POWERLINE ROAD LANE ELIMINATION

OAKLAND PARK BLVD TO COMMERCIAL BLVD

Oakland Park, Florida

FINAL CONCEPT REPORT

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I. INTRODUCTION

The City of Oakland Park is seeking to reduce the number of through lanes on Powerline Road, between Commercial Boulevard on the north and Oakland Park Boulevard on the south from six (6) lanes to four (4) lanes. The eliminated lanes are proposed to be used for a new bicycle lane with proposed 2-foot separation from auto lanes, a landscape buffer, and curb and gutter.

Figure 1 shows the study segment of Powerline Road where a lane elimination is desired by Oakland Park.

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STUDY SEGMENT OF POWERLINE ROAD

FIGURE 1
Powerline Road - Lane Elimination
Oakland Park, Florida

II. EXISTING CONDITIONS

A. Subject Segment

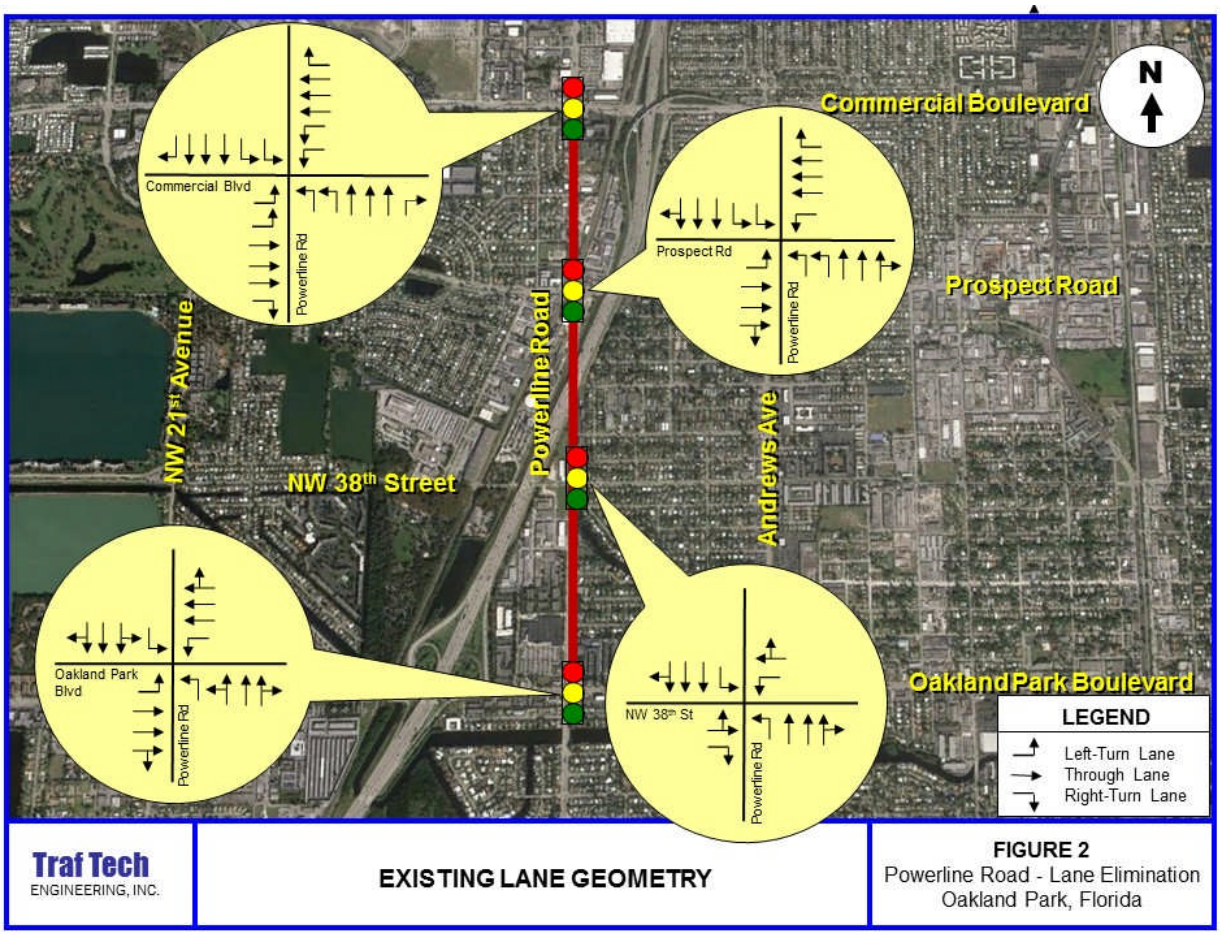
Powerline Road, between Commercial Boulevard on the north and Oakland Park Boulevard on the south, is a State-maintained (State Road 845) principal arterial roadway with three (3) through lanes in each direction, has a landscaped raised median and exclusive or shared left and right-turn lanes at major intersections. The posted speed limit of the study segment of Powerline Road is 45 miles per hour.

B. Signalized Intersections

There are four signalized intersections located between (and inclusive of) Commercial Boulevard and Oakland Park Boulevard. These signalized locations include:

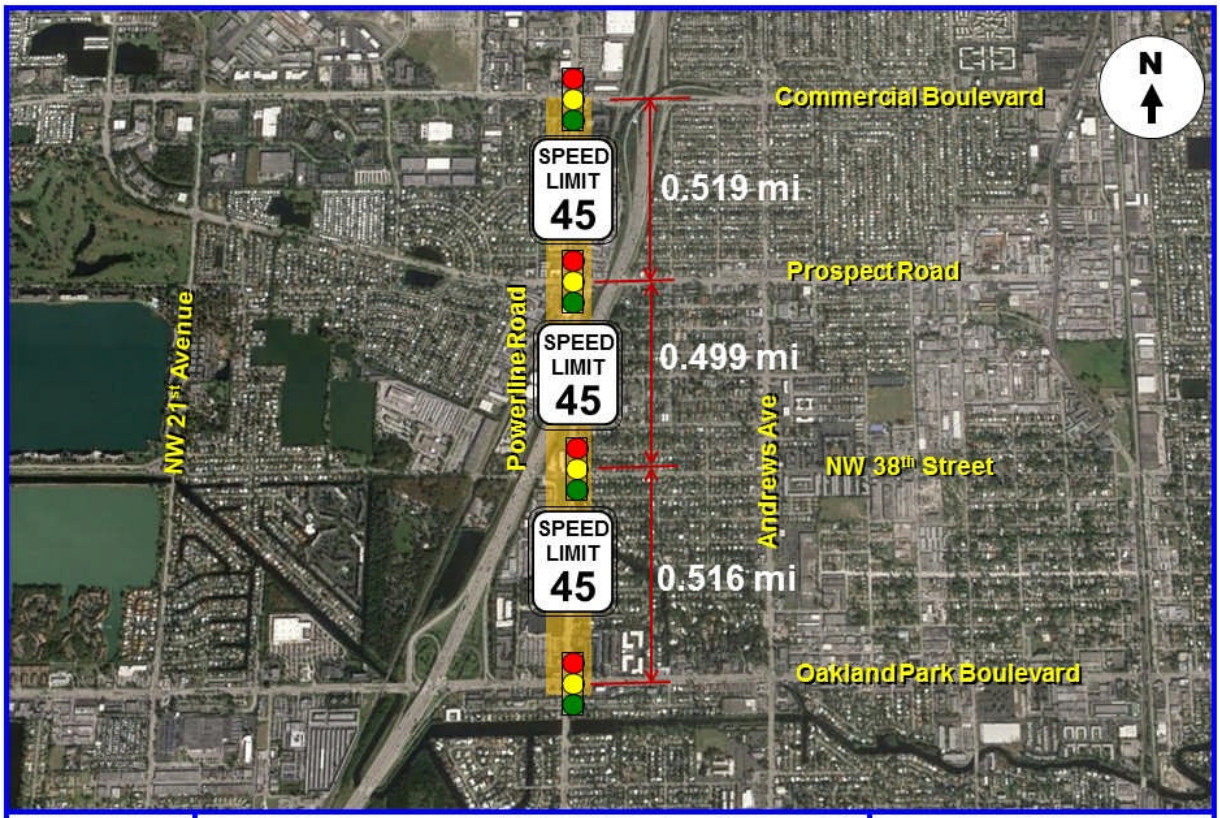
1. Commercial Boulevard
2. Prospect Road
3. NW 38th Street
4. Oakland Park Boulevard

The existing lane geometry (number of lanes and lane assignments) of the four signalized intersections is graphically depicted in **Figure 2**.



C. Access Classification

According to FDOT, Powerline Road is classified as an Access Class 5 facility. Access Class 5 roadways are controlled access facilities where adjacent land has been extensively developed and where the probability of major land use change is not high. These roadways are distinguished by existing or planned restrictive medians. As such (and with a posted speed limit of 45 miles per hour), traffic signals/unsignalized full median openings should be spaced at no less than 1,320 feet from each other, directional median openings should have a spacing of no less than 660 feet, and driveway connection spacing should provide more than 245 feet between private driveways and/or public streets. Figure 3 shows the spacing between traffic signals (currently about 0.5 miles between signalized intersections).



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SIGNAL SPACING AND SPEED LIMIT

FIGURE 3
Powerline Road - Lane Elimination
Oakland Park, Florida

D. Level of Service

According to current traffic volumes, Powerline Road within the project area is currently operating at less than 50 percent of its level of service "D" capacity, and therefore operates at a level of service "C" between Oakland Park Boulevard and Commercial Boulevard. In short, the six through lanes on Powerline Road provide approximately twice the capacity when compared with traffic volumes traveling north and south along the state road. Refer to Tables 2 and 3 provided in this document.

E. Typical Section

The cross section of Powerline Road includes six (6) eleven-foot through lanes with a raised median and 2 feet of curb and gutter on each side of the roadway. The width of the median varies throughout the length of the study segment of Powerline Road. In some areas (primarily the southern section) the raised median functions as a traffic separator and further north the raised median is wide enough where landscaping is provided. Additionally, a 2-foot paved shoulder is provided on both sides of Powerline Road from about the I-95 underpass to Commercial Boulevard.

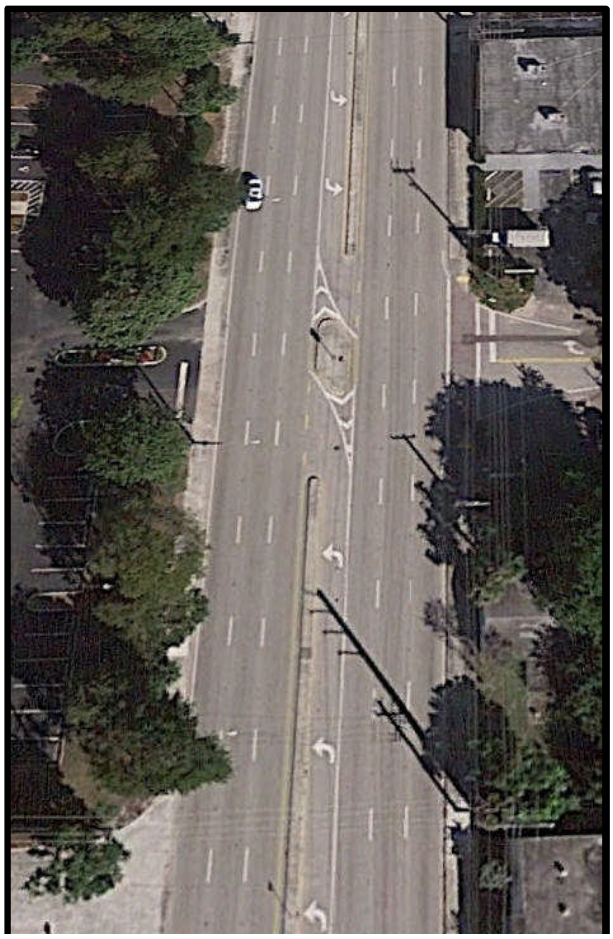


Photo 1 – Existing typical section north of Oakland Park Boulevard with six (6) 11-foot through lanes, 2-foot curb & gutter, sidewalks on both sides and a traffic separator in the median (with no landscaping).

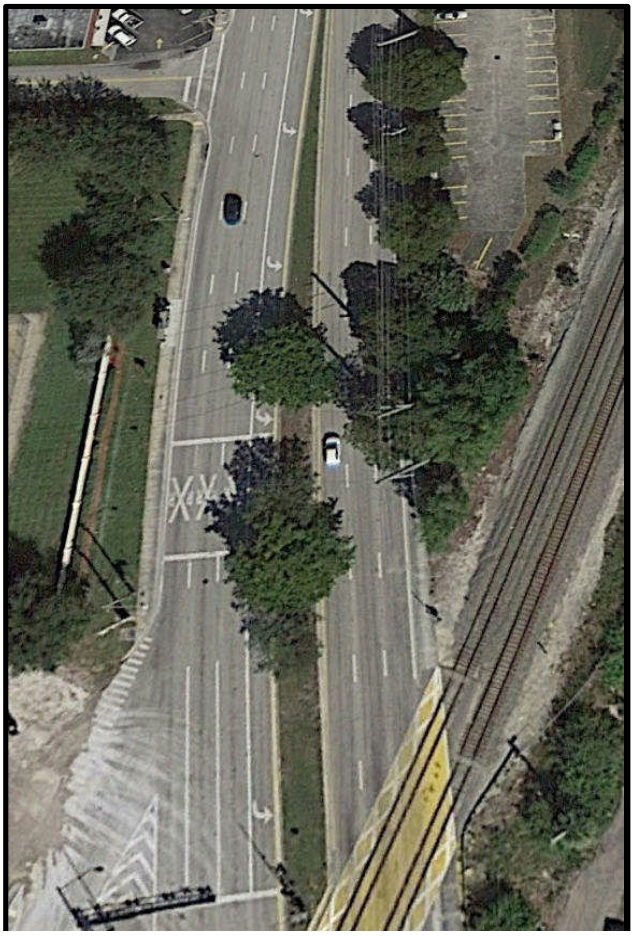


Photo 2 - Existing typical section north of Prospect Road with six (6) 11-foot through lanes, 2-foot curb & gutter, sidewalks on both sides and a center landscaped median

Photo 3 – Typical Section on Existing 6-Lanes Powerline Road

Photo 4 – Northerly view of NB Lanes of Powerline Road, north of NW 38th Street

Photo 5 – Southerly view of NB Lanes of Powerline Road, north of NW 38th Street

F. Historic Traffic Counts

There are two traffic count stations located along the study segment of Powerline Road; 1) FDOT Traffic Count Site 5189 located north of Oakland Park Boulevard and, 2) FDOT Traffic Count Site 484 located near Prospect Road. Based on historic traffic volumes at these two traffic count stations, traffic volumes have remained relatively constant during the past 15 years. Table 1 below shows historic traffic volumes on the segment of Powerline Road under study while Exhibit 1 shows an analysis of these volumes.

TABLE 1
Historic Traffic Counts for Powerline Road
Oakland Park Boulevard to Commercial Boulevard

Year	Traffic Count Station	
	North of Oakland Park Blvd	Near Prospect Road
1998	26,500	24,500
1999	28,500	24,500
2000	29,000	25,500
2001	26,500	24,500
2002	26,500	23,000
2003	26,000	22,500

2004	25,500	24,000
2005	27,500	25,000
2006	29,500	24,000
2007	25,500	24,000
2008	25,500	25,500
2009	24,500	20,400
2010	26,000	20,500
2011	25,500	20,300
2012	25,000	21,000
2013	22,200	26,500
2014	25,500	31,000
2015	27,500	34,000
2016	27,000	27,500

SOURCE: Florida Department of Transportation

G. Existing Traffic Conditions

Tables 2 and 3 show existing (2015) daily and peak hour traffic conditions for Powerline Road within the area under study. Volumes shown in Tables 2 and 3 were developed from turning movement count data from a variety of sources as follows:

- Powerline Road at Commercial Boulevard - *I-95 from Cypress Creek Road to Commercial Boulevard PD&E Study* (Appendix A),
- Powerline Road at Oakland Park Boulevard - *Interchange Concept Development Report SR-9 (I-95) at SR 816 (Oakland Park Boulevard) Interchange* (Appendix A),
- Powerline Road at Prospect Road and Powerline Road at NW 38th Street - turning movement count data collected by this firm in May 2015. The counts (included as Appendix B) were adjusted to reflect peak season conditions through use of Peak Season Conversion Factors (PSCF) provided by FDOT.

Intersection approach volumes used in development of daily and peak hour roadway segment volumes shown in Tables 2 and 3 are illustrated in a figure included within the appendix.

TABLE 2
Daily Analysis
Existing Traffic Conditions for Powerline Road (As a 6-Lane Roadway)
Oakland Park Boulevard to Commercial Boulevard

	Year 2015			
Roadway Segment	**Daily Volume**	**Daily Capacity (1)**	**V/C Ratio**	**LOS**
N. of Oakland Park Blvd	24,978	59,900	0.42	C
N. of Prospect Rd	25,000	59,900	0.42	C

(1) 2013 Quality/Level of Service Handbook

TABLE 3
Peak Hour Analysis
Existing Traffic Conditions for Powerline Road (As a 6-Lane Roadway)
Oakland Park Boulevard to Commercial Boulevard

	Year 2015			
Roadway Segment	**Peak Hour Volume**	**Peak Hour Capacity (1)**	**V/C Ratio**	**LOS**
N. of Oakland Park Blvd	2,248	5,390	0.42	C
N. of Prospect Rd	2,013	5,390	0.37	C

(1) 2013 Quality/Level of Service Handbook

H. Crash Analysis

Crash data for the years 2012 through 2014 was reviewed for the segment of SR 845 (Powerline Road) between Oakland Park Boulevard and Commercial Boulevard. The data was obtained from the FDOT's Crash Analysis Reporting System (CARS). The results of the crash analysis are discussed below.

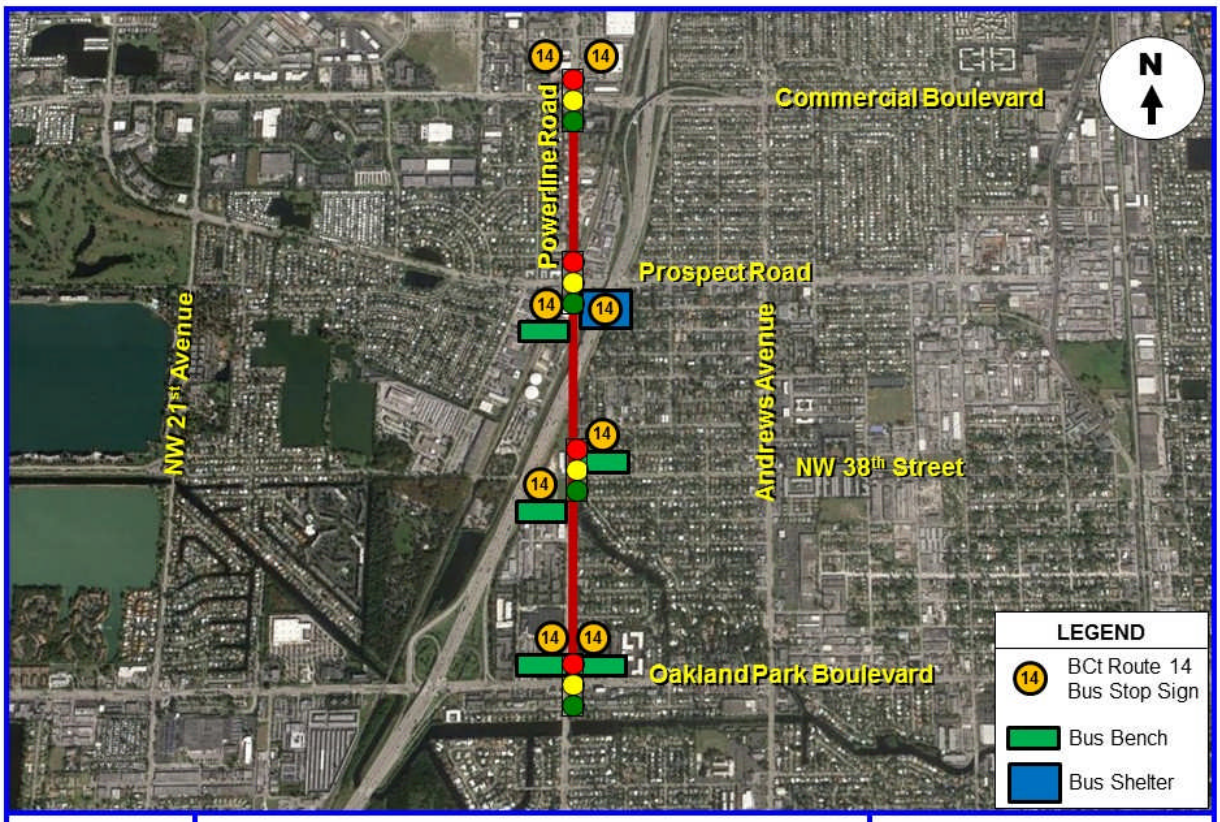
A total of 489 crashes occurred during the 3-year study period (125 in 2012, 162 in 2013 and 202 in 2014). A total of four (4) fatalities, 155 injuries and 331 property damage crashes occurred between 2012 and 2014. The majority of the crashes involved rear-end collisions (469). Most of the crashes occurred at the major intersections of Commercial Boulevard, Oakland Park Boulevard and Prospect Road. Two angle crashes, one left-turn crash and two pedestrian/bicycle crashes occurred during the 3-year study period. A review of signal timing data shows that adequate pedestrian clearance time is provided for each signalized crossing within the limits of the study area. The lane elimination project could reduce the potential for crashes by narrowing the cross section (reduced exposure time for vehicles and pedestrians) on SR 845 (Powerline Road) and lowering travel speed.

Exhibit 2 shows the crash histograms documenting crashes by type, severity, light condition, weather condition, surface condition as well as crashes by month of the year, by day of the week and by time of day.

I. Transit Routes/Stops

Broward County Transit (BCt) operates Route 14 along Powerline Road. This route travels between the Broward Central Terminal located at Downtown Fort Lauderdale and Hillsboro Boulevard near Broward/Palm Beach County line. During Monday through Friday, BCT Route 14 travels with 20 minute headways. On Saturdays, the headway increases to 45 minutes. No transit service is provided on Sundays along Powerline Road.

There are four (4) bus stops along the study segment of Powerline Road for northbound-traveling buses and four (4) for southbound-traveling buses. Two of the eight bus stops only have a bus-stop sign, five have a bus stop sign and a bus bench, and one bus stop has a shelter. The bus-stop locations and the type of amenities are graphically depicted in **Figure 4**. Route 14 headway details are provided in Appendix C.



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BROWARD COUNTY TRANSIT STOPS

FIGURE 4
Powerline Road - Lane Elimination
Oakland Park, Florida

III. FUTURE CONDITIONS

The following tables analyze future projected (years 2020 and 2040) traffic conditions for the study segment. Future conditions are examined with Powerline Road as both a 6-lane and a 4-lane roadway. Volumes analyzed were developed from several sources including the *I-95 from Cypress Creek Road to Commercial Boulevard PD&E Study*, the *Interchange Concept Development Report SR-9 (I-95) at SR-816 (Oakland Park Boulevard) Interchange* and turning movements collected by this firm in May 2015 adjusted to peak season and projected into future years 2020 and 2040. Intersection approach volumes used in development of daily and peak hour roadway segment volumes shown in Tables 4 and 5 are illustrated in a figure included within Appendix D.

A. Traffic Forecasts (2020) – Without Lane Elimination (6-lane)

TABLE 4
Daily Analysis
Future Traffic Conditions for Powerline Road (As a 6-Lane Roadway)
Oakland Park Boulevard to Commercial Boulevard

Roadway Segment	Year 2020			
	Daily Volume	Daily Capacity (1)	V/C Ratio	LOS
N. of Oakland Park Blvd	27,322	59,900	0.46	C
N. of Prospect Rd	26,000	59,900	0.43	C

(1) 2013 Quality/Level of Service Handbook

TABLE 5
Peak Hour Analysis
Future Traffic Conditions for Powerline Road (As a 6-Lane Roadway)
Oakland Park Boulevard to Commercial Boulevard

Roadway Segment	Year 2020			
	Peak Hour Volume	Peak Hour Capacity (1)	V/C Ratio	LOS
N. of Oakland Park Blvd	2,459	5,390	0.46	C
N. of Prospect Rd	2,116	5,390	0.39	C

(1) 2013 Quality/Level of Service Handbook

TABLE 6
Intersection Capacity Analysis
Future Traffic Conditions for Powerline Road (As a 6-Lane Roadway)
Oakland Park Boulevard to Commercial Boulevard

Intersection	Year 2020			
	LOS (AM)	Delay (AM)	LOS (PM)	Delay (PM)
Powerline\Oakland Park	F	144.6	F	173.5
Powerline\NW 38 Street	B	19.7	C	32.1
Powerline\Prospect Road	E	64.0	E	62.2
Powerline\Commercial	E	59.8	E	67.0

As shown in Tables 4 and 5, excess roadway capacity is expected to be available in year 2020 on the six-lane Powerline Road. Hence, lane elimination is possible based on future year traffic volumes developed from published FDOT reports and recent turning movement counts. Table 6 further shows expected operating level of service and delay at the four (4) study intersections. Geometrically, the Powerline Road intersections with Commercial Boulevard and Oakland Park Boulevard will remain unchanged throughout this study with three (3) through lanes both northbound and southbound to prevent degrading current operating levels. Synchro output included as Appendices F-H.

B. Traffic Forecasts (2020) – With Lane Elimination (4-lane)

TABLE 7
Daily Analysis
Future Traffic Conditions for Powerline Road (As a 4-Lane Roadway)
Oakland Park Boulevard to Commercial Boulevard

Roadway Segment	Year 2020			
	Daily Volume	Daily Capacity (1)	V/C Ratio	LOS
N. of Oakland Park Blvd	27,322	39,800	0.69	C
N. of Prospect Rd	26,000	39,800	0.65	C

(1) 2013 Quality/Level of Service Handbook

TABLE 8
Peak Hour Analysis
Future Traffic Conditions for Powerline Road (As a 4-Lane Roadway)
Oakland Park Boulevard to Commercial Boulevard

Roadway Segment	Year 2020			
	Peak Hour Volume	Peak Hour Capacity (1)	V/C Ratio	LOS
N. of Oakland Park Blvd	2,459	3,580	0.69	C
N. of Prospect Rd	2,116	3,580	0.59	C

(1) 2013 Quality/Level of Service Handbook

TABLE 9
Intersection Capacity Analysis
Future Traffic Conditions for Powerline Road (As a 4-Lane Roadway)
Oakland Park Boulevard to Commercial Boulevard

Intersection	Year 2020			
	LOS (AM)	Delay (AM)	LOS (PM)	Delay (PM)
Powerline\Oakland Park	F	144.6	F	173.5
Powerline\NW 38 Street	C	22.5	C	31.5
Powerline\Prospect Road	E	60.7	E	65.2
Powerline\Commercial	E	59.8	E	67.0

Tables 7 and 8 demonstrate that a four-lane Powerline Road can function adequately through year 2020. Hence, lane elimination is possible based on future year traffic volumes developed from published FDOT reports and recent turning movement counts. Table 9 further shows expected operating level of service and delay at four (4) intersections within the Powerline Road segment under study. Intersections levels of service remain unchanged with the exception of Powerline Road at NW 38th Street which is expected to operate at acceptable LOS 'C' during the AM peak hour. Synchro output included as Appendices F-H.

C. Traffic Forecasts (2040) – Without Lane Elimination (6-lane)

TABLE 10 Daily Analysis Future Traffic Conditions for Powerline Road (As a 6-Lane Roadway) Oakland Park Boulevard to Commercial Boulevard				
	Year 2040			
Roadway Segment	Daily Volume	Daily Capacity (1)	V/C Ratio	LOS
N. of Oakland Park Blvd	36,289	59,900	0.61	C
N. of Prospect Rd	29,000	59,900	0.48	C

(1) 2013 Quality/Level of Service Handbook

TABLE 11 Peak Hour Analysis Future Traffic Conditions for Powerline Road (As a 6-Lane Roadway) Oakland Park Boulevard to Commercial Boulevard				
	Year 2040			
Roadway Segment	Peak Hour Volume	Peak Hour Capacity (1)	V/C Ratio	LOS
N. of Oakland Park Blvd	3,266	5,390	0.61	C
N. of Prospect Rd	2,568	5,390	0.48	C

(1) 2013 Quality/Level of Service Handbook

TABLE 12 Intersection Capacity Analysis Future Traffic Conditions for Powerline Road (As a 6-Lane Roadway) Oakland Park Boulevard to Commercial Boulevard				
	Year 2040			
Intersection	LOS (AM)	Delay (AM)	LOS (PM)	Delay (PM)
Powerline\Oakland Park	F	182.1	F	250.5
Powerline\NW 38 Street	C	23.0	D	38.3
Powerline\Prospect Road	E	74.2	E	69.1
Powerline\Commercial	F	81.7	F	80.7

As shown in Tables 10 and 11, excess roadway capacity is expected to be available in year 2040 on the six-lane Powerline Road. Hence, lane elimination is possible based on future year traffic volumes developed from published FDOT reports and recent turning movement counts. Table 12 further shows expected operating level of service and delay at the four (4) intersections. Geometrically, the Powerline Road intersections with Commercial Boulevard and Oakland Park Boulevard will remain unchanged throughout this study with three (3) through lanes both northbound and southbound to prevent

degrading current operating levels. Synchro output included as Appendices F-H.

D. Traffic Forecasts (2040) – With Lane Elimination (4-lane)

TABLE 13
Daily Analysis
Future Traffic Conditions for Powerline Road (As a 4-Lane Roadway)
Oakland Park Boulevard to Commercial Boulevard

Roadway Segment	Year 2040			
	Daily Volume	Daily Capacity (1)	V/C Ratio	LOS
N. of Oakland Park Blvd	36,289	39,800	0.91	C
N. of Prospect Rd	29,000	39,800	0.73	C

(1) 2013 Quality/Level of Service Handbook

TABLE 14
Peak Hour Analysis
Future Traffic Conditions for Powerline Road (As a 4-Lane Roadway)
Oakland Park Boulevard to Commercial Boulevard

Roadway Segment	Year 2040			
	Peak Hour Volume	Peak Hour Capacity (1)	V/C Ratio	LOS
N. of Oakland Park Blvd	3,266	3,580	0.91	C
N. of Prospect Rd	2,568	3,580	0.72	C

(1) 2013 Quality/Level of Service Handbook

TABLE 15
Intersection Capacity Analysis
Future Traffic Conditions for Powerline Road (As a 4-Lane Roadway)
Oakland Park Boulevard to Commercial Boulevard

Intersection	Year 2040			
	LOS (AM)	Delay (AM)	LOS (PM)	Delay (PM)
Powerline\Oakland Park	F	182.1	F	250.5
Powerline\NW 38 Street	C	28.9	D	41.1
Powerline\Prospect Road	E	71.4	E	77.1
Powerline\Commercial	F	81.7	F	80.7

Tables 13 and 14 demonstrate that a four-lane Powerline Road can function adequately in year 2040. Hence, lane elimination is possible based on future year traffic volumes developed from published FDOT reports and recent turning movement counts. Table 15 further shows expected operating level of service and delay at four (4) intersections within the Powerline Road segment under study. Intersection levels of service remain unchanged. Synchro output included as Appendices F-H.

E. Length of Queue Comparison

Length of queue at each study intersection in future years 2020 and 2040 considering both a 6-lane and a 4-lane section is shown in Tables 16 and 17. Minimal variation in queue length is noted between the two roadway sections.

TABLE 16
Powerline Road
Length of Queues - AM Peak Hour

		Queue Length (Vehicles and feet) *							
	Available	2020				2040			
		6-Lane		4-Lane		6-Lane		4-Lane	
Intersection/Movement	Storage (ft)	veh	feet	veh	feet	veh	feet	veh	feet
Powerline Road at Commercial Blvd									
NB Left	300	7.6	190	7.6	190	8.8	220	8.8	220
NB Through	Full	15.3	383	15.3	383	17.4	435	17.4	435
NB Right	100	17.7	443	17.7	443	34.0	850	34.0	850
Powerline Road at Prospect Road									
NB Left	500	7.5	188	7.1	178	8.6	215	8.1	203
NB Through	Full	21.4	535	25.7	643	26.5	663	29.6	740
SB Left	100/600	11.2	280	11.4	285	14.0	350	18.3	458
SB Through	Full	12.3	308	18.5	463	15.6	390	3.1	78
Powerline Road at NW 38th Street									
NB Left	340	5.4	135	5.3	133	7.5	188	6.7	168
NB Through	Full	14.3	358	23.0	575	19.4	485	30.7	768
SB Left	275	0.8	20	0.8	20	1.2	30	1.1	28
SB Through	Full	0.2	5	0.8	20	0.3	8	1.1	28
Powerline Road at Oakland Park Blvd **									
SB Through	Full	n/a	662	n/a	662	n/a	843	n/a	843
SB Left	210	n/a	365	n/a	365	n/a	356	n/a	356

TABLE 17
Powerline Road
Length of Queues - PM Peak Hour

		Queue Length (Vehicles and feet) *							
	Available	2020				2040			
		6-Lane		4-Lane		6-Lane		4-Lane	
Intersection/Movement	Storage (ft)	veh	feet	veh	feet	veh	feet	veh	feet
Powerline Road at Commercial Blvd									
NB Left	300	6.4	160	6.4	160	7.4	185	7.4	185
NB Through	Full	15.8	395	15.8	395	20.9	523	20.9	523
NB Right	100	21.3	533	21.3	533	37.6	940	37.6	940
Powerline Road at Prospect Road									
NB Left	500	14.3	358	14.2	355	17.1	428	17.2	430
NB Through	Full	14.5	363	21.0	525	17.6	440	26.0	650
SB Left	100/600	11.7	293	11.7	293	13.8	345	14.3	358
SB Through	Full	13.2	330	20.2	505	17.4	435	28.8	720
Powerline Road at NW 38th Street									
NB Left	340	7.2	180	7.8	195	11.8	295	19.4	485
NB Through	Full	12.1	303	19.2	480	16.4	410	25.6	640
SB Left	275	1.9	48	1.9	48	2.6	65	2.4	60
SB Through	Full	18.9	473	23.6	590	22.4	560	28.2	705
Powerline Road at Oakland Park Blvd **									
SB Through	Full	n/a	870	n/a	870	n/a	1246	n/a	1246
SB Left	210	n/a	408	n/a	408	n/a	408	n/a	408

* Length in feet = vehicles x 25 feet/vehicle
** HCM 2010 not used due to software limitations due to lane assignments at this intersection

F. Mitigation

Powerline Road is a State Road. The Powerline Road study area intersects with two state roads – Commercial Boulevard and Oakland Park Boulevard. The proposed lane elimination will not have a significant or adverse LOS on Powerline Road, other state roads or the regional transportation system. As outlined in the proposed concept section of this report, lane transitions are recommended approaching the intersections at Oakland Park Boulevard and Commercial Boulevard.

IV. PROPOSED CONCEPT

A. Conceptual Funding and Implementation

The City of Oakland Park's Capital Improvement Program for the proposed Powerline Road lane elimination is provided below and as Appendix I.

CITY OF OAKLAND PARK
CAPITAL IMPROVEMENT PROGRAM
FY2017- FY2021

FINANCIAL INFORMATION

Project Name:	**Powerline Road Lane Reduction**							
Department/Division:	Engineering & Community Development							
	Prior to FY 2017	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**	**Total Programmed**	**To Be Programmed**
Project Budget:								
Streetscapes								
Design/Permitting			$ 113,000				$ 113,000	
Contingency			$ 11,300		$ 112,900		$ 124,200	
Construction					$ 1,129,000		$ 1,129,000	
Inspections					$ 112,900		$ 112,900	
Total Budget	$ -	$ -	$ 124,300	$ -	$ 1,354,800	$ -	$ 1,479,100	$ -
Funding Sources:								
General Fund Unfunded			$ 124,300		$ 677,400		$ 801,700	
Water/Sewer Fund Balance							$ -	
Stormwater Fund Bal							$ -	
Water/Sewer Bonds							$ -	
Stormwater Bonds							$ -	
Grant Revenue					$ 677,400		$ 677,400	
Other -							$ -	
Total Funding	$ -	$ -	$ 124,300	$ -	$ 1,354,800	$ -	$ 1,479,100	$ -
Projected Operating:								
Utilities							$ -	
Maintenance						$ 5,000	$ 5,000	
Other							$ -	
Total Operating Costs	$ -	$ -	$ -	$ -	$ -	$ 5,000	$ 5,000	$ -

CITY OF OAKLAND PARK
CAPITAL IMPROVEMENT PROGRAM
FY2017- FY2021

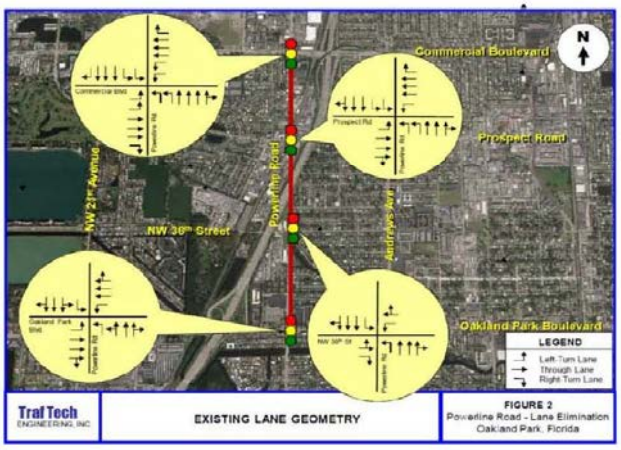
PROJECT INFORMATION

Project Name:	**Powerline Road Lane Reduction**				
Department/Division:	ECD		**Project Manager:**	Dincer Akin Ozaydin	
Project Start Date:	Oct-17		**Projected Completion Date:**		12/31/20
Design Completion	TBD	**Bid Award**	TBD	**Construction Start**	TBD

Project Location/Description: This project involves coordination with the Broward Metropolitan Planning Organization and the Florida Department of Transportation to restripe Powerline Road from Oakland Park Blvd to Commercial Blvd and add buffered bike lanes to continue the improvements that were made south of Oakland Park Blvd in Wilton Manors and Fort Lauderdale. The project will eliminate one of the travel lanes, narrow the other lanes and and allow for a 2' wide striped buffer to separate a 7' wide bike lane. Project does not include landscaping but the City can work with FDOT and the MPO during design to add 4'wide islands within the bike lanes that will allow for the installation of landscaping. City conducted a Lane ELimination Study and will go though the process with FDOT to complete the process and will partner with the MPO to submit a TIGER grant application for funding in 2016.

Need, Justification, Benefit: These improvements will improve the functionality, safety, and aesthetic appearance of this section of roadway which is one of the major corridors that run through the City of Oakland Park and will facilitate multi-modal means of transportation.

Location & Area Map

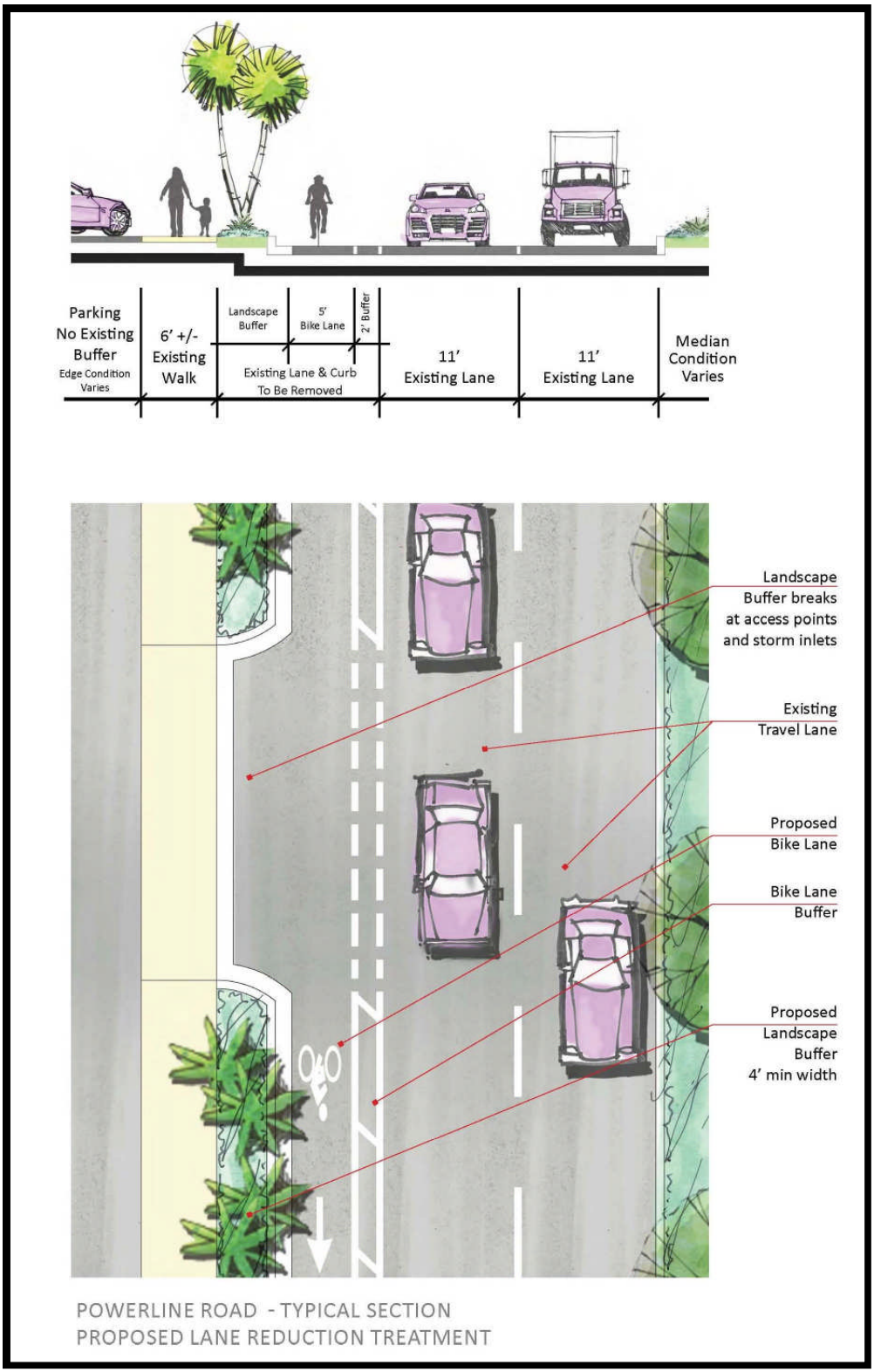


Project Graphic

Effect on Operations:

B. Conceptual Design

The below typical section depicts the conceptual design including landscape buffer, curb and gutter, new bicycle lane, and 2-foot buffer between auto traffic and proposed bicycle lane. In addition, please see conceptual plans depicting the proposed lane elimination attached as C-1 through C-6. It should be noted that no changes to existing access points are proposed.



Source: Craven Thompson & Associates

Source: Craven Thompson & Associates

C. Intersection Lane Transition

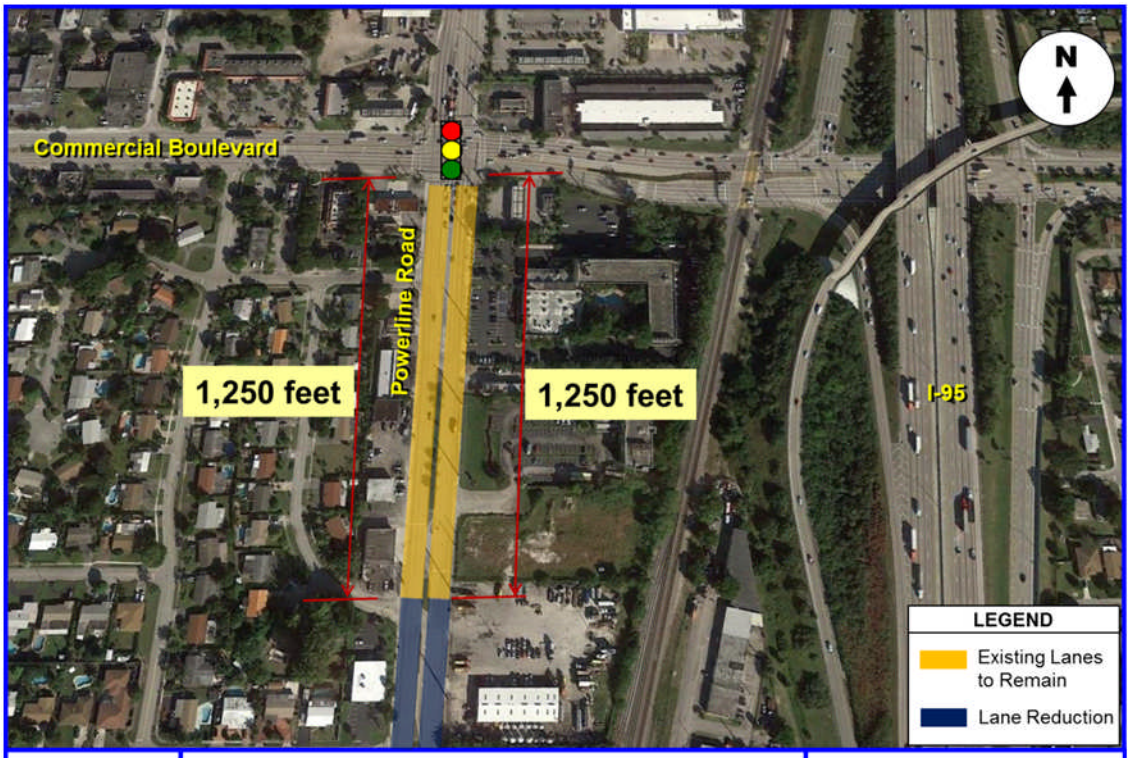
Based on current level of congestion at the major signalized intersections of Powerline Road/Commercial Boulevard (north terminus) and Powerline Road/Oakland Park Boulevard (south terminus), three through lanes should by maintained in both the northbound and southbound directions to avoid degrading the operation of these deficient intersections. The following transition dimensions from a six-lane roadway to a four-lane cross section are proposed:

- Northbound Powerline Road approaching Commercial Boulevard: Widen to the existing six-lane approach at least 1,200 feet south of Commercial Boulevard
- Southbound Powerline Road departing from Commercial Boulevard: Continue

the 3 southbound through lanes for at least 1,200 feet prior to reducing the number of southbound through lanes to two (2)

- Southbound Powerline Road approaching Oakland Park Boulevard: Widen to the existing four-lane approach at least 1,200 feet north of Oakland Park Boulevard
- Northbound Powerline Road departing from Oakland Park Boulevard: Continue the 3 northbound through lanes for at least 1,200 feet prior to reducing the number of northbound through lanes to two (2)

Figures 5 and 6 illustrate the lane transition at Commercial Boulevard and Oakland Park Boulevard, respectively. **Figures 7 and 8** depict the lane elimination concept through the intersections of NW 38th Street and Powerline Road, respectively.

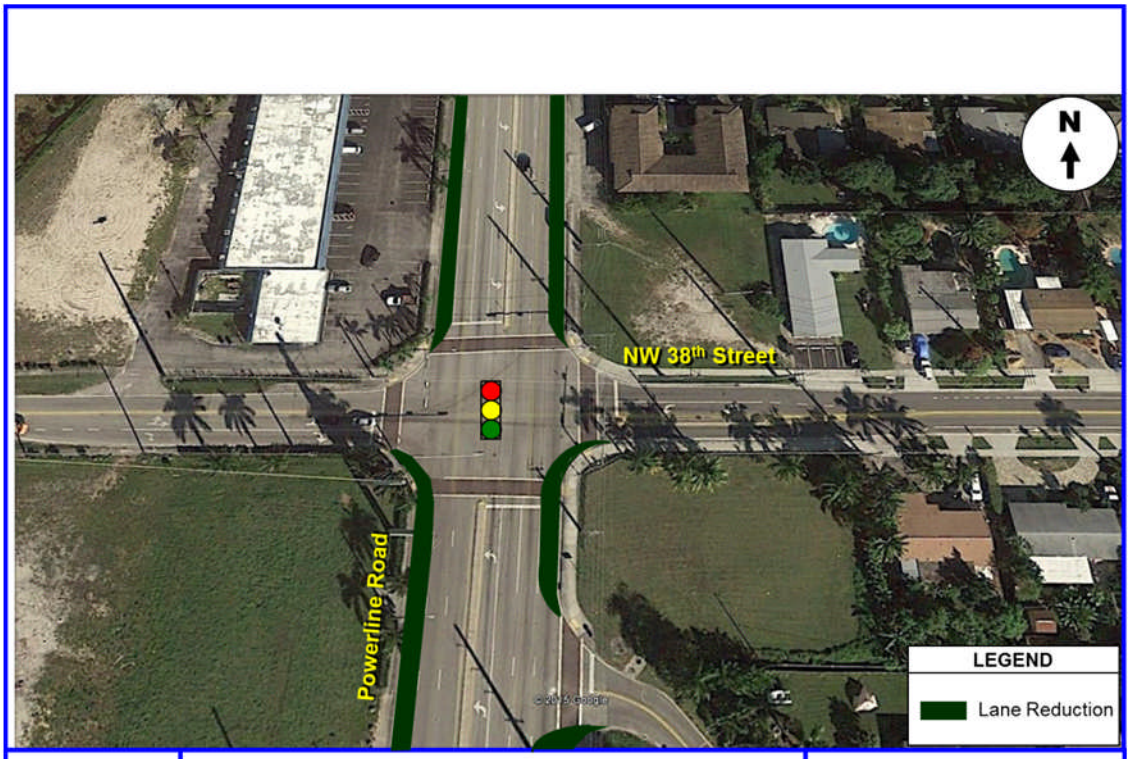


Traf Tech ENGINEERING, INC.

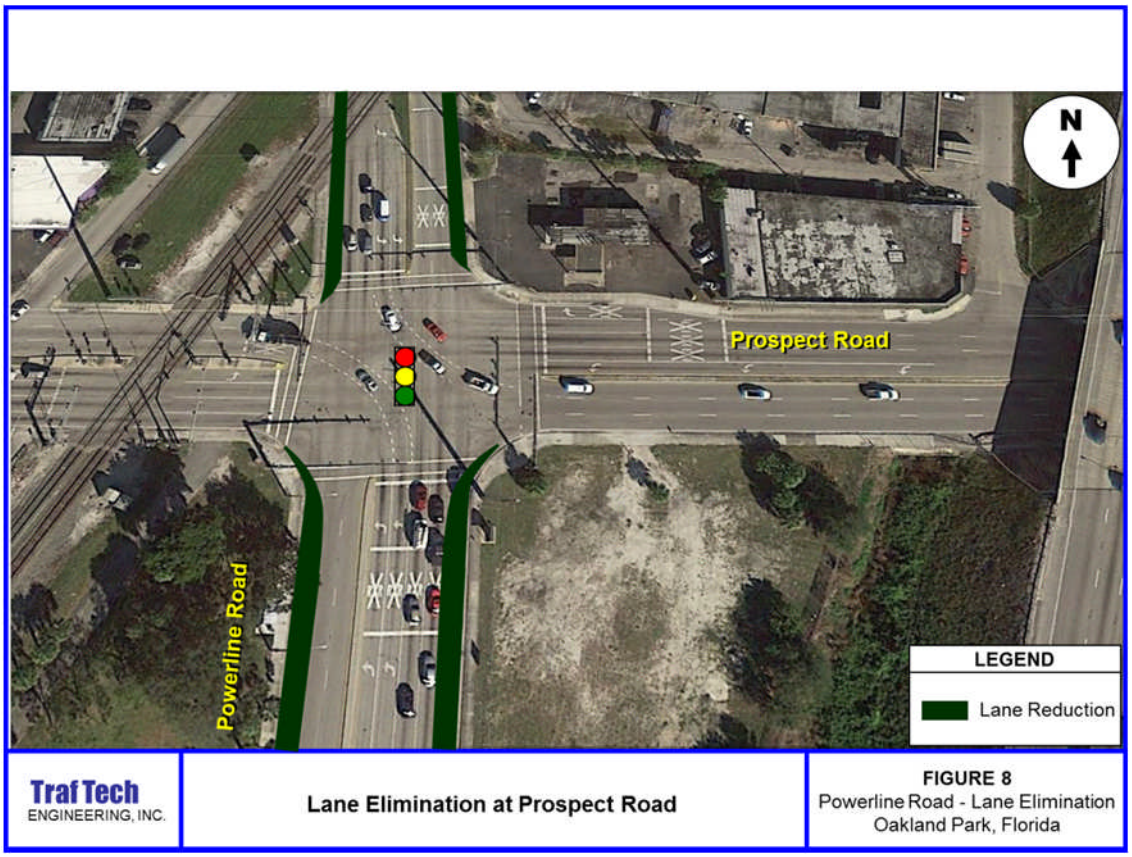
LANE TRANSITION AT COMMERCIAL BOULEVARD

FIGURE 5
Powerline Road - Lane Elimination
Oakland Park, Florida

Traf Tech ENGINEERING, INC.	LANE TRANSITION AT OAKLAND PARK BOULEVARD	FIGURE 6 Powerline Road - Lane Elimination Oakland Park, Florida



Traf Tech ENGINEERING, INC.	Lane Elimination at NW 38th Street	FIGURE 7 Powerline Road - Lane Elimination Oakland Park, Florida



The signalized intersections of Powerline Road/Prospect Road and Powerline Road/NW 38th Street can process four through lanes (two in each direction) without degrading the level of service through the year 2040 as detailed in a prior section.

D. Posted Speed

The current posted speed limit on Powerline Road is 45 miles per hour. A speed study should be conducted at the time the lane elimination project is implemented in order to determine the appropriate speed for Powerline Road once the number of lanes is reduced from six (6) to four (4). The speed study should be coordinated and submitted to FDOT for review and approvals.

E. Design Variations

No design variations or exceptions are anticipated.

F. Estimated Impacts of Proposed Design

1. Overall Lane Elimination Impact

As documented in the traffic analysis section of this report, the lane elimination will

not have a negative effect to traffic flow and level of service. That is, with the proposed lane elimination in place, acceptable levels of services are anticipated through the future year of 2040.

From a safety standpoint, the proposed lane elimination is anticipated to have a positive effect to future motorists, pedestrians and bicyclists traveling north and south along the subject segment of Powerline Road. Lane elimination has been identified by the Federal Highway Administration (FHWA) as one of the nine proven countermeasures to reduce crashes. Moreover, and according to the Pedestrian and Bicycle Information Center (PBIC), before and after studies have shown that lane elimination projects result in both crash and speed reductions.

2. Impact on Pedestrian and Bicycle Infrastructure and Connectivity

The subject segment has been identified on the Broward Complete Streets Initiative Map as "MPO Identified & Sponsored Phase 2 FY 16/17". Complete Streets are those that utilize design standards to make streets safe for all users, including those who walk, ride bikes and use public transportation. There is no single formula for Complete Streets; each street is unique and accommodates the needs of the surrounding community. A Complete Street may include sidewalks, bicycle lanes, comfortable and accessible public transportation stops, frequent and safe crosswalks, median islands, pedestrian signals, curb extensions, narrower travel lanes, and roundabouts, among others. Pedestrian level of service would improve by the additional separation from the adjacent motor vehicle travel lane and the proposed landscaped buffer achieved from moving the curbs in.

Bicycle lanes do not currently exist along the study segment but the proposed lane elimination provides the opportunity to add bicycle lanes to this area. The proposed bicycle lanes will terminate before reaching the intersections at Oakland Park Boulevard and Commercial Boulevard. The right-of-way is not available to carry the bike lanes through the intersections but the terminating bicycle lanes will be transitioned safely on to the sidewalk. Coordination is underway with the southern lane elimination segment (Powerline Road south of Oakland Park Boulevard) in order to provide continuity for bicycle and pedestrian facilitates.

3. Impact on Trucks and Designated Truck Routes

According to FDOT, truck traffic has generally been relatively low (generally below 6.0%) along Powerline Road (Oakland Park Boulevard to Commercial Boulevard). During the design phase of the lane elimination project along SR 845, adequate lane widths and turning radii will be provided to safely accommodate truck traffic along Powerline Road.

4. Evacuation Route Impacts.

   The study segment is not a hurricane evacuation route. The proposed lane elimination will not have an impact on evacuation routes. Refer to **Exhibit 3:** Broward County Evacuation Routes and Zones.

5. Traffic Signals

   The proposed lane elimination will have minimal impacts to traffic signals. Since no changes are proposed at the two major intersections of Powerline Road/Oakland Park Boulevard and Powerline Road/Commercial Boulevard, no signal modifications are required at these two major signalized locations. At both Powerline Road/Prospect Road and Powerline Road/NW 38th Street, minor signal heads adjustments will be required to properly align the location of the signal heads with the future four through lanes (two in each direction). No structural analysis or upgrades will be required as a results of the required future signal heads adjustments.

6. Impacts on School Crossing Locations

   There are no school zones on SR 845/Powerline Road between Oakland Park Boulevard and Commercial Boulevard and therefore, no impacts on school crossing locations are anticipated as a result of the proposed lane elimination for Powerline Road.

7. Impact on Parking Supply.

   No on-street parking is located within the study area. Therefore, the proposed lane elimination will not have an impact on parking supply.

8. Case-specific Special Considerations

   There is a RR preemption system in place at the RR crossing on Powerline Road, north of Prospect Road. If and when Powerline Road is reconstructed to narrow the road from 6 to 4 lanes, the County believes the system they have in place for 6 lanes will still be appropriate for 4 through lanes. However, when the lane elimination project is implemented, Broward County will revisit the RR preemption system to determine if further RR preemption refinements need to be implemented.

   Additionally, the existing Oakland Park Fire Station (OPFS) 20 located near NW 47th Court is not anticipated to be impacted by the proposed lane elimination project.

V. FINDINGS/CONCLUSION

Findings:

- Historical traffic volumes have remained relatively constant during the past 18 years.
- 4-lane Powerline Road can function adequately through Broward County's buildout year of 2040, Level of Service "C".
- Based on current level of congestion at the major signalized intersections of Powerline Road/Commercial Boulevard (north terminus) and Powerline Road/Oakland Park Boulevard (south terminus), three through lanes should be maintained in both the northbound and southbound directions in order to avoid degrading the operation of these deficient intersections. It is important to note that the Florida Department of Transportation is considering improvements at the intersection of Oakland Park Boulevard and Powerline Road (additional lanes on all four approaches) as documented in the *Interchange Concept Development Report* for SR 9 (I-95) at SR 816 (Oakland Park Boulevard) Interchange, January 2016.
- Tables 18, 19 and 20 below compares the operating conditions of Powerline Road from a roadway segment, intersection level of service and travel-time standpoints with and without the proposed lane elimination project. As documented in these tables, reducing the number of lanes on Powerline Road from six (6) to four (4) lanes will have minimal effect to traffic conditions. Intersection delay is projected to increase by less than 10 seconds and travel time between Oakland Park Boulevard and Commercial Boulevard will increase by less than one-half minute.

Proposed Improvements:

- New 4-foot Landscape Buffer between existing 6-foot sidewalk and proposed bicycle lane
- New 5-foot Bicycle Lane
- New 2-foot buffer between proposed bicycle lane and auto traffic
- Curb and Gutter reconstruction

TABLE 18
Powerline Road Lane Elimination
Summary of Roadway Segment Analysis

	6-Lane Powerline Road		6-Lane Powerline Road				4-Lane Powerline Road			
	Existing (2015)		Year 2020		Year 2040		Year 2020		Year 2040	
Roadway Segment	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c
Oakland to Prospect	C	0.42	C	0.46	C	0.61	C	0.69	C	0.91
Prospect to Commercial	C	0.37	C	0.39	C	0.48	C	0.59	C	0.72

SOURCE: Florida Department of Transportation, Broward County and Traf Tech Engineering, Inc.

TABLE 19
Powerline Road Lane Elimination
Summary of Intersection Capacity/Level of Service Analyses

	AM PEAK HOUR							
	6-Lane Powerline Road				4-Lane Powerline Road			
	Year 2020		Year 2040		Year 2020		Year 2040	
Intersection	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
Powerline/Oakland	F	144.6	F	182.1	F	144.6	F	182.1
Powerline/NW 38th St	B	19.7	C	23.0	C	22.5	C	28.9
Powerline/Prospect	E	64.0	E	74.2	E	60.7	E	71.4
Powerline/Commercial	E	59.8	F	81.7	E	59.8	F	81.7
	PM PEAK HOUR							
	6-Lane Powerline Road				4-Lane Powerline Road			
	Year 2020		Year 2040		Year 2020		Year 2040	
Intersection	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
Powerline/Oakland	F	173.5	F	250.5	F	173.5	F	250.5
Powerline/NW 38th St	C	32.1	D	38.3	C	31.5	D	41.1
Powerline/Prospect	E	62.2	E	69.1	E	65.2	E	77.1
Powerline/Commercial	E	67.0	F	80.7	E	67.0	F	80.7

SOURCE: SYNCHRO

TABLE 20
Powerline Road Lane Elimination
Summary of Travel Time (Minutes:Seconds)

		6-Lane Powerline Road		4-Lane Powerline Road	
Travel Direction	Peak	Year 2020	Year 2040	Year 2020	Year 2040
Northbound	AM	6:18	8:24	6:17	8:45
	PM	8:12	11:45	8:18	11:48
Southbound	AM	6:51	7:46	7:12	7:47
	PM	8:52	12:30	8:57	12:42

SOURCE: SYNCHRO

G. PUBLIC OUTREACH/STAKEHOLDER INVOLVEMENT

Stakeholder Support

Resolution 2016-031 supporting a joint partnership with the MPO for the 2016 TIGER Grant Application to provide for the lane elimination, addition of buffered bike lanes and landscaped islands was approved and executed on March 23, 2016. Refer to Appendix H: R-2016-031.

Community Meeting 1

A community outreach meeting was held on December 5, 2016 at Collins Community Park from 6:00 pm – 7:00 pm. Stephen Scott, Assistant Director of Planning & Zoning and Building & Permitting, and Dincer Ozaydin, P.E. from the City of Oakland Park were in attendance. City consultants from Craven Engineering, Traf Tech and Leigh Robinson Kerr & Associates, Inc. were in attendance and gave a Powerpoint presentation followed by a question and answer session.

Community Meeting 2

A community outreach meeting was held on December 21, 2016 at Collins Community Park from 6:00 pm – 7:00 pm. City Staff/representatives in attendance included Vice Mayor Tim Lonergan; Commissioner Sara Guevrekian; Stephen Scott, Assistant Director of Planning & Zoning and Building & Permitting; Albert Carbon, Public Works Director; Harvey Rambarath, Assistant Director Engineering & Community Development; and Dincer Ozaydin, P.E.. City consultants from Craven Engineering, Traf Tech and Leigh Robinson Kerr & Associates, Inc. were in attendance. A Powerpoint presentation was given followed by a question and answer session. Seventeen people signed in but a visual assessment indicates approximately 30 people from the public attended.

EXHIBIT A

Traffic Trend Analysis and Historical Traffic Counts

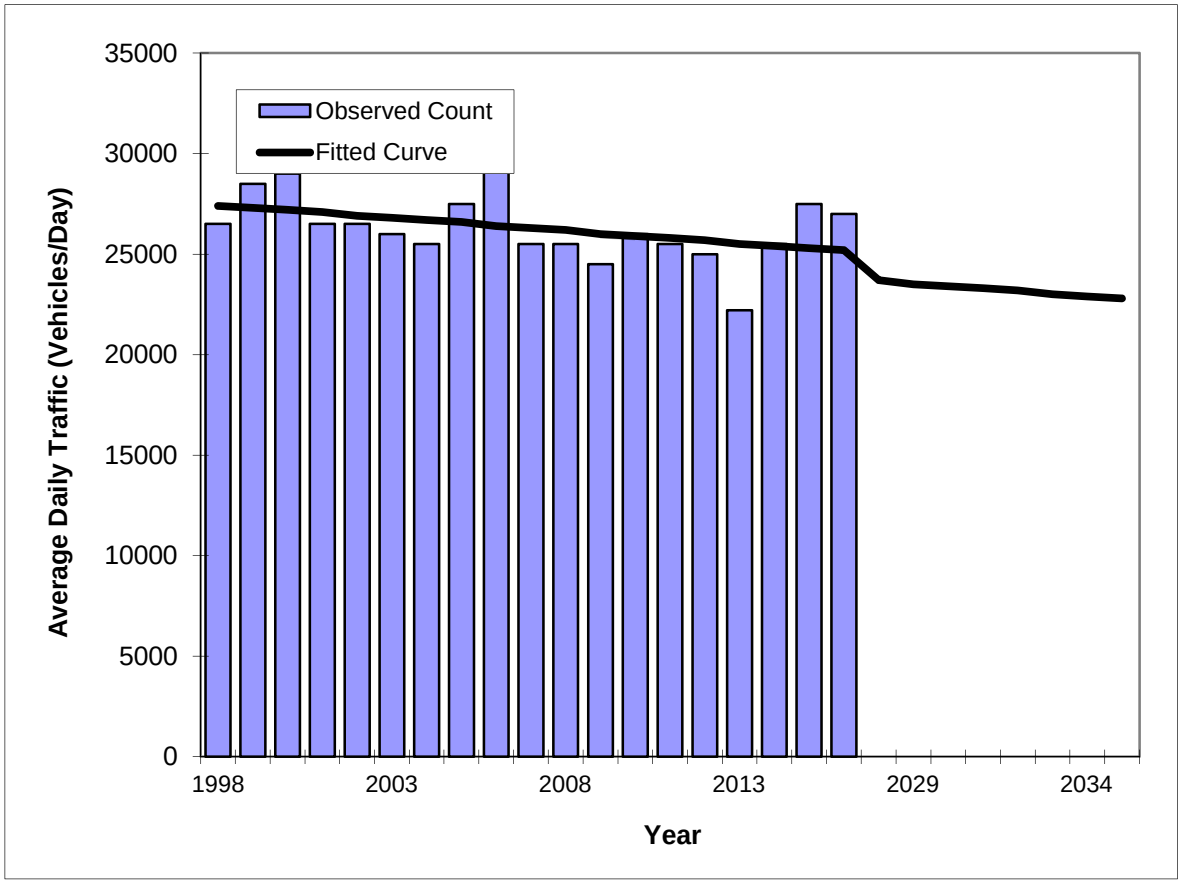
(Source: FDOT)

Traffic Trends - V2.0

Powerline Road -- North of Oakland Park Blvd

PIN#	0
Location	1

County:	Broward County (86)
Station #:	5189
Highway:	Powerline Road



Year	Traffic (ADT/AADT) Count*	Trend**
1998	26500	27400
1999	28500	27300
2000	29000	27200
2001	26500	27100
2002	26500	26900
2003	26000	26800
2004	25500	26700
2005	27500	26600
2006	29500	26400
2007	25500	26300
2008	25500	26200
2009	24500	26000
2010	26000	25900
2011	25500	25800
2012	25000	25700
2013	22200	25500
2014	25500	25400
2015	27500	25300
2016	27000	25200
2020 Opening Year Trend		
2020	N/A	#N/A
2030 Mid-Year Trend		
2030	N/A	23400
2040 Design Year Trend		
2040	N/A	22100
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	-126
Trend R-squared:	17.74%
Trend Annual Historic Growth Rate:	-0.45%
Trend Growth Rate (2016 to Design Year):	-0.51%
Printed:	29-Jun-17

Straight Line Growth Option

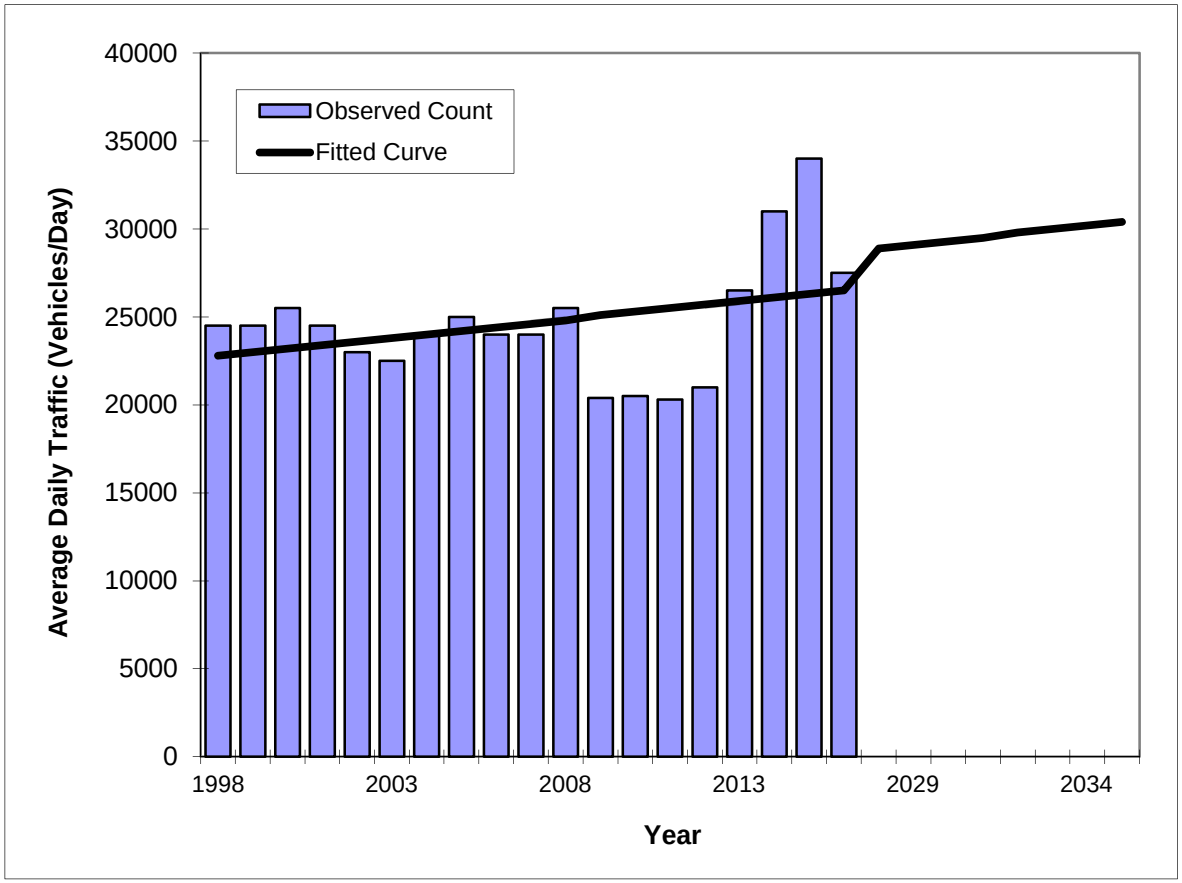
*Axle-Adjusted

Traffic Trends - V2.0

Powerline Road -- Near Prospect Road

PIN#	0
Location	1

County:	Broward County (86)
Station #:	0484
Highway:	Powerline Road



Year	Traffic (ADT/AADT) Count*	Trend**
1998	24500	22800
1999	24500	23000
2000	25500	23200
2001	24500	23400
2002	23000	23600
2003	22500	23800
2004	24000	24000
2005	25000	24200
2006	24000	24400
2007	24000	24600
2008	25500	24800
2009	20400	25100
2010	20500	25300
2011	20300	25500
2012	21000	25700
2013	26500	25900
2014	31000	26100
2015	34000	26300
2016	27500	26500
2020 Opening Year Trend		
2020	N/A	#N/A
2030 Mid-Year Trend		
2030	N/A	29300
2040 Design Year Trend		
2040	N/A	31400
TRANPLAN Forecasts/Trends		

**** Annual Trend Increase:**	204
Trend R-squared:	10.97%
Trend Annual Historic Growth Rate:	0.90%
Trend Growth Rate (2016 to Design Year):	0.77%
Printed:	29-Jun-17

Straight Line Growth Option

***Axle-Adjusted**

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2016 HISTORICAL AADT REPORT

COUNTY: 86 - BROWARD

SITE: 5189 - SR 845/POWERLINE RD - N OF OAKLAND PARK BLVD

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2016	27000 C	N 12500	S 14500	9.00	54.10	5.80
2015	27500 C	N 13500	S 14000	9.00	54.00	5.80
2014	25500 C	N 12000	S 13500	9.00	54.20	15.30
2013	22200 C	N 9700	S 12500	9.00	53.60	15.30
2012	25000 C	N 12000	S 13000	9.00	52.20	5.90
2011	25500 C	N 12500	S 13000	9.00	52.50	5.90
2010	26000 C	N 12500	S 13500	8.35	52.69	6.00
2009	24500 C	N 11500	S 13000	8.53	53.89	4.10
2008	25500 C	N 12000	S 13500	8.81	54.16	4.10
2007	25500 C	N 12500	S 13000	8.63	55.75	5.00
2006	29500 C	N 13500	S 16000	8.40	55.34	4.40
2005	27500 C	N 13500	S 14000	8.20	51.70	4.40
2004	25500 C	N 13000	S 12500	9.10	55.30	4.40
2003	26000 C	N 12500	S 13500	8.60	57.50	4.10
2002	26500 C	N 13000	S 13500	8.70	56.40	4.10
2001	26500 C	N 13000	S 13500	9.00	60.20	5.90

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2016 HISTORICAL AADT REPORT

COUNTY: 86 - BROWARD

SITE: 0484 - SR 845/POWERLINE RD - S OF PROSPECT RD

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2016	27500 C	N 14000	S 13500	9.00	54.10	7.50
2015	34000 C	N 17500	S 16500	9.00	54.00	7.50
2014	31000 C	N 15000	S 16000	9.00	54.20	7.50
2013	26500 C	N 16000	S 10500	9.00	53.60	6.30
2012	21000 C	N 10500	S 10500	9.00	52.20	5.80
2011	20300 C	N 9800	S 10500	9.00	52.50	4.80
2010	20500 C	N 10500	S 10000	8.35	52.69	5.70
2009	20400 C	N 9900	S 10500	8.53	53.89	5.60
2008	25500 C	N 12500	S 13000	8.81	54.16	3.10
2007	24000 C	N 11500	S 12500	8.63	55.75	3.10
2006	24000 C	N 11500	S 12500	8.40	55.34	3.10
2005	25000 C	N 12500	S 12500	8.20	51.70	5.00
2004	24000 C	N 12000	S 12000	9.10	55.30	5.00
2003	22500 C	N 11500	S 11000	8.60	57.50	3.70
2002	23000 C	N 11500	S 11500	8.70	56.40	4.00
2001	24500 C	N 12500	S 12000	9.00	60.20	5.40

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

EXHIBIT B

Crash Analyses

(Source: FDOT)

FLORIDA DEPARTMENT OF TRANSPORTATION
CRASH SUMMARY

SECTION: 86065 STATE ROUTE: 845
ROADWAY LIMITS: Oakland Park Road to Commercial Boulevard M.P. 1.948 TO 6.399 ENGINEER: 0
STUDY PERIOD: FROM 1/ 12 TO 12/ 12 COUNTY: #N/A

No.	MILE POST	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURY	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE
1	6.239	03/31/12	Sat	1500	Rear-End	0	1	0	Day	Wet	Unknown/Not Coded
2	6.244	08/15/12	Wed	1800	#N/A	0	0	1	Unknown	Unknown	Unknown/Not Coded
3	6.248	03/14/12	Wed	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
4	6.248	04/09/12	Mon	0800	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
5	6.248	05/11/12	Fri	1400	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
6	6.248	07/15/12	Sun	2300	Rear-End	0	1	0	Night	Wet	Unknown/Not Coded
7	6.249	11/05/12	Mon	0600	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
8	6.251	07/11/12	Wed	1200	Rear-End	0	2	0	Day	Dry	Unknown/Not Coded
9	6.262	11/13/12	Tue	0800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
10	6.267	07/11/12	Wed	1700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
11	6.267	12/22/12	Sat	1800	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
12	6.271	10/31/12	Wed	1000	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
13	6.286	03/20/12	Tue	0700	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
14	6.286	05/22/12	Tue	1500	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded
15	1.948	12/18/12	Tue	0800	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
16	1.995	11/27/12	Tue	0500	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
17	2.027	01/17/12	Tue	0000	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
18	2.027	03/26/12	Mon	1700	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
19	2.027	10/21/12	Sun	2400	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
20	2.027	12/06/12	Thu	1800	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
21	2.030	12/17/12	Mon	1500	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
22	2.036	02/17/12	Fri	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
23	2.036	05/10/12	Thu	1900	Rear-End	0	2	0	Night	Dry	Unknown/Not Coded
24	2.036	09/08/12	Sat	1500	Head-On	0	0	1	Day	Dry	Unknown/Not Coded
25	2.036	12/03/12	Mon	1800	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
26	2.038	10/18/12	Thu	1800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
27	2.045	01/23/12	Mon	1800	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
28	2.045	05/24/12	Thu	0800	Rear-End	0	3	0	Day	Wet	Unknown/Not Coded
29	2.055	02/22/12	Wed	1700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
30	2.064	10/31/12	Wed	1300	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
31	2.093	01/20/12	Fri	2000	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
32	2.131	02/22/12	Wed	0400	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
33	2.327	04/20/12	Fri	1500	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
34	2.389	02/10/12	Fri	1500	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
35	2.389	05/05/12	Sat	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
36	2.389	08/07/12	Tue	1000	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
37	2.402	11/07/12	Wed	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
38	2.484	12/14/12	Fri	0900	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded
39	2.546	04/22/12	Sun	0600	Rear-End	0	0	1	Night	Wet	Unknown/Not Coded
40	2.551	03/17/12	Sat	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
41	2.552	01/11/12	Wed	1900	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
42	2.552	01/18/12	Wed	1000	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
43	2.552	03/19/12	Mon	2000	Head-On	0	0	1	Night	Dry	Unknown/Not Coded
44	2.552	04/18/12	Wed	1700	Rear-End	0	2	0	Day	Dry	Unknown/Not Coded
45	2.552	05/09/12	Wed	0700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
46	2.552	08/05/12	Sun	0100	Left-Turn	0	0	1	Night	Dry	Unknown/Not Coded
47	2.552	12/19/12	Wed	1000	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
48	2.554	03/10/12	Sat	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
49	2.571	01/11/12	Wed	1700	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
50	2.607	01/28/12	Sat	0800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
51	2.693	05/07/12	Mon	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
52	2.694	03/11/12	Sun	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
53	2.695	12/21/12	Fri	1700	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
54	3.047	08/28/12	Tue	0800	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded
55	3.049	02/19/12	Sun	2000	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
56	3.051	01/25/12	Wed	1000	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
57	3.051	02/02/12	Thu	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
58	3.051	02/03/12	Fri	1300	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
59	3.051	02/06/12	Mon	0700	Rear-End	0	1	0	Day	Wet	Unknown/Not Coded
60	3.051	02/17/12	Fri	0800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
61	3.051	02/17/12	Fri	0800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
62	3.051	03/21/12	Wed	1300	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
63	3.051	03/31/12	Sat	0600	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
64	3.051	04/27/12	Fri	1600	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
65	3.051	06/14/12	Thu	2100	Rear-End	1	0	0	Night	Wet	Unknown/Not Coded
66	3.051	06/25/12	Mon	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded

FLORIDA DEPARTMENT OF TRANSPORTATION
CRASH SUMMARY

SECTION:	86065			STATE ROUTE:	845
ROADWAY LIMITS:	Oakland Park Road to Commercial Boulevard	M.P. 1.948	TO 6.399	ENGINEER:	0
STUDY PERIOD:	FROM 1/ 12	TO 12/ 12		COUNTY:	#N/A

No.	MILE POST	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURY	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE
67	3.051	08/15/12	Wed	0900	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
68	3.056	04/28/12	Sat	1500	Rear-End	0	2	0	Day	Wet	Unknown/Not Coded
69	3.060	04/04/12	Wed	1700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
70	3.063	11/02/12	Fri	1400	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
71	3.063	11/24/12	Sat	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
72	3.071	10/16/12	Tue	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
73	3.109	03/08/12	Thu	0700	Rear-End	0	0	1	Night	Wet	Unknown/Not Coded
74	3.259	08/30/12	Thu	1400	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
75	3.508	02/04/12	Sat	1800	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
76	3.579	08/23/12	Thu	1000	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
77	3.579	09/26/12	Wed	1000	Rear-End	0	7	0	Day	Dry	Unknown/Not Coded
78	3.581	03/21/12	Wed	1600	Angle	0	1	0	Day	Dry	Unknown/Not Coded
79	3.585	07/17/12	Tue	0100	Rear-End	0	0	1	Night	Wet	Unknown/Not Coded
80	3.585	08/10/12	Fri	1800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
81	3.585	10/14/12	Sun	1100	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
82	3.585	11/25/12	Sun	0500	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
83	6.314	02/07/12	Tue	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
84	6.314	09/28/12	Fri	1400	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
85	6.324	07/02/12	Mon	2300	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
86	6.333	03/05/12	Mon	1000	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
87	6.333	04/25/12	Wed	0800	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
88	6.333	10/25/12	Thu	2300	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
89	6.333	10/26/12	Fri	2300	Rear-End	0	0	1	Night	Wet	Unknown/Not Coded
90	6.338	05/08/12	Tue	0700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
91	6.339	07/26/12	Thu	1600	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
92	6.341	07/30/12	Mon	0100	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
93	6.343	04/04/12	Wed	1900	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
94	6.343	08/24/12	Fri	2200	Rear-End	0	0	1	Night	Wet	Unknown/Not Coded
95	6.343	10/03/12	Wed	1700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
96	6.344	01/19/12	Thu	1100	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
97	6.347	02/19/12	Sun	1400	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
98	6.348	02/25/12	Sat	0700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
99	6.348	08/20/12	Mon	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
100	6.348	12/10/12	Mon	1000	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
101	6.350	12/15/12	Sat	1700	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
102	6.351	03/21/12	Wed	1700	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
103	6.351	04/11/12	Wed	1800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
104	6.352	02/21/12	Tue	0700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
105	6.352	02/27/12	Mon	0900	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
106	6.352	04/06/12	Fri	2100	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
107	6.352	05/14/12	Mon	1000	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
108	6.352	06/14/12	Thu	1900	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
109	6.352	07/28/12	Sat	1200	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
110	6.352	08/12/12	Sun	1400	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
111	6.352	08/17/12	Fri	0900	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
112	6.352	08/19/12	Sun	0700	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
113	6.352	10/07/12	Sun	2300	Rear-End	0	0	1	Night	Wet	Unknown/Not Coded
114	6.352	10/13/12	Sat	1700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
115	6.352	10/13/12	Sat	0500	Rear-End	0	2	0	Night	Dry	Unknown/Not Coded
116	6.352	10/27/12	Sat	0600	#N/A	0	1	0	Night	Dry	Unknown/Not Coded
117	6.352	11/04/12	Sun	0800	Rear-End	0	2	0	Day	Dry	Unknown/Not Coded
118	6.352	12/03/12	Mon	1900	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
119	6.352	12/05/12	Wed	1900	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
120	6.352	12/24/12	Mon	0100	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
121	6.361	06/11/12	Mon	0800	Rear-End	0	2	0	Day	Dry	Unknown/Not Coded
122	6.361	10/31/12	Wed	0700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
123	6.371	04/27/12	Fri	1900	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
124	6.371	05/08/12	Tue	1700	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded
125	6.371	05/17/12	Thu	0800	Rear-End	0	1	0	Day	Wet	Unknown/Not Coded

Total No.		Fatal	Injury	PDO	Angle	Left Turn	Right Turn	Rear End	Side swipe	Ped/Bike	
125		**1**	**43**	**81**	**1**	**1**	**0**	**119**	**0**	**0**	
		0.00%	*34.40%*	*64.80%*	*0.80%*	*0.80%*	*0.00%*	*95.20%*	*0.00%*	*0.00%*	
One Vehicle		Day	Night	Wet	Dry	Excess Speed	FTYRW	DUI			
0		**86**	**38**	**17**	**107**	**0**	**0**	**5**			

FLORIDA DEPARTMENT OF TRANSPORTATION
CRASH SUMMARY

SECTION:	86065			STATE ROUTE:	845
ROADWAY LIMITS:	Oakland Park Road to Commercial Boulevard	M.P. 1.948	TO 6.399	ENGINEER:	0
STUDY PERIOD:	FROM 1/ 12	TO 12/ 12		COUNTY:	#N/A

No.	MILE POST	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURY	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE
0.00%		*68.80%*	*30.40%*	*13.60%*	*85.60%*	*0.00%*	*0.00%*	*4.00%*			

TOTAL ENTERING VEHICLES/ADT: **42,716**	SEGMENT CRASH RATE: **1.801**

FLORIDA DEPARTMENT OF TRANSPORTATION
CRASH SUMMARY

SECTION: 86065 STATE ROUTE: 845
ROADWAY LIMITS: Oakland Park Road to Commercial Boulevard M.P. 1.948 TO 6.399 ENGINEER: 0
STUDY PERIOD: FROM 1/ 13 TO 12/ 13 COUNTY: #N/A

No.	MILE POST	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURY	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE
1	1.976	05/09/13	Thu	1500	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
2	1.986	11/04/13	Mon	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
3	1.989	08/17/13	Sat	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
4	1.995	02/05/13	Tue	1000	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
5	2.014	02/15/13	Fri	1100	Rear-End	0	1	0	Day	Wet	Unknown/Not Coded
6	2.017	01/05/13	Sat	0700	Angle	0	0	1	Day	Wet	Unknown/Not Coded
7	2.017	03/08/13	Fri	1900	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
8	2.017	05/17/13	Fri	2100	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
9	2.017	08/06/13	Tue	1400	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
10	2.023	02/05/13	Tue	1700	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
11	2.027	01/02/13	Wed	2000	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
12	2.036	01/19/13	Sat	0800	Rear-End	0	1	0	Day	Wet	Unknown/Not Coded
13	2.036	04/15/13	Mon	0700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
14	2.036	05/02/13	Thu	0900	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
15	2.036	08/20/13	Tue	1500	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
16	2.036	11/05/13	Tue	1800	Rear-End	0	0	1	Night	Wet	Unknown/Not Coded
17	2.038	01/04/13	Fri	1800	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
18	2.038	09/30/13	Mon	1400	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
19	2.040	08/28/13	Wed	1700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
20	2.053	01/31/13	Thu	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
21	2.059	05/01/13	Wed	0800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
22	2.069	04/24/13	Wed	0500	Head-On	0	0	1	Night	Dry	Unknown/Not Coded
23	2.083	09/11/13	Wed	0800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
24	2.093	12/13/13	Fri	1800	Rear-End	0	1	0	Night	Wet	Unknown/Not Coded
25	2.208	04/06/13	Sat	1900	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
26	2.211	04/14/13	Sun	1000	Rear-End	0	4	0	Day	Dry	Unknown/Not Coded
27	2.271	08/02/13	Fri	1300	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
28	2.402	07/18/13	Thu	1600	Rear-End	0	3	0	Day	Dry	Unknown/Not Coded
29	2.402	08/26/13	Mon	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
30	2.402	12/12/13	Thu	2100	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
31	2.536	05/01/13	Wed	1000	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
32	2.548	04/26/13	Fri	0700	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
33	2.552	02/27/13	Wed	1100	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
34	2.552	03/29/13	Fri	0900	Rear-End	0	2	0	Night	Dry	Unknown/Not Coded
35	2.552	05/08/13	Wed	1800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
36	2.552	07/12/13	Fri	1100	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded
37	2.552	09/16/13	Mon	2000	Coll. W/ Pedestrian	0	1	0	Night	Dry	Unknown/Not Coded
38	2.552	10/03/13	Thu	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
39	2.552	10/31/13	Thu	0900	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded
40	2.621	10/13/13	Sun	1300	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
41	2.691	01/25/13	Fri	0900	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
42	2.716	08/18/13	Sun	1700	Rear-End	1	0	0	Day	Dry	Unknown/Not Coded
43	3.061	04/13/13	Sat	2100	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
44	3.063	01/30/13	Wed	1200	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
45	3.063	03/28/13	Thu	1000	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
46	3.063	04/24/13	Wed	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
47	3.063	06/20/13	Thu	1900	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
48	3.063	07/04/13	Thu	2200	Rear-End	0	1	0	Night	Wet	Unknown/Not Coded
49	3.063	07/12/13	Fri	1300	Rear-End	0	1	0	Day	Wet	Unknown/Not Coded
50	3.063	09/01/13	Sun	1000	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
51	3.063	09/02/13	Mon	2100	Rear-End	0	5	0	Night	Dry	Unknown/Not Coded
52	3.063	09/03/13	Tue	6500	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
53	3.063	10/09/13	Wed	1800	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
54	3.063	10/18/13	Fri	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
55	3.063	10/22/13	Tue	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
56	3.063	10/28/13	Mon	0800	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
57	3.063	11/01/13	Fri	2000	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
58	3.063	11/05/13	Tue	1000	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
59	3.063	11/16/13	Sat	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
60	3.063	12/01/13	Sun	0900	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
61	3.063	12/25/13	Wed	2000	Head-On	0	0	1	Night	Dry	Unknown/Not Coded
62	3.067	02/19/13	Tue	1700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
63	3.067	03/10/13	Sun	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
64	3.072	11/05/13	Tue	1600	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded
65	3.082	01/06/13	Sun	1100	Rear-End	0	3	0	Day	Dry	Unknown/Not Coded
66	3.331	04/16/13	Tue	1900	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded

FLORIDA DEPARTMENT OF TRANSPORTATION
CRASH SUMMARY

SECTION: 86065 STATE ROUTE: 845
ROADWAY LIMITS: Oakland Park Road to Commercial Boulevard M.P. 1.948 TO 6.399 ENGINEER: 0
STUDY PERIOD: FROM 1/ 13 TO 12/ 13 COUNTY: #N/A

No.	MILE POST	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURY	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE
67	3.401	12/05/13	Thu	0700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
68	3.425	04/22/13	Mon	0700	Rear-End	0	2	0	Day	Dry	Unknown/Not Coded
69	3.524	12/27/13	Fri	0500	Rear-End	0	2	0	Night	Dry	Unknown/Not Coded
70	3.579	11/30/13	Sat	2100	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
71	3.581	07/15/13	Mon	2000	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
72	3.582	12/21/13	Sat	1700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
73	3.585	05/27/13	Mon	1800	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
74	3.585	09/07/13	Sat	2300	Rear-End	0	2	0	Night	Dry	Unknown/Not Coded
75	3.587	07/26/13	Fri	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
76	3.587	11/26/13	Tue	1700	Rear-End	0	0	1	Night	Wet	Unknown/Not Coded
77	3.588	06/06/13	Thu	1800	Rear-End	0	0	1	Night	Wet	Unknown/Not Coded
78	3.589	06/13/13	Thu	1600	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded
79	3.589	06/24/13	Mon	1900	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
80	3.591	04/05/13	Fri	1700	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded
81	3.604	07/31/13	Wed	1700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
82	3.613	06/06/13	Thu	0500	Head-On	0	2	0	Night	Dry	Unknown/Not Coded
83	3.613	11/07/13	Thu	2200	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
84	3.623	07/30/13	Tue	0800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
85	3.642	03/19/13	Tue	1100	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
86	3.683	06/13/13	Thu	1700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
87	3.683	08/14/13	Wed	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
88	6.201	05/20/13	Mon	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
89	6.201	10/05/13	Sat	0700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
90	6.210	03/24/13	Sun	2000	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
91	6.210	06/17/13	Mon	1500	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
92	6.210	10/11/13	Fri	1500	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
93	6.210	10/21/13	Mon	1000	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
94	6.220	07/06/13	Sat	1000	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
95	6.220	09/19/13	Thu	1300	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
96	6.220	12/25/13	Wed	1500	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
97	6.229	12/22/13	Sun	1100	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
98	6.239	02/22/13	Fri	0800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
99	6.239	03/30/13	Sat	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
100	6.239	04/23/13	Tue	1700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
101	6.242	08/14/13	Wed	1800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
102	6.242	09/01/13	Sun	1100	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
103	6.242	10/08/13	Tue	1700	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded
104	6.242	10/23/13	Wed	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
105	6.242	10/25/13	Fri	1300	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
106	6.246	08/02/13	Fri	1800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
107	6.248	01/12/13	Sat	0800	Rear-End	0	7	0	Day	Dry	Unknown/Not Coded
108	6.248	02/05/13	Tue	1300	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
109	6.248	05/01/13	Wed	0900	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded
110	6.248	05/29/13	Wed	0800	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded
111	6.248	06/11/13	Tue	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
112	6.248	07/30/13	Tue	2100	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
113	6.248	09/06/13	Fri	1700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
114	6.248	09/09/13	Mon	1800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
115	6.248	11/06/13	Wed	1500	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
116	6.248	12/05/13	Thu	1800	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
117	6.248	12/26/13	Thu	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
118	6.252	02/27/13	Wed	1700	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
119	6.257	01/29/13	Tue	2100	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
120	6.257	12/18/13	Wed	0800	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
121	6.267	01/12/13	Sat	1800	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
122	6.267	01/16/13	Wed	1800	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
123	6.267	11/29/13	Fri	2300	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
124	6.286	08/09/13	Fri	1000	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
125	6.286	08/28/13	Wed	0900	Rear-End	0	1	0	Day	Wet	Unknown/Not Coded
126	6.290	08/27/13	Tue	0800	Rear-End	0	4	0	Night	Dry	Unknown/Not Coded
127	6.305	12/10/13	Tue	1900	Rear-End	0	2	0	Night	Dry	Unknown/Not Coded
128	6.314	03/08/13	Fri	1900	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
129	6.314	06/08/13	Sat	1300	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
130	6.314	06/24/13	Mon	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
131	6.314	07/18/13	Thu	1000	Rear-End	0	1	0	Day	Wet	Unknown/Not Coded
132	6.314	12/10/13	Tue	2100	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded

FLORIDA DEPARTMENT OF TRANSPORTATION
CRASH SUMMARY

SECTION:	86065			STATE ROUTE:	845
ROADWAY LIMITS:	Oakland Park Road to Commercial Boulevard	M.P. 1.948	TO 6.399	ENGINEER:	0
STUDY PERIOD:	FROM 1/ 13	TO 12/ 13		COUNTY:	#N/A

No.	MILE POST	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURY	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE
133	6.319	06/06/13	Thu	0700	Coll. W/ Parked Car	0	0	1	Day	Wet	Unknown/Not Coded
134	6.324	12/27/13	Fri	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
135	6.333	01/16/13	Wed	1700	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
136	6.333	02/08/13	Fri	1900	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
137	6.333	08/16/13	Fri	1700	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
138	6.333	11/20/13	Wed	1900	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
139	6.343	03/19/13	Tue	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
140	6.350	11/13/13	Wed	1200	Rear-End	0	1	0	Day	Wet	Unknown/Not Coded
141	6.352	01/16/13	Wed	1600	Rear-End	0	2	0	Day	Dry	Unknown/Not Coded
142	6.352	02/27/13	Wed	2200	Backed Into	0	0	1	Night	Dry	Unknown/Not Coded
143	6.352	03/27/13	Wed	2200	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
144	6.352	05/03/13	Fri	2200	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
145	6.352	05/12/13	Sun	1700	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded
146	6.352	05/17/13	Fri	0900	Rear-End	0	2	0	Day	Dry	Unknown/Not Coded
147	6.352	07/25/13	Thu	0900	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
148	6.352	08/01/13	Thu	1200	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
149	6.352	08/22/13	Thu	1400	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
150	6.352	08/27/13	Tue	0800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
151	6.352	09/10/13	Tue	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
152	6.352	09/11/13	Wed	1500	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
153	6.352	10/08/13	Tue	1100	Rear-End	0	4	0	Day	Dry	Unknown/Not Coded
154	6.352	10/23/13	Wed	1500	Rear-End	0	1	0	Day	Wet	Unknown/Not Coded
155	6.352	11/14/13	Thu	2200	Rear-End	0	8	0	Night	Dry	Unknown/Not Coded
156	6.352	11/21/13	Thu	1500	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded
157	6.356	02/19/13	Tue	1600	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
158	6.356	10/17/13	Thu	2000	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
159	6.358	10/17/13	Thu	1700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
160	6.361	02/28/13	Thu	0700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
161	6.361	08/25/13	Sun	0700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
162	6.371	12/08/13	Sun	2300	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded

Total No.		Fatal	Injury	PDO	Angle	Left Turn	Right Turn	Rear End	Side swipe	Ped/Bike	
162		**1**	**51**	**110**	**1**	**0**	**0**	**155**	**0**	**1**	
		0.00%	*31.48%*	*67.90%*	*0.62%*	*0.00%*	*0.00%*	*95.68%*	*0.00%*	*0.62%*	
One Vehicle		Day	Night	Wet	Dry	Excess Speed	FTYRW	DUI			
0		**116**	**46**	**24**	**138**	**0**	**0**	**6**			
0.00%		*71.60%*	*28.40%*	*14.81%*	*85.19%*	*0.00%*	*0.00%*	*3.70%*			

TOTAL ENTERING VEHICLES/ADT: **42,170**	SEGMENT CRASH RATE: **2.365**

FLORIDA DEPARTMENT OF TRANSPORTATION
CRASH SUMMARY

SECTION: 86065 STATE ROUTE: 845
ROADWAY LIMITS: Oakland Park Road to Commercial Boulevard M.P. 1.948 TO 6.399 ENGINEER: 0
STUDY PERIOD: FROM 1/ 14 TO 12/ 14 COUNTY: #N/A

No.	MILE POST	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURY	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE
1	1.976	10/26/14	Sun	1100	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
2	1.995	09/24/14	Wed	1200	Rear-End	0	2	0	Day	Dry	Unknown/Not Coded
3	2.008	02/23/14	Sun	1200	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
4	2.011	02/06/14	Thu	0800	Head-On	0	0	1	Day	Dry	Unknown/Not Coded
5	2.013	11/10/14	Mon	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
6	2.017	02/19/14	Wed	1900	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
7	2.017	08/08/14	Fri	1900	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
8	2.022	11/20/14	Thu	0700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
9	2.027	06/22/14	Sun	0800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
10	2.029	11/02/14	Sun	0900	Rear-End	0	2	0	Day	Dry	Unknown/Not Coded
11	2.030	10/03/14	Fri	1500	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
12	2.032	09/30/14	Tue	1400	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
13	2.032	10/04/14	Sat	1800	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
14	2.032	11/25/14	Tue	1800	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
15	2.034	11/13/14	Thu	1100	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
16	2.035	07/19/14	Sat	1100	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
17	2.035	10/28/14	Tue	1200	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
18	2.036	02/15/14	Sat	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
19	2.036	06/02/14	Mon	1800	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
20	2.036	07/28/14	Mon	0400	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
21	2.036	09/23/14	Tue	0200	Rear-End	0	1	0	Night	Wet	Unknown/Not Coded
22	2.036	10/14/14	Tue	0500	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
23	2.037	06/11/14	Wed	2300	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
24	2.045	09/01/14	Mon	2100	Rear-End	0	4	0	Night	Dry	Unknown/Not Coded
25	2.055	06/23/14	Mon	1100	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
26	2.093	04/22/14	Tue	2200	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
27	2.116	12/03/14	Wed	0700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
28	2.188	06/06/14	Fri	1100	Head-On	0	0	1	Day	Dry	Unknown/Not Coded
29	2.211	08/28/14	Thu	1500	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
30	2.290	10/22/14	Wed	0900	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
31	2.306	01/04/14	Sat	0900	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
32	2.395	05/19/14	Mon	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
33	2.402	02/21/14	Fri	1300	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
34	2.402	08/16/14	Sat	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
35	2.402	09/08/14	Mon	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
36	2.402	10/18/14	Sat	1200	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
37	2.421	03/06/14	Thu	1600	Rear-End	0	0	1	Night	Wet	Unknown/Not Coded
38	2.476	11/24/14	Mon	1800	Rear-End	0	3	0	Night	Dry	Unknown/Not Coded
39	2.495	03/28/14	Fri	0300	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
40	2.550	09/24/14	Wed	1800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
41	2.550	12/25/14	Thu	1400	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
42	2.552	09/04/14	Thu	1400	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
43	2.552	12/17/14	Wed	0800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
44	2.571	02/28/14	Fri	1500	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
45	2.621	03/07/14	Fri	1100	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
46	2.621	07/22/14	Tue	1600	Head-On	0	0	1	Day	Wet	Unknown/Not Coded
47	2.693	03/10/14	Mon	0700	Rear-End	0	2	0	Day	Dry	Unknown/Not Coded
48	2.698	07/09/14	Wed	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
49	2.716	08/19/14	Tue	1400	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
50	3.044	01/30/14	Thu	1800	Rear-End	0	0	1	Night	Wet	Unknown/Not Coded
51	3.054	05/05/14	Mon	0700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
52	3.063	01/25/14	Sat	2100	Rear-End	0	3	0	Night	Dry	Unknown/Not Coded
53	3.063	02/11/14	Tue	0900	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
54	3.063	03/07/14	Fri	1900	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
55	3.063	04/04/14	Fri	1800	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
56	3.063	04/17/14	Thu	0700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
57	3.063	04/27/14	Sun	0200	Rear-End	0	3	0	Night	Dry	Unknown/Not Coded
58	3.063	05/04/14	Sun	1100	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
59	3.063	05/12/14	Mon	1800	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
60	3.063	05/20/14	Tue	1500	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
61	3.063	09/05/14	Fri	2100	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
62	3.063	11/15/14	Sat	1300	Rear-End	0	2	0	Day	Dry	Unknown/Not Coded
63	3.067	10/25/14	Sat	1300	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
64	3.070	05/23/14	Fri	1500	Rear-End	0	2	0	Day	Dry	Unknown/Not Coded
65	3.072	09/30/14	Tue	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
66	3.082	05/23/14	Fri	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded

FLORIDA DEPARTMENT OF TRANSPORTATION
CRASH SUMMARY

SECTION: 86065 STATE ROUTE: 845
ROADWAY LIMITS: Oakland Park Road to Commercial Boulevard M.P. 1.948 TO 6.399 ENGINEER: 0
STUDY PERIOD: FROM 1/ 14 TO 12/ 14 COUNTY: #N/A

No.	MILE POST	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURY	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE
67	3.082	06/19/14	Thu	1700	Rear-End	0	0	1	Night	Wet	Unknown/Not Coded
68	3.158	11/08/14	Sat	1000	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
69	3.177	01/30/14	Thu	0600	Rear-End	0	1	0	Night	Wet	Unknown/Not Coded
70	3.196	10/17/14	Fri	1900	Rear-End	0	2	0	Night	Dry	Unknown/Not Coded
71	3.316	10/15/14	Wed	0800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
72	3.359	02/11/14	Tue	0900	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded
73	3.426	01/08/14	Wed	1800	Rear-End	0	0	1	Night	Wet	Unknown/Not Coded
74	3.496	07/14/14	Mon	0800	Rear-End	0	2	0	Day	Dry	Unknown/Not Coded
75	3.538	01/17/14	Fri	1000	Rear-End	0	3	0	Day	Dry	Unknown/Not Coded
76	3.538	09/23/14	Tue	1800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
77	3.566	04/03/14	Thu	1700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
78	3.566	05/27/14	Tue	0900	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
79	3.566	11/06/14	Thu	1900	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
80	3.566	12/09/14	Tue	1700	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
81	3.579	02/04/14	Tue	1600	Rear-End	0	2	0	Day	Dry	Unknown/Not Coded
82	3.581	12/18/14	Thu	0900	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
83	3.584	01/31/14	Fri	1500	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
84	3.585	01/14/14	Tue	1100	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
85	3.585	01/31/14	Fri	2300	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
86	3.585	02/20/14	Thu	1300	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
87	3.585	03/18/14	Tue	0800	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded
88	3.585	04/25/14	Fri	1000	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
89	3.585	04/28/14	Mon	1900	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
90	3.585	05/05/14	Mon	1700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
91	3.585	05/07/14	Wed	1400	Head-On	0	0	1	Day	Dry	Unknown/Not Coded
92	3.585	05/10/14	Sat	1400	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
93	3.585	06/07/14	Sat	1400	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
94	3.585	07/18/14	Fri	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
95	3.585	07/30/14	Wed	1600	Rear-End	0	1	0	Day	Wet	Unknown/Not Coded
96	3.585	08/18/14	Mon	2000	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
97	3.585	09/05/14	Fri	1800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
98	3.585	10/08/14	Wed	1100	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
99	3.585	10/28/14	Tue	1400	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
100	3.585	11/14/14	Fri	0600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
101	3.585	11/18/14	Tue	0800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
102	3.587	12/09/14	Tue	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
103	3.588	10/08/14	Wed	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
104	3.591	01/03/14	Fri	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
105	3.591	09/18/14	Thu	1500	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded
106	3.594	01/30/14	Thu	1100	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded
107	3.594	02/14/14	Fri	1500	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
108	3.594	10/22/14	Wed	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
109	3.596	12/18/14	Thu	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
110	3.604	06/04/14	Wed	0800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
111	3.604	07/30/14	Wed	0900	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
112	3.613	04/10/14	Thu	1800	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
113	3.680	11/25/14	Tue	1300	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
114	6.220	06/04/14	Wed	1300	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
115	6.229	11/05/14	Wed	1500	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
116	6.229	11/19/14	Wed	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
117	6.229	12/05/14	Fri	1300	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
118	6.239	10/13/14	Mon	0700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
119	6.242	09/09/14	Tue	2200	Rear-End	0	0	1	Night	Wet	Unknown/Not Coded
120	6.243	05/07/14	Wed	1500	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
121	6.246	03/16/14	Sun	1400	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
122	6.246	06/24/14	Tue	1500	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
123	6.246	08/09/14	Sat	1900	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded
124	6.247	01/20/14	Mon	1700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
125	6.248	01/28/14	Tue	0300	Rear-End	0	2	0	Night	Dry	Unknown/Not Coded
126	6.248	02/11/14	Tue	2000	Rear-End	0	2	0	Night	Dry	Unknown/Not Coded
127	6.248	02/17/14	Mon	1400	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
128	6.248	02/22/14	Sat	1200	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
129	6.248	04/12/14	Sat	0200	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
130	6.248	06/30/14	Mon	0700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
131	6.248	07/14/14	Mon	0900	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded
132	6.248	08/21/14	Thu	0800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded

FLORIDA DEPARTMENT OF TRANSPORTATION
CRASH SUMMARY

SECTION: 86065 STATE ROUTE: 845
ROADWAY LIMITS: Oakland Park Road to Commercial Boulevard M.P. 1.948 TO 6.399 ENGINEER: 0
STUDY PERIOD: FROM 1/ 14 TO 12/ 14 COUNTY: #N/A

No.	MILE POST	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURY	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE
133	6.248	11/12/14	Wed	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
134	6.248	12/07/14	Sun	1900	Rear-End	0	2	0	Night	Dry	Unknown/Not Coded
135	6.248	12/09/14	Tue	1000	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
136	6.248	12/11/14	Thu	1300	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
137	6.249	05/05/14	Mon	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
138	6.250	06/08/14	Sun	1200	Rear-End	0	2	0	Day	Wet	Unknown/Not Coded
139	6.250	08/16/14	Sat	1300	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
140	6.250	09/30/14	Tue	1400	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
141	6.251	02/24/14	Mon	1600	Rear-End	0	3	0	Day	Dry	Unknown/Not Coded
142	6.252	03/04/14	Tue	1400	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
143	6.252	12/24/14	Wed	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
144	6.253	06/09/14	Mon	1300	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
145	6.253	11/25/14	Tue	1100	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
146	6.254	04/09/14	Wed	2000	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
147	6.255	01/17/14	Fri	1400	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
148	6.256	08/07/14	Thu	1400	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
149	6.257	04/19/14	Sat	1400	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
150	6.257	05/08/14	Thu	1400	#N/A	0	0	1	Day	Dry	Unknown/Not Coded
151	6.257	08/30/14	Sat	1200	Rear-End	0	2	0	Day	Dry	Unknown/Not Coded
152	6.263	03/18/14	Tue	1100	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
153	6.267	01/10/14	Fri	1500	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
154	6.267	05/13/14	Tue	1000	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
155	6.267	09/02/14	Tue	1700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
156	6.267	12/09/14	Tue	0800	Head-On	0	1	0	Day	Dry	Unknown/Not Coded
157	6.270	01/31/14	Fri	0200	Coll. W/ Pedestrian	0	0	1	Night	Wet	Unknown/Not Coded
158	6.286	03/12/14	Wed	0800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
159	6.305	05/14/14	Wed	0900	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
160	6.305	12/12/14	Fri	0900	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
161	6.314	08/26/14	Tue	2300	Rear-End	1	0	0	Night	Dry	Unknown/Not Coded
162	6.314	11/03/14	Mon	1100	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
163	6.321	11/17/14	Mon	0100	Rear-End	0	1	0	Night	Wet	Unknown/Not Coded
164	6.321	12/08/14	Mon	0100	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
165	6.327	03/28/14	Fri	0900	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
166	6.330	08/26/14	Tue	2100	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
167	6.332	03/02/14	Sun	1600	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
168	6.333	01/25/14	Sat	1300	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
169	6.333	07/25/14	Fri	0400	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
170	6.333	11/17/14	Mon	1100	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
171	6.343	08/09/14	Sat	1700	Rear-End	0	1	0	Day	Wet	Unknown/Not Coded
172	6.348	09/02/14	Tue	0800	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
173	6.352	01/12/14	Sun	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
174	6.352	01/14/14	Tue	1000	Rear-End	1	1	0	Day	Dry	Unknown/Not Coded
175	6.352	02/16/14	Sun	0300	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
176	6.352	04/11/14	Fri	0700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
177	6.352	04/17/14	Thu	2000	Rear-End	0	0	1	Night	Wet	Unknown/Not Coded
178	6.352	04/22/14	Tue	1500	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
179	6.352	05/17/14	Sat	2100	Rear-End	0	1	0	Night	Dry	Unknown/Not Coded
180	6.352	07/12/14	Sat	1900	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
181	6.352	07/25/14	Fri	0100	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
182	6.352	08/19/14	Tue	2000	Rear-End	0	2	0	Night	Dry	Unknown/Not Coded
183	6.352	09/06/14	Sat	1200	Rear-End	0	3	0	Day	Wet	Unknown/Not Coded
184	6.352	10/31/14	Fri	2000	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
185	6.352	11/23/14	Sun	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
186	6.352	11/27/14	Thu	1900	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
187	6.352	12/14/14	Sun	1600	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
188	6.353	06/27/14	Fri	1200	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
189	6.354	08/16/14	Sat	1700	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded
190	6.361	09/27/14	Sat	1900	Rear-End	0	0	1	Night	Wet	Unknown/Not Coded
191	6.361	10/25/14	Sat	1800	Rear-End	0	2	0	Night	Dry	Unknown/Not Coded
192	6.361	11/10/14	Mon	0900	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded
193	6.362	07/08/14	Tue	1600	Rear-End	0	1	0	Day	Dry	Unknown/Not Coded
194	6.371	09/22/14	Mon	0900	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
195	6.371	10/24/14	Fri	0900	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
196	6.372	03/11/14	Tue	0700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded
197	6.380	12/30/14	Tue	2000	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
198	6.390	08/30/14	Sat	0700	Rear-End	0	0	1	Day	Dry	Unknown/Not Coded

FLORIDA DEPARTMENT OF TRANSPORTATION
CRASH SUMMARY

SECTION:	86065			STATE ROUTE:	845
ROADWAY LIMITS:	Oakland Park Road to Commercial Boulevard	M.P. 1.948	TO 6.399	ENGINEER:	0
STUDY PERIOD:	FROM 1/ 14	TO 12/ 14		COUNTY:	#N/A

No.	MILE POST	DATE	DAY	TIME	CRASH TYPE	FATAL	INJURY	PROP DAM	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE
199	6.390	11/10/14	Mon	0800	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded
200	6.390	12/14/14	Sun	0900	Rear-End	0	0	1	Night	Dry	Unknown/Not Coded
201	6.392	02/28/14	Fri	0700	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded
202	6.399	09/17/14	Wed	1700	Rear-End	0	0	1	Day	Wet	Unknown/Not Coded

Total No.		Fatal	Injury	PDO	Angle	Left Turn	Right Turn	Rear End	Side swipe	Ped/Bike	
202		**2**	**61**	**140**	**0**	**0**	**0**	**195**	**0**	**1**	
		0.00%	*30.20%*	*69.31%*	*0.00%*	*0.00%*	*0.00%*	*96.53%*	*0.00%*	*0.50%*	
One Vehicle		Day	Night	Wet	Dry	Excess Speed	FTYRW	DUI			
0		**150**	**52**	**27**	**175**	**0**	**0**	**3**			
0.00%		*74.26%*	*25.74%*	*13.37%*	*86.63%*	*0.00%*	*0.00%*	*1.49%*			

TOTAL ENTERING VEHICLES/ADT: **43,106**	SEGMENT CRASH RATE: **2.884**

FDOT DISTRICT 6
EXPECTED VALUES ANALYSIS

SR 845/Powerline Road From SR 816/Oakland Park Road to SR 870/Commercial Boulevard		Number of Crashes Year			3 Year Total Crashes	Mean Crashes Per Year	%
		2012	2013	2014			
CRASH TYPE	**Rear End**	**119**	**155**	**195**	**469**	**156**	
	E & E	0	0	0	0	0	0.0%
	W & W	0	0	0	0	0	0.0%
	N & N	0	0	0	0	0	0.0%
	S & S	0	0	0	0	0	0.0%
	Other	119	155	195	469	156	100.0%
	Head On	**2**	**3**	**5**	**10**	**3**	
	E & W	0	0	0	0	0	0.0%
	N & S	0	0	0	0	0	0.0%
	Other	2	3	5	10	3	100.0%
	Angle	**1**	**1**	**0**	**2**	**1**	
	E & N	0	0	0	0	0	0.0%
	E & S	0	0	0	0	0	0.0%
	W & N	0	0	0	0	0	0.0%
	W & S	0	0	0	0	0	0.0%
	Other	1	1	0	2	1	100.0%
	Left Turn	**1**	**0**	**0**	**1**	**0**	
	EB LEFT	0	0	0	0	0	0.0%
	WB LEFT	0	0	0	0	0	0.0%
	NB LEFT	0	0	0	0	0	0.0%
	SB LEFT	0	0	0	0	0	0.0%
	Other	1	0	0	1	0	100.0%
	Sideswipe	**0**	**0**	**0**	**0**	**0**	
	E & E	0	0	0	0	0	#DIV/0!
	W & W	0	0	0	0	0	#DIV/0!
	N & N	0	0	0	0	0	#DIV/0!
	S & S	0	0	0	0	0	#DIV/0!
	Other	0	0	0	0	0	#DIV/0!
	Total Crashes	**125**	**162**	**202**	**489**	**163**	

CRASH STATISTICS

SR 845/Powerline Road From SR 816/Oakland Park Road to SR 870/Commercial Boulevard		Number of Crashes Year			3 Year Total Crashes	Mean Crashes Per Year	%
		2012	2013	2014			
CRASH TYPE	Rear End	119	155	195	469	156	95.9%
	Head On	2	3	5	10	3	2.0%
	Angle	1	1	0	2	1	0.4%
	Left Turn	1	0	0	1	0	0.2%
	Right Turn	0	0	0	0	0	0.0%
	Sideswipe	0	0	0	0	0	0.0%
	Backed Into	0	1	0	1	0	0.2%
	Coll. w/ Parked Car	0	1	0	1	0	0.2%
	Coll. w/ Pedestrian	0	1	1	2	1	0.4%
	Coll. w/ Bicycle	0	0	0	0	0	0.0%
	Fixed Object	0	0	0	0	0	0.0%
	Ran Off Road	0	0	0	0	0	0.0%
	Overturned	0	0	0	0	0	0.0%
	Other	2	0	1	3	1	0.6%
	Total Crashes	**125**	**162**	**202**	**489**	**163**	**100.0%**
SEVERITY	PDO Crashes	81	110	140	331	110	67.7%
	Fatal Crashes	1	1	2	4	1	0.8%
	Injury Crashes	43	51	60	154	51	31.5%
LIGHTING CONDITIONS	Daylight	86	116	150	352	117	72.0%
	Dusk	3	6	9	18	6	3.7%
	Dawn	3	0	1	4	1	0.8%
	Dark	32	40	42	114	38	23.3%
	Unknown	1	0	0	1	0	0.2%
SURFACE CONDITIONS	Dry	107	138	175	420	140	85.9%
	Wet	17	24	27	68	23	13.9%
	Others	1	0	0	1	0	0.2%
MONTH OF YEAR	January	9	14	19	42	14	8.6%
	February	16	12	17	45	15	9.2%
	March	14	10	13	37	12	7.6%
	April	12	11	14	37	12	7.6%
	May	11	13	17	41	14	8.4%
	June	4	11	14	29	10	5.9%
	July	8	12	13	33	11	6.7%
	August	13	18	16	47	16	9.6%
	September	3	13	20	36	12	7.4%
	October	14	17	18	49	16	10.0%
	November	8	15	23	46	15	9.4%
	December	13	16	18	47	16	9.6%
DAY OF WEEK	Sunday	13	13	15	41	14	8.4%
	Monday	20	16	30	66	22	13.5%
	Tuesday	14	28	43	85	28	17.4%
	Wednesday	28	32	27	87	29	17.8%
	Thursday	14	29	25	68	23	13.9%
	Friday	19	29	35	83	28	17.0%
	Saturday	17	15	27	59	20	12.1%
HOUR OF DAY	00:00-06:00	9	3	13	25	8	5.1%
	06:00-09:00	25	20	26	71	24	14.5%
	09:00-11:00	14	19	22	55	18	11.2%
	11:00-13:00	9	21	36	66	22	13.5%
	13:00-15:00	9	10	27	46	15	9.4%
	15:00-18:00	31	42	37	110	37	22.5%
	18:00-24:00	27	46	41	114	38	23.3%

Notes:

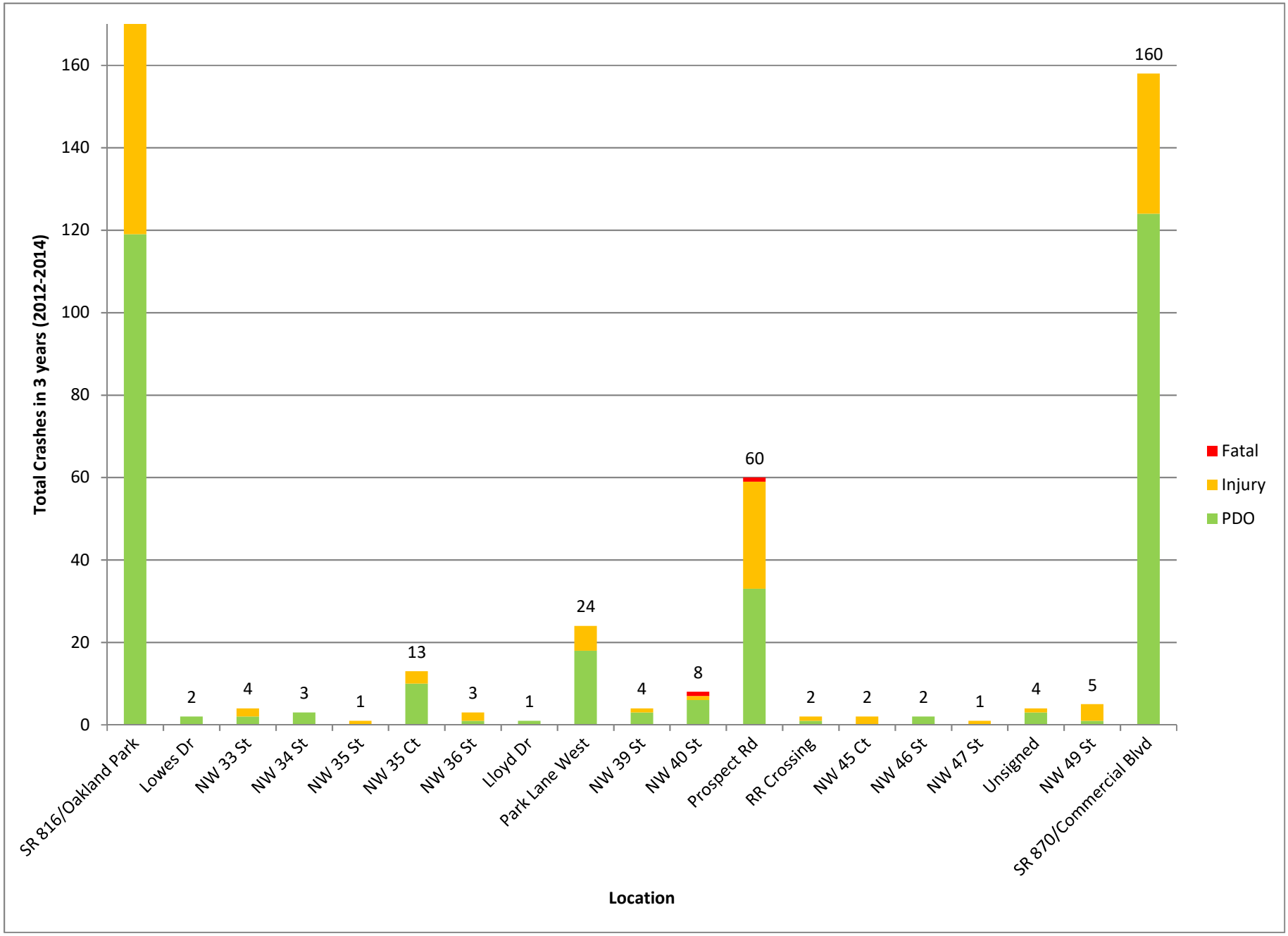
1) Collision with Bicycle Crashes include Collision with Bicycle/Collision with Bicycle in Bike Lane (Codes 11 and 12).

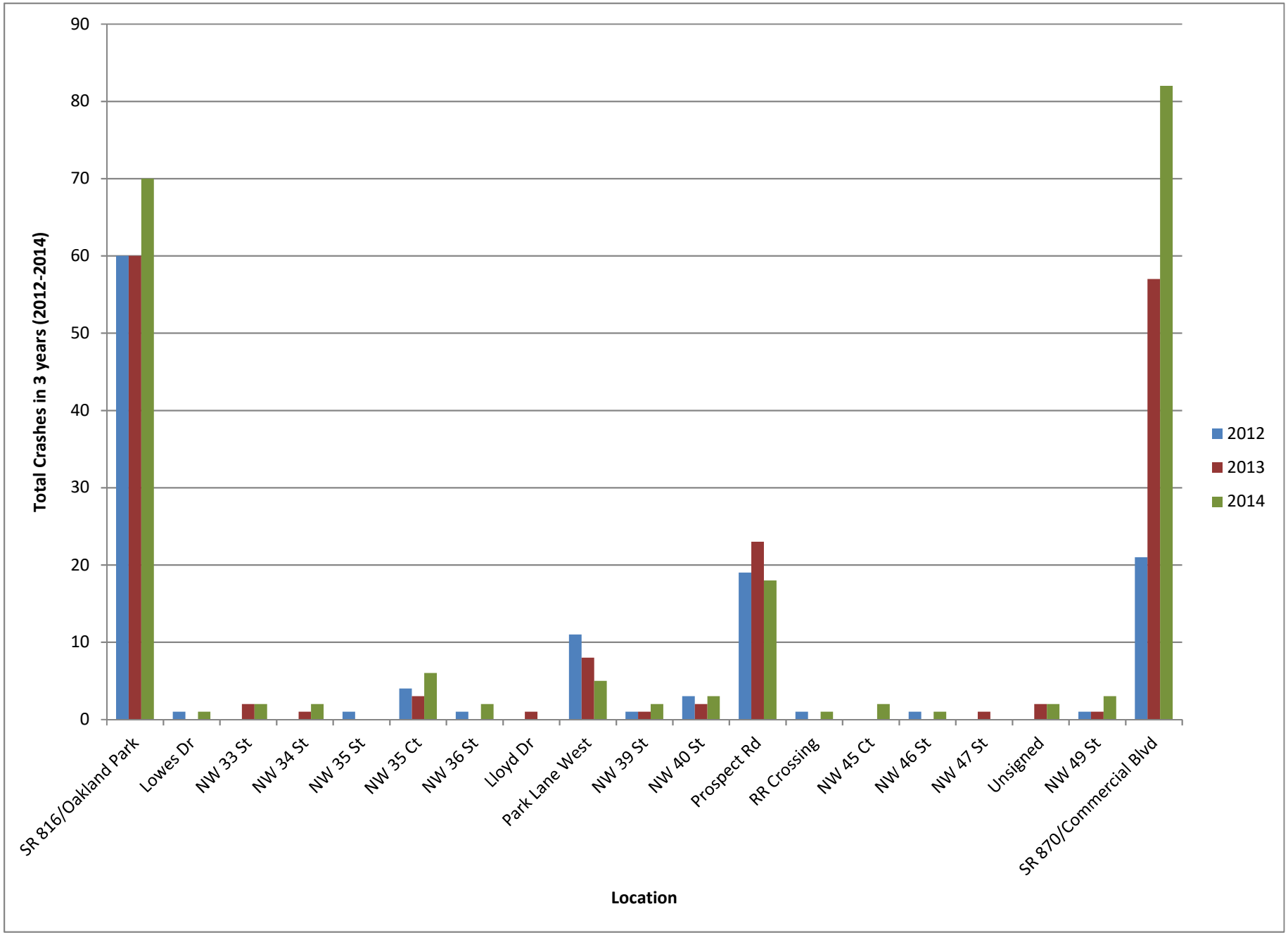
2) Fixed Object Crashes include collisions with sign/sign post, utility/light pole, guardrail, fence, concrete barrier wall, bridge, pier, abutment, rail, tree, shrubbery, construction barricade/sign, traffic gate, crash attenuators, other fixed objects (incl. above road).

3) Ran-off-Road Crashes include Ran in Ditch/Culvert and Ran off road into water (Codes 29 and 30).

4) Other crashes include crashes not categorized as the crash types shown in the table.

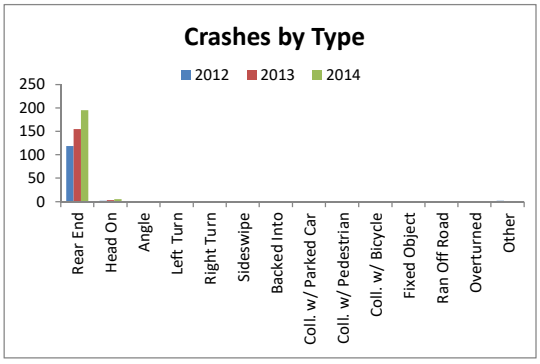
5) Dark Crashes include both scenarios - with and without street lighting.

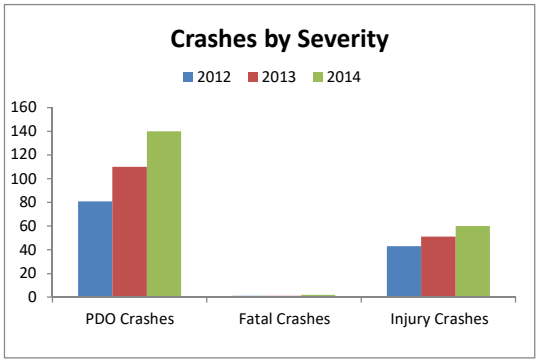

Total Crashes in 3 years (2012-2014)
0
20
40
60
80
100
120
140
160
2
4
3
1
13
3
1
24
4
8
60
2
2
2
1
4
5
160
SR 816/Oakland Park
Lowes Dr
NW 33 St
NW 34 St
NW 35 St
NW 35 Ct
NW 36 St
Lloyd Dr
Park Lane West
NW 39 St
NW 40 St
Prospect Rd
RR Crossing
NW 45 Ct
NW 46 St
NW 47 St
Unsigned
NW 49 St
SR 870/Commercial Blvd
Location
Fatal
Injury
PDO

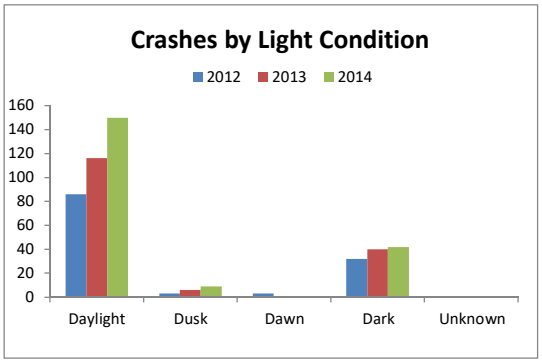

Total Crashes in 3 years (2012-2014)
90
80
70
60
50
40
30
20
10
0
SR 816/Oakland Park
Lowes Dr
NW 33 St
NW 34 St
NW 35 St
NW 35 Ct
NW 36 St
Lloyd Dr
Park Lane West
NW 39 St
NW 40 St
Prospect Rd
RR Crossing
NW 45 Ct
NW 46 St
NW 47 St
Unsigned
NW 49 St
SR 870/Commercial Blvd
Location
2012
2013
2014

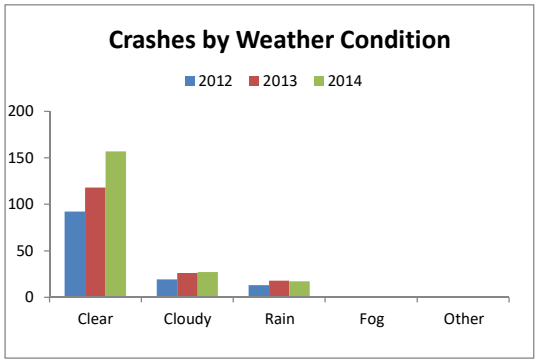
CRASH HISTOGRAMS

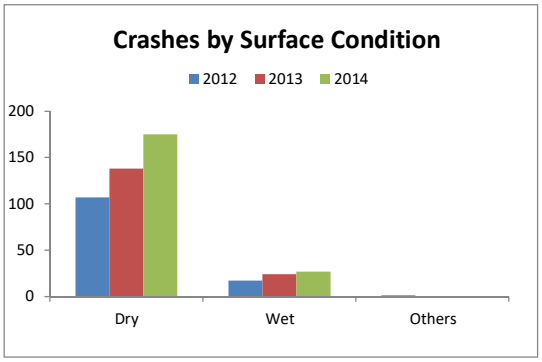
SR 845/Powerline Road From SR 816/Oakland Park Road to SR 870/Commercial Boulevard

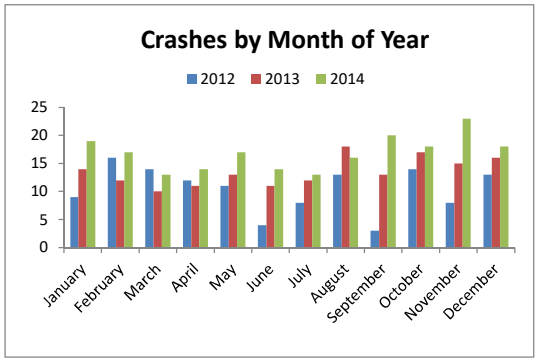


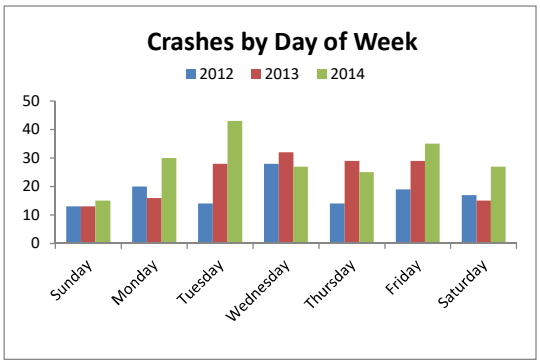


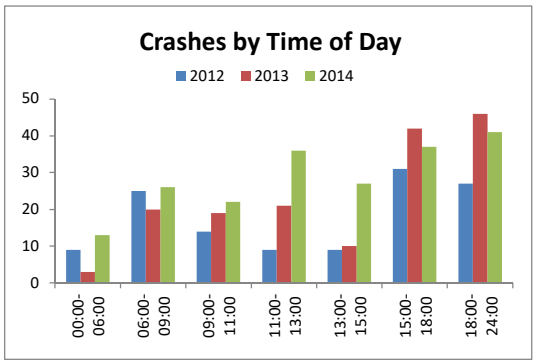












SAFETY RATIO/CONFIDENCE LEVEL
SUMMARY OF CRASHES BY CONTRIBUTING CAUSE

Location:	**SR 845/Powerline Road From SR 816/Oakland Park Road to SR 870/Commercial Boulevard**
State Section:	86065
State Road:	845
Roadway Limits:	Oakland Park Road to Commercial Boulevard
Engineer:	
Area Type:	Urban
Spot/Segment:	Segment
Segment Type:	6+ Lanes 2wy Div Rasd
Begin Milepost:	1.948 <-- ERROR
End Milepost:	3.683
Length:	1.735

Year	Number of Crashes	ADT	Actual Crash Rate (ACR)	District 4 Average Crash Rate (A)	Average Vehicle Exposure (M)	Critical Crash Rate (CCR)	Safety Ratio	Statistical Significance	Confidence Level
2012	125	42,716	4.621	3.570	27.051	4.826	0.957	2.944	99.8378%
2013	162	42,170	6.066	4.085	26.705	5.434	1.116	5.114	99.9999%
2014	202	43,106	7.400	4.085	27.298	5.418	1.366	8.616	99.9999%

ADT – Average Daily Traffic
ACR – Actual Crash Rate = No. of crashes in a year / Average Vehicle Exposure (M)
M – Average Vehicle Exposure (million vehicles or million vehicles miles) = [(ADT * 365 * L) / 1,000,000]
L = Length of the Segment for Segment Analysis, 1 for Spot Analysis
A – Average Crash Rate
CCR – Critical Crash Rate = A + K * (SQRT[A/M]) + (1/[2 * M])
K = 3.291 for Urban, 1.960 for Suburban, 1.645 for Rural K = 3.291
Safety Ratio = ACR/CCR
Level of statistical significance = [(ACR - A + (1/2M))/(A/M)^0.5]
Confidence Level = Percent probability that the crash rate is abnormally high for the location under study, using the district-wide average as a basis.

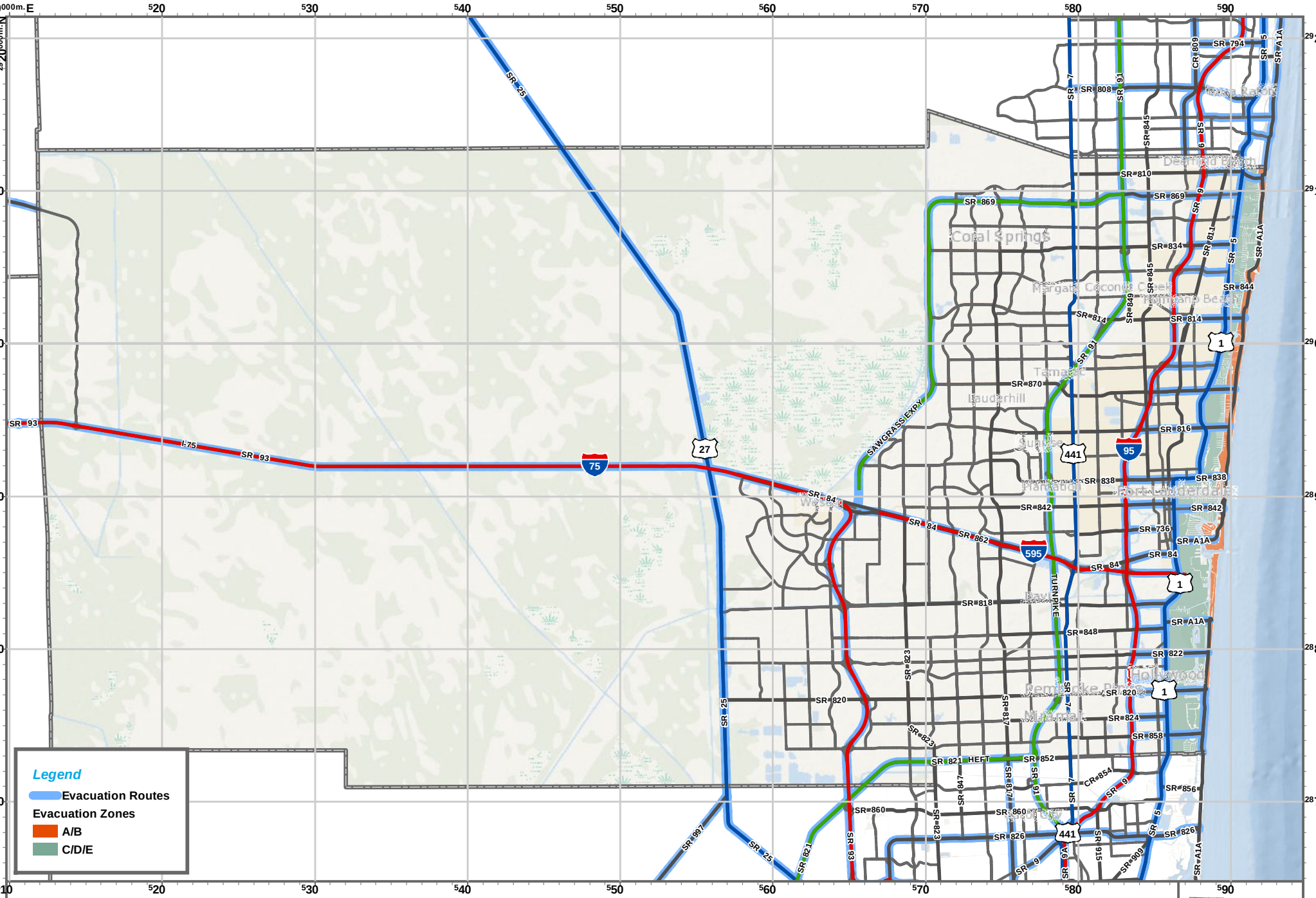
Summary by Contributing Cause

Contributing Cause\Year	2012	2013	2014	3 Year Total Crashes	Mean Crashes Per Year	Percentage
Careless Driving	0	0	0	0	0	0.0%
Failed To Yield Right-Of-Way	0	0	0	0	0	0.0%
Improper Backing	0	0	0	0	0	0.0%
Improper Lane Change	0	0	0	0	0	0.0%
Improper Turn	0	0	0	0	0	0.0%
Alcohol/Drugs-Under Influence	0	0	0	0	0	0.0%
Followed Too Closely	0	0	0	0	0	0.0%
Disregarded Traffic Control (Signal/Stop)	0	0	0	0	0	0.0%
Failed To Maintain Equipment/Vehicle	0	0	0	0	0	0.0%
Improper Passing	0	0	0	0	0	0.0%
Exceed Safe/Stated Speed Limit	0	0	0	0	0	0.0%
Driving Wrong Side/Way/Drove Left of Center	0	0	0	0	0	0.0%
All Other	125	162	202	489	163	100.0%
Total	**125**	**162**	**202**	**489**	**163**	**100.0%**

Note: The CARS summary provides two fields for contributing cause. To get a better understanding of the contributing causes in the crash analysis, the following assumptions are made to choose an appropriate contributing cause - If contributing cause 2 is 0 (unknown), 1 (no improper driving), 2 (careless driving), or 77 (all other), then contributing cause 1 is used. If contributing cause 1 is 2, then contributing cause 2 is used. If contributing cause 1 is 3 (failed to yield right-of-way) and contributing cause 2 is 11 (disregarded traffic signal), 13 (disregarded stop sign), 15 (improper passing), or 20 (disregarded other traffic control), then contributing cause 2 is used.

EXHIBIT C

Broward County Evacuation Routes & Zones



Disclaimer: Map is intended for reference only
No warranty for accuracy provided

Created By: GIS Section
Requested By: Standard Map Product
Date: 7/27/2016
Time: 10:43:02 AM
Path: S:\Projects\EvacRoute_SurgeZone_Maps\2016_Maps\MXDs\EvacRoutes_Zones\UTM17_Landscape.mxd

BROWARD

EVACUATION ROUTES & ZONES

0 2.5 5 7.5 10 Miles

FLORIDA DIVISION OF EMERGENCY MANAGEMENT

APPENDIX A

I-95 from Cypress Creek Road to Commercial Boulevard and Interchange Concept Development Report for I-95 and Oakland Park Boulevard Studies Documenting Traffic Projections for Powerline Road at Commercial Boulevard and Oakland Park Boulevard (Source: FDOT)

Memo

Date:	September 7, 2016
Project:	FPID: 435808-1-22-02; SR 9/I-95 from South of SR 870 (Commercial Boulevard) to North of Cypress Creek Road
To:	Cesar Martinez, PE, FDOT D4 PL&EM
CC:	Joshua Salazar, PE, HDR Project Manager Roberto Gutierrez, PE, Stantec Project Manager
From:	Heather Hubbard, PE, HDR Traffic Engineer Bryan St. George, EI, HDR Traffic Engineer Intern
Subject:	Design Year (2040) and Opening Year (2020) Traffic Volume Development Methodology

1. Introduction

The Florida Department of Transportation (FDOT), District Four, is conducting a Project Development and Environment (PD&E) Study at the I-95/Commercial Boulevard and I-95/Cypress Creek Road interchanges. A Systems Interchange Modification Report (SIMR) is being prepared as part of the PD&E Study to document the evaluation of the Proposed Alternatives for the I-95/Commercial Boulevard and I-95/Cypress Creek Road interchanges. The Methodology Letter of Understanding (MLOU) was approved by Central Office on July 15, 2016 as a programmatic project. The MLOU identifies the study limits, study intersections, type of data collection needed, analysis years, traffic forecasting process, etc. The purpose of this Traffic Volume Development Memorandum is to document the methodology employed in the development of the design year (2040) and opening year (2020) traffic volume demand for these interchanges and their adjacent cross streets that will be used in the SIMR analysis.

The project location includes Commercial Boulevard from NW 15th Avenue to NE 6th Avenue, Cypress Creek Road from NW 6th Way to Dixie Highway, and I-95 from south of Commercial Boulevard to north of Cypress Creek Road. The Build Alternative may include modifications to several intersections along Powerline Road and Andrews Avenue. Therefore, the arterials of Powerline from NW 46th Street to NW 56th Street and Andrews Avenue from the west end of the I-95/Andrews Avenue overpass bridge to NW 66th Street are considered to be in the area of influence of this project. The overall project location is shown on **Figure 1.1**. **Figure 1.2** displays the project limits and area of influence for the I-95/Commercial Boulevard interchange. **Figure 1.3** displays the project limits and area of influence for the I-95/Cypress Creek Road interchange.

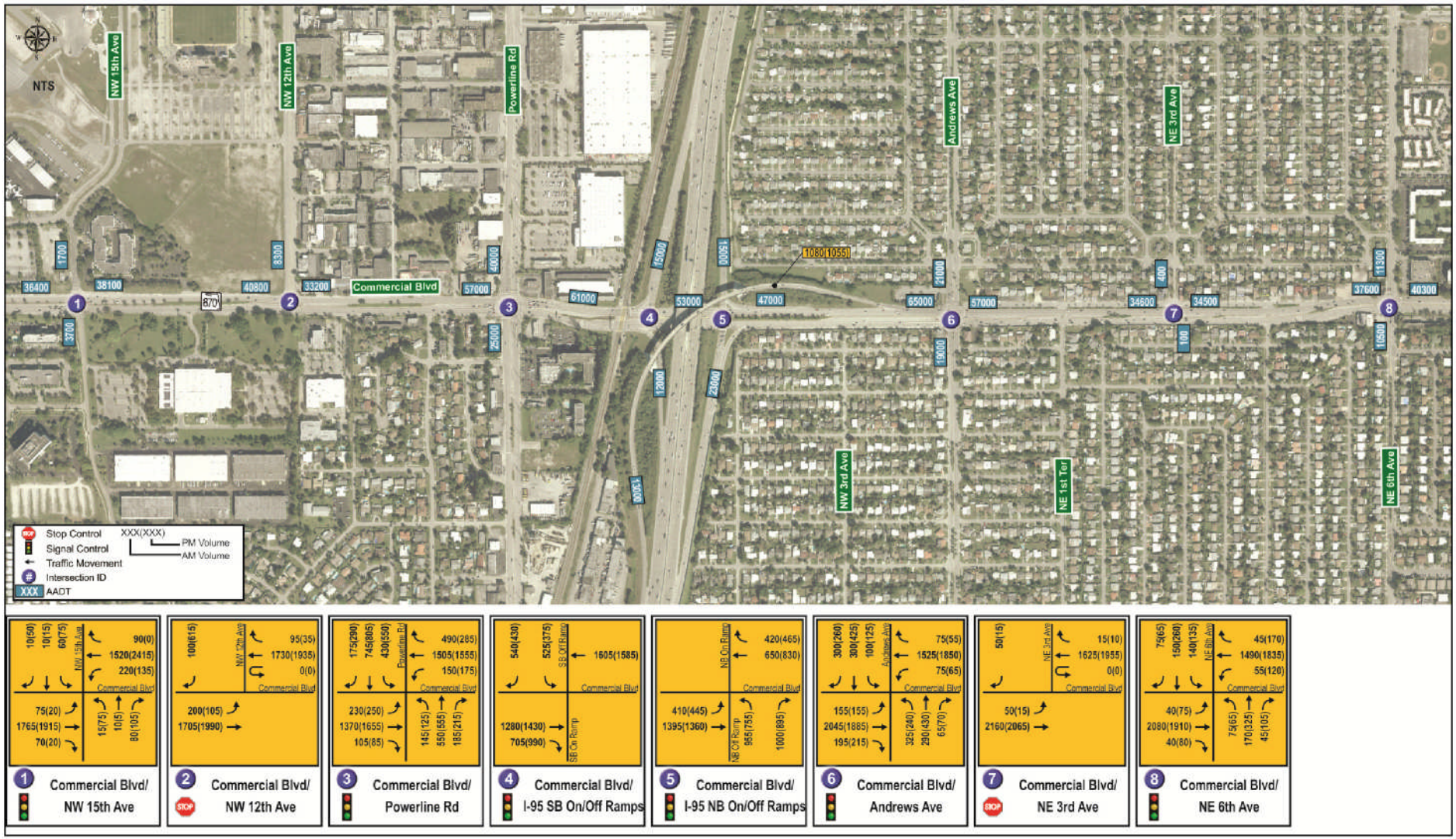


Figure 5.3. Existing Year (2015) AADT and Turning Movement Volumes – I-95/Commercial Boulevard

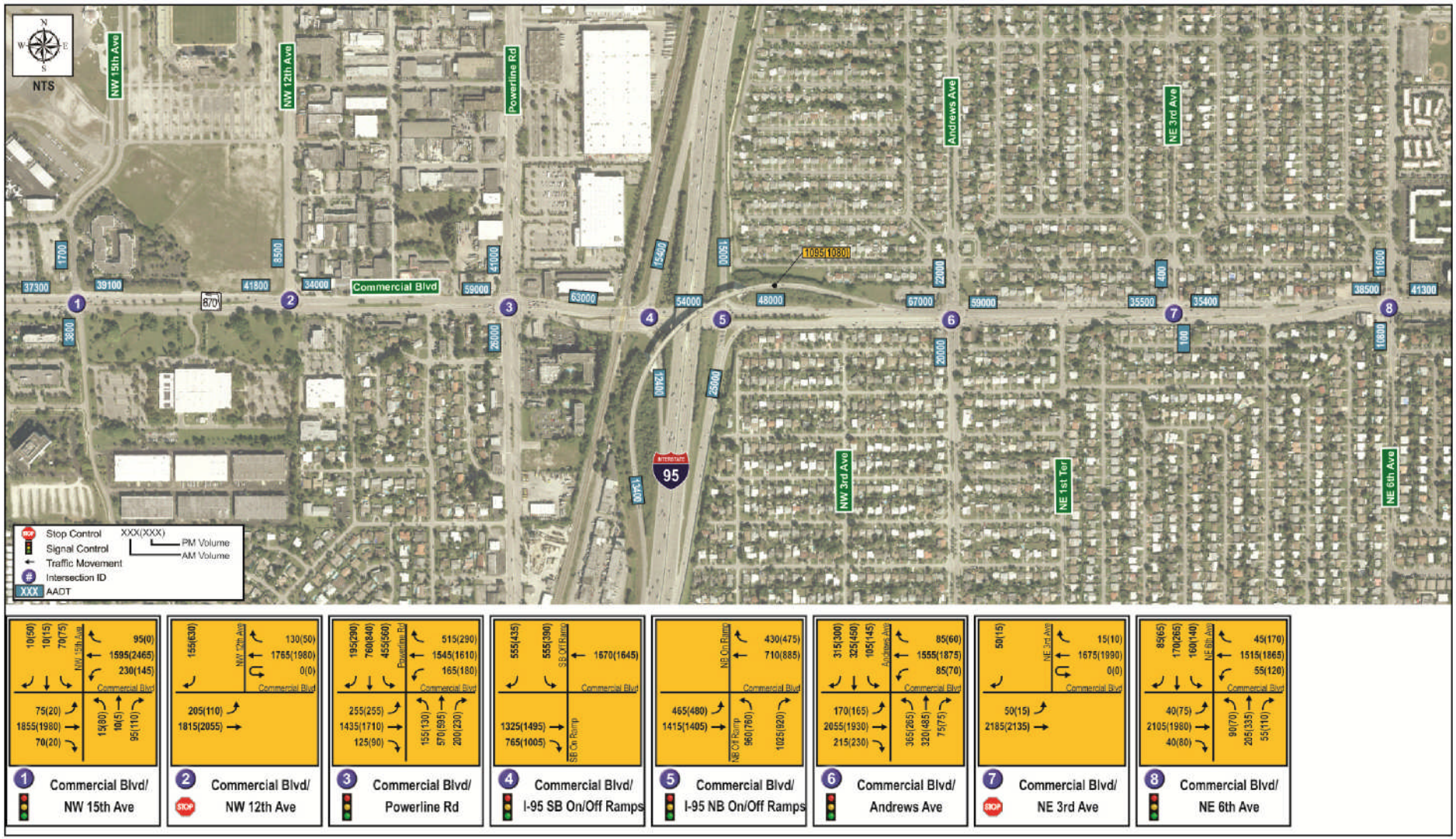


Figure 6.8. Opening Year (2020) AADT and Turning Movement Volumes – I-95/Commercial Boulevard

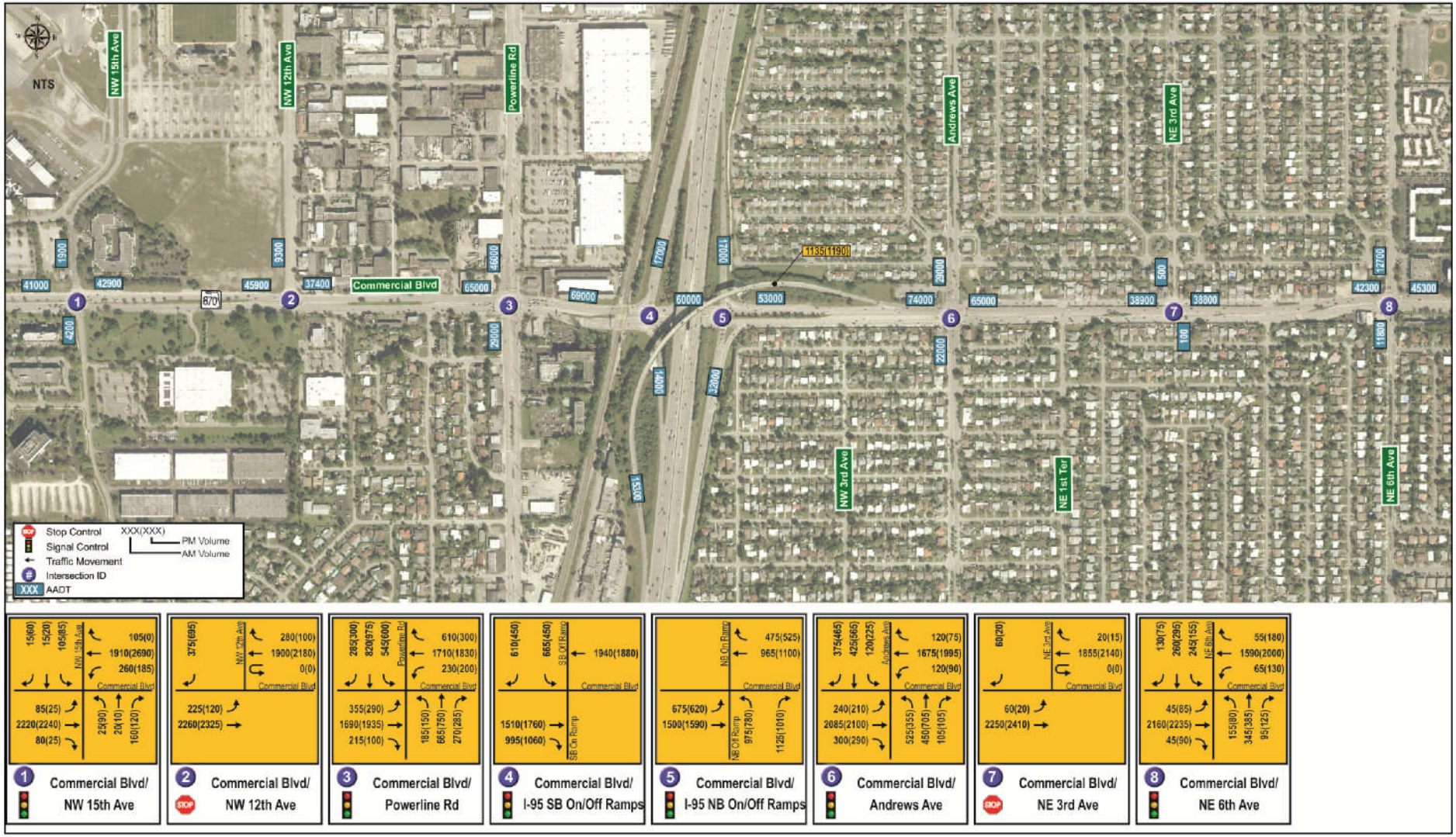


Figure 6.3. Design Year (2040) AADT and Turning Movement Volumes – I-95/Commercial Boulevard

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

OFFICE OF PLANNING AND ENVIRONMENTAL MANAGEMENT

INTERCHANGE CONCEPT DEVELOPMENT REPORT
SR-9 (I-95) at SR-816 (Oakland Park Boulevard) Interchange

PREPARED FOR:
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT 4
3400 WEST COMMERCIAL BOULEVARD
FORT LAUDERDALE, FL 33309

PREPARED BY:
URS CORPORATION SOUTHERN
7800 CONGRESS AVENUE, SUITE 200
BOCA RATON, FL 33487

January 2016

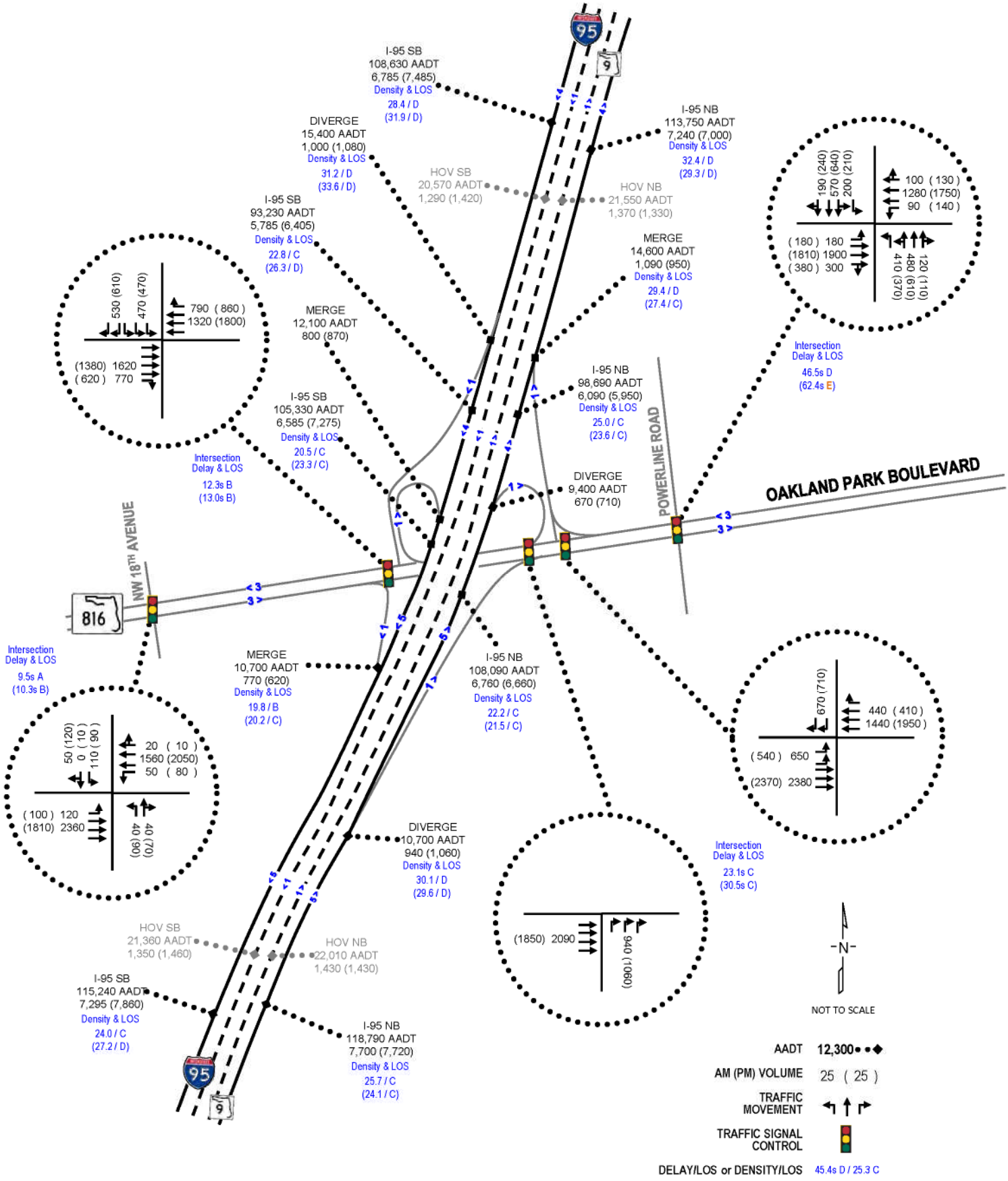


Figure 6.1: Existing Year Volumes & LOS

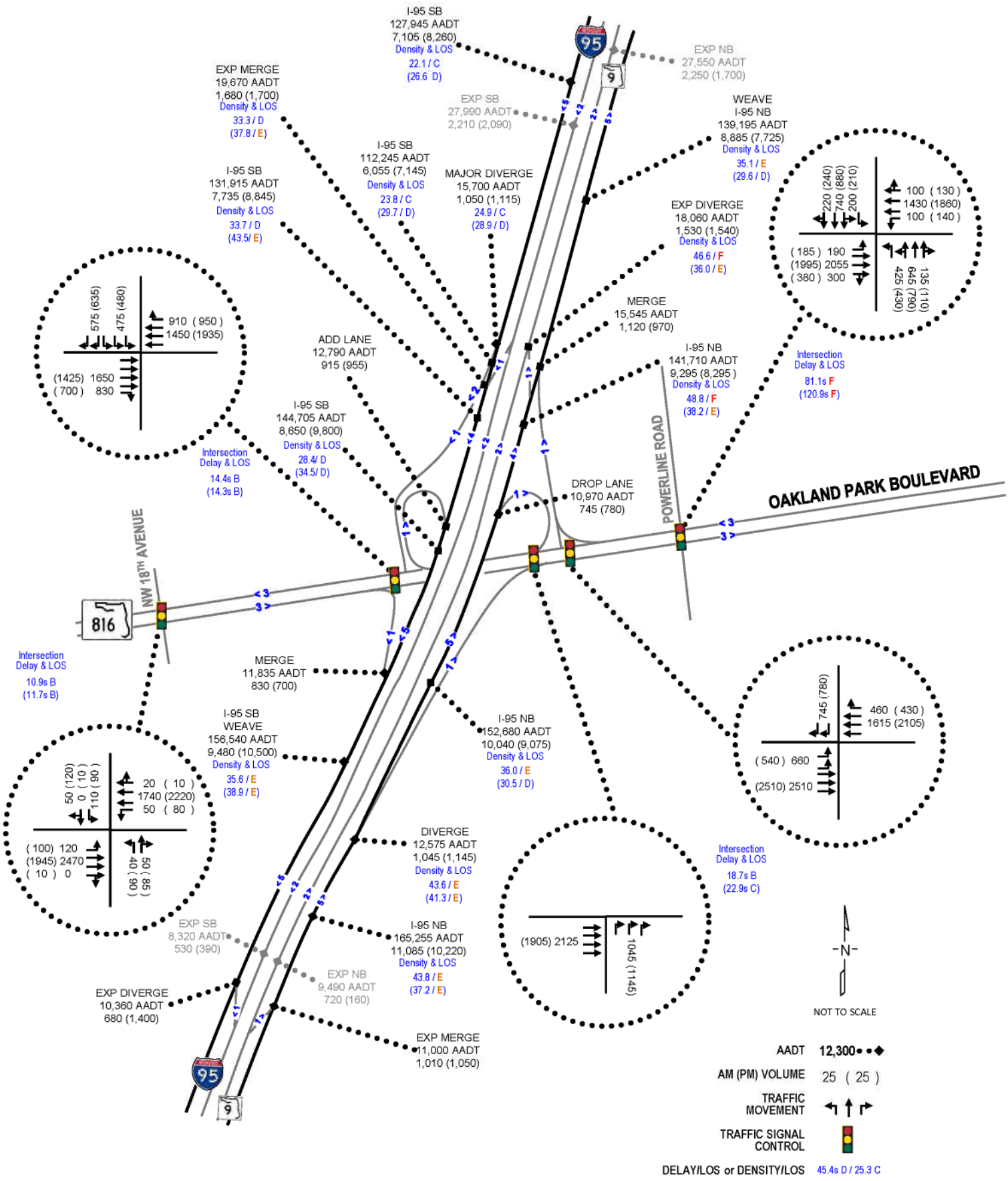


Figure 8.1: No-Build 2020 Volumes & LOS

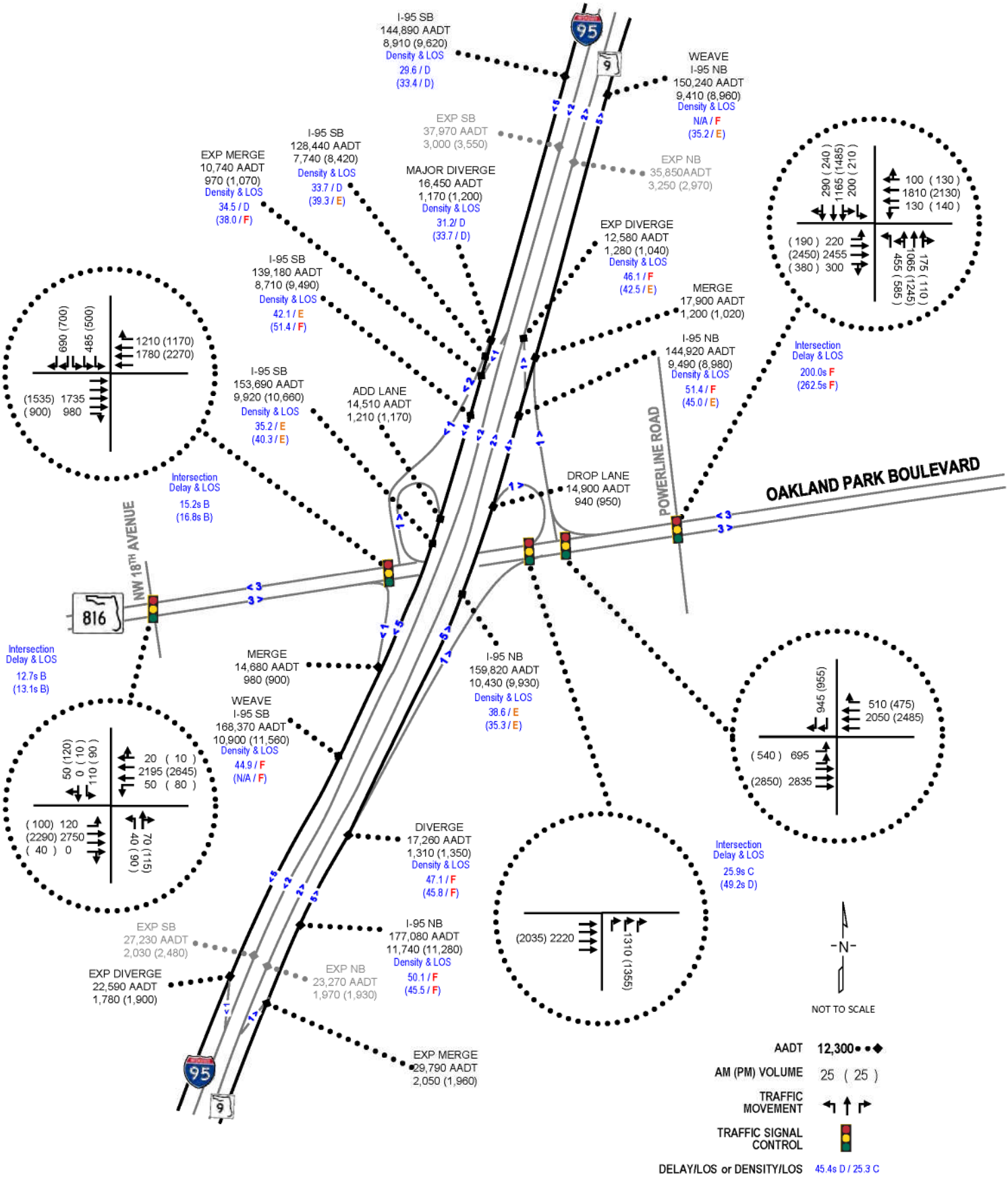


Figure 10.1: No-Build 2040 Volumes & LOS

APPENDIX B

Turning Movement Counts at Powerline/Prospect & Powerline/NW 38th Street

Crossroads Engineering

8320 SW 90th Street
Miami, FL 33186
786-236-2857

CLIENT:TRAFTECH
JOB NO.:2015-036
PROJECT:POWERLINE RD TMCS
COUNTY:BROWARD

File Name : POWERLINE RD @ PROSPECT RD
Site Code : 00000000
Start Date : 5/27/2015
Page No : 1

Groups Printed- AUTOS - HEAVY VEHICLES

	POWERLINE RD From North				PROSPECT RD From East				POWERLINE RD From South				PROSPECT RD From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	135	47	1	33	92	15	3	18	92	19	5	31	163	42	2	698
07:15 AM	0	179	74	1	61	87	24	1	31	138	25	1	42	178	43	0	885
07:30 AM	0	149	74	1	52	86	49	1	47	148	40	5	54	203	63	0	972
07:45 AM	0	130	62	0	72	109	33	1	49	178	38	3	58	180	48	1	962
Total	0	593	257	3	218	374	121	6	145	556	122	14	185	724	196	3	3517
08:00 AM	2	158	63	1	63	132	36	1	37	138	39	2	39	193	47	0	951
08:15 AM	6	174	47	1	44	125	45	0	25	188	38	0	61	197	65	0	1016
08:30 AM	1	128	63	0	67	121	50	1	35	222	33	1	25	185	58	0	990
08:45 AM	1	119	56	0	58	95	31	2	29	207	33	2	25	181	44	1	884
Total	10	579	229	2	232	473	162	4	126	755	143	5	150	756	214	1	3841
*** BREAK ***																	
04:00 PM	0	129	55	2	73	178	44	1	36	105	24	4	23	93	27	1	795
04:15 PM	3	152	67	1	62	179	35	1	33	131	50	1	24	90	34	0	863
04:30 PM	1	139	53	0	54	193	51	1	38	137	40	0	19	92	28	0	846
04:45 PM	0	136	65	0	40	174	42	3	24	139	64	2	27	141	24	1	882
Total	4	556	240	3	229	724	172	6	131	512	178	7	93	416	113	2	3386
05:00 PM	2	168	60	0	47	173	48	1	23	134	79	1	34	123	36	1	930
05:15 PM	1	144	61	0	62	224	43	1	28	103	61	0	39	143	36	0	946
05:30 PM	3	148	61	1	49	207	52	1	28	124	110	9	25	118	37	0	973
05:45 PM	0	142	71	0	34	201	56	1	23	110	75	1	27	115	32	1	889
Total	6	602	253	1	192	805	199	4	102	471	325	11	125	499	141	2	3738
Grand Total	20	2330	979	9	871	2376	654	20	504	2294	768	37	553	2395	664	8	14482
Apprch %	0.6	69.8	29.3	0.3	22.2	60.6	16.7	0.5	14	63.7	21.3	1	15.3	66.2	18.3	0.2	
Total %	0.1	16.1	6.8	0.1	6	16.4	4.5	0.1	3.5	15.8	5.3	0.3	3.8	16.5	4.6	0.1	
AUTOS	19	2298	973	9	864	2349	643	19	498	2266	764	37	548	2381	659	8	14335
% AUTOS	95	98.6	99.4	100	99.2	98.9	98.3	95	98.8	98.8	99.5	100	99.1	99.4	99.2	100	99
HEAVY VEHICLES	1	32	6	0	7	27	11	1	6	28	4	0	5	14	5	0	147
% HEAVY VEHICLES	5	1.4	0.6	0	0.8	1.1	1.7	5	1.2	1.2	0.5	0	0.9	0.6	0.8	0	1

Crossroads Engineering

8320 SW 90th Street
Miami, FL 33186
786-236-2857

CLIENT:TRAFTECH
JOB NO.:2015-036
PROJECT:POWERLINE RD TMCS
COUNTY:BROWARD

File Name : POWERLINE RD @ PROSPECT RD
Site Code : 00000000
Start Date : 5/27/2015
Page No : 2

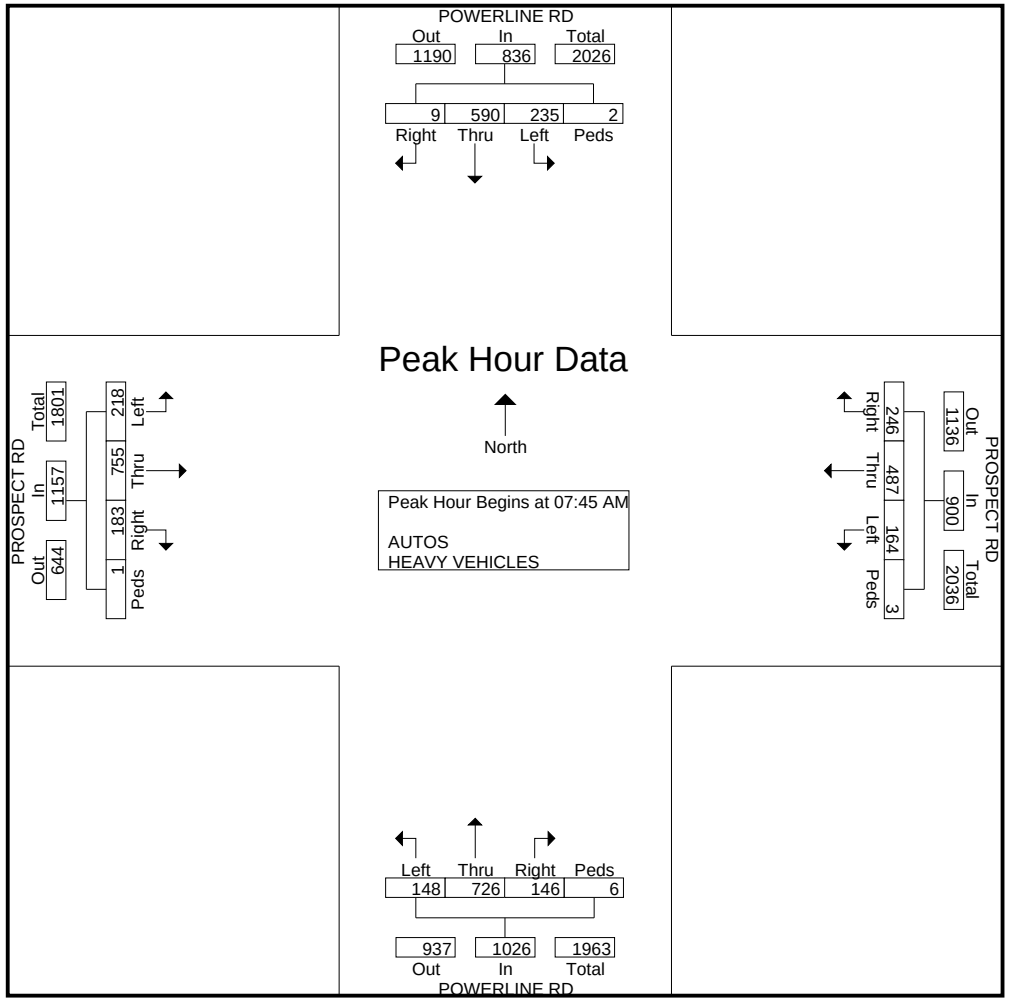
	POWERLINE RD From North					PROSPECT RD From East					POWERLINE RD From South					PROSPECT RD From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	130	62	0	192	**72**	109	33	**1**	215	**49**	178	38	**3**	268	58	180	48	**1**	287	962
08:00 AM	2	158	**63**	**1**	224	63	**132**	36	1	232	37	138	**39**	2	216	39	193	47	0	279	951
08:15 AM	**6**	**174**	47	1	**228**	44	125	45	0	214	25	188	38	0	251	**61**	**197**	**65**	0	**323**	**1016**
08:30 AM	1	128	63	0	192	67	121	**50**	1	**239**	35	**222**	33	1	**291**	25	185	58	0	268	990
Total Volume	9	590	235	2	836	246	487	164	3	900	146	726	148	6	1026	183	755	218	1	1157	3919
% App. Total	1.1	70.6	28.1	0.2		27.3	54.1	18.2	0.3		14.2	70.8	14.4	0.6		15.8	65.3	18.8	0.1		
PHF	.375	.848	.933	.500	.917	.854	.922	.820	.750	.941	.745	.818	.949	.500	.881	.750	.958	.838	.250	.896	.964

Crossroads Engineering

8320 SW 90th Street
Miami, FL 33186
786-236-2857

CLIENT:TRAFTECH
JOB NO.:2015-036
PROJECT:POWERLINE RD TMCS
COUNTY:BROWARD

File Name : POWERLINE RD @ PROSPECT RD
Site Code : 00000000
Start Date : 5/27/2015
Page No : 3



Crossroads Engineering

8320 SW 90th Street
Miami, FL 33186
786-236-2857

CLIENT:TRAFTECH
JOB NO.:2015-036
PROJECT:POWERLINE RD TMCS
COUNTY:BROWARD

File Name : POWERLINE RD @ PROSPECT RD
Site Code : 00000000
Start Date : 5/27/2015
Page No : 4

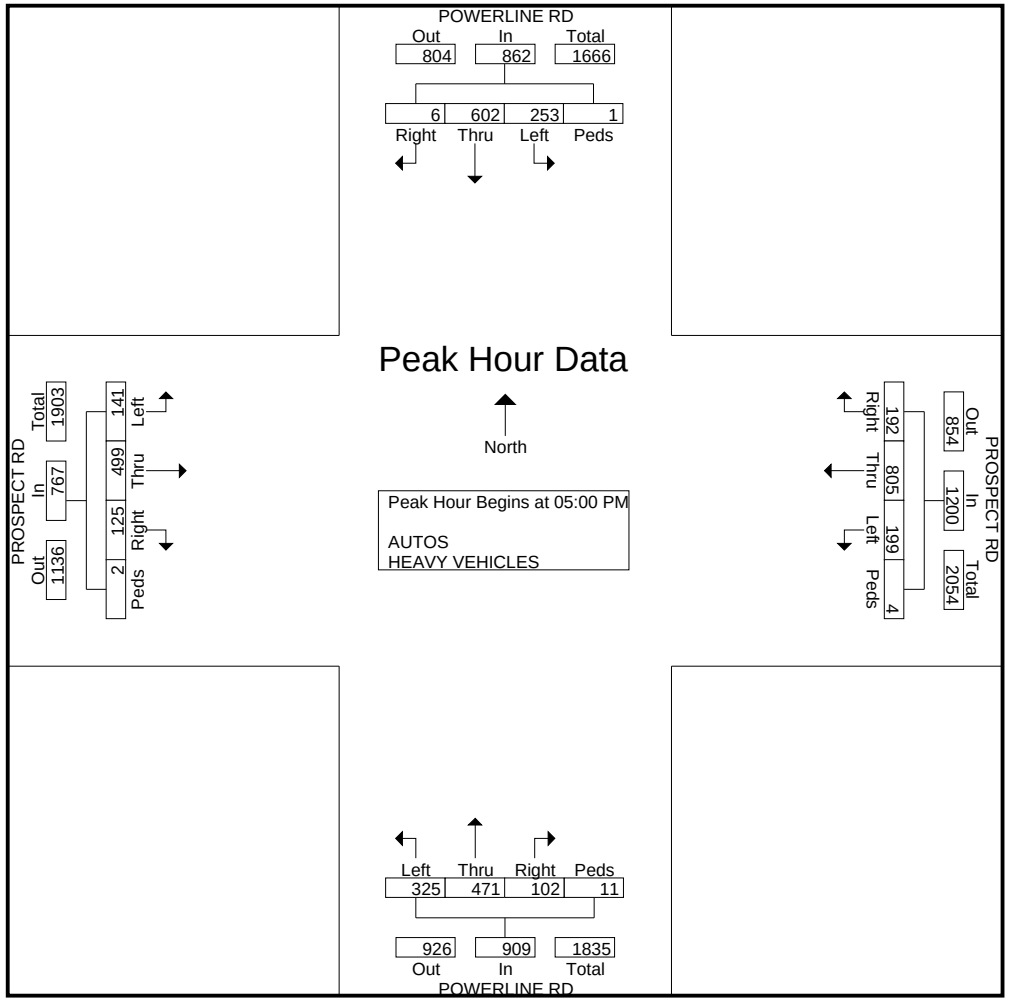
	POWERLINE RD From North					PROSPECT RD From East					POWERLINE RD From South					PROSPECT RD From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	2	**168**	60	0	**230**	47	173	48	**1**	269	23	**134**	79	1	237	34	123	36	**1**	194	930
05:15 PM	1	144	61	0	206	**62**	**224**	43	1	**330**	**28**	103	61	0	192	**39**	**143**	36	0	**218**	946
05:30 PM	**3**	148	61	**1**	213	49	207	52	1	309	28	124	**110**	**9**	**271**	25	118	**37**	0	180	**973**
05:45 PM	0	142	**71**	0	213	34	201	**56**	1	292	23	110	75	1	209	27	115	32	1	175	889
Total Volume	6	602	253	1	862	192	805	199	4	1200	102	471	325	11	909	125	499	141	2	767	3738
% App. Total	0.7	69.8	29.4	0.1		16	67.1	16.6	0.3		11.2	51.8	35.8	1.2		16.3	65.1	18.4	0.3		
PHF	.500	.896	.891	.250	.937	.774	.898	.888	1.00	.909	.911	.879	.739	.306	.839	.801	.872	.953	.500	.880	.960

Crossroads Engineering

8320 SW 90th Street
Miami, FL 33186
786-236-2857

CLIENT:TRAFTECH
JOB NO.:2015-036
PROJECT:POWERLINE RD TMCS
COUNTY:BROWARD

File Name : POWERLINE RD @ PROSPECT RD
Site Code : 00000000
Start Date : 5/27/2015
Page No : 5



Crossroads Engineering

8320 SW 90th Street
Miami, FL 33186
786-236-2857

CLIENT:TRAFTECH
JOB NO.:2015-036
PROJECT:POWERLINE RD TMCS
COUNTY:BROWARD

File Name : POWERLINE RD @ PROSPECT RD
Site Code : 00000000
Start Date : 5/27/2015
Page No : 1

Groups Printed- HEAVY VEHICLES

	POWERLINE RD From North				PROSPECT RD From East				POWERLINE RD From South				PROSPECT RD From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	0	0	0	0	0	2	0	0	0	0	1	0	1	1	0	0	5
07:15 AM	0	1	1	0	1	4	0	0	0	2	0	0	0	3	2	0	14
07:30 AM	0	8	0	0	0	1	2	0	1	3	0	0	0	0	1	0	16
07:45 AM	0	2	1	0	2	3	0	0	0	2	0	0	0	1	2	0	13
Total	0	11	2	0	3	10	2	0	1	7	1	0	1	5	5	0	48
08:00 AM	0	3	1	0	0	2	1	1	0	2	1	0	0	2	0	0	13
08:15 AM	0	4	1	0	0	1	1	0	2	2	2	0	3	2	0	0	18
08:30 AM	0	4	0	0	0	0	3	0	0	3	0	0	0	0	0	0	10
08:45 AM	0	0	0	0	1	0	0	0	2	4	0	0	0	0	0	0	7
Total	0	11	2	0	1	3	5	1	4	11	3	0	3	4	0	0	48
*** BREAK ***																	
04:00 PM	0	3	0	0	0	2	0	0	0	6	0	0	0	0	0	0	11
04:15 PM	0	2	2	0	1	4	1	0	1	0	0	0	1	1	0	0	13
04:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3
04:45 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
Total	0	5	2	0	2	7	1	0	1	7	0	0	1	3	0	0	29
05:00 PM	0	2	0	0	0	4	1	0	0	1	0	0	0	0	0	0	8
05:15 PM	1	0	0	0	1	0	0	0	0	2	0	0	0	2	0	0	6
05:30 PM	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	4
05:45 PM	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	4
Total	1	5	0	0	1	7	3	0	0	3	0	0	0	2	0	0	22
Grand Total	1	32	6	0	7	27	11	1	6	28	4	0	5	14	5	0	147
Apprch %	2.6	82.1	15.4	0	15.2	58.7	23.9	2.2	15.8	73.7	10.5	0	20.8	58.3	20.8	0	
Total %	0.7	21.8	4.1	0	4.8	18.4	7.5	0.7	4.1	19	2.7	0	3.4	9.5	3.4	0	

Crossroads Engineering

8320 SW 90th Street
Miami, FL 33186
786-236-2857

CLIENT:TRAFTECH
JOB NO.:2015-036
PROJECT:POWERLINE RD TMCS
COUNTY:BROWARD

File Name : POWERLINE RD @ NW 38TH ST
Site Code : 00000000
Start Date : 5/28/2015
Page No : 1

Groups Printed- AUTOS - HEAVY VEHICLES

	POWERLINE RD From North				NW 38TH ST From East				POWERLINE RD From South				NW 38TH ST From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	4	165	1	0	1	2	8	1	2	161	30	1	57	7	12	0	452
07:15 AM	6	187	4	0	4	8	14	1	9	166	26	1	46	4	17	1	494
07:30 AM	6	237	5	3	6	7	19	0	11	216	29	0	71	9	22	0	641
07:45 AM	6	209	7	0	8	9	13	0	13	240	30	0	54	9	6	1	605
Total	22	798	17	3	19	26	54	2	35	783	115	2	228	29	57	2	2192
08:00 AM	6	249	4	2	2	14	23	0	11	219	30	1	51	13	20	0	645
08:15 AM	5	213	8	1	7	5	15	0	9	300	42	0	60	10	8	2	685
08:30 AM	4	251	2	0	13	6	23	0	12	211	35	0	59	16	10	0	642
08:45 AM	7	206	5	1	4	8	23	1	13	191	53	0	32	14	8	0	566
Total	22	919	19	4	26	33	84	1	45	921	160	1	202	53	46	2	2538
*** BREAK ***																	
04:00 PM	7	190	3	2	4	26	15	1	17	198	35	2	62	10	15	1	588
04:15 PM	6	179	4	0	11	24	31	0	12	200	44	2	34	11	14	0	572
04:30 PM	8	194	6	0	14	14	26	1	10	184	26	0	38	11	17	1	550
04:45 PM	5	211	15	2	7	20	20	1	11	189	51	2	29	4	8	0	575
Total	26	774	28	4	36	84	92	3	50	771	156	6	163	36	54	2	2285
05:00 PM	7	224	9	0	7	13	43	1	8	258	41	1	44	5	11	3	675
05:15 PM	12	218	14	4	6	18	29	1	13	205	45	0	43	14	10	1	633
05:30 PM	4	206	10	0	7	14	26	0	11	224	52	1	28	6	9	0	598
05:45 PM	11	208	6	0	3	15	25	0	12	197	37	1	31	10	5	0	561
Total	34	856	39	4	23	60	123	2	44	884	175	3	146	35	35	4	2467
Grand Total	104	3347	103	15	104	203	353	8	174	3359	606	12	739	153	192	10	9482
Apprch %	2.9	93.8	2.9	0.4	15.6	30.4	52.8	1.2	4.2	80.9	14.6	0.3	67.6	14	17.6	0.9	
Total %	1.1	35.3	1.1	0.2	1.1	2.1	3.7	0.1	1.8	35.4	6.4	0.1	7.8	1.6	2	0.1	
AUTOS	99	3296	102	15	102	186	343	8	172	3296	525	12	699	150	187	9	9201
% AUTOS	95.2	98.5	99	100	98.1	91.6	97.2	100	98.9	98.1	86.6	100	94.6	98	97.4	90	97
HEAVY VEHICLES	5	51	1	0	2	17	10	0	2	63	81	0	40	3	5	1	281
% HEAVY VEHICLES	4.8	1.5	1	0	1.9	8.4	2.8	0	1.1	1.9	13.4	0	5.4	2	2.6	10	3

Crossroads Engineering

8320 SW 90th Street
Miami, FL 33186
786-236-2857

CLIENT:TRAFTECH
JOB NO.:2015-036
PROJECT:POWERLINE RD TMCS
COUNTY:BROWARD

File Name : POWERLINE RD @ NW 38TH ST
Site Code : 00000000
Start Date : 5/28/2015
Page No : 2

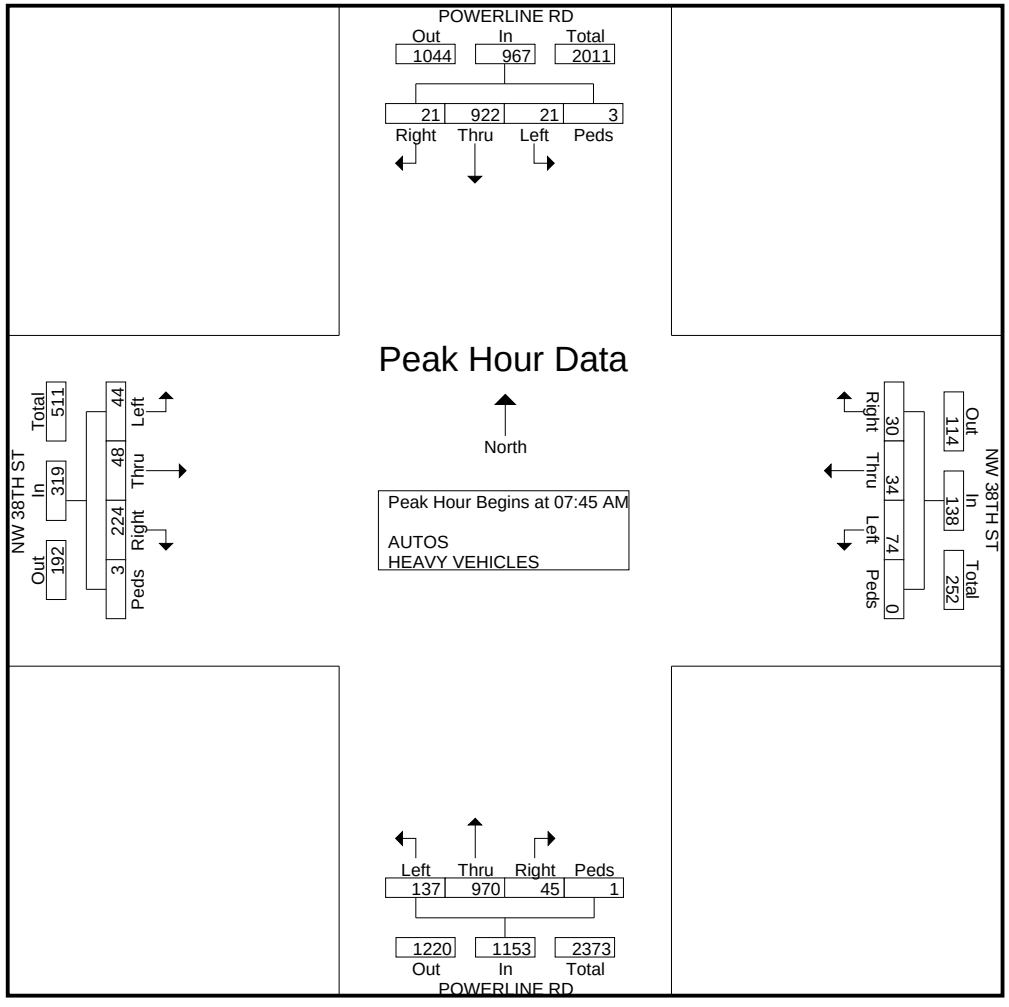
	POWERLINE RD From North					NW 38TH ST From East					POWERLINE RD From South					NW 38TH ST From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	**6**	209	7	0	222	8	9	13	0	30	**13**	240	30	0	283	54	9	6	1	70	605
08:00 AM	6	249	4	**2**	**261**	2	**14**	**23**	0	39	11	219	30	**1**	261	51	13	**20**	0	84	645
08:15 AM	5	213	**8**	1	227	7	5	15	0	27	9	**300**	**42**	0	**351**	**60**	10	8	**2**	80	**685**
08:30 AM	4	**251**	2	0	257	**13**	6	23	0	**42**	12	211	35	0	258	59	**16**	10	0	**85**	642
Total Volume	21	922	21	3	967	30	34	74	0	138	45	970	137	1	1153	224	48	44	3	319	2577
% App. Total	2.2	95.3	2.2	0.3		21.7	24.6	53.6	0		3.9	84.1	11.9	0.1		70.2	15	13.8	0.9		
PHF	.875	.918	.656	.375	.926	.577	.607	.804	.000	.821	.865	.808	.815	.250	.821	.933	.750	.550	.375	.938	.941

Crossroads Engineering

8320 SW 90th Street
Miami, FL 33186
786-236-2857

CLIENT:TRAFTECH
JOB NO.:2015-036
PROJECT:POWERLINE RD TMCS
COUNTY:BROWARD

File Name : POWERLINE RD @ NW 38TH ST
Site Code : 00000000
Start Date : 5/28/2015
Page No : 3



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File Name : POWERLINE RD @ NW 38TH ST
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Start Date : 5/28/2015
Page No : 4

	POWERLINE RD From North					NW 38TH ST From East					POWERLINE RD From South					NW 38TH ST From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	5	211	**15**	2	233	**7**	**20**	20	**1**	48	11	189	51	**2**	253	29	4	8	0	41	575
05:00 PM	7	**224**	9	0	240	7	13	**43**	1	**64**	8	**258**	41	1	**308**	**44**	5	**11**	**3**	63	**675**
05:15 PM	**12**	218	14	**4**	**248**	6	18	29	1	54	**13**	205	45	0	263	43	**14**	10	1	**68**	633
05:30 PM	4	206	10	0	220	7	14	26	0	47	11	224	**52**	1	288	28	6	9	0	43	598
Total Volume	28	859	48	6	941	27	65	118	3	213	43	876	189	4	1112	144	29	38	4	215	2481
% App. Total	3	91.3	5.1	0.6		12.7	30.5	55.4	1.4		3.9	78.8	17	0.4		67	13.5	17.7	1.9		
PHF	.583	.959	.800	.375	.949	.964	.813	.686	.750	.832	.827	.849	.909	.500	.903	.818	.518	.864	.333	.790	.919

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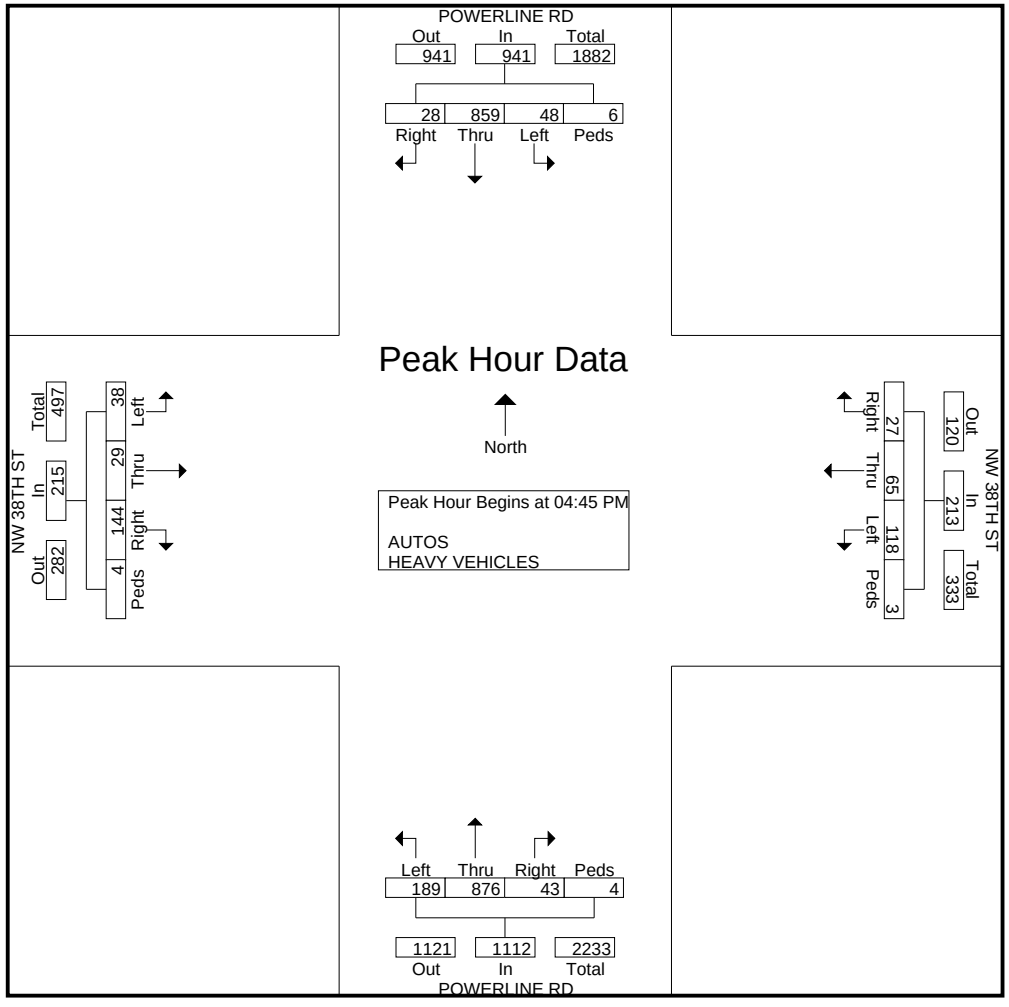
File Name : POWERLINE RD @ NW 38TH ST
Site Code : 00000000
Start Date : 5/28/2015
Page No : 5



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CLIENT:TRAFTECH
JOB NO.:2015-036
PROJECT:POWERLINE RD TMCS
COUNTY:BROWARD

File Name : POWERLINE RD @ NW 38TH ST
Site Code : 00000000
Start Date : 5/28/2015
Page No : 1

Groups Printed- HEAVY VEHICLES

	POWERLINE RD From North				NW 38TH ST From East				POWERLINE RD From South				NW 38TH ST From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	1	3	0	0	0	0	0	0	0	3	0	0	10	2	0	0	19
07:15 AM	0	3	0	0	0	1	2	0	1	5	1	0	5	0	0	0	18
07:30 AM	0	4	0	0	0	0	1	0	0	3	4	0	5	0	0	0	17
07:45 AM	0	2	0	0	0	2	1	0	0	1	8	0	3	0	1	1	19
Total	1	12	0	0	0	3	4	0	1	12	13	0	23	2	1	1	73
08:00 AM	0	4	0	0	0	2	1	0	1	2	5	0	6	0	1	0	22
08:15 AM	1	4	0	0	1	1	1	0	0	8	1	0	1	0	2	0	20
08:30 AM	0	6	0	0	1	0	1	0	0	3	4	0	2	0	0	0	17
08:45 AM	2	5	0	0	0	1	1	0	0	7	11	0	2	0	0	0	29
Total	3	19	0	0	2	4	4	0	1	20	21	0	11	0	3	0	88
*** BREAK ***																	
04:00 PM	0	3	0	0	0	2	1	0	0	3	9	0	4	0	0	0	22
04:15 PM	1	1	1	0	0	3	1	0	0	6	5	0	0	0	1	0	19
04:30 PM	0	2	0	0	0	2	0	0	0	6	3	0	0	0	0	0	13
04:45 PM	0	4	0	0	0	0	0	0	0	3	10	0	1	0	0	0	18
Total	1	10	1	0	0	7	2	0	0	18	27	0	5	0	1	0	72
05:00 PM	0	4	0	0	0	1	0	0	0	2	4	0	0	0	0	0	11
05:15 PM	0	0	0	0	0	0	0	0	0	5	3	0	0	1	0	0	9
05:30 PM	0	4	0	0	0	0	0	0	0	3	7	0	0	0	0	0	14
05:45 PM	0	2	0	0	0	2	0	0	0	3	6	0	1	0	0	0	14
Total	0	10	0	0	0	3	0	0	0	13	20	0	1	1	0	0	48
Grand Total	5	51	1	0	2	17	10	0	2	63	81	0	40	3	5	1	281
Apprch %	8.8	89.5	1.8	0	6.9	58.6	34.5	0	1.4	43.2	55.5	0	81.6	6.1	10.2	2	
Total %	1.8	18.1	0.4	0	0.7	6	3.6	0	0.7	22.4	28.8	0	14.2	1.1	1.8	0.4	

APPENDIX C

Broward County Transit Route 14

Route 14

Effective Date: 1.19.14
Route: 14

Weekday Northbound: Broward Central Terminal to Hillsboro Boulevard via Powerline Road.
Weekday Southbound: Hillsboro Bouldevard to Broward Central Terminal via Powerline Road.

Saturday Northbound: Broward Central Terminal to Hillsboro Boulevard via Powerline Road.
Saturday Southbound: Hillsboro Bouldevard to Broward Central Terminal via Powerline Road.

Sunday Northbound: Broward Central Terminal to Hillsboro Boulevard via Powerline Road.
Sunday Southbound: Hillsboro Bouldevard to Broward Central Terminal via Powerline Road.

Weekday Northbound

Broward Central Terminal	5:00a	5:20a	5:40a	6:00a	6:20a	6:40a	7:00a	7:20a	7:40a	8:00a	8:20a	8:40a	9:00a	9:20a	9:40a	10:00a	10:20a	10:40a	11:00a	11:20a	11:40a	12:00p	12:2
Oakland Park Blv & Powerline Rd	5:16a	5:36a	5:56a	6:17a	6:37a	6:57a	7:18a	7:38a	7:58a	8:18a	8:38a	8:58a	9:17a	9:37a	9:57a	10:17a	10:37a	10:57a	11:17a	11:37a	11:57a	12:17p	12:3
TCRA Cypress Creek Tri-Rail	5:25a	5:45a	6:06a	6:27a	6:47a	7:08a	7:29a	7:49a	8:09a	8:29a	8:49a	9:08a	9:27a	9:47a	10:07a	10:27a	10:47a	11:07a	11:27a	11:47a	12:07p	12:27p	12:4
Copans Rd & Powerline Rd	5:41a	6:01a	6:23a	6:44a	7:04a	7:26a	7:47a	8:07a	8:27a	8:47a	9:07a	9:25a	9:44a	10:04a	10:24a	10:44a	11:04a	11:24a	11:44a	12:04p	12:24p	12:44p	1:0
Hillsboro Blv & Powerline Rd	5:56a	6:17a	6:39a	7:00a	7:21a	7:43a	8:04a	8:24a	8:44a	9:04a	9:23a	9:41a	10:00a	10:20a	10:40a	11:00a	11:20a	11:40a	12:00p	12:20p	12:40p	1:00p	1:2

Weekday Southbound ***Note: Southbound buses do not pull into Cypress Tri-Rail Station***

Hillsboro Blv & Powerline Rd		5:12a	5:32a	5:52a	6:12a	6:32a	6:52a	7:12a	7:32a	7:52a	8:12a	8:32a	8:52a	9:12a	9:32a	9:52a	10:12a	10:32a	10:52a	11:12a	11:32a	11:52a	12:1
Copans Rd & Powerline Rd	5:04a	5:24a	5:44a	6:04a	6:25a	6:45a	7:05a	7:26a	7:46a	8:06a	8:26a	8:46a	9:06a	9:25a	9:45a	10:05a	10:25a	10:45a	11:05a	11:25a	11:45a	12:05p	12:2
TCRA Cypress Creek Tri-Rail*	5:19a	5:39a	5:59a	6:20a	6:41a	7:01a	7:22a	7:43a	8:03a	8:23a	8:43a	9:03a	9:22a	9:41a	10:01a	10:21a	10:41a	11:01a	11:21a	11:41a	12:01p	12:21p	12:4
Oakland Park Blv & Powerline Rd	5:29a	5:49a	6:10a	6:31a	6:52a	7:13a	7:34a	7:55a	8:15a	8:35a	8:55a	9:14a	9:33a	9:52a	10:12a	10:32a	10:52a	11:12a	11:32a	11:52a	12:12p	12:32p	12:5
Broward Central Terminal	5:43a	6:03a	6:25a	6:46a	7:07a	7:29a	7:50a	8:11a	8:31a	8:51a	9:10a	9:29a	9:48a	10:07a	10:27a	10:47a	11:07a	11:27a	11:47a	12:07p	12:27p	12:47p	1:07

Saturday Northbound

Broward Central Terminal	5:45a	6:30a	7:15a	8:00a	8:45a	9:30a	10:15a	11:00a	11:45a	12:30p	1:15p	2:00p	2:45p	3:30p	4:15p	5:00p	5:45p	6:30p	7:15p	8:00p	8:45p	9:30p	10:15
Oakland Park Blv & Powerline Rd	5:59a	6:44a	7:30a	8:15a	9:00a	9:46a	10:31a	11:16a	12:01p	12:46p	1:31p	2:16p	3:01p	3:46p	4:31p	5:16p	6:01p	6:46p	7:30p	8:15p	9:00p	9:44p	10:29
TCRA Cypress Creek Tri-Rail	6:07a	6:52a	7:39a	8:24a	9:10a	9:56a	10:41a	11:26a	12:11p	12:56p	1:41p	2:26p	3:11p	3:56p	4:41p	5:26p	6:11p	6:56p	7:39p	8:24p	9:08p	9:52p	10:37
Copans Rd & Powerline Rd	6:21a	7:06a	7:54a	8:39a	9:26a	10:12a	10:57a	11:42a	12:27p	1:12p	1:57p	2:42p	3:27p	4:12p	4:57p	5:42p	6:27p	7:11p	7:54p	8:39p	9:22p	10:06p	10:51
Hillsboro Blv & Powerline Rd	6:35a	7:21a	8:09a	8:54a	9:42a	10:28a	11:13a	11:58a	12:43p	1:28p	2:13p	2:58p	3:43p	4:28p	5:13p	5:58p	6:43p	7:26p	8:09p	8:54p	9:36p	10:20pG	11:05

Saturday Southbound ***Note: Southbound buses do not pull into Cypress Tri-Rail Station***

Hillsboro Blv & Powerline Rd		6:10a	6:55a	7:40a	8:25a	9:10a	9:55a	10:40a	11:25a	12:10p	12:55p	1:40p	2:25p	3:10p	3:55p	4:40p	5:25p	6:10p	6:55p	7:40p	8:25p	9:10p	9:55p
Copans Rd & Powerline Rd	5:36a	6:21a	7:07a	7:52a	8:37a	9:23a	10:08a	10:53a	11:38a	12:23p	1:08p	1:53p	2:38p	3:23p	4:08p	4:53p	5:38p	6:23p	7:07p	7:52p	8:37p	9:21p	10:06p
TCRA Cypress Creek Tri-Rail*	5:49a	6:34a	7:21a	8:06a	8:51a	9:38a	10:23a	11:08a	11:53a	12:38p	1:23p	2:08p	2:53p	3:38p	4:23p	5:08p	5:53p	6:38p	7:21p	8:06p	8:51p	9:34p	10:19p
Oakland Park Blv & Powerline Rd	5:57a	6:42a	7:30a	8:15a	9:00a	9:48a	10:33a	11:18a	12:03p	12:48p	1:33p	2:18p	3:03p	3:48p	4:33p	5:18p	6:03p	6:48p	7:30p	8:15p	9:00p	9:42p	10:27p
Broward Central Terminal	6:10a	6:55a	7:44a	8:29a	9:15a	10:03a	10:48a	11:33a	12:18p	1:03p	1:48p	2:33p	3:18p	4:03p	4:48p	5:33p	6:18p	7:03p	7:44p	8:29p	9:13p	9:55p	10:40p

Sunday Northbound

Broward Central Terminal	8:00a	8:45a	9:30a	10:15a	11:00a	11:45a	12:30p	1:15p	2:00p	2:45p	3:30p	4:15p	5:00p	5:45p	6:30p	7:15p
Oakland Park Blv & Powerline Rd	8:15a	9:00a	9:45a	10:31a	11:16a	12:01p	12:46p	1:31p	2:16p	3:01p	3:46p	4:31p	5:16p	6:01p	6:45p	7:30p
TCRA Cypress Creek Tri-Rail	8:24a	9:09a	9:54a	10:41a	11:26a	12:11p	12:56p	1:41p	2:26p	3:11p	3:56p	4:41p	5:26p	6:10p	6:54p	7:39p
Copans Rd & Powerline Rd	8:39a	9:24a	10:10a	10:57a	11:42a	12:27p	1:12p	1:57p	2:42p	3:27p	4:12p	4:57p	5:42p	6:25p	7:09p	7:54p
Hillsboro Blv & Powerline Rd	8:54a	9:39a	10:26a	11:13a	11:58a	12:43p	1:28p	2:13p	2:58p	3:43p	4:28p	5:13p	5:58p	6:40p	7:24pG	8:09pG

Sunday Southbound ***Note: Southbound buses do not pull into Cypress Tri-Rail Station***

Hillsboro Blv & Powerline Rd	7:40a	8:25a	9:10a	9:55a	10:40a	11:25a	12:10p	12:55p	1:40p	2:25p	3:10p	3:55p	4:40p	5:25p	6:10p	6:55p
Copans Rd & Powerline Rd	7:52a	8:37a	9:22a	10:08a	10:53a	11:38a	12:23p	1:08p	1:53p	2:38p	3:23p	4:08p	4:53p	5:38p	6:22p	7:07p
TCRA Cypress Creek Tri-Rail*	8:06a	8:51a	9:36a	10:23a	11:08a	11:53a	12:38p	1:23p	2:08p	2:53p	3:38p	4:23p	5:08p	5:53p	6:36p	7:21p
Oakland Park Blv & Powerline Rd	8:15a	9:00a	9:45a	10:33a	11:18a	12:03p	12:48p	1:33p	2:18p	3:03p	3:48p	4:33p	5:18p	6:03p	6:45p	7:30p
Broward Central Terminal	8:29a	9:14a	9:59a	10:48a	11:33a	12:18p	1:03p	1:48p	2:33p	3:18p	4:03p	4:48p	5:33p	6:17p	6:59p	7:44pG

ADA Bus Stops

Current as of November 2008

WB=Westbound **EB**=Eastbound **NB**=Northbound **SB**=Southbound **A**=Accessible **I**=Inaccessible

Stop I.D.	Main Street	Cross Street	Direction
1089	NW 7 AVE	SISTRUNK BLVD	NB
1090	NW 7 AVE	NW 8 ST	NB
1092	POWERLINE RD	NW 13 ST	NB
1095	POWERLINE RD	NW 17 ST	NB
1096	POWERLINE RD	NW 19 ST	NB
1097	POWERLINE RD	NW 23 ST	NB
1098	POWERLINE RD	NW 28 ST	NB
1099	POWERLINE RD	NW 29 ST	NB
1100	POWERLINE RD	OAKLAND PARK BLVD	NB
1101	POWERLINE RD	NW 34 ST	NB
1102	POWERLINE RD	NW 38 ST	NB
1103	POWERLINE RD	COMMERCIAL BLVD	NB
1104	POWERLINE RD	NW 51 PL	NB
1105	POWERLINE RD	STOCKADE	NB
1106	POWERLINE RD	NW 56 ST	NB
1107	POWERLINE RD	NW 57 CT	NB
1108	POWERLINE RD	NW 62 ST	NB
1109	POWERLINE RD	MCNAB RD	NB
1110	POWERLINE RD	GATEWAY DR	NB
1111	POWERLINE RD	CYPRESS BEND D	NB
1112	POWERLINE RD	POMPANO PARK 1	NB
1113	POWERLINE RD	PALM AIRE DR	NB
1114	POWERLINE RD	POMPANO PARK	NB
1119	POWERLINE RD	NW 10 CT	SB
1120	POWERLINE RD	NW 8 ST	SB

Route 14 Page 2 of 2

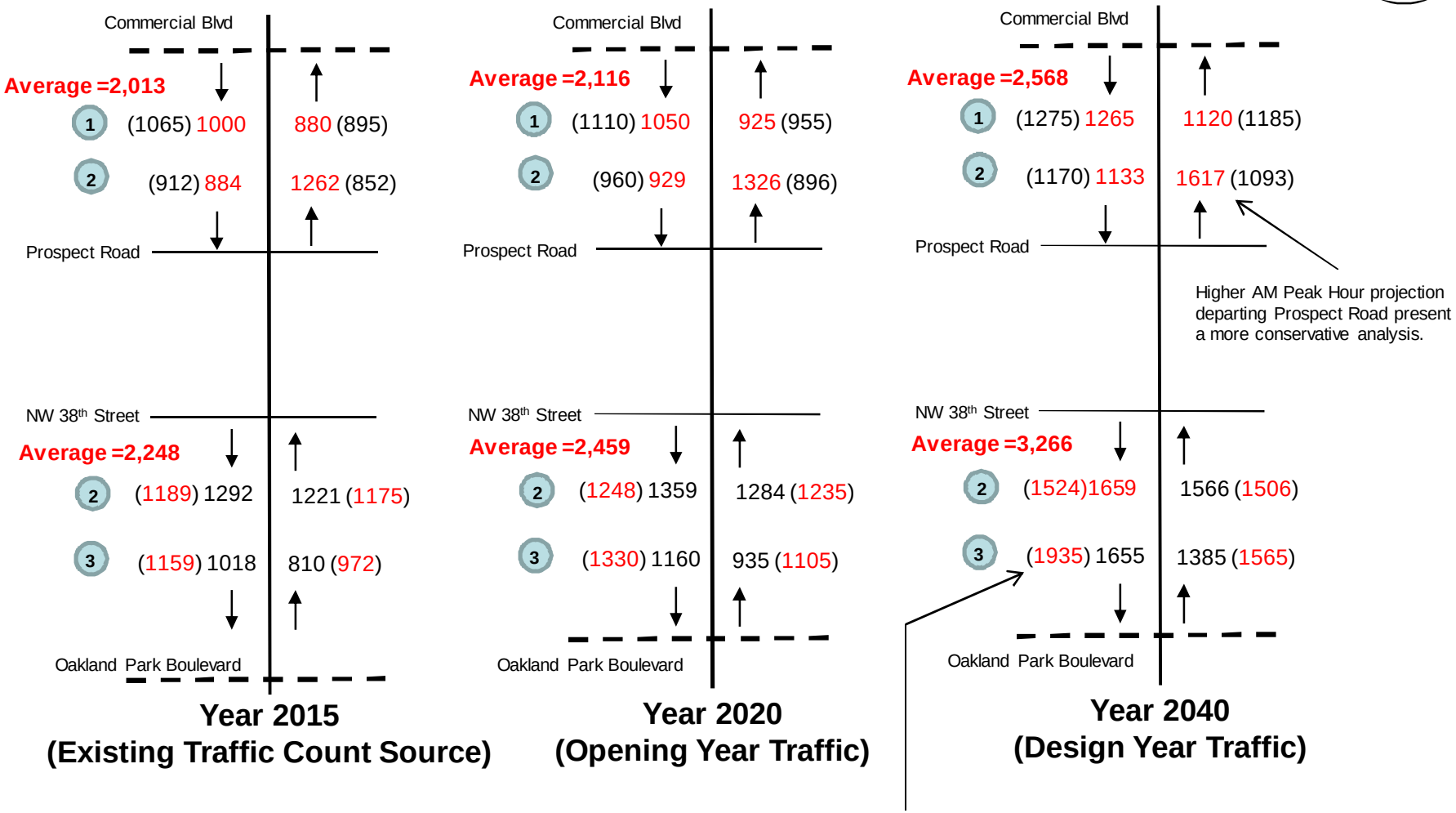
1170	POWERLINE RD	ATLANTIC BLVD	SB
1171	POWERLINE RD	N COURSE DR	SB
1172	POWERLINE RD	PALM AIRE DR	SB
1173	POWERLINE RD	S COURSE DR	SB
1174	POWERLINE RD	POMPANO PARK 1	SB
1175	POWERLINE RD	PALM AIRE DR	SB
1176	POWERLINE RD	GATEWAY DR	SB
1177	POWERLINE RD	MCNAB RD	SB
1178	POWERLINE RD	NW 63 CT	SB
1179	POWERLINE RD	NW 62 ST	SB
1180	POWERLINE RD	NW 58 CT	SB
1182	POWERLINE RD	NW 56 ST	SB
1183	POWERLINE RD	NW 53 CT	SB
1187	POWERLINE RD	NW 38 ST	SB
1188	POWERLINE RD	NW 35 CT	SB
1189	POWERLINE RD	NW 34 ST	SB
1190	POWERLINE RD	OAKLAND PARK BLVD	SB
1191	POWERLINE RD	OAKLAND PARK BLVD	SB
1192	POWERLINE RD	NW 29 ST	SB
1193	POWERLINE RD	NW 26 ST	SB
1194	POWERLINE RD	NW 20 ST	SB
1195	POWERLINE RD	NW 19 ST	SB
1196	POWERLINE RD	NW 18 ST	SB
1199	POWERLINE RD	CHATEAU PARK DR	SB
1488	POWERLINE RD	NW 40 ST	SB
2418	NW 7 AVE	NW 9 ST	SB
2689	POWERLINE RD	NW 40 ST	NB
2964	POWERLINE RD	HILLSBORO BLVD	SB
2965	POWERLINE RD	SW 2 CT	SB
2966	POWERLINE RD	SW 4 ST	SB
2967	POWERLINE RD	WEST DR	SB
2968	POWERLINE RD	SW 10 ST	SB
2969	POWERLINE RD	SW 15 ST	SB
2970	POWERLINE RD	NW 44 ST	SB
2976	POWERLINE RD	SAMPLE RD	NB
2977	POWERLINE RD	NW 44 ST	NB
2978	POWERLINE RD	GREEN RD	NB
2979	POWERLINE RD	SW 10 ST	NB
2980	POWERLINE RD	WEST DR	NB
2981	POWERLINE RD	SW 4 ST	NB
3026	POWERLINE RD	MCNAB RD	NB
3053	POWERLINE RD	NW 65 ST	NB
3102	POWERLINE RD	NW 49 ST	SB
3103	POWERLINE RD	NW 47 CT	SB
3104	POWERLINE RD	NW 16 ST	SB
3105	POWERLINE RD	NW 14 CT	SB
3106	POWERLINE RD	NW 13 ST	SB
3107	POWERLINE RD	PROSPECT RD	NB
3108	POWERLINE RD	NW 46 ST	NB
3109	POWERLINE RD	NW 49 ST	NB
3110	POWERLINE RD	NW 14 CT	NB
3111	POWERLINE RD	NW 16 ST	NB
3249	SUNRISE BLVD	NW 7 TERR	WB

APPENDIX D

Future (Year 2020 & 2040) Intersection Turning Movement Volumes Projections and Link Volume Comparison

Volume Sources

1. *I-95 from Cypress Creek Road to Commercial Boulevard PD&E Study*
2. Turning movements collected by Traf Tech Engineering, Inc.in May 2015 adjusted to peak season
3. *Interchange Concept Development Report SR-9 (I-95) at SR-816 (Oakland Park Boulevard) Interchange*



Year 2015
(Existing Traffic Count Source)

Year 2020
(Opening Year Traffic)

Year 2040
(Design Year Traffic)

LEGEND: Numbers not in parenthesis represent AM Peak Hour Volumes
Numbers in (parenthesis) represent PM Peak Hour Volumes

Higher PM Peak projections approaching Oakland Park attributed to existing shopping center at NW Corner of Powerline/Oakland Park

Traf Tech ENGINEERING, INC.	**Approach Volumes Along Powerline Road**	**FIGURE D-1** Powerline Road Fort Lauderdale, Florida

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

Powerline Road and Prospect Road
AM Peak Hour Analysis

Description	Powerline Road Northbound			Powerline Road Southbound			Prospect Road Eastbound			Prospect Road Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (5/27/2015)	148	726	146	235	590	9	218	755	183	164	487	246
Peak Season Adjustment	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
2015 Peak Season Traffic	157	770	155	249	625	10	231	800	194	174	516	261
Annual Growth Rate	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
2020 Total Traffic	**165**	**809**	**163**	**262**	**657**	**10**	**243**	**841**	**204**	**183**	**543**	**274**

Powerline Road and Prospect Road
PM Peak Hour Analysis

Description	Powerline Road Northbound			Powerline Road Southbound			Prospect Road Eastbound			Prospect Road Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (5/27/2015)	325	471	102	253	602	6	141	499	125	199	805	192
Peak Season Adjustment	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
2015 Peak Season Traffic	345	499	108	268	638	6	149	529	133	211	853	204
Annual Growth Rate	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
2020 Total Traffic	**362**	**525**	**114**	**282**	**671**	**7**	**157**	**556**	**139**	**222**	**897**	**214**

Traf Tech
ENGINEERING, INC.

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

Powerline Road and NW 38th Street
AM Peak Hour Analysis

Description	Powerline Road Northbound			Powerline Road Southbound			Prospect Road Eastbound			Prospect Road Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (5/28/2015)	137	970	45	21	922	21	44	48	224	74	34	30
Peak Season Adjustment	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
2015 Peak Season Traffic	145	1,028	48	22	977	22	47	51	237	78	36	32
Annual Growth Rate	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
2020 Total Traffic	**153**	**1,081**	**50**	**23**	**1,027**	**23**	**49**	**53**	**250**	**82**	**38**	**33**

Powerline Road and NW 38th Street
PM Peak Hour Analysis

Description	Powerline Road Northbound			Powerline Road Southbound			Prospect Road Eastbound			Prospect Road Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (5/28/2015)	189	876	43	48	859	28	38	29	144	118	65	27
Peak Season Adjustment	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
2015 Peak Season Traffic	200	929	46	51	911	30	40	31	153	125	69	29
Annual Growth Rate	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
2020 Total Traffic	**211**	**976**	**48**	**53**	**957**	**31**	**42**	**32**	**160**	**131**	**72**	**30**

Traf Tech
ENGINEERING, INC.

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

Powerline Road and Prospect Road
AM Peak Hour Analysis

Description	Powerline Road Northbound			Powerline Road Southbound			Prospect Road Eastbound			Prospect Road Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (5/27/2015)	148	726	146	235	590	9	218	755	183	164	487	246
Peak Season Adjustment	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
2015 Peak Season Traffic	157	770	155	249	625	10	231	800	194	174	516	261
Annual Growth Rate	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
2040 Total Traffic	**201**	**987**	**198**	**319**	**802**	**12**	**296**	**1,026**	**249**	**223**	**662**	**334**

Powerline Road and Prospect Road
PM Peak Hour Analysis

Description	Powerline Road Northbound			Powerline Road Southbound			Prospect Road Eastbound			Prospect Road Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (5/27/2015)	325	471	102	253	602	6	141	499	125	199	805	192
Peak Season Adjustment	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
2015 Peak Season Traffic	345	499	108	268	638	6	149	529	133	211	853	204
Annual Growth Rate	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
2040 Total Traffic	**442**	**640**	**139**	**344**	**818**	**8**	**192**	**678**	**170**	**271**	**1,094**	**261**

Traf Tech
ENGINEERING, INC.

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

Powerline Road and NW 38th Street
AM Peak Hour Analysis

Description	Powerline Road Northbound			Powerline Road Southbound			Prospect Road Eastbound			Prospect Road Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (5/28/2015)	137	970	45	21	922	21	44	48	224	74	34	30
Peak Season Adjustment	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
2015 Peak Season Traffic	145	1,028	48	22	977	22	47	51	237	78	36	32
Annual Growth Rate	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
2040 Total Traffic	**186**	**1,319**	**61**	**29**	**1,253**	**29**	**60**	**65**	**305**	**101**	**46**	**41**

Powerline Road and NW 38th Street
PM Peak Hour Analysis

Description	Powerline Road Northbound			Powerline Road Southbound			Prospect Road Eastbound			Prospect Road Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (5/28/2015)	189	876	43	48	859	28	38	29	144	118	65	27
Peak Season Adjustment	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
2015 Peak Season Traffic	200	929	46	51	911	30	40	31	153	125	69	29
Annual Growth Rate	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
2040 Total Traffic	**257**	**1,191**	**58**	**65**	**1,168**	**38**	**52**	**39**	**196**	**160**	**88**	**37**

Traf Tech
ENGINEERING, INC.

APPENDIX E

Signal Timing Data

BROWARD COUNTY TRAFFIC ENGINEERING

ACTUATED TRAFFIC SIGNAL TIMING SHEET

Intersection Number	1132	**Initial Operation Date**	11/19/64
Controller Type	2070 LN	**System Number**	1132
Modification Number	24	**Modification Date**	03/10/2015
Drawing/Project No	GRP. 1	**FPL Grid Number**	87584489408
Intersection	COMMERCIAL BLVD. (SR 870) and POWERLINE ROAD (SR 845)		
Municipality	FORT LAUDERDALE		

Controller Phase	1	2	3	4	5	6	7	8
Face Number	1	2	3	4	5	6	7	8
Direction	EBL	WB	SBL	NB	WBL	EB	NBL	SB
Initial Green(MIN)	4	8	4	8	4	8	4	8
Vehicle Ext.(GAP)	1.5	2.2	1.5	2.2	1.5	2.2	1.5	2.2
Maximum Green I	15	50	20	30	15	50	15	30
Maximum Green II								
Yellow Clearance	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All Red Clearance	3.0	2.0	2.5	2.0	3.0	2.0	2.5	2.0
Phase Recall	OFF	MIN.	OFF	OFF	OFF	MIN.	OFF	OFF
Detector Delay								
Walk		7+A		5+A		7+A		5+A
Pedestrian Clearance		27		29		27		27
Permissive	DUAL		DUAL		DUAL		DUAL	
Flash Operation	RED	RED	RED	RED	RED	RED	RED	RED

Attachment

NOTES:

1. DUAL ENTRY HARDWIRED NORTH/SOUTH.
2. AUDIBLE PEDESTRIAN SIGNALS: E/W BEEP, N/S TONE.
3. PHOTO ENFORCEMENT, CITY OF FT. LAUDERDALE.
4. MOD. 24 UPDATES ALL YELLOW AND ALL RED CLEARANCE VALUES.

Submitted By _____ **Approved By** _____

Station : 1132 - Commercial Blvd & Powerline Rd (Standard File)

Phase	1 (EL)	2 (WT)	3 (SL)	4 (NT)	5 (WL)	6 (ET)	7 (NL)	8 (ST)	9	10	11	12	13	14	15	16
Walk		7		5		7		5								
Ped Clearance		27		29		27		27								
Min Green	4	8	4	8	4	8	4	8								
Gap Ext	1.5	2.2	1.5	2.2	1.5	2.2	1.5	2.2								
Max1	15	50	20	30	15	50	15	30								
Max2																
Yellow Clr	5	5	5	5	5	5	5	5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Red Clr	3	2	2.5	2	3	2	2.5	2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Red Revert																
Added Initial																
Max Initial																
Time Before Reduce																
Cars Before Reduce																
Time To Reduce																
Reduce By																
Min Gap																
Dynamic Max Limit																
Dynamic Max Step																
Enable	ON	ON	ON	ON	ON	ON	ON	ON								
Auto Flash Entry				ON				ON								
Auto Flash Exit		ON				ON										
Non-Actuated 1																
Non-Actuated 2																
Lock Call			ON		ON		ON		ON	ON	ON	ON	ON	ON	ON	ON
Min Recall		ON		ON		ON	ON									
Max Recall		ON				ON										
Ped Recall																
Soft Recall																
Dual Entry				ON				ON								
Sim Gap Enable									ON	ON	ON	ON	ON	ON	ON	ON
Guar Passage																
Rest In Walk		ON				ON										
Cond Service																
Add Init Calc																
Concurrent Ps	1	1	1	1	2	2	2	2								

Preemption

Channel	1	2	3	4	5	6
Lock Input	ON	ON	ON	ON	ON	ON
Override Auto Flash						
Override Higher Preempt						
Flash in Dwell						
Link to Preempt						
Delay						
Min Duration						
Min Green	6	6	6	6	6	6
Min Walk						
Ped Clear						
Track Green						
Min Dwell	8	8	8	8	8	8
Max Presence	180	180	180	180	180	180
Track Veh 1						
Track Veh 2						
Track Veh 3						
Track Veh 4						
Dwell Cyc Veh 1	4	2	3	2	4	1
Dwell Cyc Veh 2	8	6	8	5	7	6
Dwell Cyc Veh 3						
Dwell Cyc Veh 4						
Dwell Cyc Veh 5						
Dwell Cyc Veh 6						
Dwell Cyc Veh 7						
Dwell Cyc Veh 8						
Dwell Cyc Veh 9						
Dwell Cyc Veh 10						
Dwell Cyc Veh 11						
Dwell Cyc Veh 12						
Dwell Cyc Ped1						
Dwell Cyc Ped2						
Dwell Cyc Ped3						
Dwell Cyc Ped4						
Dwell Cyc Ped5						
Dwell Cyc Ped6						
Dwell vPed7						
Dwell Cyc Ped8						
Exit 1	1	3	4	2	4	2
Exit 2	5	7	8	6	8	6
Exit 3						
Exit 4						

Preempt LP

Channel	1	2	3	4
Min				
Max				
Enable				
Lock Mode	MAX	MAX	MAX	MAX
Coord in Preempt				
No Skip				
Priority P1				
Priority P2				
Priority P3				
Priority P4				
Lock				
Headway				
Group Lock				
Queue Jump				
Free Mode				
Alt Table				

Station : 1132 - Commercial Blvd & Powerline Rd (Standard File)

Coordination

Hour	Minute	Action	Pattern	Cycle	Offset	Split	Sequc	Short	Long	Dwell	Split 1	Split 2	Split 3	Split 4	Split 5	Split 6	Split 7	Split 8	Split 9	Split 10	Split 11	Split 12	Split 13	Split 14	Split 15	Split 16
Day Plan 1											**Easy**															
		100	254																							
6		12	12	180	25	12	2	10	50		23	79	38	40	20	82	28	50								
9		13	13	180	79	13	2	10	50		37	64	33	46	24	77	28	51								
15		14	14	180	38	14	2	10	50		29	77	36	38	20	86	25	49								
20		15	15	160	30	15	1	10	50		30	65	30	35	30	65	30	35								
Day Plan 2											**Easy**															
		15	15	160	30	15	1	10	50		30	65	30	35	30	65	30	35								
1		100	254																							
6	30	15	15	160	30	15	1	10	50		30	65	30	35	30	65	30	35								
Day Plan 3											**Easy**															
		15	15	160	30	15	1	10	50		30	65	30	35	30	65	30	35								
1		100	254																							
6	30	15	15	160	30	15	1	10	50		30	65	30	35	30	65	30	35								
23		100	254																							

Station : 1132 - Commercial Blvd & Powerline Rd (Standard File)

Hour	Minute	Action	Pattern	Cycle	Offset	Split	Seqnc	Short	Long	Dwell	Split 1	Split 2	Split 3	Split 4	Split 5	Split 6	Split 7	Split 8	Split 9	Split 10	Split 11	Split 12	Split 13	Split 14	Split 15	Split 16
Day Plan 4											Easy															

Scheduler

	Month												Day of Week							Day of Month										1									2									3		
Plan	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	Day Plan
1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1	1	1	1	1							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
3	1	1	1	1	1	1	1	1	1	1	1	1	1							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
4	1													1	1	1	1	1		1																																2
5	1													1							1																																2
6					1									1																															1	1	1	1	1	1	1	2
7							1											1				1																														2
8							1							1	1	1	1	1					1																													2
9							1							1										1																													2
10									1					1						1	1	1	1	1	1	1																											2
11											1						1																								1	1	1	1	1	1	1	1				2
12											1							1																								1	1	1	1	1	1	1	1			2
13												1		1				1																									1									2
14												1		1	1	1	1	1																											1							2
15												1		1																																1						2
16												1		1				1																																		1	2
17																																																					1
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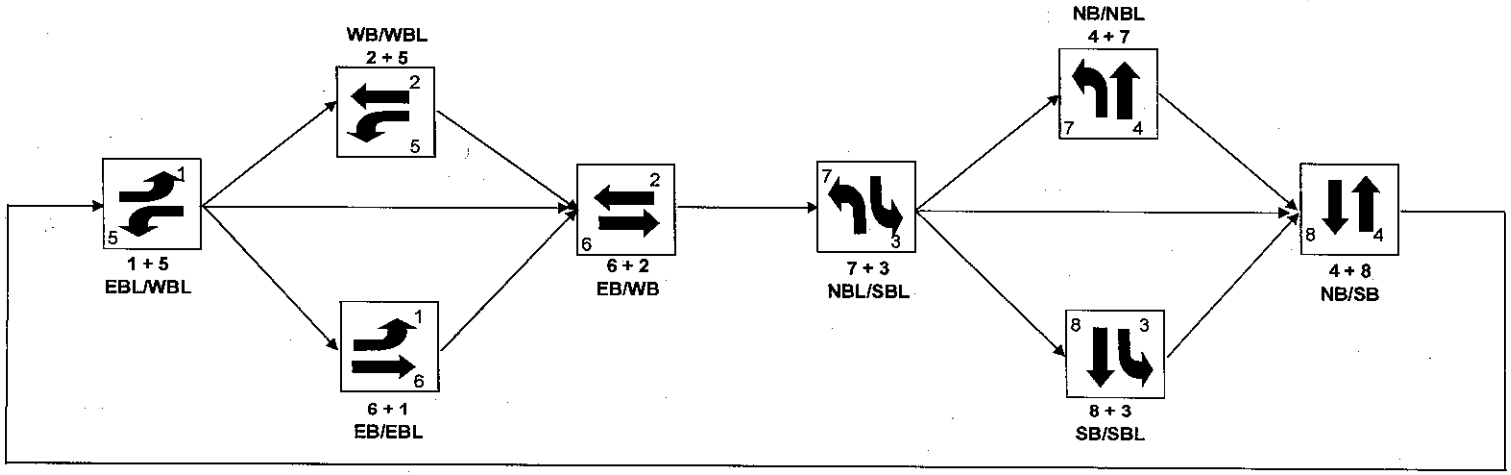
30																																																					1
31																																																					1
32																																																					1

User Comments:

Sequence of Operation for (1132), Commercial Blvd (SR 870) & Powerline Road (SR 845)
Fort Lauderdale



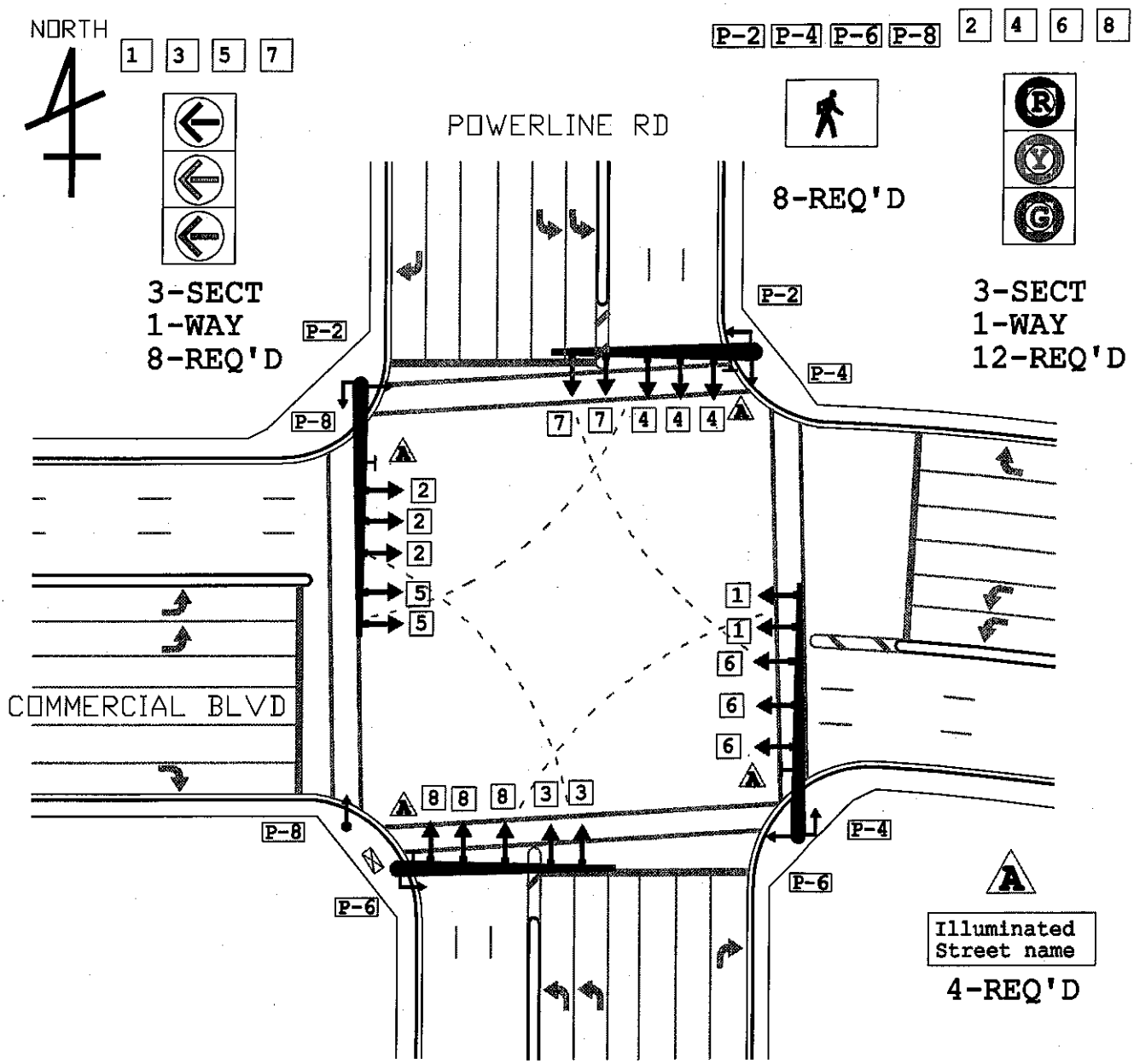
TRAFFIC ENGINEERING DIVISION
SIGNALIZED INTERSECTION

LOCATION **COMMERCIAL BLVD & POWERLINE ROAD**

ORDER NO **FDOT** ISSUE DATE **----** REV NO. **3** COMPLETION DATE **4/6/06**

DWG. NO. **06-05-15-01** FILE NO. **A-132** CITY **FT LAUDERDALE** SCALE: **1" = 50'**

DWN BY: **LARRY**



1. VIDEO DETECTION
2. REBUILT UNDER FDOT PROJ NO 227952-1-52-01

BROWARD COUNTY TRAFFIC ENGINEERING
ACTUATED TRAFFIC SIGNAL TIMING SHEET

Intersection Number	1037	**Initial Operation Date**	7/69
Controller Type	2070 LN	**System Number**	1037
Modification Number	23	**Modification Date**	03/03/2015
Drawing/Project No	413795-1-52-01	**FPL Grid Number**	87583523203
Intersection	OAKLAND PARK BLVD(SR 816) and POWERLINE ROAD (SR 845)		
Municipality	WILTON MANORS		

Controller Phase	1	2	3	4	5	6	7	8
Face Number	1	2	3,8	4,7	5	6		
Direction	EBL	WB	SB	NB	WBL	EB		
Initial Green(MIN)	4	10	6	6	4	10		
Vehicle Ext.(GAP)	1.5	3.0	2.0	2.0	1.5	3.0		
Maximum Green I	12	40	25	20	12	40		
Maximum Green II	12	50	30	25	12	50		
Yellow Clearance	5.0	5.0	5.0	5.0	5.0	5.0		
All Red Clearance	2.0	2.0	2.0	2.0	2.0	2.0		
Phase Recall	OFF	MIN	OFF	OFF	OFF	MIN		
Detector Delay								
Walk		7	5	5		7		
Pedestrian Clearance		25	24	24		25		
Permissive	5 SECT				5 SECT			
Flash Operation		RED	RED	RED		RED		

Attachment

NOTES:

1. ANTI-BACKDOWN EAST/WEST: PHASES 2+6 ON ---> OMIT 1+5.
2. MOD. 23 UPDATES YELLOW AND ALL RED CLEARANCE VALUES.

Submitted By _____ **Approved By** _____

Station : 1037 - Oakland Park Blvd & Powerline Rd (Standard File)

Phase	1 (EL)	2 (WT)	3 (ST)	4 (NT)	5 (WL)	6 (ET)	7	8	9	10	11	12	13	14	15	16
Walk		7	5	5		7										
Ped Clearance		25	24	24		25										
Min Green	4	10	6	6	4	10										
Gap Ext	1.5	3	2	2	1.5	3										
Max1	12	40	25	20	12	40										
Max2	12	50	30	25	12	50										
Yellow Clr	5	5	5	5	5	5	4	4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Red Clr	2	2	2	2	2	2			1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Red Revert																
Added Initial																
Max Initial																
Time Before Reduce																
Cars Before Reduce																
Time To Reduce																
Reduce By																
Min Gap																
Dynamic Max Limit																
Dynamic Max Step																
Enable	ON	ON	ON	ON	ON	ON										
Auto Flash Entry				ON				ON								
Auto Flash Exit		ON				ON										
Non-Actuated 1																
Non-Actuated 2																
Lock Call	ON				ON				ON	ON	ON	ON	ON	ON	ON	ON
Min Recall		ON				ON										
Max Recall																
Ped Recall																
Soft Recall																
Dual Entry				ON				ON								
Sim Gap Enable	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Guar Passage																
Rest In Walk		ON				ON										
Cond Service																
Add Init Calc																
Concurrent Ps	1	1	1	1	2	2	2	2								

Preemption

Channel	1	2	3	4	5	6
Lock Input	ON	ON	ON	ON	ON	ON
Override Auto Flash						
Override Higher Preempt						
Flash in Dwell						
Link to Preempt						
Delay						
Min Duration						
Min Green	6	6	6	6	6	6
Min Walk						
Ped Clear						
Track Green				1		1
Min Dwell	8	8	8	8	8	8
Max Presence	180	180	180	180	180	180
Track Veh 1				9		9
Track Veh 2						
Track Veh 3						
Track Veh 4						
Dwell Cyc Veh 1		2	3	2	4	1
Dwell Cyc Veh 2		6		5		6
Dwell Cyc Veh 3						
Dwell Cyc Veh 4						
Dwell Cyc Veh 5						
Dwell Cyc Veh 6						
Dwell Cyc Veh 7						
Dwell Cyc Veh 8						
Dwell Cyc Veh 9						
Dwell Cyc Veh 10						
Dwell Cyc Veh 11						
Dwell Cyc Veh 12						
Dwell Cyc Ped1						
Dwell Cyc Ped2						
Dwell Cyc Ped3						
Dwell Cyc Ped4						
Dwell Cyc Ped5						
Dwell Cyc Ped6						
Dwell vPed7						
Dwell Cyc Ped8						
Exit 1		3	4	2	1	2
Exit 2				6	5	6
Exit 3						
Exit 4						

Preempt LP

Channel	1	2	3	4
Min				
Max				
Enable				
Lock Mode	MAX	MAX	MAX	MAX
Coord in Preempt				
No Skip				
Priority P1				
Priority P2				
Priority P3				
Priority P4				
Lock				
Headway				
Group Lock				
Queue Jump				
Free Mode				
Alt Table				

Station : 1037 - Oakland Park Blvd & Powerline Rd (Standard File)

Coordination

Hour	Minute	Action	Pattern	Cycle	Offset	Split	Sequc	Short	Long	Dwell	Split 1	Split 2	Split 3	Split 4	Split 5	Split 6	Split 7	Split 8	Split 9	Split 10	Split 11	Split 12	Split 13	Split 14	Split 15	Split 16
Day Plan 1											**Easy**															
		100	254																							
6		12	12	180	34	12	1	10	50		30	62	42	46	18	74		88								
9		13	13	180	83	13	1	10	50		32	74	37	37	19	87		74								
15		14	14	180	34	14	1	10	50		27	75	39	39	19	83		78								
20		15	15	160	34	15	1	10	50		25	65	40	30	25	65		70								
Day Plan 2											**Easy**															
		15	15	160	34	15	1	10	50		25	65	40	30	25	65		70								
1		100	254																							
6	30	15	15	160	34	15	1	10	50		25	65	40	30	25	65		70								
Day Plan 3											**Easy**															
		15	15	160	34	15	1	10	50		25	65	40	30	25	65		70								
1		100	254																							
6	30	15	15	160	34	15	1	10	50		25	65	40	30	25	65		70								
23		100	254																							

Station : 1037 - Oakland Park Blvd & Powerline Rd (Standard File)

Hour	Minute	Action	Pattern	Cycle	Offset	Split	Seqnc	Short	Long	Dwell	Split 1	Split 2	Split 3	Split 4	Split 5	Split 6	Split 7	Split 8	Split 9	Split 10	Split 11	Split 12	Split 13	Split 14	Split 15	Split 16
Day Plan 4											Easy															

Scheduler

	Month												Day of Week							Day of Month									1									2									3		
Plan	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	Day Plan
1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1	1	1	1	1							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
3	1	1	1	1	1	1	1	1	1	1	1	1	1							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
4	1													1	1	1	1	1		1																																2
5	1													1							1																																2
6					1									1																														1	1	1	1	1	1	1		2
7							1											1				1																														2
8							1							1	1	1	1	1					1																													2
9							1							1										1																													2
10									1					1						1	1	1	1	1	1	1																											2
11											1						1																								1	1	1	1	1	1	1					2
12											1							1																								1	1	1	1	1	1	1	1				2
13												1		1				1																										1									2
14												1		1	1	1	1	1																											1								2
15												1		1																																1								2
16												1		1				1																																		1	2
17																																																					1
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31																																																					1
32																																																					1

User Comments:

TRAFFIC ENGINEERING DIVISION
SIGNALIZED INTERSECTION

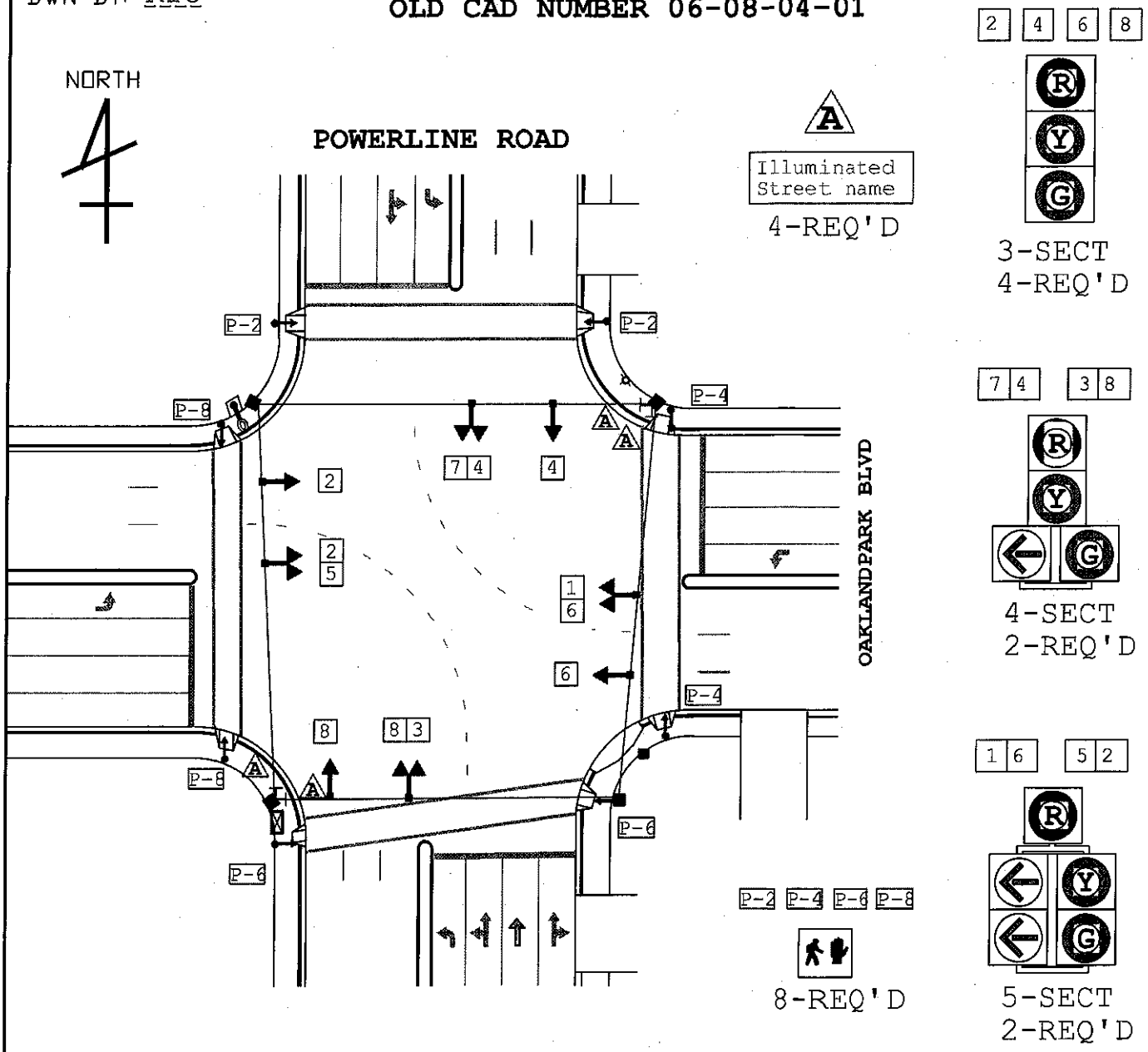
LOCATION **OAKLAND PARK BLVD AND POWERLINE RD**

ORDER NO FDOT ISSUE DATE --- REVISION NO. 10 COMPLETION DATE 06/25/09

DWG. NO. 12-05-09-01 FILE NO. 1037 CITY OAKLAND PARK SCALE: 1" = 50'

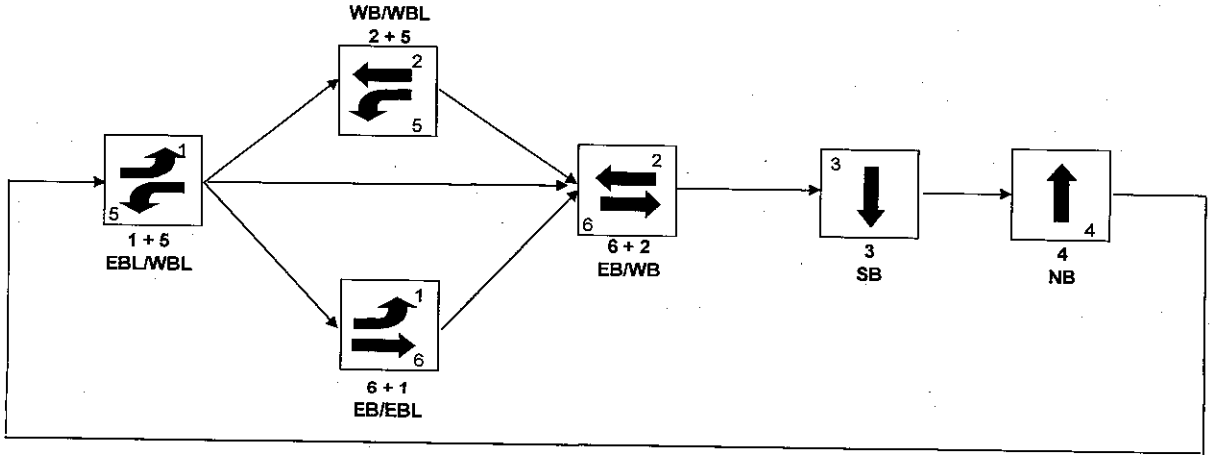
DWN BY: RIO

OLD CAD NUMBER 06-08-04-01



1. THIS REVISION UPGRADES PEDESTRIAN SIGNALS, FDOT PROJ. NO 4137951
2. VIDEO DETECTION INSTALLED 3-29-07.

Sequence of Operation for (1037) Oakland Park Blvd (SR 816) & Powerline Road (SR 845)
Wilton Manors



BROWARD COUNTY TRAFFIC ENGINEERING

ACTUATED TRAFFIC SIGNAL TIMING SHEET

Intersection Number	1070	**Initial Operation Date**	1971
Controller Type	2070 LN	**System Number**	1070
Modification Number	18	**Modification Date**	05/22/2012
Drawing/Project No	DES. GRP. 1	**FPL Grid Number**	87583528906
Intersection	POWERLINE ROAD (SR 845) and NW 38 STREET		
Municipality	OAKLAND PARK		

Controller Phase	1	2	3	4	5	6	7	8
Face Number	1	2	3	4	5	6		8
Direction	SBL	NB	WBL	EB	NBL	SB		WB
Initial Green(MIN)	4	7	4	6	4	7		6
Vehicle Ext.(GAP)	1.5	0.0	1.5	3.0	1.5	0.0		3.0
Maximum Green I	12	45	12	20	12	45		20
Maximum Green II								
Yellow Clearance	4.0	4.0	4.0	4.0	4.0	4.0		4.0
All Red Clearance	1.5	1.5	1.5	1.5	1.5	1.5		1.5
Phase Recall	OFF	MAX	OFF	OFF	OFF	MAX		OFF
Detector Delay								
Walk		7		5		7		5
Pedestrian Clearance		16		17		16		18
Permissive	5 SECT		5 SECT		5 SECT			
Flash Operation		YELLOW		RED		YELLOW		RED
Green Return								

Attachment

Channel/Drop /

IP Address

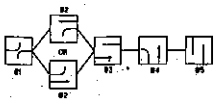
NOTES:

1. IP: 010.191.050.005, MASK: 255.255.254.000, GWAY: 010.191.050.001, PORT: 5356
2. ANTI-BACKDOWN NORTH/SOUTH: PHASES 2+6 ON---> OMIT PHASES 1+5.
3. DUAL ENTRY HARDWIRED EAST/WEST.
4. DETECTION NOT USED NORTH/SOUTH, SIGNAL OPERATES SEMI-ACTUATED.
5. MOD. 18 DEPLOYS SIGNAL ONTO ATMS.NOW.

Submitted By _____ **Approved By** _____

STATE PROJ. NO. 86065-3504 | SHEET NO. T-4

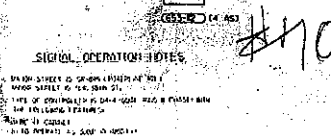
SIGNAL OPERATING PLAN



SIGNAL TIMING CHART

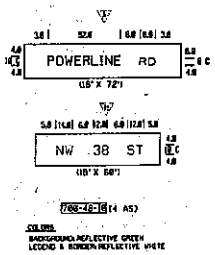
TIMING FUNCTION								
CONTROLLER PHASE	1	2	3	4	5	6		8
PHASE NUMBER	1	2	3	4	5	6		8
DIRECTION	SBL	NBL	WBL	EB	NBL	SB		WB
INITIAL GREEN (MINIMUM)	18	15	15	12	18	15		12
VEHICLE EXTENSION (GAP)	2.0	2.0	2.0	2.0	2.0	2.0		2.0
MAXIMUM GREEN I	17	38	21	19	21	36		24
MAXIMUM GREEN II								
YELLOW CLEARANCE	4.0	4.0	4.0	4.0	4.0	4.0		4.0
ALL RED CLEARANCE		3.4		2.6		3.4		2.6
PHASE RECALL		MAX				MAX		
DETECTOR DELAY								
WALK		7.0		7.0		7.0		7.0
FLASHING DON'T WALK		18		16		18		18
PERMISSIVE	5 SECT		5 SECT		5 SECT			
FLASH OPERATION		RED		YELLOW		RED		YELLOW
GREEN RETURN								

SIGNAL HEAD DETAILS



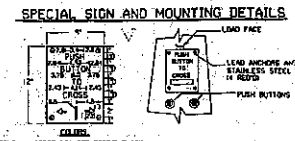
#1401

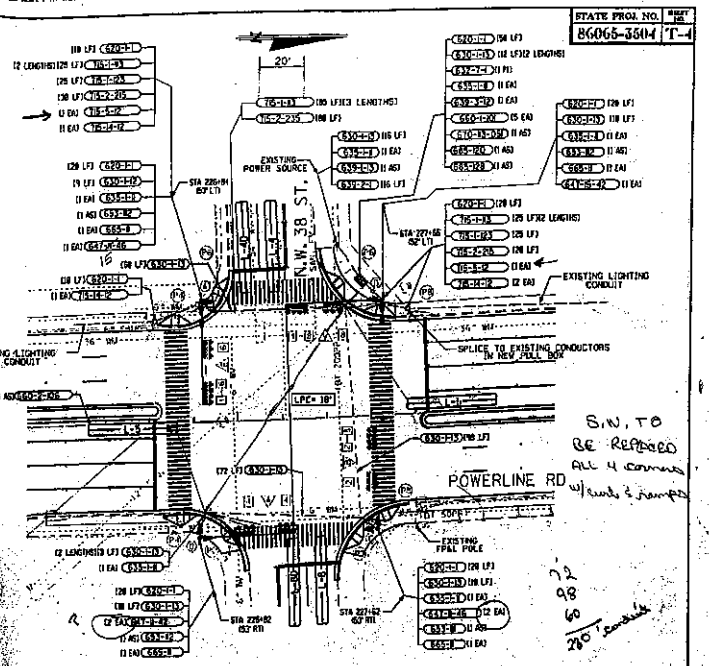
MAST ARM SIGN DETAILS



SIGNAL OPERATION NOTES

SPECIAL SIGN AND MOUNTING DETAILS





NOTES:
EXISTING LIGHTING SERVICE POINT AT STA 222+10 (RT)
NEW CONDUIT FOR SIGNAL AND LIGHTING TO BE PLACED IN THE SAME TRENCH.

remove pavement & striping
length of project
see M.O.T. notes Pg 11

REMOVAL SCHEDULE

ITEM #	DESCRIPTION	UNIT	QTY
630-10	REMOVE TRAFFIC SIGNAL HEAD ASSEMBLY	EA	4
630-20	REMOVE POLES	EA	1
630-30	REMOVE CONTROLLER ASSEMBLY	EA	1
630-50	REMOVE SPAN WIRE ASSEMBLY	EA	1
630-70	REMOVE CABLING AND CONDUIT	PL	1
630-80	REMOVE MISCELLANEOUS SIGNAL EQUIPMENT (FULL BOXES)	PL	1
700-40-6	EXISTING SIGN (BLANK) SPANDRE	AS	4
8-8-7	LIGHTING PULL BOX REMOVED	EA	2

A-10

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

FLORIDA DEPARTMENT OF TRANSPORTATION

SIGNALIZATION AND LIGHTING PLAN

Broward County | Timing Sheet | 2/24/2015 8:00:03 AM

Station : 1070 - Powerline Rd & NW 38 St (Standard File)

Phase	1 (SL)	2 (NT)	3 (WL)	4 (ET)	5 (NL)	6 (ST)	7	8 (WT)	9	10	11	12	13	14	15	16
Walk		7		5		7		5								
Ped Clearance		16		17		16		18								
Min Green	4	7	4	6	4	7		6								
Passage	1.5		1.5	3	1.5			3								
Max1	12	45	12	20	12	45		20								
Max2																
Yellow	4	4	4	4	4	4	4	4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Red	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Red Revert																
Added Initial																
Max Initial																
Time Before Reduce																
Cars Before Reduce																
Time To Reduce																
Reduce By																
Min Gap																
Dynamic Max Limit																
Dynamic Max Step																
Enable	ON	ON	ON	ON	ON	ON		ON								
Auto Entry				ON				ON								
Auto Exit		ON				ON										
Non Act1																
Non Act2																
Lock Call									ON	ON	ON	ON	ON	ON	ON	ON
Min Recall																
Max Recall		ON				ON										
Ped Recall																
Soft Recall																
Dual Entry				ON				ON								
Sim Gap Enable									ON	ON	ON	ON	ON	ON	ON	ON
Guar Passage																
Rest In Walk		ON				ON										
Cond Service																
Add Init Calc																

Preemption

Channel	1	2	3	4	5	6
Lock Input	ON	ON	ON	ON	ON	ON
Override Flash						ON
Override Higher						ON
Flash Dwell						
Link						
Delay						
Min Duration						
Min Green	6	6	6	6	6	6
Min Walk						
Ped Clear						
Track Green						
Min Dwell	8	8	8	8	8	8
Max Presence	180	180	180	180	180	180
Track R1						
Track R2						
Track R3						
Track R4						
Dwell Ped1						
Exit R1	3	1	2	4	2	
Exit R2	8	5	6	8	6	
Exit R3						
Exit R4						

Preempt LP

Channel	1	2	3	4
Min				
Max				
Enable				
Lock Mode	MAX	MAX	MAX	MAX
Coord in Preempt				
No Skip				
Priority P1				
Priority P2				
Priority P3				
Priority P4				
Lock in Mins				
Headway in Mins				
Group Lock				
Queue Jump				
Free Mode				
Alt Table				

Prepared By	Date Implemented
Reviewed By	Traffic Engineer

Broward County | Timing Sheet | 2/24/2015 8:00:03 AM

Station : 1070 - Powerline Rd & NW 38 St (Standard File)

Coordination

Hour	Minute	Action	Pattern	Cycle	Offset	Split	Seque	Short	Long	Dwell	Split 1	Split 2	Split 3	Split 4	Split 5	Split 6	Split 7	Split 8	Split 9	Split 10	Split 11	Split 12	Split 13	Split 14	Split 15	Split 16
Day Plan 1											**Easy**															
		100	254																							
7	20	2	2	160	94	2	1	10	50		20	78	18	44	29	69		62								
9		3	3	160	38	3	1	10	50		18	89	18	35	27	80		53								
15		4	4	160	143	4	1	10	50		19	80	18	43	31	68		61								
20		3	3	160	38	3	1	10	50		18	89	18	35	27	80		53								
Day Plan 2											**Easy**															
		3	3	160	38	3	1	10	50		18	89	18	35	27	80		53								
1		100	254																							
6	30	3	3	160	38	3	1	10	50		18	89	18	35	27	80		53								
Day Plan 3											**Easy**															
		3	3	160	38	3	1	10	50		18	89	18	35	27	80		53								
1		100	254																							
6	30	3	3	160	38	3	1	10	50		18	89	18	35	27	80		53								
23		100	254																							

Broward County Timing Sheet 2/24/2015 8:00:03 AM

Station : 1070 - Powerline Rd & NW 38 St (Standard File)

Hour	Minute	Action	Pattern	Cycle	Offset	Split	Seqnc	Short	Long	Dwell	Split 1	Split 2	Split 3	Split 4	Split 5	Split 6	Split 7	Split 8	Split 9	Split 10	Split 11	Split 12	Split 13	Split 14	Split 15	Split 16
Day Plan 4											**Easy**															

Scheduler

	Month												Day of Week							Day of Month									1										2										3		
Plan	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	Day Plan
1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1	1	1	1	1							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
3	1	1	1	1	1	1	1	1	1	1	1	1	1							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
4	1													1	1	1	1	1		1																															2
5	1													1							1																														2
6					1									1																														1	1	1	1	1	1	1	2
7							1											1				1																													2
8							1							1	1	1	1	1					1																												2
9							1							1										1																											2
10									1					1						1	1	1	1	1	1	1																									2
11											1						1																								1	1	1	1	1	1	1				2
12											1							1																								1	1	1	1	1	1	1			2
13												1		1				1																									1								2
14												1		1	1	1	1	1																										1							2
15												1		1																															1						2
16												1		1				1																																1	2
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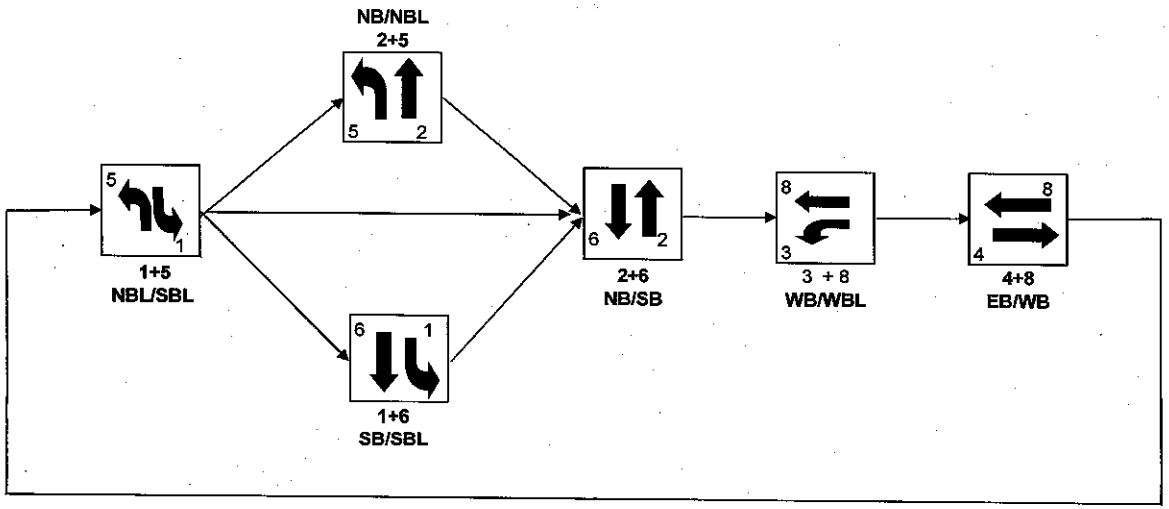
User Comments:

Sequence of Operation for (1070) Powerline Road and NW 38 Street

Oakland Park



BROWARD COUNTY TRAFFIC ENGINEERING

ACTUATED TRAFFIC SIGNAL TIMING SHEET

Intersection Number	1105	**Initial Operation Date**	UNKNOWN
Controller Type	2070 LN	**System Number**	1105
Modification Number	24	**Modification Date**	05/22/2012
Drawing/Project No	GRP. 1	**FPL Grid Number**	87584524203
Intersection	POWERLINE ROAD (SR 845) and PROSPECT ROAD		
Municipality	OAKLAND PARK		

Controller Phase	1	2	3	4	5	6	7	8
Face Number	1	2	3	4	5	6	7	8
Direction	SBL	NB	WBL	EB	NBL	SB	EBL	WB
Initial Green(MIN)	5	12	5	12	5	12	5	12
Vehicle Ext.(GAP)	1.5	2.5	1.5	2.5	1.5	2.5	1.5	2.5
Maximum Green I	15	35	10	28	10	35	10	28
Maximum Green II	25	30	10	30	20	30	10	30
Yellow Clearance	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All Red Clearance	1.5	1.5	2.0	*	1.5	1.5	*	2.0
Phase Recall	OFF	MIN	OFF	OFF	OFF	MIN	OFF	OFF
Detector Delay								
Walk		7		5		7		5
Pedestrian Clearance		27		30		27		27
Permissive	DUAL		NO		DUAL		NO	
Flash Operation	RED	YELLOW	RED	RED	RED	YELLOW	RED	RED
Green Return								

Attachment

Channel/Drop /

IP Address

NOTES:

1. IP: 010.191.038.033, MASK: 255.255.254.000, GWAY: 010.191.038.001, PORT: 5357
2. * DOUBLE CLEARANCE FOLLOWING PH4 & PH7 (EASTBOUND) PROVIDES 2 SECOND GREEN 4 SECONDS YELLOW AND 2 SEC. ALL RED (OVERLAPS C AND D). NO EARLY START UP.
3. PREEMPTION (CLEARS SB PH'S 1+6): A) TIME B4=0 SEC. B)TRACK CLEARANCE GREEN=15 SEC. C) TRACK CLEARANCE YELLOW=4.0 SEC. D) DWELLS IN PH3 E) RETURNS TO PH'S 4+7
4. PROGRAMMED HEADS FAR SIDE EASTBOUND
5. LOCAL TIME SWITCH FOR MAX 2 OPERATION: 1600-1900, MON.-FRI. (OFF-LINE)
6. MOD. 24 DEPLOYS SIGNAL ONTO ATMS.NOW.

Submitted By _____ **Approved By** _____

BROWARD COUNTY TRAFFIC ENGINEERING DIVISION

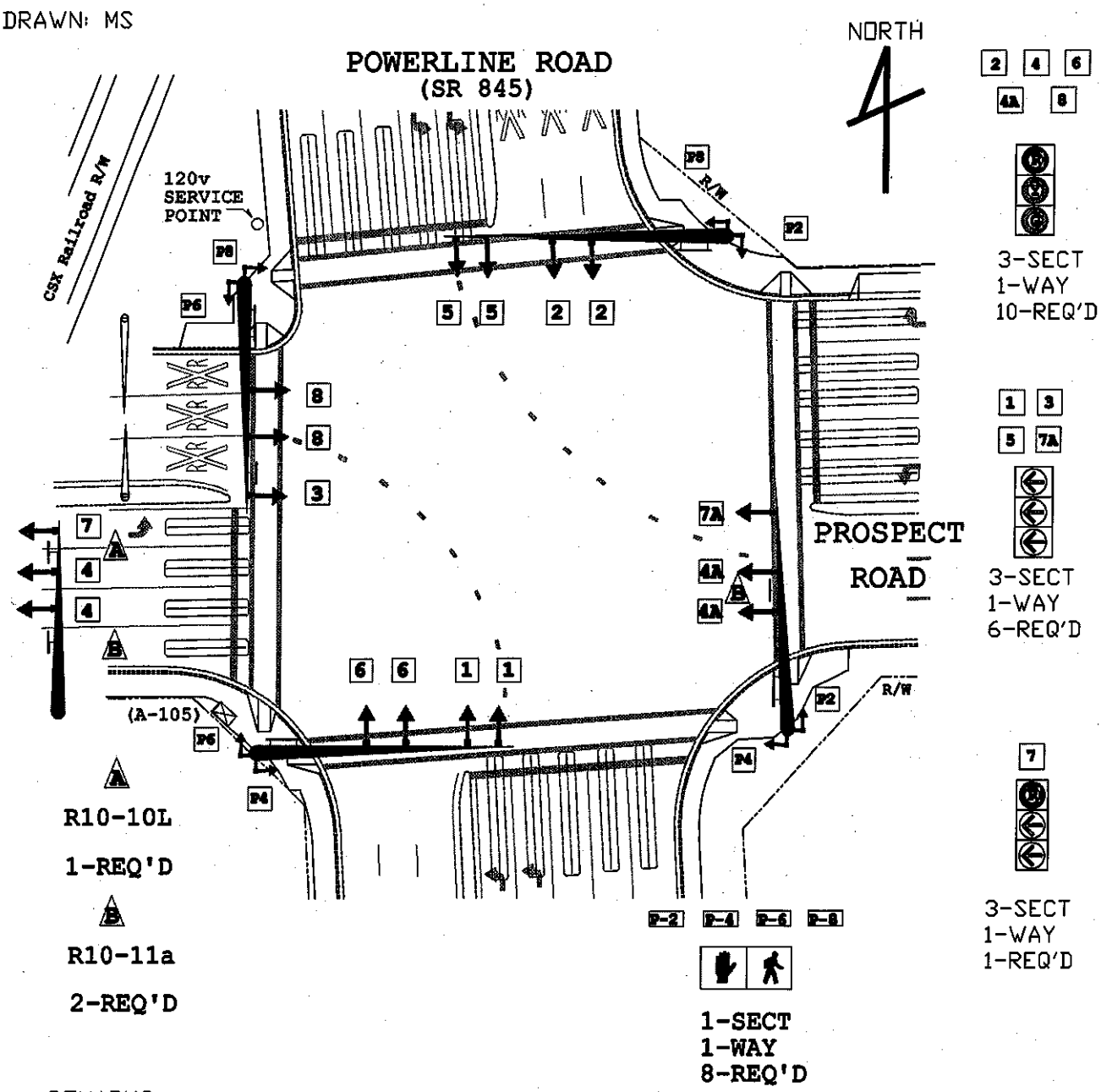
TRAFFIC SIGNAL INSTALLATION ORDER

LOCATION **POWERLINE RD(SR 845) & PROSPECT ROAD**

ORDER NO **FDOT** ISSUE DATE **--** REV NO. **4** COMPLETION DATE **4/28/99**

DWG. NO. **01-12-03-01** FILE NO. **A-105** CITY **OAKLAND PARK** SCALE: 1" = 50'

DRAWN: MS

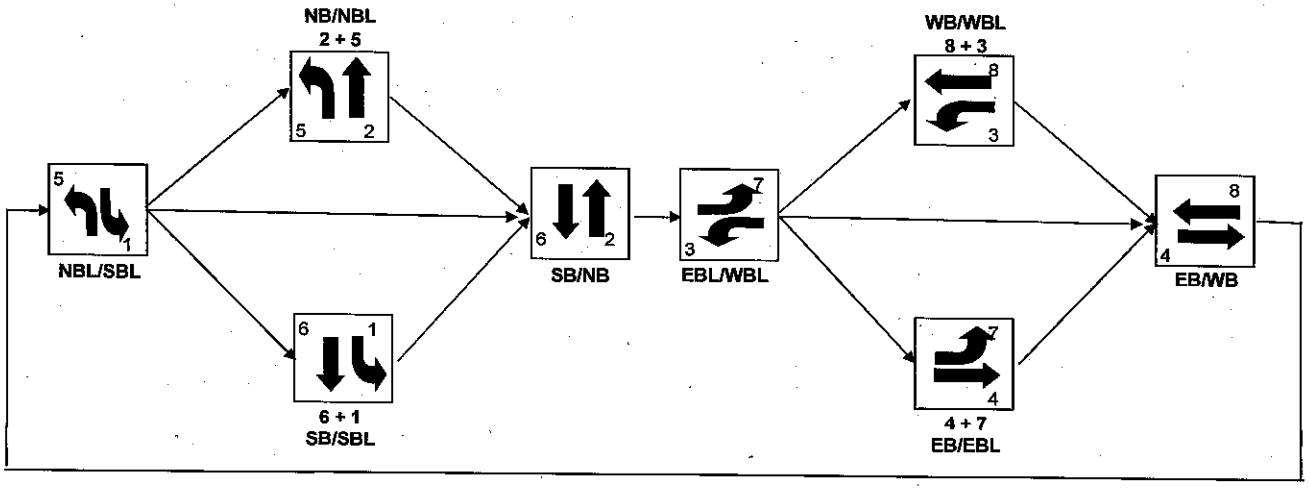


REMARKS

HEADS 4A & 7A OPTICALLY LIMITED

HAZ. ID BEACONS (8-TOTAL) SB & WB, FARSIDE OF TRACKS

Sequence of Operation for (1105) Powerline Road (SR 845) and Prospect Road, Oakland Park



Broward County | Timing Sheet | 2/24/2015 7:32:44 AM

Station : 1105 - Powerline Rd & Prospect Rd (Standard File)

Phase	1 (SL)	2 (NT)	3 (WL)	4 (ET)	5 (NL)	6 (ST)	7 (EL)	8 (WT)	9	10	11	12	13	14	15	16
Walk		7		5		7		5								
Ped Clearance		27		30		27		27								
Min Green	5	12	5	12	5	12	5	12								
Passage	1.5	2.5	1.5	2.5	1.5	2.5	1.5	2.5								
Max1	15	35	18	28	10	35	18	28								
Max2	25	30	18	30	20	30	18	30								
Yellow	4	4	4	4	4	4	4	4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Red	1.5	1.5	2		1.5	1.5		2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Red Revert																
Added Initial																
Max Initial																
Time Before Reduce																
Cars Before Reduce																
Time To Reduce																
Reduce By																
Min Gap																
Dynamic Max Limit																
Dynamic Max Step																
Enable	ON	ON	ON	ON	ON	ON	ON	ON								
Auto Entry				ON				ON								
Auto Exit		ON				ON										
Non Act1																
Non Act2																
Lock Call	ON		ON		ON		ON		ON	ON	ON	ON	ON	ON	ON	ON
Min Recall		ON				ON										
Max Recall																
Ped Recall																
Soft Recall																
Dual Entry																
Sim Gap Enable									ON	ON	ON	ON	ON	ON	ON	ON
Guar Passage																
Rest In Walk		ON				ON										
Cond Service																
Add Init Calc																

Preemption

Channel	1	2	3	4	5	6
Lock Input	ON	ON	ON	ON	ON	ON
Override Flash	ON					
Override Higher	ON					
Flash Dwell						
Link						
Delay						
Min Duration						
Min Green		6	6	6	6	6
Min Walk						
Ped Clear						
Track Green	15					
Min Dwell	6	8	8	8	8	8
Max Presence		180	180	180	180	180
Track R1	1					
Track R2	6					
Track R3						
Track R4						
Dwell Ped1						
Exit R1	4		2	4	2	4
Exit R2	7		6	8	6	8
Exit R3						
Exit R4						

Preempt LP

Channel	1	2	3	4
Min				
Max				
Enable				
Lock Mode	MAX	MAX	MAX	MAX
Coord in Preempt				
No Skip				
Priority P1				
Priority P2				
Priority P3				
Priority P4				
Lock in Mins				
Headway in Mins				
Group Lock				
Queue Jump				
Free Mode				
Alt Table				

Prepared By	Date Implemented
Reviewed By	Traffic Engineer

Broward County | Timing Sheet | 2/24/2015 7:32:44 AM

Station : 1105 - Powerline Rd & Prospect Rd (Standard File)

Coordination

Hour	Minute	Action	Pattern	Cycle	Offset	Split	Seqnc	Short	Long	Dwell	Split 1	Split 2	Split 3	Split 4	Split 5	Split 6	Split 7	Split 8	Split 9	Split 10	Split 11	Split 12	Split 13	Split 14	Split 15	Split 16
Day Plan 1											**Easy**															
		100	254																							
6		2	2	160	94	2	1	10	25		25	61	25	49	25	61	25	49								
9		3	3	160	108	3	1	10	25		16	70	20	54	16	70	20	54								
15		4	4	160	52	4	1	10	25		27	58	27	48	27	58	27	48								
20		3	3	160	108	3	1	10	25		16	70	20	54	16	70	20	54								
Day Plan 2											**Easy**															
		3	3	160	108	3	1	10	25		16	70	20	54	16	70	20	54								
1		100	254																							
6	30	3	3	160	108	3	1	10	25		16	70	20	54	16	70	20	54								
Day Plan 3											**Easy**															
		3	3	160	108	3	1	10	25		16	70	20	54	16	70	20	54								
1		100	254																							
6	30	3	3	160	108	3	1	10	25		16	70	20	54	16	70	20	54								
23		100	254																							

Broward County | Timing Sheet | 2/24/2015 7:32:44 AM

Station : 1105 - Powerline Rd & Prospect Rd (Standard File)

Hour	Minute	Action	Pattern	Cycle	Offset	Split	Seqnc	Short	Long	Dwell	Split 1	Split 2	Split 3	Split 4	Split 5	Split 6	Split 7	Split 8	Split 9	Split 10	Split 11	Split 12	Split 13	Split 14	Split 15	Split 16
Day Plan 4											Easy															

Scheduler

Plan	Month J	F	M	A	M	J	J	A	S	O	N	D	Day of Week S	M	T	W	T	F	S	Day of Month 1	2	3	4	5	6	7	8	9	1 0	1	2	3	4	5	6	7	8	9	2 0	1	2	3	4	5	6	7	8	9	3 0	1	Day Plan
1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1	1	1	1	1							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
3	1	1	1	1	1	1	1	1	1	1	1	1	1							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
4	1													1	1	1	1	1		1																															2
5	1													1							1																															2
6					1									1																														1	1	1	1	1	1	1	2
7							1											1				1																													2
8							1							1	1	1	1	1					1																												2
9							1							1										1																												2
10									1					1						1	1	1	1	1	1	1																										2
11											1						1																								1	1	1	1	1	1	1	1				2
12											1							1																								1	1	1	1	1	1	1	1			2
13												1						1																										1								2
14												1		1	1	1	1	1																											1							2
15												1		1																																1						2
16												1						1																																	1	2
17																																																				1
18																																																				1
19																																																				1
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27																																																				1
28																																																				1
29																																																				1
30																																																				1
31																																																				1
32																																																				1

User Comments:

APPENDIX F

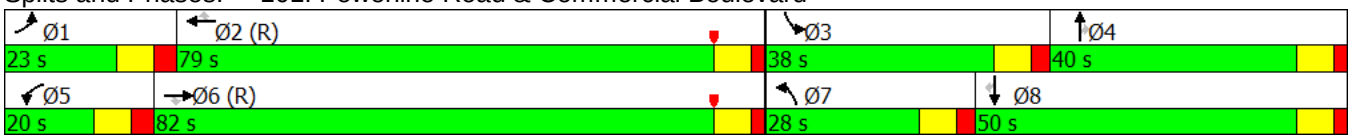
SYNCHRO 2020 Output

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	255	1435	125	165	1545	515	155	570	200	455	760	195
Future Volume (vph)	255	1435	125	165	1545	515	155	570	200	455	760	195
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	8.0	8.0	4.0	8.0	8.0	4.0	8.0	8.0	4.0	8.0	8.0
Minimum Split (s)	12.0	41.0	41.0	12.0	41.0	41.0	11.5	40.0	40.0	11.5	39.0	39.0
Total Split (s)	23.0	82.0	82.0	20.0	79.0	79.0	28.0	40.0	40.0	38.0	50.0	50.0
Total Split (%)	12.8%	45.6%	45.6%	11.1%	43.9%	43.9%	15.6%	22.2%	22.2%	21.1%	27.8%	27.8%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	3.0	2.0	2.0	3.0	2.0	2.0	2.5	2.0	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	7.0	7.0	8.0	7.0	7.0	7.5	7.0	7.0	7.5	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Act Effct Green (s)	17.7	82.1	82.1	12.4	76.8	76.8	12.7	27.5	27.5	28.5	43.3	43.3
Actuated g/C Ratio	0.10	0.46	0.46	0.07	0.43	0.43	0.07	0.15	0.15	0.16	0.24	0.24
v/c Ratio	0.82	0.67	0.17	0.76	0.77	0.63	0.69	0.80	0.57	0.91	0.68	0.42
Control Delay	97.6	41.2	2.2	101.6	48.1	16.2	96.6	81.7	24.3	95.8	64.8	17.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.6	41.2	2.2	101.6	48.1	16.2	96.6	81.7	24.3	95.8	64.8	17.7
LOS	F	D	A	F	D	B	F	F	C	F	E	B
Approach Delay		46.5			44.7			71.8			68.3	
Approach LOS		D			D			E			E	

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 25 (14%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 135
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 54.3 Intersection LOS: D
Intersection Capacity Utilization 85.7% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 101: Powerline Road & Commercial Boulevard



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	255	1435	125	165	1545	515	155	570	200	455	760	195
Future Volume (veh/h)	255	1435	125	165	1545	515	155	570	200	455	760	195
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	277	1560	136	179	1679	560	168	620	217	495	826	212
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	287	2356	734	216	2251	701	207	791	246	532	1272	396
Arrive On Green	0.08	0.46	0.46	0.06	0.44	0.44	0.06	0.16	0.16	0.15	0.25	0.25
Sat Flow, veh/h	3442	5085	1583	3442	5085	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	277	1560	136	179	1679	560	168	620	217	495	826	212
Grp Sat Flow(s),veh/h/ln	1721	1695	1583	1721	1695	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	14.4	42.7	9.1	9.3	49.4	54.9	8.7	21.1	24.1	25.6	26.2	20.9
Cycle Q Clear(g_c), s	14.4	42.7	9.1	9.3	49.4	54.9	8.7	21.1	24.1	25.6	26.2	20.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	287	2356	734	216	2251	701	207	791	246	532	1272	396
V/C Ratio(X)	0.97	0.66	0.19	0.83	0.75	0.80	0.81	0.78	0.88	0.93	0.65	0.54
Avail Cap(c_a), veh/h	287	2356	734	229	2251	701	392	932	290	583	1272	396
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	82.2	37.4	28.4	83.4	41.7	43.3	83.6	73.1	74.4	75.1	60.4	58.4
Incr Delay (d2), s/veh	43.4	1.5	0.6	19.4	2.3	9.3	2.9	3.2	21.4	20.0	1.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.4	27.6	7.3	8.7	31.6	34.1	7.6	15.3	17.7	19.7	18.1	14.2
LnGrp Delay(d),s/veh	125.7	38.9	28.9	102.8	44.0	52.5	86.5	76.3	95.7	95.2	61.4	59.4
LnGrp LOS	F	D	C	F	D	D	F	E	F	F	E	E
Approach Vol, veh/h		1973			2418			1005			1533	
Approach Delay, s/veh		50.4			50.4			82.2			72.0	
Approach LOS		D			D			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.0	86.7	35.3	35.0	19.3	90.4	18.3	52.0
Change Period (Y+Rc), s	8.0	7.0	7.5	7.0	8.0	7.0	7.5	7.0
Max Green Setting (Gmax), s	15.0	72.0	30.5	33.0	12.0	75.0	20.5	43.0
Max Q Clear Time (g_c+I1), s	16.4	56.9	27.6	26.1	11.3	44.7	10.7	28.2
Green Ext Time (p_c), s	0.0	13.4	0.2	1.9	0.0	24.3	0.1	6.9

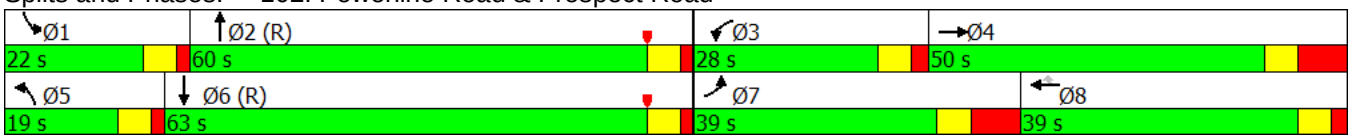
Intersection Summary	
HCM 2010 Ctrl Delay	59.8
HCM 2010 LOS	E

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	243	841	183	543	274	165	809	262	657
Future Volume (vph)	243	841	183	543	274	165	809	262	657
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	12.0	5.0	12.0	12.0	5.0	12.0	5.0	12.0
Minimum Split (s)	15.0	45.0	11.0	38.0	38.0	11.0	39.5	11.0	39.5
Total Split (s)	39.0	50.0	28.0	39.0	39.0	19.0	60.0	22.0	63.0
Total Split (%)	24.4%	31.3%	17.5%	24.4%	24.4%	11.9%	37.5%	13.8%	39.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	6.0	6.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	10.0	10.0	6.0	6.0	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	26.3	39.7	20.2	33.5	33.5	11.7	57.6	15.6	61.5
Actuated g/C Ratio	0.16	0.25	0.13	0.21	0.21	0.07	0.36	0.10	0.38
v/c Ratio	0.91	0.91	0.89	0.55	0.65	0.72	0.84	0.85	0.53
Control Delay	98.8	67.8	106.0	58.9	32.5	90.3	42.2	93.9	40.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	98.8	67.8	106.0	58.9	32.5	90.3	42.2	93.9	40.7
LOS	F	E	F	E	C	F	D	F	D
Approach Delay		73.6		60.3			49.2		55.7
Approach LOS		E		E			D		E

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 94 (59%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 60.4 Intersection LOS: E
Intersection Capacity Utilization 88.5% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 102: Powerline Road & Prospect Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	243	841	204	183	543	274	165	809	163	262	657	10
Future Volume (veh/h)	243	841	204	183	543	274	165	809	163	262	657	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	264	914	222	199	590	298	179	879	177	285	714	11
Adj No. of Lanes	1	3	0	1	3	1	2	2	0	2	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	284	1073	260	219	1022	318	219	1030	207	326	1362	21
Arrive On Green	0.16	0.26	0.26	0.12	0.20	0.20	0.13	0.70	0.70	0.09	0.38	0.38
Sat Flow, veh/h	1774	4089	989	1774	5085	1583	3442	2937	591	3442	3568	55
Grp Volume(v), veh/h	264	757	379	199	590	298	179	530	526	285	354	371
Grp Sat Flow(s),veh/h/ln	1774	1695	1688	1774	1695	1583	1721	1770	1758	1721	1770	1853
Q Serve(g_s), s	23.5	33.9	34.1	17.7	16.8	29.6	8.1	35.6	35.6	13.1	24.7	24.8
Cycle Q Clear(g_c), s	23.5	33.9	34.1	17.7	16.8	29.6	8.1	35.6	35.6	13.1	24.7	24.8
Prop In Lane	1.00		0.59	1.00		1.00	1.00		0.34	1.00		0.03
Lane Grp Cap(c), veh/h	284	889	443	219	1022	318	219	621	617	326	676	708
V/C Ratio(X)	0.93	0.85	0.86	0.91	0.58	0.94	0.82	0.85	0.85	0.88	0.52	0.52
Avail Cap(c_a), veh/h	322	889	443	244	1049	327	290	621	617	355	676	708
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.3	56.0	56.1	69.2	57.8	62.9	68.9	20.8	20.8	71.5	38.2	38.2
Incr Delay (d2), s/veh	29.3	7.8	14.8	30.8	0.6	33.1	8.3	12.0	12.1	18.6	2.9	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	19.9	23.6	24.6	15.9	12.5	22.5	7.1	25.7	25.6	11.4	18.5	19.2
LnGrp Delay(d),s/veh	95.7	63.8	70.9	100.0	58.4	96.0	77.3	32.8	32.9	90.1	41.1	41.0
LnGrp LOS	F	E	E	F	E	F	E	C	C	F	D	D
Approach Vol, veh/h		1400			1087			1235			1010	
Approach Delay, s/veh		71.8			76.4			39.3			54.9	
Approach LOS		E			E			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.6	61.6	25.8	52.0	15.7	66.6	35.6	42.1
Change Period (Y+Rc), s	5.5	5.5	6.0	10.0	5.5	5.5	10.0	* 10
Max Green Setting (Gmax), s	16.5	54.5	22.0	40.0	13.5	57.5	29.0	* 33
Max Q Clear Time (g_c+I1), s	15.1	37.6	19.7	36.1	10.1	26.8	25.5	31.6
Green Ext Time (p_c), s	0.1	8.1	0.0	3.1	0.1	10.5	0.1	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	60.7
HCM 2010 LOS	E

Notes

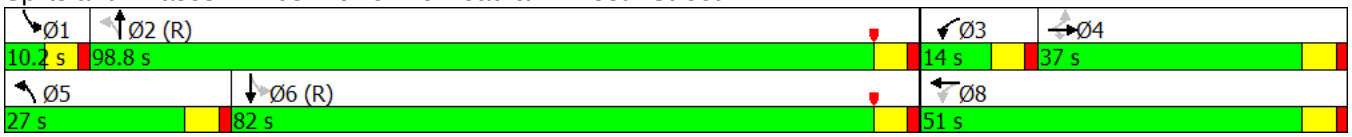
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	49	53	250	82	38	153	1081	23	1027
Future Volume (vph)	49	53	250	82	38	153	1081	23	1027
Turn Type	Perm	NA	Perm	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		3	8	5	2	1	6
Permitted Phases	4		4	8		2		6	
Detector Phase	4	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.5	21.5	21.5	9.5	21.5	9.5	21.5	9.5	21.5
Total Split (s)	37.0	37.0	37.0	14.0	51.0	27.0	98.8	10.2	82.0
Total Split (%)	23.1%	23.1%	23.1%	8.8%	31.9%	16.9%	61.8%	6.4%	51.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lag	Lead		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)		17.2	17.2	34.2	34.2	114.4	107.5	104.8	98.6
Actuated g/C Ratio		0.11	0.11	0.21	0.21	0.72	0.67	0.66	0.62
v/c Ratio		0.69	0.69	0.38	0.20	0.50	0.52	0.09	0.52
Control Delay		89.3	18.9	54.7	31.8	13.6	16.1	15.8	34.6
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		89.3	18.9	54.7	31.8	13.6	16.1	15.8	34.6
LOS		F	B	D	C	B	B	B	C
Approach Delay		39.3			44.1		15.8		34.2
Approach LOS		D			D		B		C

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 94.5 (59%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 27.1 Intersection LOS: C
Intersection Capacity Utilization 63.5% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 103: Powerline Road & NW 38th Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	53	250	82	38	33	153	1081	50	23	1027	23
Future Volume (veh/h)	49	53	250	82	38	33	153	1081	50	23	1027	23
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	53	58	272	89	41	36	166	1175	54	25	1116	25
Adj No. of Lanes	0	1	1	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	160	165	293	267	248	218	419	2101	96	259	2033	46
Arrive On Green	0.18	0.18	0.18	0.05	0.27	0.27	0.05	0.61	0.61	0.03	1.00	1.00
Sat Flow, veh/h	688	890	1583	1774	916	805	1774	3446	158	1774	3539	79
Grp Volume(v), veh/h	111	0	272	89	0	77	166	603	626	25	558	583
Grp Sat Flow(s),veh/h/ln	1578	0	1583	1774	0	1721	1774	1770	1835	1774	1770	1849
Q Serve(g_s), s	7.4	0.0	27.1	6.3	0.0	5.5	6.0	32.3	32.3	0.9	0.0	0.0
Cycle Q Clear(g_c), s	9.6	0.0	27.1	6.3	0.0	5.5	6.0	32.3	32.3	0.9	0.0	0.0
Prop In Lane	0.48		1.00	1.00		0.47	1.00		0.09	1.00		0.04
Lane Grp Cap(c), veh/h	325	0	293	267	0	465	419	1079	1119	259	1017	1062
V/C Ratio(X)	0.34	0.00	0.93	0.33	0.00	0.17	0.40	0.56	0.56	0.10	0.55	0.55
Avail Cap(c_a), veh/h	344	0	312	270	0	489	566	1079	1119	281	1017	1062
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.76	0.76	0.76
Uniform Delay (d), s/veh	56.9	0.0	64.2	48.0	0.0	44.6	11.5	18.5	18.5	15.6	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	32.1	0.7	0.0	0.2	0.6	2.1	2.0	0.1	1.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.8	0.0	20.7	5.7	0.0	4.7	5.3	23.0	23.7	0.8	0.8	0.8
LnGrp Delay(d),s/veh	57.5	0.0	96.3	48.7	0.0	44.7	12.1	20.6	20.5	15.8	1.6	1.5
LnGrp LOS	E		F	D		D	B	C	C	B	A	A
Approach Vol, veh/h		383			166			1395			1166	
Approach Delay, s/veh		85.0			46.9			19.6			1.9	
Approach LOS		F			D			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	8.2	103.0	13.7	35.1	13.8	97.4		48.8
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5		5.5
Max Green Setting (Gmax), s	4.7	93.3	8.5	31.5	21.5	76.5		45.5
Max Q Clear Time (g_c+I1), s	2.9	34.3	8.3	29.1	8.0	2.0		7.5
Green Ext Time (p_c), s	0.0	26.9	0.0	0.5	0.3	29.1		2.2

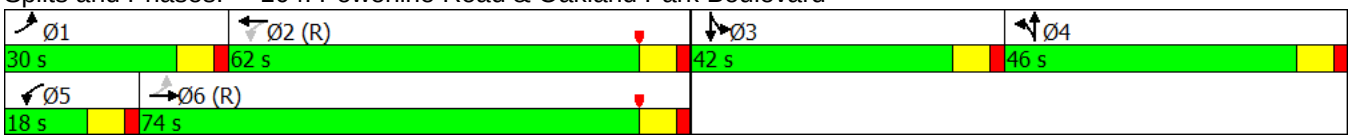
Intersection Summary	
HCM 2010 Ctrl Delay	22.5
HCM 2010 LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	190	2055	100	1430	425	645	200	740
Future Volume (vph)	190	2055	100	1430	425	645	200	740
Turn Type	pm+pt	NA	pm+pt	NA	Split	NA	Split	NA
Protected Phases	1	6	5	2	4	4	3	3
Permitted Phases	6		2					
Detector Phase	1	6	5	2	4	4	3	3
Switch Phase								
Minimum Initial (s)	4.0	10.0	4.0	10.0	6.0	6.0	6.0	6.0
Minimum Split (s)	23.0	39.0	18.0	39.0	36.0	36.0	36.0	36.0
Total Split (s)	30.0	74.0	18.0	62.0	46.0	46.0	42.0	42.0
Total Split (%)	16.7%	41.1%	10.0%	34.4%	25.6%	25.6%	23.3%	23.3%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Act Effct Green (s)	84.7	68.1	68.5	58.6	39.0	39.0	35.0	35.0
Actuated g/C Ratio	0.47	0.38	0.38	0.33	0.22	0.22	0.19	0.19
v/c Ratio	0.90	1.35	0.79	1.01	0.98	0.96	0.66	1.15
Control Delay	88.2	202.5	77.2	83.4	113.5	88.6	78.9	138.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.2	202.5	77.2	83.4	113.5	88.6	78.9	138.2
LOS	F	F	E	F	F	F	E	F
Approach Delay		193.9		83.0		94.7		129.0
Approach LOS		F		F		F		F

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 34 (19%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.35
Intersection Signal Delay: 136.5 Intersection LOS: F
Intersection Capacity Utilization 110.8% ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 104: Powerline Road & Oakland Park Boulevard



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	2055	300	100	1430	100	425	645	135	200	740	220
Future Volume (vph)	190	2055	300	100	1430	100	425	645	135	200	740	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.86	0.86		0.86	0.86	
Frt	1.00	0.98		1.00	0.99		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99		0.95	1.00	
Satd. Flow (prot)	1770	4988		1770	5035		1522	4666		1522	4639	
Flt Permitted	0.06	1.00		0.07	1.00		0.95	0.99		0.95	1.00	
Satd. Flow (perm)	114	4988		127	5035		1522	4666		1522	4639	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	207	2234	326	109	1554	109	462	701	147	217	804	239
RTOR Reduction (vph)	0	11	0	0	4	0	0	13	0	0	27	0
Lane Group Flow (vph)	207	2549	0	109	1659	0	323	974	0	195	1038	0
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases	6			2								
Actuated Green, G (s)	85.0	68.1		68.5	58.6		39.0	39.0		35.0	35.0	
Effective Green, g (s)	85.0	68.1		68.5	58.6		39.0	39.0		35.0	35.0	
Actuated g/C Ratio	0.47	0.38		0.38	0.33		0.22	0.22		0.19	0.19	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Vehicle Extension (s)	1.5	3.0		1.5	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	232	1887		138	1639		329	1010		295	902	
v/s Ratio Prot	c0.10	c0.51		0.04	0.33		c0.21	0.21		0.13	c0.22	
v/s Ratio Perm	0.33			0.26								
v/c Ratio	0.89	1.35		0.79	1.01		0.98	0.96		0.66	1.15	
Uniform Delay, d1	58.0	56.0		45.6	60.7		70.1	69.8		67.0	72.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	31.3	161.6		23.6	25.3		44.3	20.0		4.3	80.5	
Delay (s)	89.3	217.5		69.1	86.0		114.5	89.8		71.3	153.0	
Level of Service	F	F		E	F		F	F		E	F	
Approach Delay (s)		207.9			84.9			95.9			140.3	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	144.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	28.0
Intersection Capacity Utilization	110.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	207	2560	109	1663	323	987	195	1065
v/c Ratio	0.90	1.35	0.79	1.01	0.98	0.96	0.66	1.15
Control Delay	88.2	202.5	77.2	83.4	113.5	88.6	78.9	138.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.2	202.5	77.2	83.4	113.5	88.6	78.9	138.2
Queue Length 50th (ft)	192	~1458	77	~769	446	447	251	~557
Queue Length 95th (ft)	#316	#1530	#181	#892	#696	#548	365	#662
Internal Link Dist (ft)		1034		948		638		920
Turn Bay Length (ft)	590		420		380		210	
Base Capacity (vph)	265	1898	149	1643	329	1023	295	929
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	1.35	0.73	1.01	0.98	0.96	0.66	1.15

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

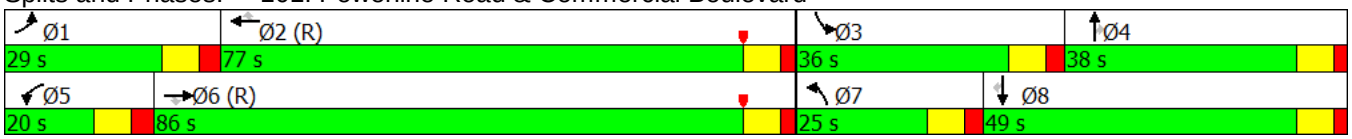
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	255	1710	90	180	1610	290	130	595	230	560	840	290
Future Volume (vph)	255	1710	90	180	1610	290	130	595	230	560	840	290
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	8.0	8.0	4.0	8.0	8.0	4.0	8.0	8.0	4.0	8.0	8.0
Minimum Split (s)	12.0	41.0	41.0	12.0	41.0	41.0	11.5	38.0	38.0	11.5	39.0	39.0
Total Split (s)	29.0	86.0	86.0	20.0	77.0	77.0	25.0	38.0	38.0	36.0	49.0	49.0
Total Split (%)	16.1%	47.8%	47.8%	11.1%	42.8%	42.8%	13.9%	21.1%	21.1%	20.0%	27.2%	27.2%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	3.0	2.0	2.0	3.0	2.0	2.0	2.5	2.0	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	7.0	7.0	8.0	7.0	7.0	7.5	7.0	7.0	7.5	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Act Effct Green (s)	17.9	77.5	77.5	12.6	72.2	72.2	11.3	27.7	27.7	32.7	49.1	49.1
Actuated g/C Ratio	0.10	0.43	0.43	0.07	0.40	0.40	0.06	0.15	0.15	0.18	0.27	0.27
v/c Ratio	0.81	0.85	0.13	0.82	0.86	0.38	0.66	0.83	0.59	0.98	0.66	0.57
Control Delay	97.8	50.5	0.3	107.3	54.7	4.6	96.6	83.3	19.0	101.2	61.4	29.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.8	50.5	0.3	107.3	54.7	4.6	96.6	83.3	19.0	101.2	61.4	29.9
LOS	F	D	A	F	D	A	F	F	B	F	E	C
Approach Delay		54.2			52.2			69.6			69.2	
Approach LOS		D			D			E			E	

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 79 (44%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 59.5 Intersection LOS: E
Intersection Capacity Utilization 90.3% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 101: Powerline Road & Commercial Boulevard



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	255	1710	90	180	1610	290	130	595	230	560	840	290
Future Volume (veh/h)	255	1710	90	180	1610	290	130	595	230	560	840	290
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	277	1859	98	196	1750	315	141	647	250	609	913	315
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	315	2250	700	229	2123	661	179	858	267	545	1399	435
Arrive On Green	0.09	0.44	0.44	0.07	0.42	0.42	0.05	0.17	0.17	0.16	0.28	0.28
Sat Flow, veh/h	3442	5085	1583	3442	5085	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	277	1859	98	196	1750	315	141	647	250	609	913	315
Grp Sat Flow(s),veh/h/ln	1721	1695	1583	1721	1695	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	14.3	57.8	6.6	10.1	55.0	26.0	7.3	21.8	28.1	28.5	28.6	32.4
Cycle Q Clear(g_c), s	14.3	57.8	6.6	10.1	55.0	26.0	7.3	21.8	28.1	28.5	28.6	32.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	315	2250	700	229	2123	661	179	858	267	545	1399	435
V/C Ratio(X)	0.88	0.83	0.14	0.85	0.82	0.48	0.79	0.75	0.94	1.12	0.65	0.72
Avail Cap(c_a), veh/h	402	2250	700	229	2123	661	335	876	273	545	1399	435
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	80.8	44.1	29.8	83.1	46.6	38.1	84.3	71.3	73.8	75.8	57.7	59.0
Incr Delay (d2), s/veh	14.2	3.6	0.4	24.5	3.8	2.5	2.9	3.4	36.8	75.0	0.9	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.9	36.4	5.4	9.5	35.0	17.4	6.4	15.8	21.3	34.6	19.5	21.2
LnGrp Delay(d),s/veh	95.0	47.8	30.3	107.6	50.3	40.6	87.2	74.6	110.6	150.8	58.6	64.3
LnGrp LOS	F	D	C	F	D	D	F	E	F	F	E	E
Approach Vol, veh/h		2234			2261			1038			1837	
Approach Delay, s/veh		52.8			54.0			85.0			90.1	
Approach LOS		D			D			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.5	82.2	36.0	37.4	20.0	86.6	16.9	56.5
Change Period (Y+Rc), s	8.0	7.0	7.5	7.0	8.0	7.0	7.5	7.0
Max Green Setting (Gmax), s	21.0	70.0	28.5	31.0	12.0	79.0	17.5	42.0
Max Q Clear Time (g_c+I1), s	16.3	57.0	30.5	30.1	12.1	59.8	9.3	34.4
Green Ext Time (p_c), s	0.2	11.9	0.0	0.3	0.0	17.1	0.1	4.9

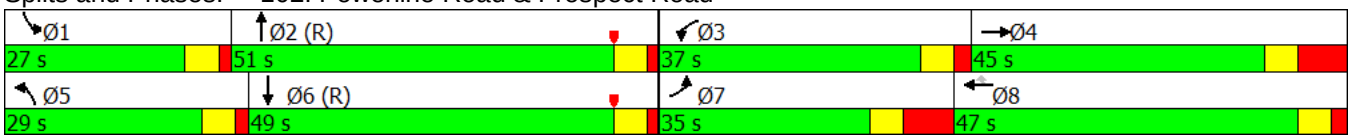
Intersection Summary	
HCM 2010 Ctrl Delay	67.0
HCM 2010 LOS	E

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	157	556	222	897	214	362	525	282	671
Future Volume (vph)	157	556	222	897	214	362	525	282	671
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	12.0	5.0	12.0	12.0	5.0	12.0	5.0	12.0
Minimum Split (s)	15.0	45.0	11.0	38.0	38.0	11.0	39.5	11.0	39.5
Total Split (s)	35.0	45.0	37.0	47.0	47.0	29.0	51.0	27.0	49.0
Total Split (%)	21.9%	28.1%	23.1%	29.4%	29.4%	18.1%	31.9%	16.9%	30.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	6.0	6.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	10.0	10.0	6.0	6.0	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	19.0	32.3	25.0	38.3	38.3	21.4	57.8	17.8	54.3
Actuated g/C Ratio	0.12	0.20	0.16	0.24	0.24	0.13	0.36	0.11	0.34
v/c Ratio	0.81	0.74	0.87	0.80	0.49	0.86	0.55	0.80	0.62
Control Delay	96.3	61.5	94.7	62.6	27.2	70.6	54.6	85.2	48.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.3	61.5	94.7	62.6	27.2	70.6	54.6	85.2	48.9
LOS	F	E	F	E	C	E	D	F	D
Approach Delay		67.9		62.2			60.4		59.6
Approach LOS		E		E			E		E

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 52 (33%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 62.4 Intersection LOS: E
Intersection Capacity Utilization 77.7% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 102: Powerline Road & Prospect Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	556	139	222	897	214	362	525	114	282	671	7
Future Volume (veh/h)	157	556	139	222	897	214	362	525	114	282	671	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	171	604	151	241	975	233	393	571	124	307	729	8
Adj No. of Lanes	1	3	0	1	3	1	2	2	0	2	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	192	902	221	261	1198	373	438	1045	226	350	1202	13
Arrive On Green	0.11	0.22	0.22	0.15	0.24	0.24	0.04	0.12	0.12	0.10	0.34	0.34
Sat Flow, veh/h	1774	4076	1000	1774	5085	1583	3442	2895	627	3442	3586	39
Grp Volume(v), veh/h	171	500	255	241	975	233	393	348	347	307	360	377
Grp Sat Flow(s),veh/h/ln	1774	1695	1686	1774	1695	1583	1721	1770	1752	1721	1770	1856
Q Serve(g_s), s	15.2	21.6	22.2	21.4	29.0	21.1	18.2	29.7	29.8	14.1	27.1	27.1
Cycle Q Clear(g_c), s	15.2	21.6	22.2	21.4	29.0	21.1	18.2	29.7	29.8	14.1	27.1	27.1
Prop In Lane	1.00		0.59	1.00		1.00	1.00		0.36	1.00		0.02
Lane Grp Cap(c), veh/h	192	750	373	261	1198	373	438	639	632	350	593	622
V/C Ratio(X)	0.89	0.67	0.68	0.92	0.81	0.62	0.90	0.55	0.55	0.88	0.61	0.61
Avail Cap(c_a), veh/h	277	750	373	344	1303	406	505	639	632	462	593	622
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.4	56.9	57.1	67.3	57.8	54.8	75.6	58.1	58.2	70.9	44.4	44.4
Incr Delay (d2), s/veh	16.9	2.1	4.7	22.3	3.6	2.3	14.0	2.9	2.9	11.6	4.6	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.1	15.6	16.2	17.8	20.2	14.5	14.2	21.0	21.0	11.7	20.2	21.0
LnGrp Delay(d),s/veh	87.3	59.0	61.8	89.6	61.5	57.1	89.5	61.0	61.1	82.5	48.9	48.7
LnGrp LOS	F	E	E	F	E	E	F	E	E	F	D	D
Approach Vol, veh/h		926			1449			1088			1044	
Approach Delay, s/veh		65.0			65.5			71.3			58.7	
Approach LOS		E			E			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.8	63.2	29.6	45.4	25.9	59.1	27.3	47.7
Change Period (Y+Rc), s	5.5	5.5	6.0	10.0	5.5	5.5	10.0	* 10
Max Green Setting (Gmax), s	21.5	45.5	31.0	35.0	23.5	43.5	25.0	* 41
Max Q Clear Time (g_c+I1), s	16.1	31.8	23.4	24.2	20.2	29.1	17.2	31.0
Green Ext Time (p_c), s	0.2	5.7	0.1	7.4	0.2	5.8	0.1	6.7

Intersection Summary	
HCM 2010 Ctrl Delay	65.2
HCM 2010 LOS	E

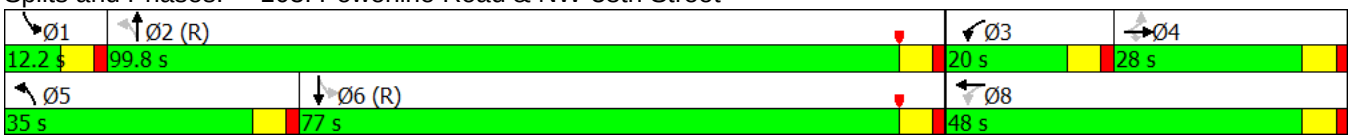
Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	42	32	160	131	72	211	976	53	957
Future Volume (vph)	42	32	160	131	72	211	976	53	957
Turn Type	Perm	NA	Perm	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		3	8	5	2	1	6
Permitted Phases	4		4	8		2		6	
Detector Phase	4	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.5	21.5	21.5	9.5	21.5	9.5	21.5	9.5	21.5
Total Split (s)	28.0	28.0	28.0	20.0	48.0	35.0	99.8	12.2	77.0
Total Split (%)	17.5%	17.5%	17.5%	12.5%	30.0%	21.9%	62.4%	7.6%	48.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lag	Lead		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)		14.4	14.4	35.4	35.4	113.3	103.2	101.0	93.8
Actuated g/C Ratio		0.09	0.09	0.22	0.22	0.71	0.64	0.63	0.59
v/c Ratio		0.64	0.58	0.51	0.28	0.62	0.49	0.18	0.52
Control Delay		91.2	16.4	57.7	45.2	16.3	17.4	7.6	12.4
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		91.2	16.4	57.7	45.2	16.3	17.4	7.6	12.4
LOS		F	B	E	D	B	B	A	B
Approach Delay		40.1			52.2		17.2		12.2
Approach LOS		D			D		B		B

Intersection Summary	
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 20.2	Intersection LOS: C
Intersection Capacity Utilization 66.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 103: Powerline Road & NW 38th Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	32	160	131	72	30	211	976	48	53	957	31
Future Volume (veh/h)	42	32	160	131	72	30	211	976	48	53	957	31
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	46	35	174	142	78	33	229	1061	52	58	1040	34
Adj No. of Lanes	0	1	1	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	91	196	277	297	126	353	2178	107	324	2073	68
Arrive On Green	0.12	0.12	0.12	0.08	0.24	0.24	0.06	0.63	0.63	0.02	0.40	0.40
Sat Flow, veh/h	775	732	1583	1774	1244	526	1774	3434	168	1774	3498	114
Grp Volume(v), veh/h	81	0	174	142	0	111	229	547	566	58	526	548
Grp Sat Flow(s),veh/h/ln	1507	0	1583	1774	0	1770	1774	1770	1833	1774	1770	1843
Q Serve(g_s), s	6.2	0.0	17.3	10.9	0.0	8.1	7.8	26.2	26.2	2.1	35.8	35.8
Cycle Q Clear(g_c), s	7.7	0.0	17.3	10.9	0.0	8.1	7.8	26.2	26.2	2.1	35.8	35.8
Prop In Lane	0.57		1.00	1.00		0.30	1.00		0.09	1.00		0.06
Lane Grp Cap(c), veh/h	222	0	196	277	0	423	353	1122	1162	324	1049	1092
V/C Ratio(X)	0.36	0.00	0.89	0.51	0.00	0.26	0.65	0.49	0.49	0.18	0.50	0.50
Avail Cap(c_a), veh/h	247	0	223	294	0	470	565	1122	1162	357	1049	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.68	0.68	0.68
Uniform Delay (d), s/veh	64.6	0.0	69.0	53.6	0.0	49.4	17.9	15.5	15.5	13.6	30.4	30.4
Incr Delay (d2), s/veh	1.0	0.0	29.7	1.5	0.0	0.3	2.0	1.5	1.5	0.2	1.2	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.1	0.0	14.2	9.3	0.0	7.2	7.8	19.2	19.8	1.9	23.6	24.4
LnGrp Delay(d),s/veh	65.6	0.0	98.7	55.1	0.0	49.7	19.9	17.0	17.0	13.8	31.6	31.6
LnGrp LOS	E		F	E		D	B	B	B	B	C	C
Approach Vol, veh/h		255			253			1342			1132	
Approach Delay, s/veh		88.2			52.7			17.5			30.7	
Approach LOS		F			D			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	9.3	107.0	18.4	25.3	15.9	100.3		43.8
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5		5.5
Max Green Setting (Gmax), s	6.7	94.3	14.5	22.5	29.5	71.5		42.5
Max Q Clear Time (g_c+I1), s	4.1	28.2	12.9	19.3	9.8	37.8		10.1
Green Ext Time (p_c), s	0.0	23.8	0.1	0.5	0.6	18.2		1.8

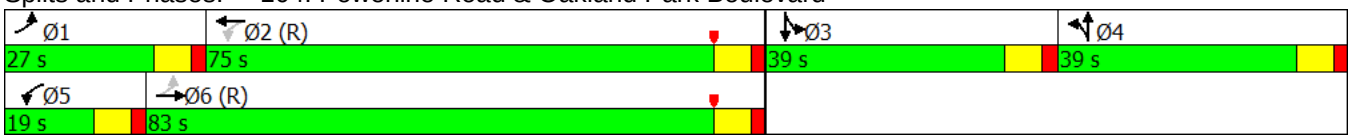
Intersection Summary	
HCM 2010 Ctrl Delay	31.5
HCM 2010 LOS	C

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	185	1995	140	1860	430	790	210	880
Future Volume (vph)	185	1995	140	1860	430	790	210	880
Turn Type	pm+pt	NA	pm+pt	NA	Split	NA	Split	NA
Protected Phases	1	6	5	2	4	4	3	3
Permitted Phases	6		2					
Detector Phase	1	6	5	2	4	4	3	3
Switch Phase								
Minimum Initial (s)	4.0	10.0	4.0	10.0	6.0	6.0	6.0	6.0
Minimum Split (s)	23.0	39.0	18.0	39.0	36.0	36.0	36.0	36.0
Total Split (s)	27.0	83.0	19.0	75.0	39.0	39.0	39.0	39.0
Total Split (%)	15.0%	46.1%	10.6%	41.7%	21.7%	21.7%	21.7%	21.7%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Act Effct Green (s)	93.7	76.0	81.7	69.7	32.0	32.0	32.0	32.0
Actuated g/C Ratio	0.52	0.42	0.45	0.39	0.18	0.18	0.18	0.18
v/c Ratio	0.91	1.22	0.96	1.11	1.31	1.29	0.76	1.46
Control Delay	93.0	147.9	108.7	105.9	218.9	194.8	88.8	260.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	93.0	147.9	108.7	105.9	218.9	194.8	88.8	260.7
LOS	F	F	F	F	F	F	F	F
Approach Delay		144.0		106.1		200.7		236.3
Approach LOS		F		F		F		F

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 34 (19%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.46
Intersection Signal Delay: 160.0 Intersection LOS: F
Intersection Capacity Utilization 117.9% ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 104: Powerline Road & Oakland Park Boulevard



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	1995	380	140	1860	130	430	790	110	210	880	240
Future Volume (vph)	185	1995	380	140	1860	130	430	790	110	210	880	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.86	0.86		0.86	0.86	
Frt	1.00	0.98		1.00	0.99		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99		0.95	1.00	
Satd. Flow (prot)	1770	4963		1770	5036		1522	4702		1522	4650	
Flt Permitted	0.05	1.00		0.06	1.00		0.95	0.99		0.95	1.00	
Satd. Flow (perm)	98	4963		107	5036		1522	4702		1522	4650	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	201	2168	413	152	2022	141	467	859	120	228	957	261
RTOR Reduction (vph)	0	16	0	0	4	0	0	8	0	0	24	0
Lane Group Flow (vph)	201	2565	0	152	2159	0	355	1083	0	205	1217	0
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases	6			2								
Actuated Green, G (s)	94.3	76.0		81.7	69.7		32.0	32.0		32.0	32.0	
Effective Green, g (s)	94.3	76.0		81.7	69.7		32.0	32.0		32.0	32.0	
Actuated g/C Ratio	0.52	0.42		0.45	0.39		0.18	0.18		0.18	0.18	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Vehicle Extension (s)	1.5	3.0		1.5	3.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	221	2095		159	1950		270	835		270	826	
v/s Ratio Prot	c0.09	c0.52		0.06	0.43		c0.23	0.23		0.13	c0.26	
v/s Ratio Perm	0.38			0.37								
v/c Ratio	0.91	1.22		0.96	1.11		1.31	1.30		0.76	1.47	
Uniform Delay, d1	60.1	52.0		54.8	55.1		74.0	74.0		70.3	74.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	35.7	105.5		57.4	56.3		165.5	142.4		10.4	219.7	
Delay (s)	95.8	157.5		112.2	111.5		239.5	216.4		80.7	293.7	
Level of Service	F	F		F	F		F	F		F	F	
Approach Delay (s)		153.1			111.5			222.0			263.5	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	173.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	28.0
Intersection Capacity Utilization	117.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	201	2581	152	2163	355	1091	205	1241
v/c Ratio	0.91	1.22	0.96	1.11	1.31	1.29	0.76	1.46
Control Delay	93.0	147.9	108.7	105.9	218.9	194.8	88.8	260.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	93.0	147.9	108.7	105.9	218.9	194.8	88.8	260.7
Queue Length 50th (ft)	184	~1363	132	~1084	~624	~632	272	~765
Queue Length 95th (ft)	#331	#1435	#294	#1167	#880	#737	#408	#870
Internal Link Dist (ft)		1034		948		638		920
Turn Bay Length (ft)	590		420		380		210	
Base Capacity (vph)	237	2111	159	1954	270	844	270	849
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	1.22	0.96	1.11	1.31	1.29	0.76	1.46

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

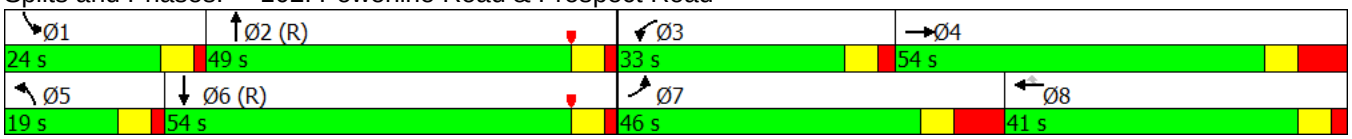
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	243	841	183	543	274	165	809	262	657
Future Volume (vph)	243	841	183	543	274	165	809	262	657
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	12.0	5.0	12.0	12.0	5.0	12.0	5.0	12.0
Minimum Split (s)	15.0	45.0	11.0	38.0	38.0	11.0	39.5	11.0	39.5
Total Split (s)	46.0	54.0	33.0	41.0	41.0	19.0	49.0	24.0	54.0
Total Split (%)	28.8%	33.8%	20.6%	25.6%	25.6%	11.9%	30.6%	15.0%	33.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	6.0	6.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	10.0	10.0	6.0	6.0	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	27.7	42.5	21.3	36.1	36.1	11.7	52.8	16.3	57.5
Actuated g/C Ratio	0.17	0.27	0.13	0.23	0.23	0.07	0.33	0.10	0.36
v/c Ratio	0.86	0.85	0.85	0.51	0.62	0.72	0.64	0.81	0.40
Control Delay	89.6	60.7	96.5	55.9	30.0	95.8	46.6	88.6	40.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.6	60.7	96.5	55.9	30.0	95.8	46.6	88.6	40.6
LOS	F	E	F	E	C	F	D	F	D
Approach Delay		66.1		56.2			53.7		54.2
Approach LOS		E		E			D		D

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 94 (59%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 58.1 Intersection LOS: E
Intersection Capacity Utilization 80.2% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 102: Powerline Road & Prospect Road



HCM 2010 Signalized Intersection Summary
102: Powerline Road & Prospect Road

10/23/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	243	841	204	183	543	274	165	809	163	262	657	10
Future Volume (veh/h)	243	841	204	183	543	274	165	809	163	262	657	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	264	914	222	199	590	298	179	879	177	285	714	11
Adj No. of Lanes	1	3	0	1	3	1	2	3	0	2	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	285	1126	272	220	1087	338	222	1433	287	327	1896	29
Arrive On Green	0.16	0.28	0.28	0.12	0.21	0.21	0.02	0.11	0.11	0.10	0.37	0.37
Sat Flow, veh/h	1774	4089	989	1774	5085	1583	3442	4251	852	3442	5160	79
Grp Volume(v), veh/h	264	757	379	199	590	298	179	700	356	285	469	256
Grp Sat Flow(s),veh/h/ln	1774	1695	1688	1774	1695	1583	1721	1695	1712	1721	1695	1849
Q Serve(g_s), s	23.5	33.3	33.5	17.7	16.5	29.2	8.3	31.5	31.7	13.1	16.2	16.3
Cycle Q Clear(g_c), s	23.5	33.3	33.5	17.7	16.5	29.2	8.3	31.5	31.7	13.1	16.2	16.3
Prop In Lane	1.00		0.59	1.00		1.00	1.00		0.50	1.00		0.04
Lane Grp Cap(c), veh/h	285	933	465	220	1087	338	222	1143	577	327	1246	679
V/C Ratio(X)	0.93	0.81	0.82	0.91	0.54	0.88	0.80	0.61	0.62	0.87	0.38	0.38
Avail Cap(c_a), veh/h	399	933	465	299	1112	346	290	1143	577	398	1246	679
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.3	54.1	54.2	69.2	56.0	60.9	77.3	61.1	61.2	71.4	37.1	37.2
Incr Delay (d2), s/veh	19.2	5.3	10.5	20.4	0.4	21.5	8.4	2.3	4.6	14.3	0.9	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	19.0	23.0	23.8	15.1	12.4	21.0	7.5	21.4	22.1	11.2	12.3	13.4
LnGrp Delay(d),s/veh	85.5	59.4	64.6	89.6	56.4	82.4	85.7	63.4	65.8	85.8	38.0	38.7
LnGrp LOS	F	E	E	F	E	F	F	E	E	F	D	D
Approach Vol, veh/h		1400			1087			1235			1010	
Approach Delay, s/veh		65.7			69.6			67.4			51.7	
Approach LOS		E			E			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.7	59.4	25.8	54.0	15.8	64.3	35.7	44.2
Change Period (Y+Rc), s	5.5	5.5	6.0	10.0	5.5	5.5	10.0	* 10
Max Green Setting (Gmax), s	18.5	43.5	27.0	44.0	13.5	48.5	36.0	* 35
Max Q Clear Time (g_c+I1), s	15.1	33.7	19.7	35.5	10.3	18.3	25.5	31.2
Green Ext Time (p_c), s	0.1	6.0	0.1	6.1	0.1	11.0	0.2	3.0

Intersection Summary	
HCM 2010 Ctrl Delay	64.0
HCM 2010 LOS	E

Notes

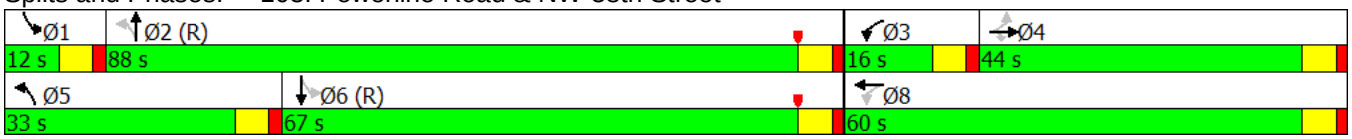
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	49	53	250	82	38	153	1081	23	1027
Future Volume (vph)	49	53	250	82	38	153	1081	23	1027
Turn Type	Perm	NA	Perm	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		3	8	5	2	1	6
Permitted Phases	4		4	8		2		6	
Detector Phase	4	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.5	21.5	21.5	9.5	21.5	9.5	21.5	9.5	21.5
Total Split (s)	44.0	44.0	44.0	16.0	60.0	33.0	88.0	12.0	67.0
Total Split (%)	27.5%	27.5%	27.5%	10.0%	37.5%	20.6%	55.0%	7.5%	41.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lag	Lead		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)		17.1	17.1	34.1	34.1	114.5	107.6	105.1	98.9
Actuated g/C Ratio		0.11	0.11	0.21	0.21	0.72	0.67	0.66	0.62
v/c Ratio		0.69	0.66	0.38	0.20	0.47	0.36	0.08	0.36
Control Delay		89.7	14.6	54.8	30.9	12.6	13.1	7.8	13.5
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		89.7	14.6	54.8	30.9	12.6	13.1	7.8	13.5
LOS		F	B	D	C	B	B	A	B
Approach Delay		36.4			43.7		13.1		13.4
Approach LOS		D			D		B		B

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 17.7 Intersection LOS: B
Intersection Capacity Utilization 54.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 103: Powerline Road & NW 38th Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	53	250	82	38	33	153	1081	50	23	1027	23
Future Volume (veh/h)	49	53	250	82	38	33	153	1081	50	23	1027	23
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	53	58	272	89	41	36	166	1175	54	25	1116	25
Adj No. of Lanes	0	1	1	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	169	300	272	252	221	418	3014	138	293	2912	65
Arrive On Green	0.19	0.19	0.19	0.05	0.28	0.28	0.05	0.60	0.60	0.03	1.00	1.00
Sat Flow, veh/h	689	888	1583	1774	916	805	1774	4984	229	1774	5118	115
Grp Volume(v), veh/h	111	0	272	89	0	77	166	799	430	25	739	402
Grp Sat Flow(s),veh/h/ln	1577	0	1583	1774	0	1721	1774	1695	1822	1774	1695	1843
Q Serve(g_s), s	7.3	0.0	26.9	6.3	0.0	5.4	6.0	19.5	19.5	0.9	0.0	0.0
Cycle Q Clear(g_c), s	9.5	0.0	26.9	6.3	0.0	5.4	6.0	19.5	19.5	0.9	0.0	0.0
Prop In Lane	0.48		1.00	1.00		0.47	1.00		0.13	1.00		0.06
Lane Grp Cap(c), veh/h	332	0	300	272	0	474	418	2051	1102	293	1929	1048
V/C Ratio(X)	0.33	0.00	0.91	0.33	0.00	0.16	0.40	0.39	0.39	0.09	0.38	0.38
Avail Cap(c_a), veh/h	412	0	381	298	0	586	629	2051	1102	335	1929	1048
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	56.2	0.0	63.4	47.4	0.0	44.0	11.8	16.3	16.3	14.3	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	21.2	0.7	0.0	0.2	0.6	0.6	1.0	0.1	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.8	0.0	19.6	5.7	0.0	4.7	5.4	14.3	15.3	0.8	0.2	0.5
LnGrp Delay(d),s/veh	56.8	0.0	84.6	48.1	0.0	44.2	12.4	16.9	17.4	14.4	0.5	0.9
LnGrp LOS	E		F	D		D	B	B	B	B	A	A
Approach Vol, veh/h		383			166			1395			1166	
Approach Delay, s/veh		76.5			46.3			16.5			0.9	
Approach LOS		E			D			B			A	

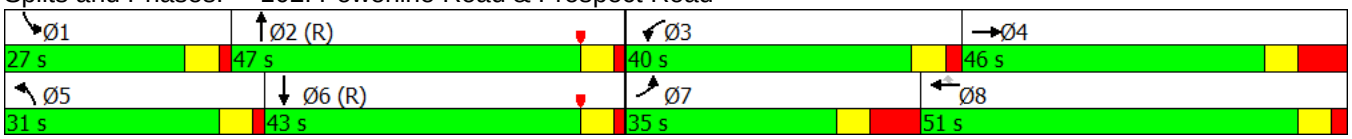
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	8.2	102.3	13.7	35.9	13.9	96.5		49.5
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5		5.5
Max Green Setting (Gmax), s	6.5	82.5	10.5	38.5	27.5	61.5		54.5
Max Q Clear Time (g_c+I1), s	2.9	21.5	8.3	28.9	8.0	2.0		7.4
Green Ext Time (p_c), s	0.0	27.4	0.0	1.5	0.4	27.1		2.2

Intersection Summary	
HCM 2010 Ctrl Delay	19.7
HCM 2010 LOS	B

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	157	556	222	897	214	362	525	282	671
Future Volume (vph)	157	556	222	897	214	362	525	282	671
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	12.0	5.0	12.0	12.0	5.0	12.0	5.0	12.0
Minimum Split (s)	15.0	45.0	11.0	38.0	38.0	11.0	39.5	11.0	39.5
Total Split (s)	35.0	46.0	40.0	51.0	51.0	31.0	47.0	27.0	43.0
Total Split (%)	21.9%	28.8%	25.0%	31.9%	31.9%	19.4%	29.4%	16.9%	26.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	6.0	6.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	10.0	10.0	6.0	6.0	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	19.3	33.2	25.7	39.6	39.6	21.7	56.3	17.8	52.4
Actuated g/C Ratio	0.12	0.21	0.16	0.25	0.25	0.14	0.35	0.11	0.33
v/c Ratio	0.80	0.72	0.85	0.78	0.48	0.84	0.40	0.80	0.44
Control Delay	94.2	60.0	90.4	60.4	26.1	71.8	51.1	85.2	45.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.2	60.0	90.4	60.4	26.1	71.8	51.1	85.2	45.8
LOS	F	E	F	E	C	E	D	F	D
Approach Delay		66.4		59.9			58.6		57.4
Approach LOS		E		E			E		E

Intersection Summary	
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 52 (33%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 60.3	Intersection LOS: E
Intersection Capacity Utilization 72.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 102: Powerline Road & Prospect Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	556	139	222	897	214	362	525	114	282	671	7
Future Volume (veh/h)	157	556	139	222	897	214	362	525	114	282	671	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	171	604	151	241	975	233	393	571	124	307	729	8
Adj No. of Lanes	1	3	0	1	3	1	2	3	0	2	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	192	939	230	262	1245	388	440	1477	315	350	1688	19
Arrive On Green	0.11	0.23	0.23	0.15	0.24	0.24	0.04	0.12	0.12	0.10	0.33	0.33
Sat Flow, veh/h	1774	4076	1000	1774	5085	1583	3442	4200	895	3442	5186	57
Grp Volume(v), veh/h	171	500	255	241	975	233	393	459	236	307	476	261
Grp Sat Flow(s),veh/h/ln	1774	1695	1686	1774	1695	1583	1721	1695	1705	1721	1695	1853
Q Serve(g_s), s	15.2	21.3	21.9	21.4	28.7	20.9	18.2	20.0	20.5	14.1	17.6	17.7
Cycle Q Clear(g_c), s	15.2	21.3	21.9	21.4	28.7	20.9	18.2	20.0	20.5	14.1	17.6	17.7
Prop In Lane	1.00		0.59	1.00		1.00	1.00		0.52	1.00		0.03
Lane Grp Cap(c), veh/h	192	781	388	262	1245	388	440	1192	600	350	1104	603
V/C Ratio(X)	0.89	0.64	0.66	0.92	0.78	0.60	0.89	0.38	0.39	0.88	0.43	0.43
Avail Cap(c_a), veh/h	277	781	388	377	1430	445	549	1192	600	462	1104	603
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.4	55.6	55.8	67.3	56.5	53.5	75.5	54.7	54.9	70.9	42.3	42.3
Incr Delay (d2), s/veh	16.9	1.6	3.6	17.9	2.4	1.4	12.4	0.9	1.8	11.6	1.2	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.1	15.4	15.9	17.4	19.8	14.3	14.3	14.5	15.1	11.7	13.2	14.5
LnGrp Delay(d),s/veh	87.3	57.2	59.4	85.2	58.8	54.9	87.9	55.6	56.8	82.5	43.6	44.6
LnGrp LOS	F	E	E	F	E	D	F	E	E	F	D	D
Approach Vol, veh/h		926			1449			1088			1044	
Approach Delay, s/veh		63.4			62.6			67.5			55.3	
Approach LOS		E			E			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.8	61.8	29.6	46.9	26.0	57.6	27.3	49.2
Change Period (Y+Rc), s	5.5	5.5	6.0	10.0	5.5	5.5	10.0	* 10
Max Green Setting (Gmax), s	21.5	41.5	34.0	36.0	25.5	37.5	25.0	* 45
Max Q Clear Time (g_c+I1), s	16.1	22.5	23.4	23.9	20.2	19.7	17.2	30.7
Green Ext Time (p_c), s	0.2	7.0	0.2	8.0	0.3	6.8	0.1	8.5

Intersection Summary	
HCM 2010 Ctrl Delay	62.2
HCM 2010 LOS	E

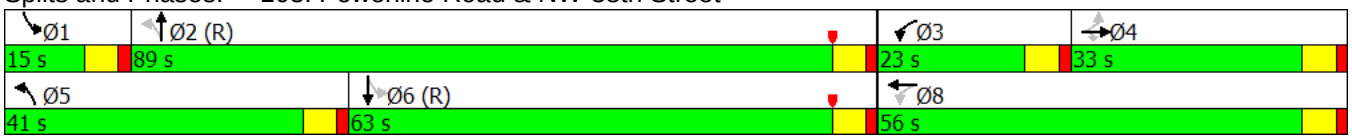
Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	42	32	160	131	72	211	976	53	957
Future Volume (vph)	42	32	160	131	72	211	976	53	957
Turn Type	Perm	NA	Perm	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		3	8	5	2	1	6
Permitted Phases	4		4	8		2		6	
Detector Phase	4	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.5	21.5	21.5	9.5	21.5	9.5	21.5	9.5	21.5
Total Split (s)	33.0	33.0	33.0	23.0	56.0	41.0	89.0	15.0	63.0
Total Split (%)	20.6%	20.6%	20.6%	14.4%	35.0%	25.6%	55.6%	9.4%	39.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lag	Lead		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)		14.3	14.3	35.3	35.3	113.4	103.2	101.6	94.5
Actuated g/C Ratio		0.09	0.09	0.22	0.22	0.71	0.64	0.64	0.59
v/c Ratio		0.64	0.58	0.51	0.28	0.58	0.34	0.17	0.36
Control Delay		91.6	16.4	57.8	44.8	15.0	14.6	7.2	9.8
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		91.6	16.4	57.8	44.8	15.0	14.6	7.2	9.8
LOS		F	B	E	D	B	B	A	A
Approach Delay		40.3			52.1		14.7		9.7
Approach LOS		D			D		B		A

Intersection Summary	
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 18.1	Intersection LOS: B
Intersection Capacity Utilization 58.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 103: Powerline Road & NW 38th Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	32	160	131	72	30	211	976	48	53	957	31
Future Volume (veh/h)	42	32	160	131	72	30	211	976	48	53	957	31
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	46	35	174	142	78	33	229	1061	52	58	1040	34
Adj No. of Lanes	0	1	1	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	134	93	201	281	301	128	377	3133	153	355	2978	97
Arrive On Green	0.13	0.13	0.13	0.08	0.24	0.24	0.07	0.63	0.63	0.01	0.19	0.19
Sat Flow, veh/h	776	730	1583	1774	1244	526	1774	4967	243	1774	5059	165
Grp Volume(v), veh/h	81	0	174	142	0	111	229	724	389	58	697	377
Grp Sat Flow(s),veh/h/ln	1507	0	1583	1774	0	1770	1774	1695	1820	1774	1695	1834
Q Serve(g_s), s	6.2	0.0	17.2	10.9	0.0	8.1	7.9	16.0	16.1	2.1	28.4	28.5
Cycle Q Clear(g_c), s	7.7	0.0	17.2	10.9	0.0	8.1	7.9	16.0	16.1	2.1	28.4	28.5
Prop In Lane	0.57		1.00	1.00		0.30	1.00		0.13	1.00		0.09
Lane Grp Cap(c), veh/h	227	0	201	281	0	429	377	2138	1148	355	1996	1080
V/C Ratio(X)	0.36	0.00	0.87	0.51	0.00	0.26	0.61	0.34	0.34	0.16	0.35	0.35
Avail Cap(c_a), veh/h	293	0	272	331	0	559	654	2138	1148	418	1996	1080
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.82	0.82	0.82
Uniform Delay (d), s/veh	64.2	0.0	68.5	53.2	0.0	49.0	15.3	13.9	13.9	12.9	38.0	38.0
Incr Delay (d2), s/veh	1.0	0.0	19.0	1.4	0.0	0.3	1.6	0.4	0.8	0.2	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.1	0.0	13.5	9.2	0.0	7.2	7.2	12.1	13.0	1.9	18.9	20.4
LnGrp Delay(d),s/veh	65.1	0.0	87.5	54.6	0.0	49.3	16.9	14.3	14.7	13.1	38.4	38.7
LnGrp LOS	E		F	D		D	B	B	B	B	D	D
Approach Vol, veh/h		255			253			1342			1132	
Approach Delay, s/veh		80.4			52.3			14.9			37.2	
Approach LOS		F			D			B			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	9.3	106.4	18.5	25.8	16.0	99.7		44.3
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5		5.5
Max Green Setting (Gmax), s	9.5	83.5	17.5	27.5	35.5	57.5		50.5
Max Q Clear Time (g_c+I1), s	4.1	18.1	12.9	19.2	9.9	30.5		10.1
Green Ext Time (p_c), s	0.0	24.2	0.1	1.1	0.6	16.3		1.8

Intersection Summary	
HCM 2010 Ctrl Delay	32.1
HCM 2010 LOS	C

APPENDIX G

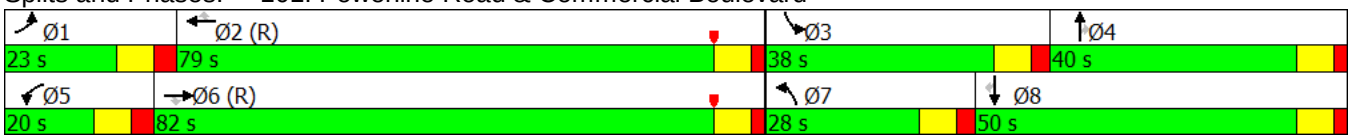
SYNCHRO 2040 Output

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	355	1690	215	230	1710	610	185	665	270	545	820	285
Future Volume (vph)	355	1690	215	230	1710	610	185	665	270	545	820	285
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	8.0	8.0	4.0	8.0	8.0	4.0	8.0	8.0	4.0	8.0	8.0
Minimum Split (s)	12.0	41.0	41.0	12.0	41.0	41.0	11.5	40.0	40.0	11.5	39.0	39.0
Total Split (s)	23.0	82.0	82.0	20.0	79.0	79.0	28.0	40.0	40.0	38.0	50.0	50.0
Total Split (%)	12.8%	45.6%	45.6%	11.1%	43.9%	43.9%	15.6%	22.2%	22.2%	21.1%	27.8%	27.8%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	3.0	2.0	2.0	3.0	2.0	2.0	2.5	2.0	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	7.0	7.0	8.0	7.0	7.0	7.5	7.0	7.0	7.5	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Act Effct Green (s)	17.6	74.6	74.6	14.6	71.6	71.6	14.4	30.4	30.4	30.9	46.9	46.9
Actuated g/C Ratio	0.10	0.41	0.41	0.08	0.40	0.40	0.08	0.17	0.17	0.17	0.26	0.26
v/c Ratio	1.15	0.87	0.31	0.90	0.92	0.78	0.73	0.84	0.73	1.01	0.67	0.60
Control Delay	162.4	54.0	11.6	112.0	59.8	26.8	96.4	82.2	41.3	110.4	62.7	35.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	162.4	54.0	11.6	112.0	59.8	26.8	96.4	82.2	41.3	110.4	62.7	35.0
LOS	F	D	B	F	E	C	F	F	D	F	E	D
Approach Delay		67.0			56.6			74.7			73.7	
Approach LOS		E			E			E			E	

Intersection Summary

Cycle Length: 180
Actuated Cycle Length: 180
Offset: 25 (14%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.15
Intersection Signal Delay: 66.1 Intersection LOS: E
Intersection Capacity Utilization 96.0% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 101: Powerline Road & Commercial Boulevard



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	355	1690	215	230	1710	610	185	665	270	545	820	285
Future Volume (veh/h)	355	1690	215	230	1710	610	185	665	270	545	820	285
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	386	1837	234	250	1859	663	201	723	293	592	891	310
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	287	2119	660	229	2034	633	240	932	290	583	1440	448
Arrive On Green	0.08	0.42	0.42	0.07	0.40	0.40	0.07	0.18	0.18	0.17	0.28	0.28
Sat Flow, veh/h	3442	5085	1583	3442	5085	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	386	1837	234	250	1859	663	201	723	293	592	891	310
Grp Sat Flow(s),veh/h/ln	1721	1695	1583	1721	1695	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	15.0	59.4	18.2	12.0	62.2	72.0	10.4	24.4	33.0	30.5	27.4	31.4
Cycle Q Clear(g_c), s	15.0	59.4	18.2	12.0	62.2	72.0	10.4	24.4	33.0	30.5	27.4	31.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	287	2119	660	229	2034	633	240	932	290	583	1440	448
V/C Ratio(X)	1.35	0.87	0.35	1.09	0.91	1.05	0.84	0.78	1.01	1.02	0.62	0.69
Avail Cap(c_a), veh/h	287	2119	660	229	2034	633	392	932	290	583	1440	448
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	82.5	47.9	35.9	84.0	51.1	54.0	82.7	70.0	73.5	74.8	56.1	57.5
Incr Delay (d2), s/veh	177.1	5.1	1.5	85.4	7.8	48.6	3.9	3.9	55.2	41.1	0.7	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	25.5	37.5	13.0	15.2	39.6	72.1	8.8	17.4	34.0	32.1	18.9	20.5
LnGrp Delay(d),s/veh	259.6	53.0	37.4	169.4	58.9	102.6	86.6	73.8	128.8	115.9	56.7	61.5
LnGrp LOS	F	D	D	F	E	F	F	E	F	F	E	E
Approach Vol, veh/h		2457			2772			1217			1793	
Approach Delay, s/veh		84.0			79.3			89.2			77.1	
Approach LOS		F			E			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.0	79.0	38.0	40.0	20.0	82.0	20.0	58.0
Change Period (Y+Rc), s	8.0	7.0	7.5	7.0	8.0	7.0	7.5	7.0
Max Green Setting (Gmax), s	15.0	72.0	30.5	33.0	12.0	75.0	20.5	43.0
Max Q Clear Time (g_c+I1), s	17.0	74.0	32.5	35.0	14.0	61.4	12.4	33.4
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	12.8	0.1	6.0

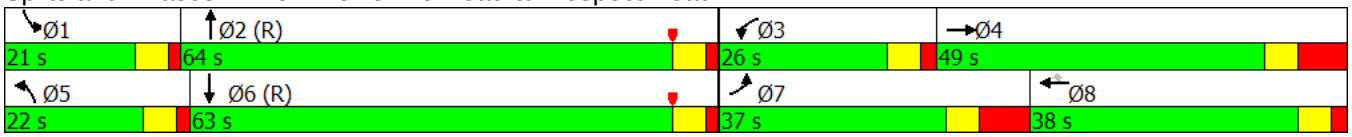
Intersection Summary	
HCM 2010 Ctrl Delay	81.7
HCM 2010 LOS	F

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	296	1026	223	662	334	201	987	319	802
Future Volume (vph)	296	1026	223	662	334	201	987	319	802
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	12.0	5.0	12.0	12.0	5.0	12.0	5.0	12.0
Minimum Split (s)	15.0	45.0	11.0	38.0	38.0	11.0	39.5	11.0	39.5
Total Split (s)	37.0	49.0	26.0	38.0	38.0	22.0	64.0	21.0	63.0
Total Split (%)	23.1%	30.6%	16.3%	23.8%	23.8%	13.8%	40.0%	13.1%	39.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	6.0	6.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	10.0	10.0	6.0	6.0	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	27.0	39.0	20.0	32.0	32.0	13.7	58.5	15.5	60.3
Actuated g/C Ratio	0.17	0.24	0.12	0.20	0.20	0.09	0.37	0.10	0.38
v/c Ratio	1.08	1.13	1.10	0.71	0.81	0.74	1.01	1.05	0.66
Control Delay	135.3	120.4	150.2	64.1	48.0	72.4	87.9	129.0	44.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	135.3	120.4	150.2	64.1	48.0	72.4	87.9	129.0	44.7
LOS	F	F	F	E	D	E	F	F	D
Approach Delay		123.3		75.4			85.6		68.5
Approach LOS		F		E			F		E

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 94 (59%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 90.7 Intersection LOS: F
Intersection Capacity Utilization 102.9% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 102: Powerline Road & Prospect Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	296	1026	249	223	662	334	201	987	198	319	802	12
Future Volume (veh/h)	296	1026	249	223	662	334	201	987	198	319	802	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	322	1115	271	242	720	363	218	1073	215	347	872	13
Adj No. of Lanes	1	3	0	1	3	1	2	2	0	2	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	299	1098	267	222	1017	317	262	2686	536	333	3333	50
Arrive On Green	0.17	0.27	0.27	0.13	0.20	0.20	0.03	0.30	0.30	0.10	0.93	0.93
Sat Flow, veh/h	1774	4085	993	1774	5085	1583	3442	2941	587	3442	3570	53
Grp Volume(v), veh/h	322	925	461	242	720	363	218	644	644	347	432	453
Grp Sat Flow(s),veh/h/ln	1774	1695	1688	1774	1695	1583	1721	1770	1759	1721	1770	1853
Q Serve(g_s), s	27.0	43.0	43.0	20.0	21.1	32.0	10.1	46.2	46.5	15.5	3.4	3.4
Cycle Q Clear(g_c), s	27.0	43.0	43.0	20.0	21.1	32.0	10.1	46.2	46.5	15.5	3.4	3.4
Prop In Lane	1.00		0.59	1.00		1.00	1.00		0.33	1.00		0.03
Lane Grp Cap(c), veh/h	299	911	454	222	1017	317	262	1616	1606	333	1652	1731
V/C Ratio(X)	1.08	1.02	1.02	1.09	0.71	1.15	0.83	0.40	0.40	1.04	0.26	0.26
Avail Cap(c_a), veh/h	299	911	454	222	1017	317	355	1616	1606	333	1652	1731
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.69	0.69	0.69	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.5	58.5	58.5	70.0	59.6	64.0	77.0	21.0	21.1	72.3	0.5	0.5
Incr Delay (d2), s/veh	73.6	33.8	46.3	86.9	2.2	96.3	6.3	0.5	0.5	60.3	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	34.8	43.9	46.6	27.3	15.3	40.4	8.1	29.6	29.6	18.3	3.1	3.3
LnGrp Delay(d),s/veh	140.1	92.3	104.8	156.9	61.8	160.3	83.2	21.5	21.6	132.5	0.8	0.8
LnGrp LOS	F	F	F	F	E	F	F	C	C	F	A	A
Approach Vol, veh/h		1708			1325			1506			1232	
Approach Delay, s/veh		104.7			106.2			30.5			37.9	
Approach LOS		F			F			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	152.6	26.0	53.0	17.7	155.9	37.0	42.0
Change Period (Y+Rc), s	5.5	5.5	6.0	10.0	5.5	5.5	10.0	* 10
Max Green Setting (Gmax), s	15.5	58.5	20.0	39.0	16.5	57.5	27.0	* 32
Max Q Clear Time (g_c+I1), s	17.5	48.5	22.0	45.0	12.1	5.4	29.0	34.0
Green Ext Time (p_c), s	0.0	7.0	0.0	0.0	0.1	16.8	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	71.4
HCM 2010 LOS	E

Notes

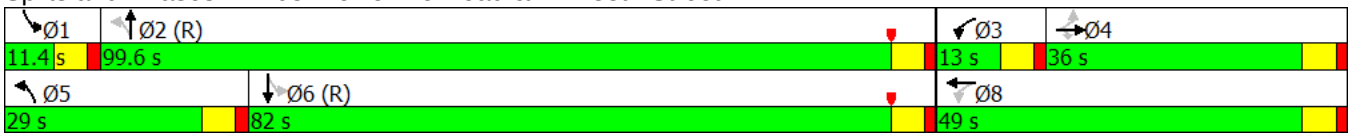
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	60	65	305	101	46	186	1319	29	1253
Future Volume (vph)	60	65	305	101	46	186	1319	29	1253
Turn Type	Perm	NA	Perm	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		3	8	5	2	1	6
Permitted Phases	4		4	8		2		6	
Detector Phase	4	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.5	21.5	21.5	9.5	21.5	9.5	21.5	9.5	21.5
Total Split (s)	36.0	36.0	36.0	13.0	49.0	29.0	99.6	11.4	82.0
Total Split (%)	22.5%	22.5%	22.5%	8.1%	30.6%	18.1%	62.3%	7.1%	51.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lag	Lead		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)		20.7	20.7	37.2	37.2	111.8	102.3	95.4	89.3
Actuated g/C Ratio		0.13	0.13	0.23	0.23	0.70	0.64	0.60	0.56
v/c Ratio		0.71	0.81	0.46	0.22	0.69	0.67	0.17	0.71
Control Delay		85.3	34.3	55.6	34.2	33.3	21.6	8.6	21.4
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		85.3	34.3	55.6	34.2	33.3	21.6	8.6	21.4
LOS		F	C	E	C	C	C	A	C
Approach Delay		49.1			45.7		23.0		21.1
Approach LOS		D			D		C		C

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 26.7 Intersection LOS: C
Intersection Capacity Utilization 73.8% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 103: Powerline Road & NW 38th Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	65	305	101	46	41	186	1319	61	29	1253	29
Future Volume (veh/h)	60	65	305	101	46	41	186	1319	61	29	1253	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	65	71	332	110	50	45	202	1434	66	32	1362	32
Adj No. of Lanes	0	1	1	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	168	302	241	246	221	372	2088	96	192	1991	47
Arrive On Green	0.19	0.19	0.19	0.05	0.27	0.27	0.06	0.61	0.61	0.04	1.00	1.00
Sat Flow, veh/h	683	880	1583	1774	905	814	1774	3446	158	1774	3535	83
Grp Volume(v), veh/h	136	0	332	110	0	95	202	735	765	32	681	713
Grp Sat Flow(s),veh/h/ln	1563	0	1583	1774	0	1719	1774	1770	1835	1774	1770	1848
Q Serve(g_s), s	9.9	0.0	30.5	7.5	0.0	6.8	7.5	44.8	45.1	1.2	0.0	0.0
Cycle Q Clear(g_c), s	12.0	0.0	30.5	7.5	0.0	6.8	7.5	44.8	45.1	1.2	0.0	0.0
Prop In Lane	0.48		1.00	1.00		0.47	1.00		0.09	1.00		0.04
Lane Grp Cap(c), veh/h	331	0	302	241	0	467	372	1072	1112	192	997	1041
V/C Ratio(X)	0.41	0.00	1.10	0.46	0.00	0.20	0.54	0.69	0.69	0.17	0.68	0.68
Avail Cap(c_a), veh/h	331	0	302	241	0	467	523	1072	1112	223	997	1041
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.57	0.57	0.57
Uniform Delay (d), s/veh	57.1	0.0	64.8	49.3	0.0	44.9	11.9	21.2	21.3	18.9	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	81.3	1.3	0.0	0.2	1.2	3.6	3.5	0.2	2.2	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.2	0.0	36.3	1.4	0.0	5.9	6.7	30.7	31.8	1.1	1.1	1.1
LnGrp Delay(d),s/veh	57.9	0.0	146.1	50.7	0.0	45.1	13.1	24.8	24.8	19.1	2.2	2.1
LnGrp LOS	E		F	D		D	B	C	C	B	A	A
Approach Vol, veh/h		468			205			1702			1426	
Approach Delay, s/veh		120.4			48.1			23.4			2.5	
Approach LOS		F			D			C			A	

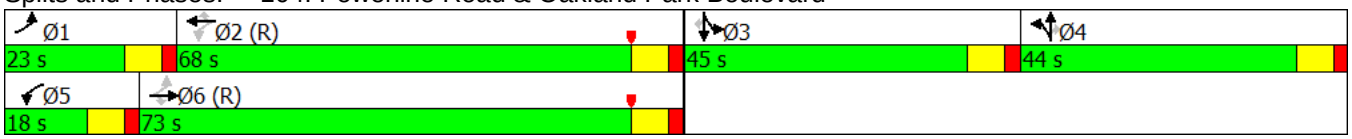
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	8.5	102.5	13.0	36.0	15.4	95.6		49.0
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5		5.5
Max Green Setting (Gmax), s	5.9	94.1	7.5	30.5	23.5	76.5		43.5
Max Q Clear Time (g_c+I1), s	3.2	47.1	9.5	32.5	9.5	2.0		8.8
Green Ext Time (p_c), s	0.0	32.9	0.0	0.0	0.4	43.9		2.7

Intersection Summary	
HCM 2010 Ctrl Delay	28.9
HCM 2010 LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	2445	300	130	1810	100	455	1065	175	200	1165	290
Future Volume (vph)	220	2445	300	130	1810	100	455	1065	175	200	1165	290
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases	6		6	2		2			4			3
Detector Phase	1	6	6	5	2	2	4	4	4	3	3	3
Switch Phase												
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0	10.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	23.0	39.0	39.0	18.0	39.0	39.0	36.0	36.0	36.0	36.0	36.0	36.0
Total Split (s)	23.0	73.0	73.0	18.0	68.0	68.0	44.0	44.0	44.0	45.0	45.0	45.0
Total Split (%)	12.8%	40.6%	40.6%	10.0%	37.8%	37.8%	24.4%	24.4%	24.4%	25.0%	25.0%	25.0%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Act Effct Green (s)	82.0	66.0	66.0	72.0	61.0	61.0	37.0	37.0	37.0	38.0	38.0	38.0
Actuated g/C Ratio	0.46	0.37	0.37	0.40	0.34	0.34	0.21	0.21	0.21	0.21	0.21	0.21
v/c Ratio	1.20	1.43	0.50	0.95	1.14	0.18	1.29	1.27	0.46	0.61	1.27	0.73
Control Delay	172.8	235.5	31.5	105.0	123.4	7.0	203.8	185.3	30.0	73.4	184.0	50.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	172.8	235.5	31.5	105.0	123.4	7.0	203.8	185.3	30.0	73.4	184.0	50.1
LOS	F	F	C	F	F	A	F	F	C	E	F	D
Approach Delay		210.2			116.5			173.3			148.5	
Approach LOS		F			F			F			F	

Intersection Summary	
Cycle Length: 180	
Actuated Cycle Length: 180	
Offset: 34 (19%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.43	
Intersection Signal Delay: 167.6	Intersection LOS: F
Intersection Capacity Utilization 122.6%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 104: Powerline Road & Oakland Park Boulevard



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	2445	300	130	1810	100	455	1065	175	200	1165	290
Future Volume (vph)	220	2445	300	130	1810	100	455	1065	175	200	1165	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.86	0.86	1.00	0.86	0.86	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1522	4788	1583	1522	4802	1583
Flt Permitted	0.06	1.00	1.00	0.07	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	113	5085	1583	122	5085	1583	1522	4788	1583	1522	4802	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	2658	326	141	1967	109	495	1158	190	217	1266	315
RTOR Reduction (vph)	0	0	69	0	0	72	0	0	87	0	0	99
Lane Group Flow (vph)	239	2658	257	141	1967	37	401	1252	103	195	1288	216
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases	6		6	2		2			4			3
Actuated Green, G (s)	82.0	66.0	66.0	72.0	61.0	61.0	37.0	37.0	37.0	38.0	38.0	38.0
Effective Green, g (s)	82.0	66.0	66.0	72.0	61.0	61.0	37.0	37.0	37.0	38.0	38.0	38.0
Actuated g/C Ratio	0.46	0.37	0.37	0.40	0.34	0.34	0.21	0.21	0.21	0.21	0.21	0.21
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	1.5	3.0	3.0	1.5	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	198	1864	580	149	1723	536	312	984	325	321	1013	334
v/s Ratio Prot	c0.11	c0.52		0.06	0.39		c0.26	0.26		0.13	c0.27	
v/s Ratio Perm	0.44		0.16	0.32		0.02			0.07			0.14
v/c Ratio	1.21	1.43	0.44	0.95	1.14	0.07	1.29	1.27	0.32	0.61	1.27	0.65
Uniform Delay, d1	59.4	57.0	43.1	50.3	59.5	40.3	71.5	71.5	60.8	64.3	71.0	64.9
Progression 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
Incremental Delay, d2	130.9	194.9	2.4	56.7	71.3	0.2	150.5	130.6	0.2	2.2	130.0	3.2
Delay (s)	190.3	251.9	45.5	107.0	130.8	40.5	222.0	202.1	61.0	66.5	201.0	68.1
Level of Service	F	F	D	F	F	D	F	F	E	E	F	E
Approach Delay (s)		226.4			124.8			191.9			163.1	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	182.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	28.0
Intersection Capacity Utilization	122.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	239	2658	326	141	1967	109	401	1252	190	195	1288	315
v/c Ratio	1.20	1.43	0.50	0.95	1.14	0.18	1.29	1.27	0.46	0.61	1.27	0.73
Control Delay	172.8	235.5	31.5	105.0	123.4	7.0	203.8	185.3	30.0	73.4	184.0	50.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	172.8	235.5	31.5	105.0	123.4	7.0	203.8	185.3	30.0	73.4	184.0	50.1
Queue Length 50th (ft)	~290	~1545	199	117	~990	0	~695	~720	82	245	~740	217
Queue Length 95th (ft)	#485	#1612	302	#268	#1076	47	#956	#823	169	356	#843	342
Internal Link Dist (ft)		1034			948			638			920	
Turn Bay Length (ft)	590		200	420		200	380		200	210		200
Base Capacity (vph)	199	1864	649	149	1723	608	312	983	411	321	1013	432
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.20	1.43	0.50	0.95	1.14	0.18	1.29	1.27	0.46	0.61	1.27	0.73

Intersection Summary

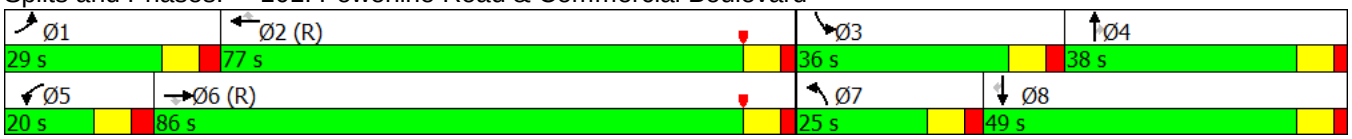
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	290	1935	100	200	1830	300	150	750	285	600	975	300
Future Volume (vph)	290	1935	100	200	1830	300	150	750	285	600	975	300
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases			6			2			4			8
Detector Phase	1	6	6	5	2	2	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	4.0	8.0	8.0	4.0	8.0	8.0	4.0	8.0	8.0	4.0	8.0	8.0
Minimum Split (s)	12.0	41.0	41.0	12.0	41.0	41.0	11.5	38.0	38.0	11.5	39.0	39.0
Total Split (s)	29.0	86.0	86.0	20.0	77.0	77.0	25.0	38.0	38.0	36.0	49.0	49.0
Total Split (%)	16.1%	47.8%	47.8%	11.1%	42.8%	42.8%	13.9%	21.1%	21.1%	20.0%	27.2%	27.2%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	3.0	2.0	2.0	3.0	2.0	2.0	2.5	2.0	2.0	2.5	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	7.0	7.0	8.0	7.0	7.0	7.5	7.0	7.0	7.5	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?		Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Act Effct Green (s)	19.3	79.1	79.1	12.2	72.0	72.0	12.4	30.7	30.7	28.5	46.8	46.8
Actuated g/C Ratio	0.11	0.44	0.44	0.07	0.40	0.40	0.07	0.17	0.17	0.16	0.26	0.26
v/c Ratio	0.86	0.94	0.14	0.94	0.98	0.39	0.69	0.94	0.70	1.20	0.80	0.61
Control Delay	100.8	57.8	0.6	125.4	67.9	4.6	96.7	92.1	30.6	167.7	67.9	33.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	100.8	57.8	0.6	125.4	67.9	4.6	96.7	92.1	30.6	167.7	67.9	33.4
LOS	F	E	A	F	E	A	F	F	C	F	E	C
Approach Delay		60.7			64.7			77.9			94.3	
Approach LOS		E			E			E			F	

Intersection Summary	
Cycle Length: 180	
Actuated Cycle Length: 180	
Offset: 79 (44%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.20	
Intersection Signal Delay: 72.7	Intersection LOS: E
Intersection Capacity Utilization 99.8%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 101: Powerline Road & Commercial Boulevard



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	290	1935	100	200	1830	300	150	750	285	600	975	300
Future Volume (veh/h)	290	1935	100	200	1830	300	150	750	285	600	975	300
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	315	2103	109	217	1989	326	163	815	310	652	1060	326
Adj No. of Lanes	2	3	1	2	3	1	2	3	1	2	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	352	2232	695	229	2051	639	201	876	273	545	1384	431
Arrive On Green	0.10	0.44	0.44	0.07	0.40	0.40	0.06	0.17	0.17	0.16	0.27	0.27
Sat Flow, veh/h	3442	5085	1583	3442	5085	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	315	2103	109	217	1989	326	163	815	310	652	1060	326
Grp Sat Flow(s),veh/h/ln	1721	1695	1583	1721	1695	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	16.3	71.2	7.5	11.3	69.0	27.8	8.4	28.4	31.0	28.5	34.5	34.0
Cycle Q Clear(g_c), s	16.3	71.2	7.5	11.3	69.0	27.8	8.4	28.4	31.0	28.5	34.5	34.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	352	2232	695	229	2051	639	201	876	273	545	1384	431
V/C Ratio(X)	0.90	0.94	0.16	0.95	0.97	0.51	0.81	0.93	1.14	1.20	0.77	0.76
Avail Cap(c_a), veh/h	402	2232	695	229	2051	639	335	876	273	545	1384	431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	79.8	48.3	30.4	83.7	52.6	40.4	83.8	73.4	74.5	75.8	60.2	60.0
Incr Delay (d2), s/veh	18.8	9.6	0.5	44.0	13.9	2.9	3.0	16.0	96.6	105.3	2.4	7.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.5	45.0	6.1	11.1	44.6	18.5	7.4	20.9	37.6	38.7	23.2	22.2
LnGrp Delay(d),s/veh	98.7	57.9	30.9	127.6	66.5	43.3	86.7	89.4	171.1	181.1	62.7	67.0
LnGrp LOS	F	E	C	F	E	D	F	F	F	F	E	E
Approach Vol, veh/h		2527			2532			1288			2038	
Approach Delay, s/veh		61.8			68.8			108.7			101.2	
Approach LOS		E			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.4	79.6	36.0	38.0	20.0	86.0	18.0	56.0
Change Period (Y+Rc), s	8.0	7.0	7.5	7.0	8.0	7.0	7.5	7.0
Max Green Setting (Gmax), s	21.0	70.0	28.5	31.0	12.0	79.0	17.5	42.0
Max Q Clear Time (g_c+I1), s	18.3	71.0	30.5	33.0	13.3	73.2	10.4	36.5
Green Ext Time (p_c), s	0.1	0.0	0.0	0.0	0.0	5.6	0.1	4.3

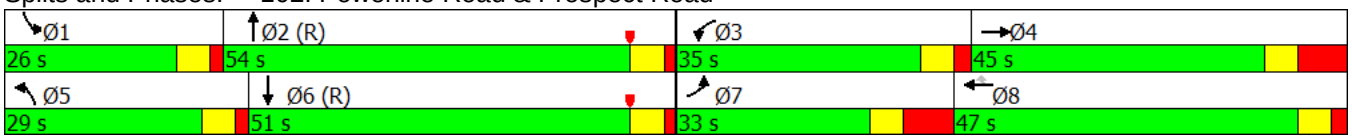
Intersection Summary	
HCM 2010 Ctrl Delay	80.7
HCM 2010 LOS	F

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	192	678	271	1094	261	442	640	344	818
Future Volume (vph)	192	678	271	1094	261	442	640	344	818
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	12.0	5.0	12.0	12.0	5.0	12.0	5.0	12.0
Minimum Split (s)	15.0	45.0	11.0	38.0	38.0	11.0	39.5	11.0	39.5
Total Split (s)	33.0	45.0	35.0	47.0	47.0	29.0	54.0	26.0	51.0
Total Split (%)	20.6%	28.1%	21.9%	29.4%	29.4%	18.1%	33.8%	16.3%	31.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	6.0	6.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	10.0	10.0	6.0	6.0	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	21.1	34.5	28.2	41.6	41.6	23.5	50.8	19.5	46.8
Actuated g/C Ratio	0.13	0.22	0.18	0.26	0.26	0.15	0.32	0.12	0.29
v/c Ratio	0.90	0.85	0.95	0.90	0.57	0.95	0.77	0.89	0.87
Control Delay	105.2	66.2	103.2	67.1	33.2	77.3	56.7	93.1	63.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	105.2	66.2	103.2	67.1	33.2	77.3	56.7	93.1	63.9
LOS	F	E	F	E	C	E	E	F	E
Approach Delay		73.4		67.7			64.1		72.5
Approach LOS		E		E			E		E

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 52 (33%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 69.1 Intersection LOS: E
Intersection Capacity Utilization 89.9% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 102: Powerline Road & Prospect Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	192	678	170	271	1094	261	442	640	139	344	818	8
Future Volume (veh/h)	192	678	170	271	1094	261	442	640	139	344	818	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	209	737	185	295	1189	284	480	696	151	374	889	9
Adj No. of Lanes	1	3	0	1	3	1	2	2	0	2	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	229	922	229	314	1269	395	505	889	193	414	1008	10
Arrive On Green	0.13	0.23	0.23	0.18	0.25	0.25	0.05	0.10	0.10	0.12	0.28	0.28
Sat Flow, veh/h	1774	4065	1009	1774	5085	1583	3442	2894	628	3442	3590	36
Grp Volume(v), veh/h	209	613	309	295	1189	284	480	425	422	374	438	460
Grp Sat Flow(s),veh/h/ln	1774	1695	1685	1774	1695	1583	1721	1770	1752	1721	1770	1856
Q Serve(g_s), s	18.6	27.3	27.8	26.3	36.6	26.2	22.3	37.5	37.6	17.2	37.9	37.9
Cycle Q Clear(g_c), s	18.6	27.3	27.8	26.3	36.6	26.2	22.3	37.5	37.6	17.2	37.9	37.9
Prop In Lane	1.00		0.60	1.00		1.00	1.00		0.36	1.00		0.02
Lane Grp Cap(c), veh/h	229	769	382	314	1269	395	505	544	538	414	497	521
V/C Ratio(X)	0.91	0.80	0.81	0.94	0.94	0.72	0.95	0.78	0.78	0.90	0.88	0.88
Avail Cap(c_a), veh/h	255	769	382	322	1303	406	505	544	538	441	503	528
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.74	0.74	0.74	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.8	58.4	58.6	65.0	58.8	54.9	75.5	66.7	66.7	69.5	55.0	55.0
Incr Delay (d2), s/veh	30.8	5.7	11.8	33.9	12.5	5.5	22.7	8.2	8.3	20.0	19.8	19.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	16.5	19.4	20.4	22.3	25.7	17.8	17.2	26.0	25.8	14.3	28.8	29.9
LnGrp Delay(d),s/veh	99.5	64.1	70.4	98.9	71.3	60.4	98.2	74.8	75.0	89.5	74.8	74.1
LnGrp LOS	F	E	E	F	E	E	F	E	E	F	E	E
Approach Vol, veh/h		1131			1768			1327			1272	
Approach Delay, s/veh		72.4			74.1			83.3			78.9	
Approach LOS		E			E			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.7	54.7	34.3	46.3	29.0	50.4	30.7	49.9
Change Period (Y+Rc), s	5.5	5.5	6.0	10.0	5.5	5.5	10.0	* 10
Max Green Setting (Gmax), s	20.5	48.5	29.0	35.0	23.5	45.5	23.0	* 41
Max Q Clear Time (g_c+I1), s	19.2	39.6	28.3	29.8	24.3	39.9	20.6	38.6
Green Ext Time (p_c), s	0.1	5.3	0.0	4.5	0.0	3.7	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	77.1
HCM 2010 LOS	E

Notes

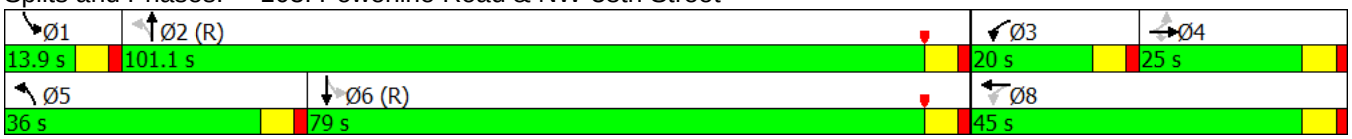
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	52	39	196	160	88	257	1191	65	1168
Future Volume (vph)	52	39	196	160	88	257	1191	65	1168
Turn Type	Perm	NA	Perm	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		3	8	5	2	1	6
Permitted Phases	4		4	8		2		6	
Detector Phase	4	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.5	21.5	21.5	9.5	21.5	9.5	21.5	9.5	21.5
Total Split (s)	25.0	25.0	25.0	20.0	45.0	36.0	101.1	13.9	79.0
Total Split (%)	15.6%	15.6%	15.6%	12.5%	28.1%	22.5%	63.2%	8.7%	49.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lag	Lead		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)		15.8	15.8	36.8	36.8	112.2	99.2	90.8	83.4
Actuated g/C Ratio		0.10	0.10	0.23	0.23	0.70	0.62	0.57	0.52
v/c Ratio		0.72	0.61	0.63	0.32	0.78	0.62	0.31	0.71
Control Delay		97.4	15.5	62.8	47.8	43.6	21.1	13.8	23.8
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		97.4	15.5	62.8	47.8	43.6	21.1	13.8	23.8
LOS		F	B	E	D	D	C	B	C
Approach Delay		41.5			56.2		24.9		23.3
Approach LOS		D			E		C		C

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 28.4 Intersection LOS: C
Intersection Capacity Utilization 79.9% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 103: Powerline Road & NW 38th Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	39	196	160	88	37	257	1191	58	65	1168	38
Future Volume (veh/h)	52	39	196	160	88	37	257	1191	58	65	1168	38
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	57	42	213	174	96	40	279	1295	63	71	1270	41
Adj No. of Lanes	0	1	1	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	87	193	273	309	129	304	2136	104	252	1986	64
Arrive On Green	0.12	0.12	0.12	0.09	0.25	0.25	0.08	0.62	0.62	0.02	0.38	0.38
Sat Flow, veh/h	772	710	1583	1774	1250	521	1774	3436	167	1774	3500	113
Grp Volume(v), veh/h	99	0	213	174	0	136	279	666	692	71	642	669
Grp Sat Flow(s),veh/h/ln	1482	0	1583	1774	0	1771	1774	1770	1833	1774	1770	1843
Q Serve(g_s), s	8.4	0.0	19.5	13.5	0.0	10.0	10.5	36.5	36.7	2.7	47.5	47.6
Cycle Q Clear(g_c), s	9.8	0.0	19.5	13.5	0.0	10.0	10.5	36.5	36.7	2.7	47.5	47.6
Prop In Lane	0.58		1.00	1.00		0.29	1.00		0.09	1.00		0.06
Lane Grp Cap(c), veh/h	216	0	193	273	0	437	304	1100	1140	252	1004	1046
V/C Ratio(X)	0.46	0.00	1.10	0.64	0.00	0.31	0.92	0.61	0.61	0.28	0.64	0.64
Avail Cap(c_a), veh/h	216	0	193	273	0	437	496	1100	1140	295	1004	1046
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.34	0.34	0.34
Uniform Delay (d), s/veh	65.8	0.0	70.3	53.8	0.0	49.2	29.9	18.4	18.4	16.8	36.2	36.2
Incr Delay (d2), s/veh	1.5	0.0	95.3	4.8	0.0	0.4	14.7	2.5	2.4	0.2	1.1	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.6	0.0	24.6	11.3	0.0	8.6	19.4	25.6	26.4	2.4	28.2	29.3
LnGrp Delay(d),s/veh	67.4	0.0	165.6	58.6	0.0	49.6	44.6	20.8	20.8	17.0	37.3	37.2
LnGrp LOS	E		F	E		D	D	C	C	B	D	D
Approach Vol, veh/h		312			310			1637			1382	
Approach Delay, s/veh		134.4			54.6			24.9			36.2	
Approach LOS		F			D			C			D	

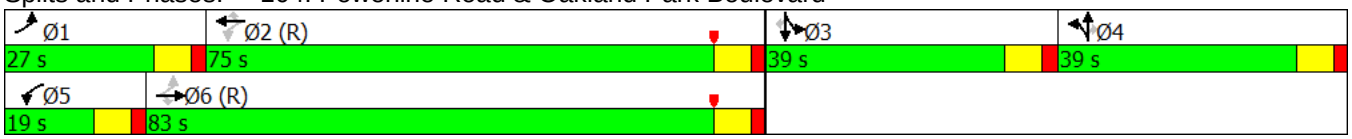
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	10.0	105.0	20.0	25.0	18.7	96.3		45.0
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5		5.5
Max Green Setting (Gmax), s	8.4	95.6	14.5	19.5	30.5	73.5		39.5
Max Q Clear Time (g_c+I1), s	4.7	38.7	15.5	21.5	12.5	49.6		12.0
Green Ext Time (p_c), s	0.0	32.8	0.0	0.0	0.7	18.3		2.2

Intersection Summary	
HCM 2010 Ctrl Delay	41.1
HCM 2010 LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	2450	380	140	2130	130	585	1245	110	210	1485	240
Future Volume (vph)	190	2450	380	140	2130	130	585	1245	110	210	1485	240
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases	6		6	2		2			4			3
Detector Phase	1	6	6	5	2	2	4	4	4	3	3	3
Switch Phase												
Minimum Initial (s)	4.0	10.0	10.0	4.0	10.0	10.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	23.0	39.0	39.0	18.0	39.0	39.0	36.0	36.0	36.0	36.0	36.0	36.0
Total Split (s)	27.0	83.0	83.0	19.0	75.0	75.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	15.0%	46.1%	46.1%	10.6%	41.7%	41.7%	21.7%	21.7%	21.7%	21.7%	21.7%	21.7%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Act Effct Green (s)	94.0	76.0	76.0	81.3	69.3	69.3	32.0	32.0	32.0	32.0	32.0	32.0
Actuated g/C Ratio	0.52	0.42	0.42	0.45	0.38	0.38	0.18	0.18	0.18	0.18	0.18	0.18
v/c Ratio	0.92	1.24	0.56	0.96	1.18	0.20	1.79	1.77	0.30	0.76	1.92	0.64
Control Delay	95.1	155.5	28.9	108.0	134.8	4.4	407.4	390.4	5.1	88.8	453.0	36.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.1	155.5	28.9	108.0	134.8	4.4	407.4	390.4	5.1	88.8	453.0	36.0
LOS	F	F	C	F	F	A	F	F	A	F	F	D
Approach Delay		135.8			126.2			372.4			365.7	
Approach LOS		F			F			F			F	

Intersection Summary	
Cycle Length: 180	
Actuated Cycle Length: 180	
Offset: 34 (19%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.92	
Intersection Signal Delay: 230.5	Intersection LOS: F
Intersection Capacity Utilization 134.1%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 104: Powerline Road & Oakland Park Boulevard



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	2450	380	140	2130	130	585	1245	110	210	1485	240
Future Volume (vph)	190	2450	380	140	2130	130	585	1245	110	210	1485	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.86	0.86	1.00	0.86	0.86	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1522	4782	1583	1522	4803	1583
Flt Permitted	0.05	1.00	1.00	0.06	1.00	1.00	0.95	0.99	1.00	0.95	1.00	1.00
Satd. Flow (perm)	98	5085	1583	108	5085	1583	1522	4782	1583	1522	4803	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	207	2663	413	152	2315	141	636	1353	120	228	1614	261
RTOR Reduction (vph)	0	0	76	0	0	87	0	0	99	0	0	125
Lane Group Flow (vph)	207	2663	337	152	2315	54	483	1506	21	205	1637	136
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases	6		6	2		2			4			3
Actuated Green, G (s)	94.7	76.0	76.0	81.3	69.3	69.3	32.0	32.0	32.0	32.0	32.0	32.0
Effective Green, g (s)	94.7	76.0	76.0	81.3	69.3	69.3	32.0	32.0	32.0	32.0	32.0	32.0
Actuated g/C Ratio	0.53	0.42	0.42	0.45	0.38	0.38	0.18	0.18	0.18	0.18	0.18	0.18
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	1.5	3.0	3.0	1.5	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	225	2147	668	159	1957	609	270	850	281	270	853	281
v/s Ratio Prot	c0.10	c0.52		0.06	0.46		c0.32	0.31		0.13	c0.34	
v/s Ratio Perm	0.39		0.21	0.37		0.03			0.01			0.09
v/c Ratio	0.92	1.24	0.50	0.96	1.18	0.09	1.79	1.77	0.08	0.76	1.92	0.48
Uniform Delay, d1	60.6	52.0	38.2	54.7	55.4	35.2	74.0	74.0	61.7	70.3	74.0	66.6
Progression 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
Incremental Delay, d2	38.2	112.3	2.7	57.4	87.9	0.3	369.5	352.1	0.0	10.4	418.0	0.5
Delay (s)	98.8	164.3	40.9	112.1	143.2	35.5	443.5	426.1	61.7	80.7	492.0	67.1
Level of Service	F	F	D	F	F	D	F	F	E	F	F	E
Approach Delay (s)		144.7			135.6			409.3			399.1	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	250.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.50		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	28.0
Intersection Capacity Utilization	134.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	207	2663	413	152	2315	141	483	1506	120	205	1637	261
v/c Ratio	0.92	1.24	0.56	0.96	1.18	0.20	1.79	1.77	0.30	0.76	1.92	0.64
Control Delay	95.1	155.5	28.9	108.0	134.8	4.4	407.4	390.4	5.1	88.8	453.0	36.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.1	155.5	28.9	108.0	134.8	4.4	407.4	390.4	5.1	88.8	453.0	36.0
Queue Length 50th (ft)	192	~1423	251	131	~1213	0	~988	~1024	0	272	~1146	121
Queue Length 95th (ft)	#348	#1491	368	#292	#1291	40	#1267	#1124	29	#408	#1246	231
Internal Link Dist (ft)		1034			948			638			920	
Turn Bay Length (ft)	590		200	420		200	380		200	210		200
Base Capacity (vph)	237	2147	744	159	1959	703	270	850	406	270	853	406
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	1.24	0.56	0.96	1.18	0.20	1.79	1.77	0.30	0.76	1.92	0.64

Intersection Summary

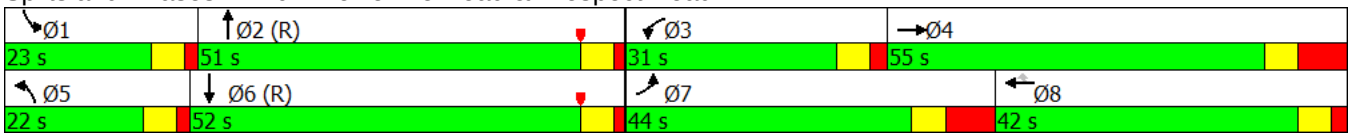
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	296	1026	223	662	334	201	987	319	802
Future Volume (vph)	296	1026	223	662	334	201	987	319	802
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	12.0	5.0	12.0	12.0	5.0	12.0	5.0	12.0
Minimum Split (s)	15.0	45.0	11.0	38.0	38.0	11.0	39.5	11.0	39.5
Total Split (s)	44.0	55.0	31.0	42.0	42.0	22.0	51.0	23.0	52.0
Total Split (%)	27.5%	34.4%	19.4%	26.3%	26.3%	13.8%	31.9%	14.4%	32.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	6.0	6.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	10.0	10.0	6.0	6.0	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	31.4	45.9	23.7	38.2	38.2	13.7	46.2	17.3	49.8
Actuated g/C Ratio	0.20	0.29	0.15	0.24	0.24	0.09	0.29	0.11	0.31
v/c Ratio	0.93	0.96	0.93	0.59	0.72	0.74	0.89	0.94	0.56
Control Delay	95.6	70.5	105.9	56.8	39.8	87.5	70.7	102.8	48.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.6	70.5	105.9	56.8	39.8	87.5	70.7	102.8	48.0
LOS	F	E	F	E	D	F	E	F	D
Approach Delay		75.3		61.1			73.2		63.5
Approach LOS		E		E			E		E

Intersection Summary	
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 94 (59%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 69.0	Intersection LOS: E
Intersection Capacity Utilization 92.8%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 102: Powerline Road & Prospect Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	296	1026	249	223	662	334	201	987	198	319	802	12
Future Volume (veh/h)	296	1026	249	223	662	334	201	987	198	319	802	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	322	1115	271	242	720	363	218	1073	215	347	872	13
Adj No. of Lanes	1	3	0	1	3	1	2	3	0	2	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	341	1205	293	262	1144	356	262	1282	257	376	1728	26
Arrive On Green	0.19	0.29	0.29	0.15	0.22	0.22	0.03	0.10	0.10	0.11	0.33	0.33
Sat Flow, veh/h	1774	4085	993	1774	5085	1583	3442	4252	851	3442	5162	77
Grp Volume(v), veh/h	322	925	461	242	720	363	218	855	433	347	572	313
Grp Sat Flow(s),veh/h/ln	1774	1695	1688	1774	1695	1583	1721	1695	1713	1721	1695	1849
Q Serve(g_s), s	28.7	42.3	42.4	21.5	20.5	36.0	10.1	39.7	39.7	16.0	21.6	21.7
Cycle Q Clear(g_c), s	28.7	42.3	42.4	21.5	20.5	36.0	10.1	39.7	39.7	16.0	21.6	21.7
Prop In Lane	1.00		0.59	1.00		1.00	1.00		0.50	1.00		0.04
Lane Grp Cap(c), veh/h	341	1000	498	262	1144	356	262	1022	516	376	1135	619
V/C Ratio(X)	0.94	0.93	0.93	0.93	0.63	1.02	0.83	0.84	0.84	0.92	0.50	0.51
Avail Cap(c_a), veh/h	377	1000	498	277	1144	356	355	1022	516	376	1135	619
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.88	0.88	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.8	54.7	54.7	67.3	56.0	62.0	77.0	68.2	68.2	70.6	42.6	42.6
Incr Delay (d2), s/veh	29.7	13.8	23.2	33.0	1.0	52.6	7.8	7.2	13.3	27.2	1.6	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	23.6	29.4	30.8	18.9	14.8	37.7	8.6	26.5	27.8	14.0	15.6	17.1
LnGrp Delay(d),s/veh	93.5	68.5	77.9	100.3	57.0	114.6	84.8	75.4	81.5	97.8	44.2	45.5
LnGrp LOS	F	E	E	F	E	F	F	E	F	F	D	D
Approach Vol, veh/h		1708			1325			1506			1232	
Approach Delay, s/veh		75.8			80.7			78.5			59.6	
Approach LOS		E			F			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.0	53.8	29.6	57.2	17.7	59.1	40.8	46.0
Change Period (Y+Rc), s	5.5	5.5	6.0	10.0	5.5	5.5	10.0	* 10
Max Green Setting (Gmax), s	17.5	45.5	25.0	45.0	16.5	46.5	34.0	* 36
Max Q Clear Time (g_c+I1), s	18.0	41.7	23.5	44.4	12.1	23.7	30.7	38.0
Green Ext Time (p_c), s	0.0	3.1	0.0	0.6	0.1	12.5	0.1	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	74.2
HCM 2010 LOS	E

Notes

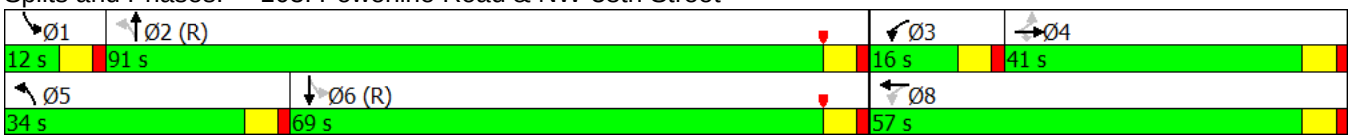
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	60	65	305	101	46	186	1319	29	1253
Future Volume (vph)	60	65	305	101	46	186	1319	29	1253
Turn Type	Perm	NA	Perm	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		3	8	5	2	1	6
Permitted Phases	4		4	8		2		6	
Detector Phase	4	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.5	21.5	21.5	9.5	21.5	9.5	21.5	9.5	21.5
Total Split (s)	41.0	41.0	41.0	16.0	57.0	34.0	91.0	12.0	69.0
Total Split (%)	25.6%	25.6%	25.6%	10.0%	35.6%	21.3%	56.9%	7.5%	43.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lag	Lead		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)		20.3	20.3	38.8	38.8	110.2	100.4	95.6	89.1
Actuated g/C Ratio		0.13	0.13	0.24	0.24	0.69	0.63	0.60	0.56
v/c Ratio		0.72	0.70	0.43	0.22	0.65	0.47	0.15	0.49
Control Delay		87.0	15.8	52.0	31.5	22.5	18.0	9.5	17.4
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		87.0	15.8	52.0	31.5	22.5	18.0	9.5	17.4
LOS		F	B	D	C	C	B	A	B
Approach Delay		36.5			42.5		18.6		17.3
Approach LOS		D			D		B		B

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 21.6 Intersection LOS: C
Intersection Capacity Utilization 63.1% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 103: Powerline Road & NW 38th Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	65	305	101	46	41	186	1319	61	29	1253	29
Future Volume (veh/h)	60	65	305	101	46	41	186	1319	61	29	1253	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	65	71	332	110	50	45	202	1434	66	32	1362	32
Adj No. of Lanes	0	1	1	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	192	349	294	284	255	364	2812	129	214	2637	62
Arrive On Green	0.22	0.22	0.22	0.06	0.31	0.31	0.07	0.56	0.56	0.04	1.00	1.00
Sat Flow, veh/h	691	870	1583	1774	905	814	1774	4983	229	1774	5112	120
Grp Volume(v), veh/h	136	0	332	110	0	95	202	976	524	32	903	491
Grp Sat Flow(s),veh/h/ln	1560	0	1583	1774	0	1719	1774	1695	1822	1774	1695	1842
Q Serve(g_s), s	9.4	0.0	33.1	7.5	0.0	6.4	8.3	28.2	28.2	1.4	0.0	0.0
Cycle Q Clear(g_c), s	11.6	0.0	33.1	7.5	0.0	6.4	8.3	28.2	28.2	1.4	0.0	0.0
Prop In Lane	0.48		1.00	1.00		0.47	1.00		0.13	1.00		0.07
Lane Grp Cap(c), veh/h	377	0	349	294	0	539	364	1913	1028	214	1749	950
V/C Ratio(X)	0.36	0.00	0.95	0.37	0.00	0.18	0.56	0.51	0.51	0.15	0.52	0.52
Avail Cap(c_a), veh/h	379	0	351	306	0	553	560	1913	1028	252	1749	950
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.73	0.73	0.73
Uniform Delay (d), s/veh	53.0	0.0	61.6	43.4	0.0	39.9	14.8	21.3	21.3	18.7	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	35.5	0.8	0.0	0.2	1.3	1.0	1.8	0.2	0.8	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.9	0.0	24.8	6.7	0.0	5.6	7.5	19.4	20.9	1.2	0.3	0.7
LnGrp Delay(d),s/veh	53.6	0.0	97.1	44.2	0.0	40.1	16.1	22.3	23.1	18.9	0.8	1.5
LnGrp LOS	D		F	D		D	B	C	C	B	A	A
Approach Vol, veh/h		468			205			1702			1426	
Approach Delay, s/veh		84.4			42.3			21.8			1.4	
Approach LOS		F			D			C			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	8.5	95.8	14.9	40.7	16.3	88.0		55.7
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5		5.5
Max Green Setting (Gmax), s	6.5	85.5	10.5	35.5	28.5	63.5		51.5
Max Q Clear Time (g_c+I1), s	3.4	30.2	9.5	35.1	10.3	2.0		8.4
Green Ext Time (p_c), s	0.0	35.9	0.0	0.1	0.5	38.2		2.7

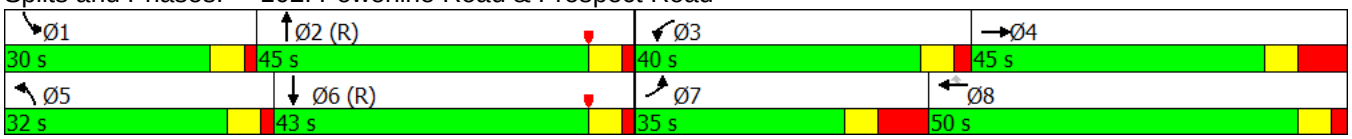
Intersection Summary	
HCM 2010 Ctrl Delay	23.0
HCM 2010 LOS	C

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	192	678	271	1094	261	442	640	344	818
Future Volume (vph)	192	678	271	1094	261	442	640	344	818
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	12.0	5.0	12.0	12.0	5.0	12.0	5.0	12.0
Minimum Split (s)	15.0	45.0	11.0	38.0	38.0	11.0	39.5	11.0	39.5
Total Split (s)	35.0	45.0	40.0	50.0	50.0	32.0	45.0	30.0	43.0
Total Split (%)	21.9%	28.1%	25.0%	31.3%	31.3%	20.0%	28.1%	18.8%	26.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	6.0	6.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	10.0	10.0	6.0	6.0	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	21.8	36.2	29.7	44.1	44.1	24.9	46.2	20.8	42.2
Actuated g/C Ratio	0.14	0.23	0.19	0.28	0.28	0.16	0.29	0.13	0.26
v/c Ratio	0.87	0.81	0.90	0.85	0.54	0.90	0.58	0.84	0.67
Control Delay	98.7	62.7	92.4	61.5	31.2	70.5	55.9	84.5	56.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	98.7	62.7	92.4	61.5	31.2	70.5	55.9	84.5	56.8
LOS	F	E	F	E	C	E	E	F	E
Approach Delay		69.3		61.8			61.2		65.0
Approach LOS		E		E			E		E

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 52 (33%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 63.9 Intersection LOS: E
Intersection Capacity Utilization 83.0% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 102: Powerline Road & Prospect Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	192	678	170	271	1094	261	442	640	139	344	818	8
Future Volume (veh/h)	192	678	170	271	1094	261	442	640	139	344	818	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	209	737	185	295	1189	284	480	696	151	374	889	9
Adj No. of Lanes	1	3	0	1	3	1	2	3	0	2	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	229	958	238	315	1316	410	525	1246	267	417	1379	14
Arrive On Green	0.13	0.24	0.24	0.18	0.26	0.26	0.05	0.10	0.10	0.12	0.27	0.27
Sat Flow, veh/h	1774	4065	1009	1774	5085	1583	3442	4195	899	3442	5191	53
Grp Volume(v), veh/h	209	613	309	295	1189	284	480	561	286	374	580	318
Grp Sat Flow(s),veh/h/ln	1774	1695	1685	1774	1695	1583	1721	1695	1704	1721	1695	1853
Q Serve(g_s), s	18.6	27.0	27.4	26.2	36.2	25.9	22.2	25.3	25.7	17.1	24.3	24.3
Cycle Q Clear(g_c), s	18.6	27.0	27.4	26.2	36.2	25.9	22.2	25.3	25.7	17.1	24.3	24.3
Prop In Lane	1.00		0.60	1.00		1.00	1.00		0.53	1.00		0.03
Lane Grp Cap(c), veh/h	229	799	397	315	1316	410	525	1007	506	417	900	492
V/C Ratio(X)	0.91	0.77	0.78	0.94	0.90	0.69	0.91	0.56	0.57	0.90	0.64	0.65
Avail Cap(c_a), veh/h	277	799	397	377	1398	435	570	1007	506	527	900	492
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.90	0.90	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.8	57.1	57.2	64.9	57.4	53.6	74.9	62.1	62.3	69.3	52.1	52.1
Incr Delay (d2), s/veh	26.5	4.4	9.1	26.4	8.1	4.0	16.3	2.0	4.1	13.5	3.5	6.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	16.2	19.1	19.9	21.6	24.9	17.4	17.1	17.6	18.2	13.8	17.4	19.3
LnGrp Delay(d),s/veh	95.3	61.4	66.4	91.3	65.4	57.6	91.3	64.1	66.4	82.8	55.6	58.5
LnGrp LOS	F	E	E	F	E	E	F	E	E	F	E	E
Approach Vol, veh/h		1131			1768			1327			1272	
Approach Delay, s/veh		69.0			68.5			74.4			64.3	
Approach LOS		E			E			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.9	53.0	34.4	47.7	29.9	48.0	30.7	51.4
Change Period (Y+Rc), s	5.5	5.5	6.0	10.0	5.5	5.5	10.0	* 10
Max Green Setting (Gmax), s	24.5	39.5	34.0	35.0	26.5	37.5	25.0	* 44
Max Q Clear Time (g_c+I1), s	19.1	27.7	28.2	29.4	24.2	26.3	20.6	38.2
Green Ext Time (p_c), s	0.3	6.7	0.2	4.7	0.2	6.4	0.1	3.2

Intersection Summary	
HCM 2010 Ctrl Delay	69.1
HCM 2010 LOS	E

Notes

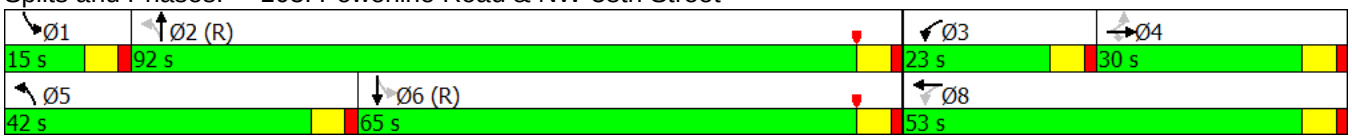
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	52	39	196	160	88	257	1191	65	1168
Future Volume (vph)	52	39	196	160	88	257	1191	65	1168
Turn Type	Perm	NA	Perm	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		3	8	5	2	1	6
Permitted Phases	4		4	8		2		6	
Detector Phase	4	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.5	21.5	21.5	9.5	21.5	9.5	21.5	9.5	21.5
Total Split (s)	30.0	30.0	30.0	23.0	53.0	42.0	92.0	15.0	65.0
Total Split (%)	18.8%	18.8%	18.8%	14.4%	33.1%	26.3%	57.5%	9.4%	40.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag	Lag	Lead		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)		16.7	16.7	39.4	39.4	109.5	96.4	89.7	81.9
Actuated g/C Ratio		0.10	0.10	0.25	0.25	0.68	0.60	0.56	0.51
v/c Ratio		0.69	0.60	0.58	0.30	0.73	0.45	0.28	0.51
Control Delay		91.5	14.6	56.7	44.2	30.6	18.9	13.9	18.7
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		91.5	14.6	56.7	44.2	30.6	18.9	13.9	18.7
LOS		F	B	E	D	C	B	B	B
Approach Delay		39.0			51.3		20.9		18.5
Approach LOS		D			D		C		B

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 24.1 Intersection LOS: C
Intersection Capacity Utilization 69.8% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 103: Powerline Road & NW 38th Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	39	196	160	88	37	257	1191	58	65	1168	38
Future Volume (veh/h)	52	39	196	160	88	37	257	1191	58	65	1168	38
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	57	42	213	174	96	40	279	1295	63	71	1270	41
Adj No. of Lanes	0	1	1	1	1	0	1	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	102	233	310	345	144	326	2940	143	276	2711	88
Arrive On Green	0.15	0.15	0.15	0.09	0.28	0.28	0.09	0.59	0.59	0.01	0.18	0.18
Sat Flow, veh/h	783	694	1583	1774	1250	521	1774	4969	242	1774	5061	163
Grp Volume(v), veh/h	99	0	213	174	0	136	279	884	474	71	851	460
Grp Sat Flow(s),veh/h/ln	1477	0	1583	1774	0	1771	1774	1695	1820	1774	1695	1834
Q Serve(g_s), s	8.1	0.0	21.2	13.0	0.0	9.6	10.9	23.0	23.0	2.9	36.0	36.0
Cycle Q Clear(g_c), s	9.5	0.0	21.2	13.0	0.0	9.6	10.9	23.0	23.0	2.9	36.0	36.0
Prop In Lane	0.58		1.00	1.00		0.29	1.00		0.13	1.00		0.09
Lane Grp Cap(c), veh/h	253	0	233	310	0	488	326	2006	1077	276	1816	982
V/C Ratio(X)	0.39	0.00	0.92	0.56	0.00	0.28	0.85	0.44	0.44	0.26	0.47	0.47
Avail Cap(c_a), veh/h	261	0	242	337	0	526	579	2006	1077	329	1816	982
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.61	0.61	0.61
Uniform Delay (d), s/veh	62.1	0.0	67.3	49.9	0.0	45.5	25.2	18.0	18.0	16.8	45.4	45.4
Incr Delay (d2), s/veh	1.0	0.0	35.2	1.8	0.0	0.3	6.4	0.7	1.3	0.3	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.3	0.0	17.2	10.7	0.0	8.3	11.8	16.4	17.7	2.6	22.4	24.2
LnGrp Delay(d),s/veh	63.1	0.0	102.4	51.7	0.0	45.8	31.6	18.7	19.3	17.1	46.0	46.4
LnGrp LOS	E		F	D		D	C	B	B	B	D	D
Approach Vol, veh/h		312			310			1637			1382	
Approach Delay, s/veh		90.0			49.1			21.1			44.6	
Approach LOS		F			D			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	10.2	100.2	20.6	29.0	19.2	91.2		49.6
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5		5.5
Max Green Setting (Gmax), s	9.5	86.5	17.5	24.5	36.5	59.5		47.5
Max Q Clear Time (g_c+I1), s	4.9	25.0	15.0	23.2	12.9	38.0		11.6
Green Ext Time (p_c), s	0.0	33.7	0.1	0.3	0.8	16.7		2.2

Intersection Summary	
HCM 2010 Ctrl Delay	38.3
HCM 2010 LOS	D

APPENDIX H

SYNCHRO Arterial Analyses Output

Arterial Level of Service: NB Powerline Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakland Park Bouleva	II	45	14.8	88.6	103.4	0.14	4.7	F
NW 38th Street	II	45	45.8	16.1	61.9	0.52	30.2	B
Prospect Road	II	45	43.9	42.2	86.1	0.50	20.8	D
Commercial Boulevard	II	45	43.5	81.7	125.2	0.49	14.2	E
Total	II		148.0	228.6	376.6	1.65	15.8	E

Arterial Level of Service: SB Powerline Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Commercial Boulevard	II	45	20.6	64.8	85.4	0.19	8.0	F
Prospect Road	II	45	43.5	40.7	84.2	0.49	21.2	D
NW 38th Street	II	45	43.9	34.6	78.5	0.50	22.9	C
Oakland Park Bouleva	II	45	45.8	138.2	184.0	0.52	10.2	F
Total	II		153.8	278.3	432.1	1.70	14.2	E

Arterial Level of Service: NB Powerline Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakland Park Bouleva	II	45	14.8	194.8	209.6	0.14	2.3	F
NW 38th Street	II	45	45.8	17.4	63.2	0.52	29.6	B
Prospect Road	II	45	43.9	54.6	98.5	0.50	18.2	D
Commercial Boulevard	II	45	43.5	83.3	126.8	0.49	14.0	E
Total	II		148.0	350.1	498.1	1.65	11.9	F

Arterial Level of Service: SB Powerline Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Commercial Boulevard	II	45	20.6	61.4	82.0	0.19	8.3	F
Prospect Road	II	45	43.5	48.9	92.4	0.49	19.3	D
NW 38th Street	II	45	43.9	12.4	56.3	0.50	31.9	B
Oakland Park Bouleva	II	45	45.8	260.7	306.5	0.52	6.1	F
Total	II		153.8	383.4	537.2	1.70	11.4	F

Arterial Level of Service: NB Powerline Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakland Park Bouleva	II	45	14.8	185.3	200.1	0.14	2.4	F
NW 38th Street	II	45	45.8	21.6	67.4	0.52	27.8	C
Prospect Road	II	45	43.9	87.9	131.8	0.50	13.6	E
Commercial Boulevard	II	45	43.5	82.2	125.7	0.49	14.2	E
Total	II		148.0	377.0	525.0	1.65	11.3	F

Arterial Level of Service: SB Powerline Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Commercial Boulevard	II	45	20.6	62.7	83.3	0.19	8.2	F
Prospect Road	II	45	43.5	44.7	88.2	0.49	20.2	D
NW 38th Street	II	45	43.9	21.4	65.3	0.50	27.5	C
Oakland Park Bouleva	II	45	45.8	184.0	229.8	0.52	8.1	F
Total	II		153.8	312.8	466.6	1.70	13.1	E

Arterial Level of Service: NB Powerline Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakland Park Bouleva	II	45	14.8	390.4	405.2	0.14	1.2	F
NW 38th Street	II	45	45.8	21.1	66.9	0.52	28.0	C
Prospect Road	II	45	43.9	56.7	100.6	0.50	17.8	D
Commercial Boulevard	II	45	43.5	92.1	135.6	0.49	13.1	E
Total	II		148.0	560.3	708.3	1.65	8.4	F

Arterial Level of Service: SB Powerline Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Commercial Boulevard	II	45	20.6	67.9	88.5	0.19	7.7	F
Prospect Road	II	45	43.5	63.9	107.4	0.49	16.6	E
NW 38th Street	II	45	43.9	23.8	67.7	0.50	26.5	C
Oakland Park Bouleva	II	45	45.8	453.0	498.8	0.52	3.8	F
Total	II		153.8	608.6	762.4	1.70	8.0	F

Arterial Level of Service: NB Powerline Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakland Park Bouleva	II	45	14.8	88.6	103.4	0.14	4.7	F
NW 38th Street	II	45	45.8	13.1	58.9	0.52	31.8	B
Prospect Road	II	45	43.9	46.6	90.5	0.50	19.8	D
Commercial Boulevard	II	45	43.5	81.7	125.2	0.49	14.2	E
Total	II		148.0	230.0	378.0	1.65	15.7	E

Arterial Level of Service: SB Powerline Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Commercial Boulevard	II	45	20.6	64.8	85.4	0.19	8.0	F
Prospect Road	II	45	43.5	40.6	84.1	0.49	21.2	D
NW 38th Street	II	45	43.9	13.5	57.4	0.50	31.3	B
Oakland Park Bouleva	II	45	45.8	138.2	184.0	0.52	10.2	F
Total	II		153.8	257.1	410.9	1.70	14.9	E

Arterial Level of Service: NB Powerline Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakland Park Bouleva	II	45	14.8	194.8	209.6	0.14	2.3	F
NW 38th Street	II	45	45.8	14.6	60.4	0.52	31.0	B
Prospect Road	II	45	43.9	51.1	95.0	0.50	18.9	D
Commercial Boulevard	II	45	43.5	83.3	126.8	0.49	14.0	E
Total	II		148.0	343.8	491.8	1.65	12.1	F

Arterial Level of Service: SB Powerline Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Commercial Boulevard	II	45	20.6	61.4	82.0	0.19	8.3	F
Prospect Road	II	45	43.5	45.8	89.3	0.49	19.9	D
NW 38th Street	II	45	43.9	9.8	53.7	0.50	33.4	B
Oakland Park Bouleva	II	45	45.8	260.7	306.5	0.52	6.1	F
Total	II		153.8	377.7	531.5	1.70	11.5	F

Arterial Level of Service: NB Powerline Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakland Park Bouleva	II	45	14.8	185.3	200.1	0.14	2.4	F
NW 38th Street	II	45	45.8	18.0	63.8	0.52	29.3	B
Prospect Road	II	45	43.9	70.7	114.6	0.50	15.7	E
Commercial Boulevard	II	45	43.5	82.2	125.7	0.49	14.2	E
Total	II		148.0	356.2	504.2	1.65	11.8	F

Arterial Level of Service: SB Powerline Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Commercial Boulevard	II	45	20.6	62.7	83.3	0.19	8.2	F
Prospect Road	II	45	43.5	48.0	91.5	0.49	19.5	D
NW 38th Street	II	45	43.9	17.4	61.3	0.50	29.3	B
Oakland Park Bouleva	II	45	45.8	184.0	229.8	0.52	8.1	F
Total	II		153.8	312.1	465.9	1.70	13.2	E

Arterial Level of Service: NB Powerline Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Oakland Park Bouleva	II	45	14.8	390.4	405.2	0.14	1.2	F
NW 38th Street	II	45	45.8	18.9	64.7	0.52	28.9	B
Prospect Road	II	45	43.9	55.9	99.8	0.50	18.0	D
Commercial Boulevard	II	45	43.5	92.1	135.6	0.49	13.1	E
Total	II		148.0	557.3	705.3	1.65	8.4	F

Arterial Level of Service: SB Powerline Road

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Commercial Boulevard	II	45	20.6	67.9	88.5	0.19	7.7	F
Prospect Road	II	45	43.5	56.8	100.3	0.49	17.8	D
NW 38th Street	II	45	43.9	18.7	62.6	0.50	28.7	B
Oakland Park Bouleva	II	45	45.8	453.0	498.8	0.52	3.8	F
Total	II		153.8	596.4	750.2	1.70	8.2	F

APPENDIX I

Capital Improvement Program

CITY OF OAKLAND PARK
CAPITAL IMPROVEMENT PROGRAM
FY2017- FY2021

FINANCIAL INFORMATION

Project Name:	**Powerline Road Lane Reduction**							
Department/Division:	Engineering & Community Development							
	Prior to FY 2017	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**	**Total Programmed**	**To Be Programmed**
Project Budget:								
Streetscapes								
Design/Permitting			$ 113,000				$ 113,000	
Contingency			$ 11,300		$ 112,900		$ 124,200	
Construction					$ 1,129,000		$ 1,129,000	
Inspections					$ 112,900		$ 112,900	
Total Budget	$ -	$ -	$ 124,300	$ -	$ 1,354,800	$ -	$ 1,479,100	$ -
Funding Sources:								
General Fund Unfunded			$ 124,300		$ 677,400		$ 801,700	
Water/Sewer Fund Balance							$ -	
Stormwater Fund Bal							$ -	
Water/Sewer Bonds							$ -	
Stormwater Bonds							$ -	
Grant Revenue					$ 677,400		$ 677,400	
Other -							$ -	
Total Funding	$ -	$ -	$ 124,300	$ -	$ 1,354,800	$ -	$ 1,479,100	$ -
Projected Operating:								
Utilities							$ -	
Maintenance						$ 5,000	$ 5,000	
Other							$ -	
Total Operating Costs	$ -	$ -	$ -	$ -	$ -	$ 5,000	$ 5,000	$ -

CITY OF OAKLAND PARK
CAPITAL IMPROVEMENT PROGRAM
FY2017- FY2021

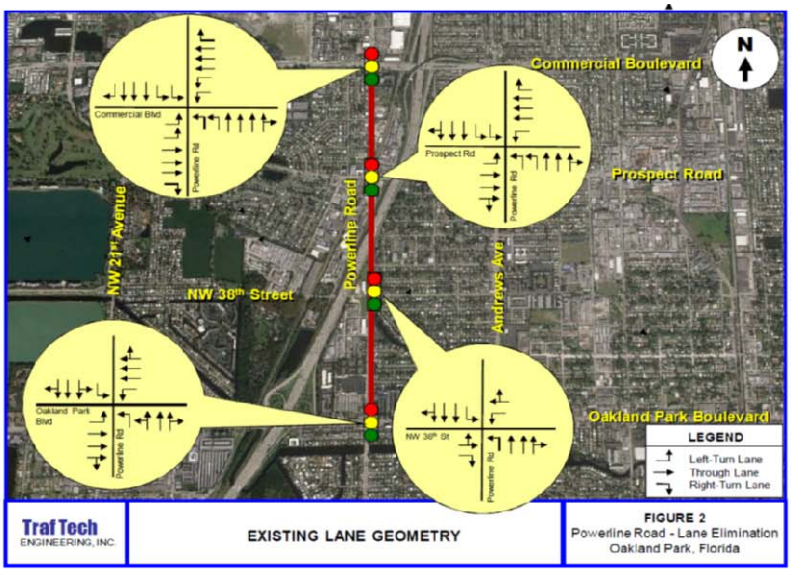
PROJECT INFORMATION

Project Name:	**Powerline Road Lane Reduction**				
Department/Division:	ECD		**Project Manager:**	Dincer Akin Ozaydin	
Project Start Date:	Oct-17		**Projected Completion Date:**		12/31/20
Design Completion	TBD	**Bid Award**	TBD	**Construction Start**	TBD

Project Location/Description: This project involves coordination with the Broward Metropolitan Planning Organization and the Florida Department of Transportation to restripe Powerline Road from Oakland Park Blvd to Commercial Blvd and add buffered bike lanes to continue the improvements that were made south of Oakland Park Blvd in Wilton Manors and Fort Lauderdale. The project will eliminate one of the travel lanes, narrow the other lanes and and allow for a 2' wide striped buffer to separate a 7' wide bike lane. Project does not include landscaping but the City can work with FDOT and the MPO during design to add 4'wide islands within the bike lanes that will allow for the installation of landscaping. City conducted a Lane ELimination Study and will go though the process with FDOT to complete the process and will partner with the MPO to submit a TIGER grant application for funding in 2016.

Need, Justification, Benefit: These improvements will improve the functionality, safety, and aesthetic appearance of this section of roadway which is one of the major corridors that run through the City of Oakland Park and will facilitate multi-modal means of transportation.

Location & Area Map

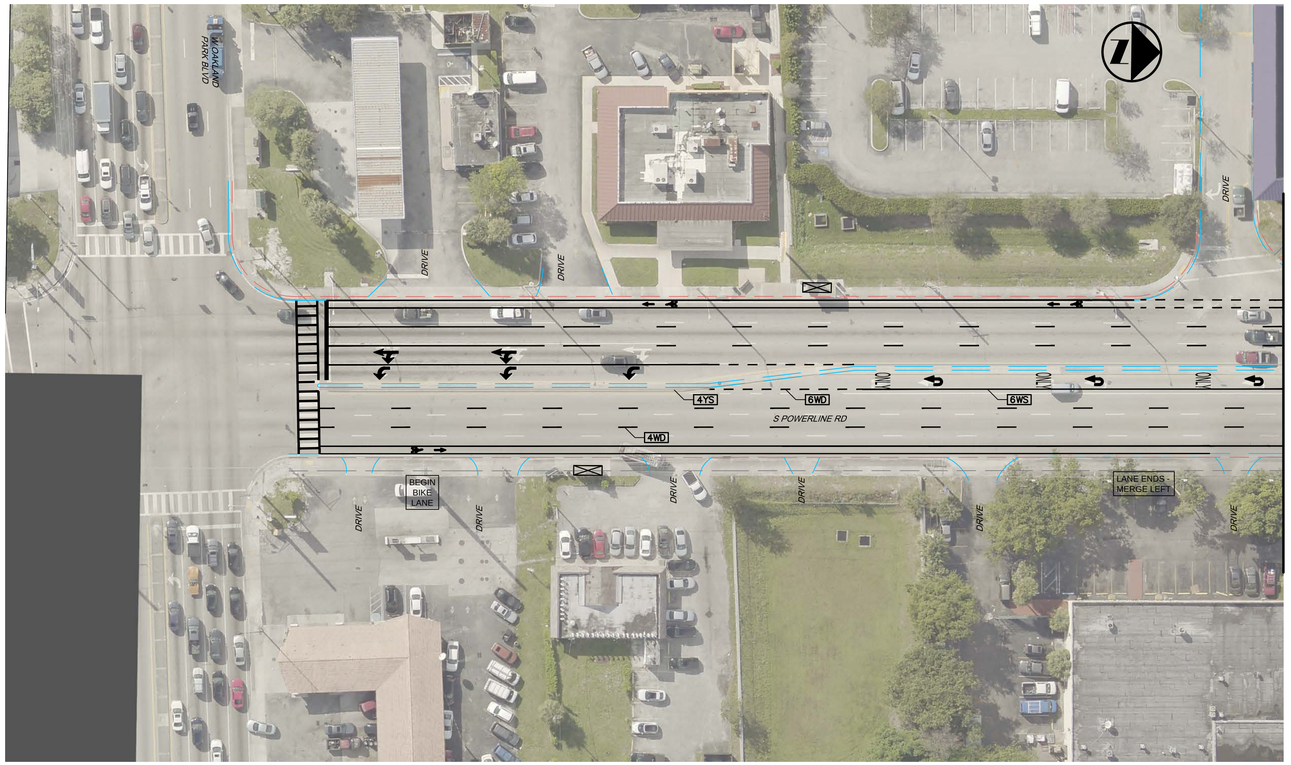


Project Graphic

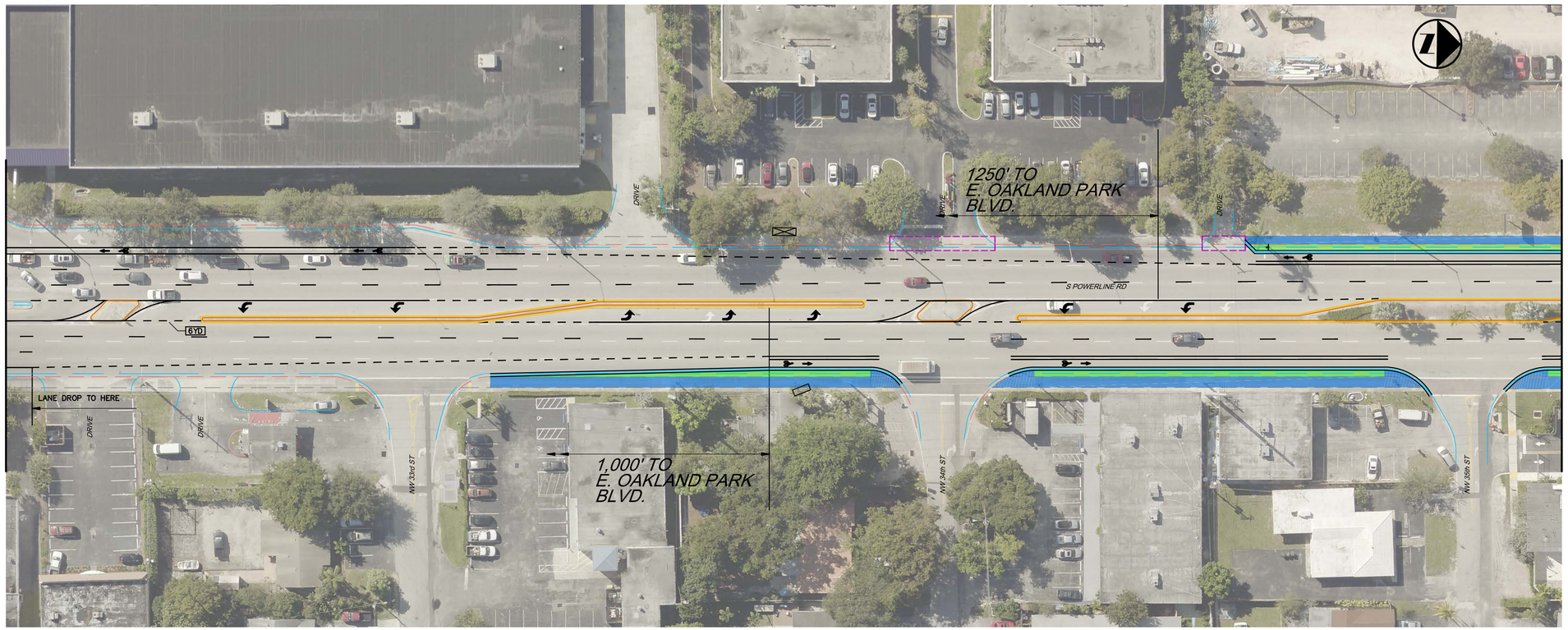
Effect on Operations:

APPENDIX J

Proposed Conceptual Plans



MATCH LINE SEE BELOW



MATCH LINE SEE ABOVE

MATCH LINE SEE SHEET C-2

0' 80 160

1" = 40'

LEGEND

- EXISTING BUS STOP WITH SHELTER
- EXISTING BUS BENCH
- EXISTING BUS STOP (WAITING AREA)
- PROPOSED 4" CONCRETE SIDEWALK
- PROPOSED PLANTING AREA
- PROPOSED 2' CURB & GUTTER
- DRIVEWAY TO REMAIN

DATE:	
SCALE:	1" = 40'
DESIGN BY:	MTV
DRAWN BY:	MTV
CHECKED BY:	GAT
APPROVED BY:	

BY:	DATE:	DESCRIPTION:

CRAVEN • THOMPSON AND ASSOCIATES, INC.
ENGINEERS • PLANNERS • SURVEYORS
3563 N.W. 53RD STREET, FORT LAUDERDALE, FLORIDA 33309
FAX: (954) 739-6409 TEL.: (954) 739-6400
FLORIDA LICENSED ENGINEERING, SURVEYING & MAPPING BUSINESS No. 271
FLORIDA LICENSED LANDSCAPE ARCHITECTURE BUSINESS No. C000114

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POWERLINE ROAD
LANE ELIMINATION
OAKLAND PARK BLVD TO COMMERCIAL BLVD

PREPARED FOR:
OAKLAND PARK

PROPOSED PLAN

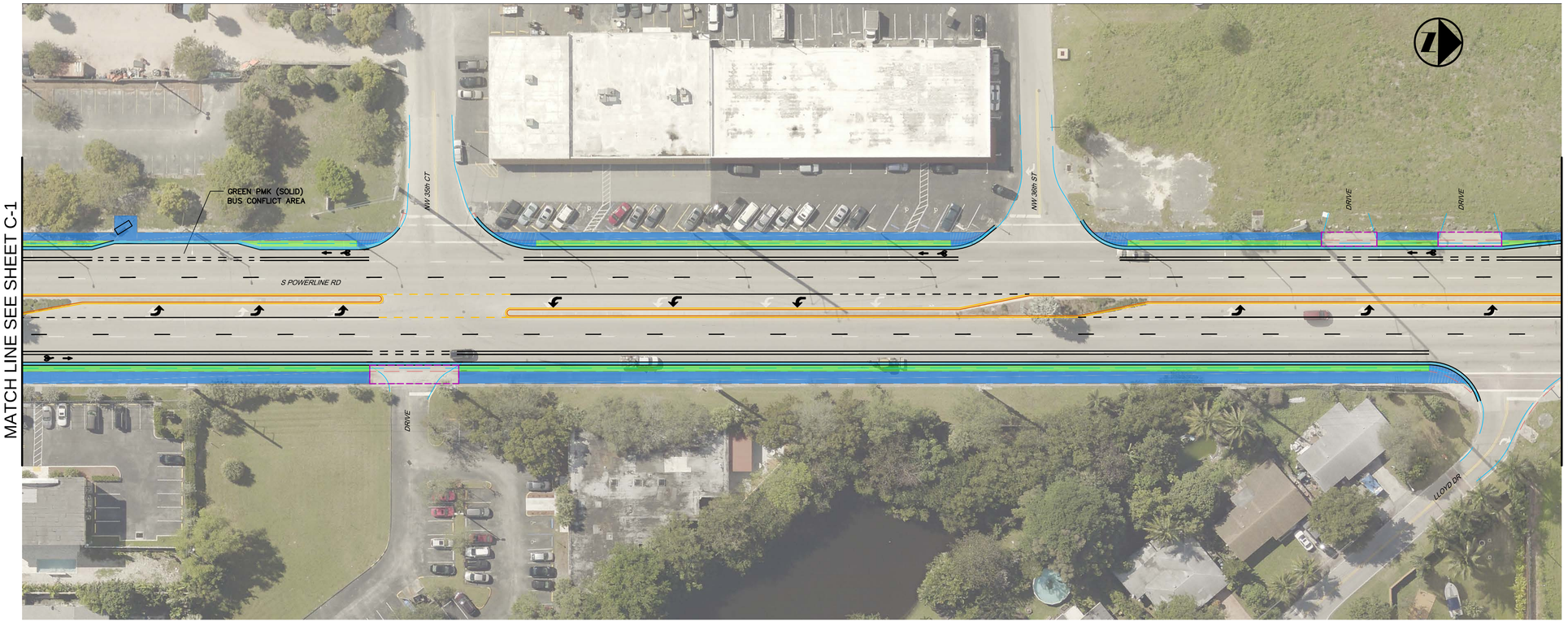
Gary A. Tenn
Florida P.E. No. 42099
September 28, 2017

PROJECT NO.
16-0076-001-01

C-1

SHEET 1 OF 6

R:\Engineering\2016\16-0076-001-01 FDOT Dist. 4 Lane Elimination Concept\Drawings\16-0076-PMS.dwg [C-1] Sep 28, 2017 12:03pm MCOOK



0' 80 160

1" = 40'

LEGEND

- EXISTING BUS STOP WITH SHELTER
- EXISTING BUS BENCH
- EXISTING BUS STOP (WAITING AREA)
- PROPOSED 4" CONCRETE SIDEWALK
- PROPOSED PLANTING AREA
- PROPOSED 2' CURB & GUTTER
- DRIVEWAY TO REMAIN

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DRAWN BY:	MTV
CHECKED BY:	GAT
APPROVED BY:	

BY:	DATE:	DESCRIPTION:

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POWERLINE ROAD
LANE ELIMINATION
OAKLAND PARK BLVD TO COMMERCIAL BLVD

PREPARED FOR:
OAKLAND PARK

PROPOSED PLAN

Gary A. Tenn
Florida P.E. No. 42099
September 28, 2017

PROJECT NO.
16-0076-001-01

C-2

SHEET 2 OF 6

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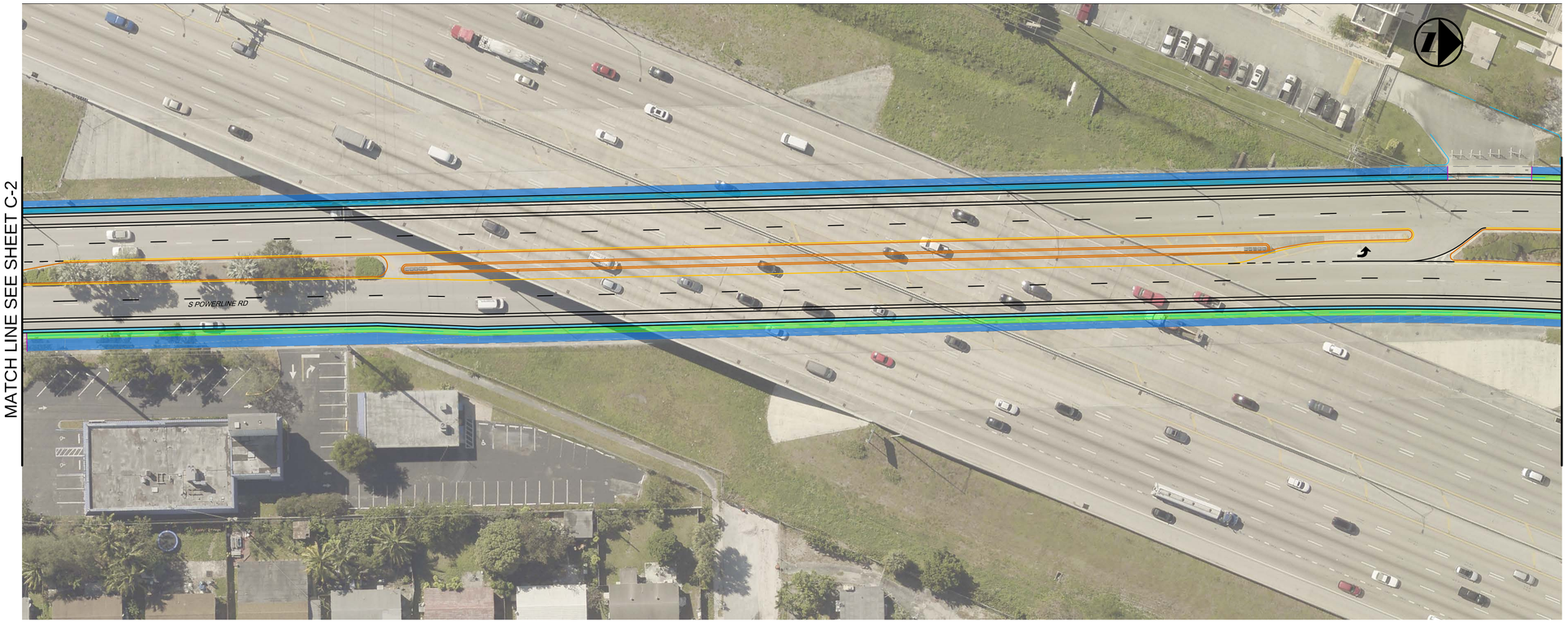

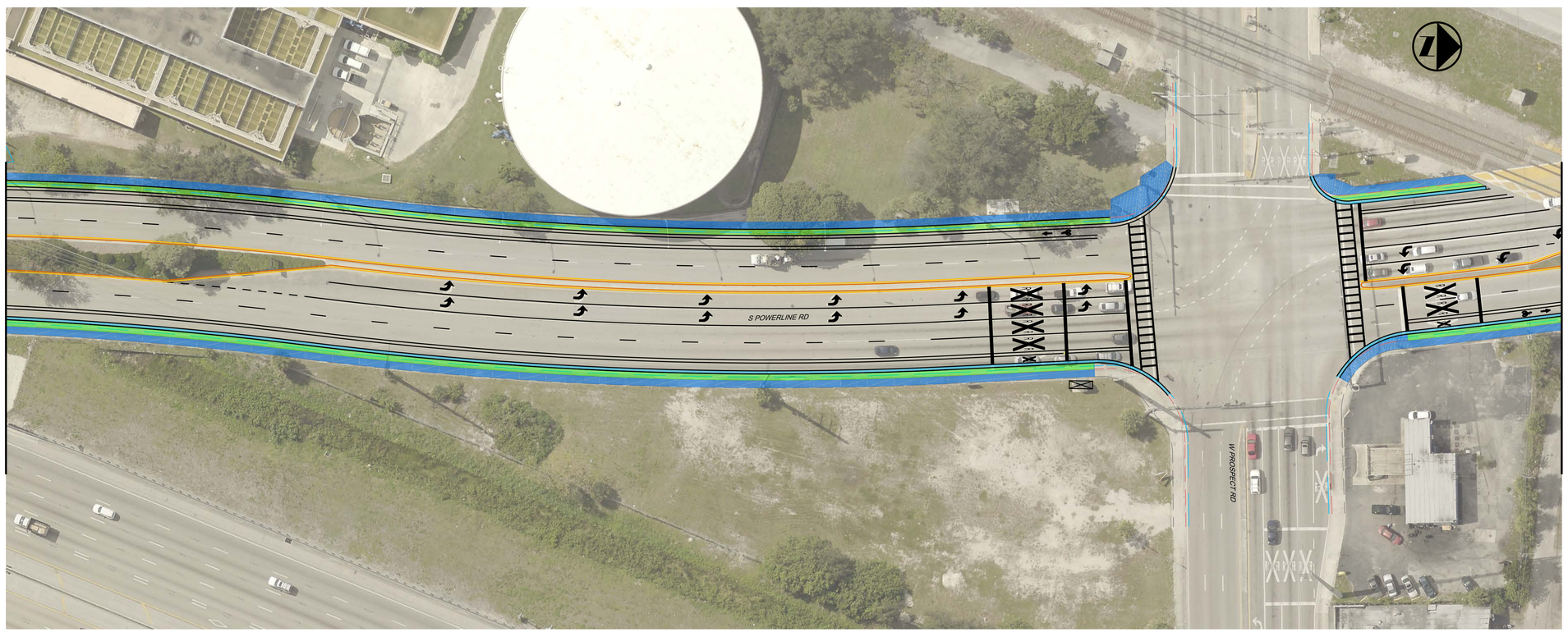

0' 80 160

1" = 40'

LEGEND

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- EXISTING BUS BENCH
- EXISTING BUS STOP (WAITING AREA)
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- DRIVEWAY TO REMAIN

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SCALE:	1" = 40'
DESIGN BY:	MTV
DRAWN BY:	MTV
CHECKED BY:	GAT
APPROVED BY:	

BY:	DATE:	DESCRIPTION:

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POWERLINE ROAD
LANE ELIMINATION
OAKLAND PARK BLVD TO COMMERCIAL BLVD

PREPARED FOR:
OAKLAND PARK

PROPOSED PLAN

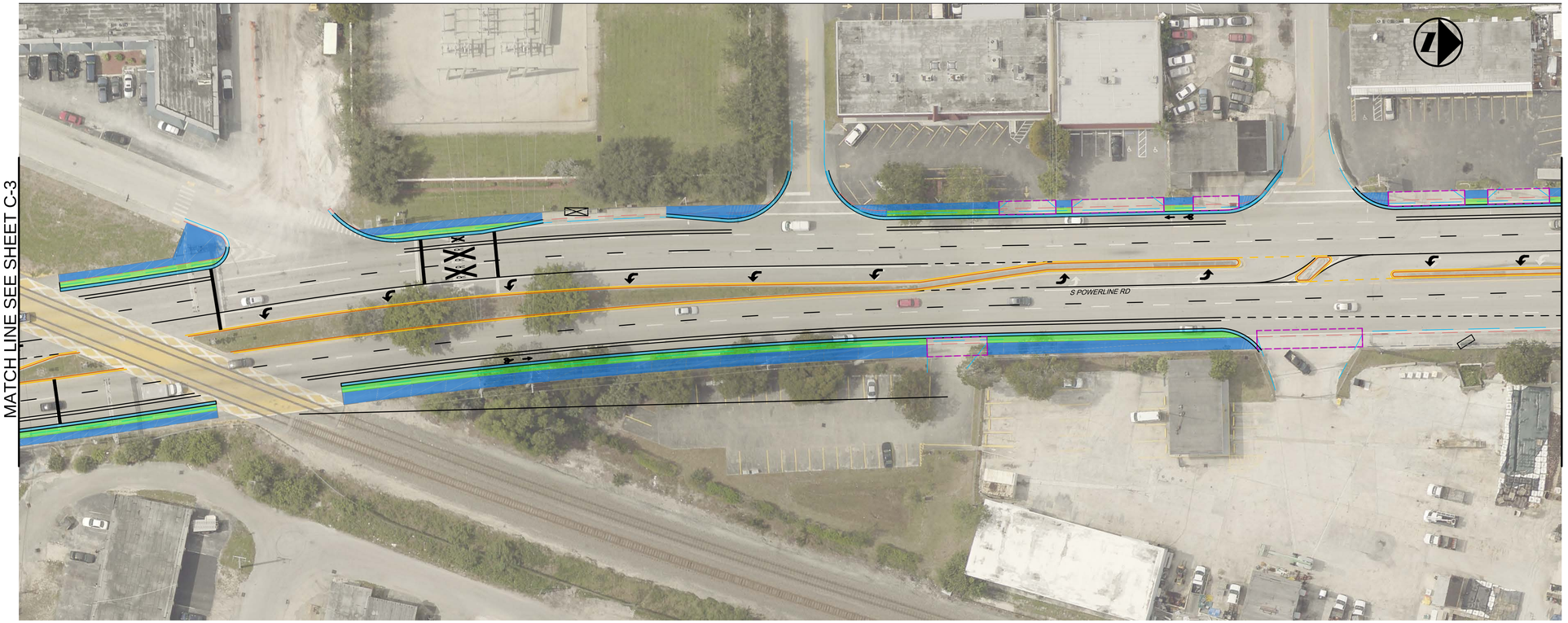
Gary A. Tenn
Florida P.E. No. 42099
September 28, 2017

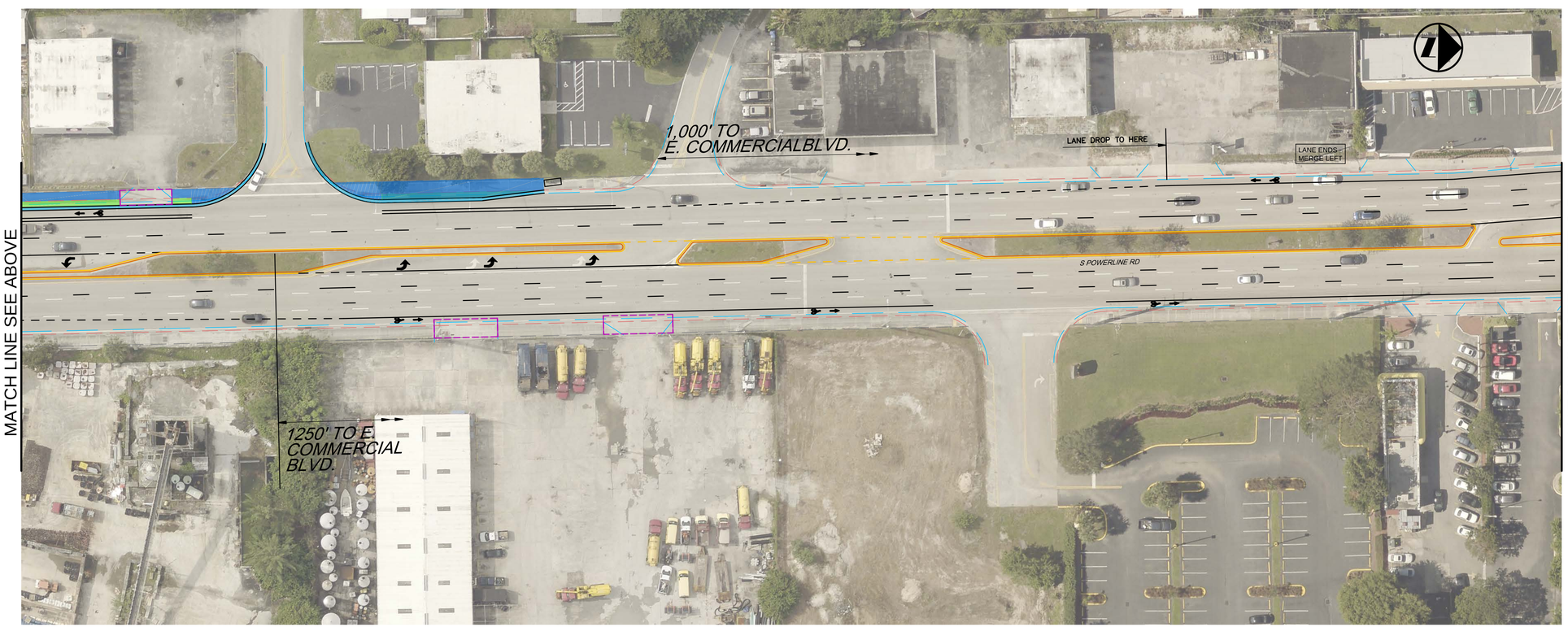
PROJECT NO.
16-0076-001-01

C-3

SHEET 3 OF 6

R:\Engineering\2016\16-0076-001-01 FDOT Dist. 4 Lane Elimination Concept\Drawings\16-0076-PMS.dwg [C-3] Sep 28, 2017 12:03pm MCOOK





0' 80 160

1" = 40'

LEGEND

- EXISTING BUS STOP WITH SHELTER
- EXISTING BUS BENCH
- EXISTING BUS STOP (WAITING AREA)
- PROPOSED 4" CONCRETE SIDEWALK
- PROPOSED PLANTING AREA
- PROPOSED 2' CURB & GUTTER
- DRIVEWAY TO REMAIN

DATE:	
SCALE:	1" = 40'
DESIGN BY:	MTV
DRAWN BY:	MTV
CHECKED BY:	GAT
APPROVED BY:	

DATE:	BY:	DESCRIPTION:

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POWERLINE ROAD
LANE ELIMINATION
OAKLAND PARK BLVD TO COMMERCIAL BLVD

PREPARED FOR:
OAKLAND PARK

PROPOSED PLAN

Gary A. Tenn
Florida P.E. No. 42099
September 28, 2017

PROJECT NO.
16-0076-001-01

C-4

SHEET 4 OF 6

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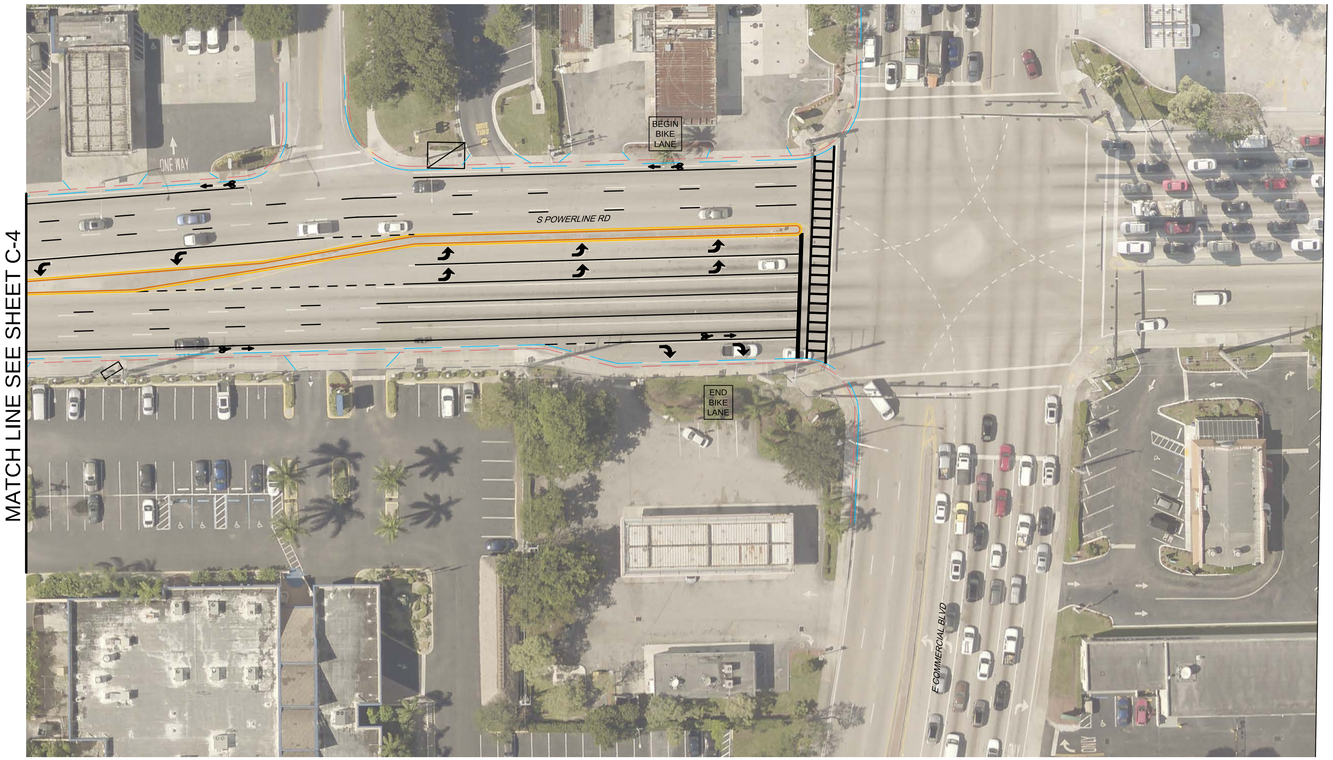

0' 80 80'

1" = 40'

LEGEND

- EXISTING BUS STOP WITH SHELTER
- EXISTING BUS BENCH
- EXISTING BUS STOP (WAITING AREA)
- PROPOSED 4" CONCRETE SIDEWALK
- PROPOSED PLANTING AREA
- PROPOSED 2' CURB & GUTTER
- DRIVEWAY TO REMAIN

DATE:	
SCALE:	1" = 40'
DESIGN BY:	MTV
DRAWN BY:	MTV
CHECKED BY:	GAT
APPROVED BY:	

BY:	DATE:	DESCRIPTION:

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POWERLINE ROAD
LANE ELIMINATION
OAKLAND PARK BLVD TO COMMERCIAL BLVD

PREPARED FOR:
OAKLAND PARK

PROPOSED PLAN

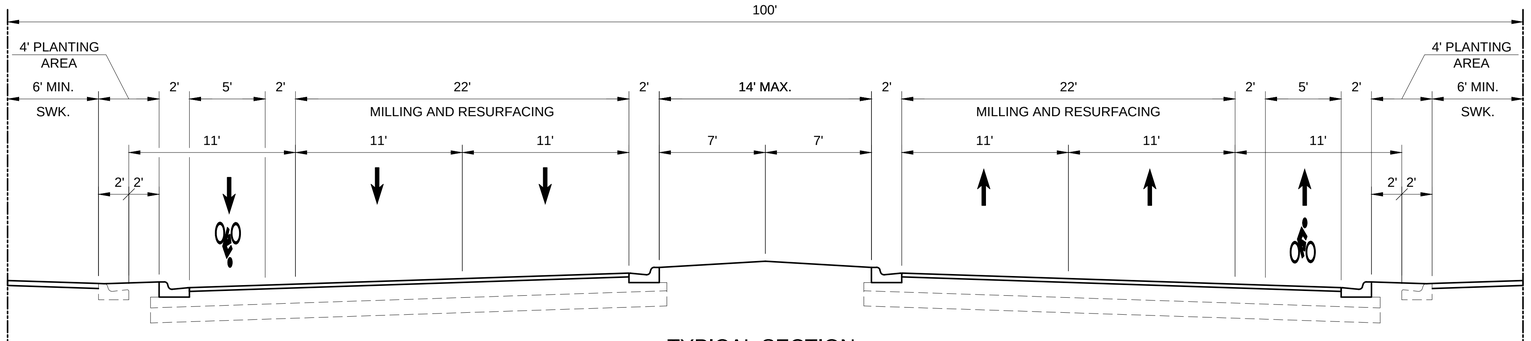
Gary A. Tenn
Florida P.E. No. 42099
September 28, 2017

PROJECT NO.
16-0076-001-01

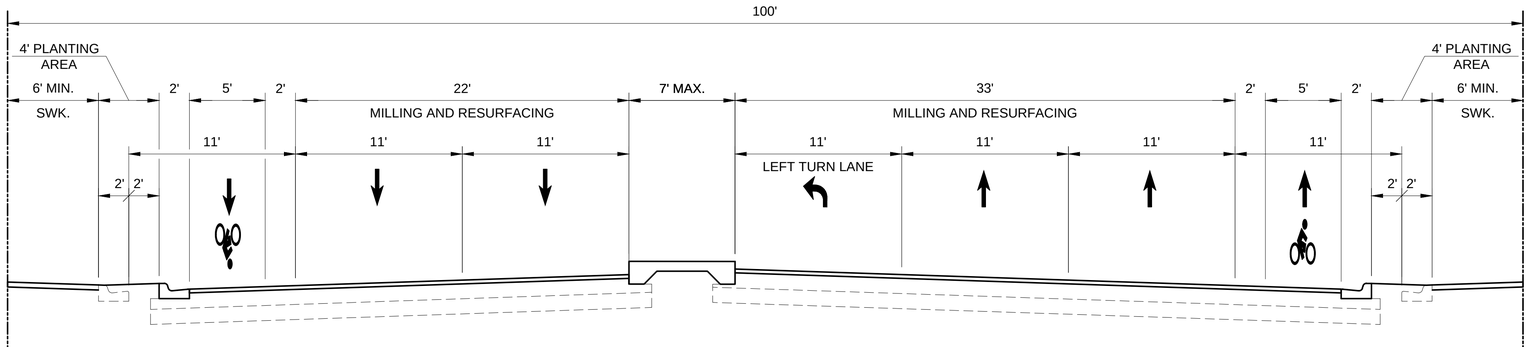
C-5

SHEET 5 OF 6

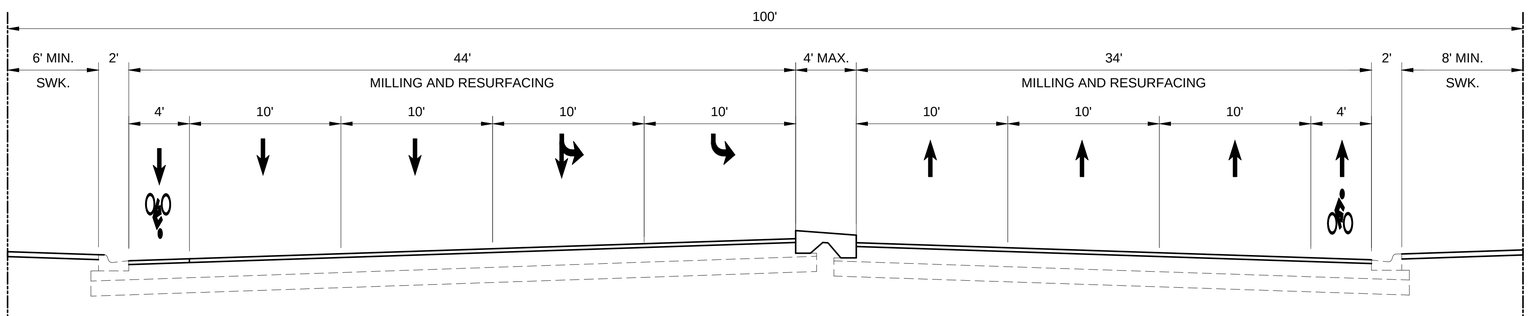
R:\Engineering\2016\16-0076-001-01 FDOT Dist. 4 Lane Elimination Concept\Drawings\16-0076-PMS.dwg [C-5] Sep 28, 2017 12:04pm MCOOK



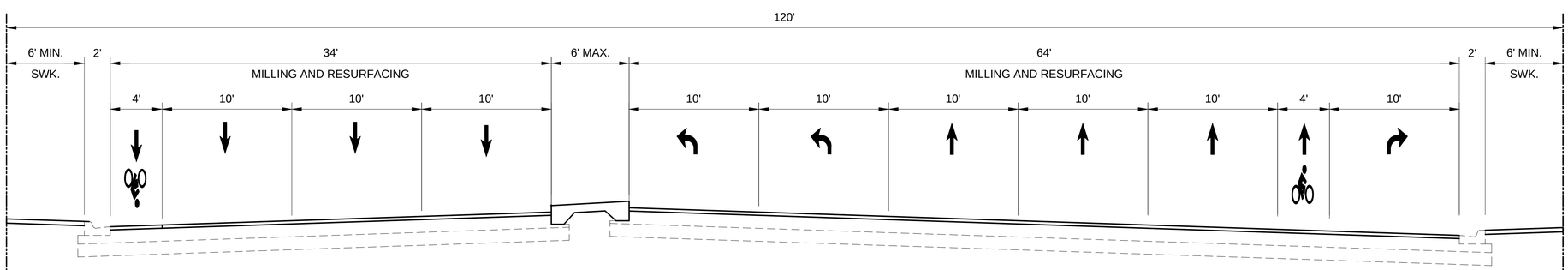
TYPICAL SECTION
S. POWERLINE ROAD



TYPICAL TURN LANE SECTION
S. POWERLINE ROAD



TYPICAL TURN LANE SECTION
POWERLINE ROAD NORTH OF OAKLAND PARK BLVD.



TYPICAL TURN LANE SECTION
POWERLINE ROAD SOUTH OF COMMERCIAL BLVD.

DATE:	
SCALE:	1" = 40'
DESIGN BY:	MTV
DRAWN BY:	MTV
CHECKED BY:	GAT
APPROVED BY:	

DESCRIPTION:	BY:	DATE:

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POWERLINE ROAD
LANE ELIMINATION
OAKLAND PARK BLVD TO COMMERCIAL BLVD

PREPARED FOR:
OAKLAND PARK

SECTION

Gary A. Tenn
Florida P.E. No. 42099
October 24, 2017

PROJECT NO.
16-0076-001-01

C-6

SHEET 6 OF 6

R:\Engineering\2016\16-0076-001-01 FDOT Dist. 4 Lane Elimination Concept\Drawings\16-0076-PMS.dwg [C-6] Oct 24, 2017 11:49am MNOVACK