		40	25						65
01:00		45	44						89
01:15		49	45						94
01:30		36	66						102
01:45		69	54						123
02:00		69	40						109
02:15		53	51						104
02:30		58	59						117
02:45		57	63						120
03:00		86	57						143
03:15		68	68						136
03:30		57	**74**						131
03:45		81	**67**						148
04:00		98	**78**						**176**
04:15		**116**	**73**						**189**
04:30		**74**	62						**136**
04:45		**84**	65						**149**
05:00		**99**	65						164
05:15		86	58						144
05:30		103	67						170
05:45		80	54						134
06:00		89	61						150
06:15		67	39						106
06:30		60	44						104
06:45		58	43						101
07:00		62	44						106
07:15		50	40						90
07:30		51	35						86
07:45		36	40						76
08:00		44	36						80
08:15		38	29						67
08:30		38	33						71
08:45		28	27						55
09:00		36	29						65
09:15		30	25						55
09:30		24	21						45
09:45		14	15						29
10:00		26	17						43
10:15		15	12						27
10:30		18	18						36
10:45		13	14						27
11:00		9	11						20
11:15		9	10						19
11:30		11	12						23
11:45		7	2						9
Total		2494	2009						4503
Percent		55.4%	44.6%						
Peak	-	16:15	15:30	-	-	-	-	-	-	16:00
Vol.	-	373	292	-	-	-	-	-	-	650
P.H.F.		0.804	0.936							0.860

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 168th Street Btwn SW 87nd Ave and US1

Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	03-Apr-19 Wed	WB	EB						Total
12:00 AM		5	4						9
12:15		7	7						14
12:30		7	8						15
12:45		2	4						6
01:00		3	1						4
01:15		1	2						3
01:30		2	2						4
01:45		0	4						4
02:00		0	0						0
02:15		5	2						7
02:30		2	2						4
02:45		2	4						6
03:00		1	0						1
03:15		1	0						1
03:30		2	1						3
03:45		1	1						2
04:00		5	0						5
04:15		3	2						5
04:30		5	2						7
04:45		8	5						13
05:00		7	13						20
05:15		4	10						14
05:30		13	20						33
05:45		15	28						43
06:00		17	58						75
06:15		27	82						109
06:30		31	58						89
06:45		32	76						108
07:00		33	85						118
07:15		33	**86**						119
07:30		**55**	**138**						**193**
07:45		**68**	**126**						**194**
08:00		**98**	**116**						**214**
08:15		**93**	68						**161**
08:30		54	57						111
08:45		57	49						106
09:00		54	47						101
09:15		52	46						98
09:30		40	41						81
09:45		28	54						82
10:00		38	42						80
10:15		38	53						91
10:30		45	34						79
10:45		43	35						78
11:00		44	41						85
11:15		61	45						106
11:30		44	41						85
11:45		47	50						97
Total		1233	1650						2883
Percent		42.8%	57.2%						
Peak	-	07:30	07:15	-	-	-	-	-	-	07:30
Vol.	-	314	466	-	-	-	-	-	-	762
P.H.F.		0.801	0.844							0.890

Marlin Engineering
1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 168th Street Btwn SW 87nd Ave and US1

Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	03-Apr-19 Wed	WB	EB						Total
12:00 PM		62	51						113
12:15		55	47						102
12:30		51	41						92
12:45		47	58						105
01:00		47	54						101
01:15		51	44						95
01:30		42	76						118
01:45		90	80						170
02:00		88	60						148
02:15		73	39						112
02:30		55	60						115
02:45		53	56						109
03:00		77	59						136
03:15		81	**64**						**145**
03:30		62	**75**						**137**
03:45		**65**	**59**						**124**
04:00		**96**	**69**						**165**
04:15		**77**	52						129
04:30		**88**	64						152
04:45		63	45						108
05:00		90	60						150
05:15		73	45						118
05:30		84	49						133
05:45		73	56						129
06:00		63	61						124
06:15		63	57						120
06:30		80	38						118
06:45		65	56						121
07:00		46	47						93
07:15		41	47						88
07:30		52	47						99
07:45		40	36						76
08:00		36	30						66
08:15		35	32						67
08:30		50	27						77
08:45		47	20						67
09:00		36	28						64
09:15		37	29						66
09:30		26	25						51
09:45		16	21						37
10:00		15	12						27
10:15		14	11						25
10:30		20	9						29
10:45		11	12						23
11:00		14	4						18
11:15		12	8						20
11:30		6	8						14
11:45		4	1						5
Total		2472	2029						4501
Percent		54.9%	45.1%						
Peak	-	15:45	15:15	-	-	-	-	-	-	15:15
Vol.	-	326	267	-	-	-	-	-	-	571
P.H.F.		0.849	0.834							0.840

Marlin Engineering

1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 168th Street Btwn SW 87nd Ave and US1

Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	04-Apr-19 Thu	WB	EB						Total
12:00 AM		6	5						11
12:15		2	5						7
12:30		6	3						9
12:45		4	5						9
01:00		0	2						2
01:15		2	1						3
01:30		1	2						3
01:45		1	0						1
02:00		2	2						4
02:15		4	3						7
02:30		1	1						2
02:45		1	1						2
03:00		0	1						1
03:15		1	0						1
03:30		1	0						1
03:45		0	1						1
04:00		3	0						3
04:15		2	2						4
04:30		2	2						4
04:45		7	5						12
05:00		12	6						18
05:15		4	11						15
05:30		9	20						29
05:45		10	22						32
06:00		19	62						81
06:15		22	85						107
06:30		26	73						99
06:45		35	73						108
07:00		39	74						113
07:15		32	82						114
07:30		52	**115**						**167**
07:45		58	**158**						**216**
08:00		83	**152**						**235**
08:15		**102**	**105**						**207**
08:30		**67**	70						137
08:45		**68**	71						139
09:00		**88**	82						170
09:15		62	49						111
09:30		58	88						146
09:45		44	85						129
10:00		54	61						115
10:15		38	65						103
10:30		43	49						92
10:45		43	50						93
11:00		52	33						85
11:15		57	42						99
11:30		44	40						84
11:45		40	37						77
Total		1307	1901						3208
Percent		40.7%	59.3%						
Peak	-	08:15	07:30	-	-	-	-	-	-	07:30
Vol.	-	325	530	-	-	-	-	-	-	825
P.H.F.		0.797	0.839							0.878

Marlin Engineering
1700 NW 66th Ave Suite 106
Plantation, FL 33313

SW 168th Street Btwn SW 87nd Ave and US1

Date Start: 02-Apr-19
Date End: 05-Apr-19

Start Time	04-Apr-19 Thu	WB	EB						Total
12:00 PM		56	34						90
12:15		52	36						88
12:30		52	50						102
12:45		46	32						78
01:00		51	26						77
01:15		53	44						97
01:30		59	69						128
01:45		61	56						117
02:00		46	41						87
02:15		44	52						96
02:30		63	60						123
02:45		51	75						126
03:00		109	57						166
03:15		53	**65**						118
03:30		57	**61**						118
03:45		67	**66**						**133**
04:00		**98**	**68**						**166**
04:15		**93**	42						**135**
04:30		**74**	46						**120**
04:45		**86**	44						130
05:00		74	66						140
05:15		69	64						133
05:30		70	51						121
05:45		77	40						117
06:00		76	51						127
06:15		55	50						105
06:30		78	41						119
06:45		60	38						98
07:00		46	55						101
07:15		42	45						87
07:30		35	45						80
07:45		40	28						68
08:00		31	32						63
08:15		32	31						63
08:30		29	30						59
08:45		36	27						63
09:00		32	27						59
09:15		30	29						59
09:30		22	21						43
09:45		13	18						31
10:00		14	18						32
10:15		9	12						21
10:30		14	14						28
10:45		22	13						35
11:00		16	6						22
11:15		2	12						14
11:30		8	6						14
11:45		2	5						7
Total		2305	1899						4204
Percent		54.8%	45.2%						
Peak	-	16:00	15:15	-	-	-	-	-	15:45
Vol.	-	351	260	-	-	-	-	-	554
P.H.F.		0.895	0.956						0.834
Grand Total		11097	11179						22276
Percent		49.8%	50.2%						
ADT		ADT 7,424		AADT 7,424					

1

Old Cutler Rd at Ludlam Rd		NB			SB			EB			WB		
		L	T	R	L	T	R	L	T	R	L	T	R
RAW TMC		23	206	149	1	154	176	310	688	56	144	250	6
PSCF		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Exisitng Traffic		23	206	149	1	154	176	310	688	56	144	250	6
Future Background Growth Traffic		6	56	40	0	42	48	84	186	15	39	68	2
Scenario 1	176 DU trips	14	14	19	0	5	0	0	0	5	6	0	0
	Future Background Committed Development	0	0	0	0	0	0	0	13	0	0	4	0
	Total	43	276	208	1	201	224	394	887	76	189	322	8
Scenario 2	70 DU trips	6	6	7	0	2	0	0	0	2	2	0	0
	Future Background Committed Development	0	0	0	0	0	0	0	13	0	0	4	0
	Total	35	268	196	1	198	224	394	887	73	185	322	8

2

Old Cutler Rd at SW 152nd St		NB			SB			EB			WB		
		L	T	R	L	T	R	L	T	R	L	T	R
RAW TMC		90	621	187	116	396	33	84	136	76	99	104	13
PSCF		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Exisitng Traffic		90	621	187	116	396	33	84	136	76	99	104	13
Future Background Growth Traffic		24	168	50	31	107	9	23	37	21	27	28	4
Scenario 1	176 DU trips	0	0	2	0	0	0	0	10	0	7	31	0
	Future Background Committed Development	6	13	0	0	4	0	0	0	2	0	0	0
	Total	120	802	239	147	507	42	107	183	99	133	163	17
Scenario 2	70 DU trips	0	0	1	0	0	0	0	4	0	3	12	0
	Future Background Committed Development	6	13	0	0	4	0	0	0	2	0	0	0
	Total	120	802	238	147	507	42	107	177	99	129	144	17

3

Old Cutler Rd at SW 168th St		NB			SB			EB			WB		
		L	T	R	L	T	R	L	T	R	L	T	R
RAW TMC		83	748	11	24	441	59	51	25	87	17	21	37
PSCF		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Exisitng Traffic		83	748	11	24	441	59	51	25	87	17	21	37
Future Background Growth Traffic		22	202	3	6	119	16	14	7	23	5	6	10
Scenario 1	176 DU trips	0	2	0	0	7	0	0	0	0	0	0	0
	Future Background Committed Development	5	19	0	0	6	0	0	0	2	0	0	0
	Total	110	971	14	30	573	75	65	32	112	22	27	47
Scenario 2	70 DU trips	0	1	0	0	3	0	0	0	0	0	0	0
	Future Background Committed Development	5	19	0	0	6	0	0	0	2	0	0	0
	Total	110	970	14	30	569	75	65	32	112	22	27	47

4

SW 144th St at Ludlam Rd		NB			SB			EB			WB		
		L	T	R	L	T	R	L	T	R	L	T	R
RAW TMC		72	330	6	19	323	15	31	11	146	10	17	37
PSCF		0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Exisitng Traffic		71	327	6	19	320	15	31	11	145	10	17	37
Future Background Growth Traffic		19	89	2	5	87	4	8	3	39	3	5	10
Scenario 1	176 DU trips	13	47	0	0	16	0	0	0	4	0	0	0
	Future Background Committed Development	0	0	0	0	0	0	0	0	0	0	0	0
	Total	104	463	8	24	423	19	39	14	188	13	21	47
Scenario 2	70 DU trips	5	19	0	0	6	0	0	0	2	0	0	0
	Future Background Committed Development	0	0	0	0	0	0	0	0	0	0	0	0
	Total	96	435	8	24	413	19	39	14	186	13	21	47

5

SW 152nd St at Ludlam Rd		NB			SB			EB			WB		
		L	T	R	L	T	R	L	T	R	L	T	R
RAW TMC		0	0	0	8	0	165	399	9	0	0	38	33
PSCF		0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Exisitng Traffic		0	0	0	8	0	163	395	9	0	0	38	33
Future Background Growth Traffic		0	0	0	2	0	45	108	2	0	0	10	9
Scenario 1	176 DU trips	0	0	0	16	0	8	2	10	0	0	30	48
	Future Background Committed Development	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	26	0	216	505	21	0	0	78	90
Scenario 2	70 DU trips	0	0	0	6	0	3	1	4	0	0	12	19
	Future Background Committed Development	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	16	0	211	504	15	0	0	60	61

6

Driveway access on SW 152nd St		NB			SB			EB			WB		
		L	T	R	L	T	R	L	T	R	L	T	R
Scenario 1	176 DU trips	0	0	0	0	0	78	26	21	0	0	90	0
Scenario 2	70 DU trips	0	0	0	0	0	31	10	21	0	0	90	0

7

Driveway access on Ludlam Rd		NB			SB			EB			WB		
		L	T	R	L	T	R	L	T	R	L	T	R
Scenario 1	176 DU trips	0	595	2	4	234	0	0	0	0	8	0	12
Scenario 2	70 DU trips	0	567	1	2	224	0	0	0	0	3	0	5

1

Old Cutler Rd at Ludlam Rd		NB			SB			EB			WB		
		L	T	R	L	T	R	L	T	R	L	T	R
RAW TMC		19	77	46	0	174	296	175	405	35	187	739	7
PSCF		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Exisitng Traffic		19	77	46	0	174	296	175	405	35	187	739	7
Future Background Growth Traffic		5	21	12	0	47	80	47	109	9	50	200	2
Scenario 1	176 DU trips	9	9	12	0	16	0	0	0	16	20	0	0
	Future Background Committed Development	0	0	0	0	0	0	0	8	0	0	13	0
	Total	33	107	70	0	237	376	222	522	60	257	952	9
Scenario 2	70 DU trips	4	4	9	0	6	0	0	0	6	5	0	0
	Future Background Committed Development	0	0	0	0	0	0	0	8	0	0	13	0
	Total	28	102	67	0	227	376	222	522	50	242	952	9

2

Old Cutler Rd at SW 152nd St		NB			SB			EB			WB		
		L	T	R	L	T	R	L	T	R	L	T	R
RAW TMC		192	480	68	7	681	80	41	71	206	102	117	18
PSCF		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Exisitng Traffic		192	480	68	7	681	80	41	71	206	102	117	18
Future Background Growth Traffic		52	130	18	2	184	22	11	19	56	28	32	5
Scenario 1	176 DU trips	0	0	8	0	0	0	0	34	0	5	20	0
	Future Background Committed Development	4	8	0	0	13	0	0	0	6	0	0	0
	Total	248	618	94	9	878	102	52	124	268	135	169	23
Scenario 2	70 DU trips	0	0	3	0	0	0	0	13	0	2	8	0
	Future Background Committed Development	4	8	0	0	13	0	0	0	6	0	0	0
	Total	248	618	89	9	878	102	52	103	268	132	157	23

3

Old Cutler Rd at SW 168th St		NB			SB			EB			WB		
		L	T	R	L	T	R	L	T	R	L	T	R
RAW TMC		103	639	14	16	861	72	82	21	178	36	25	18
PSCF		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Exisitng Traffic		103	639	14	16	861	72	82	21	178	36	25	18
Future Background Growth Traffic		28	173	4	4	232	19	22	6	48	10	7	5
Scenario 1	176 DU trips	0	8	0	0	5	0	0	0	0	0	0	0
	Future Background Committed Development	3	12	0	0	19	0	0	0	5	0	0	0
	Total	134	832	18	20	1117	91	104	27	231	46	32	23
Scenario 2	70 DU trips	0	3	0	0	2	0	0	0	0	0	0	0
	Future Background Committed Development	3	12	0	0	19	0	0	0	5	0	0	0
	Total	134	827	18	20	1114	91	104	27	231	46	32	23

4

SW 144th St at Ludlam Rd		NB			SB			EB			WB		
		L	T	R	L	T	R	L	T	R	L	T	R
RAW TMC		57	275	17	22	252	16	17	20	61	10	21	21
PSCF		0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Exisitng Traffic		56	272	17	22	249	16	17	20	60	10	21	21
Future Background Growth Traffic		15	74	5	6	68	4	5	5	16	3	6	6
Scenario 1	176 DU trips	9	30	0	0	52	0	0	0	15	0	0	0
	Future Background Committed Development	0	0	0	0	0	0	0	0	0	0	0	0
	Total	81	377	21	28	370	20	21	25	92	13	26	26
Scenario 2	70 DU trips	3	13	0	0	21	0	0	0	6	0	0	0
	Future Background Committed Development	0	0	0	0	0	0	0	0	0	0	0	0
	Total	75	360	21	28	339	20	21	25	83	13	26	26

5

SW 152nd St at Ludlam Rd		NB			SB			EB			WB		
		L	T	R	L	T	R	L	T	R	L	T	R
RAW TMC		0	0	0	31	0	206	151	28	0	0	35	35
PSCF		0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Exisitng Traffic		0	0	0	31	0	204	149	28	0	0	35	35
Future Background Growth Traffic		0	0	0	8	0	56	41	8	0	0	9	9
Scenario 1	176 DU trips	0	0	0	54	0	5	8	34	0	0	20	31
	Future Background Committed Development	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	93	0	265	198	69	0	0	64	75
Scenario 2	70 DU trips	0	0	0	22	0	2	3	13	0	0	8	13
	Future Background Committed Development	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	61	0	262	193	48	0	0	52	57

6

Driveway access on SW 152nd St		NB			SB			EB			WB		
		L	T	R	L	T	R	L	T	R	L	T	R
Scenario 1	176 DU trips	0	0	0	0	0	51	88	74	0	0	78	1
Scenario 2	70 DU trips	0	0	0	0	0	21	35	74	0	0	88	0

7

Driveway access on Ludlam Rd		NB			SB			EB			WB		
		L	T	R	L	T	R	L	T	R	L	T	R
Scenario 1	176 DU trips	0	265	8	13	253	0	0	0	0	5	0	8
Scenario 2	70 DU trips	0	248	2	5	321	0	0	0	0	2	0	3

Appendix B

Methodology approved by Village of Palmetto Bay

6525 SW 152nd STREET AND COMPRISED OF 70.73 ACRES
TRAFFIC CONCURRENCY ANALYSIS FOR PROPOSED COMPREHENSIVE PLAN LAND USE AMENDMENT & PROPOSED ZONING MAP AMENDMENT
PHASE 1 SCOPE OF SERVICES

TO: Mr. Dionisio Torres, PE
Director of Public Services
Village of Palmetto Bay
9705 Hibiscus Street
Palmetto Bay, FL 33157

FROM: Xavier R. Falconi, PE
MARLIN Engineering Inc.
1700 NW 66th Avenue, Suite 106
Plantation, FL 33313

SUBJECT: 6525 SW 152nd Street Traffic Concurrency Analysis Study

DATE: March 26, 2019

Dear Mr. Torres,

Marlin Engineering, Inc. (MEI) has been requested by the Village of Palmetto Bay to perform a traffic concurrency analysis for a proposed comprehensive plan land use amendment and proposed zoning map amendment. The site is located at 6525 SW 152nd Street and comprised of 70.73 acres. On the Village's Comprehensive Plan Future Land Use Map, the property is currently designated as Institutional and Public Facility with Interim Zoning. The proposal is to change the land use to residential with zoning to Estate-Single Family (E-1).

I. DESCRIPTION OF SERVICES

PHASE 1

TASK A- Methodology Meeting

MEI will meet with the Village of Palmetto Bay to further explore the scope of the above mentioned Traffic Concurrency Analysis and to discuss:

1. Maximum development potential for proposed landuse and zoning
2. Maximum development potential (vested rights) for the current Public Facility land use and Interim Zoning
3. Identification of roadways and intersections in addition to proposed as listed below
4. Available Traffic Data will be provided in this meeting (mostly from FDOT online website and ITE landuse information for proposed residential landuse and existing Public Facility land use).

Task A Deliverables: Meeting minutes and any available pertaining data.

TASK B- Traffic Data Collection

MEI will collect four (4) hours of turning movement counts (3PM-7PM) at the following five (5) intersections during a typical weekday (Tuesday, Wednesday, or Thursday). Instead of two hours normal PM turning movement counts, the extended counts will also be used to cover the afternoon extended PM peak period to identify any abnormal delays at the study intersections per the Village Council's request. In addition to PM peak the AM (7AM to 9AM) count is also suggested. In addition to 5 intersections, the project driveway(s) will also be part of the LOS analysis. Truck traffic, pedestrian and bicycle counts shall also be included and tabulated. The turning movement counts will be performed using Miovision video recording equipment.

Includes following intersections:

1. SW 144th Street and Ludlam Road
2. SW 152nd Street and Ludlam Road
3. SW 136th Street and Ludlam Road
4. SW 152nd Street and Old Cutler Road
5. SW 168th Street and Old Cutler Road
6. Project driveway(s) analyses for any spill back on public roadway

24-hour machine counts will also be collected along the following roadway segments:

1. SW 152nd Street from Paradise Point to US-1
2. SW 67th Avenue from SW 152nd Street to SW 136th St/Old Cutler Road
3. Old Cutler Road from Village Limits at SW 136th Street to SW 168th Street
4. SW 144th Street from Old Cutler Road to US-1
5. SW 168th Street from Old Cutler Road to US-1

As a part of traffic data collection MEI will further explore the FDOT's traffic online data in the general vicinity of the project. This data will be comprised of any historical counts from FDOT stations in order to estimate growth rates for the future analysis. Also, the estimated growth rates will be verified from any available transportation model volumes.

Task B Deliverables:

1. Six-hour turning movement counts at each study intersection
2. Six-hour pedestrian and bicycle counts at each study intersection
3. Historical counts at FDOT count station(s) and growth rate analysis
4. 24-hour machine counts at roadway segments

II. SCHEDULE

MEI shall begin work upon issuance of the work order.

III. BUDGET

The attached staff hour fee proposal contains the budget for the work effort including out of pocket expenses. For the services performed, the Village will pay the Engineer the lump sum fee of **$18,165 for Phase 1.** The hourly billing rates are consistent with the unit rates shown in the Executed

Agreement for this contract. This Work Order is a Lump Sum Work Order, and shall be billed monthly as a percentage of completion.

IV. ACCEPTANCE

The return of an executed copy of this proposal and retainer fee would constitute our Notice to Proceed.

Sincerely,

MARLIN ENGINEERING, INC.

Xavier R. Falconi, PE

Traffic Engineering Department Head

ACCEPTED BY: _____ **DATE:** _____

ENTITY: _____

TITLE: _____

6525 SW 152nd STREET AND COMPRISED OF 70.73 ACRES
TRAFFIC CONCURRENCY ANALYSIS FOR PROPOSED COMPREHENSIVE PLAN LAND USE AMENDMENT & PROPOSED ZONING MAP AMENDMENT
PHASE 2 SCOPE OF SERVICES

TO: Mr. Dionisio Torres, PE
Director of Public Services
Village of Palmetto Bay
9705 Hibiscus Street
Palmetto Bay, FL 33157

FROM: Xavier R. Falconi, PE
MARLIN Engineering Inc.
1700 NW 66th Avenue, Suite 106
Plantation, FL 33313

SUBJECT: 6525 SW 152nd Street Traffic Concurrency Analysis Study

DATE: March 26, 2019

Dear Mr. Torres,

Marlin Engineering, Inc. (MEI) has been requested by the Village of Palmetto Bay to perform a traffic concurrency analysis for a proposed comprehensive plan land use amendment and proposed zoning map amendment. The site is located at 6525 SW 152nd Street and comprised of 70.73 acres. On the Village's Comprehensive Plan Future Land Use Map, the property is currently designated as Institutional and Public Facility with Interim Zoning. The proposal is to change the land use to residential with zoning to Estate-Single Family (E-1).

I. DESCRIPTION OF SERVICES

PHASE 2

TASK A- Existing and Horizon Year 2035 Background Analysis

MEI shall factor the turning movement counts by the Peak Season Factor for Miami-Dade County South provided by the Florida Department of Transportation (FDOT) online website. Existing signal timing for signalized intersections shall be obtained from the Miami-Dade County Department of Transportation and Public Works (MDC-DTPW), Signal and Sign Division. Using the methodology based on the Highway Capacity Manual and SYNCHRO software, MEI shall determine the existing level of service (LOS) and delays for the study intersections and project driveways for peak hours. The Miami-Dade County's transportation Improvement Plan (TIP) and Long Range transportation Plan (LRTP) will be investigated for any capacity improvements within the study area and will be incorporated for the future roadway network.

This LOS analysis for roadways and intersections will be performed for the following scenarios:

1. Existing Year 2019, AM peak hour from 7AM to 9AM, PM peak hour from 4PM to 6PM

2. Future Year 2035, without project traffic and committed traffic (committed trips to be identified with the Village coordination), AM peak hour from 7AM to 9AM and PM peak hour from 4PM to 6PM

3. In addition to normal PM 4 PM-6 PM peak analysis a broadened afternoon PM peak analysis will be added to identify any study intersection showing excessive delays at study intersections.

Task A Deliverables: Memorandum summarizing background analysis results

TASK B- CDMP Amendment Transportation Analysis

MEI will estimate the gross trip generation based on ITE 10th Edition. This will also include any transit, pedestrian/bicycle reduction per the Miami-Dade CDMP or any other acceptable guideline. The trip will be generated for AM, PM and daily options for:

1. Current land use, Public Facility land use and Interim Zoning (the LUC and units to be coordinated with the Village)
2. Maximum permissible development by proposed landuse (the LUC and units to be coordinated with the Village)
3. Maximum permissible development by proposed zoning (the LUC and units to be coordinated with the Village)

The Trips obtained from the above scenarios will be distributed based on the Traffic Analysis Zone (TAZ) of the study area and the Miami Urbanized Area Transportation System (MUATS) percentages. These distribution percentages will be obtained from Miami-Dade 2040, Long Range Transportation Plan (LRTP) Directional Distribution Report by MPO. Trips will be assigned in the study area. The Miami-Dade County's transportation Improvement Plan (TIP) and Long Range transportation Plan (LRTP) will search for any capacity improvements within the study area and will be incorporated for the future roadway network.

Hence, the Level of Service (LOS) analysis will be performed for the:

1. Existing Year 2019
2. Future Year 2035

Task B Deliverables**:** Memorandum summarizing CDMP transportation analysis

Task C – Prepare Final Report

The products of previous tasks within this study shall be analyzed collectively. MEI shall then develop a Final Report. Attached to this report, in the form of appendices or figures (as appropriate), shall be the deliverables described above. MEI will submit the Final Study to the Village and MDC DTPW, Traffic Engineering Section, for review and comment. Comments will be incorporated into the final study as necessary.

Task C Deliverables:

i) One (1) draft hard copy and one (1) draft CD-R, and three (3) final hard copies (signed and sealed) and one (1) final CD-R of traffic study

II. SCHEDULE

MEI shall begin work upon issuance of the work order.
Public Information Meeting- Completed within 90 days from NTP
Final Traffic Study- Completed on April 10, 2019
Respond to Village and MDC DTPW comments on final study- Within 7 days of receiving comments

III. BUDGET

The attached staff hour fee proposal contains the budget for the work effort including out of pocket expenses. For the services performed, the Village will pay the Engineer the lump sum fee of **$21,400.00 for Phase 2.** The hourly billing rates are consistent with the unit rates shown in the Executed Agreement for this contract. This Work Order is a Lump Sum Work Order, and shall be billed monthly as a percentage of completion.

IV. ACCEPTANCE

The return of an executed copy of this proposal and retainer fee would constitute our Notice to Proceed.

Sincerely,

MARLIN ENGINEERING, INC.

Xavier R. Falconi, PE

Traffic Engineering Department Head

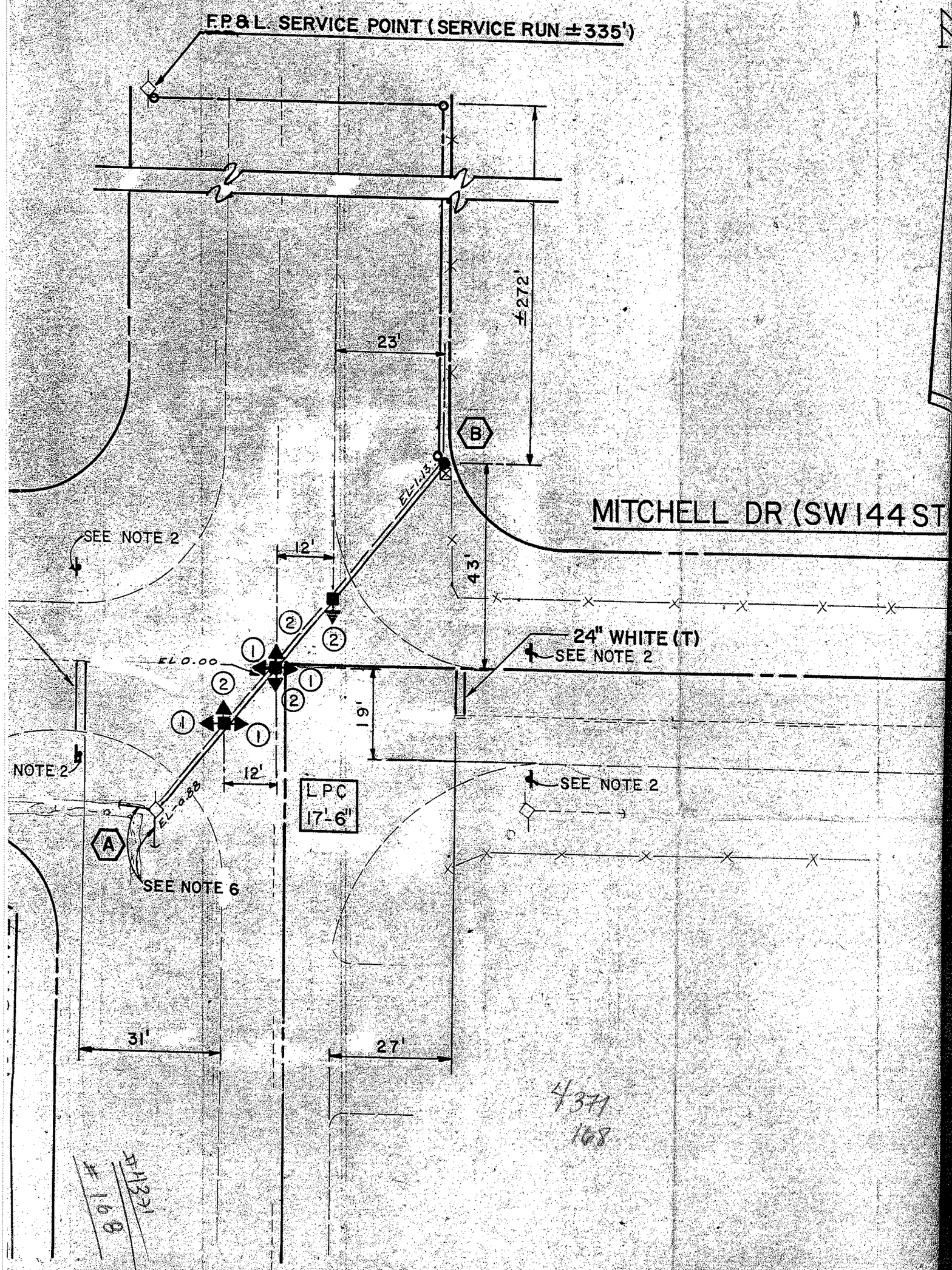
ACCEPTED BY: _____ **DATE:** _____

ENTITY: _____

TITLE: _____

Appendix C

Existing Traffic Signal Timing Data



4371
168

4371
168

TOD Schedule Report

for 3473: Ludlam Rd&Old Cutler Rd

Print Date: 5/22/2018

Print Time: 12:46 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3473	Ludlam Rd&Old Cutler Rd	DOW-3		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
EBL	WBT	-	NBT	-	EBT	-	SBT
0	0	0	0	0	0	0	0

Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 - 2 - 3)	Don't Walk (1 - 2 - 3)	Min Initial (1 - 2 - 3)	Veh Ext (1 - 2 - 3)	Max Limit (1 - 2 - 3)	Max 2 (1 - 2 - 3)	Yellow	Red
1 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	5 - 5 - 5	20 - 10 - 10	4.4	2
2 WBT	7 - 7 - 7	7 - 7 - 7	7 - 7 - 7	1 - 1 - 1	22 - 43 - 22	0 - 43 - 22	4.4	2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 NBT	7 - 7 - 7	8 - 8 - 8	7 - 7 - 7	4 - 2.5 - 2.5	16 - 16 - 16	41 - 20 - 20	4	2
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 EBT	7 - 7 - 7	7 - 7 - 7	7 - 7 - 7	1 - 1 - 1	22 - 43 - 22	0 - 43 - 22	4.4	2
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 SBT	7 - 7 - 7	8 - 8 - 8	7 - 7 - 7	4 - 2.5 - 2.5	16 - 16 - 16	41 - 20 - 20	4	2

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12-4-6-8
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 3473: Ludlam Rd&Old Cutler Rd

Print Date: 5/22/2018

Print Time: 12:46 PM

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 -	4 NBT	5 -	6 EBT	7 -	8 SBT	Ring Offset	Offset
	2	200	9	134	0	39	0	149	0	39	0	117
	3	180	9	112	0	41	0	127	0	41	0	175
	6	120	13	65	0	24	0	84	0	24	0	99
	9	140	9	79	0	34	0	94	0	34	0	13
	11	200	12	129	0	41	0	147	0	41	0	162
	14	90	13	39	0	20	0	58	0	20	0	85
	19	120	13	65	0	24	0	84	0	24	0	22
	21	120	13	65	0	24	0	84	0	24	0	82

Local TOD Schedule

Time	Plan	DOW
0000	Free	M T W Th F
0100	Free	Su S
0550	2	M T W Th F
0630	Free	Su S
0645	3	M T W Th F
0730	19	Su S
0915	6	M T W Th F
1330	9	M T W Th F
1545	11	M T W Th F
1600	21	Su S
1900	14	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	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

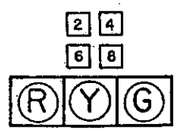
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

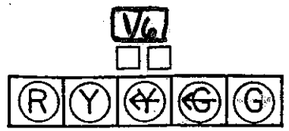
- Signal was MODIFIED FOR SBRT & EBLT ON 4/25/05
- NB Lanes were modified to three lanes.

STATE PROJECT NO. 87100-3622
W.P.I. NO. 6123245
FLORIDA DEPARTMENT OF TRANSPORTATION

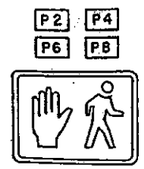
SIGNAL HEAD & SIGNS DETAILS



ITEM NO. 650-1-131
6 -REQ'D. (EXIST.)

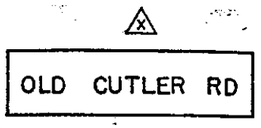


ITEM NO. 650-1-151
1 -REQ'D.

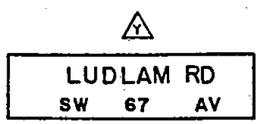


ITEM NO. 653-171
8 -REQ'D.

1-Req



ITEM NO. 700-48-11
D3-1S, 2 -REQ'D.



ITEM NO. 700-48-11
D3-1S, 2 -REQ'D.

4 -REQ'D. R10-4B

ITEM NO. 700-48-11
NOT -REQ'D. R10-12

REMOVAL PAY ITEMS	
[8 EA]	690 - 10
[8 EA]	690 - 20
[5 EA]	690 - 30
[EA]	690 - 31
[EA]	690 - 40
[EA]	690 - 50
[EA]	690 - 60
[EA]	690 - 70
[EA]	690 - 80
[PI]	690 - 90
[LF]	690 - 91
[PI]	690 - 100

NOTES:

1. DEMAND WATTAGE FOR THIS INTERSECTION IS 1265 WATTS.
2. F.P.L. REPRESENTATIVE MR. ERNESTO ROJAS TEL. 258-7224
3. S.B.T. REPRESENTATIVE MR. ED HANCE TEL. 252-5155

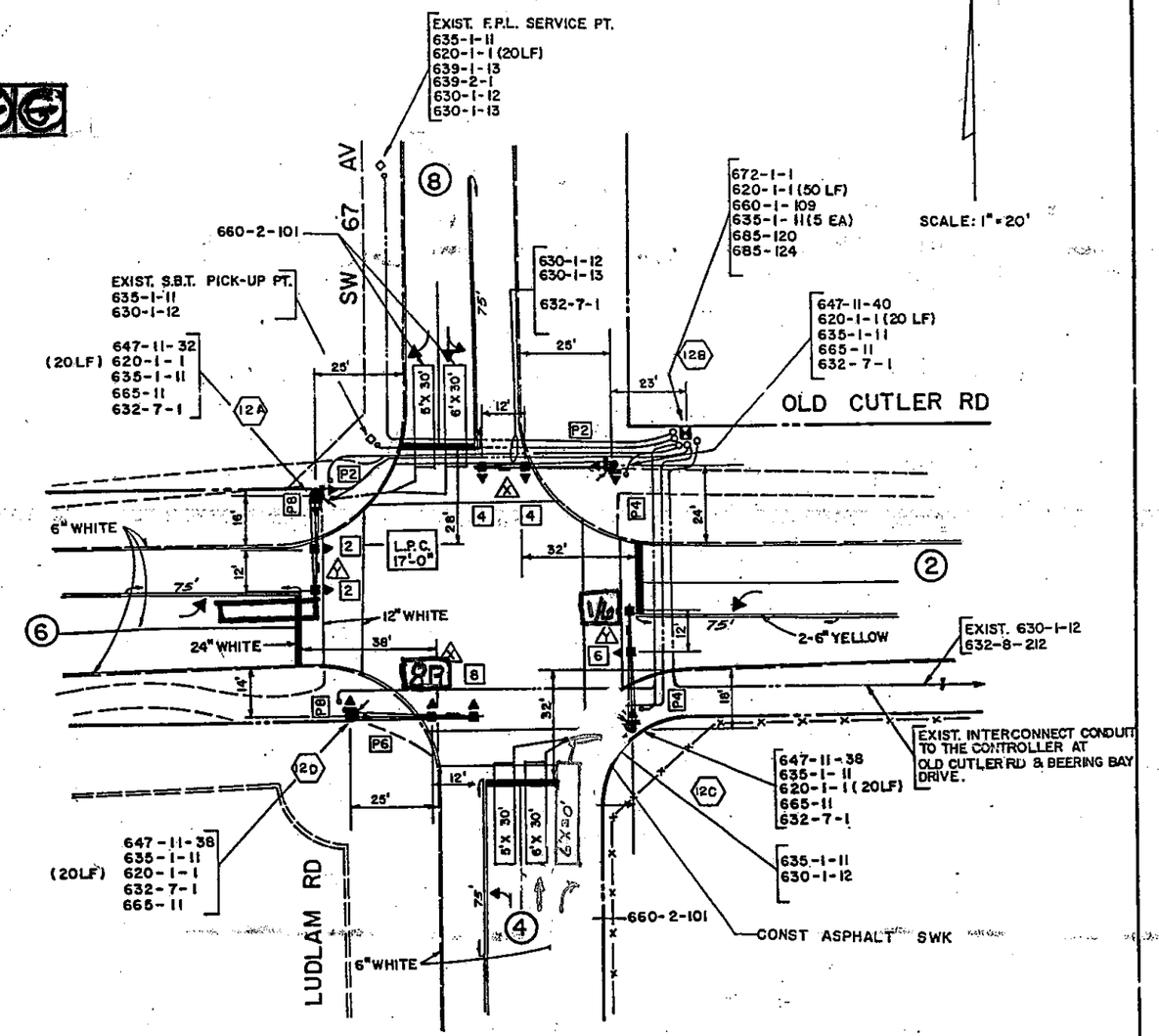
CONTROLLER OPERATIONS

1. MAJOR STREET IS OLD CUTLER RD, MINOR STREET IS LUDLAM RD
2. STD SIGNAL OPERATING PLAN 1 or [SOP AS SHOWN]
3. PHASE(S) 2 ACTUATED, PHASE 1 RECALL
4. MOVEMENT(S) – IS(ARE) PROTECTED/PERMISSIVE
5. SIGNAL COORDINATION PHASE IS 1
6. FLASHING OPERATION: 2 + 6 YELLOW; 4 + 8 RED
7. WIRE CONTROLLER TO SKIP PHASE(S) _____

CONTROLLER TIMINGS								
	TIMING FUNCTION							
TIMING INTERVAL	1	2	3	4	5	6	7	8
MINIMUM GREEN (INITIAL)								
EXTENSION (PASSAGE)								
MAXIMUM GREEN 1								
MAXIMUM GREEN 2								
YELLOW								
ALL RED								
PEDESTRIAN "WALK"								
PEDESTRIAN CLEAR								

DETECTORS FOR LOOPS		
MVM'T NO.	NO. OF LOOPS	NO. OF DETS.
4	2	1
8	2	–

48 HOURS BEFORE DIGGING
CALL TOLL FREE
1-800-432-4770
U.N.C.L.E. UNDERGROUND UTILITIES NOTIFICATION CENTER



BID ITEMS			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
650-1-151	TRAFFIC SIGNAL, 12" STANDARD, 5-Section	AS.	2.00
660-2-101	LOOP VEHICLE ASSEMBLY	AS.	1.00

SIGNALIZATION

LUDLAM ROAD & OLD CUTLER ROAD

INTERSECTION I.D. # 3473 SHEET T-58 OF T-88

Sec. 168

TOD Schedule Report

for 3716: Coral Reef Dr&Old Cutler Rd

Print Date: 5/22/2018

Print Time: 1:24 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3716	Coral Reef Dr&Old Cutler Rd	DOW-3		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
NBL	SBT	EBL	WBT	SBL	NBT	WBL	EBT
0	0	0	0	0	0	0	0

Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 - 2 - 3)	Don't Walk (1 - 2 - 3)	Min Initial (1 - 2 - 3)	Veh Ext (1 - 2 - 3)	Max Limit (1 - 2 - 3)	Max 2 (1 - 2 - 3)	Yellow	Red
1 NBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2.5 - 2 - 2	5 - 10 - 5	12 - 10 - 8	4.4	2
2 SBT	7 - 0 - 7	8 - 0 - 8	7 - 7 - 7	1 - 1 - 1	45 - 100 - 50	0 - 115 - 40	4.4	2
3 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2.5 - 2 - 2	5 - 15 - 5	30 - 15 - 8	4	2
4 WBT	7 - 0 - 7	8 - 0 - 8	10 - 7 - 7	3 - 2.5 - 2.5	18 - 30 - 16	50 - 30 - 16	4	2
5 SBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2.5 - 2 - 2	5 - 10 - 5	10 - 10 - 8	4.4	2
6 NBT	7 - 0 - 7	8 - 0 - 8	7 - 7 - 7	1 - 1 - 1	45 - 100 - 50	0 - 115 - 40	4.4	2
7 WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2.5 - 2 - 2	5 - 15 - 5	20 - 15 - 8	4	2
8 EBT	7 - 0 - 7	8 - 0 - 8	10 - 7 - 7	3 - 2.5 - 2.5	18 - 30 - 16	50 - 30 - 16	4	2

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12345678
External Permit 0	--------
External Permit 1	-2-4-6-8
External Permit 2	-2-4-6-8

TOD Schedule Report

for 3716: Coral Reef Dr&Old Cutler Rd

Print Date: 5/22/2018

Print Time: 1:24 PM

Current TOD Schedule	Plan	Cycle	Green Time 1 NBL	2 SBT	3 EBL	4 WBT	5 SBL	6 NBT	7 WBL	8 EBT	Ring Offset	Offset
	2	200	5	140	11	20	5	140	6	25	0	198
	3	200	6	119	36	15	6	119	36	15	0	28
	4	200	6	127	20	23	6	127	13	30	0	28
	6	120	8	58	9	21	8	58	9	21	0	81
	9	140	10	45	36	25	10	45	36	25	0	99
	11	200	5	127	9	35	5	127	9	35	0	82
	14	90	7	36	7	16	7	36	7	16	0	11
	19	120	8	58	9	21	8	58	9	21	0	4
	21	120	8	58	9	21	8	58	9	21	0	76

Local TOD Schedule

Time	Plan	DOW
0000	Flash	M T W Th F
0100	Flash	Su S
0530	Free	M T W Th F
0550	2	M T W Th F
0630	Free	Su S
0645	4	M T W Th F
0730	19	Su S
0730	3	M T W Th F
0900	4	M T W Th F
1015	6	M T W Th F
1430	9	M T W Th F
1545	11	M T W Th F
1600	21	Su S
1900	14	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	-7------	SuM T W ThF S
0730	TOD OUTPUTS	------2-	M T W ThF
0900	TOD OUTPUTS	-7------	M T W ThF
1330	TOD OUTPUTS	------2-	M T W ThF
1545	TOD OUTPUTS	-7------	M T W ThF

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-7------	SuM T W ThF S
0730	TOD OUTPUTS	------2-	M T W ThF
0900	TOD OUTPUTS	-7------	M T W ThF
1330	TOD OUTPUTS	------2-	M T W ThF
1545	TOD OUTPUTS	-7------	M T W ThF

* Settings

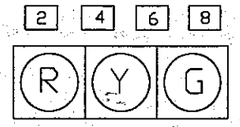
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

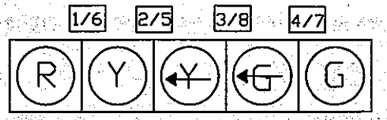
DADE COUNTY PUBLIC WORKS DEPT.
HIGHWAY DIVISION

PROJECT NO.XXXXXXXXX SHEETXX OF XX

SIGNAL HEAD & SIGN DETAILS



ITEM NO. 650-1-131
4-EXISTING



1 ITEM NO. 650-1-151
3-REQD.
1-EXISTING

STREET NAME SIGNS

was change to read another way (Y) (X)
see attach.

CORAL REEF DR SW 152 ST	OLD CUTLER RD
D3-1S ITEM NO. 700-82 2-EXISTING	D3-1S ITEM NO. 700-82 2-EXISTING

ITEM NO. 653-171
8-EXISTING

NOTES

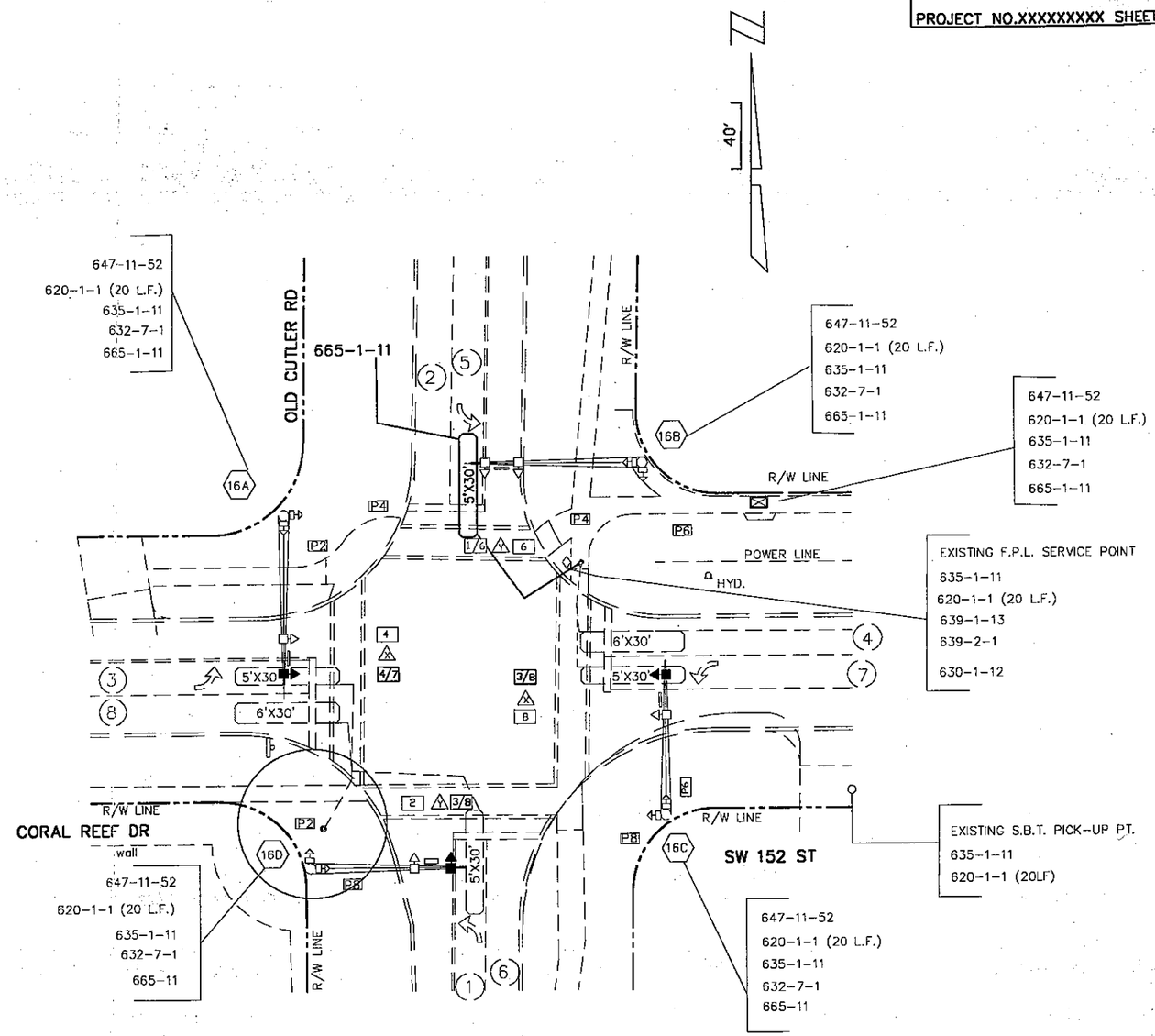
1 1. REMOVE THE OUTERMOST THREE SECTION SIGNAL HEADS FOR S.BOUND, E.BOUND & W. BOUND MOVEMENTS AND REPLACE WITH FIVE SECTION SIGNAL HEADS 2/5 3/8 & 4/7.

1 2. INSTALL LOOP DETECTORS TO ACTIVATE SIGNAL HEADS 2/5.

1 3. MODIFY CONTROLLER TO FUNCTION AS (SOP-10) WITH CONCURRENT PED. FEATURE FLASHING OPERATION: OLD CUTLER RD. YELLOW / SW 152 ST. RED.

1 ## CONTROLLER OPERATIONS

1. MAJOR STREET IS OLD CUTLER RD., MINOR STREET IS SW 152 ST.
2. STD SIGNAL OPERATING PLAN 10 OR (SOP AS SHOWN)
3. PHASE(S) 1,2,4,5,6 ACTUATED, PHASE 3 RECALL
4. MOVEMENT(S) 1,3,5,7 IS (ARE) PROTECTED/PERMISSIVE
5. SIGNAL COORDINATION PHASE IS 3
6. FLASHING OPERATION: OLD CUTLER RD YELLOW; SW 152 ST. RED
7. PROGRAM/WIRE CONTROLLER TO SKIP MOVEMENT(S) 1,3,5,7



1

DETECTOR FOR LOOPS			
MVM'T NO.	NO. OF LOOPS	NO. OF DETS	
1	1	1	EXIST.
3	1	1	EXIST.
4	1	1	EXIST.
5	1	1	REQD
7	1	1	EXIST.
8	1	1	EXIST.

INT. I.D.# 3716

REV.	DATE	DESCRIPTION	BY	DESIGN	DRAWN	DATE
1	1-2000	ADD LEFT TURN LEADS	YM			

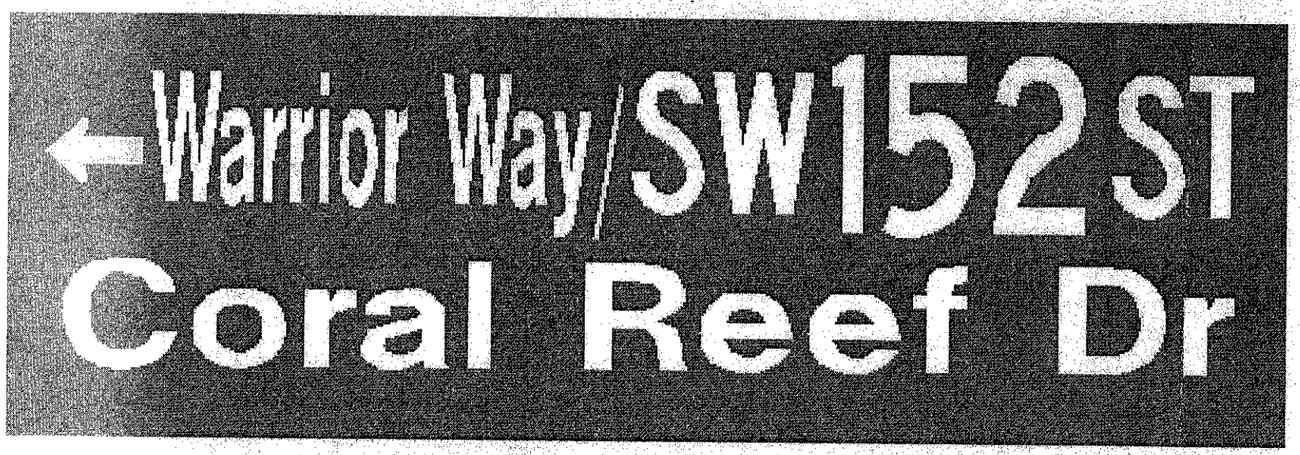
MODIFICATION
OLD CUTLER ROAD & SW 152 ST

FILE NO.

sec # 175

WO was change several times. approve by Mr. Bob Williams the way it should read in the intersection. 11/4/09

Asset 3716



OK. RBW
11/4/9

TOD Schedule Report

for 3981: Old Cutler Rd&Richmond Dr

Print Date: 5/22/2018

Print Time: 2:08 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3981	Old Cutler Rd&Richmond Dr	DOW-3		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
NBL	SBT	-	WBT	SBL	NBT	-	EBT
0	0	0	0	0	0	0	0

Active Phase Bank: Phase Bank 1

Phase		Walk (Phase Bank 1 - 2 - 3)	Don't Walk (1 - 2 - 3)	Min Initial (1 - 2 - 3)	Veh Ext (1 - 2 - 3)	Max Limit (1 - 2 - 3)	Max 2 (1 - 2 - 3)	Yellow	Red
1	NBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	10 - 5 - 5	10 - 10 - 10	4.4	2
2	SBT	5 - 5 - 5	12 - 12 - 12	7 - 7 - 7	1 - 1 - 1	125 - 33 - 33	0 - 0 - 0	4.4	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	12 - 12 - 12	7 - 7 - 7	3 - 2.5 - 2.5	25 - 12 - 12	26 - 24 - 24	4	2
5	SBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	10 - 5 - 5	10 - 10 - 10	4.4	2
6	NBT	5 - 5 - 5	12 - 12 - 12	7 - 7 - 7	1 - 1 - 1	125 - 33 - 33	0 - 0 - 0	4.4	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	12 - 12 - 12	7 - 7 - 7	3 - 2.5 - 2.5	25 - 12 - 12	26 - 24 - 24	4	2

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12-456-8
External Permit 0	--------
External Permit 1	-2-4-6-8
External Permit 2	-2-4-6-8

TOD Schedule Report

for 3981: Old Cutler Rd&Richmond Dr

Print Date: 5/22/2018

Print Time: 2:08 PM

Current TOD Schedule	Plan	Cycle	Green Time 1 NBL	2 SBT	3 -	4 WBT	5 SBL	6 NBT	7 -	8 EBT	Ring Offset	Offset
	2	200	5	156	0	21	5	156	0	21	0	121
	3	180	7	129	0	26	7	129	0	26	0	154
	6	120	7	69	0	26	7	69	0	26	0	118
	9	140	7	89	0	26	7	89	0	26	0	99
	11	240	5	192	0	25	5	192	0	25	0	4
	14	90	8	43	0	21	8	43	0	21	0	31
	19	120	7	69	0	26	7	69	0	26	0	39
	21	120	7	69	0	26	7	69	0	26	0	62

Local TOD Schedule

Time	Plan	DOW
0000	Flash	M T W Th F
0100	Flash	Su S
0530	Free	M T W Th F
0550	2	M T W Th F
0630	Free	Su S
0645	Free	M T W Th F
0730	19	Su S
1015	6	M T W Th F
1430	9	M T W Th F
1545	11	M T W Th F
1600	21	Su S
1900	14	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	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

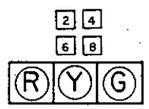
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

No Calendar Defined/Enabled

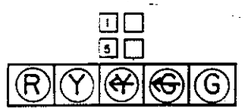
STATE PROJECT NO.
87100-3622
W.P.I. NO. 8123245

FLORIDA DEPARTMENT OF TRANSPORTATION

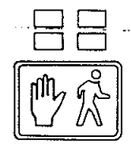
SIGNAL HEAD & SIGNS DETAILS



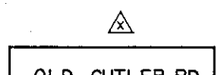
ITEM NO. 650-1-131
6-REQ'D.



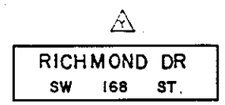
ITEM NO. 650-1-151
2-REQ'D.



ITEM NO. 653-171
NOT-REQ'D.



ITEM NO. 700-48-1
D3-1S, 2 -REQ'D.



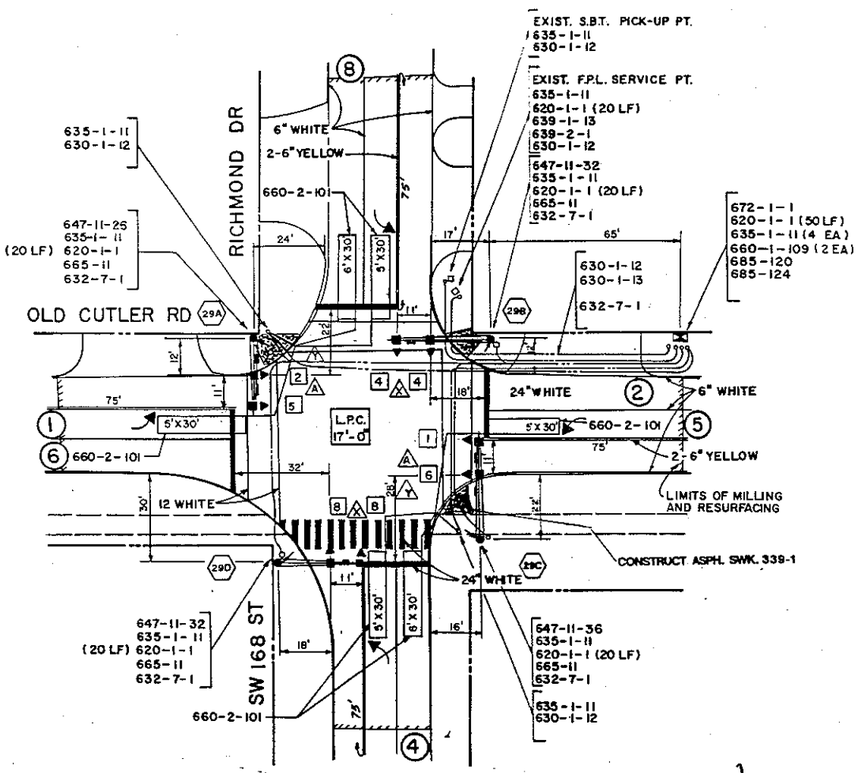
ITEM NO. 700-48-1
D3-1S, 2 -REQ'D.

4 -REQ'D. R10-3A

ITEM NO. 700-48-11
2 -REQ'D. R10-12

REMOVAL PAY ITEMS		
8	EA	690 - 10
	EA	690 - 20
4	EA	690 - 30
	EA	690 - 31
	EA	690 - 40
	EA	690 - 50
	EA	690 - 60
	EA	690 - 70
1	EA	690 - 80
1	PI	690 - 90
	LF	690 - 91
1	PI	690 - 100

SCALE: 1" = 20'



3981

NOTES:

1. DEMAND WATTAGE FOR THIS INTERSECTION IS 1375 WATTS.
2. F.P.L. REPRESENTATIVE MR. ERNESTO ROJAS TEL. 258-7224
3. S.B.T. REPRESENTATIVE MR. ED HANCE TEL. 252-5155

CONTROLLER OPERATIONS

1. MAJOR STREET IS OLD CUTLER RD, MINOR STREET IS RICHMOND DR
2. STD SIGNAL OPERATING PLAN 7 or [SOP AS SHOWN]
3. PHASE(S) 1, 2, 4 ACTUATED, PHASE 3 RECALL
4. MOVEMENT(S) 1, 5 IS(ARE) PROTECTED/PERMISSIVE
5. SIGNAL COORDINATION PHASE IS 3
6. FLASHING OPERATION: 2 + 6 YELLOW; 4 + 8 RED
7. WIRE CONTROLLER TO SKIP PHASE(S) _____

CONTROLLER TIMINGS								
	TIMING FUNCTION							
TIMING INTERVAL	1	2	3	4	5	6	7	8
MUM GREEN (INITIAL)								
TENSION (PASSAGE)								
AXIMUM GREEN 1								
AXIMUM GREEN 2								
YELLOW								
ALL RED								
EDESTRIAN "WALK"								
EDESTRIAN CLEAR								

DETECTORS FOR LOOPS		
MVM'T NO.	NO. OF LOOPS	NO. OF DETS.
1	1	1
5	1	—
4	2	1
8	2	—

48 HOURS BEFORE DIGGING
CALL TOLL FREE
1-800-432-4770
U.N.C.L.E. UNDERGROUND UTILITIES NOTIFICATION CENTER

SIGNALIZATION

OLD CUTLER ROAD & RICHMOND DRIVE

INTERSECTION I.D. # 3981 SHEET T-62 OF T-88

sec. # 175

Appendix D

PSCF Factor and QLOS Tables from FDOT

2017 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 8701 MIAMI-DADE SOUTH

MOCF: 0.99

WEEK	DATES	SF	PSCF
1	01/01/2017 - 01/07/2017	0.99	1.00
2	01/08/2017 - 01/14/2017	1.01	1.02
3	01/15/2017 - 01/21/2017	1.02	1.03
4	01/22/2017 - 01/28/2017	1.01	1.02
5	01/29/2017 - 02/04/2017	1.01	1.02
6	02/05/2017 - 02/11/2017	1.00	1.01
* 7	02/12/2017 - 02/18/2017	0.99	1.00
* 8	02/19/2017 - 02/25/2017	0.99	1.00
* 9	02/26/2017 - 03/04/2017	0.99	1.00
*10	03/05/2017 - 03/11/2017	0.99	1.00
*11	03/12/2017 - 03/18/2017	0.99	1.00
*12	03/19/2017 - 03/25/2017	0.99	1.00
*13	03/26/2017 - 04/01/2017	0.99	1.00
*14	04/02/2017 - 04/08/2017	0.98	0.99
*15	04/09/2017 - 04/15/2017	0.98	0.99
*16	04/16/2017 - 04/22/2017	0.98	0.99
*17	04/23/2017 - 04/29/2017	0.99	1.00
*18	04/30/2017 - 05/06/2017	0.99	1.00
*19	05/07/2017 - 05/13/2017	1.00	1.01
20	05/14/2017 - 05/20/2017	1.00	1.01
21	05/21/2017 - 05/27/2017	1.00	1.01
22	05/28/2017 - 06/03/2017	1.00	1.01
23	06/04/2017 - 06/10/2017	1.00	1.01
24	06/11/2017 - 06/17/2017	1.00	1.01
25	06/18/2017 - 06/24/2017	1.00	1.01
26	06/25/2017 - 07/01/2017	1.01	1.02
27	07/02/2017 - 07/08/2017	1.02	1.03
28	07/09/2017 - 07/15/2017	1.02	1.03
29	07/16/2017 - 07/22/2017	1.03	1.04
30	07/23/2017 - 07/29/2017	1.03	1.04
31	07/30/2017 - 08/05/2017	1.02	1.03
32	08/06/2017 - 08/12/2017	1.02	1.03
33	08/13/2017 - 08/19/2017	1.01	1.02
34	08/20/2017 - 08/26/2017	1.01	1.02
35	08/27/2017 - 09/02/2017	1.02	1.03
36	09/03/2017 - 09/09/2017	1.02	1.03
37	09/10/2017 - 09/16/2017	1.03	1.04
38	09/17/2017 - 09/23/2017	1.03	1.04
39	09/24/2017 - 09/30/2017	1.02	1.03
40	10/01/2017 - 10/07/2017	1.02	1.03
41	10/08/2017 - 10/14/2017	1.01	1.02
42	10/15/2017 - 10/21/2017	1.00	1.01
43	10/22/2017 - 10/28/2017	1.00	1.01
44	10/29/2017 - 11/04/2017	1.01	1.02
45	11/05/2017 - 11/11/2017	1.01	1.02
46	11/12/2017 - 11/18/2017	1.01	1.02
47	11/19/2017 - 11/25/2017	1.01	1.02
48	11/26/2017 - 12/02/2017	1.00	1.01
49	12/03/2017 - 12/09/2017	1.00	1.01
50	12/10/2017 - 12/16/2017	0.99	1.00
51	12/17/2017 - 12/23/2017	0.99	1.00
52	12/24/2017 - 12/30/2017	1.01	1.02
53	12/31/2017 - 12/31/2017	1.02	1.03

* PEAK SEASON

TABLE 1

Generalized **Annual Average Daily** Volumes for Florida's **Urbanized Areas**

12/18/12

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Class I (40 mph or higher posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	16,800	17,700	**
4	Divided	*	37,900	39,800	**
6	Divided	*	58,400	59,900	**
8	Divided	*	78,800	80,100	**

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	7,300	14,800	15,600
4	Divided	*	14,500	32,400	33,800
6	Divided	*	23,300	50,000	50,900
8	Divided	*	32,000	67,300	68,100

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding two-directional volumes in this table by 0.6

BICYCLE MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	2,900	7,600	19,700
50-84%	2,100	6,700	19,700	>19,700
85-100%	9,300	19,700	>19,700	**

PEDESTRIAN MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	2,800	9,500
50-84%	*	1,600	8,700	15,800
85-100%	3,800	10,700	17,400	>19,700

BUS MODE (Scheduled Fixed Route)[3]

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Core Urbanized

Lanes	B	C	D	E
4	47,400	64,000	77,900	84,600
6	69,900	95,200	116,600	130,600
8	92,500	126,400	154,300	176,600
10	115,100	159,700	194,500	222,700
12	162,400	216,700	256,600	268,900

Urbanized

Lanes	B	C	D	E
4	45,800	61,500	74,400	79,900
6	68,100	93,000	111,800	123,300
8	91,500	123,500	148,700	166,800
10	114,800	156,000	187,100	210,300

Freeway Adjustments

Auxiliary Lanes Present in Both Directions	Ramp Metering
+ 20,000	+ 5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
2	Undivided	8,600	17,000	24,200	33,300
4	Divided	36,700	51,800	65,600	72,600
6	Divided	55,000	77,700	98,300	108,800

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1]Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Planning Office
www.dot.state.fl.us/planning/systems/sm/los/default.shtm

TABLE 1
(continued)

Generalized **Annual Average Daily** Volumes for Florida's **Urbanized Areas**

12/18/12

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities				Interrupted Flow Facilities					
					State Arterials				Class I	
	Freeways	Core Freeways	Highways		Class I		Class II		Bicycle	Pedestrian
ROADWAY CHARACTERISTICS										
Area type (u,lu)	lu	lu	u	u	u	u	u	u	u	u
Number of through lanes (both dir.)	4-10	4-12	2	4-6	2	4-8	2	4-8	4	4
Posted speed (mph)	70	65	50	50	45	50	30	30	45	45
Free flow speed (mph)	75	70	55	55	50	55	35	35	50	50
Auxiliary Lanes (n,y)	n	n								
Median (n, nr, r)			n	r	n	r	n	r	r	r
Terrain (l,r)	l	l	l	l	l	l	l	l	l	l
% no passing zone			80							
Exclusive left turn lane impact (n, y)			[n]	y	y	y	y	y	y	y
Exclusive right turn lanes (n, y)					n	n	n	n	n	n
Facility length (mi)	4	4	5	5	2	2	1.9	1.8	2	2
Number of basic segments	4	4								
TRAFFIC CHARACTERISTICS										
Planning analysis hour factor (K)	0.090	0.085	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090
Directional distribution factor (D)	0.547	0.547	0.550	0.550	0.550	0.560	0.565	0.560	0.565	0.565
Peak hour factor (PHF)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)			1,700	2,100	1,950	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	4.0	4.0	2.0	2.0	1.0	1.0	1.0	1.0	2.5	2.0
Local adjustment factor	0.91	0.91	0.97	0.98						
% left turns					12	12	12	12	12	12
% right turns					12	12	12	12	12	12
CONTROL CHARACTERISTICS										
Number of signals					4	4	10	10	4	6
Arrival type (1-6)					3	3	4	4	4	4
Signal type (a, c, p)					c	c	c	c	c	c
Cycle length (C)					120	150	120	120	120	120
Effective green ratio (g/C)					0.44	0.45	0.44	0.44	0.44	0.44
MULTIMODAL CHARACTERISTICS										
Paved shoulder/bicycle lane (n, y)									n, 50%, y	n
Outside lane width (n, t, w)									t	t
Pavement condition (d, t, u)									t	
On-street parking (n, y)										
Sidewalk (n, y)										n, 50%, y
Sidewalk/roadway separation(a, t, w)										t
Sidewalk protective barrier (n, y)										n

LEVEL OF SERVICE THRESHOLDS

Level of Service	Freeways	Highways		Arterials		Bicycle	Ped	Bus
	Density	Two-Lane	Multilane	Class I	Class II	Score	Score	Buses/hr.
		%ffs	Density	ats	ats			
B	≤ 17	> 83.3	≤ 17	> 31 mph	> 22 mph	≤ 2.75	≤ 2.75	≤ 6
C	≤ 24	> 75.0	≤ 24	> 23 mph	> 17 mph	≤ 3.50	≤ 3.50	≤ 4
D	≤ 31	> 66.7	≤ 31	> 18 mph	> 13 mph	≤ 4.25	≤ 4.25	< 3
E	≤ 39	> 58.3	≤ 35	> 15 mph	> 10 mph	≤ 5.00	≤ 5.00	< 2

% ffs = Percent free flow speed ats = Average travel speed

TABLE 2

Generalized **Annual Average Daily** Volumes for Florida's **Transitioning Areas** and **Areas Over 5,000 Not In Urbanized Areas**[1]

12/18/12

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Class I (40 mph or higher posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	14,400	16,200	**
4	Divided	*	34,000	35,500	**
6	Divided	*	52,100	53,500	**

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	6,500	13,300	14,200
4	Divided	*	9,900	28,800	31,600
6	Divided	*	16,000	44,900	47,600

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding two-directional volumes in this table by 0.6

BICYCLE MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	2,600	6,100	19,500
50-84%	1,900	5,500	18,400	>19,500
85-100%	7,500	19,500	>19,500	**

PEDESTRIAN MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	2,800	9,400
50-84%	*	1,600	8,600	15,600
85-100%	3,800	10,500	17,100	>19,500

BUS MODE (Scheduled Fixed Route)[3]

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Lanes	B	C	D	E
4	44,100	57,600	68,900	71,700
6	65,100	85,600	102,200	111,000
8	85,100	113,700	135,200	150,000
10	106,200	141,700	168,800	189,000

Freeway Adjustments

Auxiliary Lanes Present in Both Directions	Ramp Metering
+ 20,000	+ 5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
2	Undivided	9,200	17,300	24,400	33,300
4	Divided	35,300	49,600	62,900	69,600
6	Divided	52,800	74,500	94,300	104,500

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1] Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Planning Office
www.dot.state.fl.us/planning/systems/sm/los/default.shtm

TABLE 2
(continued)

Generalized **Annual Average Daily** Volumes for Florida's **Transitioning** and **Areas Over 5,000 Not In Urbanized Areas**

12/18/12

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities			Interrupted Flow Facilities					
				State Arterials				Class I	
	Freeways	Highways		Class I		Class II		Bicycle	Pedestrian
ROADWAY CHARACTERISTICS									
Area type (t,uo)	t	t	t	t	t	t	t	t	t
Number of through lanes (both dir.)	4-10	2	4-6	2	4-6	2	4-6	4	4
Posted speed (mph)	70	50	50	45	50	30	30	45	45
Free flow speed (mph)	75	55	55	50	55	35	35	50	50
Auxiliary lanes (n,y)	n	n	n						
Median (n, nr, r)		n	r	n	y	n	y	r	r
Terrain (l,r)	l	l	l	l	l	l	l	l	l
% no passing zone		60							
Exclusive left turn lane impact (n, y)		[n]	y	y	y	y	y	y	y
Exclusive right turn lanes (n, y)				n	n	n	n	n	n
Facility length (mi)	8	5	5	1.8	2	2	2	2	2
Number of basic segments	4								
TRAFFIC CHARACTERISTICS									
Planning analysis hour factor (K)	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090
Directional distribution factor (D)	0.555	0.550	0.550	0.550	0.570	0.570	0.565	0.570	0.570
Peak hour factor (PHF)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)		1,700	2,100	1,950	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	9.0	4.0	4.0	2.0	3.0	2.0	3.0	3.0	3.0
Local adjustment factor	0.85	0.97	0.95						
% left turns				12	12	12	12	12	12
% right turns				12	12	12	12	12	12
CONTROL CHARACTERISTICS									
Number of signals				5	4	10	10	4	6
Arrival type (1-6)				4	3	4	4	4	4
Signal type (a, c, p)				c	c	c	c	c	c
Cycle length (C)				120	150	120	150	120	120
Effective green ratio (g/C)				0.44	0.45	0.44	0.45	0.44	0.44
MULTIMODAL CHARACTERISTICS									
Paved shoulder/bicycle lane (n, y)								n, 50%, y	n
Outside lane width (n, t, w)								t	t
Pavement condition (d, t, u)								t	
On-street parking (n, y)								n	n
Sidewalk (n, y)									n, 50%, y
Sidewalk/roadway separation (a, t, w)									t
Sidewalk protective barrier (n, y)									n

LEVEL OF SERVICE THRESHOLDS

Level of Service	Freeways	Highways		Arterials		Bicycle	Ped	Bus
	Density	Two-Lane	Multilane	Class I	Class II	Score	Score	Buses/hr.
		%ffs	Density	ats	ats			
B	≤ 17	> 83.3	≤ 17	> 31 mph	> 22 mph	≤ 2.75	≤ 2.75	≤ 6
C	≤ 24	> 75.0	≤ 24	> 23 mph	> 17 mph	≤ 3.50	≤ 3.50	≤ 4
D	≤ 31	> 66.7	≤ 31	> 18 mph	> 13 mph	≤ 4.25	≤ 4.25	< 3
E	≤ 39	> 58.3	≤ 35	> 15 mph	> 10 mph	≤ 5.00	≤ 5.00	< 2

% ffs = Percent free flow speed ats = Average travel speed

TABLE 3

Generalized **Annual Average Daily** Volumes for Florida's **Rural Undeveloped Areas** and **Developed Areas Less Than 5,000 Population**[1]

12/18/12

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Lanes	Median	B	C	D	E
2	Undivided	*	12,900	14,200	**
4	Divided	*	29,300	30,400	**
6	Divided	*	45,200	45,800	**

Non-State Signalized Roadway Adjustments
(Alter corresponding state volumes by the indicated percent.)
Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment
Multiply the corresponding two-directional volumes in this table by 0.6

BICYCLE MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Rural Undeveloped

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	1,300	2,000	3,200
50-84%	1,000	2,100	3,200	10,600
85-100%	2,600	3,900	18,500	>18,500

Developed Areas

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	2,300	4,900	15,600
50-84%	1,700	4,500	13,300	18,500
85-100%	5,900	18,500	>18,500	**

PEDESTRIAN MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	2,700	9,200
50-84%	*	1,500	8,400	14,900
85-100%	3,600	10,200	16,700	>19,200

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Lanes	B	C	D	E
4	28,800	43,000	52,300	60,000
6	43,000	64,000	78,300	92,500
8	57,500	85,400	104,400	123,500

Freeway Adjustments
Auxiliary Lanes
Present in Both Directions
+ 20,000

UNINTERRUPTED FLOW HIGHWAYS

Rural Undeveloped

Lanes	Median	B	C	D	E
2	Undivided	4,700	8,400	14,300	28,600
4	Divided	25,700	40,300	51,000	57,900
6	Divided	38,800	60,400	76,700	86,800

Developed Areas

Lanes	Median	B	C	D	E
2	Undivided	8,700	16,400	23,100	31,500
4	Divided	25,900	40,700	52,400	59,600
6	Divided	38,800	61,000	78,400	89,500

Passing Lane Adjustments
Alter LOS B-D volumes in proportion to the passing lane length to the highway segment length

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1]Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Planning Office
www.dot.state.fl.us/planning/systems/sm/los/default.shtm

TABLE 3
(continued)

Generalized **Annual Average Daily** Volumes for Florida's **Rural Undeveloped Areas** and **Developed Areas Less Than 5,000 Population**

12/18/12

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities					Interrupted Flow Facilities				
	Freeways	Highways				Arterials		Bicycle		Pedestrian
ROADWAY CHARACTERISTICS										
Area type (ru, rd)	rural	ru	ru	rd	rd	rd	rd	ru	rd	rd
Number of through lanes (both dir.)	4-8	2	4-6	2	4-6	2	4-6	4	4	2
Posted speed (mph)	70	55	65	50	55	45	45	55	45	45
Free flow speed (mph)	75	60	70	55	60	50	50	60	50	50
Auxiliary lanes (n,y)	n									
Median (n, nr, r)		n	r	n	r	n	r	r	r	n
Terrain (l,r)	l	l	l	l	l	l	l	l	l	l
% no passing zone		20		60						
Exclusive left turn lanes (n, y)		[n]	y	[n]	y	y	y	y	y	y
Exclusive right turn lanes (n, y)						n	n	n	n	n
Facility length (mi)	14	10	10	5	5	1.9	2.2	4	2	2
Number of basic segments	4									
TRAFFIC CHARACTERISTICS										
Planning analysis hour factor (K)	0.105	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095
Directional distribution factor (D)	0.555	0.550	0.550	0.550	0.550	0.550	0.550	0.570	0.570	0.550
Peak hour factor (PHF)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)		1,700	2,300	1,700	2,200	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	12.0	5.0	12.0	4.0	4.0	3.0	3.0	6.0	3.5	3.0
Local adjustment factor	0.84	0.88	0.73	0.97	0.82					
% left turns						12	12		12	12
% right turns						12	12		12	12
CONTROL CHARACTERISTICS										
Number of signals						5	6	2	4	4
Arrival type (1-6)						3	3	3	3	3
Signal type (a, c, p)						c	c	a	a	a
Cycle length (C)						90	90	60	90	90
Effective green ratio (g/C)						0.44	0.44	0.37	0.44	0.44
MULTIMODAL CHARACTERISTICS										
Paved shoulder/bicycle lane (n, y)								n,50%,y	n,50%,y	n
Outside lane width (n, t, w)								t	t	t
Pavement condition (d, t, u)								t	t	
Sidewalk (n, y)										n,50%,y
Sidewalk/roadway separation(a, t,w)										t
Sidewalk protective barrier (n, y)										n

LEVEL OF SERVICE THRESHOLDS

Level of Service	Freeways	Highways				
		Two-Lane ru		Two-Lane rd	Multilane ru	Multilane rd
	Density	%tsf	ats	%ffs	Density	Density
B	≤ 14	≤ 50	≤ 55	> 83.3	≤ 14	≤ 14
C	≤ 22	≤ 65	≤ 50	> 75.0	≤ 22	≤ 22
D	≤ 29	≤ 80	≤ 45	> 66.7	≤ 29	≤ 29
E	≤ 36	> 80	≤ 40	> 58.3	≤ 34	≤ 34

Level of Service	Arterials	Bicycle	Pedestrian
	Major City/Co.(ats)	Score	Score
B	> 31 mph	≤ 2.75	≤ 2.75
C	> 23 mph	≤ 3.50	≤ 3.50
D	> 18 mph	≤ 4.25	≤ 4.25
E	> 15 mph	≤ 5.00	≤ 5.00

%tsf = Percent time spent following %ffs = Percent of free flow speed ats = Average travel speed ru = Rural undeveloped rd = Rural developed

TABLE 4

Generalized **Peak Hour Two-Way** Volumes for Florida's **Urbanized Areas**[1]

12/18/12

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Class I (40 mph or higher posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	1,510	1,600	**
4	Divided	*	3,420	3,580	**
6	Divided	*	5,250	5,390	**
8	Divided	*	7,090	7,210	**

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	660	1,330	1,410
4	Divided	*	1,310	2,920	3,040
6	Divided	*	2,090	4,500	4,590
8	Divided	*	2,880	6,060	6,130

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding two-directional volumes in this table by 0.6

BICYCLE MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	260	680	1,770
50-84%	190	600	1,770	>1,770
85-100%	830	1,770	>1,770	**

PEDESTRIAN MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	250	850
50-84%	*	150	780	1,420
85-100%	340	960	1,560	>1,770

BUS MODE (Scheduled Fixed Route)[3]

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Lanes	B	C	D	E
4	4,120	5,540	6,700	7,190
6	6,130	8,370	10,060	11,100
8	8,230	11,100	13,390	15,010
10	10,330	14,040	16,840	18,930
12	14,450	18,880	22,030	22,860

Freeway Adjustments

Auxiliary Lanes Present in Both Directions	Ramp Metering
+ 1,800	+ 5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
2	Undivided	770	1,530	2,170	2,990
4	Divided	3,300	4,660	5,900	6,530
6	Divided	4,950	6,990	8,840	9,790

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1] Values shown are presented as peak hour two-way volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Planning Office
www.dot.state.fl.us/planning/systems/sm/los/default.shtm

TABLE 4
(continued)

Generalized **Peak Hour Two-Way** Volumes for Florida's **Urbanized Areas**

12/18/12

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities			Interrupted Flow Facilities					
				State Arterials				Class I	
	Freeways	Highways		Class I		Class II		Bicycle	Pedestrian
ROADWAY CHARACTERISTICS									
Area type (lu, u)	lu	u	u	u	u	u	u	u	u
Number of through lanes (both dir.)	4-12	2	4-6	2	4-8	2	4-8	4	4
Posted speed (mph)	70	50	50	45	50	30	30	45	45
Free flow speed (mph)	75	55	55	50	55	35	35	50	50
Auxiliary lanes (n,y)	n								
Median (n, nr, r)		n	r	n	r	n	r	r	r
Terrain (l,r)	l	l	l	l	l	l	l	l	l
% no passing zone		80							
Exclusive left turn lane impact (n, y)		[n]	y	y	y	y	y	y	y
Exclusive right turn lanes (n, y)				n	n	n	n	n	n
Facility length (mi)	4	5	5	2	2	1.9	1.8	2	2
Number of basic segments	4								
TRAFFIC CHARACTERISTICS									
Planning analysis hour factor (K)	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090
Directional distribution factor (D)	0.547	0.550	0.550	0.550	0.560	0.565	0.560	0.565	0.565
Peak hour factor (PHF)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)		1,700	2,100	1,950	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	4.0	2.0	2.0	1.0	1.0	1.0	1.0	2.5	2.0
Local adjustment factor	0.91	0.97	0.98						
% left turns				12	12	12	12	12	12
% right turns				12	12	12	12	12	12
CONTROL CHARACTERISTICS									
Number of signals				4	4	10	10	4	6
Arrival type (1-6)				3	3	4	4	4	4
Signal type (a, c, p)				c	c	c	c	c	c
Cycle length (C)				120	150	120	120	120	120
Effective green ratio (g/C)				0.44	0.45	0.44	0.44	0.44	0.44
MULTIMODAL CHARACTERISTICS									
Paved shoulder/bicycle lane (n, y)								n, 50%, y	n
Outside lane width (n, t, w)								t	t
Pavement condition (d, t, u)								t	
On-street parking (n, y)								n	n
Sidewalk (n, y)									n, 50%, y
Sidewalk/roadway separation (a, t, w)									t
Sidewalk protective barrier (n, y)									n

LEVEL OF SERVICE THRESHOLDS

Level of Service	Freeways	Highways		Arterials		Bicycle	Ped	Bus
	Density	Two-Lane %ffs	Multilane Density	Class I ats	Class II ats	Score	Score	Buses/hr.
B	≤ 17	> 83.3	≤ 17	> 31 mph	> 22 mph	≤ 2.75	≤ 2.75	≤ 6
C	≤ 24	> 75.0	≤ 24	> 23 mph	> 17 mph	≤ 3.50	≤ 3.50	≤ 4
D	≤ 31	> 66.7	≤ 31	> 18 mph	> 13 mph	≤ 4.25	≤ 4.25	< 3
E	≤ 39	> 58.3	≤ 35	> 15 mph	> 10 mph	≤ 5.00	≤ 5.00	< 2

% ffs = Percent free flow speed ats = Average travel speed

TABLE 5

Generalized **Peak Hour Two-Way** Volumes for Florida's **Transitioning** and **Areas Over 5,000 Not In Urbanized Areas**[1]

12/18/12

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Class I (40 mph or higher posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	1,300	1,460	**
4	Divided	*	3,060	3,200	**
6	Divided	*	4,690	4,820	**

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
2	Undivided	*	580	1,200	1,280
4	Divided	*	890	2,590	2,850
6	Divided	*	1,440	4,040	4,280

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding two-directional volumes in this table by 0.6

BICYCLE MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	140	550	1,760
50-84%	170	500	1,650	>1,760
85-100%	670	1,760	>1,760	**

PEDESTRIAN MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	250	850
50-84%	*	150	780	1,410
85-100%	340	950	1,540	>1,760

BUS MODE (Scheduled Fixed Route)[3]

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Lanes	B	C	D	E
4	3,970	5,190	6,200	6,460
6	5,860	7,710	9,190	9,990
8	7,660	10,230	12,170	13,500
10	9,550	12,750	15,190	17,010

Freeway Adjustments

Auxiliary Lanes Present in Both Directions	Ramp Metering
+ 1,800	+ 5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
2	Undivided	820	1,550	2,190	2,990
4	Divided	3,170	4,460	5,660	6,260
6	Divided	4,750	6,700	8,480	9,400

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1] Values shown are presented as peak hour two-way volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Planning Office
www.dot.state.fl.us/planning/systems/sm/los/default.shtm

TABLE 5
(continued)

Generalized **Peak Hour Two-Way** Volumes for Florida's **Transitioning Areas** and **Areas Over 5,000 Not In Urbanized Areas**

12/18/12

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities			Interrupted Flow Facilities					
				State Arterials				Class I	
	Freeways	Highways		Class I		Class II		Bicycle	Pedestrian
ROADWAY CHARACTERISTICS									
Area type (t,uo)	t	t	t	t	t	t	t	t	t
Number of through lanes (both dir.)	4-10	2	4-6	2	4-6	2	4-6	4	4
Posted speed (mph)	70	50	50	45	50	30	30	45	45
Free flow speed (mph)	75	55	55	50	55	35	35	50	50
Auxiliary lanes (n,y)	n	n	n						
Median (n, nr, r)		n	r	n	y	n	y	r	r
Terrain (l,r)	l	l	l	l	l	l	l	l	l
% no passing zone		60							
Exclusive left turn lane impact (n, y)		[n]	y	y	y	y	y	y	y
Exclusive right turn lanes (n, y)				n	n	n	n	n	n
Facility length (mi)	8	5	5	1.8	2	2	2	2	2
Number of basic segments	4								
TRAFFIC CHARACTERISTICS									
Planning analysis hour factor (K)	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090
Directional distribution factor (D)	0.555	0.550	0.550	0.550	0.570	0.570	0.565	0.570	0.570
Peak hour factor (PHF)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)		1,700	2,100	1,950	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	9.0	4.0	4.0	2.0	3.0	2.0	3.0	3.0	3.0
Local adjustment factor	0.85	0.97	0.95						
% left turns				12	12	12	12	12	12
% right turns				12	12	12	12	12	12
CONTROL CHARACTERISTICS									
Number of signals				5	4	10	10	4	6
Arrival type (1-6)				4	3	4	4	4	4
Signal type (a, c, p)				c	c	c	c	c	c
Cycle length (C)				120	150	120	150	120	120
Effective green ratio (g/C)				0.44	0.45	0.44	0.45	0.44	0.44
MULTIMODAL CHARACTERISTICS									
Paved shoulder/bicycle lane (n, y)								n, 50%, y	n
Outside lane width (n, t, w)								t	t
Pavement condition (d, t, u)								t	
On-street parking (n, y)								n	n
Sidewalk (n, y)									n, 50%, y
Sidewalk/roadway separation (a, t, w)									t
Sidewalk protective barrier (n, y)									n

LEVEL OF SERVICE THRESHOLDS

Level of Service	Freeways	Highways		Arterials		Bicycle	Ped	Bus
	Density	Two-Lane %ffs	Multilane Density	Class I ats	Class II ats	Score	Score	Buses/hr.
B	≤ 17	> 83.3	≤ 17	> 31 mph	> 22 mph	≤ 2.75	≤ 2.75	≤ 6
C	≤ 24	> 75.0	≤ 24	> 23 mph	> 17 mph	≤ 3.50	≤ 3.50	≤ 4
D	≤ 31	> 66.7	≤ 31	> 18 mph	> 13 mph	≤ 4.25	≤ 4.25	< 3
E	≤ 39	> 58.3	≤ 35	> 15 mph	> 10 mph	≤ 5.00	≤ 5.00	< 2

% ffs = Percent free flow speed ats = Average travel speed

TABLE 6

Generalized **Peak Hour Two-Way** Volumes for Florida's **Rural Undeveloped Areas** and **Developed Areas Less Than 5,000 Population**[1]

12/18/12

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Lanes	Median	B	C	D	E
2	Undivided	*	1,220	1,350	**
4	Divided	*	2,790	2,890	**
6	Divided	*	4,300	4,350	**

Non-State Signalized Roadway Adjustments
(Alter corresponding state volumes by the indicated percent.)
Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
2	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment
Multiply the corresponding two-directional volumes in this table by 0.6

BICYCLE MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Rural Undeveloped

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	120	190	300
50-84%	100	200	310	>1,010
85-100%	250	370	1,760	>1,760

Developed Areas

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	220	460	1,480
50-84%	170	430	1,270	>1,760
85-100%	560	1,760	>1,760	**

PEDESTRIAN MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	220	840
50-84%	*	120	780	1,390
85-100%	320	940	1,560	>1,820

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Lanes	B	C	D	E
4	3,020	4,510	5,490	6,300
6	4,510	6,720	8,220	9,720
8	6,040	8,970	10,960	12,970

Freeway Adjustments
Auxiliary Lanes
Present in Both Directions
+ 1,800

UNINTERRUPTED FLOW HIGHWAYS

Rural Undeveloped

Lanes	Median	B	C	D	E
2	Undivided	440	790	1,350	2,710
4	Divided	2,440	3,820	4,840	5,500
6	Divided	3,680	5,730	7,280	8,240

Developed Areas

Lanes	Median	B	C	D	E
2	Undivided	820	1,550	2,190	2,990
4	Divided	2,460	3,860	4,970	5,660
6	Divided	3,680	5,790	7,440	8,500

Passing Lane Adjustments
Alter LOS B-D volumes in proportion to the passing lane length to the highway segment length

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
2	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1]Values shown are presented as peak hour two-way volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Planning Office
www.dot.state.fl.us/planning/systems/sm/los/default.shtm

TABLE 6
(continued)

Generalized **Peak Hour Two-Way** Volumes for Florida's **Rural Undeveloped Areas** and **Developed Areas Less Than 5,000 Population**

12/18/12

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities					Interrupted Flow Facilities				
	Freeways	Highways				Arterials		Bicycle		Pedestrian
ROADWAY CHARACTERISTICS										
Area type (ru, rd)	rural	ru	ru	rd	rd	rd	rd	ru	rd	rd
Number of through lanes (both dir.)	4-8	2	4-6	2	4-6	2	4-6	4	4	2
Posted speed (mph)	70	55	65	50	55	45	45	55	45	45
Free flow speed (mph)	75	60	70	55	60	50	50	60	50	50
Auxiliary lanes (n,y)	n									
Median (n, nr, r)		n	r	n	r	n	r	r	r	n
Terrain (l,r)	l	l	l	l	l	l	l	l	l	l
% no passing zone		20		60						
Exclusive left turn lanes (n, y)		[n]	y	[n]	y	y	y	y	y	y
Exclusive right turn lanes (n, y)						n	n	n	n	n
Facility length (mi)	14	10	10	5	5	1.9	2.2	4	2	2
Number of basic segments	4									
TRAFFIC CHARACTERISTICS										
Planning analysis hour factor (K)	0.105	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095
Directional distribution factor (D)	0.555	0.550	0.550	0.550	0.550	0.550	0.550	0.570	0.570	0.550
Peak hour factor (PHF)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)		1,700	2,300	1,700	2,200	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	12.0	5.0	12.0	4.0	4.0	3.0	3.0	6.0	3.5	3.0
Local adjustment factor	0.84	0.88	0.73	0.97	0.82					
% left turns						12	12		12	12
% right turns						12	12		12	12
CONTROL CHARACTERISTICS										
Number of signals						5	6	2	4	4
Arrival type (1-6)						3	3	3	3	3
Signal type (a, c, p)						c	c	a	a	a
Cycle length (C)						90	90	60	90	90
Effective green ratio (g/C)						0.44	0.44	0.37	0.44	0.44
MULTIMODAL CHARACTERISTICS										
Paved shoulder/bicycle lane (n, y)								n,50%,y	n,50%,y	n
Outside lane width (n, t, w)								t	t	t
Pavement condition (d, t, w)								t	t	
Sidewalk (n, y)										n,50%,y
Sidewalk/roadway separation(a, t,w)										t
Sidewalk protective barrier (n, y)										n

LEVEL OF SERVICE THRESHOLDS

Level of Service	Freeways	Highways				
		Two-Lane ru		Two-Lane rd	Multilane ru	Multilane rd
	Density	%tsf	ats	%ffs	Density	Density
B	≤ 14	≤ 50	≤ 55	> 83.3	≤ 14	≤ 14
C	≤ 22	≤ 65	≤ 50	> 75.0	≤ 22	≤ 22
D	≤ 29	≤ 80	≤ 45	> 66.7	≤ 29	≤ 29
E	≤ 36	> 80	≤ 40	> 58.3	≤ 34	≤ 34

Level of Service	Arterials	Bicycle	Pedestrian
	Major City/Co.(ats)	Score	Score
B	> 31 mph	≤ 2.75	≤ 2.75
C	> 23 mph	≤ 3.50	≤ 3.50
D	> 18 mph	≤ 4.25	≤ 4.25
E	> 15 mph	≤ 5.00	≤ 5.00

%tsf = Percent time spent following %ffs = Percent of free flow speed ats = Average travel speed ru = Rural undeveloped rd = Rural developed

TABLE 7

Generalized **Peak Hour Directional** Volumes for Florida's **Urbanized Areas**[1]

12/18/12

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Class I (40 mph or higher posted speed limit)

Lanes	Median	B	C	D	E
1	Undivided	*	830	880	**
2	Divided	*	1,910	2,000	**
3	Divided	*	2,940	3,020	**
4	Divided	*	3,970	4,040	**

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
1	Undivided	*	370	750	800
2	Divided	*	730	1,630	1,700
3	Divided	*	1,170	2,520	2,560
4	Divided	*	1,610	3,390	3,420

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
1	Divided	Yes	No	+5%
1	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding directional volumes in this table by 1.2

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Lanes	B	C	D	E
2	2,260	3,020	3,660	3,940
3	3,360	4,580	5,500	6,080
4	4,500	6,080	7,320	8,220
5	5,660	7,680	9,220	10,360
6	7,900	10,320	12,060	12,500

Freeway Adjustments

Auxiliary Lane	Ramp Metering
+ 1,000	+ 5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
1	Undivided	420	840	1,190	1,640
2	Divided	1,810	2,560	3,240	3,590
3	Divided	2,720	3,840	4,860	5,380

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
1	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

BICYCLE MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	150	390	1,000
50-84%	110	340	1,000	>1,000
85-100%	470	1,000	>1,000	**

PEDESTRIAN MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	140	480
50-84%	*	80	440	800
85-100%	200	540	880	>1,000

BUS MODE (Scheduled Fixed Route)[3]

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

[1] Values shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Planning Office
www.dot.state.fl.us/planning/systems/sm/los/default.shtm

TABLE 7
(continued)

Generalized **Peak Hour Directional** Volumes for Florida's **Urbanized Areas**

12/18/12

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities			Interrupted Flow Facilities					
				State Arterials				Class I	
	Freeways	Highways		Class I		Class II		Bicycle	Pedestrian
ROADWAY CHARACTERISTICS									
Area type (lu, u)	lu	u	u	u	u	u	u	u	u
Number of through lanes (both dir.)	4-12	2	4-6	2	4-8	2	4-8	4	4
Posted speed (mph)	70	50	50	45	50	30	30	45	45
Free flow speed (mph)	75	55	55	50	55	35	35	50	50
Auxiliary lanes (n,y)	n								
Median (n, nr, r)		n	r	n	r	n	r	r	r
Terrain (l,r)	l	l	l	l	l	l	l	l	l
% no passing zone		80							
Exclusive left turn lane impact (n, y)		[n]	y	y	y	y	y	y	y
Exclusive right turn lanes (n, y)				n	n	n	n	n	n
Facility length (mi)	4	5	5	2	2	1.9	1.8	2	2
Number of basic segments	4								
TRAFFIC CHARACTERISTICS									
Planning analysis hour factor (K)	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090
Directional distribution factor (D)	0.547	0.550	0.550	0.550	0.560	0.565	0.560	0.565	0.565
Peak hour factor (PHF)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)		1,700	2,100	1,950	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	4.0	2.0	2.0	1.0	1.0	1.0	1.0	2.5	2.0
Local adjustment factor	0.91	0.97	0.98						
% left turns				12	12	12	12	12	12
% right turns				12	12	12	12	12	12
CONTROL CHARACTERISTICS									
Number of signals				4	4	10	10	4	6
Arrival type (1-6)				3	3	4	4	4	4
Signal type (a, c, p)				c	c	c	c	c	c
Cycle length (C)				120	150	120	120	120	120
Effective green ratio (g/C)				0.44	0.45	0.44	0.44	0.44	0.44
MULTIMODAL CHARACTERISTICS									
Paved shoulder/bicycle lane (n, y)								n, 50%, y	n
Outside lane width (n, t, w)								t	t
Pavement condition (d, t, w)								t	
On-street parking (n, y)								n	n
Sidewalk (n, y)									n, 50%, y
Sidewalk/roadway separation (a, t, w)									t
Sidewalk protective barrier (n, y)									n

LEVEL OF SERVICE THRESHOLDS

Level of Service	Freeways	Highways		Arterials		Bicycle	Ped	Bus
	Density	Two-Lane %ffs	Multilane Density	Class I ats	Class II ats	Score	Score	Buses/hr.
B	≤ 17	> 83.3	≤ 17	> 31 mph	> 22 mph	≤ 2.75	≤ 2.75	≤ 6
C	≤ 24	> 75.0	≤ 24	> 23 mph	> 17 mph	≤ 3.50	≤ 3.50	≤ 4
D	≤ 31	> 66.7	≤ 31	> 18 mph	> 13 mph	≤ 4.25	≤ 4.25	< 3
E	≤ 39	> 58.3	≤ 35	> 15 mph	> 10 mph	≤ 5.00	≤ 5.00	< 2

% ffs = Percent free flow speed ats = Average travel speed

TABLE 8

Generalized **Peak Hour Directional** Volumes for Florida's **Transitioning** and **Areas Over 5,000 Not In Urbanized Areas**[1]

12/18/12

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Class I (40 mph or higher posted speed limit)

Lanes	Median	B	C	D	E
1	Undivided	*	710	800	**
2	Divided	*	1,740	1,820	**
3	Divided	*	2,670	2,740	**

Class II (35 mph or slower posted speed limit)

Lanes	Median	B	C	D	E
1	Undivided	*	330	680	720
2	Divided	*	500	1,460	1,600
3	Divided	*	810	2,280	2,420

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
1	Divided	Yes	No	+5%
2	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding directional volumes in this table by 1.2

BICYCLE MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	140	320	1,000
50-84%	100	280	940	>1,000
85-100%	380	1,000	>1,000	**

PEDESTRIAN MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	140	480
50-84%	*	80	440	800
85-100%	200	540	880	>1,000

BUS MODE (Scheduled Fixed Route)[3]

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Lanes	B	C	D	E
2	2,200	2,880	3,440	3,580
3	3,260	4,280	5,100	5,540
4	4,260	5,680	6,760	7,500
5	5,300	7,080	8,440	9,440

Freeway Adjustments

Auxiliary Lane	Ramp Metering
+ 1,000	+ 5%

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Median	B	C	D	E
1	Undivided	450	850	1,200	1,640
2	Divided	1,740	2,450	3,110	3,440
3	Divided	2,610	3,680	4,660	5,170

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
1	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1] Values shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

[3] Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Planning Office
www.dot.state.fl.us/planning/systems/sm/los/default.shtm

TABLE 8
(continued)

Generalized **Peak Hour Directional** Volumes for Florida's **Transitioning** and **Areas Over 5,000 Not In Urbanized Areas**

12/18/12

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities			Interrupted Flow Facilities					
				State Arterials				Class I	
	Freeways	Highways		Class I		Class II		Bicycle	Pedestrian
ROADWAY CHARACTERISTICS									
Area type (t,uo)	t	t	t	t	t	t	t	t	t
Number of through lanes (both dir.)	4-10	2	4-6	2	4-6	2	4-6	4	4
Posted speed (mph)	70	50	50	45	50	30	30	45	45
Free flow speed (mph)	75	55	55	50	55	35	35	50	50
Auxiliary lanes (n,y)	n	n	n						
Median (n, nr, r)		n	r	n	y	n	y	r	r
Terrain (l,r)	l	l	l	l	l	l	l	l	l
% no passing zone		60							
Exclusive left turn lane impact (n, y)		[n]	y	y	y	y	y	y	y
Exclusive right turn lanes (n, y)				n	n	n	n	n	n
Facility length (mi)	8	5	5	1.8	2	2	2	2	2
Number of basic segments	4								
TRAFFIC CHARACTERISTICS									
Planning analysis hour factor (K)	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090
Directional distribution factor (D)	0.555	0.550	0.550	0.550	0.570	0.570	0.565	0.570	0.570
Peak hour factor (PHF)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)		1,700	2,100	1,950	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	9.0	4.0	4.0	2.0	3.0	2.0	3.0	3.0	3.0
Local adjustment factor	0.85	0.97	0.95						
% left turns				12	12	12	12	12	12
% right turns				12	12	12	12	12	12
CONTROL CHARACTERISTICS									
Number of signals				5	4	10	10	4	6
Arrival type (1-6)				4	3	4	4	4	4
Signal type (a, c, p)				c	c	c	c	c	c
Cycle length (C)				120	150	120	150	120	120
Effective green ratio (g/C)				0.44	0.45	0.44	0.45	0.44	0.44
CONTROL CHARACTERISTICS									
Paved shoulder/bicycle lane (n, y)								n, 50%, y	n
Outside lane width (n, t, w)								t	t
Pavement condition (d, t, u)								t	
On-street parking (n, y)								n	n
Sidewalk (n, y)									n, 50%, y
Sidewalk/roadway separation (a, t, w)									t
Sidewalk protective barrier (n, y)									n

LEVEL OF SERVICE THRESHOLDS

Level of Service	Freeways	Highways		Arterials		Bicycle	Ped	Bus
	Density	Two-Lane	Multilane	Class I	Class II	Score	Score	Buses/hr.
		%ffs	Density	ats	ats			
B	≤ 17	> 83.3	≤ 17	> 31 mph	> 22 mph	≤ 2.75	≤ 2.75	≤ 6
C	≤ 24	> 75.0	≤ 24	> 23 mph	> 17 mph	≤ 3.50	≤ 3.50	≤ 4
D	≤ 31	> 66.7	≤ 31	> 18 mph	> 13 mph	≤ 4.25	≤ 4.25	< 3
E	≤ 39	> 58.3	≤ 35	> 15 mph	> 10 mph	≤ 5.00	≤ 5.00	< 2

% ffs = Percent free flow speed ats = Average travel speed

TABLE 9

Generalized **Peak Hour Directional** Volumes for Florida's **Rural Undeveloped Areas** and **Developed Areas Less Than 5,000 Population**[1]

12/18/12

INTERRUPTED FLOW FACILITIES

STATE SIGNALIZED ARTERIALS

Lanes	Median	B	C	D	E
1	Undivided	*	670	740	**
2	Divided	*	1,530	1,580	**
3	Divided	*	2,360	2,400	**

Non-State Signalized Roadway Adjustments

(Alter corresponding state volumes by the indicated percent.)

Non-State Signalized Roadways - 10%

Median & Turn Lane Adjustments

Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors
1	Divided	Yes	No	+5%
1	Undivided	No	No	-20%
Multi	Undivided	Yes	No	-5%
Multi	Undivided	No	No	-25%
–	–	–	Yes	+ 5%

One-Way Facility Adjustment

Multiply the corresponding directional volumes in this table by 1.2

BICYCLE MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Rural Undeveloped

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	70	110	170
50-84%	60	120	180	580
85-100%	140	210	1,000	>1,000

Developed Areas

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	120	260	840
50-84%	100	240	720	1,000
85-100%	320	1,000	>1,000	**

PEDESTRIAN MODE[2]

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	120	460
50-84%	*	80	430	770
85-100%	180	520	860	>1,000

UNINTERRUPTED FLOW FACILITIES

FREEWAYS

Lanes	B	C	D	E
2	1,680	2,500	3,040	3,500
3	2,500	3,720	4,560	5,400
4	3,360	4,980	6,080	7,200

Freeway Adjustments

Auxiliary Lanes
Present in Both Directions
+ 1,000

UNINTERRUPTED FLOW HIGHWAYS

Rural Undeveloped

Lanes	Median	B	C	D	E
1	Undivided	240	430	740	1,490
2	Divided	1,340	2,100	2,660	3,020
3	Divided	2,020	3,150	4,000	4,530

Developed Areas

Lanes	Median	B	C	D	E
1	Undivided	450	850	1,200	1,640
2	Divided	1,350	2,120	2,730	3,110
3	Divided	2,020	3,180	4,090	4,670

Passing Lane Adjustments

Alter LOS B-D volumes in proportion to the passing lane length to the highway segment length

Uninterrupted Flow Highway Adjustments

Lanes	Median	Exclusive left lanes	Adjustment factors
1	Divided	Yes	+5%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

[1]Values shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.

[2] Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:

Florida Department of Transportation
Systems Planning Office
www.dot.state.fl.us/planning/systems/sm/los/default.shtm

TABLE 9
(continued)

Generalized **Peak Hour Directional** Volumes for Florida's **Rural Undeveloped Areas** and **Developed Areas Less Than 5,000 Population**

12/18/12

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities					Interrupted Flow Facilities				
	Freeways	Highways				Arterials		Bicycle		Pedestrian
ROADWAY CHARACTERISTICS										
Area type (ru, rd)	rural	ru	ru	rd	rd	rd	rd	ru	rd	rd
Number of through lanes (both dir.)	4-8	2	4-6	2	4-6	2	4-6	4	4	2
Posted speed (mph)	70	55	65	50	55	45	45	55	45	45
Free flow speed (mph)	75	60	70	55	60	50	50	60	50	50
Auxiliary lanes (n,y)	n									
Median (n, nr, r)		n	r	n	r	n	r	r	r	n
Terrain (l,r)	l	l	l	l	l	l	l	l	l	l
% no passing zone		20		60						
Exclusive left turn lanes (n, y)		[n]	y	[n]	y	y	y	y	y	y
Exclusive right turn lanes (n, y)						n	n	n	n	n
Facility length (mi)	14	10	10	5	5	1.9	2.2	4	2	2
Number of basic segments	4									
TRAFFIC CHARACTERISTICS										
Planning analysis hour factor (K)	0.105	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095
Directional distribution factor (D)	0.555	0.550	0.550	0.550	0.550	0.550	0.550	0.570	0.570	0.550
Peak hour factor (PHF)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)		1,700	2,300	1,700	2,200	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	12.0	5.0	12.0	4.0	4.0	3.0	3.0	6.0	3.5	3.0
Local adjustment factor	0.84	0.88	0.73	0.97	0.82					
% left turns						12	12		12	12
% right turns						12	12		12	12
CONTROL CHARACTERISTICS										
Number of signals						5	6	2	4	4
Arrival type (1-6)						3	3	3	3	3
Signal type (a, c, p)						c	c	a	a	a
Cycle length (C)						90	90	60	90	90
Effective green ratio (g/C)						0.44	0.44	0.37	0.44	0.44
MULTIMODAL CHARACTERISTICS										
Paved shoulder/bicycle lane (n, y)								n,50%,y	n,50%,y	n
Outside lane width (n, t, w)								t	t	t
Pavement condition (d, t, u)								t	t	
Sidewalk (n, y)										n,50%,y
Sidewalk/roadway separation(a, t,w)										t
Sidewalk protective barrier (n, y)										n

LEVEL OF SERVICE THRESHOLDS

Level of Service	Freeways	Highways				
		Two-Lane ru		Two-Lane rd	Multilane ru	Multilane rd
	Density	%tsf	ats	%ffs	Density	Density
B	≤ 14	≤ 50	≤ 55	> 83.3	≤ 14	≤ 14
C	≤ 22	≤ 65	≤ 50	> 75.0	≤ 22	≤ 22
D	≤ 29	≤ 80	≤ 45	> 66.7	≤ 29	≤ 29
E	≤ 36	> 80	≤ 40	> 58.3	≤ 34	≤ 34

Level of Service	Arterials	Bicycle	Pedestrian
	Major City/Co.(ats)	Score	Score
B	> 31 mph	≤ 2.75	≤ 2.75
C	> 23 mph	≤ 3.50	≤ 3.50
D	> 18 mph	≤ 4.25	≤ 4.25
E	> 15 mph	≤ 5.00	≤ 5.00

%tsf = Percent time spent following %ffs = Percent of free flow speed ats = Average travel speed ru = Rural undeveloped rd = Rural developed

Appendix E

Synchro printouts- Existing AM Peak Hour

Old Cutler Rd and Ludlam Rd
Existing Conditions - AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	310	688	56	144	250	6	23	206	149	1	154	176
Future Volume (vph)	310	688	56	144	250	6	23	206	149	1	154	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	100		0	150		120	0		50
Storage Lanes	1		0	1		0	1		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00				0.97			0.96
Frt		0.985			0.996				0.850			0.850
Flt Protected	0.950			0.950			0.950				0.999	
Satd. Flow (prot)	1752	1831	0	1787	1855	0	1736	1900	1599	0	1844	1599
Flt Permitted	0.950			0.286			0.284				0.930	
Satd. Flow (perm)	1752	1831	0	538	1855	0	519	1900	1558	0	1716	1534
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			2				101			61
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		593			1029			1158			1145	
Travel Time (s)		13.5			23.4			26.3			26.0	
Confl. Peds. (#/hr)									1			3
Confl. Bikes (#/hr)			1			2						2
Peak Hour Factor	0.88	0.85	0.61	0.61	0.92	0.75	0.64	0.77	0.83	0.25	0.64	0.92
Heavy Vehicles (%)	3%	2%	2%	1%	2%	0%	4%	0%	1%	0%	3%	1%
Adj. Flow (vph)	352	809	92	236	272	8	36	268	180	4	241	191
Shared Lane Traffic (%)												
Lane Group Flow (vph)	352	901	0	236	280	0	36	268	180	0	245	191
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6			2			4			8	
Permitted Phases				2			4		4	8		8
Detector Phase	1	6		2	2		4	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	5.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	15.0	133.0		118.0	118.0		47.0	47.0	47.0	47.0	47.0	47.0
Total Split (s)	15.0	133.0		118.0	118.0		47.0	47.0	47.0	47.0	47.0	47.0
Total Split (%)	8.3%	73.9%		65.6%	65.6%		26.1%	26.1%	26.1%	26.1%	26.1%	26.1%
Maximum Green (s)	8.6	126.6		111.6	111.6		41.0	41.0	41.0	41.0	41.0	41.0
Yellow Time (s)	4.4	4.4		4.4	4.4		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.4	6.4		6.4	6.4		6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	1.0		1.0	1.0		4.0	4.0	4.0	4.0	4.0	4.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		7.0		7.0	7.0		8.0	8.0	8.0	8.0	8.0	8.0
Pedestrian Calls (#/hr)		0		0	0		0	0	0	0	0	0
Act Effct Green (s)	17.2	135.2		111.6	111.6		32.4	32.4	32.4		32.4	32.4
Actuated g/C Ratio	0.10	0.75		0.62	0.62		0.18	0.18	0.18		0.18	0.18
v/c Ratio	2.11	0.65		0.71	0.24		0.39	0.79	0.50		0.80	0.59
Control Delay	550.0	14.6		37.5	15.8		75.3	86.2	32.0		88.8	51.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	550.0	14.6		37.5	15.8		75.3	86.2	32.0		88.8	51.9
LOS	F	B		D	B		E	F	C		F	D
Approach Delay		165.0			25.7			65.2			72.6	
Approach LOS		F			C			E			E	

Intersection Summary	
Area Type:	Other
Cycle Length: 180	
Actuated Cycle Length: 180	
Offset: 160 (89%), Referenced to phase 2:WBTL and 6:EBT, Start of Green	
Natural Cycle: 180	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 2.11	
Intersection Signal Delay: 105.4	Intersection LOS: F
Intersection Capacity Utilization 82.4%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: SW 67th Ave & Old Cutler Rd

Old Cutler Rd and SW 152nd St
Existing Conditions - AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	136	76	99	104	13	90	621	187	116	396	33
Future Volume (vph)	84	136	76	99	104	13	90	621	187	116	396	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	100		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00			0.99			1.00	
Frt		0.951			0.982			0.962			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	1751	0	1770	1749	0	1787	1777	0	1787	1818	0
Flt Permitted	0.397			0.145			0.411			0.123		
Satd. Flow (perm)	705	1751	0	270	1749	0	773	1777	0	231	1818	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			3			17			5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		689			654			535			477	
Travel Time (s)		15.7			14.9			12.2			10.8	
Confl. Peds. (#/hr)			1						2			2
Confl. Bikes (#/hr)						5			1			
Peak Hour Factor	0.75	0.72	0.83	0.71	0.70	0.65	0.86	0.87	0.77	0.55	0.91	0.75
Heavy Vehicles (%)	7%	0%	7%	2%	4%	23%	1%	2%	2%	1%	3%	0%
Adj. Flow (vph)	112	189	92	139	149	20	105	714	243	211	435	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	281	0	139	169	0	105	957	0	211	479	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	7.0		5.0	7.0	
Minimum Split (s)	11.0	25.0		11.0	25.0		11.4	22.0		11.4	22.0	
Total Split (s)	26.0	29.0		26.0	29.0		12.0	133.0		12.0	133.0	
Total Split (%)	13.0%	14.5%		13.0%	14.5%		6.0%	66.5%		6.0%	66.5%	
Maximum Green (s)	20.0	23.0		20.0	23.0		5.6	126.6		5.6	126.6	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	3.0		2.5	3.0		2.5	1.0		2.5	1.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		8.0			8.0			8.0			8.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	41.2	25.8		44.8	27.6		132.2	126.6		132.2	126.6	
Actuated g/C Ratio	0.21	0.13		0.22	0.14		0.66	0.63		0.66	0.63	
v/c Ratio	0.51	1.20		0.74	0.70		0.19	0.85		1.08	0.42	
Control Delay	69.9	188.5		84.7	95.9		11.1	37.3		107.1	19.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	69.9	188.5		84.7	95.9		11.1	37.3		107.1	19.4	
LOS	E	F		F	F		B	D		F	B	
Approach Delay		154.7			90.8			34.7			46.2	
Approach LOS		F			F			C			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 200	
Actuated Cycle Length: 200	
Offset: 28 (14%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.20	
Intersection Signal Delay: 64.2	Intersection LOS: E
Intersection Capacity Utilization 88.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 17: Old Cutler Rd & SW 152nd St

Old Cutler Rd and SW 168th St
Existing Conditions - AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	25	87	17	21	37	83	748	11	24	441	59
Future Volume (vph)	51	25	87	17	21	37	83	748	11	24	441	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	85		0	100		0	60		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.98			1.00			1.00	
Frt		0.886			0.905			0.996			0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1654	0	1805	1647	0	1805	1855	0	1805	1820	0
Flt Permitted	0.671			0.292			0.391			0.289		
Satd. Flow (perm)	1250	1654	0	555	1647	0	743	1855	0	549	1820	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		75			40			2			9	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		691			684			789			701	
Travel Time (s)		15.7			15.5			13.4			11.9	
Confl. Peds. (#/hr)						3						4
Confl. Bikes (#/hr)			1			2			1			
Peak Hour Factor	0.85	0.69	0.75	0.53	0.75	0.77	0.63	0.92	0.55	0.67	0.85	0.87
Heavy Vehicles (%)	2%	0%	0%	0%	5%	0%	0%	2%	0%	0%	2%	3%
Adj. Flow (vph)	60	36	116	32	28	48	132	813	20	36	519	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	152	0	32	76	0	132	833	0	36	587	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		5.0	7.0		5.0	7.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		11.4	25.4		11.4	24.4	
Total Split (s)	31.0	31.0		31.0	31.0		16.4	131.4		16.4	131.4	
Total Split (%)	17.3%	17.3%		17.3%	17.3%		9.2%	73.5%		9.2%	73.5%	
Maximum Green (s)	25.0	25.0		25.0	25.0		10.0	125.0		10.0	125.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	1.0		2.0	1.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			5.0			5.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0			12.0			12.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	13.7	13.7		13.7	13.7		134.6	129.0		130.4	125.2	
Actuated g/C Ratio	0.08	0.08		0.08	0.08		0.82	0.78		0.79	0.76	
v/c Ratio	0.58	0.74		0.70	0.44		0.20	0.57		0.08	0.42	
Control Delay	93.9	57.5		136.8	44.2		3.4	9.9		3.2	8.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	93.9	57.5		136.8	44.2		3.4	9.9		3.2	8.5	
LOS	F	E		F	D		A	A		A	A	
Approach Delay		67.8			71.6			9.0			8.2	
Approach LOS		E			E			A			A	

Intersection Summary	
Area Type:	Other
Cycle Length: 178.8	
Actuated Cycle Length: 164.4	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 18.8	Intersection LOS: B
Intersection Capacity Utilization 69.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 22: Old Cutler Rd & SW 168th St

SW 144th St and Ludlam Rd
Existing Conditions - AM Peak Hour

Intersection	
Int Delay, s/veh	10

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	11	145	10	17	37	71	327	6	19	320	15
Future Vol, veh/h	31	11	145	10	17	37	71	327	6	19	320	15
Conflicting Peds, #/hr	0	0	0	0	0	2	0	0	2	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	46	70	62	53	93	49	69	75	47	71	75
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	1	0
Mvmt Flow	40	24	207	16	32	40	145	474	8	40	451	20

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1347	1315	461	1427	1321	482	471	0	0	484	0	0
Stage 1	541	541	-	770	770	-	-	-	-	-	-	-
Stage 2	806	774	-	657	551	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	129	159	605	114	158	588	1101	-	-	1089	-	-
Stage 1	529	524	-	396	413	-	-	-	-	-	-	-
Stage 2	379	411	-	457	519	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	86	133	605	57	132	586	1101	-	-	1087	-	-
Mov Cap-2 Maneuver	86	133	-	57	132	-	-	-	-	-	-	-
Stage 1	459	505	-	343	358	-	-	-	-	-	-	-
Stage 2	279	356	-	276	500	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	30.1	59.9	2	0.7
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1101	-	-	86	442	148	1087	-	-
HCM Lane V/C Ratio	0.132	-	-	0.462	0.523	0.595	0.037	-	-
HCM Control Delay (s)	8.8	-	-	78.7	21.7	59.9	8.4	-	-
HCM Lane LOS	A	-	-	F	C	F	A	-	-
HCM 95th %tile Q(veh)	0.5	-	-	1.9	3	3.1	0.1	-	-

Intersection	
Intersection Delay, s/veh	23.3
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	395	9	38	33	8	163
Future Vol, veh/h	395	9	38	33	8	163
Peak Hour Factor	0.67	0.56	0.59	0.82	0.50	0.64
Heavy Vehicles, %	1	0	55	3	13	0
Mvmt Flow	590	16	64	40	16	255
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	30.5	10.6	12.2
HCM LOS	D	B	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	98%	0%	5%
Vol Thru, %	2%	54%	0%
Vol Right, %	0%	46%	95%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	404	71	171
LT Vol	395	0	8
Through Vol	9	38	0
RT Vol	0	33	163
Lane Flow Rate	606	105	271
Geometry Grp	1	1	1
Degree of Util (X)	0.855	0.18	0.408
Departure Headway (Hd)	5.08	6.196	5.431
Convergence, Y/N	Yes	Yes	Yes
Cap	715	579	663
Service Time	3.101	4.233	3.469
HCM Lane V/C Ratio	0.848	0.181	0.409
HCM Control Delay	30.5	10.6	12.2
HCM Lane LOS	D	B	B
HCM 95th-tile Q	10	0.7	2

Appendix F

Synchro printouts- Existing PM Peak Hour

Old Cutler Rd and Ludlam Rd
Existing Conditions - PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	405	35	187	739	7	19	77	46	0	174	296
Future Volume (vph)	175	405	35	187	739	7	19	77	46	0	174	296
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	100		0	150		120	0		50
Storage Lanes	1		0	1		0	1		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												0.95
Frt		0.987			0.998				0.850			0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1787	1842	0	1752	1860	0	1719	1900	1583	0	1881	1599
Flt Permitted	0.950			0.478			0.342					
Satd. Flow (perm)	1787	1842	0	882	1860	0	619	1900	1583	0	1881	1520
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			1				64			102
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		593			1029			1158			1145	
Travel Time (s)		11.6			20.0			22.6			22.3	
Confl. Peds. (#/hr)												2
Confl. Bikes (#/hr)												9
Peak Hour Factor	0.84	0.88	0.80	0.90	0.90	0.58	0.53	0.66	0.72	0.25	0.82	0.93
Heavy Vehicles (%)	1%	2%	0%	3%	2%	0%	5%	0%	2%	0%	1%	1%
Adj. Flow (vph)	208	460	44	208	821	12	36	117	64	0	212	318
Shared Lane Traffic (%)												
Lane Group Flow (vph)	208	504	0	208	833	0	36	117	64	0	212	318
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Perm	NA		Perm	NA	Perm		NA	Perm
Protected Phases	1	6			2			4			8	
Permitted Phases				2			4		4	8		8
Detector Phase	1	6		2	2		4	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	5.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	15.0	133.0		118.0	118.0		47.0	47.0	47.0	47.0	47.0	47.0
Total Split (s)	18.0	153.0		135.0	135.0		47.0	47.0	47.0	47.0	47.0	47.0
Total Split (%)	9.0%	76.5%		67.5%	67.5%		23.5%	23.5%	23.5%	23.5%	23.5%	23.5%
Maximum Green (s)	11.6	146.6		128.6	128.6		41.0	41.0	41.0	41.0	41.0	41.0
Yellow Time (s)	4.4	4.4		4.4	4.4		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.4	6.4		6.4	6.4		6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	1.0		1.0	1.0		4.0	4.0	4.0	4.0	4.0	4.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		7.0		7.0	7.0		8.0	8.0	8.0	8.0	8.0	8.0
Pedestrian Calls (#/hr)		0		0	0		0	0	0	0	0	0
Act Effct Green (s)	17.3	152.3		128.6	128.6		35.3	35.3	35.3		35.3	35.3
Actuated g/C Ratio	0.09	0.76		0.64	0.64		0.18	0.18	0.18		0.18	0.18
v/c Ratio	1.35	0.36		0.37	0.70		0.33	0.35	0.19		0.64	0.90
Control Delay	253.0	9.1		18.9	27.0		78.5	73.9	13.8		84.7	82.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	253.0	9.1		18.9	27.0		78.5	73.9	13.8		84.7	82.2
LOS	F	A		B	C		E	E	B		F	F
Approach Delay		80.3			25.4			56.9			83.2	
Approach LOS		F			C			E			F	

Intersection Summary	
Area Type:	Other
Cycle Length: 200	
Actuated Cycle Length: 200	
Offset: 162 (81%), Referenced to phase 2:WBTL and 6:EBT, Start of Green	
Natural Cycle: 180	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.35	
Intersection Signal Delay: 56.0	Intersection LOS: E
Intersection Capacity Utilization 80.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: SW 67th Ave & Old Cutler Rd

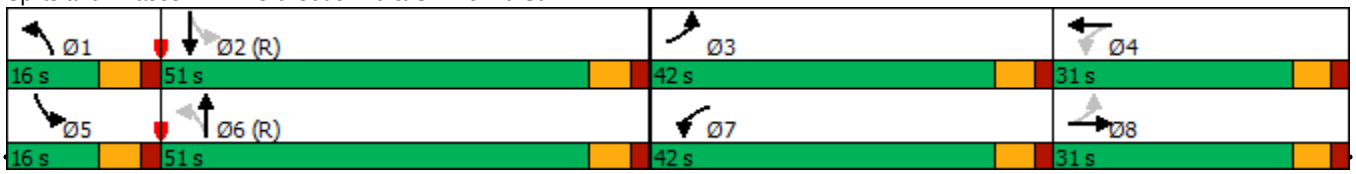
Old Cutler Rd and SW 152nd St
Existing Conditions - PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	71	206	102	117	18	192	480	68	7	681	80
Future Volume (vph)	41	71	206	102	117	18	192	480	68	7	681	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	100		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					1.00						1.00	
Frt		0.889			0.983			0.984			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	1605	0	1787	1835	0	1770	1800	0	1805	1812	0
Flt Permitted	0.639			0.187			0.074			0.265		
Satd. Flow (perm)	1135	1605	0	352	1835	0	138	1800	0	504	1812	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		88			4			4			6	
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		689			654			535			477	
Travel Time (s)		13.4			12.7			9.1			8.1	
Confl. Peds. (#/hr)												1
Confl. Bikes (#/hr)						1						1
Peak Hour Factor	0.93	0.84	0.86	0.98	0.73	0.90	0.84	0.75	0.90	0.58	0.92	0.67
Heavy Vehicles (%)	7%	6%	5%	1%	1%	6%	2%	4%	3%	0%	2%	4%
Adj. Flow (vph)	44	85	240	104	160	20	229	640	76	12	740	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	44	325	0	104	180	0	229	716	0	12	859	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	7.0		5.0	7.0	
Minimum Split (s)	11.0	25.0		11.0	25.0		11.4	22.0		11.4	22.0	
Total Split (s)	42.0	31.0		42.0	31.0		16.0	51.0		16.0	51.0	
Total Split (%)	30.0%	22.1%		30.0%	22.1%		11.4%	36.4%		11.4%	36.4%	
Maximum Green (s)	36.0	25.0		36.0	25.0		9.6	44.6		9.6	44.6	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	3.0		2.5	3.0		2.5	1.0		2.5	1.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		8.0			8.0			8.0			8.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	36.1	28.7		45.4	35.4		81.1	76.2		54.1	48.6	
Actuated g/C Ratio	0.26	0.20		0.32	0.25		0.58	0.54		0.39	0.35	
v/c Ratio	0.14	0.81		0.44	0.39		0.60	0.73		0.05	1.36	
Control Delay	30.0	54.2		37.0	44.2		38.4	32.7		18.3	207.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	30.0	54.2		37.0	44.2		38.4	32.7		18.3	207.5	
LOS	C	D		D	D		D	C		B	F	
Approach Delay		51.3			41.6			34.1			204.9	
Approach LOS		D			D			C			F	

Intersection Summary	
Area Type:	Other
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 28 (20%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.36	
Intersection Signal Delay: 97.8	Intersection LOS: F
Intersection Capacity Utilization 94.1%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 17: Old Cutler Rd & SW 152nd St



Old Cutler Rd and SW 168th St
Existing Conditions - PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	21	178	36	25	18	103	639	14	16	861	72
Future Volume (vph)	82	21	178	36	25	18	103	639	14	16	861	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	85		0	100		0	60		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.99						1.00	
Frt		0.867			0.937			0.996			0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1619	0	1752	1679	0	1770	1836	0	1805	1836	0
Flt Permitted	0.726			0.160			0.209			0.283		
Satd. Flow (perm)	1326	1619	0	295	1679	0	389	1836	0	538	1836	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		130			12			2			7	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		691			684			789			701	
Travel Time (s)		15.7			15.5			13.4			11.9	
Confl. Peds. (#/hr)						1						1
Confl. Bikes (#/hr)						2						3
Peak Hour Factor	0.85	0.75	0.82	0.64	0.89	0.90	0.66	0.77	0.70	0.67	0.93	0.82
Heavy Vehicles (%)	4%	0%	2%	3%	0%	11%	2%	3%	7%	0%	2%	1%
Adj. Flow (vph)	96	28	217	56	28	20	156	830	20	24	926	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	96	245	0	56	48	0	156	850	0	24	1014	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		4.6	7.0		4.6	7.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		11.0	24.4		11.0	24.4	
Total Split (s)	31.0	31.0		31.0	31.0		11.0	198.0		11.0	198.0	
Total Split (%)	12.9%	12.9%		12.9%	12.9%		4.6%	82.5%		4.6%	82.5%	
Maximum Green (s)	25.0	25.0		25.0	25.0		4.6	191.6		4.6	191.6	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	1.0		2.0	1.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			5.0			5.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0			12.0			12.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	25.0	25.0		25.0	25.0		197.5	193.8		196.2	191.6	
Actuated g/C Ratio	0.10	0.10		0.10	0.10		0.82	0.81		0.82	0.80	
v/c Ratio	0.70	0.86		1.87	0.26		0.45	0.57		0.05	0.69	
Control Delay	129.2	75.0		536.9	77.9		7.7	10.3		3.2	13.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	129.2	75.0		536.9	77.9		7.7	10.3		3.2	13.8	
LOS	F	E		F	E		A	B		A	B	
Approach Delay		90.3			325.1			9.9			13.6	
Approach LOS		F			F			A			B	

Intersection Summary	
Area Type:	Other
Cycle Length: 240	
Actuated Cycle Length: 240	
Offset: 4 (2%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.87	
Intersection Signal Delay: 35.6	Intersection LOS: D
Intersection Capacity Utilization 94.0%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 22: Old Cutler Rd & SW 168th St

SW 144th St and Ludlam Rd
Existing Conditions - PM Peak Hour

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	20	60	10	21	21	56	272	17	22	249	16
Future Vol, veh/h	17	20	60	10	21	21	56	272	17	22	249	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	100	59	62	75	66	92	92	92	69	89	80
Heavy Vehicles, %	18	0	3	0	0	0	4	1	0	0	1	0
Mvmt Flow	20	20	102	16	28	32	61	296	18	32	280	20

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	811	791	290	843	792	306	300	0	0	315	0	0
Stage 1	354	354	-	428	428	-	-	-	-	-	-	-
Stage 2	457	437	-	415	364	-	-	-	-	-	-	-
Critical Hdwy	7.28	6.5	6.23	7.1	6.5	6.2	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.28	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.28	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.662	4	3.327	3.5	4	3.3	2.236	-	-	2.2	-	-
Pot Cap-1 Maneuver	280	324	747	286	324	739	1250	-	-	1257	-	-
Stage 1	631	634	-	609	588	-	-	-	-	-	-	-
Stage 2	554	583	-	619	627	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	235	300	747	221	300	738	1250	-	-	1256	-	-
Mov Cap-2 Maneuver	235	300	-	221	300	-	-	-	-	-	-	-
Stage 1	600	618	-	579	559	-	-	-	-	-	-	-
Stage 2	479	554	-	504	611	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.8	17.5	1.3	0.8
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1250	-	-	235	600	363	1256	-	-
HCM Lane V/C Ratio	0.049	-	-	0.085	0.203	0.209	0.025	-	-
HCM Control Delay (s)	8	-	-	21.7	12.5	17.5	7.9	-	-
HCM Lane LOS	A	-	-	C	B	C	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3	0.8	0.8	0.1	-	-

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	149	28	35	35	31	204
Future Vol, veh/h	149	28	35	35	31	204
Peak Hour Factor	0.67	0.78	0.80	0.73	0.86	0.87
Heavy Vehicles, %	1	32	9	0	7	1
Mvmt Flow	222	36	44	48	36	234
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	10.4	8.4	9.5
HCM LOS	B	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	84%	0%	13%
Vol Thru, %	16%	50%	0%
Vol Right, %	0%	50%	87%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	177	70	235
LT Vol	149	0	31
Through Vol	28	35	0
RT Vol	0	35	204
Lane Flow Rate	258	92	271
Geometry Grp	1	1	1
Degree of Util (X)	0.345	0.119	0.328
Departure Headway (Hd)	4.807	4.684	4.367
Convergence, Y/N	Yes	Yes	Yes
Cap	746	762	822
Service Time	2.849	2.734	2.4
HCM Lane V/C Ratio	0.346	0.121	0.33
HCM Control Delay	10.4	8.4	9.5
HCM Lane LOS	B	A	A
HCM 95th-tile Q	1.5	0.4	1.4

Appendix G

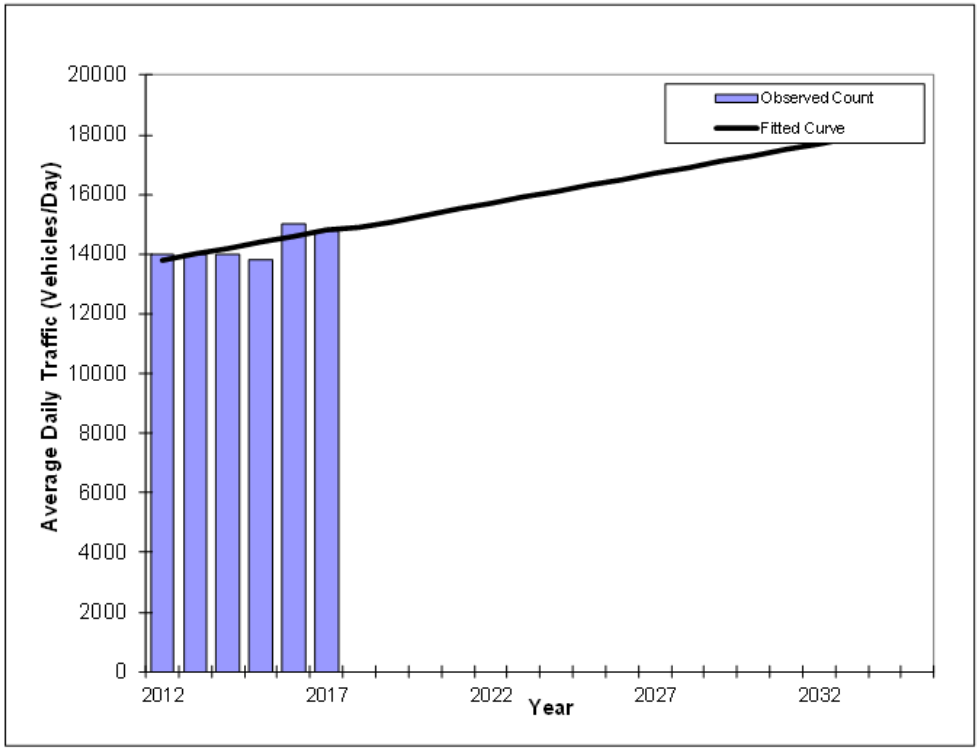
Growth Rate Analysis/Historical Traffic Data

Traffic Trends - V3.0

OLD CUTLER RD E OF LUDLAM RD –

FIN#	0
Location	1

County:	Miami-Dade (87)
Station #:	878312
Highway:	OLD CUTLER RD E OF LUDLAM RD



Year	Traffic (ADT/AADT) Count*	Trend**
2012	14000	13800
2013	14000	14000
2014	14000	14200
2015	13800	14400
2016	15000	14600
2017	14800	14800
2019 Opening Year Trend		
2019	N/A	15100
2025 Mid-Year Trend		
2025	N/A	16300
2035 Design Year Trend		
2035	N/A	18200
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

** Annual Trend Increase:	194
Trend R-squared:	52.71%
Trend Annual Historic Growth Rate:	1.45%
Trend Growth Rate (2017 to Design Year):	1.28%
Printed:	25-Mar-19

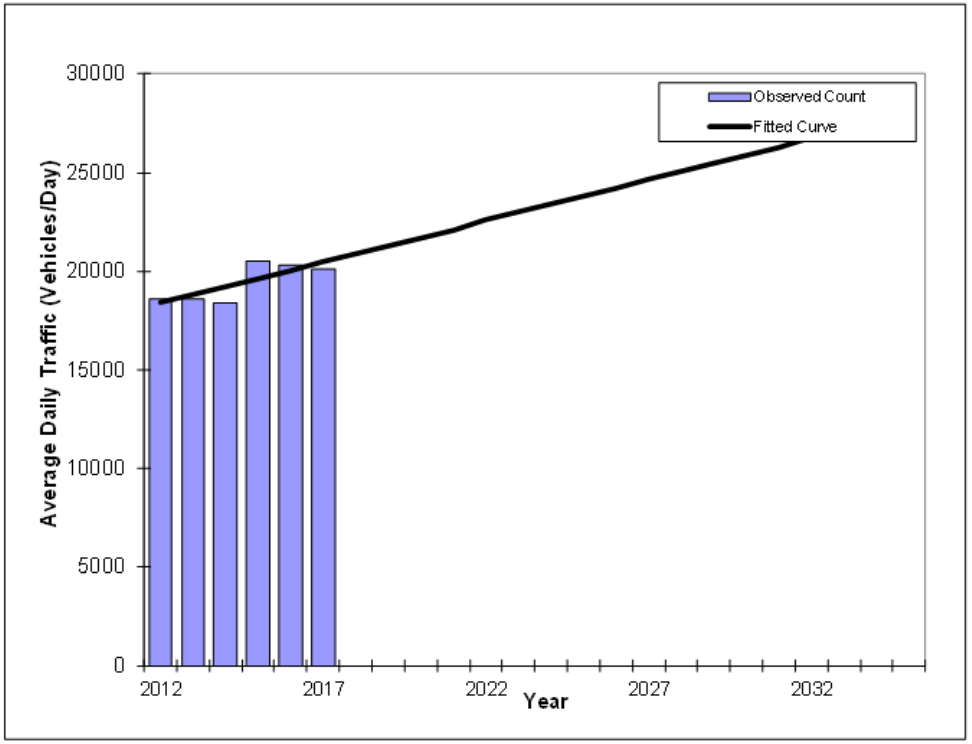
Straight Line Growth Option

Traffic Trends - V3.0

Old Cutler Road-S of 152 St –

FIN#	0
Location	1

County:	Miami-Dade (87)
Station #:	878207
Highway:	Old Cutler Road-S of 152 St



Year	Traffic (ADT/AADT) Count*	Trend**
2012	18600	18400
2013	18600	18800
2014	18400	19200
2015	20500	19600
2016	20300	20000
2017	20100	20500
2019 Opening Year Trend		
2019	N/A	21300
2025 Mid-Year Trend		
2025	N/A	23800
2035 Design Year Trend		
2035	N/A	28000
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

** Annual Trend Increase:	420
Trend R-squared:	64.47%
Trend Annual Historic Growth Rate:	2.28%
Trend Growth Rate (2017 to Design Year):	2.03%
Printed:	25-Mar-19

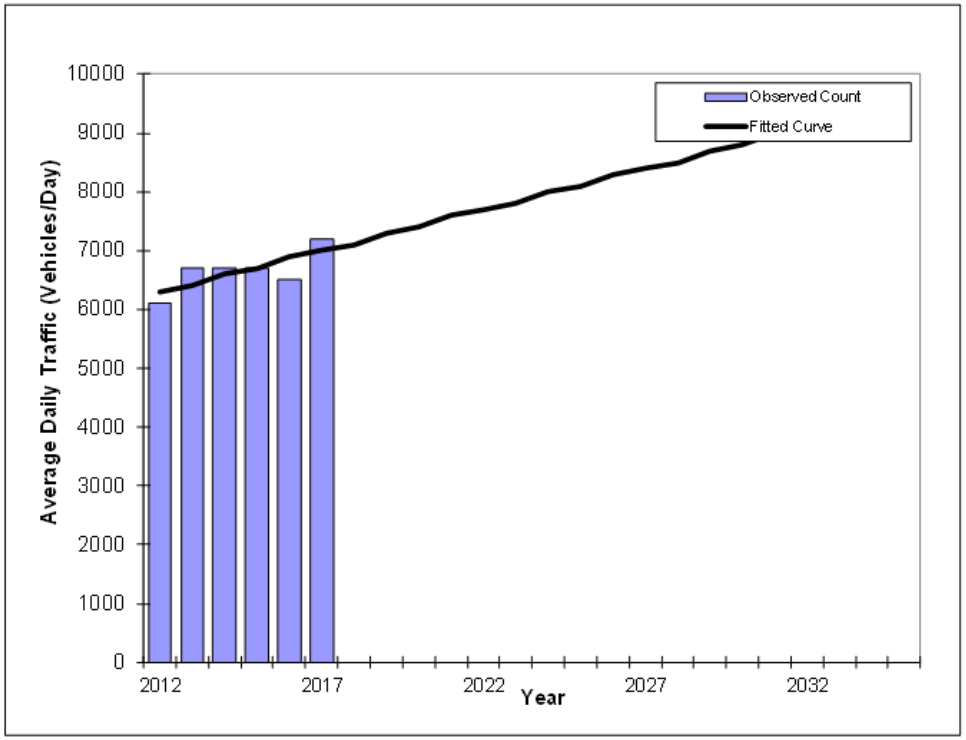
Straight Line Growth Option

Traffic Trends - V3.0

SW 144 Street-W of SW 79 Ave --

FIN#	0
Location	1

County:	Miami-Dade (87)
Station #:	878377
Highway:	SW 144 Street-W of SW 79 Ave



Year	Traffic (ADT/AADT) Count*	Trend**
2012	6100	6300
2013	6700	6400
2014	6700	6600
2015	6700	6700
2016	6500	6900
2017	7200	7000
2019 Opening Year Trend		
2019	N/A	7300
2025 Mid-Year Trend		
2025	N/A	8100
2035 Design Year Trend		
2035	N/A	9500
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

** Annual Trend Increase:	140
Trend R-squared:	54.02%
Trend Annual Historic Growth Rate:	2.22%
Trend Growth Rate (2017 to Design Year):	1.98%
Printed:	25-Mar-19

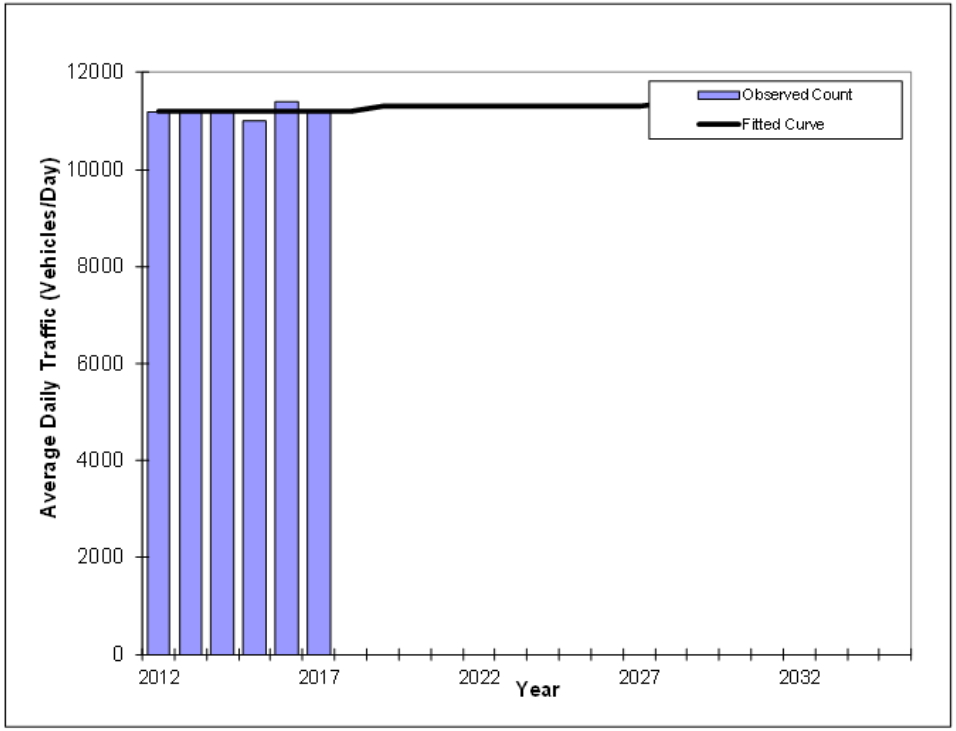
Straight Line Growth Option

Traffic Trends - V3.0

SW 152 Street-E of US1 –

FIN#	0
Location	1

County:	Miami-Dade (87)
Station #:	878274
Highway:	SW 152 Street-E of US1



Year	Traffic (ADT/AADT) Count*	Trend**
2012	11200	11200
2013	11200	11200
2014	11200	11200
2015	11000	11200
2016	11400	11200
2017	11200	11200
2019 Opening Year Trend		
2019	N/A	11300
2025 Mid-Year Trend		
2025	N/A	11300
2035 Design Year Trend		
2035	N/A	11400
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

** Annual Trend Increase:	11
Trend R-squared:	2.86%
Trend Annual Historic Growth Rate:	0.00%
Trend Growth Rate (2017 to Design Year):	0.10%
Printed:	25-Mar-19

Straight Line Growth Option

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2017 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
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
2017 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8207 - OLD CUTLER RD, 200' SOUTH OF SW 152ND STREET

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2017	20100 S	N 9600	S 10500	9.00	55.70	12.60
2016	20300 F	N 9800	S 10500	9.00	56.10	13.50
2015	20500 C	N 10000	S 10500	9.00	57.40	13.70
2014	18400 S	N 9100	S 9300	9.00	59.30	17.40
2013	18600 F	N 9200	S 9400	9.00	58.90	16.20
2012	18600 C	N 9200	S 9400	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
2017 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8377 - SW 144 ST/MITCHELL, 200 FT W OF SW 79 AVE (2011 OFF SYSTEM CYCLE)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2017	7200 C	E 3500	W 3700	9.00	59.30	3.40
2016	6500 T	E 3300	W 3200	9.00	56.10	3.00
2015	6700 S	E 3400	W 3300	9.00	57.40	3.40
2014	6700 F	E 3400	W 3300	9.00	59.30	4.40
2013	6700 C	E 3400	W 3300	9.00	58.90	16.20
2012	6100 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

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2017 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8663 - OLD CUTLER RD, 200' N OF SW144 ST(2011 OFFSYSTEM CYCLE, CL:586)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2017	19000 F	N 9600	S 9400	9.00	55.70	3.40
2016	19400 C	N 9800	S 9600	9.00	56.10	3.00
2015	20000 T	0	0	9.00	57.40	3.40
2014	20000 S			9.00	59.30	4.40
2013	20000 F	0	0	9.00	58.90	16.20
2012	20000 C	N 0	S 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

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2017 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8274 - CORAL REEF DRIVE, 200' EAST OF US-1

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2017	11200 F	E 5200	W 6000	9.00	59.30	12.60
2016	11400 C	E 5300	W 6100	9.00	56.10	13.50
2015	11000 T	E 5300	W 5700	9.00	57.40	13.70
2014	11200 S	E 5400	W 5800	9.00	59.30	17.40
2013	11200 F	E 5400	W 5800	9.00	58.90	16.20
2012	11200 C	E 5400	W 5800	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 H

Trip Generation, Cardinal Trip Distribution and Trip Assignments for Committed Trips

Miami-Dade Transportation Plan
Interactive Project Tool

TIP | LRTP

Showing 2019 TIP Projects
Click the button to the left to toggle the map.

Login

SMART Plan South Dade Transitway (South Corridor)

Project Information

MPO Project No.	TAMDT286
Project Name	SMART Plan South Dade Transitway (South Corridor)
Location/From	South Dade Transitway at SW 344 ST
Location/To	Dadeland South Metrorail Station
Description	Include in the FY 2018 and FY 2019 TIP's $100 million to advance the project development, design and construction phases of a premium transit system on the South Dade Transitway..
TIP Year	2019
Type of Project	Transit
Agency	Miami-Dade Dept. of Transportation and Public Works (Transit)
Management Agency :	AGENCY NOT AVAILABLE
Type of Work	PD&E Study
Status	Partially Funded
Construction Year	

Miami-Dade Transportation Plan
Interactive Project Tool

TIP LRTP

Showing 2019 TIP Projects
Click the button to the left to toggle the map.

Login

VILLAGE OF PINECREST CITYWIDE BICYCLING IMPROVEMENTS

Project Information

MPO Project No.	DT4346871
Project Name	VILLAGE OF PINECREST CITYWIDE BICYCLING IMPROVEMENTS
Location/From	
Location/To	
Description	.
TIP Year	2019
Type of Project	Pedestrian/Bicycle
Agency	FL Dept. of Transportation
Management Agency :	Miami-Dade Dept. of Transportation and Public Works
Type of Work	BIKE PATH/TRAIL
Status	
Construction Year	2019
Next Step	
Agency Project No.	4346871

Miami-Dade Transportation Plan
Interactive Project Tool

TIP | LRTP

Showing 2019 TIP Projects
Click the button to the left to toggle the map.

Login

SW 87 Avenue & SW 128 Street

Project Information

MPO Project No.	PW1000024
Project Name	SW 87 Avenue & SW 128 Street
Location/From	Intersection
Location/To	
Description	Development of 2 lanes on North side of the intersection.
TIP Year	2019
Type of Project	Arterial/Collector Road
Agency	Miami-Dade Dept. of Transportation and Public Works
Management Agency :	Miami-Dade Dept. of Transportation and Public Works
Type of Work	New Construction: 2 lanes
Status	
Construction Year	
Next Step	
Agency Project No.	1000024

Miami-Dade Transportation Plan
Interactive Project Tool

TIP LRTP

Showing 2019 TIP Projects
Click the button to the left to toggle the map.

Login

OLD CUTLER TRAIL

Project Information

MPO Project No.	DT2512656
Project Name	OLD CUTLER TRAIL
Location/From	FROM SW 136 ST/SW 63 AVE
Location/To	TO CARTAGENA PLAZA
Description	.
TIP Year	2019
Type of Project	Pedestrian/Bicycle
Agency	FL Dept. of Transportation
Management Agency :	FDOT
Type of Work	BIKE PATH/TRAIL
Status	
Construction Year	
Next Step	
Agency Project No.	2512656

Miami-Dade Transportation Plan
Interactive Project Tool

TIP LRTP

Showing 2019 TIP Projects
Click the button to the left to toggle the map.

Login

SW 136 Street East of SW 72 Avenue

Project Information

MPO Project No.	PW000775
Project Name	SW 136 Street East of SW 72 Avenue
Location/From	
Location/To	
Description	Bridge replacement. Prior Years' Funding as follows: $286,000 for PE, $2,036,000 for CST..
TIP Year	2019
Type of Project	Arterial/Collector Road
Agency	Miami-Dade Dept. of Transportation and Public Works
Management Agency :	Miami-Dade Dept. of Transportation and Public Works
Type of Work	Bridge repalcement (#874420)
Status	
Construction Year	
Next Step	
Agency Project No.	775

Miami-Dade Transportation Plan
Interactive Project Tool

TIP | LRTP

Showing 2019 TIP Projects
Click the button to the left to toggle the map.

Login

SW 136 Street

Project Information

MPO Project No.	PW000875
Project Name	SW 136 Street
Location/From	SW 82 Avenue
Location/To	Old Cutler Road
Description	Resurfacing. Prior Years' Funding as follows: $385,00 for CST..
TIP Year	2019
Type of Project	Arterial/Collector Road
Agency	Miami-Dade Dept. of Transportation and Public Works
Management Agency :	Miami-Dade Dept. of Transportation and Public Works
Type of Work	Resurfacing
Status	
Construction Year	
Next Step	
Agency Project No.	000875

Miami-Dade Transportation Plan
Interactive Project Tool

TIP | LRTP

Showing 2019 TIP Projects
Click the button to the left to toggle the map.

Login

SW 144 Street and Old Cutler Road

Project Information

MPO Project No.	PW0000998
Project Name	SW 144 Street and Old Cutler Road
Location/From	
Location/To	
Description	Intersection improvement/Reversible lane. Prior Years' Funding as follows: $534,000 for PE/CST..
TIP Year	2019
Type of Project	Arterial/Collector Road
Agency	Miami-Dade Dept. of Transportation and Public Works
Management Agency :	Miami-Dade Dept. of Transportation and Public Works
Type of Work	Intersection improvement/Reversible lane
Status	
Construction Year	
Next Step	
Agency Project No.	0000998

Miami-Dade Transportation Plan
Interactive Project Tool

TIP LRTP

Showing 2019 TIP Projects
Click the button to the left to toggle the map.

Login

SW 152 Street and US-1

Project Information

MPO Project No.	PW000828
Project Name	SW 152 Street and US-1
Location/From	
Location/To	
Description	Intersection improvement. Prior Years' Funding as follows: $32,000 for PE, $183,000 for CST..
TIP Year	2019
Type of Project	Arterial/Collector Road
Agency	Miami-Dade Dept. of Transportation and Public Works
Management Agency :	Miami-Dade Dept. of Transportation and Public Works
Type of Work	Intersection improvement
Status	Under design
Construction Year	
Next Step	
Agency Project No.	000828

Miami-Dade Transportation Plan
Interactive Project Tool

TIP | LRTP

Showing 2019 TIP Projects
Click the button to the left to toggle the map.

Login

SW 152 Street and Old Cutler Road

Project Information

MPO Project No.	PW0000999
Project Name	SW 152 Street and Old Cutler Road
Location/From	
Location/To	
Description	Intersection improvement/Reversible lane. Prior Years' Funding as follows: $500,000 for PE/CST..
TIP Year	2019
Type of Project	Arterial/Collector Road
Agency	Miami-Dade Dept. of Transportation and Public Works
Management Agency :	Miami-Dade Dept. of Transportation and Public Works
Type of Work	Intersection improvement/Reversible lane
Status	
Construction Year	
Next Step	
Agency Project No.	0000999

Miami-Dade Transportation Plan
Interactive Project Tool

TIP LRTP

Showing 2019 TIP Projects
Click the button to the left to toggle the map.

Login

SW 82 Avenue and SW 168 Street

Project Information

MPO Project No.	PW000991
Project Name	SW 82 Avenue and SW 168 Street
Location/From	
Location/To	
Description	Traffic circle. Prior Years' Funding as follows: $115,000 for PE, $285,000 for CST..
TIP Year	2019
Type of Project	Arterial/Collector Road
Agency	Miami-Dade Dept. of Transportation and Public Works
Management Agency :	Miami-Dade Dept. of Transportation and Public Works
Type of Work	Traffic circle
Status	Construction completed
Construction Year	
Next Step	
Agency Project No.	000991

Miami-Dade Transportation Plan
Interactive Project Tool

TIP | LRTP

Showing 2019 TIP Projects
Click the button to the left to toggle the map.

Login

SW 168 Street

Project Information

MPO Project No.	PW000826
Project Name	SW 168 Street
Location/From	SW 78 Avenue
Location/To	Old Cutler Road
Description	Resurfacing. Prior Years' Funding as follows: $105,000 for CST..
TIP Year	2019
Type of Project	Arterial/Collector Road
Agency	Miami-Dade Dept. of Transportation and Public Works
Management Agency :	Miami-Dade Dept. of Transportation and Public Works
Type of Work	Resurfacing
Status	
Construction Year	
Next Step	
Agency Project No.	000826

Table – Net External Trip Generation – AM, PM Peak Hours and Daily Trips										Percentage IN and OUT	Equation for fitted Curve
Scnarios	Uses and ITE LUC	Units of Development	Timeframe	Gross Trip	Trips In	Trips Out	Gross Trip	In	Out		
				Average Rate			Equation/Fitted Curve				
Maximum Allowed under current designated land Use (Intitution and Public)	Government Office Building, 730	2,107 KSF	AM Peak Hour	7,037	5,278	1,759	Not Given			75% entering, 25% exiting	Not Given
			PM Peak Hour	3,603	901	2,702	3,113	778	2,335	25% entering, 75% exiting	Ln(T) = 0.97 Ln(X) + 0.62
			Daily	47,597	23,798	23,799	Not Given			50% entering, 50% exiting	Not Given
Maximum Allowed under current designated land Use (Hospital)	Hospital, 610	2,107 KSF	AM Peak Hour	1,875	1275	600	1,686	1146	540	68% entering, 32% exiting	T = 0.74(X) + 126.36
			PM Peak Hour	2,044	654	1,390	1,870	598	1,272	32% entering, 68% exiting	T = 0.84(X) + 100.56
			Daily	22,587	11,293	11,294	15,113	7,556	7,557	50% entering, 50% exiting	T = 5.88(X) + 2723.70
Maximum Allowed under proposed land Use	Resigdential, 210	176 DU	AM Peak Hour	130	32	98	130	32	98	25% entering, 75% exiting	T = 0.71(X) + 4.80
			PM Peak Hour	174	110	64	175	110	65	63% entering, 37% exiting	Ln(T) = 0.96 Ln(X) + 0.20
			Daily	1,661	830	831	1749	874	875	50% entering, 50% exiting	Ln(T) = 0.92 Ln(X) + 2.71
Maximum Allowed under proposed land Use and Proposed Zoning	Resigdential, 210	70 DU	AM Peak Hour	52	13	39	54	13	41	25% entering, 75% exiting	T = 0.71(X) + 4.80
			PM Peak Hour	69	43	26	72	45	27	63% entering, 37% exiting	Ln(T) = 0.96 Ln(X) + 0.20
			Daily	661	330	331	749	374	375	50% entering, 50% exiting	Ln(T) = 0.92 Ln(X) + 2.71
As-of-right Residential MF Units in TAZ 1139	Resigdential, 221	304 DU	AM Peak Hour	109	28	81	102	26	76	26% entering, 74% exiting	Ln(T) = 0.98 Ln(X) - 0.98
			PM Peak Hour	134	82	52	129	79	50	61% entering, 39% exiting	Ln(T) = 0.96 Ln(X) - 0.63
			Daily	1,654	827	827	1,655	827	828	50% entering, 50% exiting	T = 5.45(X) - 1.75

Land Use: 221
Multifamily Housing (Mid-Rise)

Description

Mid-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have between three and 10 levels (floors). Multifamily housing (low-rise) (Land Use 220), multifamily housing (high-rise) (Land Use 222), off-campus student apartment (Land Use 225), and mid-rise residential with 1st-floor commercial (Land Use 231) are related land uses.

Additional Data

In prior editions of *Trip Generation Manual*, the mid-rise multifamily housing sites were further divided into rental and condominium categories. An investigation of vehicle trip data found no clear differences in trip making patterns between the rental and condominium sites within the ITE database. As more data are compiled for future editions, this land use classification can be reinvestigated.

For the six sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.46 residents per occupied dwelling unit.

For the five sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 95.7 percent of the total dwelling units were occupied.

Time-of-day distribution data for this land use are presented in Appendix A. For the eight general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:00 and 8:00 a.m. and 4:45 and 5:45 p.m., respectively.

For the four dense multi-use urban sites with 24-hour count data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:15 and 8:15 a.m. and 4:15 and 5:15 p.m., respectively. For the three center city core sites with 24-hour count data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 6:45 and 7:45 a.m. and 5:00 and 6:00 p.m., respectively.

For the six sites for which data were provided for both occupied dwelling units and residents, there was an average of 2.46 residents per occupied dwelling unit.

For the five sites for which data were provided for both occupied dwelling units and total dwelling units, an average of 95.7 percent of the units were occupied.

The average numbers of person trips per vehicle trip at the five center city core sites at which both person trip and vehicle trip data were collected were as follows:

- 1.84 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.94 during Weekday, AM Peak Hour of Generator
- 2.07 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.59 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 32 dense multi-use urban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.90 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.90 during Weekday, AM Peak Hour of Generator
- 2.00 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.08 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 13 general urban/suburban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.56 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.88 during Weekday, AM Peak Hour of Generator
- 1.70 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.07 during Weekday, PM Peak Hour of Generator

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), British Columbia (CAN), California, Delaware, District of Columbia, Florida, Georgia, Illinois, Maryland, Massachusetts, Minnesota, New Hampshire, New Jersey, Ontario, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Utah, Virginia, and Wisconsin.

Source Numbers

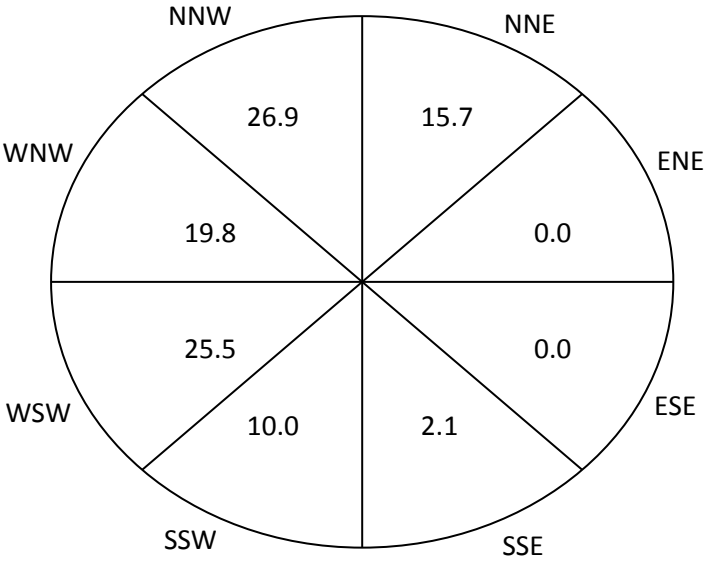
168, 188, 204, 305, 306, 321, 357, 390, 436, 525, 530, 579, 638, 818, 857, 866, 901, 904, 910, 912, 918, 934, 936, 939, 944, 947, 948, 949, 959, 963, 964, 966, 967, 969, 970

Miami-Dade 2010-2040 Directional Distribution Summary

	2010	2040	2035
NNE	11.3	16.6	15.7
ENE	0.0	0.0	0.0
ESE	0.0	0.0	0.0
SSE	2.8	2.0	2.1
SSW	10.7	9.9	10.0
WSW	22.7	26.1	25.5
WNW	25.5	18.7	19.8
NNW	27.2	26.8	26.9

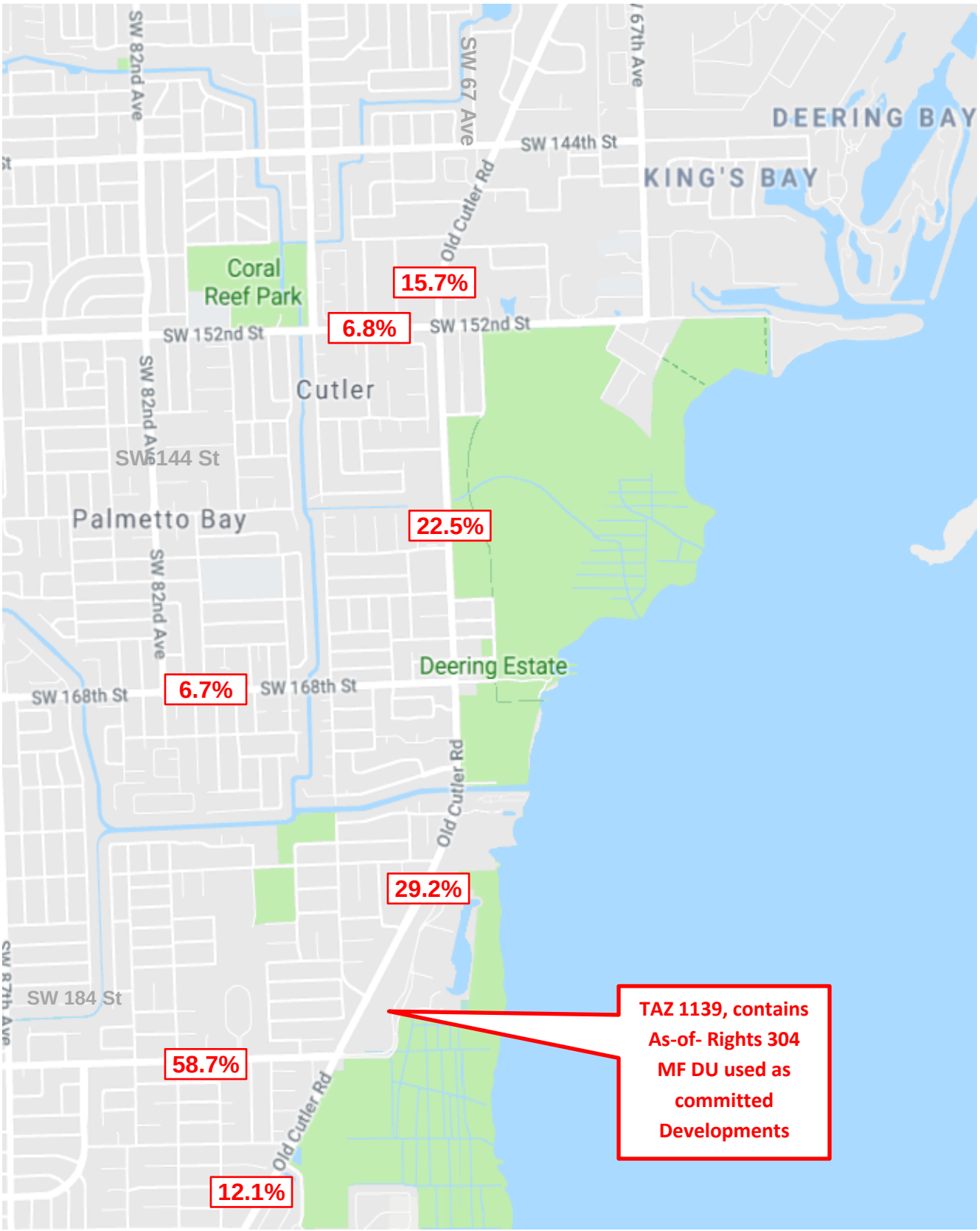
Analysis Year

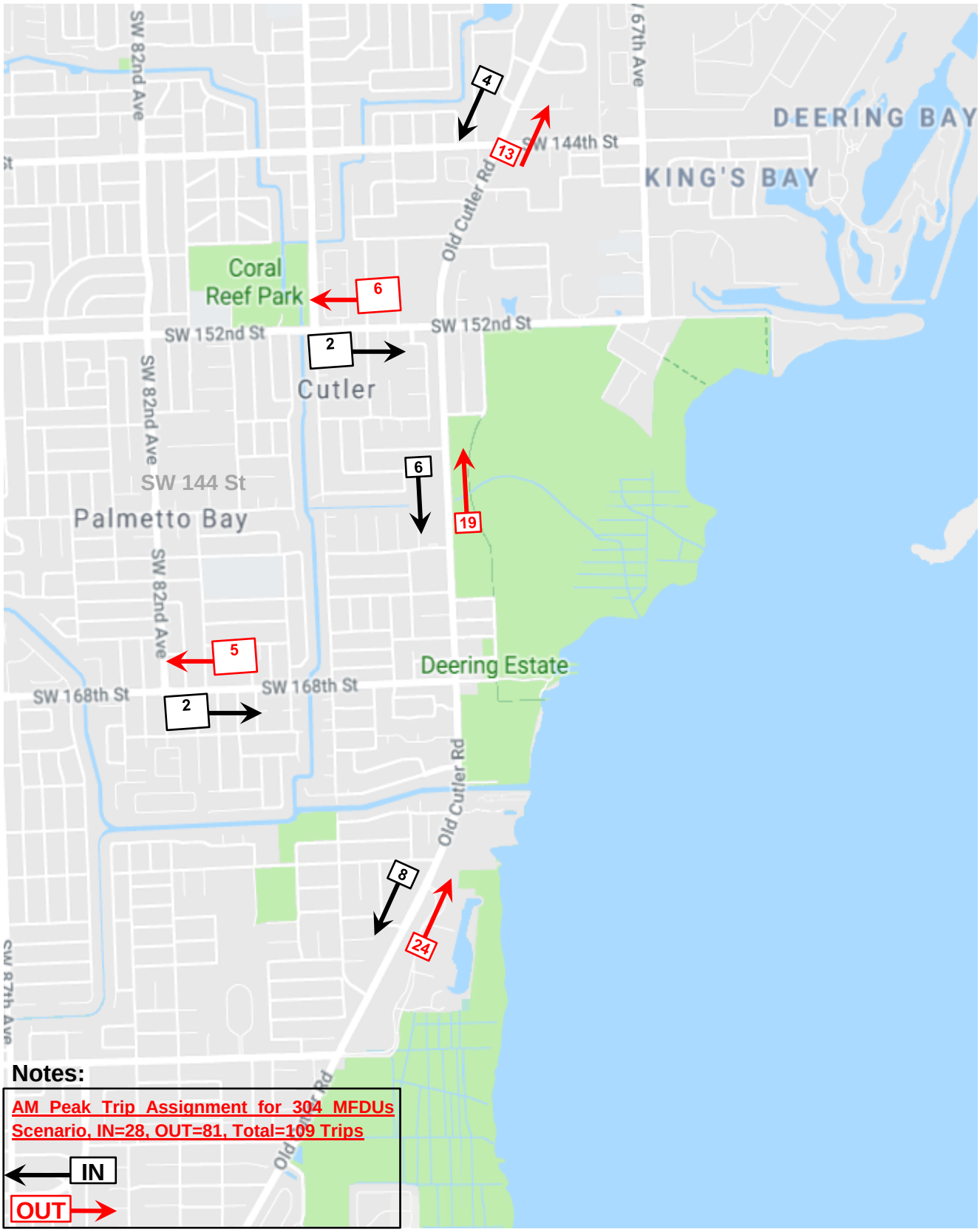
Study Area TAZ(s)=1139



2010 TAZ Boundaries

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


SW 82nd Ave
SW 67 Ave
67th Ave
DEERING BAY
SW 144th St
KING'S BAY
Old Cutler Rd
Coral
Reef Park
15.7%
6.8%
SW 152nd St
SW 152nd St
Cutler
SW 82nd Ave
SW 144 St
Palmetto Bay
22.5%
SW 82nd Ave
Deering Estate
SW 168th St
6.7%
SW 168th St
Old Cutler Rd
29.2%
SW 184 St
58.7%
Old Cutler Rd
12.1%
TAZ 1139, contains
As-of- Rights 304
MF DU used as
committed
Developments

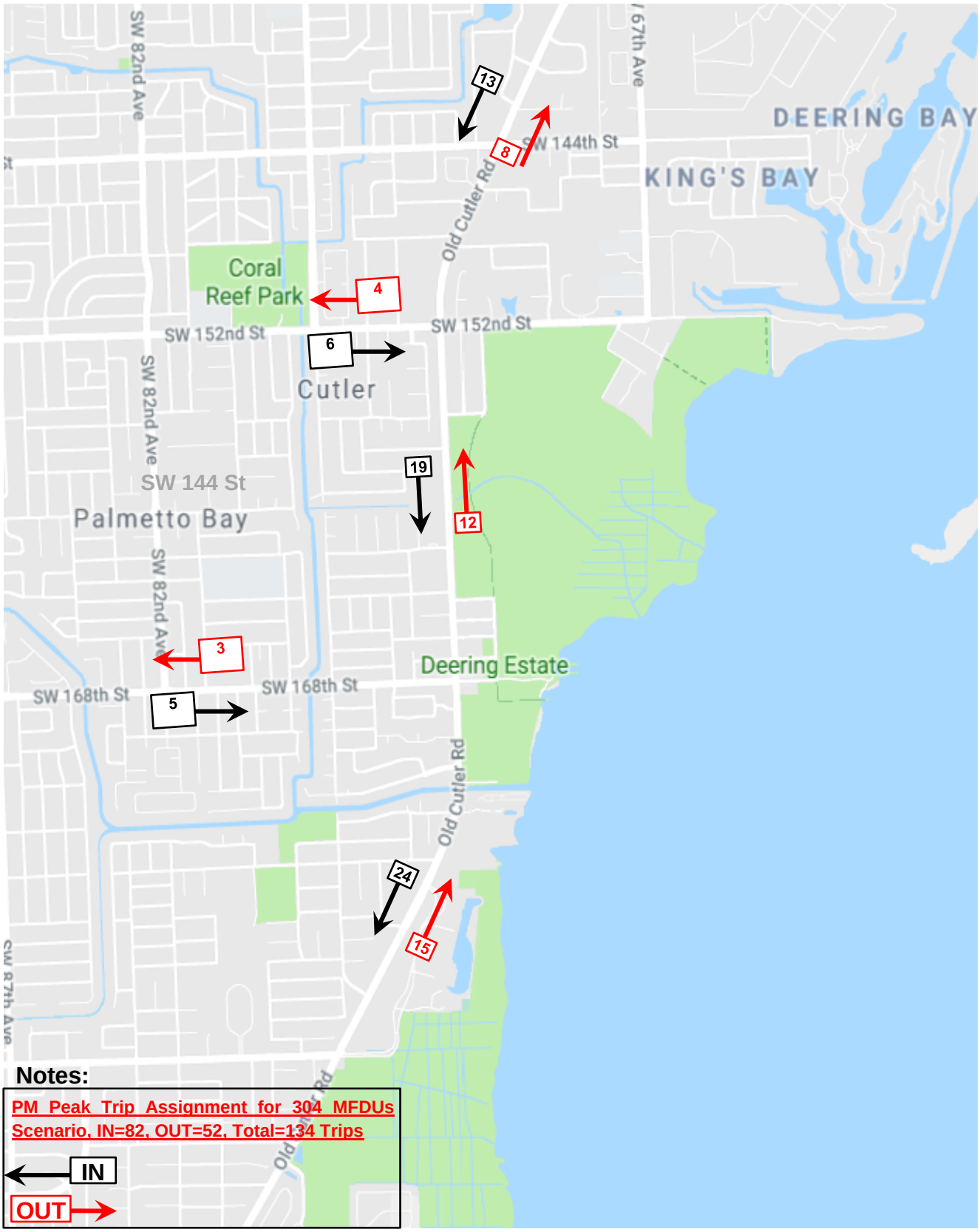


Notes:

AM Peak Trip Assignment for 304 MFDUs Scenario, IN=28, OUT=81, Total=109 Trips

IN

OUT


SW 82nd Ave
13
8
SW 144th St
67th Ave
DEERING BAY
KING'S BAY
Old Cutler Rd
Coral
Reef Park
4
SW 152nd St
SW 152nd St
6
Cutler
SW 82nd Ave
19
SW 144 St
Palmetto Bay
12
SW 82nd Ave
3
Deering Estate
SW 168th St
SW 168th St
5
Old Cutler Rd
24
15
Notes:
PM Peak Trip Assignment for 304 MFDUs
Scenario, IN=82, OUT=52, Total=134 Trips
IN
OUT

Appendix I

ITE Trip Generation, Land Use Codes (730, 610, 221 and 210)

Table – Net External Trip Generation – AM, PM Peak Hours and Daily Trips										Percentage IN and OUT	Equation for fitted Curve
Scnarios	Uses and ITE LUC	Units of Development	Timeframe	Gross Trip	Trips In	Trips Out	Gross Trip	In	Out		
				Average Rate			Equation/Fitted Curve				
Maximum Allowed under current designated land Use (Intitution and Public)	Government Office Building, 730	2,107 KSF	AM Peak Hour	7,037	5,278	1,759	Not Given			75% entering, 25% exiting	Not Given
			PM Peak Hour	3,603	901	2,702	3,113	778	2,335	25% entering, 75% exiting	Ln(T) = 0.97 Ln(X) + 0.62
			Daily	47,597	23,798	23,799	Not Given			50% entering, 50% exiting	Not Given
Maximum Allowed under current designated land Use (Hospital)	Hospital, 610	2,107 KSF	AM Peak Hour	1,875	1275	600	1,686	1146	540	68% entering, 32% exiting	T = 0.74(X) + 126.36
			PM Peak Hour	2,044	654	1,390	1,870	598	1,272	32% entering, 68% exiting	T = 0.84(X) + 100.56
			Daily	22,587	11,293	11,294	15,113	7,556	7,557	50% entering, 50% exiting	T = 5.88(X) + 2723.70
Maximum Allowed under proposed land Use	Resigdential, 210	176 DU	AM Peak Hour	130	32	98	130	32	98	25% entering, 75% exiting	T = 0.71(X) + 4.80
			PM Peak Hour	174	110	64	175	110	65	63% entering, 37% exiting	Ln(T) = 0.96 Ln(X) + 0.20
			Daily	1,661	830	831	1749	874	875	50% entering, 50% exiting	Ln(T) = 0.92 Ln(X) + 2.71
Maximum Allowed under proposed land Use and Proposed Zoning	Resigdential, 210	70 DU	AM Peak Hour	52	13	39	54	13	41	25% entering, 75% exiting	T = 0.71(X) + 4.80
			PM Peak Hour	69	43	26	72	45	27	63% entering, 37% exiting	Ln(T) = 0.96 Ln(X) + 0.20
			Daily	661	330	331	749	374	375	50% entering, 50% exiting	Ln(T) = 0.92 Ln(X) + 2.71
As-of-right Residential MF Units in TAZ 1139	Resigdential, 221	304 DU	AM Peak Hour	109	28	81	102	26	76	26% entering, 74% exiting	Ln(T) = 0.98 Ln(X) - 0.98
			PM Peak Hour	134	82	52	129	79	50	61% entering, 39% exiting	Ln(T) = 0.96 Ln(X) - 0.63
			Daily	1,654	827	827	1,655	827	828	50% entering, 50% exiting	T = 5.45(X) - 1.75

Land Use: 210
Single-Family Detached Housing

Description

Single-family detached housing includes all single-family detached homes on individual lots. A typical site surveyed is a suburban subdivision.

Additional Data

The number of vehicles and residents had a high correlation with average weekday vehicle trip ends. The use of these variables was limited, however, because the number of vehicles and residents was often difficult to obtain or predict. The number of dwelling units was generally used as the independent variable of choice because it was usually readily available, easy to project, and had a high correlation with average weekday vehicle trip ends.

This land use included data from a wide variety of units with different sizes, price ranges, locations, and ages. Consequently, there was a wide variation in trips generated within this category. Other factors, such as geographic location and type of adjacent and nearby development, may also have had an effect on the site trip generation.

Single-family detached units had the highest trip generation rate per dwelling unit of all residential uses because they were the largest units in size and had more residents and more vehicles per unit than other residential land uses; they were generally located farther away from shopping centers, employment areas, and other trip attractors than other residential land uses; and they generally had fewer alternative modes of transportation available because they were typically not as concentrated as other residential land uses.

Time-of-day distribution data for this land use are presented in Appendix A. For the six general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:15 and 8:15 a.m. and 4:00 and 5:00 p.m., respectively. For the two sites with Saturday data, the overall highest vehicle volume was counted between 3:00 and 4:00 p.m. For the one site with Sunday data, the overall highest vehicle volume was counted between 10:15 and 11:15 a.m.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in California, Connecticut, Delaware, Illinois, Indiana, Maryland, Minnesota, Montana, New Jersey, North Carolina, Ohio, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Vermont, and Virginia.

Source Numbers

100, 105, 114, 126, 157, 167, 177, 197, 207, 211, 217, 267, 275, 293, 300, 319, 320, 356, 357, 367, 384, 387, 407, 435, 522, 550, 552, 579, 598, 601, 603, 614, 637, 711, 716, 720, 728, 735, 868, 903, 925, 936

Land Use: 221
Multifamily Housing (Mid-Rise)

Description

Mid-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have between three and 10 levels (floors). Multifamily housing (low-rise) (Land Use 220), multifamily housing (high-rise) (Land Use 222), off-campus student apartment (Land Use 225), and mid-rise residential with 1st-floor commercial (Land Use 231) are related land uses.

Additional Data

In prior editions of *Trip Generation Manual*, the mid-rise multifamily housing sites were further divided into rental and condominium categories. An investigation of vehicle trip data found no clear differences in trip making patterns between the rental and condominium sites within the ITE database. As more data are compiled for future editions, this land use classification can be reinvestigated.

For the six sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.46 residents per occupied dwelling unit.

For the five sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 95.7 percent of the total dwelling units were occupied.

Time-of-day distribution data for this land use are presented in Appendix A. For the eight general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:00 and 8:00 a.m. and 4:45 and 5:45 p.m., respectively.

For the four dense multi-use urban sites with 24-hour count data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:15 and 8:15 a.m. and 4:15 and 5:15 p.m., respectively. For the three center city core sites with 24-hour count data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 6:45 and 7:45 a.m. and 5:00 and 6:00 p.m., respectively.

For the six sites for which data were provided for both occupied dwelling units and residents, there was an average of 2.46 residents per occupied dwelling unit.

For the five sites for which data were provided for both occupied dwelling units and total dwelling units, an average of 95.7 percent of the units were occupied.

The average numbers of person trips per vehicle trip at the five center city core sites at which both person trip and vehicle trip data were collected were as follows:

- 1.84 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.94 during Weekday, AM Peak Hour of Generator
- 2.07 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.59 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 32 dense multi-use urban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.90 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.90 during Weekday, AM Peak Hour of Generator
- 2.00 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.08 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 13 general urban/suburban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.56 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.88 during Weekday, AM Peak Hour of Generator
- 1.70 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.07 during Weekday, PM Peak Hour of Generator

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), British Columbia (CAN), California, Delaware, District of Columbia, Florida, Georgia, Illinois, Maryland, Massachusetts, Minnesota, New Hampshire, New Jersey, Ontario, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Utah, Virginia, and Wisconsin.

Source Numbers

168, 188, 204, 305, 306, 321, 357, 390, 436, 525, 530, 579, 638, 818, 857, 866, 901, 904, 910, 912, 918, 934, 936, 939, 944, 947, 948, 949, 959, 963, 964, 966, 967, 969, 970

Land Use: 610
Hospital

Description

A hospital is any institution where medical or surgical care and overnight accommodations are provided to non-ambulatory and ambulatory patients. However, the term “hospital” does not refer to medical clinics (facilities that provide diagnoses and outpatient care only) or nursing homes (facilities devoted to the care of persons unable to care for themselves), which are covered elsewhere in this report. Clinic (Land Use 630) and free-standing emergency room (Land Use 650) are related uses.

Additional Data

Time-of-day distribution data for this land use are presented in Appendix A. For the four general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:30 and 8:30 a.m. and 12:00 and 1:00 p.m., respectively.

The average numbers of person trips per vehicle trip at the four general urban/suburban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.60 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.60 during Weekday, AM Peak Hour of Generator
- 1.72 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 1.66 during Weekday, PM Peak Hour of Generator

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, New Jersey, New York, Pennsylvania, Texas, and Washington.

Specialized Land Use Data

A 2008 study provided data on a research hospital in Baltimore, Maryland (source 749). The trip generation characteristics of this site differed from sites included in this land use; therefore, trip generation information for this site is presented here and was excluded from the data plots. The site gross floor area is 2.8 million square feet and the number of employees is 5,500. The number of vehicle trips during the weekday, AM peak hour for adjacent street traffic was 1,168. The number of vehicle trips during the weekday, PM peak hour for adjacent street traffic was 1,080.

Source Numbers

112, 186, 253, 262, 423, 429, 533, 573, 591, 601, 630, 719, 749, 878, 901, 904, 908, 909, 971

Land Use: 730
Government Office Building

Description

A government office building is an individual building containing either the entire function or simply one agency of a city, county, state, federal, or other governmental unit. This type of building differs from a government office complex (Land Use 733) in that it is not a group of buildings that are interconnected by pedestrian walkways.

Additional Data

Time-of-day distribution data for this land use are presented in Appendix A. For the seven general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:45 and 8:45 a.m. and 2:00 and 3:00 p.m., respectively.

The sites were surveyed in the 2000s and the 2010s in Oregon and Texas.

Source Numbers

579, 889

Appendix J

Cardinal Percentages, Trip Distributions and Trip Assignments for Proposed project

MOBILITY OPTIONS
2040 Miami-Dade Transportation Plan
EYES ON THE FUTURE

MIAMI-DADE **2040**

Long Range Transportation Plan

Directional Trip Distribution Report

October 23, 2014

MIAMI-DADE METROPOLITAN PLANNING ORGANIZATION

Photo by Asad Gilani

Miami-Dade 2010 Directional Distribution Summary

Origin TAZ			Cardinal Directions								Total
County TAZ	Regional TAZ		NNE	ENE	ESE	SSE	SSW	WSW	WNW	NNW	
1128	4028	PERCENT	26.6	9.1	0.8	0.8	8.4	23.2	13.1	18.0	
1129	4029	TRIPS	642	178	178	13	212	561	313	553	2,650
1129	4029	PERCENT	24.2	6.7	6.7	0.5	8.0	21.2	11.8	20.9	
1130	4030	TRIPS	288	33	0	0	35	222	130	258	966
1130	4030	PERCENT	29.8	3.4	0.0	0.0	3.6	23.0	13.5	26.7	
1131	4031	TRIPS	1,042	43	0	0	204	683	751	901	3,624
1131	4031	PERCENT	28.8	1.2	0.0	0.0	5.6	18.9	20.7	24.9	
1132	4032	TRIPS	216	57	3	28	119	172	207	133	935
1132	4032	PERCENT	23.1	6.1	0.3	3.0	12.7	18.4	22.1	14.2	
1133	4033	TRIPS	293	10	0	0	56	165	264	266	1,054
1133	4033	PERCENT	27.8	1.0	0.0	0.0	5.3	15.7	25.1	25.2	
1134	4034	TRIPS	361	35	0	0	59	299	424	450	1,628
1134	4034	PERCENT	22.2	2.2	0.0	0.0	3.6	18.4	26.0	27.6	
1135	4035	TRIPS	2	0	0	0	0	3	1	3	9
1135	4035	PERCENT	22.2	0.0	0.0	0.0	0.0	33.3	11.1	33.3	
1136	4036	TRIPS	434	20	0	0	72	273	321	664	1,784
1136	4036	PERCENT	24.3	1.1	0.0	0.0	4.0	15.3	18.0	37.2	
1137	4037	TRIPS	151	0	0	0	42	176	118	220	707
1137	4037	PERCENT	21.4	0.0	0.0	0.0	5.9	24.9	16.7	31.1	
1138	4038	TRIPS	295	10	0	0	63	151	315	312	1,146
1138	4038	PERCENT	25.7	0.9	0.0	0.0	5.5	13.2	27.5	27.2	
1139	4039	TRIPS	115	0	0	28	109	231	260	277	1,020
1139	4039	PERCENT	11.3	0.0	0.0	2.8	10.7	22.7	25.5	27.2	
1140	4040	TRIPS	999	43	3	104	152	408	332	502	2,543
1140	4040	PERCENT	39.3	1.7	0.1	4.1	6.0	16.0	13.1	19.7	
1141	4041	TRIPS	470	25	10	36	95	131	208	367	1,342
1141	4041	PERCENT	35.0	1.9	0.8	2.7	7.1	9.8	15.5	27.4	
1142	4042	TRIPS	908	146	0	91	262	363	403	596	2,769
1142	4042	PERCENT	32.8	5.3	0.0	3.3	9.5	13.1	14.6	21.5	
1143	4043	TRIPS	1,255	115	142	254	631	401	427	768	3,993
1143	4043	PERCENT	31.4	2.9	3.6	6.4	15.8	10.0	10.7	19.2	
1144	4044	TRIPS	505	14	67	159	404	257	160	247	1,813
1144	4044	PERCENT	27.9	0.8	3.7	8.8	22.3	14.2	8.8	13.6	
1145	4045	TRIPS	1,446	175	159	550	1,577	637	558	727	5,829
1145	4045	PERCENT	24.8	3.0	2.7	9.4	27.1	10.9	9.6	12.5	
1146	4046	TRIPS	1,318	134	87	523	1,115	852	764	890	5,683
1146	4046	PERCENT	23.2	2.4	1.5	9.2	19.6	15.0	13.4	15.7	
1147	4047	TRIPS	1,202	213	130	89	721	416	506	737	4,014
1147	4047	PERCENT	30.0	5.3	3.2	2.2	18.0	10.4	12.6	18.4	
1148	4048	TRIPS	1,321	298	142	285	1,914	1,048	803	1,516	7,327
1148	4048	PERCENT	18.0	4.1	1.9	3.9	26.1	14.3	11.0	20.7	

Miami-Dade 2040 Directional Distribution Summary

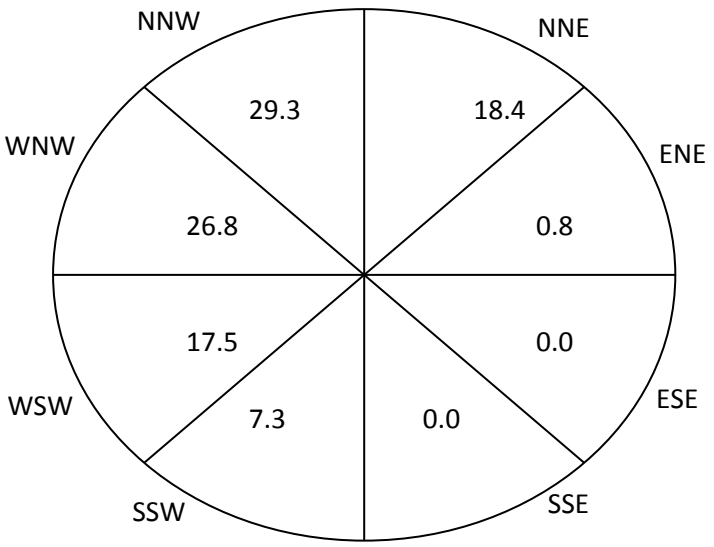
Origin TAZ			Cardinal Directions								Total
County TAZ	Regional TAZ		NNE	ENE	ESE	SSE	SSW	WSW	WNW	NNW	
1128	4028	PERCENT	27.9	10.0	1.1	0.5	6.4	21.0	13.0	20.1	
1129	4029	TRIPS	760	141	73	12	145	588	359	578	2,656
1129	4029	PERCENT	28.6	5.3	2.8	0.5	5.5	22.1	13.5	21.8	
1130	4030	TRIPS	307	40	0	15	74	181	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	

Miami-Dade 2010-2040 Directional Distribution Summary

	2010	2040	2035
NNE	21.4	17.8	18.4
ENE	0.0	0.9	0.8
ESE	0.0	0.0	0.0
SSE	0.0	0.0	0.0
SSW	5.9	7.6	7.3
WSW	24.9	16.0	17.5
WNW	16.7	28.8	26.8
NNW	31.1	28.9	29.3

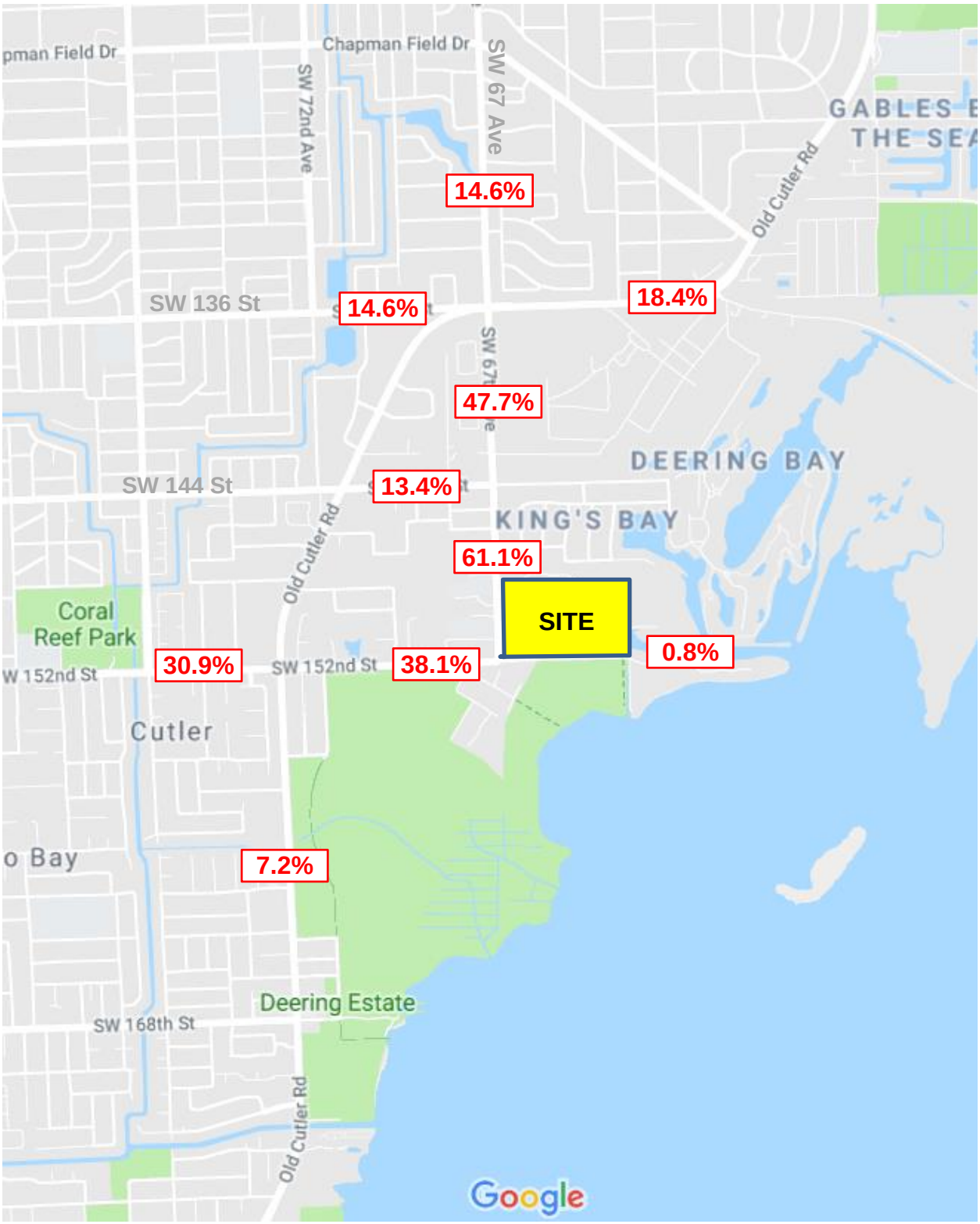
Analysis Year

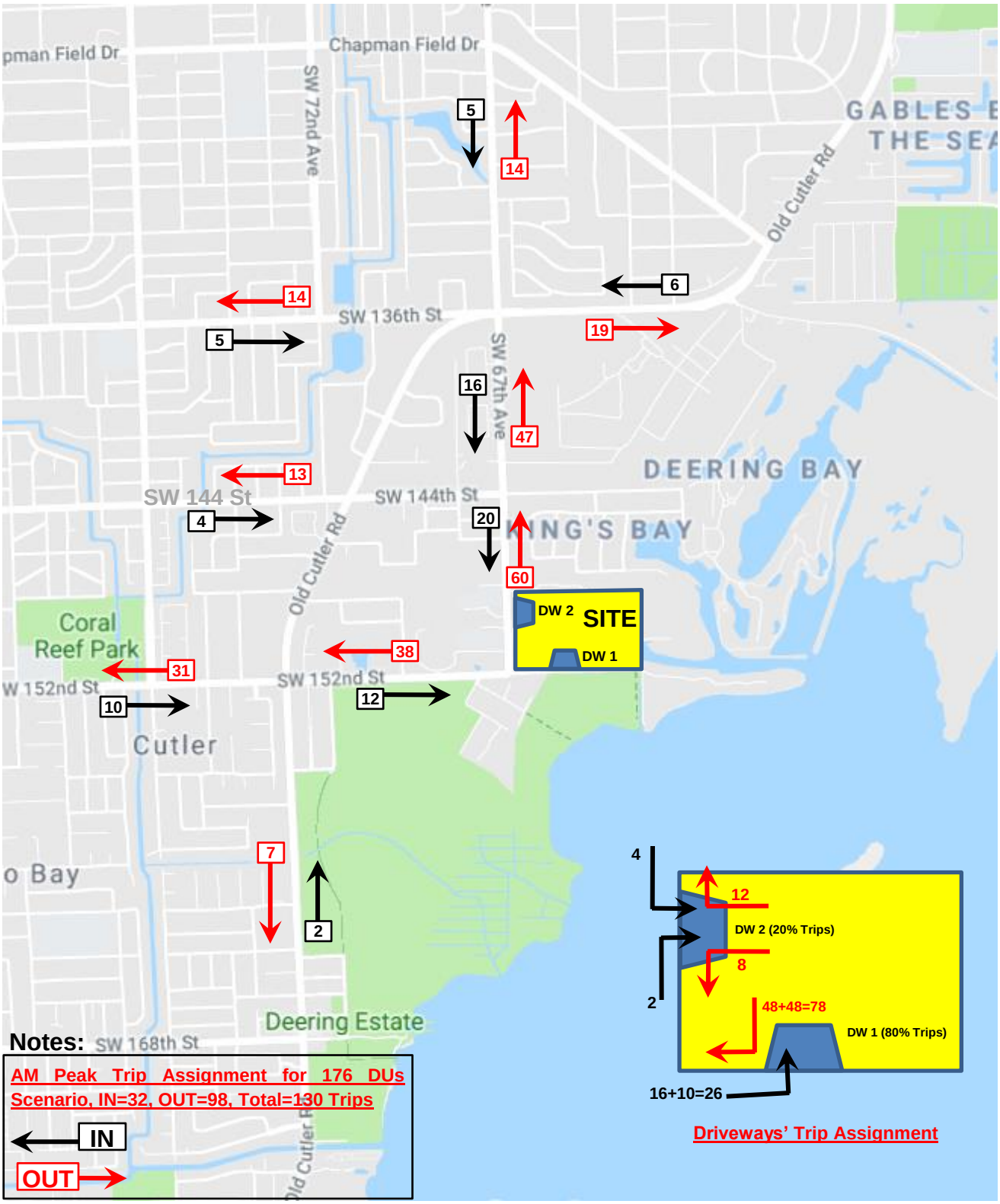
Study Area TAZ(s)=1137

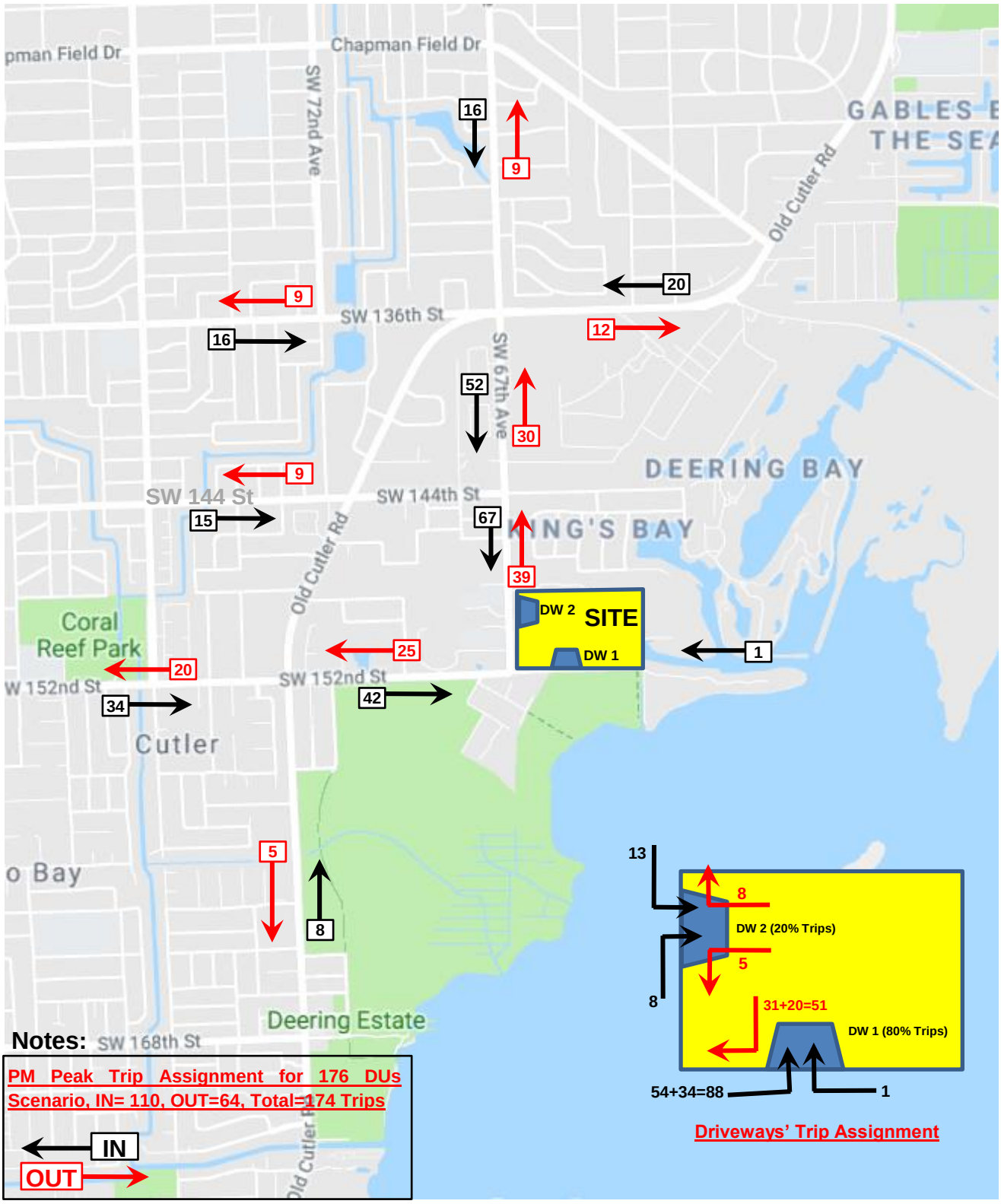


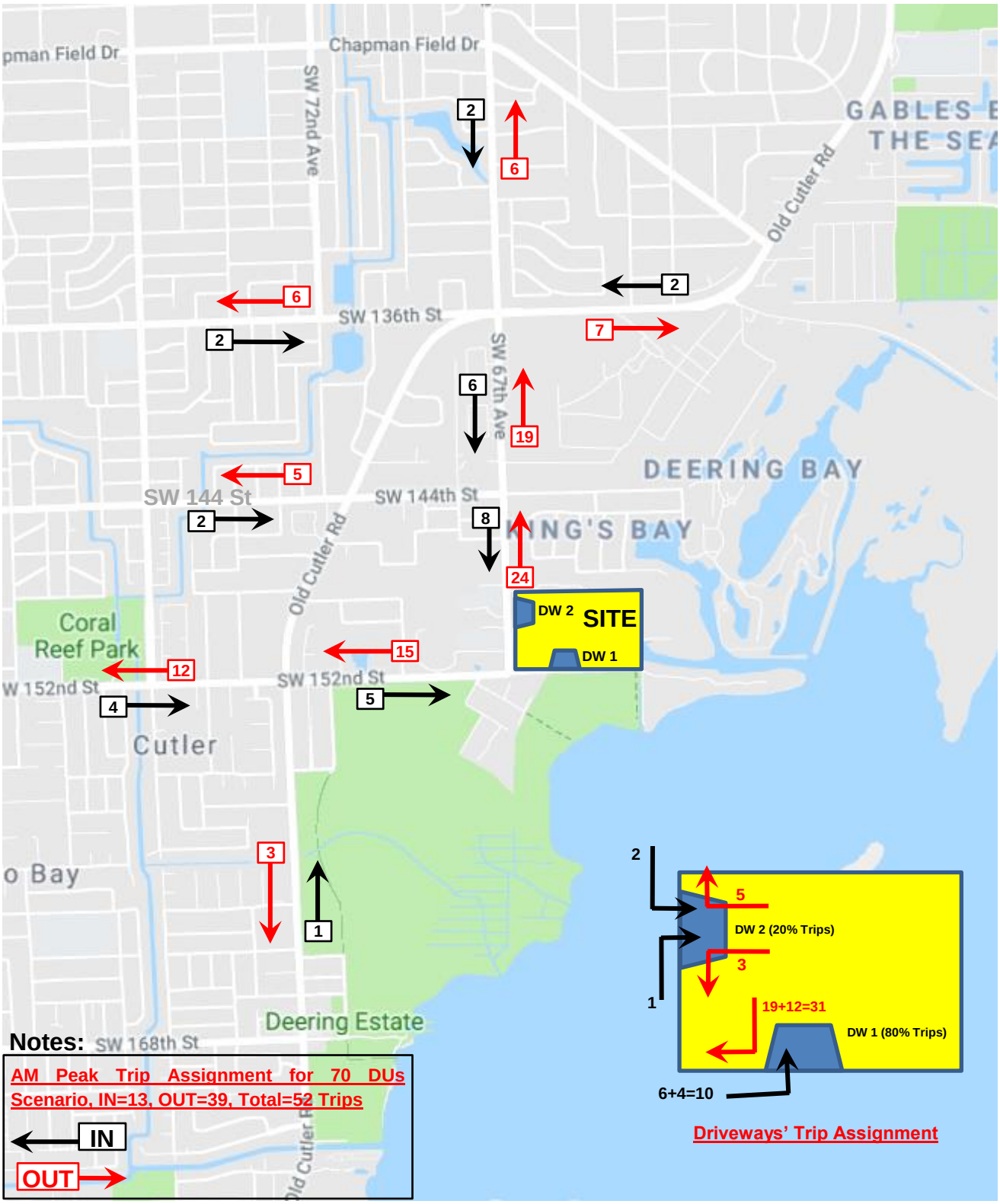
2010 TAZ Boundaries

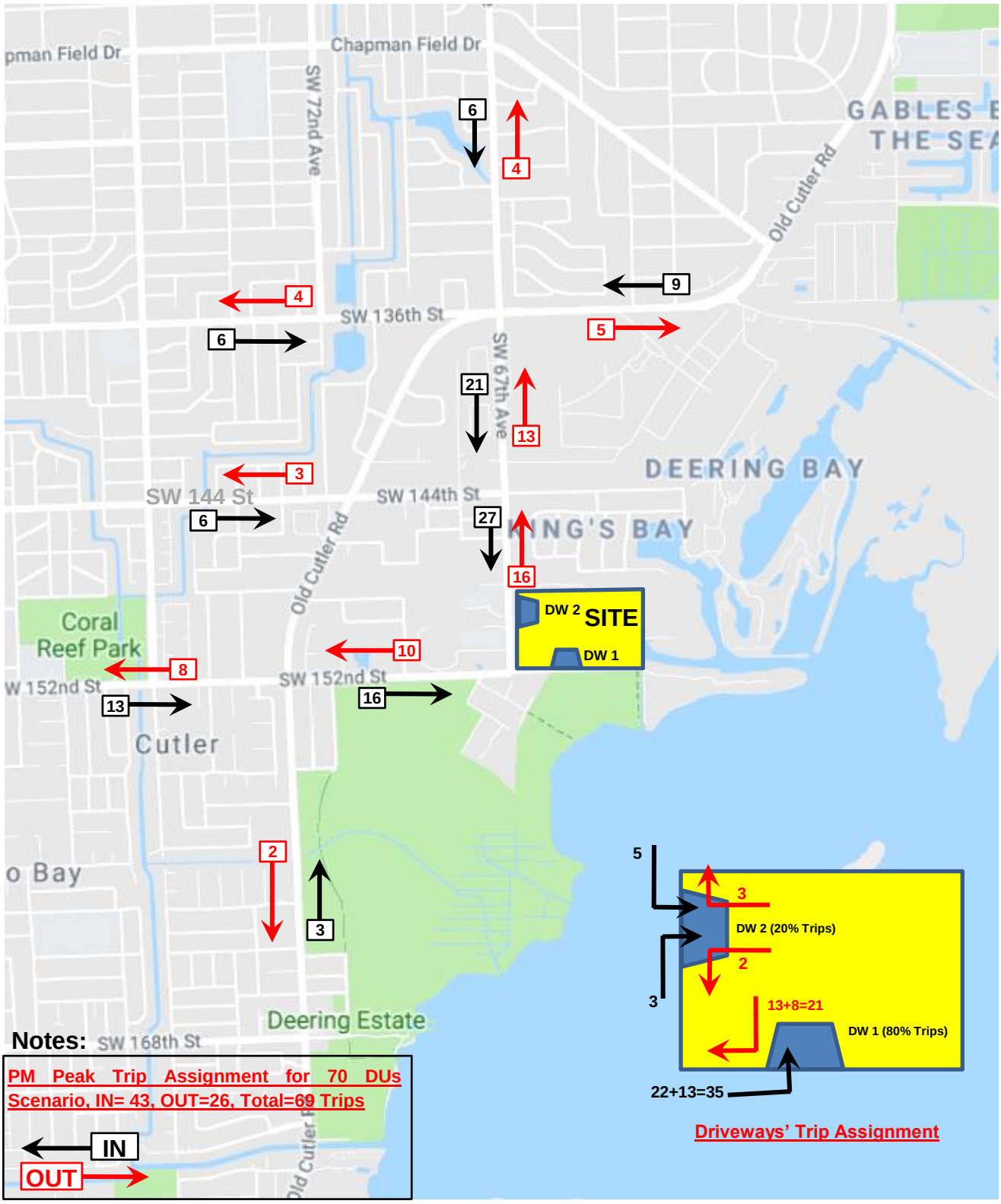
Miami-Dade Long Range Transportation Plan Update to the Year 2040


pman Field Dr
Chapman Field Dr
SW 72nd Ave
SW 67 Ave
GABLES E
THE SEA
Old Cutler Rd
14.6%
SW 136 St
14.6%
18.4%
47.7%
DEERING BAY
SW 144 St
13.4%
KING'S BAY
Old Cutler Rd
61.1%
SITE
Coral
Reef Park
0.8%
30.9%
W 152nd St
SW 152nd St
38.1%
Cutler
o Bay
7.2%
Deering Estate
SW 168th St
Old Cutler Rd
Google


Chapman Field Dr
SW 72nd Ave
SW 136th St
SW 67th Ave
Old Cutler Rd
DEERING BAY
SW 144 St
SW 144th St
Coral Reef Park
SW 152nd St
Cutler
Deering Estate
SITE
DW 2
DW 1
5
14
6
19
16
47
13
4
20
60
38
31
10
12
7
2
DW 2 (20% Trips)
DW 1 (80% Trips)
48+48=78
16+10=26
Driveways' Trip Assignment
Notes:
AM Peak Trip Assignment for 176 DUs Scenario, IN=32, OUT=98, Total=130 Trips
IN
OUT


Chapman Field Dr
SW 72nd Ave
16
9
GABLES E
THE SEA
Old Cutler Rd
20
9
SW 136th St
12
16
SW 67th Ave
52
30
DEERING BAY
9
SW 144 St
SW 144th St
15
67
KING'S BAY
Old Cutler Rd
39
DW 2
SITE
DW 1
Coral
Reef Park
25
1
20
W 152nd St
SW 152nd St
34
42
Cutler
5
o Bay
8
13
8
DW 2 (20% Trips)
5
8
31+20=51
DW 1 (80% Trips)
Deering Estate
SW 168th St
54+34=88
1
Driveways' Trip Assignment
Notes:
PM Peak Trip Assignment for 176 DUs Scenario, IN= 110, OUT=64, Total=174 Trips
IN
OUT


Chapman Field Dr
SW 72nd Ave
SW 136th St
SW 67th Ave
Old Cutler Rd
DEERING BAY
SW 144 St
SW 144th St
Coral Reef Park
SW 152nd St
Cutler
Deering Estate
SITE
DW 2
DW 1
2
6
6
2
2
7
6
19
5
2
8
24
15
12
4
5
3
1
DW 2 (20% Trips)
DW 1 (80% Trips)
19+12=31
6+4=10
Driveways' Trip Assignment
Notes:
AM Peak Trip Assignment for 70 DUs Scenario, IN=13, OUT=39, Total=52 Trips
IN
OUT


Chapman Field Dr
SW 72nd Ave
SW 136th St
SW 67th Ave
Old Cutler Rd
DEERING BAY
SW 144 St
SW 144th St
Old Cutler Rd
Coral Reef Park
SW 152nd St
Cutler
Deering Estate
SITE
DW 2
DW 1
6
4
4
6
9
5
21
13
3
6
27
16
10
8
13
16
2
3
5
3
DW 2 (20% Trips)
2
3
13+8=21
DW 1 (80% Trips)
22+13=35
Driveways' Trip Assignment
Notes:
PM Peak Trip Assignment for 70 DUs Scenario, IN= 43, OUT=26, Total=69 Trips
IN
OUT

Appendix K

Synchro printouts- Future 2035
AM Peak Hour

Old Cutler Rd and Ludlam Rd
Future Background Traffic - AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	394	874	71	183	318	8	29	262	189	1	196	224
Future Volume (vph)	394	874	71	183	318	8	29	262	189	1	196	224
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	100		0	150		120	0		50
Storage Lanes	1		0	1		0	1		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00				0.97			0.96
Frt		0.985			0.995				0.850			0.850
Flt Protected	0.950			0.950			0.950				0.999	
Satd. Flow (prot)	1752	1831	0	1787	1853	0	1736	1900	1599	0	1844	1599
Flt Permitted	0.950			0.118			0.207				0.834	
Satd. Flow (perm)	1752	1831	0	222	1853	0	378	1900	1558	0	1539	1534
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			2				101			61
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		593			1029			1158			1145	
Travel Time (s)		13.5			23.4			26.3			26.0	
Confl. Peds. (#/hr)									1			3
Confl. Bikes (#/hr)			1			2						2
Peak Hour Factor	0.88	0.85	0.61	0.61	0.92	0.75	0.64	0.77	0.83	0.25	0.64	0.92
Heavy Vehicles (%)	3%	2%	2%	1%	2%	0%	4%	0%	1%	0%	3%	1%
Adj. Flow (vph)	448	1028	116	300	346	11	45	340	228	4	306	243
Shared Lane Traffic (%)												
Lane Group Flow (vph)	448	1144	0	300	357	0	45	340	228	0	310	243
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6			2			4			8	
Permitted Phases				2			4		4	8		8
Detector Phase	1	6		2	2		4	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	5.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	15.0	133.0		118.0	118.0		47.0	47.0	47.0	47.0	47.0	47.0
Total Split (s)	15.0	133.0		118.0	118.0		47.0	47.0	47.0	47.0	47.0	47.0
Total Split (%)	8.3%	73.9%		65.6%	65.6%		26.1%	26.1%	26.1%	26.1%	26.1%	26.1%
Maximum Green (s)	8.6	126.6		111.6	111.6		41.0	41.0	41.0	41.0	41.0	41.0
Yellow Time (s)	4.4	4.4		4.4	4.4		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.4	6.4		6.4	6.4		6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	1.0		1.0	1.0		4.0	4.0	4.0	4.0	4.0	4.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		7.0		7.0	7.0		8.0	8.0	8.0	8.0	8.0	8.0
Pedestrian Calls (#/hr)		0		0	0		0	0	0	0	0	0
Act Effct Green (s)	12.4	130.4		111.6	111.6		37.2	37.2	37.2		37.2	37.2
Actuated g/C Ratio	0.07	0.72		0.62	0.62		0.21	0.21	0.21		0.21	0.21
v/c Ratio	3.73	0.86		2.19	0.31		0.58	0.87	0.57		0.97	0.67
Control Delay	1267.9	27.5		580.5	16.9		92.7	90.4	40.0		114.3	57.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	1267.9	27.5		580.5	16.9		92.7	90.4	40.0		114.3	57.5
LOS	F	C		F	B		F	F	D		F	E
Approach Delay		376.5			274.3			71.9			89.3	
Approach LOS		F			F			E			F	

Intersection Summary	
Area Type:	Other
Cycle Length: 180	
Actuated Cycle Length: 180	
Offset: 160 (89%), Referenced to phase 2:WBTL and 6:EBT, Start of Green	
Natural Cycle: 180	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 3.73	
Intersection Signal Delay: 255.7	Intersection LOS: F
Intersection Capacity Utilization 100.2%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 3: SW 67th Ave & Old Cutler Rd

Old Cutler Rd and SW 152nd St
Future Background Traffic - AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	173	97	126	132	17	114	789	237	147	503	42
Future Volume (vph)	107	173	97	126	132	17	114	789	237	147	503	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	100		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00			0.99			1.00	
Frt		0.951			0.982			0.962			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	1751	0	1770	1748	0	1787	1777	0	1787	1818	0
Flt Permitted	0.204			0.157			0.327			0.032		
Satd. Flow (perm)	362	1751	0	292	1748	0	615	1777	0	60	1818	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			3			17			5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		689			654			535			477	
Travel Time (s)		15.7			14.9			12.2			10.8	
Confl. Peds. (#/hr)			1						2			2
Confl. Bikes (#/hr)						5			1			
Peak Hour Factor	0.75	0.72	0.83	0.71	0.70	0.65	0.86	0.87	0.77	0.55	0.91	0.75
Heavy Vehicles (%)	7%	0%	7%	2%	4%	23%	1%	2%	2%	1%	3%	0%
Adj. Flow (vph)	143	240	117	177	189	26	133	907	308	267	553	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	143	357	0	177	215	0	133	1215	0	267	609	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	7.0		5.0	7.0	
Minimum Split (s)	11.0	25.0		11.0	25.0		11.4	22.0		11.4	22.0	
Total Split (s)	26.0	29.0		26.0	29.0		12.0	133.0		12.0	133.0	
Total Split (%)	13.0%	14.5%		13.0%	14.5%		6.0%	66.5%		6.0%	66.5%	
Maximum Green (s)	20.0	23.0		20.0	23.0		5.6	126.6		5.6	126.6	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	3.0		2.5	3.0		2.5	1.0		2.5	1.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		8.0			8.0			8.0			8.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	41.5	23.9		44.5	25.5		132.2	126.6		132.2	126.6	
Actuated g/C Ratio	0.21	0.12		0.22	0.13		0.66	0.63		0.66	0.63	
v/c Ratio	0.75	1.64		0.86	0.96		0.30	1.07		3.03	0.53	
Control Delay	86.7	352.9		98.5	131.4		12.5	83.8		962.7	22.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	86.7	352.9		98.5	131.4		12.5	83.8		962.7	22.1	
LOS	F	F		F	F		B	F		F	C	
Approach Delay		276.8			116.5			76.8			308.8	
Approach LOS		F			F			E			F	

Intersection Summary	
Area Type:	Other
Cycle Length: 200	
Actuated Cycle Length: 200	
Offset: 28 (14%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 3.03	
Intersection Signal Delay: 179.1	Intersection LOS: F
Intersection Capacity Utilization 106.8%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 17: Old Cutler Rd & SW 152nd St

Old Cutler Rd and SW 168th St
Future Background Traffic - AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	32	110	22	27	47	105	950	14	30	560	75
Future Volume (vph)	65	32	110	22	27	47	105	950	14	30	560	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	85		0	100		0	60		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.98			1.00			1.00	
Frt		0.886			0.906			0.996			0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1654	0	1805	1649	0	1805	1855	0	1805	1820	0
Flt Permitted	0.586			0.230			0.301			0.176		
Satd. Flow (perm)	1092	1654	0	437	1649	0	572	1855	0	334	1820	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		75			40			2			9	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		691			684			789			701	
Travel Time (s)		15.7			15.5			13.4			11.9	
Confl. Peds. (#/hr)						3						4
Confl. Bikes (#/hr)			1			2			1			
Peak Hour Factor	0.85	0.69	0.75	0.53	0.75	0.77	0.63	0.92	0.55	0.67	0.85	0.87
Heavy Vehicles (%)	2%	0%	0%	0%	5%	0%	0%	2%	0%	0%	2%	3%
Adj. Flow (vph)	76	46	147	42	36	61	167	1033	25	45	659	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	193	0	42	97	0	167	1058	0	45	745	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		5.0	7.0		5.0	7.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		11.4	25.4		11.4	24.4	
Total Split (s)	31.0	31.0		31.0	31.0		16.4	131.4		16.4	131.4	
Total Split (%)	17.3%	17.3%		17.3%	17.3%		9.2%	73.5%		9.2%	73.5%	
Maximum Green (s)	25.0	25.0		25.0	25.0		10.0	125.0		10.0	125.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	1.0		2.0	1.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			5.0			5.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0			12.0			12.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	17.4	17.4		17.4	17.4		136.3	129.8		130.6	125.2	
Actuated g/C Ratio	0.10	0.10		0.10	0.10		0.81	0.77		0.77	0.74	
v/c Ratio	0.68	0.81		0.93	0.47		0.32	0.74		0.15	0.55	
Control Delay	101.6	70.5		192.3	49.3		5.1	16.5		4.7	12.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	101.6	70.5		192.3	49.3		5.1	16.5		4.7	12.3	
LOS	F	E		F	D		A	B		A	B	
Approach Delay		79.3			92.5			15.0			11.8	
Approach LOS		E			F			B			B	

Intersection Summary	
Area Type:	Other
Cycle Length: 178.8	
Actuated Cycle Length: 169.1	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 25.5	Intersection LOS: C
Intersection Capacity Utilization 89.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 22: Old Cutler Rd & SW 168th St

SW 144th St and Ludlam Rd
Future Background Traffic - AM Peak Hour

Intersection	
Int Delay, s/veh	61.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	14	184	13	22	47	90	416	8	24	407	19
Future Vol, veh/h	39	14	184	13	22	47	90	416	8	24	407	19
Conflicting Peds, #/hr	0	0	0	0	0	2	0	0	2	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	46	70	62	53	93	49	69	75	47	71	75
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	1	0
Mvmt Flow	50	30	263	21	42	51	184	603	11	51	573	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1713	1672	586	1813	1679	613	598	0	0	616	0	0
Stage 1	688	688	-	979	979	-	-	-	-	-	-	-
Stage 2	1025	984	-	834	700	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	72	97	514	61	96	496	989	-	-	974	-	-
Stage 1	440	450	-	304	331	-	-	-	-	-	-	-
Stage 2	286	329	-	365	444	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 30	75	514	~ 17	74	494	989	-	-	972	-	-
Mov Cap-2 Maneuver	~ 30	75	-	~ 17	74	-	-	-	-	-	-	-
Stage 1	358	427	-	247	269	-	-	-	-	-	-	-
Stage 2	176	267	-	157	421	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	147.1	$ 564.4	2.2	0.7
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	989	-	-	30	320	60	972	-	-
HCM Lane V/C Ratio	0.186	-	-	1.667	0.917	1.884	0.053	-	-
HCM Control Delay (s)	9.5	-	-	$ 610.4	68.1	$ 564.4	8.9	-	-
HCM Lane LOS	A	-	-	F	F	F	A	-	-
HCM 95th %tile Q(veh)	0.7	-	-	5.8	9	10.6	0.2	-	-

Notes

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

Intersection	
Intersection Delay, s/veh	74.3
Intersection LOS	F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	503	11	48	42	10	208
Future Vol, veh/h	503	11	48	42	10	208
Peak Hour Factor	0.67	0.56	0.59	0.82	0.50	0.64
Heavy Vehicles, %	1	0	55	3	13	0
Mvmt Flow	751	20	81	51	20	325
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	111	12.1	16.2
HCM LOS	F	B	C

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	98%	0%	5%
Vol Thru, %	2%	53%	0%
Vol Right, %	0%	47%	95%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	514	90	218
LT Vol	503	0	10
Through Vol	11	48	0
RT Vol	0	42	208
Lane Flow Rate	770	133	345
Geometry Grp	1	1	1
Degree of Util (X)	1.166	0.244	0.547
Departure Headway (Hd)	5.448	6.892	6.11
Convergence, Y/N	Yes	Yes	Yes
Cap	670	524	593
Service Time	3.454	4.892	4.11
HCM Lane V/C Ratio	1.149	0.254	0.582
HCM Control Delay	111	12.1	16.2
HCM Lane LOS	F	B	C
HCM 95th-tile Q	25.2	0.9	3.3

Old Cutler Rd and Ludlam Rd
Future Background Traffic + Scenario 1 Trips - AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	394	887	76	189	322	8	43	276	208	1	201	224
Future Volume (vph)	394	887	76	189	322	8	43	276	208	1	201	224
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	100		0	150		120	0		50
Storage Lanes	1		0	1		0	1		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00				0.97			0.96
Frt		0.984			0.995				0.850			0.850
Flt Protected	0.950			0.950			0.950				0.999	
Satd. Flow (prot)	1752	1829	0	1787	1853	0	1736	1900	1599	0	1843	1599
Flt Permitted	0.950			0.094			0.210				0.819	
Satd. Flow (perm)	1752	1829	0	177	1853	0	384	1900	1558	0	1511	1534
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			2				105			59
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		593			1029			1158			1145	
Travel Time (s)		13.5			23.4			26.3			26.0	
Confl. Peds. (#/hr)									1			3
Confl. Bikes (#/hr)			1			2						2
Peak Hour Factor	0.88	0.85	0.61	0.61	0.92	0.75	0.64	0.77	0.83	0.25	0.64	0.92
Heavy Vehicles (%)	3%	2%	2%	1%	2%	0%	4%	0%	1%	0%	3%	1%
Adj. Flow (vph)	448	1044	125	310	350	11	67	358	251	4	314	243
Shared Lane Traffic (%)												
Lane Group Flow (vph)	448	1169	0	310	361	0	67	358	251	0	318	243
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6			2			4			8	
Permitted Phases				2			4		4	8		8
Detector Phase	1	6		2	2		4	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	5.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	15.0	133.0		118.0	118.0		47.0	47.0	47.0	47.0	47.0	47.0
Total Split (s)	15.0	133.0		118.0	118.0		47.0	47.0	47.0	47.0	47.0	47.0
Total Split (%)	8.3%	73.9%		65.6%	65.6%		26.1%	26.1%	26.1%	26.1%	26.1%	26.1%
Maximum Green (s)	8.6	126.6		111.6	111.6		41.0	41.0	41.0	41.0	41.0	41.0
Yellow Time (s)	4.4	4.4		4.4	4.4		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.4	6.4		6.4	6.4		6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	1.0		1.0	1.0		4.0	4.0	4.0	4.0	4.0	4.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		7.0		7.0	7.0		8.0	8.0	8.0	8.0	8.0	8.0
Pedestrian Calls (#/hr)		0		0	0		0	0	0	0	0	0
Act Effct Green (s)	11.0	129.0		111.6	111.6		38.6	38.6	38.6		38.6	38.6
Actuated g/C Ratio	0.06	0.72		0.62	0.62		0.21	0.21	0.21		0.21	0.21
v/c Ratio	4.19	0.89		2.84	0.31		0.82	0.88	0.60		0.98	0.65
Control Delay	1475.1	30.8		872.4	16.9		124.7	90.8	42.4		114.5	56.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	1475.1	30.8		872.4	16.9		124.7	90.8	42.4		114.5	56.6
LOS	F	C		F	B		F	F	D		F	E
Approach Delay		430.9			412.2			76.2			89.4	
Approach LOS		F			F			E			F	

Intersection Summary	
Area Type:	Other
Cycle Length: 180	
Actuated Cycle Length: 180	
Offset: 160 (89%), Referenced to phase 2:WBTL and 6:EBT, Start of Green	
Natural Cycle: 180	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 4.19	
Intersection Signal Delay: 305.0	Intersection LOS: F
Intersection Capacity Utilization 107.8%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 3: SW 67th Ave & Old Cutler Rd

Old Cutler Rd and SW 152nd St
Future Background Traffic + Scenario 1 Trips - AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	183	99	133	163	17	120	802	239	147	507	42
Future Volume (vph)	107	183	99	133	163	17	120	802	239	147	507	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	100		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00			0.99			1.00	
Frt		0.952			0.985			0.962			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	1754	0	1770	1761	0	1787	1777	0	1787	1818	0
Flt Permitted	0.170			0.157			0.325			0.032		
Satd. Flow (perm)	302	1754	0	292	1761	0	611	1777	0	60	1818	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			2			16			5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		689			654			535			477	
Travel Time (s)		15.7			14.9			12.2			10.8	
Confl. Peds. (#/hr)			1						2			2
Confl. Bikes (#/hr)						5			1			
Peak Hour Factor	0.75	0.72	0.83	0.71	0.70	0.65	0.86	0.87	0.77	0.55	0.91	0.75
Heavy Vehicles (%)	7%	0%	7%	2%	4%	23%	1%	2%	2%	1%	3%	0%
Adj. Flow (vph)	143	254	119	187	233	26	140	922	310	267	557	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	143	373	0	187	259	0	140	1232	0	267	613	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	7.0		5.0	7.0	
Minimum Split (s)	11.0	25.0		11.0	25.0		11.4	22.0		11.4	22.0	
Total Split (s)	26.0	29.0		26.0	29.0		12.0	133.0		12.0	133.0	
Total Split (%)	13.0%	14.5%		13.0%	14.5%		6.0%	66.5%		6.0%	66.5%	
Maximum Green (s)	20.0	23.0		20.0	23.0		5.6	126.6		5.6	126.6	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	3.0		2.5	3.0		2.5	1.0		2.5	1.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		8.0			8.0			8.0			8.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	41.1	23.5		44.9	25.5		132.2	126.6		132.2	126.6	
Actuated g/C Ratio	0.21	0.12		0.22	0.13		0.66	0.63		0.66	0.63	
v/c Ratio	0.78	1.73		0.89	1.15		0.32	1.09		3.03	0.53	
Control Delay	90.7	392.7		103.6	175.2		12.8	89.4		962.7	22.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	90.7	392.7		103.6	175.2		12.8	89.4		962.7	22.2	
LOS	F	F		F	F		B	F		F	C	
Approach Delay		309.0			145.2			81.6			307.6	
Approach LOS		F			F			F			F	

Intersection Summary	
Area Type:	Other
Cycle Length: 200	
Actuated Cycle Length: 200	
Offset: 28 (14%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 3.03	
Intersection Signal Delay: 188.8	Intersection LOS: F
Intersection Capacity Utilization 108.7%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 17: Old Cutler Rd & SW 152nd St

Old Cutler Rd and SW 168th St
Future Background Traffic + Scenario 1 Trips - AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	32	112	22	27	47	110	971	14	30	573	75
Future Volume (vph)	65	32	112	22	27	47	110	971	14	30	573	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	85		0	100		0	60		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.98			1.00			1.00	
Frt		0.885			0.906			0.997			0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1652	0	1805	1649	0	1805	1857	0	1805	1821	0
Flt Permitted	0.587			0.227			0.292			0.166		
Satd. Flow (perm)	1093	1652	0	431	1649	0	555	1857	0	315	1821	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		76			40			2			9	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		691			684			789			701	
Travel Time (s)		15.7			15.5			13.4			11.9	
Confl. Peds. (#/hr)						3						4
Confl. Bikes (#/hr)			1			2			1			
Peak Hour Factor	0.85	0.69	0.75	0.53	0.75	0.77	0.63	0.92	0.55	0.67	0.85	0.87
Heavy Vehicles (%)	2%	0%	0%	0%	5%	0%	0%	2%	0%	0%	2%	3%
Adj. Flow (vph)	76	46	149	42	36	61	175	1055	25	45	674	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	195	0	42	97	0	175	1080	0	45	760	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		5.0	7.0		5.0	7.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		11.4	25.4		11.4	24.4	
Total Split (s)	31.0	31.0		31.0	31.0		16.4	131.4		16.4	131.4	
Total Split (%)	17.3%	17.3%		17.3%	17.3%		9.2%	73.5%		9.2%	73.5%	
Maximum Green (s)	25.0	25.0		25.0	25.0		10.0	125.0		10.0	125.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	1.0		2.0	1.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			5.0			5.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0			12.0			12.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	17.6	17.6		17.6	17.6		136.5	130.0		130.7	125.2	
Actuated g/C Ratio	0.10	0.10		0.10	0.10		0.81	0.77		0.77	0.74	
v/c Ratio	0.67	0.82		0.95	0.47		0.35	0.76		0.16	0.56	
Control Delay	101.1	70.5		195.2	49.2		5.3	17.3		4.8	12.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	101.1	70.5		195.2	49.2		5.3	17.3		4.8	12.6	
LOS	F	E		F	D		A	B		A	B	
Approach Delay		79.1			93.3			15.6			12.2	
Approach LOS		E			F			B			B	

Intersection Summary	
Area Type:	Other
Cycle Length: 178.8	
Actuated Cycle Length: 169.4	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 25.8	Intersection LOS: C
Intersection Capacity Utilization 90.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 22: Old Cutler Rd & SW 168th St

SW 144th St and Ludlam Rd
Future Background Traffic + Scenario 1 Trips - AM Peak Hour

Intersection	
Int Delay, s/veh	106.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	14	188	13	22	47	104	463	8	24	423	19
Future Vol, veh/h	39	14	188	13	22	47	104	463	8	24	423	19
Conflicting Peds, #/hr	0	0	0	0	0	2	0	0	2	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	46	70	62	53	93	49	69	75	47	71	75
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	1	0
Mvmt Flow	50	30	269	21	42	51	212	671	11	51	596	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1860	1819	609	1963	1826	681	621	0	0	684	0	0
Stage 1	711	711	-	1103	1103	-	-	-	-	-	-	-
Stage 2	1149	1108	-	860	723	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	57	79	499	48	78	454	969	-	-	919	-	-
Stage 1	427	439	-	259	290	-	-	-	-	-	-	-
Stage 2	244	288	-	353	434	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 17	58	499	~ 11	57	452	969	-	-	917	-	-
Mov Cap-2 Maneuver	~ 17	58	-	~ 11	57	-	-	-	-	-	-	-
Stage 1	333	414	-	202	226	-	-	-	-	-	-	-
Stage 2	138	224	-	143	410	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	287.8	$ 1002.9	2.3	0.7
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	969	-	-	17	281	41	917	-	-
HCM Lane V/C Ratio	0.219	-	-	2.941	1.064	2.756	0.056	-	-
HCM Control Delay (s)	9.8	-	$	1339.9	111.9	$ 1002.9	9.2	-	-
HCM Lane LOS	A	-	-	F	F	F	A	-	-
HCM 95th %tile Q(veh)	0.8	-	-	6.9	11.8	12.4	0.2	-	-

Notes

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

Intersection	
Intersection Delay, s/veh	100.2
Intersection LOS	F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	507	21	78	90	26	216
Future Vol, veh/h	507	21	78	90	26	216
Peak Hour Factor	0.67	0.56	0.59	0.82	0.50	0.64
Heavy Vehicles, %	1	0	55	3	13	0
Mvmt Flow	757	38	132	110	52	338
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	164.6	16.2	20.9
HCM LOS	F	C	C

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	96%	0%	11%
Vol Thru, %	4%	46%	0%
Vol Right, %	0%	54%	89%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	528	168	242
LT Vol	507	0	26
Through Vol	21	78	0
RT Vol	0	90	216
Lane Flow Rate	794	242	390
Geometry Grp	1	1	1
Degree of Util (X)	1.297	0.457	0.646
Departure Headway (Hd)	5.881	7.242	6.619
Convergence, Y/N	Yes	Yes	Yes
Cap	619	501	549
Service Time	3.893	5.242	4.619
HCM Lane V/C Ratio	1.283	0.483	0.71
HCM Control Delay	164.6	16.2	20.9
HCM Lane LOS	F	C	C
HCM 95th-tile Q	32	2.4	4.6

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	12	595	2	4	234
Future Vol, veh/h	8	12	595	2	4	234
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	9	13	647	2	4	254

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	910	648	0	0	649	0
Stage 1	648	-	-	-	-	-
Stage 2	262	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	305	470	-	-	937	-
Stage 1	521	-	-	-	-	-
Stage 2	782	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	303	470	-	-	937	-
Mov Cap-2 Maneuver	303	-	-	-	-	-
Stage 1	518	-	-	-	-	-
Stage 2	782	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.9	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	385	937	-
HCM Lane V/C Ratio	-	-	0.056	0.005	-
HCM Control Delay (s)	-	-	14.9	8.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	21	90	0	0	78
Future Vol, veh/h	26	21	90	0	0	78
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	0	2	2
Mvmt Flow	28	23	98	0	0	85

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	98	0	-	0	177	98
Stage 1	-	-	-	-	98	-
Stage 2	-	-	-	-	79	-
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	1495	-	-	-	813	958
Stage 1	-	-	-	-	926	-
Stage 2	-	-	-	-	944	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1495	-	-	-	798	958
Mov Cap-2 Maneuver	-	-	-	-	798	-
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	944	-

Approach	EB	WB	SB
HCM Control Delay, s	4.1	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1495	-	-	-	958
HCM Lane V/C Ratio	0.019	-	-	-	0.088
HCM Control Delay (s)	7.5	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Old Cutler Rd and Ludlam Rd
Future Background Traffic + Scenario 2 Trips - AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	394	887	73	185	322	8	35	268	196	1	198	224
Future Volume (vph)	394	887	73	185	322	8	35	268	196	1	198	224
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	100		0	150		120	0		50
Storage Lanes	1		0	1		0	1		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00				0.97			0.96
Frt		0.985			0.995				0.850			0.850
Flt Protected	0.950			0.950			0.950				0.999	
Satd. Flow (prot)	1752	1831	0	1787	1853	0	1736	1900	1599	0	1844	1599
Flt Permitted	0.950			0.100			0.213				0.836	
Satd. Flow (perm)	1752	1831	0	188	1853	0	389	1900	1558	0	1543	1534
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			2				102			60
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		593			1029			1158			1145	
Travel Time (s)		13.5			23.4			26.3			26.0	
Confl. Peds. (#/hr)									1			3
Confl. Bikes (#/hr)			1			2						2
Peak Hour Factor	0.88	0.85	0.61	0.61	0.92	0.75	0.64	0.77	0.83	0.25	0.64	0.92
Heavy Vehicles (%)	3%	2%	2%	1%	2%	0%	4%	0%	1%	0%	3%	1%
Adj. Flow (vph)	448	1044	120	303	350	11	55	348	236	4	309	243
Shared Lane Traffic (%)												
Lane Group Flow (vph)	448	1164	0	303	361	0	55	348	236	0	313	243
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6			2			4			8	
Permitted Phases				2			4		4	8		8
Detector Phase	1	6		2	2		4	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	5.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	15.0	133.0		118.0	118.0		47.0	47.0	47.0	47.0	47.0	47.0
Total Split (s)	15.0	133.0		118.0	118.0		47.0	47.0	47.0	47.0	47.0	47.0
Total Split (%)	8.3%	73.9%		65.6%	65.6%		26.1%	26.1%	26.1%	26.1%	26.1%	26.1%
Maximum Green (s)	8.6	126.6		111.6	111.6		41.0	41.0	41.0	41.0	41.0	41.0
Yellow Time (s)	4.4	4.4		4.4	4.4		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.4	6.4		6.4	6.4		6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	1.0		1.0	1.0		4.0	4.0	4.0	4.0	4.0	4.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		7.0		7.0	7.0		8.0	8.0	8.0	8.0	8.0	8.0
Pedestrian Calls (#/hr)		0		0	0		0	0	0	0	0	0
Act Effct Green (s)	11.5	129.5		111.6	111.6		38.1	38.1	38.1		38.1	38.1
Actuated g/C Ratio	0.06	0.72		0.62	0.62		0.21	0.21	0.21		0.21	0.21
v/c Ratio	4.04	0.88		2.61	0.31		0.67	0.87	0.58		0.96	0.65
Control Delay	1397.2	29.7		768.9	16.9		102.1	89.6	40.7		109.6	56.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	1397.2	29.7		768.9	16.9		102.1	89.6	40.7		109.6	56.8
LOS	F	C		F	B		F	F	D		F	E
Approach Delay		409.8			360.1			72.7			86.5	
Approach LOS		F			F			E			F	

Intersection Summary	
Area Type:	Other
Cycle Length: 180	
Actuated Cycle Length: 180	
Offset: 160 (89%), Referenced to phase 2:WBTL and 6:EBT, Start of Green	
Natural Cycle: 180	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 4.04	
Intersection Signal Delay: 286.4	Intersection LOS: F
Intersection Capacity Utilization 106.1%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 3: SW 67th Ave & Old Cutler Rd

Old Cutler Rd and SW 152nd St
Future Background Traffic + Scenario 2 Trips - AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	177	99	129	144	17	120	802	238	147	507	42
Future Volume (vph)	107	177	99	129	144	17	120	802	238	147	507	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	100		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00			0.99			1.00	
Frt		0.951			0.983			0.962			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	1751	0	1770	1753	0	1787	1777	0	1787	1818	0
Flt Permitted	0.169			0.157			0.325			0.032		
Satd. Flow (perm)	300	1751	0	292	1753	0	611	1777	0	60	1818	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			3			16			5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		689			654			535			477	
Travel Time (s)		15.7			14.9			12.2			10.8	
Confl. Peds. (#/hr)			1						2			2
Confl. Bikes (#/hr)						5			1			
Peak Hour Factor	0.75	0.72	0.83	0.71	0.70	0.65	0.86	0.87	0.77	0.55	0.91	0.75
Heavy Vehicles (%)	7%	0%	7%	2%	4%	23%	1%	2%	2%	1%	3%	0%
Adj. Flow (vph)	143	246	119	182	206	26	140	922	309	267	557	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	143	365	0	182	232	0	140	1231	0	267	613	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	7.0		5.0	7.0	
Minimum Split (s)	11.0	25.0		11.0	25.0		11.4	22.0		11.4	22.0	
Total Split (s)	26.0	29.0		26.0	29.0		12.0	133.0		12.0	133.0	
Total Split (%)	13.0%	14.5%		13.0%	14.5%		6.0%	66.5%		6.0%	66.5%	
Maximum Green (s)	20.0	23.0		20.0	23.0		5.6	126.6		5.6	126.6	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	3.0		2.5	3.0		2.5	1.0		2.5	1.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		8.0			8.0			8.0			8.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	41.3	23.7		44.7	25.5		132.2	126.6		132.2	126.6	
Actuated g/C Ratio	0.21	0.12		0.22	0.13		0.66	0.63		0.66	0.63	
v/c Ratio	0.78	1.69		0.88	1.03		0.32	1.09		3.03	0.53	
Control Delay	90.6	372.9		101.0	146.0		12.8	89.1		962.7	22.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	90.6	372.9		101.0	146.0		12.8	89.1		962.7	22.2	
LOS	F	F		F	F		B	F		F	C	
Approach Delay		293.4			126.2			81.3			307.6	
Approach LOS		F			F			F			F	

Intersection Summary	
Area Type:	Other
Cycle Length: 200	
Actuated Cycle Length: 200	
Offset: 28 (14%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 3.03	
Intersection Signal Delay: 183.9	Intersection LOS: F
Intersection Capacity Utilization 108.1%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 17: Old Cutler Rd & SW 152nd St

Old Cutler Rd and SW 168th St
Future Background Traffic + Scenario 2 Trips - AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	32	112	22	27	47	110	970	14	30	569	75
Future Volume (vph)	65	32	112	22	27	47	110	970	14	30	569	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	85		0	100		0	60		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.98			1.00			1.00	
Frt		0.885			0.906			0.997			0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1652	0	1805	1649	0	1805	1857	0	1805	1821	0
Flt Permitted	0.587			0.227			0.295			0.166		
Satd. Flow (perm)	1093	1652	0	431	1649	0	560	1857	0	315	1821	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		76			40			2			9	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		691			684			789			701	
Travel Time (s)		15.7			15.5			13.4			11.9	
Confl. Peds. (#/hr)						3						4
Confl. Bikes (#/hr)			1			2			1			
Peak Hour Factor	0.85	0.69	0.75	0.53	0.75	0.77	0.63	0.92	0.55	0.67	0.85	0.87
Heavy Vehicles (%)	2%	0%	0%	0%	5%	0%	0%	2%	0%	0%	2%	3%
Adj. Flow (vph)	76	46	149	42	36	61	175	1054	25	45	669	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	195	0	42	97	0	175	1079	0	45	755	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		5.0	7.0		5.0	7.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		11.4	25.4		11.4	24.4	
Total Split (s)	31.0	31.0		31.0	31.0		16.4	131.4		16.4	131.4	
Total Split (%)	17.3%	17.3%		17.3%	17.3%		9.2%	73.5%		9.2%	73.5%	
Maximum Green (s)	25.0	25.0		25.0	25.0		10.0	125.0		10.0	125.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	1.0		2.0	1.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			5.0			5.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0			12.0			12.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	17.6	17.6		17.6	17.6		136.5	130.0		130.7	125.2	
Actuated g/C Ratio	0.10	0.10		0.10	0.10		0.81	0.77		0.77	0.74	
v/c Ratio	0.67	0.82		0.95	0.47		0.34	0.76		0.16	0.56	
Control Delay	101.1	70.5		195.2	49.2		5.3	17.3		4.8	12.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	101.1	70.5		195.2	49.2		5.3	17.3		4.8	12.5	
LOS	F	E		F	D		A	B		A	B	
Approach Delay		79.1			93.3			15.6			12.1	
Approach LOS		E			F			B			B	

Intersection Summary	
Area Type:	Other
Cycle Length: 178.8	
Actuated Cycle Length: 169.4	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 25.8	Intersection LOS: C
Intersection Capacity Utilization 90.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 22: Old Cutler Rd & SW 168th St

SW 144th St and Ludlam Rd
Future Background Traffic + Scenario 2 Trips - AM Peak Hour

Intersection	
Int Delay, s/veh	77.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	14	186	13	22	47	96	435	8	24	413	19
Future Vol, veh/h	39	14	186	13	22	47	96	435	8	24	413	19
Conflicting Peds, #/hr	0	0	0	0	0	2	0	0	2	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	46	70	62	53	93	49	69	75	47	71	75
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	0	1	0
Mvmt Flow	50	30	266	21	42	51	196	630	11	51	582	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1773	1732	595	1875	1739	640	607	0	0	643	0	0
Stage 1	697	697	-	1030	1030	-	-	-	-	-	-	-
Stage 2	1076	1035	-	845	709	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	65	89	508	55	88	479	981	-	-	951	-	-
Stage 1	435	446	-	284	313	-	-	-	-	-	-	-
Stage 2	268	312	-	360	440	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 24	67	508	~ 14	66	477	981	-	-	949	-	-
Mov Cap-2 Maneuver	~ 24	67	-	~ 14	66	-	-	-	-	-	-	-
Stage 1	348	422	-	227	250	-	-	-	-	-	-	-
Stage 2	160	249	-	151	416	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	194.3	$ 730.3	2.2	0.7
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	981	-	-	24	303	51	949	-	-
HCM Lane V/C Ratio	0.2	-	-	2.083	0.977	2.216	0.054	-	-
HCM Control Delay (s)	9.6	-	-	$ 846	84.3	$ 730.3	9	-	-
HCM Lane LOS	A	-	-	F	F	F	A	-	-
HCM 95th %tile Q(veh)	0.7	-	-	6.2	10.1	11.5	0.2	-	-

Notes

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

Intersection	
Intersection Delay, s/veh	85.5
Intersection LOS	F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	507	15	60	61	16	211
Future Vol, veh/h	507	15	60	61	16	211
Peak Hour Factor	0.67	0.56	0.59	0.82	0.50	0.64
Heavy Vehicles, %	1	0	55	3	13	0
Mvmt Flow	757	27	102	74	32	330
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	132.9	13.4	17.8
HCM LOS	F	B	C

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	97%	0%	7%
Vol Thru, %	3%	50%	0%
Vol Right, %	0%	50%	93%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	522	121	227
LT Vol	507	0	16
Through Vol	15	60	0
RT Vol	0	61	211
Lane Flow Rate	784	176	362
Geometry Grp	1	1	1
Degree of Util (X)	1.221	0.327	0.584
Departure Headway (Hd)	5.611	7.021	6.32
Convergence, Y/N	Yes	Yes	Yes
Cap	650	516	575
Service Time	3.62	5.021	4.32
HCM Lane V/C Ratio	1.206	0.341	0.63
HCM Control Delay	132.9	13.4	17.8
HCM Lane LOS	F	B	C
HCM 95th-tile Q	28.1	1.4	3.7

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	5	567	1	2	224
Future Vol, veh/h	3	5	567	1	2	224
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	3	5	616	1	2	243

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	864	617	0	0	617	0
Stage 1	617	-	-	-	-	-
Stage 2	247	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	325	490	-	-	963	-
Stage 1	538	-	-	-	-	-
Stage 2	794	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	324	490	-	-	963	-
Mov Cap-2 Maneuver	324	-	-	-	-	-
Stage 1	537	-	-	-	-	-
Stage 2	794	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.9	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	411	963	-
HCM Lane V/C Ratio	-	-	0.021	0.002	-
HCM Control Delay (s)	-	-	13.9	8.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	21	90	0	0	31
Future Vol, veh/h	10	21	90	0	0	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	0	2	2
Mvmt Flow	11	23	98	0	0	34

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	98	0	-	0	143	98
Stage 1	-	-	-	-	98	-
Stage 2	-	-	-	-	45	-
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	1495	-	-	-	850	958
Stage 1	-	-	-	-	926	-
Stage 2	-	-	-	-	977	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1495	-	-	-	844	958
Mov Cap-2 Maneuver	-	-	-	-	844	-
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	977	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1495	-	-	-	958
HCM Lane V/C Ratio	0.007	-	-	-	0.035
HCM Control Delay (s)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Appendix L

Synchro printouts- Future 2035
PM Peak Hour

Old Cutler Rd and Ludlam Rd
Future Background Traffic - PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	222	514	44	237	939	9	24	98	58	0	221	376
Future Volume (vph)	222	514	44	237	939	9	24	98	58	0	221	376
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	100		0	150		120	0		50
Storage Lanes	1		0	1		0	1		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												0.95
Frt		0.987			0.998				0.850			0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1787	1842	0	1752	1860	0	1719	1900	1583	0	1881	1599
Flt Permitted	0.950			0.406			0.274					
Satd. Flow (perm)	1787	1842	0	749	1860	0	496	1900	1583	0	1881	1520
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			1				72			102
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		593			1029			1158			1145	
Travel Time (s)		11.6			20.0			22.6			22.3	
Confl. Peds. (#/hr)												2
Confl. Bikes (#/hr)												9
Peak Hour Factor	0.84	0.88	0.80	0.90	0.90	0.58	0.53	0.66	0.72	0.25	0.82	0.93
Heavy Vehicles (%)	1%	2%	0%	3%	2%	0%	5%	0%	2%	0%	1%	1%
Adj. Flow (vph)	264	584	55	263	1043	16	45	148	81	0	270	404
Shared Lane Traffic (%)												
Lane Group Flow (vph)	264	639	0	263	1059	0	45	148	81	0	270	404
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Perm	NA		Perm	NA	Perm		NA	Perm
Protected Phases	1	6			2			4			8	
Permitted Phases				2			4		4	8		8
Detector Phase	1	6		2	2		4	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	5.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	15.0	133.0		118.0	118.0		47.0	47.0	47.0	47.0	47.0	47.0
Total Split (s)	18.0	153.0		135.0	135.0		47.0	47.0	47.0	47.0	47.0	47.0
Total Split (%)	9.0%	76.5%		67.5%	67.5%		23.5%	23.5%	23.5%	23.5%	23.5%	23.5%
Maximum Green (s)	11.6	146.6		128.6	128.6		41.0	41.0	41.0	41.0	41.0	41.0
Yellow Time (s)	4.4	4.4		4.4	4.4		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.4	6.4		6.4	6.4		6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	1.0		1.0	1.0		4.0	4.0	4.0	4.0	4.0	4.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		7.0		7.0	7.0		8.0	8.0	8.0	8.0	8.0	8.0
Pedestrian Calls (#/hr)		0		0	0		0	0	0	0	0	0
Act Effct Green (s)	11.6	146.6		128.6	128.6		41.0	41.0	41.0		41.0	41.0
Actuated g/C Ratio	0.06	0.73		0.64	0.64		0.20	0.20	0.20		0.20	0.20
v/c Ratio	2.56	0.47		0.55	0.89		0.45	0.38	0.21		0.70	1.03
Control Delay	759.6	12.1		24.9	40.2		85.4	71.9	16.7		84.7	108.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	759.6	12.1		24.9	40.2		85.4	71.9	16.7		84.7	108.5
LOS	F	B		C	D		F	E	B		F	F
Approach Delay		230.7			37.2			57.8			99.0	
Approach LOS		F			D			E			F	

Intersection Summary	
Area Type:	Other
Cycle Length: 200	
Actuated Cycle Length: 200	
Offset: 162 (81%), Referenced to phase 2:WBTL and 6:EBT, Start of Green	
Natural Cycle: 180	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 2.56	
Intersection Signal Delay: 107.1	Intersection LOS: F
Intersection Capacity Utilization 97.9%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: SW 67th Ave & Old Cutler Rd

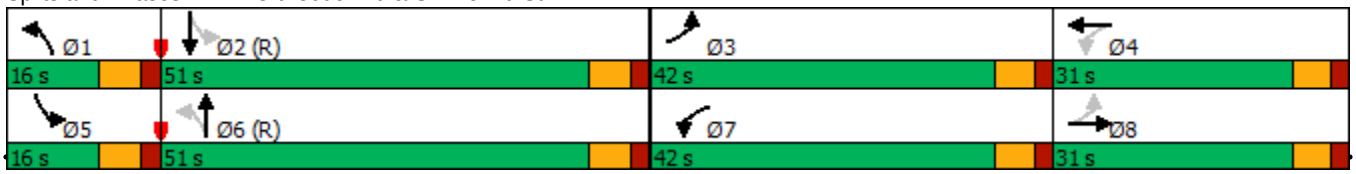
Old Cutler Rd and SW 152nd St
Future Background Traffic - PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	90	262	130	149	23	244	610	86	9	865	102
Future Volume (vph)	52	90	262	130	149	23	244	610	86	9	865	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	100		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					1.00						1.00	
Frt		0.889			0.983			0.984			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	1605	0	1787	1834	0	1770	1800	0	1805	1812	0
Flt Permitted	0.615			0.242			0.080			0.092		
Satd. Flow (perm)	1092	1605	0	455	1834	0	149	1800	0	175	1812	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		89			4			4			6	
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		689			654			535			477	
Travel Time (s)		13.4			12.7			9.1			8.1	
Confl. Peds. (#/hr)												1
Confl. Bikes (#/hr)						1						1
Peak Hour Factor	0.93	0.84	0.86	0.98	0.73	0.90	0.84	0.75	0.90	0.58	0.92	0.67
Heavy Vehicles (%)	7%	6%	5%	1%	1%	6%	2%	4%	3%	0%	2%	4%
Adj. Flow (vph)	56	107	305	133	204	26	290	813	96	16	940	152
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	412	0	133	230	0	290	909	0	16	1092	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	7.0		5.0	7.0	
Minimum Split (s)	11.0	25.0		11.0	25.0		11.4	22.0		11.4	22.0	
Total Split (s)	42.0	31.0		42.0	31.0		16.0	51.0		16.0	51.0	
Total Split (%)	30.0%	22.1%		30.0%	22.1%		11.4%	36.4%		11.4%	36.4%	
Maximum Green (s)	36.0	25.0		36.0	25.0		9.6	44.6		9.6	44.6	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	3.0		2.5	3.0		2.5	1.0		2.5	1.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		8.0			8.0			8.0			8.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	52.3	44.8		64.2	53.2		62.5	58.0		50.3	44.6	
Actuated g/C Ratio	0.37	0.32		0.46	0.38		0.45	0.41		0.36	0.32	
v/c Ratio	0.13	0.72		0.39	0.33		1.40	1.22		0.12	1.88	
Control Delay	22.5	41.4		25.7	33.1		238.0	144.7		24.3	430.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	22.5	41.4		25.7	33.1		238.0	144.7		24.3	430.6	
LOS	C	D		C	C		F	F		C	F	
Approach Delay		39.1			30.4			167.3			424.7	
Approach LOS		D			C			F			F	

Intersection Summary	
Area Type:	Other
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 28 (20%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.88	
Intersection Signal Delay: 223.2	Intersection LOS: F
Intersection Capacity Utilization 114.0%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 17: Old Cutler Rd & SW 152nd St



Old Cutler Rd and SW 168th St
Future Background Traffic - PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	27	226	46	32	23	131	812	18	20	1093	91
Future Volume (vph)	104	27	226	46	32	23	131	812	18	20	1093	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	85		0	100		0	60		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.99						1.00	
Frt		0.867			0.937			0.996			0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1619	0	1752	1678	0	1770	1836	0	1805	1836	0
Flt Permitted	0.669			0.160			0.092			0.186		
Satd. Flow (perm)	1222	1619	0	295	1678	0	171	1836	0	353	1836	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		128			12			2			7	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		691			684			789			701	
Travel Time (s)		15.7			15.5			13.4			11.9	
Confl. Peds. (#/hr)						1						1
Confl. Bikes (#/hr)						2						3
Peak Hour Factor	0.85	0.75	0.82	0.64	0.89	0.90	0.66	0.77	0.70	0.67	0.93	0.82
Heavy Vehicles (%)	4%	0%	2%	3%	0%	11%	2%	3%	7%	0%	2%	1%
Adj. Flow (vph)	122	36	276	72	36	26	198	1055	26	30	1175	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	122	312	0	72	62	0	198	1081	0	30	1286	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		4.6	7.0		4.6	7.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		11.0	24.4		11.0	24.4	
Total Split (s)	31.0	31.0		31.0	31.0		11.0	198.0		11.0	198.0	
Total Split (%)	12.9%	12.9%		12.9%	12.9%		4.6%	82.5%		4.6%	82.5%	
Maximum Green (s)	25.0	25.0		25.0	25.0		4.6	191.6		4.6	191.6	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	1.0		2.0	1.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			5.0			5.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0			12.0			12.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	25.0	25.0		25.0	25.0		197.5	193.8		196.2	191.6	
Actuated g/C Ratio	0.10	0.10		0.10	0.10		0.82	0.81		0.82	0.80	
v/c Ratio	0.96	1.10		2.40	0.34		1.16	0.73		0.09	0.88	
Control Delay	171.0	135.1		753.2	85.6		132.8	14.8		3.7	25.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	171.0	135.1		753.2	85.6		132.8	14.8		3.7	25.0	
LOS	F	F		F	F		F	B		A	C	
Approach Delay		145.2			444.3			33.1			24.6	
Approach LOS		F			F			C			C	

Intersection Summary	
Area Type:	Other
Cycle Length: 240	
Actuated Cycle Length: 240	
Offset: 4 (2%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 2.40	
Intersection Signal Delay: 62.3	Intersection LOS: E
Intersection Capacity Utilization 112.2%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 22: Old Cutler Rd & SW 168th St

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	25	76	13	27	27	71	346	22	28	317	20
Future Vol, veh/h	22	25	76	13	27	27	71	346	22	28	317	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	100	59	62	75	66	92	92	92	69	89	80
Heavy Vehicles, %	18	0	3	0	0	0	4	1	0	0	1	0
Mvmt Flow	26	25	129	21	36	41	77	376	24	41	356	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1032	1006	369	1071	1006	389	381	0	0	401	0	0
Stage 1	451	451	-	543	543	-	-	-	-	-	-	-
Stage 2	581	555	-	528	463	-	-	-	-	-	-	-
Critical Hdwy	7.28	6.5	6.23	7.1	6.5	6.2	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.28	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.28	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.662	4	3.327	3.5	4	3.3	2.236	-	-	2.2	-	-
Pot Cap-1 Maneuver	197	243	674	200	243	664	1167	-	-	1169	-	-
Stage 1	558	574	-	528	523	-	-	-	-	-	-	-
Stage 2	473	516	-	538	568	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	150	219	674	137	219	663	1167	-	-	1168	-	-
Mov Cap-2 Maneuver	150	219	-	137	219	-	-	-	-	-	-	-
Stage 1	521	554	-	493	488	-	-	-	-	-	-	-
Stage 2	384	481	-	401	548	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.9	27.2	1.3	0.8
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1167	-	-	150	504	258	1168	-	-
HCM Lane V/C Ratio	0.066	-	-	0.173	0.305	0.379	0.035	-	-
HCM Control Delay (s)	8.3	-	-	33.9	15.2	27.2	8.2	-	-
HCM Lane LOS	A	-	-	D	C	D	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.6	1.3	1.7	0.1	-	-

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	190	36	44	44	39	260
Future Vol, veh/h	190	36	44	44	39	260
Peak Hour Factor	0.67	0.78	0.80	0.73	0.86	0.87
Heavy Vehicles, %	1	32	9	0	7	1
Mvmt Flow	284	46	55	60	45	299
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	12.4	9.1	11.3
HCM LOS	B	A	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	84%	0%	13%
Vol Thru, %	16%	50%	0%
Vol Right, %	0%	50%	87%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	226	88	299
LT Vol	190	0	39
Through Vol	36	44	0
RT Vol	0	44	260
Lane Flow Rate	330	115	344
Geometry Grp	1	1	1
Degree of Util (X)	0.462	0.16	0.442
Departure Headway (Hd)	5.041	4.998	4.622
Convergence, Y/N	Yes	Yes	Yes
Cap	709	709	774
Service Time	3.122	3.094	2.684
HCM Lane V/C Ratio	0.465	0.162	0.444
HCM Control Delay	12.4	9.1	11.3
HCM Lane LOS	B	A	B
HCM 95th-tile Q	2.4	0.6	2.3

Old Cutler Rd and Ludlam Rd
Future Background Traffic + Scenario 1 trips - PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	222	522	60	257	952	9	33	107	70	0	237	376
Future Volume (vph)	222	522	60	257	952	9	33	107	70	0	237	376
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	100		0	150		120	0		50
Storage Lanes	1		0	1		0	1		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												0.95
Frt		0.983			0.998				0.850			0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1787	1835	0	1752	1860	0	1719	1900	1583	0	1881	1599
Flt Permitted	0.950			0.388			0.236					
Satd. Flow (perm)	1787	1835	0	716	1860	0	427	1900	1583	0	1881	1520
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			1				79			95
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		593			1029			1158			1145	
Travel Time (s)		11.6			20.0			22.6			22.3	
Confl. Peds. (#/hr)												2
Confl. Bikes (#/hr)												9
Peak Hour Factor	0.84	0.88	0.80	0.90	0.90	0.58	0.53	0.66	0.72	0.25	0.82	0.93
Heavy Vehicles (%)	1%	2%	0%	3%	2%	0%	5%	0%	2%	0%	1%	1%
Adj. Flow (vph)	264	593	75	286	1058	16	62	162	97	0	289	404
Shared Lane Traffic (%)												
Lane Group Flow (vph)	264	668	0	286	1074	0	62	162	97	0	289	404
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Perm	NA		Perm	NA	Perm		NA	Perm
Protected Phases	1	6			2			4			8	
Permitted Phases				2			4		4	8		8
Detector Phase	1	6		2	2		4	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	5.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	15.0	133.0		118.0	118.0		47.0	47.0	47.0	47.0	47.0	47.0
Total Split (s)	18.0	153.0		135.0	135.0		47.0	47.0	47.0	47.0	47.0	47.0
Total Split (%)	9.0%	76.5%		67.5%	67.5%		23.5%	23.5%	23.5%	23.5%	23.5%	23.5%
Maximum Green (s)	11.6	146.6		128.6	128.6		41.0	41.0	41.0	41.0	41.0	41.0
Yellow Time (s)	4.4	4.4		4.4	4.4		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.4	6.4		6.4	6.4		6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	1.0		1.0	1.0		4.0	4.0	4.0	4.0	4.0	4.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		7.0		7.0	7.0		8.0	8.0	8.0	8.0	8.0	8.0
Pedestrian Calls (#/hr)		0		0	0		0	0	0	0	0	0
Act Effct Green (s)	11.6	146.6		128.6	128.6		41.0	41.0	41.0		41.0	41.0
Actuated g/C Ratio	0.06	0.73		0.64	0.64		0.20	0.20	0.20		0.20	0.20
v/c Ratio	2.56	0.50		0.62	0.90		0.71	0.42	0.25		0.75	1.04
Control Delay	759.6	12.5		28.6	41.6		114.0	72.9	19.1		88.1	113.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	759.6	12.5		28.6	41.6		114.0	72.9	19.1		88.1	113.2
LOS	F	B		C	D		F	E	B		F	F
Approach Delay		224.1			38.9			64.6			102.7	
Approach LOS		F			D			E			F	

Intersection Summary	
Area Type:	Other
Cycle Length: 200	
Actuated Cycle Length: 200	
Offset: 162 (81%), Referenced to phase 2:WBTL and 6:EBT, Start of Green	
Natural Cycle: 180	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 2.56	
Intersection Signal Delay: 107.0	Intersection LOS: F
Intersection Capacity Utilization 101.9%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 3: SW 67th Ave & Old Cutler Rd

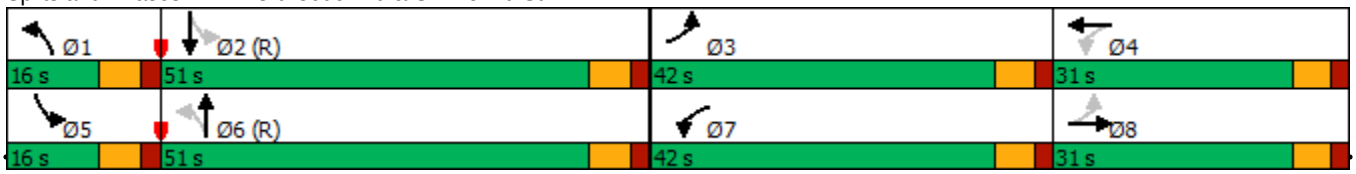
Old Cutler Rd and SW 152nd St
Future Background Traffic + Scenario 1 trips - PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	124	268	135	169	23	248	618	94	9	878	102
Future Volume (vph)	52	124	268	135	169	23	248	618	94	9	878	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	100		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					1.00						1.00	
Frt		0.898			0.985			0.983			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	1620	0	1787	1840	0	1770	1798	0	1805	1812	0
Flt Permitted	0.591			0.210			0.080			0.092		
Satd. Flow (perm)	1049	1620	0	395	1840	0	149	1798	0	175	1812	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		66			4			5			6	
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		689			654			535			477	
Travel Time (s)		13.4			12.7			9.1			8.1	
Confl. Peds. (#/hr)												1
Confl. Bikes (#/hr)						1						1
Peak Hour Factor	0.93	0.84	0.86	0.98	0.73	0.90	0.84	0.75	0.90	0.58	0.92	0.67
Heavy Vehicles (%)	7%	6%	5%	1%	1%	6%	2%	4%	3%	0%	2%	4%
Adj. Flow (vph)	56	148	312	138	232	26	295	824	104	16	954	152
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	460	0	138	258	0	295	928	0	16	1106	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	7.0		5.0	7.0	
Minimum Split (s)	11.0	25.0		11.0	25.0		11.4	22.0		11.4	22.0	
Total Split (s)	42.0	31.0		42.0	31.0		16.0	51.0		16.0	51.0	
Total Split (%)	30.0%	22.1%		30.0%	22.1%		11.4%	36.4%		11.4%	36.4%	
Maximum Green (s)	36.0	25.0		36.0	25.0		9.6	44.6		9.6	44.6	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	3.0		2.5	3.0		2.5	1.0		2.5	1.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		8.0			8.0			8.0			8.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	54.7	47.2		66.9	55.8		59.3	55.4		50.4	44.6	
Actuated g/C Ratio	0.39	0.34		0.48	0.40		0.42	0.40		0.36	0.32	
v/c Ratio	0.13	0.78		0.42	0.35		1.70	1.30		0.12	1.90	
Control Delay	21.2	46.5		24.9	31.8		363.7	179.6		25.2	441.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	21.2	46.5		24.9	31.8		363.7	179.6		25.2	441.0	
LOS	C	D		C	C		F	F		C	F	
Approach Delay		43.8			29.4			224.0			435.1	
Approach LOS		D			C			F			F	

Intersection Summary	
Area Type:	Other
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 28 (20%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.90	
Intersection Signal Delay: 244.5	Intersection LOS: F
Intersection Capacity Utilization 117.3%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 17: Old Cutler Rd & SW 152nd St



Old Cutler Rd and SW 168th St
Future Background Traffic + Scenario 1 trips - PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	27	231	46	32	23	134	832	18	20	1117	91
Future Volume (vph)	104	27	231	46	32	23	134	832	18	20	1117	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	85		0	100		0	60		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.99						1.00	
Frt		0.867			0.937			0.996			0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1619	0	1752	1678	0	1770	1836	0	1805	1836	0
Flt Permitted	0.669			0.160			0.079			0.175		
Satd. Flow (perm)	1222	1619	0	295	1678	0	147	1836	0	332	1836	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		131			12			2			7	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		691			684			789			701	
Travel Time (s)		15.7			15.5			13.4			11.9	
Confl. Peds. (#/hr)						1						1
Confl. Bikes (#/hr)						2						3
Peak Hour Factor	0.85	0.75	0.82	0.64	0.89	0.90	0.66	0.77	0.70	0.67	0.93	0.82
Heavy Vehicles (%)	4%	0%	2%	3%	0%	11%	2%	3%	7%	0%	2%	1%
Adj. Flow (vph)	122	36	282	72	36	26	203	1081	26	30	1201	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	122	318	0	72	62	0	203	1107	0	30	1312	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		4.6	7.0		4.6	7.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		11.0	24.4		11.0	24.4	
Total Split (s)	31.0	31.0		31.0	31.0		11.0	198.0		11.0	198.0	
Total Split (%)	12.9%	12.9%		12.9%	12.9%		4.6%	82.5%		4.6%	82.5%	
Maximum Green (s)	25.0	25.0		25.0	25.0		4.6	191.6		4.6	191.6	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	1.0		2.0	1.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			5.0			5.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0			12.0			12.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	25.0	25.0		25.0	25.0		197.5	193.8		196.2	191.6	
Actuated g/C Ratio	0.10	0.10		0.10	0.10		0.82	0.81		0.82	0.80	
v/c Ratio	0.96	1.11		2.40	0.34		1.34	0.75		0.10	0.89	
Control Delay	171.0	137.3		753.2	85.6		207.6	15.5		3.8	26.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	171.0	137.3		753.2	85.6		207.6	15.5		3.8	26.9	
LOS	F	F		F	F		F	B		A	C	
Approach Delay		146.7			444.3			45.3			26.4	
Approach LOS		F			F			D			C	

Intersection Summary	
Area Type:	Other
Cycle Length: 240	
Actuated Cycle Length: 240	
Offset: 4 (2%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 2.40	
Intersection Signal Delay: 67.8	Intersection LOS: E
Intersection Capacity Utilization 113.9%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 22: Old Cutler Rd & SW 168th St

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	26	92	13	27	27	81	377	21	28	370	20
Future Vol, veh/h	22	26	92	13	27	27	81	377	21	28	370	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	100	59	62	75	66	92	92	92	69	89	80
Heavy Vehicles, %	18	0	3	0	0	0	4	1	0	0	1	0
Mvmt Flow	26	26	156	21	36	41	88	410	23	41	416	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1147	1121	429	1201	1122	423	441	0	0	434	0	0
Stage 1	511	511	-	599	599	-	-	-	-	-	-	-
Stage 2	636	610	-	602	523	-	-	-	-	-	-	-
Critical Hdwy	7.28	6.5	6.23	7.1	6.5	6.2	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.28	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.28	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.662	4	3.327	3.5	4	3.3	2.236	-	-	2.2	-	-
Pot Cap-1 Maneuver	164	208	624	163	208	635	1108	-	-	1136	-	-
Stage 1	517	540	-	492	494	-	-	-	-	-	-	-
Stage 2	440	488	-	490	534	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	119	184	624	100	184	634	1108	-	-	1135	-	-
Mov Cap-2 Maneuver	119	184	-	100	184	-	-	-	-	-	-	-
Stage 1	476	521	-	453	454	-	-	-	-	-	-	-
Stage 2	349	449	-	337	515	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.8	36.8	1.4	0.7
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1108	-	-	119	465	208	1135	-	-
HCM Lane V/C Ratio	0.079	-	-	0.217	0.391	0.471	0.036	-	-
HCM Control Delay (s)	8.5	-	-	43.5	17.6	36.8	8.3	-	-
HCM Lane LOS	A	-	-	E	C	E	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.8	1.8	2.3	0.1	-	-

Intersection	
Intersection Delay, s/veh	14.8
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	198	69	64	75	93	265
Future Vol, veh/h	198	69	64	75	93	265
Peak Hour Factor	0.67	0.78	0.80	0.73	0.86	0.87
Heavy Vehicles, %	1	32	9	0	7	1
Mvmt Flow	296	88	80	103	108	305
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	16.1	10.6	15.5
HCM LOS	C	B	C

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	74%	0%	26%
Vol Thru, %	26%	46%	0%
Vol Right, %	0%	54%	74%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	267	139	358
LT Vol	198	0	93
Through Vol	69	64	0
RT Vol	0	75	265
Lane Flow Rate	384	183	413
Geometry Grp	1	1	1
Degree of Util (X)	0.587	0.278	0.592
Departure Headway (Hd)	5.499	5.482	5.16
Convergence, Y/N	Yes	Yes	Yes
Cap	657	654	698
Service Time	3.537	3.531	3.201
HCM Lane V/C Ratio	0.584	0.28	0.592
HCM Control Delay	16.1	10.6	15.5
HCM Lane LOS	C	B	C
HCM 95th-tile Q	3.8	1.1	3.9

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	8	265	8	13	253
Future Vol, veh/h	5	8	265	8	13	253
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	5	9	288	9	14	275

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	596	293	0	0	297	0
Stage 1	293	-	-	-	-	-
Stage 2	303	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	466	746	-	-	1264	-
Stage 1	757	-	-	-	-	-
Stage 2	749	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	460	746	-	-	1264	-
Mov Cap-2 Maneuver	460	-	-	-	-	-
Stage 1	747	-	-	-	-	-
Stage 2	749	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	602	1264	-
HCM Lane V/C Ratio	-	-	0.023	0.011	-
HCM Control Delay (s)	-	-	11.1	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Driveway on SW 152nd St
Future Background Traffic + Scenario 1 trips - PM Peak Hour

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	88	74	78	1	0	51
Future Vol, veh/h	88	74	78	1	0	51
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	96	80	85	1	0	55

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	86	0	-	0	358	86
Stage 1	-	-	-	-	86	-
Stage 2	-	-	-	-	272	-
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	1510	-	-	-	640	973
Stage 1	-	-	-	-	937	-
Stage 2	-	-	-	-	774	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1510	-	-	-	597	973
Mov Cap-2 Maneuver	-	-	-	-	597	-
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	774	-

Approach	EB	WB	SB
HCM Control Delay, s	4.1	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1510	-	-	-	973
HCM Lane V/C Ratio	0.063	-	-	-	0.057
HCM Control Delay (s)	7.5	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2

Old Cutler Rd and Ludlam Rd
Future Background Traffic + Scenario 2 trips - PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	222	522	50	242	952	9	28	102	67	0	227	376
Future Volume (vph)	222	522	50	242	952	9	28	102	67	0	227	376
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	100		0	150		120	0		50
Storage Lanes	1		0	1		0	1		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												0.95
Frt		0.986			0.998				0.850			0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1787	1840	0	1752	1860	0	1719	1900	1583	0	1881	1599
Flt Permitted	0.950			0.395			0.260					
Satd. Flow (perm)	1787	1840	0	729	1860	0	470	1900	1583	0	1881	1520
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			1				79			99
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		593			1029			1158			1145	
Travel Time (s)		11.6			20.0			22.6			22.3	
Confl. Peds. (#/hr)												2
Confl. Bikes (#/hr)												9
Peak Hour Factor	0.84	0.88	0.80	0.90	0.90	0.58	0.53	0.66	0.72	0.25	0.82	0.93
Heavy Vehicles (%)	1%	2%	0%	3%	2%	0%	5%	0%	2%	0%	1%	1%
Adj. Flow (vph)	264	593	63	269	1058	16	53	155	93	0	277	404
Shared Lane Traffic (%)												
Lane Group Flow (vph)	264	656	0	269	1074	0	53	155	93	0	277	404
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Perm	NA		Perm	NA	Perm		NA	Perm
Protected Phases	1	6			2			4			8	
Permitted Phases				2			4		4	8		8
Detector Phase	1	6		2	2		4	4	4	8	8	8
Switch Phase												
Minimum Initial (s)	5.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	15.0	133.0		118.0	118.0		47.0	47.0	47.0	47.0	47.0	47.0
Total Split (s)	18.0	153.0		135.0	135.0		47.0	47.0	47.0	47.0	47.0	47.0
Total Split (%)	9.0%	76.5%		67.5%	67.5%		23.5%	23.5%	23.5%	23.5%	23.5%	23.5%
Maximum Green (s)	11.6	146.6		128.6	128.6		41.0	41.0	41.0	41.0	41.0	41.0
Yellow Time (s)	4.4	4.4		4.4	4.4		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.4	6.4		6.4	6.4		6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	2.0	1.0		1.0	1.0		4.0	4.0	4.0	4.0	4.0	4.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None	None	None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		7.0		7.0	7.0		8.0	8.0	8.0	8.0	8.0	8.0
Pedestrian Calls (#/hr)		0		0	0		0	0	0	0	0	0
Act Effct Green (s)	11.6	146.6		128.6	128.6		41.0	41.0	41.0		41.0	41.0
Actuated g/C Ratio	0.06	0.73		0.64	0.64		0.20	0.20	0.20		0.20	0.20
v/c Ratio	2.56	0.49		0.57	0.90		0.55	0.40	0.24		0.72	1.04
Control Delay	759.6	12.4		26.2	41.6		94.9	72.4	17.6		85.9	110.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	759.6	12.4		26.2	41.6		94.9	72.4	17.6		85.9	110.4
LOS	F	B		C	D		F	E	B		F	F
Approach Delay		226.8			38.6			59.5			100.4	
Approach LOS		F			D			E			F	

Intersection Summary	
Area Type:	Other
Cycle Length: 200	
Actuated Cycle Length: 200	
Offset: 162 (81%), Referenced to phase 2:WBTL and 6:EBT, Start of Green	
Natural Cycle: 180	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 2.56	
Intersection Signal Delay: 106.8	Intersection LOS: F
Intersection Capacity Utilization 101.4%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 3: SW 67th Ave & Old Cutler Rd

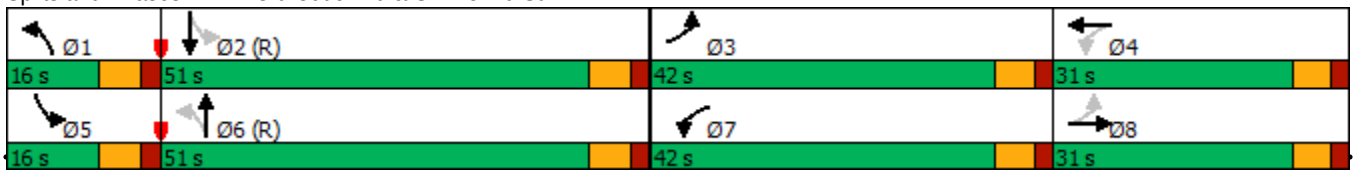
Old Cutler Rd and SW 152nd St
Future Background Traffic + Scenario 2 trips - PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	103	268	132	157	23	248	618	89	9	878	102
Future Volume (vph)	52	103	268	132	157	23	248	618	89	9	878	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	100		0	100		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					1.00						1.00	
Frt		0.892			0.984			0.984			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	1610	0	1787	1837	0	1770	1800	0	1805	1812	0
Flt Permitted	0.609			0.237			0.080			0.092		
Satd. Flow (perm)	1081	1610	0	446	1837	0	149	1800	0	175	1812	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		79			4			5			6	
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		689			654			535			477	
Travel Time (s)		13.4			12.7			9.1			8.1	
Confl. Peds. (#/hr)												1
Confl. Bikes (#/hr)						1						1
Peak Hour Factor	0.93	0.84	0.86	0.98	0.73	0.90	0.84	0.75	0.90	0.58	0.92	0.67
Heavy Vehicles (%)	7%	6%	5%	1%	1%	6%	2%	4%	3%	0%	2%	4%
Adj. Flow (vph)	56	123	312	135	215	26	295	824	99	16	954	152
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	435	0	135	241	0	295	923	0	16	1106	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	7.0		5.0	7.0	
Minimum Split (s)	11.0	25.0		11.0	25.0		11.4	22.0		11.4	22.0	
Total Split (s)	42.0	31.0		42.0	31.0		16.0	51.0		16.0	51.0	
Total Split (%)	30.0%	22.1%		30.0%	22.1%		11.4%	36.4%		11.4%	36.4%	
Maximum Green (s)	36.0	25.0		36.0	25.0		9.6	44.6		9.6	44.6	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5	3.0		2.5	3.0		2.5	1.0		2.5	1.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		8.0			8.0			8.0			8.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	54.8	47.3		66.9	55.8		59.3	55.4		50.4	44.6	
Actuated g/C Ratio	0.39	0.34		0.48	0.40		0.42	0.40		0.36	0.32	
v/c Ratio	0.12	0.73		0.39	0.33		1.70	1.29		0.12	1.90	
Control Delay	21.1	41.9		24.2	31.4		363.7	176.6		25.2	441.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	21.1	41.9		24.2	31.4		363.7	176.6		25.2	441.0	
LOS	C	D		C	C		F	F		C	F	
Approach Delay		39.6			28.8			221.9			435.1	
Approach LOS		D			C			F			F	

Intersection Summary	
Area Type:	Other
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 28 (20%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.90	
Intersection Signal Delay: 246.0	Intersection LOS: F
Intersection Capacity Utilization 116.0%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 17: Old Cutler Rd & SW 152nd St



Old Cutler Rd and SW 168th St
Future Background Traffic + Scenario 2 trips - PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	27	231	46	32	23	134	827	18	20	1114	91
Future Volume (vph)	104	27	231	46	32	23	134	827	18	20	1114	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	85		0	100		0	60		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.99						1.00	
Frt		0.867			0.937			0.996			0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1619	0	1752	1678	0	1770	1836	0	1805	1836	0
Flt Permitted	0.669			0.160			0.080			0.178		
Satd. Flow (perm)	1222	1619	0	295	1678	0	149	1836	0	338	1836	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		131			12			2			7	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		691			684			789			701	
Travel Time (s)		15.7			15.5			13.4			11.9	
Confl. Peds. (#/hr)						1						1
Confl. Bikes (#/hr)						2						3
Peak Hour Factor	0.85	0.75	0.82	0.64	0.89	0.90	0.66	0.77	0.70	0.67	0.93	0.82
Heavy Vehicles (%)	4%	0%	2%	3%	0%	11%	2%	3%	7%	0%	2%	1%
Adj. Flow (vph)	122	36	282	72	36	26	203	1074	26	30	1198	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	122	318	0	72	62	0	203	1100	0	30	1309	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		4.6	7.0		4.6	7.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		11.0	24.4		11.0	24.4	
Total Split (s)	31.0	31.0		31.0	31.0		11.0	198.0		11.0	198.0	
Total Split (%)	12.9%	12.9%		12.9%	12.9%		4.6%	82.5%		4.6%	82.5%	
Maximum Green (s)	25.0	25.0		25.0	25.0		4.6	191.6		4.6	191.6	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.4	4.4		4.4	4.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	1.0		2.0	1.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			5.0			5.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0			12.0			12.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	25.0	25.0		25.0	25.0		197.5	193.8		196.2	191.6	
Actuated g/C Ratio	0.10	0.10		0.10	0.10		0.82	0.81		0.82	0.80	
v/c Ratio	0.96	1.11		2.40	0.34		1.33	0.74		0.10	0.89	
Control Delay	171.0	137.3		753.2	85.6		203.5	15.3		3.8	26.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	171.0	137.3		753.2	85.6		203.5	15.3		3.8	26.7	
LOS	F	F		F	F		F	B		A	C	
Approach Delay		146.7			444.3			44.7			26.2	
Approach LOS		F			F			D			C	

Intersection Summary	
Area Type:	Other
Cycle Length: 240	
Actuated Cycle Length: 240	
Offset: 4 (2%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 2.40	
Intersection Signal Delay: 67.6	Intersection LOS: E
Intersection Capacity Utilization 113.8%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 22: Old Cutler Rd & SW 168th St

SW 144th St and Ludlam Rd
Future Background Traffic + Scenario 2 trips - PM Peak Hour

Intersection	
Int Delay, s/veh	6.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	26	83	13	27	27	75	360	21	28	339	20
Future Vol, veh/h	22	26	83	13	27	27	75	360	21	28	339	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	100	59	62	75	66	92	92	92	69	89	80
Heavy Vehicles, %	18	0	3	0	0	0	4	1	0	0	1	0
Mvmt Flow	26	26	141	21	36	41	82	391	23	41	381	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1081	1055	394	1127	1056	404	406	0	0	415	0	0
Stage 1	476	476	-	568	568	-	-	-	-	-	-	-
Stage 2	605	579	-	559	488	-	-	-	-	-	-	-
Critical Hdwy	7.28	6.5	6.23	7.1	6.5	6.2	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.28	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.28	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.662	4	3.327	3.5	4	3.3	2.236	-	-	2.2	-	-
Pot Cap-1 Maneuver	182	227	653	183	227	651	1142	-	-	1155	-	-
Stage 1	541	560	-	511	510	-	-	-	-	-	-	-
Stage 2	458	504	-	517	553	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	136	203	653	119	203	650	1142	-	-	1154	-	-
Mov Cap-2 Maneuver	136	203	-	119	203	-	-	-	-	-	-	-
Stage 1	502	540	-	474	473	-	-	-	-	-	-	-
Stage 2	368	467	-	372	533	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.2	30.8	1.4	0.7
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1142	-	-	136	485	235	1154	-	-
HCM Lane V/C Ratio	0.071	-	-	0.19	0.344	0.416	0.035	-	-
HCM Control Delay (s)	8.4	-	-	37.6	16.3	30.8	8.2	-	-
HCM Lane LOS	A	-	-	E	C	D	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.7	1.5	1.9	0.1	-	-

SW 152nd St and Ludlam Rd
Future Background Traffic + Scenario 2 trips - PM Peak Hour

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	193	48	52	57	61	262
Future Vol, veh/h	193	48	52	57	61	262
Peak Hour Factor	0.67	0.78	0.80	0.73	0.86	0.87
Heavy Vehicles, %	1	32	9	0	7	1
Mvmt Flow	288	62	65	78	71	301
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	13.7	9.6	12.8
HCM LOS	B	A	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	80%	0%	19%
Vol Thru, %	20%	48%	0%
Vol Right, %	0%	52%	81%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	241	109	323
LT Vol	193	0	61
Through Vol	48	52	0
RT Vol	0	57	262
Lane Flow Rate	350	143	372
Geometry Grp	1	1	1
Degree of Util (X)	0.511	0.208	0.506
Departure Headway (Hd)	5.267	5.237	4.898
Convergence, Y/N	Yes	Yes	Yes
Cap	685	685	740
Service Time	3.295	3.27	2.898
HCM Lane V/C Ratio	0.511	0.209	0.503
HCM Control Delay	13.7	9.6	12.8
HCM Lane LOS	B	A	B
HCM 95th-tile Q	2.9	0.8	2.9

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	3	248	2	5	321
Future Vol, veh/h	2	3	248	2	5	321
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	2	3	270	2	5	349

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	630	271	0	0	272	0
Stage 1	271	-	-	-	-	-
Stage 2	359	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	446	768	-	-	1291	-
Stage 1	775	-	-	-	-	-
Stage 2	707	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	444	768	-	-	1291	-
Mov Cap-2 Maneuver	444	-	-	-	-	-
Stage 1	771	-	-	-	-	-
Stage 2	707	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	594	1291	-
HCM Lane V/C Ratio	-	-	0.009	0.004	-
HCM Control Delay (s)	-	-	11.1	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Driveway on SW 152nd St
Future Background Traffic + Scenario 2 trips - PM Peak Hour

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	35	74	88	0	0	21
Future Vol, veh/h	35	74	88	0	0	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	80	96	0	0	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	96	0	-	0	252	96
Stage 1	-	-	-	-	96	-
Stage 2	-	-	-	-	156	-
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	1498	-	-	-	737	960
Stage 1	-	-	-	-	928	-
Stage 2	-	-	-	-	872	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1498	-	-	-	717	960
Mov Cap-2 Maneuver	-	-	-	-	717	-
Stage 1	-	-	-	-	903	-
Stage 2	-	-	-	-	872	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1498	-	-	-	960
HCM Lane V/C Ratio	0.025	-	-	-	0.024
HCM Control Delay (s)	7.5	0	-	-	8.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1