KENDALL DRIVE

OLD CUTLER ROAD

DORAL BOULEVARD

APPLICATION OF CONGESTION MANAGEMENT PROCESS (CMP) STRATEGIES IN MIAMI-DADE COUNTY

Prepared for: Miami-Dade Metropolitan Planning Organization

Prepared by: HNTB Corporation in association with
Engineering Group of Miami, Inc.
Florida Transportation Engineering, Inc.

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The preparation of this report has been financed in part from the U.S. Department of Transportation (USDOT) through the Federal Highway Administration (FHWA) and/or the Federal Transit Administration (FTA), the State Planning and Research Program (Section 505 of Title 23, U.S. Code) and Miami-Dade County, Florida. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation.

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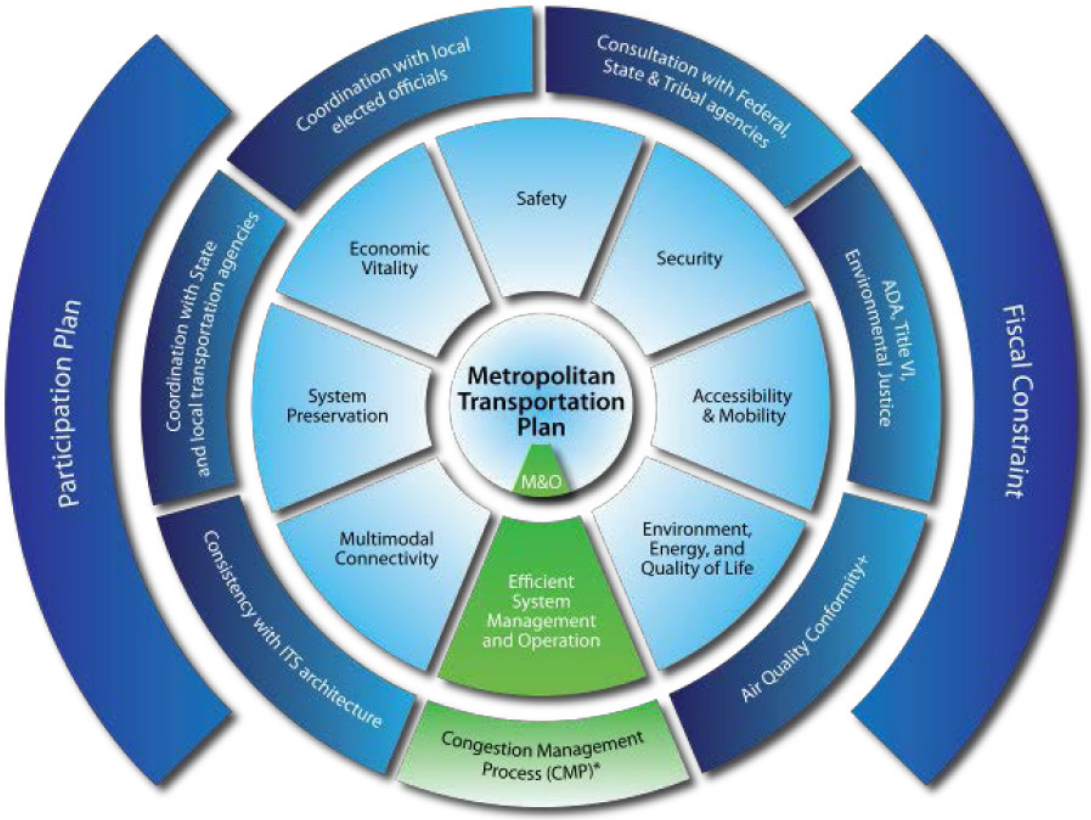
INTRODUCTION

As roadway congestion continues to increase disproportionately to funding resources, new methods of managing congestion are being sought. The Congestion Management Process (CMP) provides for the effective management of new and existing transportation facilities through implementation of relatively low-cost operational and travel demand management strategies. It is not necessarily a substitute of large capital improvement projects in the long-run, but it does ensure that lower cost strategies complement and enhance previous and future capital investments. The result is more efficient and effective transportation systems, increased mobility, and resource optimization. The CMP is a requirement in metropolitan transportation planning from the 2005 federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) transportation legislation as well as from its supporting metropolitan planning regulations. According to the Florida Department of Transportation (FDOT), Moving Ahead for Progress in the 21st Century Act (MAP-21) "makes essentially no change in the requirements for a congestion management process, and there appear to be no references to a congestion management process in the requirements for a "performance-based approach" for metropolitan planning."



* Required for TMAs
\+ Required for nonattainment and maintenance areas

The CMP involves identification of congestion and its causes, development of mitigation strategies, and evaluation of the effectiveness of the implemented strategies. The planning process is a mix of vast number of needs and priorities. The CMP is one of the ways of addressing those priorities - essentially, an important cog in the new transportation planning process. Figure 1 shows how all these pieces fit together in the planning process.

The Miami-Dade County Urbanized Area Metropolitan Planning Organization (MPO) has an established CMP to monitor the state of the transportation networks in Miami-Dade County (County). The County's CMP, which was last updated in 2009, identified a number of congested corridors and spots in the County (Table 1). The identified corridors and spots were subsequently added to the County's 2035 Long-Range Transportation Plan (LRTP) and to the subsequent annual updates of the Transportation Improvement Programs (TIP). The 2009 CMP update also included a strategy "toolbox" that included a variety of congestion management strategies. The purpose of these strategies was to provide a set of tools to decision makers.

1.1. GOAL OF THIS IMPLEMENTATION PLAN

As shown in Figure 2, a number of steps were completed as part of the 2009 CMP. The goal of this implementation plan is to select three corridors out of those identified in the 2009 CMP (Table 1) and apply congestion management strategies. Recommendations and cost estimates were then developed for a typical scenario.

FIGURE 2: SCOPE OF THIS EFFORT

TABLE 1: PLANNED IMPROVEMENTS ALONG CONGESTED CORRIDORS IDENTIFIED BY THE 2009 CMP EFFORT

#	PROJECTS IN CMP	FROM	TO	TYPE
1	**SW 136 St**	**SR 5/US 1**	**SW 67 Ave**	Congestion Management
2	**SW 152 St**	**SR 5/US 1**	**Old Cutler Rd**	Congestion Management
3	**SW 67 Ave/Ludlam Rd**	**SW 152 St**	**Flagler St**	Congestion Management
4	**SR 959/SW 57 Ave/Red Rd**	**Old Cutler Rd**	**SW 56 St**	Congestion Management
5	**SW 200 St/Caribbean Blvd**	**SW 127 Ave**	**Coral Sea Rd**	Congestion Management
6	**Old Cutler Rd**	**SW 216 Street**	**SW 37 Ave**	Congestion Management
7	**NW 58 St**	**NW 107 Ave**	**SR 826/Palmetto Expwy**	Congestion Management
8	**NW 154 St/Miami Lakes Blvd**	**SR 973/NW 87 Ave**	**NW 67 Ave**	Congestion Management
9	**SR 847/NW 47 Ave**	**SR 826/Palmetto Expwy**	**NW 215 St**	Congestion Management
10	**SW 56 St/Miller Dr**	**SW 127 Ave**	**SR 959/SW 57 Ave**	Congestion Management
11	**SR 9/SW/NW 27 Ave**	**SR 90/SW 8 St**	**SR 25/NW 36 St**	Median / access improvements
12	**NW 20 St**	**SR 9/NW 27 Ave**	**I 95**	Roadway Infrastructure Improvements
13	**Red Road/NW 57 Ave**	**SR 826/Palmetto Expwy**	**SR 916/NW 135 St**	Congestion Management
	SR 823/Red Road/NW 57 Ave	SR 826/Palmetto Expwy	To W. 53 Street	Add Lanes & Reconstruct
	SR 823/Red Road/NW 57 Ave	From W 65 Street	To W 84 Street	Interchange - Add Lanes
	SR 823/Red Road/NW 57 Ave	From West 23 Street	To West 46 Street	Add Lanes & Reconstruct
	SR 823/Red Road/NW 57 Ave	From W 53 Street	To W 65 Street	Add Lanes & Reconstruct
	SR 823/Red Road/NW 57 Ave	At NW 138 Street		Intersection Improvement
14	**SR 990/SW 104 St/SW 112 St**	**SR 821/Florida's Tpke**	**SR 5/US 1**	Congestion Management
	SW 109 Court & SW 104 Street			New Construction: left turn lane
	SW 104 Street	SW 147 Ave	SW 137 Ave	Widening: 4 to 6 lanes
	SW 104 Street	Hammocks Blvd	SW 147 Ave	Widening: 4 to 6 lanes
15	**NW 87 Ave**	**SR 836/Dolphin Expwy**	**NW 58 St**	Improve SR 836/NW 12 St/NW 87 Ave Interconnections; improve intersections to accommodate truck movements
	NW 12 St AT SR 973/NW 87 Ave	SR 973/NW 87 Ave		Signal Improvements
16	**SR 997/Krome Ave**	**SR 90/SW 8 St/Tamiami Trail**	**SR 5/US 1**	Improve intersections to accommodate truck movements
	SR 997/Krome Ave			PD&E/EMO Study
17	**North River Dr**	**SR 985/NW 107 Ave**	**NW 74 Ave**	Widen North River Dr to include shoulders and improved access management
18	**SR 25/Okeechobee Rd**	**NW 138 Ave**	**NW 79 Ave**	Signal/access/ITS improvements
	SR 25/Okeechobee Rd.	From NW 79 Ave	To SR 997/Krome Ave	PD&E/EMO Study
19	**41 St**	**Alton Rd**	**Collins Ave**	Corridor Improvements
20	**SR 90/SW 8 St/Tamiami Trail**	**SR 826/Palmetto Expwy**	**I 95**	Congestion Management
	SR 90/SW 8 St/Tamiami Trail	At SW 92 Ave		Intersection Improvement
	SR 90/SW 8 St/Tamiami Trail	From SW 102 Ave	TO SW 99 Place	Intersection Improvement
	SR 90/SW 8 St/Tamiami Trail	At SW 109 Ave		Intersection Improvement
	SR 90/SW 8 St/Tamiami Trail	At SW 107 Ave		Intersection Improvement
21	**SR 872/SW 22 St/Coral Way**	**SR 826/Palmetto Expwy**	**SR-5/US-1**	Congestion Management
22	**SR 5/US 1**	**SW 88 St. (Kendall Dr)**	**I 95**	Congestion Management
23	**SR 916/NW 135 St**	**SR 959/NW 57 Ave/Red Rd**	**SW 37 Ave/Douglas Rd**	Congestion Management
24	**SR 860/Miami Gardens Drive**	**SR 821/Florida's Tpke**	**Biscayne Blvd.**	Congestion Management
25	**Ives Dairy Rd**	**SR 821/Florida's Tpke**	**Biscayne Blvd.**	Congestion Management
26	**NW 36 St/41 St**	**SR 953/NW 42 Ave/Le Jeune Rd**	**HEFT**	Congestion Management

1.2. FOCUS OF THIS EFFORT

It is established that there are two distinct causes of congestion – recurring and nonrecurring congestion. Recurring congestion is often related to transportation capacity and behavioral issues (e.g. workers commuting during morning or evening periods). On the other hand, non-recurring congestion is related to incident and severe weather events that cause unexpected and untimely congestion. The FDOT, District Six, oversees a Transportation Management Center (TMC) that operates a series of traffic and incident management services to reduce the adverse effects of traffic events, or nonrecurring congestion, on the roadways. The FDOT, District Six, supports the Incident Management Program, which solely focuses on incident management. The program promotes a multi-agency approach to incident response to reduce clearance duration times and restore highway capacity back to free flowing conditions. It seeks to reduce traffic congestion and the chances of secondary crashes caused by a prolonged exposure to traffic incidents. The FDOT District Six's efforts for managing nonrecurring congestion can be summarized as follows:

1. Traffic Incident Management Team: It's mission is to develop recommendations that provide safe and efficient multi-agency responses to traffic incidents that affect our regional transportation system
2. Road Rangers: Road Ranger Service Patrols provide incident management and motorist assistance services along the roadways of Miami-Dade County.
3. Rapid Incident Scene Clearance (RISC): The RISC program expedites the removal of large vehicle crashes that affect roadways along Miami-Dade County.
4. Incident Response Vehicle (IRV): The TMC manages and operates the IRV Program to help in the clearance of traffic-related events that affect our roadway systems.

In summary, the TMC has established procedures in place to handle non-recurring congestion. Recurring congestion is often seen as a capacity problem and is logically combated with raising roadway capacity. However, there are instances or locations where roadway capacity expansion is not seen as the best or most feasible choice socially, environmentally, or economically. Therefore, the focus of this effort is on recurring congestion that is experienced by County residents on day-to-day basis. The approach was to recommend lower-costs, more sustainable solutions as alternatives to widening roadways.

Section 2

CORRIDOR SELECTION PROCESS

The 2009 CMP update identified a total of 26 transportation corridors of varying lengths. This list of 26 corridors was compared against the projects included in the 2012 TIP. As seen in Table 2, the 2012 TIP included several projects that were identified as congested corridors. The scope of this effort required screening to identify three corridors, out of a total of 26, for further analysis. The approach to this screening process is depicted in Figure 3.

FIGURE 3: CORRIDOR SCREENING METHODOLOGY

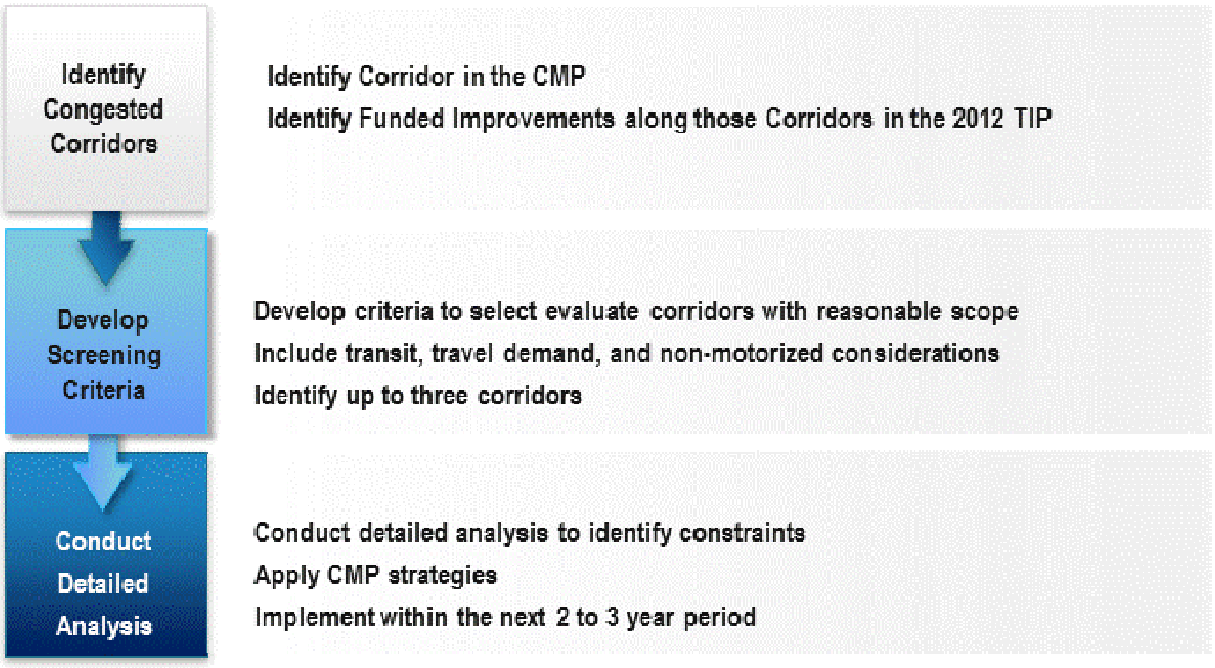


TABLE 2: PLANNED IMPROVEMENTS ALONG CONGESTED CORRIDORS IDENTIFIED BY THE 2009 CMP EFFORT

#	Projects in CMP	From	To	TIP	Type	MPO ID	Agency ID	Project Cost (in $000s)	Prior Year Cost (in $000s)	Earliest Funding Year	Total Future Funding(in $000s)
1	**SW 136 St**	**SR 5/US 1**	**SW 67 Ave**	x	Congestion Management	PW000001	000001	50-500			
2	**SW 152 St**	**SR 5/US 1**	**Old Cutler Rd**	x	Congestion Management	PW000002	000002	50-500			
3	**SW 67 Ave/Ludlam Rd**	**SW 152 St**	**Flagler St**	x	Congestion Management	PW000003	000003				
4	**SR 959/SW 57 Ave/Red Rd**	**Old Cutler Rd**	**SW 56 St**		Congestion Management						
5	**SW 200 St/Caribbean Blvd**	**SW 127 Ave**	**Coral Sea Rd**	x	Congestion Management	PW000005	000005	50-500			
6	**Old Cutler Rd**	**SW 216 Street**	**SW 37 Ave**	x	Congestion Management	PW000006	000006	50-500			
7	**NW 58 St**	**NW 107 Ave**	**SR 826/Palmetto Expwy**	x	Congestion Management	PW000007	000007				
8	**NW 154 St/Miami Lakes Blvd**	**SR 973/NW 87 Ave**	**NW 67 Ave**	x	Congestion Management	PW000008	000008	50-500			
9	**SR 847/NW 47 Ave**	**SR 826/Palmetto Expwy**	**NW 215 St**		Congestion Management						
10	**SW 56 St/Miller Dr**	**SW 127 Ave**	**SR 959/SW 57 Ave**	x	Congestion Management	PW000010	000010	50-500			
11	**SR 9/SW/NW 27 Ave**	**SR 90/SW 8 St**	**SR 25/NW 36 St**		Median / access improvements						
12	**NW 20 St**	**SR 9/NW 27 Ave**	**I 95**	x	Roadway Infrastructure Improvements	PW0000361	000036	50-500			
13	**Red Road/NW 57 Ave**	**SR 826/Palmetto Expwy**	**SR 916/NW 135 St**		Congestion Management						
	SR 823/Red Road/NW 57 Ave	SR 826/Palmetto Expwy	To W. 53 Street	x	Add Lanes & Reconstruct	DT2499411	2499411		150	2011-2012	12692
	SR 823/Red Road/NW 57 Ave	From W 65 Street	To W 84 Street	x	Interchange - Add Lanes	DT2499414	2499414			2011-2012	380
	SR 823/Red Road/NW 57 Ave	From West 23 Street	To West 46 Street	x	Add Lanes & Reconstruct	DT2499415	2499415			2014-2015	36667
	SR 823/Red Road/NW 57 Ave	From W 53 Street	To W 65 Street	x	Add Lanes & Reconstruct	DT2499416	2499416			2011-2012	11525
	SR 823/Red Road/NW 57 Ave	At NW 138 Street		x	Intersection Improvement	DT4290141	4290141			2011-2012	1004
14	**SR 990/SW 104 St/SW 112 St**	**SR 821/Florida's Tpke**	**SR 5/US 1**		Congestion Management						
	SW 109 Court & SW 104 Street			x	New Construction: left turn lane	PW1000012	1000012	24.43	0		
	SW 104 Street	SW 147 Ave	SW 137 Ave	x	Widening: 4 to 6 lanes	PW671508	671508	6463			
	SW 104 Street	Hammocks Blvd	SW 147 Ave	x	Widening: 4 to 6 lanes	PW671508a	671508a	5352			
15	**NW 87 Ave**	**SR 836/Dolphin Expwy**	**NW 58 St**		Improve SR 836/NW 12 St/NW 87 Ave Interconnections; improve intersections to accommodate truck movements						
	NW 12 St AT SR 973/NW 87 Ave	SR 973/NW 87 Ave			Signal Improvements	PW0000451	0000451	50-500			
16	**SR 997/Krome Ave**	**SR 90/SW 8 St/Tamiami Trail**	**SR 5/US 1**		Improve intersections to accommodate truck movements						
	SR 997/Krome Ave			x	PD&E/EMO Study	DT2496144	2496144		15	2011-2012	30
17	**North River Dr**	**SR 985/NW 107 Ave**	**NW 74 Ave**	x	Widen North River Dr to include shoulders and improved access management	PW0000461	0000461	50-500			
18	**SR 25/Okeechobee Rd**	**NW 138 Ave**	**NW 79 Ave**		Signal/access/ITS improvements						
	SR 25/Okeechobee Rd.	From NW 79 Ave	To SR 997/Krome Ave	x	PD&E/EMO Study	DT4232511	4232511			2011-2012	3030
19	**41 St**	**Alton Rd**	**Collins Ave**	x	Corridor Improvements	MU000055	000055	50-500			
20	**SR 90/SW 8 St/Tamiami Trail**	**SR 826/Palmetto Expwy**	**I 95**		Congestion Management						
	SR 90/SW 8 St/Tamiami Trail	At SW 92 Ave		x	Intersection Improvement	DT4251452	4251452		44	2011-2012	413
	SR 90/SW 8 St/Tamiami Trail	From SW 102 Ave	TO SW 99 Place	x	Intersection Improvement	DT4251453	4251453		18	2011-2012	222
	SR 90/SW 8 St/Tamiami Trail	At SW 109 Ave		x	Intersection Improvement	DT4251454	4251454		32	2011-2012	286
	SR 90/SW 8 St/Tamiami Trail	At SW 107 Ave		x	Intersection Improvement	DT4251455	4251455			2011-2012	343
21	**SR 872/SW 22 St/Coral Way**	**SR 826/Palmetto Expwy**	**SR-5/US-1**		Congestion Management						
22	**SR 5/US 1**	**SW 88 St. (Kendall Dr)**	**I 95**		Congestion Management						
23	**SR 916/NW 135 St**	**SR 959/NW 57 Ave/Red Rd**	**SW 37 Ave/Douglas Rd**		Congestion Management						
24	**SR 860/Miami Gardens Drive**	**SR 821/Florida's Tpke**	**Biscayne Blvd.**		Congestion Management						
25	**Ives Dairy Rd**	**SR 821/Florida's Tpke**	**Biscayne Blvd.**		Congestion Management						
26	**NW 36 St/41 St**	**SR 953/NW 42 Ave/Le Jeune Rd**	**HEFT**		Congestion Management						

Screening criteria are included in Figure 4. The primary consideration for corridor screening was willingness of the owner agency to commit to operational improvements. One of the implicit purposes of CMP is to provide short-term congestion relief at a relatively lower cost. Therefore, it is imperative that where operational improvements are feasible and cost-effective, project sponsors or owner agencies have ability to implement them in the short-term. Project design, concept, and scope must also be consistent with any selected management strategies. This commitment implies greater probability of operational improvements in the short-term. Other criteria included availability of right-of-way and known environmental concerns.

FIGURE 4: CORRIDOR SCREENING CRITERIA

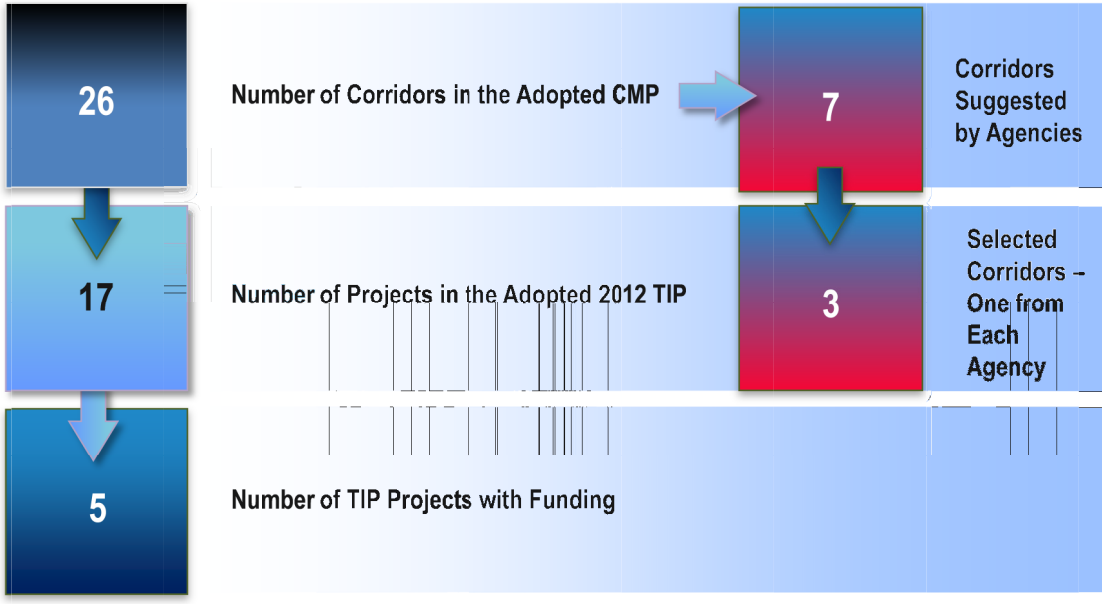
During the development of the study, a Study Advisory Committee (SAC) was created with participation from FDOT, Miami-Dade County Public Works and Waste Management Department (PWWM), and Miami-Dade Transit (MDT). The commitment of these agencies a key factor in developing the screening criteria. The list of congested corridors was sent to the SAC for their evaluation and recommendations. These agencies were asked to provide their priorities to ensure that this effort aligns with their goals as well.

These transportation agencies provided a total of seven corridors for further consideration (Table 3). These were screened to identify any upcoming projects. Site visits and some desktop analysis were conducted to ensure that the work required for developing recommendations matches with the scope of this effort. After consultation, three corridors, Old Cutler Road, NW 36/41 Street or Doral Boulevard, and SW 88 Street or Kendall Drive, were selected for further analysis. Each of these three corridors is discussed in greater detail in the subsequent sections. The selection process is included in Figure 5.

TABLE 3: CORRIDORS RECOMMENDED BY FACILITY OWNERS FOR FURTHER ANALYSIS

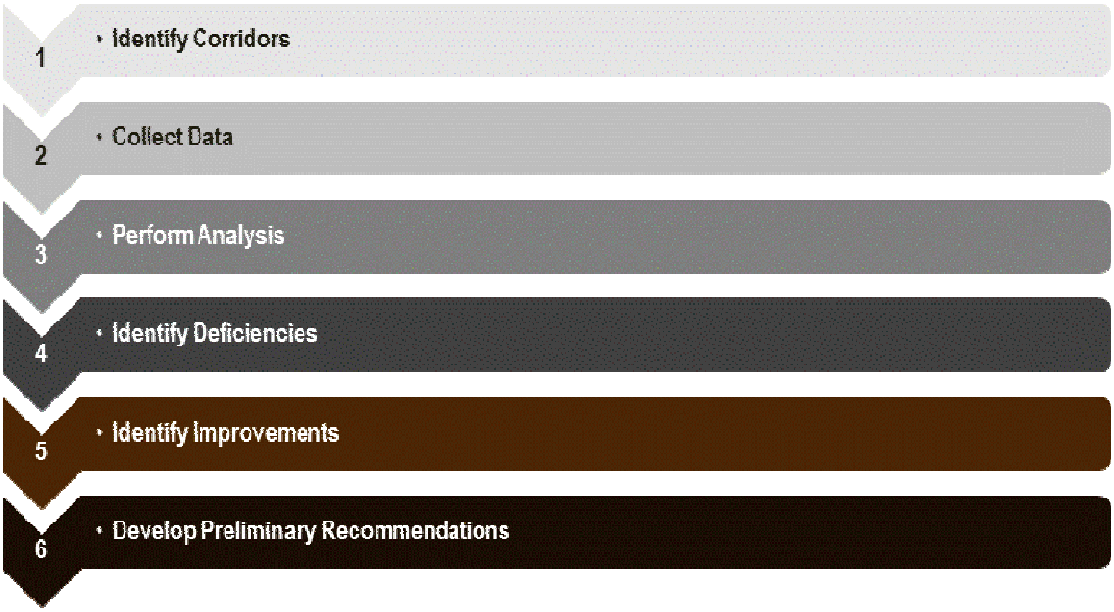
Corridor	From	To	Recommended by	Considerations
Old Cutler Road	SW 216 St	SW 37 Ave	PWWM	Historic Nature; Opportunities for operational improvements
NW 58 Street	NW 107 Ave	SR 826/Palmetto Expwy	PWWM	Projects in TIP
Ives Dairy Road	SR-821/HEFT	Biscayne Boulevard	PWWM	Projects by FDOT
North Kendall Drive	SW 167 Avenue	SR-5/US-1	FDOT	
US-1	Kendall Drive	I-95	FDOT	Operational Improvements
NW 36/41 Street	SR 953 / NW 42 Ave	SR-821/HEFT	FDOT	Freight Considerations
Kendall Drive	SW 157 Avenue	SR-5/US-1	MDT	Transit Considerations

FIGURE 5: CORRIDOR SELECTION PROCESS



The corridors are analyzed in greater detail in the subsequent sections. The methodology for evaluating each is included in Figure 6. The recommendations are at a conceptual planning level and will require further development.

FIGURE 6: CORRIDOR SCREENING METHODOLOGY

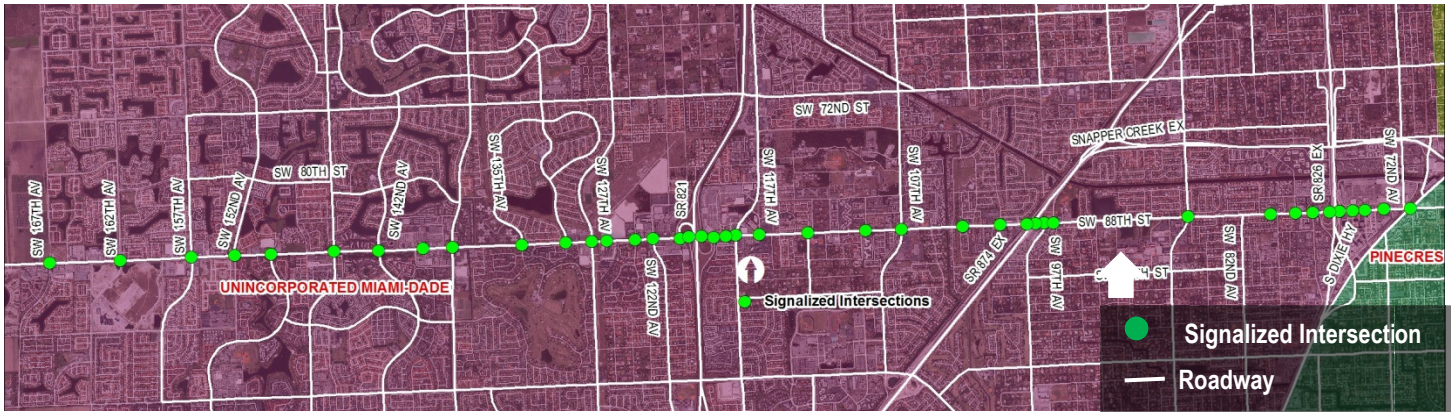


Section 3

EVALUATION OF KENDALL DRIVE

Kendall Drive/SW 88 Street/SR-94 extended from SW 157 Avenue to US-1 is one the most important and highly utilized east-west transportation corridors in Southern Miami-Dade County. It is primarily a six-lane divided (raised/restrictive median) state principal arterial. This roadway intersects with the Homestead Extension of the Florida Turnpike (HEFT)/SR-821, the Don Shula Expressway/SR-874, and the Palmetto Expressway/SR-826 (Figure 7). A segment of Kendall Drive from the Turnpike west to SW 127 Avenue has an eight-lane divided section. The FDOT classifies Kendall Drive from SW 142 Avenue to US-1 as arterial Access Class 5 and west of SW 142 Avenue to Krome Avenue as arterial Access Class 3. The arterial access management classification standards range from Access Class 2 to Access Class 7. The lower the access class the more stringent the standards for driveway connections, medians and median openings, and traffic signals. The current posted regulatory speed limit along Kendall Drive is 45 MPH. Figure 8 shows the average annual daily traffic (AADT) in 2011 per the FDOT Annual Traffic Count Program. Generally, volumes are low near SW 167 Avenue or the western terminus of the project and increase as one travels east.

FIGURE 7: KENDALL DRIVE – LOCATION MAP



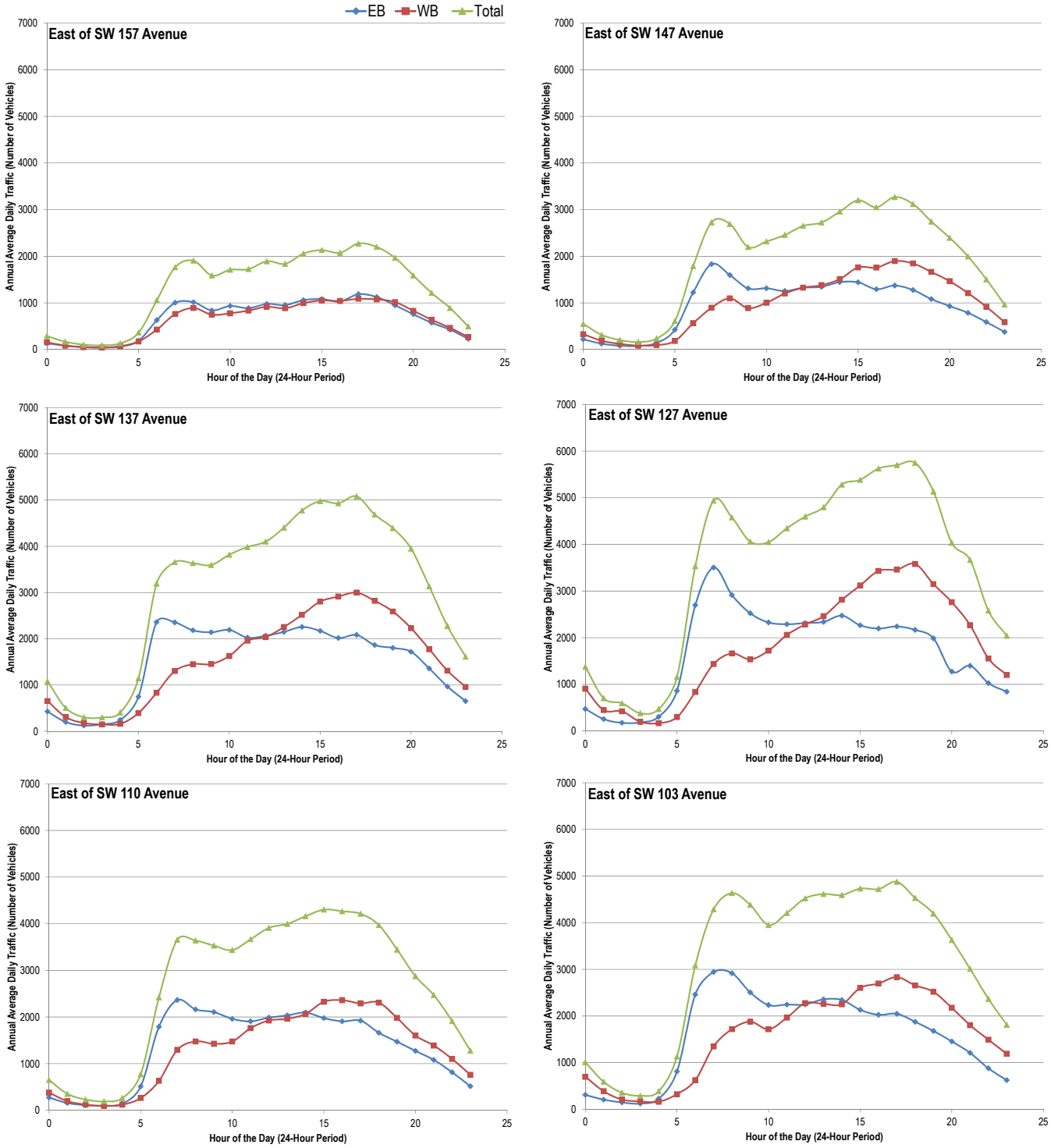
Over the past decades, as urban development has occurred in the West Miami-Dade Area, Kendall Drive has transformed from a predominantly rural roadway to an urban principal arterial carrying very large amounts of vehicular traffic. The severity and duration of traffic congestion along this corridor continue to increase as development proceeds to the south and west. The 2009 CMP Update identified Kendall Drive between SW 167 Avenue and SR-5/US-1, an approximately 9.1 mile segment, as a congested corridor.

3.1. KENDALL DRIVE - EXISTING ISSUES

Studies and minor projects implemented over the years have identified a mismatch between transportation capacity and demand as the primary reason for the congestion. This congestion problem becomes more apparent due to behavioral issues (e.g. travel during peak periods) and due to limited number of alternative routes to access major limited-access roadways such as the HEFT, SR-874, and SR-826. Previous studies have resulted in some improvements but the roadway remains congested. Average traffic volume varies from 31,000 to 85,000 vehicles a day. The

segment between SW 137 Avenue and SW 127 Avenue carries the largest volume per day and is also the most congested based on hourly volumes (Figure 8).

FIGURE 8: KENDALL DRIVE - ANNUAL AVERAGE DAILY TRAFFIC BY SEGMENT



During the study coordination, MDT noted that a smaller proportion of people take transit to work in the Kendall area (three percent) as compared to Miami Dade County as a whole (five percent). This was based on Miami-Dade MPO's Kendall Corridor Transportation Alternatives Analysis completed in 2007. The study concluded that the lower transit share is because there are fewer attractive transit choices available in the Kendall study area. Although 23 percent of Miami-Dade County's population resides in the study area and 28 percent of all work trips originate in the study area, reliable transit options are limited to a few routes. These routes travel in mixed traffic, without any preferential treatment, and also suffer from congestion. The MPO and MDT envisioned a fixed-guideway transit solution for the corridor in the long run. However, MDT initiated Route 288 or Kendall Cruiser, a limited-stop bus service, a lower cost operational improvement, to address urgent unmet needs (Table 4 and Figure 9).

FIGURE 9: KENDALL DRIVE - ROUTE 288 / KENDALL CRUISER ALIGNMENT

TABLE 4: KENDALL DRIVE - ROUTE 288 / KENDALL CRUISER OPERATIONAL CHARACTERISTICS

Feature	Measurement	Unit / Source / Notes
Length	11.4	Unit: Miles
Service Frequency	12	Minutes
Hours of Operation	Morning – 5:30 -10:00; Evening – 4:00 – 7:15	
Western Terminus	West Kendall Transit Terminal at SW 162 Avenue and SW 91 Street	
Eastern Terminus	Dadeland North Metrorail Station at SW 83 Street and US-1	
Number of Eastbound Stops	15	
Number of Westbound Stops	16	
Average Daily Ridership	1,053	Source: Average Ridership between October 2012 and May 2013
Number of Signalized Intersections along the Route	39	Number of signals vary as the route alignment changes by direction and by time of day
Route Run Time	32 to 41	Unit: Minutes; Source: From Published Schedule
Average Speed (Miles per Hour)	17.7 to 21.4	Unit: Miles per Hour Source: From the Published Schedule

3.2. KENDALL DRIVE - CONGESTION MANAGEMENT STRATEGY

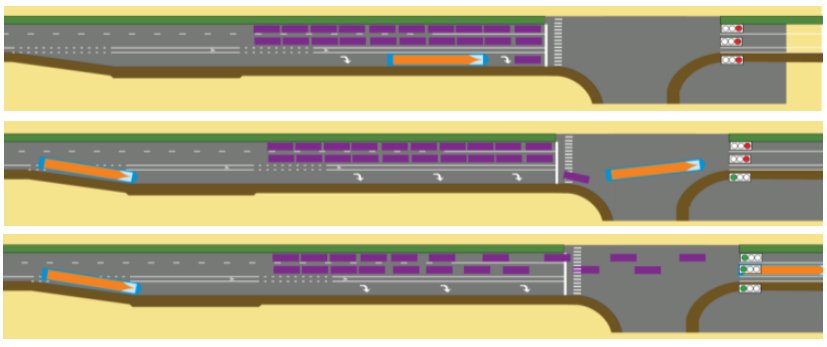
Strategies identified in the 2009 CMP Update focused on increasing the attractiveness of the transit mode. MDT has recently taken steps to implement Transit Signal Priority (TSP), with or without queue-jump or by-pass lanes, to increase attractiveness of its services. The same strategy was adopted for Route 288 or Kendall Cruiser and other similar services. MDT has worked with PWWM for the implementation of an Automatic Vehicle Location (AVL) based TSP system. However, PWWM has expressed concerns about impacts of TSP on intersection level of service and on signal progression. To address these concerns, microsimulation was done to identify impacts of TSP and queue-jump lanes so that a pilot project can be implemented along Kendall Drive. The segment of Kendall Drive between SW 137 Avenue and SW 127 Avenue was identified as the most congested segment and therefore, the one with the highest need for transit signal priority. This segment has the highest 24-hour traffic volumes and signal density in the corridor. The microsimulation area extended one signal east and west of these intersections. The segment includes the following six signalized intersections.

1. Kendall Drive at SW 138 Block
2. Kendall Drive at SW 137 Avenue
3. Kendall Drive at SW 133 Avenue/SW 135 Avenue
4. Kendall Drive at SW 132 Avenue
5. Kendall Drive at SW 127 Avenue
6. Kendall Drive at SW 125 Block

Impacts, for the purpose of this analysis, are measured through Measures of Effectiveness (MOEs) determined as intersection control delay, travel time and speed changes for both transit and non-transit vehicles. Another method for increased attractiveness of transit is to provide attractive transit infrastructure. MDT requested identification of suitable station areas along Route 288 or Kendall Cruiser. These two components – traffic impact analysis and improved station areas are covered as part of this CMP strategy implementation effort for Kendall Drive.

3.3. KENDALL DRIVE - EVALUATION OF IMPACTS OF TRANSIT SIGNAL PRIORITY

Transit Signal Priority (TSP) is an operational strategy that facilitates the movement of in-service buses through traffic signal controlled intersections. The strategy has been in existence since the 1960s including in Europe and since the early 1970s in the United States. Prioritization occurs through a modification of the traffic signal's timing plan, which results in extending the existing green phase, or shorting other phases so as to return earlier to a green phase for the transit approach. By reducing the time that transit vehicles spend delayed at intersections, TSP can reduce transit delay and travel time and improve transit service reliability, thereby increasing the quality of transit service. It also has the potential of improving person throughput at an intersection. TSP provides these benefits with minimum impact to other facility users, including cross-traffic and pedestrians. For the traffic simulation, it was assumed that all six signalized intersections will allow priority to transit vehicles.



Queue-jump or by-pass lanes are an extension of the transit priority concept. Here, in addition to traffic signals, transit vehicles utilize lanes to bypass vehicle queues at congested points (Figure 10). Most often these lanes are the right-most lanes, designed and designated for transit vehicles only. Usually, they are shared either between right-turning vehicles and transit vehicles or between bikes and transit vehicles.

Among the elements identified above, the placement and type of queue-jump lanes was considered to be the most important infrastructure element, as this has the greatest influence on travel time and transit operating reliability, as well as capital costs. Auxiliary lanes, turn or through lanes, at an intersection provide low-cost opportunities to implement queue-jump lanes. There are a number of such opportunities along Kendall Drive. For the traffic simulation, the following assumptions were made:

- At SW 137th Avenue & Kendall Drive
  - The existing right turn lanes were converted to a right turn/ bus queue-jump lane.
  - The free flow southbound and northbound right turn movements were modified to a protected right turn movement.
  - The near side bus stop was moved to the far side of the intersection.
- At SW 127th Avenue & Kendall Drive
  - At this intersection there are three through lanes and a shared thru/right-turn auxiliary lane approaching the intersection for both east and westbound direction. In order to provide the proposed queue-jump lane, the lane assignment was modified to 3 through lanes and a right turn only lane. The right turn only lane was also used for the busses as the queue-jump lane.

3.3.1. Kendall Drive - Data Collection

The data collection effort for Kendall Drive TSP impact analysis consisted of field reviews, signal timing and phasing, traffic counts, travel times, and transit boarding data. The site map and aerial photos were used to verify model boundaries and roadway and intersection geometry. The traffic data collection consisted of 4-hour Turning Movement Counts (TMCs) at the six intersections under study (Figure 11). The raw TMC counts are included in Appendix 1. The TMCs were collected during a typical commuting weekday in November of 2012 and was recorded in 15-minute intervals. The data includes pedestrian and heavy vehicle counts. The time period for the TMCs was based on a review of the 24-hour count data obtained from the FDOT's Florida Traffic Information database for station 870060. In general, the AM and PM commuting peak periods used for the analysis were from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM. The signal timing and phasing were retrieved from the Miami-Dade County database (Appendix 2). Route 288 and 88/88A schedules were obtained from the MDT website (Appendix 3 and 4 respectively).

FIGURE 11: KENDALL DRIVE - TURNING MOVEMENT COUNT LOCATIONS

Travel times for passenger vehicles and Route 288 transit vehicles were collected. A total of 47 travel time and delay runs were conducted for passenger vehicles and 16 travel time and delay runs for transit vehicles to derive more representative average travel time for both modes. Stopwatches were used by the surveyors to measure travel and delay times between control points. A delay was defined as speeds of 5 miles per hour (mph) or slower for the survey vehicle. Traffic signals in this segment were used as control points. Data was recorded on field datasheets and later transferred to spreadsheets. All trips were completed during periods of good weather to avoid unusual conditions that could have influenced the study. The travel time results show an appreciable difference in travel time between passenger vehicles and transit vehicles

(Figures 12-15). It should be noted that travel speeds show greater than expected fluctuations because of relatively short segment lengths. Ridership data, boarding, and alighting information was derived using Automatic Passenger Count (APC) data.

FIGURE 12: KENDALL DRIVE - VISSIM AM EASTBOUND AUTO AND TRANSIT SPEEDS COMPARISON

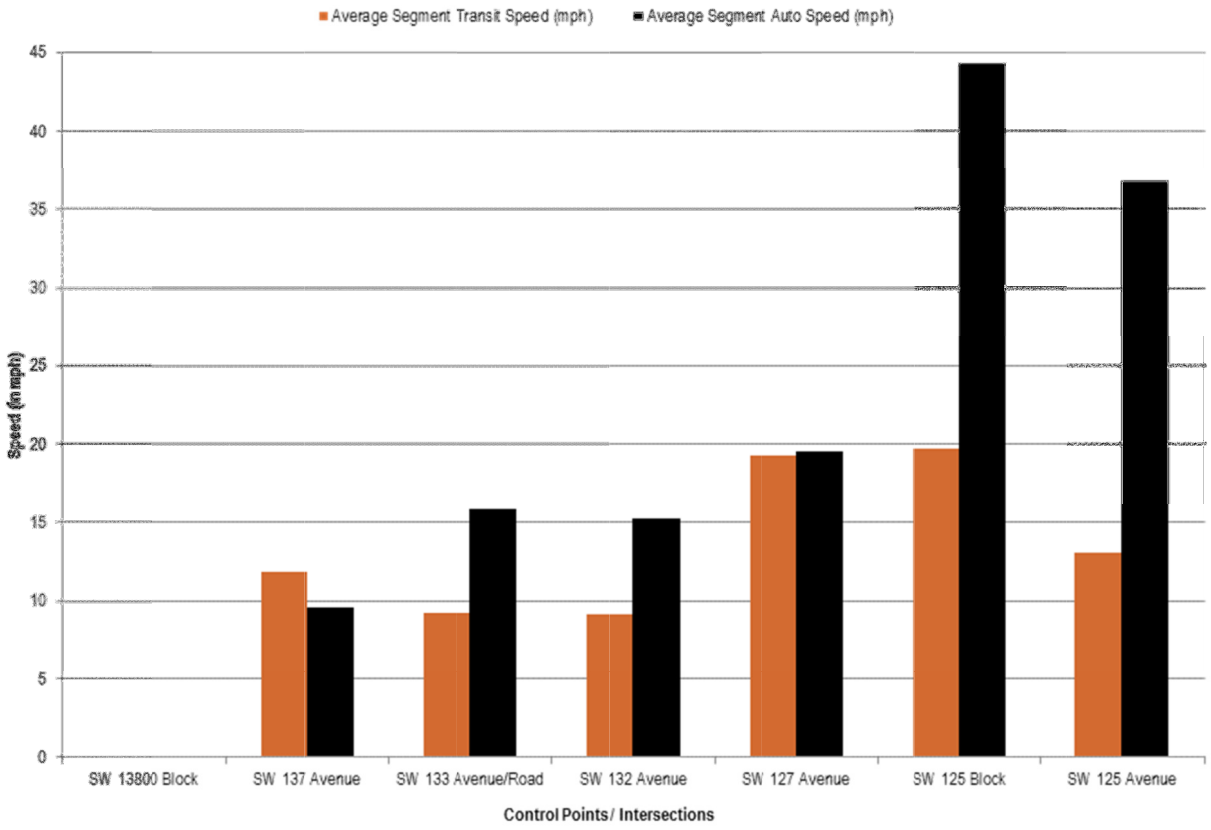


FIGURE 13: KENDALL DRIVE - VISSIM AM WESTBOUND AUTO AND TRANSIT SPEEDS COMPARISON

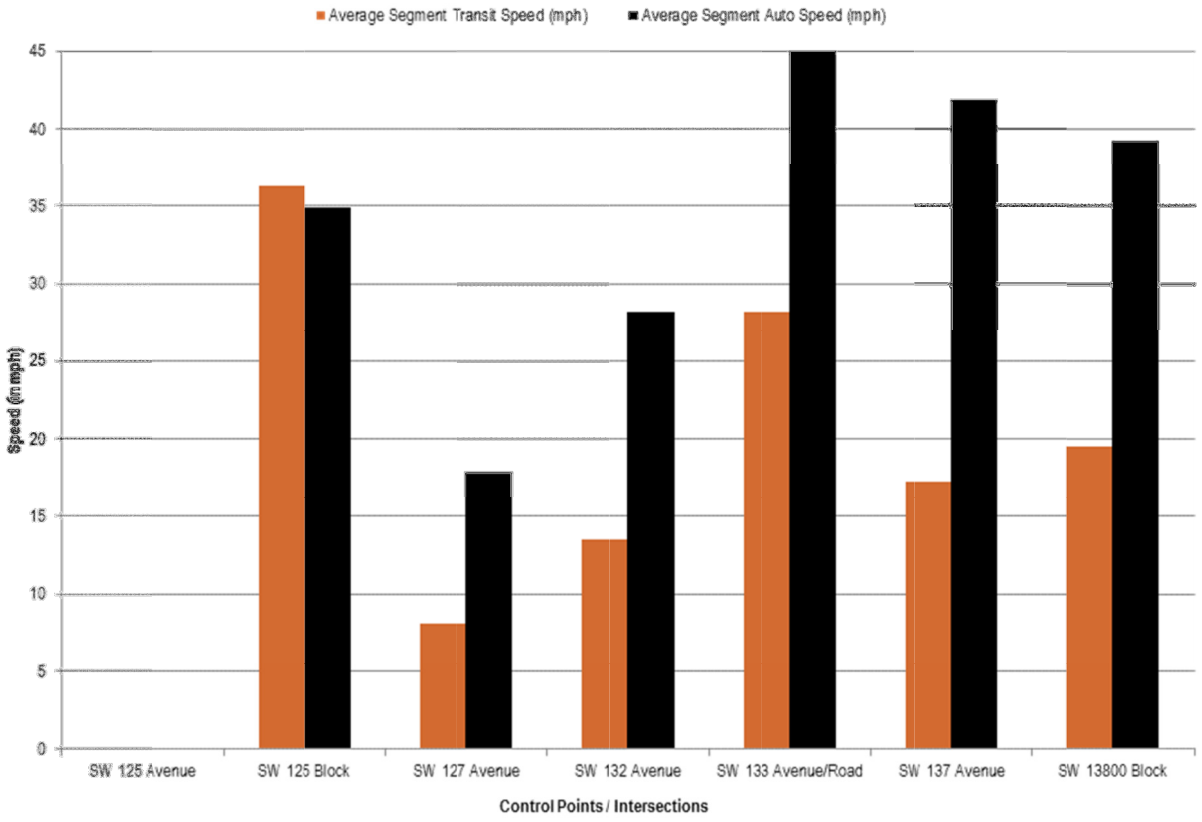


FIGURE 14: KENDALL DRIVE - VISSIM PM EASTBOUND AUTO AND TRANSIT SPEEDS COMPARISON

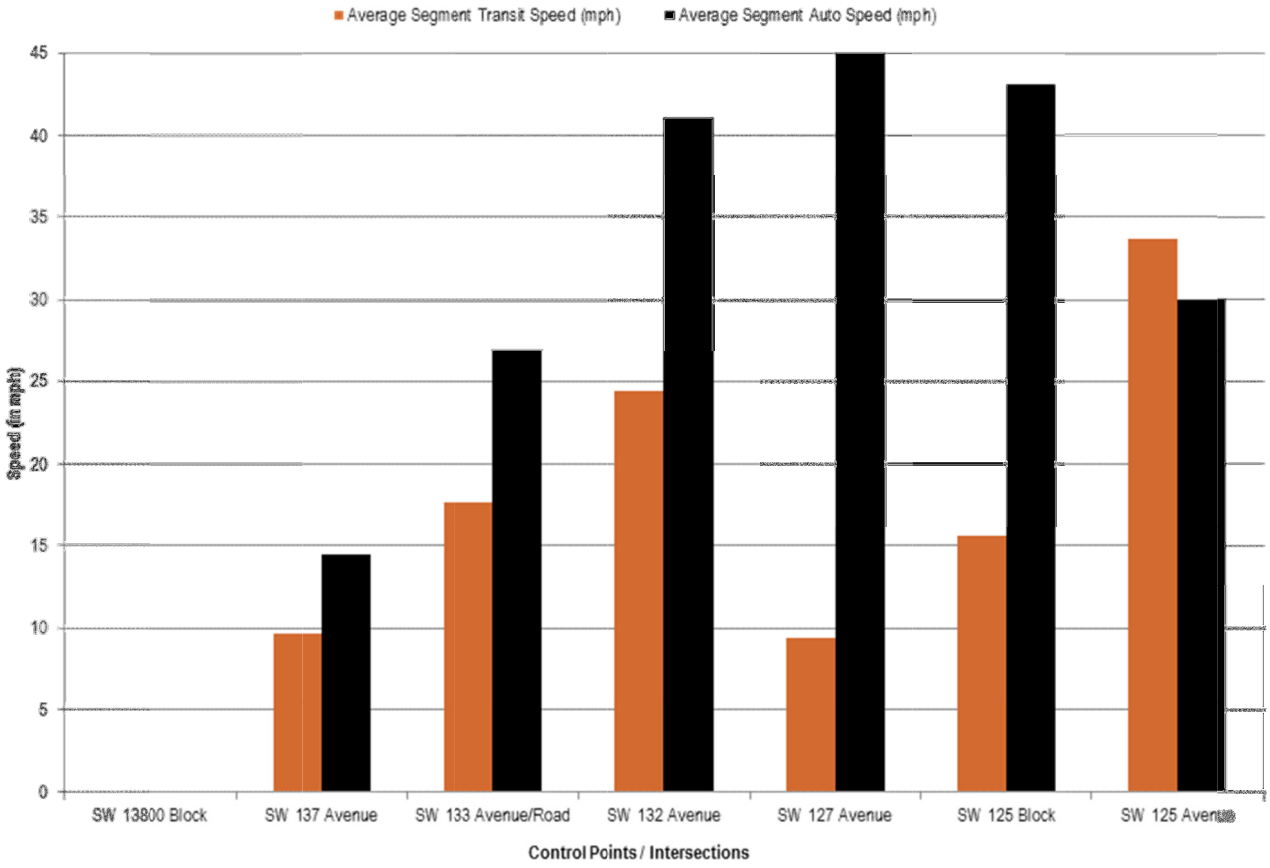
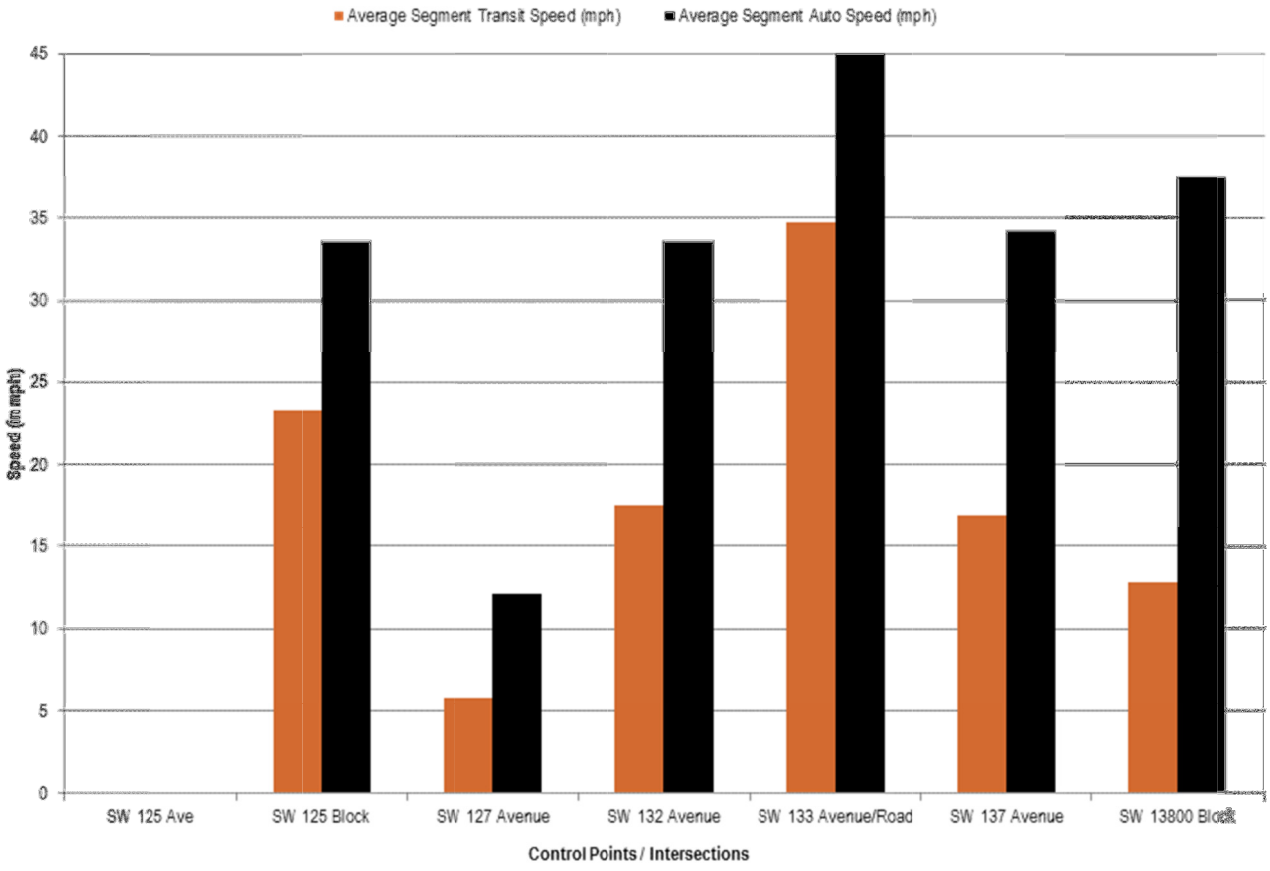


FIGURE 15: KENDALL DRIVE - VISSIM PM WESTBOUND AUTO AND TRANSIT SPEEDS COMPARISON



3.3.2. Kendall Drive - Simulation Model

The VisSim micro-simulation model was used to model traffic behavior. The VisSim model was chosen because of its capabilities to simulate transit alternatives operating in mixed traffic. The MOEs used for evaluation were vehicles throughput, travel time, speed, and delay. Model development involved data analysis, network coding, model calibration, and model revision. The following steps were taken to prepare a microsimulation model:

- Roadway Network: For the purpose of simulating traffic and transit operations, it was necessary to replicate the existing roadway infrastructure. The first step in building the model was to create the traffic and transit network components. Aerial photographs and a geographical information system (GIS) program were used to extract a scale copy of the corridor to import into VisSim. The GIS network served as a template to trace (code) the roadway networks to ensure that any input or output related to distance, such as vehicle travel time and speed, would be accurate.
- Vehicle Classes: Based on field data analysis and vehicle composition within the study boundary, all vehicles were classified into two groups; passenger cars (98%) and heavy vehicles (2%). Buses were coded separately since buses move along the pre-defined route. The default bus length of 38 feet was used.
- Link speed: The posted speed limit of 45 mph for Kendall Drive was used. The link types defined the driving behavior of vehicles. The link type used was Urban (motorized).
- Transit Data: Transit data input occurred in two different steps: first, the definition of transit stops, then the definition of a public transport line, which included defining which bus routes use the Busway, which transit stops are used by each route, the vehicle type of each route, and each route's schedule.
- Each of the transit stops that exist along Kendall Drive were coded into the model including their specific characteristics such as length and type (on-street stop or a bus bay). The transit routes consist of buses serving a fixed sequence of transit stops according to a time table. The stop times are determined by dwell time distributions or calculations of passenger service time. For this project, a default boarding time of 4.0 seconds per passenger and a default alighting time of 2.10 seconds per passenger were used as suggested in the Transit Capacity and Quality of Service Manual (TCQSM).
- Periods of Simulation: The VisSim simulation was developed to cover evening peak hours.

3.3.3. Kendall Drive - VisSim Model Calibration Targets and Model Validation

The objective of model calibration/validation is to obtain the best possible match between model and field-measured MOEs. In addition to visual validation of the models, the calibration MOEs selected for analysis were volume throughput and travel time. Table 5 identifies the calibration acceptance targets for the selected MOEs, which follow the guidelines set in the Federal Highway Administration (FHWA) publication *Traffic Analysis Toolbox Volume III: Guidelines for Applying Traffic Simulation Modeling Software*.

TABLE 5: KENDALL DRIVE - MODEL CALIBRATION TARGETS

MOE	Criteria and Measures	Acceptance Target
Volume throughput	Within 15% for 700 veh/h < Flow<2700 veh/h	> 85% of segments
	Within 100 veh/h, for flow<700 veh/h	> 85% of segments
	Within 400 veh/h for flow >2700 veh/h	> 85% of segments
Travel time	Within 15% of field measures or (1 minute if higher)	> 85% of segments

Data collection screen lines were established at various locations along the network. Each screen line recorded the number of vehicles crossing within the simulation period. The simulation results were summarized and compared to observed counts and travel times at each screen line location. Three VisSim runs with different seed numbers were performed for each scenario to capture randomness in traffic volumes, transit dwell times, and transit schedule adherence. Simulation counts and travel times resulting from different runs were averaged to derive average operating characteristics. Summaries were not started until 900 simulation seconds had passed to allow for sufficient vehicle build-up in the network. Table 6 summarizes the difference between observed counts and simulation counts and Table 7 summarizes the difference between observed travel time and simulation travel time. Both are within acceptable range (at or under 15 percent).

TABLE 6: KENDALL DRIVE - VISSIM MODEL CALIBRATION - VOLUME THROUGHPUT COMPARISON

Direction	From - To	Observed Counts (PM Peak Hour)	Simulation Counts (PM Peak Hour)	Difference (Simulation – Observed) Δ	Difference (Simulation – Observed) % Δ
EB	SW 137 Ave – SW 133 Ave	2,193	2,247	-54	-2.48%
	SW 132 Ave – SW 127 Ave	2,215	2,339	-124	-5.61%
WB	SW 127 Ave – SW 132 Ave	3,125	3,120	5	0.15%
	SW 133 Ave – SW 137 Ave	2,907	2,842	65	2.23%

TABLE 7: KENDALL DRIVE - VISSIM MODEL CALIBRATION - TRAVEL TIME COMPARISION

Direction	From - To	Observed Travel Time (PM Peak Hour) (seconds)	Simulation Travel Time (PM Peak Hour) (seconds)	Difference (Simulation – Observed) Δ	Difference (Simulation – Observed) % Δ
EB	SW 138 Blk – SW 125 Ave	243	280	-37	-15%
WB	SW 125 Ave – SW 138 Blk	238	219	18	8%

In addition to the travel time, intersection delay for the existing conditions was obtained from the model. Table 8 summarizes the results by approach. It should be noted that SW 138 Block and SW 125 Block are entrances to shopping plazas. Kendall Drive's intersections at SW 137 Avenue and SW 127 Avenue are operating at level of service D.

TABLE 8: KENDALL DRIVE - EXISTING CONDITIONS - INTERSECTION DELAY AND LOS DURING PM PEAK HOUR

Intersection of Kendall Drive at	Measure	Northbound	Southbound	Eastbound	Westbound	Intersection
SW 138 Blk	Delay (s)	64.7	58.3	11.1	6.1	12.2
	LOS	E	E	B	A	B
SW 137 Ave	Delay (s)	53.6	59.9	38.6	29.4	42.0
	LOS	D	E	D	C	D
SW 133 Ave	Delay (s)	32.7	35.6	36.6	13.2	24.1
	LOS	C	D	D	B	C
SW 132 Ave	Delay (s)	35.5	82.7	12.8	9.7	15.0
	LOS	D	F	B	A	B
SW 127 Ave	Delay (s)	77.0	71.0	42.5	27.6	43.3
	LOS	E	E	D	C	D
SW 125 Blk	Delay (s)	28.2	-	5.1	11.0	9.1
	LOS	C	-	A	B	A

3.3.4. Kendall Drive - TSP Priority Acknowledgement Rules

Transit signal priority provides transit vehicles preferential treatment to reduce delays in bus service, while minimizing impact to other vehicles. The main elements of the transit signal priority logic used in this study are summarized below:

- As the best case scenario for transit, unconditional priority was given for both Route 88 and Route 288 or Kendall Cruiser in both directions. Initial runs showed that if priority was limited to Route 288, impacts to general passenger vehicles will be negligible. At the same time, benefits to transit would also be minimal. Therefore, this scenario was developed to show the worst case scenario for non-transit vehicles and the best case scenario for transit vehicles.
- Approaching buses are detected and request priority 10 to 20 seconds before arrival at an intersection.
- If a bus is projected to enter the intersection during the green interval, no alteration is made to the signal timings.
- If a bus is projected to arrive after the end of the green, the interval is extended at increments of 10 seconds until either the vehicle has left the approach or the maximum allowable green duration is reached. The green time required for the extensions is taken from the next phase in the cycle that has not been reduced to its minimum allowed duration.
- If a bus is detected while traffic on another approach is being served, the active green phase is terminated as soon as the defined minimum green time requirement for that phase is satisfied to allow the green signal to be returned to the approach with the bus as quickly as possible. The green signal is then returned to the prioritized approach only after having satisfied both the specified green and the intergreen (amber plus all red) intervals of all the intermediate phases that are defined in the phase sequence. Following the early green recall, the green time on the prioritized approach is then terminated at its normal end point.

The logic is further subject to the four following signal constraints. Again, the purpose was to demonstrate the best case scenario for transit and the worst case scenario for non-transit vehicles.

- Service of the minimum green time assigned to each phase.
- Green extensions cannot result in green phases exceeding their maximum defined duration.
- No changes allowed to the cycle length in order to preserve coordination with adjacent intersections.
- No phase skipping is allowed while transitioning to and from a priority phase.

Any buses arriving toward the end of a green signal period of the east-west through movement on Kendall Drive were assumed to be given additional green time (transit signal priority). As a result of the additional east-west green time, the movements of north-south vehicles were expected to experience an additional delay equal to the length of the green time extension. However, green extension for the east-west movement may also result in reduced delays.

3.3.5. Kendall Drive – Impacts of TSP

The simulation was run for three conditions: (1) existing conditions, (2) with transit signal priority and (3) with queue-jump lanes.

Tables 9 summarizes the expected travel time for the corridor for transit vehicles with just the usage of TSP – a signal treatment. The results show that the average travel time can be expected to decrease by as much as 17 percent. Travel time benefits of TSP depend on arrival time at an intersection which varies and does not necessarily correspond with signal timing.

TABLE 9: KENDALL DRIVE – IMPACT OF TSP ON TRANSIT VEHICLES

Route	Existing		With TSP		Existing – (minus) With TSP			
	Travel Time (s)	Speed (mph)	Travel Time (s)	Speed (mph)	Time Δ	Time % Δ	Speed Δ	Speed % Δ
288 EB	635.7	13.1	553.7	15.1	82.0	12.9%	-2.0	-14.7%
288 WB	613.4	13.6	565.3	14.7	48.1	7.8%	-1.1	-8.5%
88 A EB	734.0	11.4	732.8	11.4	1.2	0.2%	0.0	-0.0%
88 EB	491.6	7.6	419.4	8.9	72.2	14.7%	-1.3	-17.1%
88 A WB	773.2	10.8	716.7	11.6	56.5	7.3%	-0.8	-8.0%
88 WB	433.2	8.6	385.0	9.7	48.2	11.1%	-1.1	-12.5%

Table 10 summarizes the results of simulation. Please note that positive values in the travel time percent change indicate travel time savings, whereas negative values indicate delays. Positive values in the speed percentage change indicate a speed reduction in the corridor, while negative values are indicative of a faster corridor. As expected, non-transit vehicles traveling north-south witness higher travel time and lower speeds. Non-transit vehicles traveling north-south see speed decline by as much as 45 percent. It should be noted that this increase is only for the simulated segment and the actual travel time impacts for a trip, that starts and ends outside the simulated network, will be much lower in terms of proportional increase. It should also be noted that this is for the worst case scenario where all east-west transit vehicles receive unconditional priority.

TABLE 10: KENDALL DRIVE – IMPACT OF TSP ON NON-TRANSIT VEHICLES

From	Existing – (minus) TSP			
	Time (s) Δ	Time % Δ	Speed (mph) Δ	Speed %Δ
EB - SW 138th Blk to SW 122nd Ave	20.96	6.60%	-1.30	-7.07%
WB -SW 122nd Ave to SW 138th Blk	-16.76	-7.15%	1.59	6.40%
SW 137th Ave NB	-69.59	-85.75%	4.55	45.00%
SW 137th Ave SB	-35.65	-44.56%	3.10	30.32%
SW 127th Ave NB	-35.05	-31.02%	2.28	22.58%
SW 127th Ave SB	-5.38	-4.75%	0.49	4.96%

3.3.6. Kendall Drive – Impacts of TSP with Queue-Jump

Queue-jump lanes were tested at the intersections of Kendall Drive at SW 137 Avenue and at SW 127 Avenue. The following geometric and operational changes were also implemented in order to provide the queue-jump lanes.

- At SW 137 Avenue & Kendall Drive
  - The existing right turn lanes were converted to a right turn/ bus queue-jump lane.
  - The free flow southbound and northbound right turn movements were modified to a protected right turn movement.
  - The near side bus stop was moved to the far side of the intersection.
- At SW 127 Avenue & Kendall Drive
  - At this intersection there are three through lanes and a shared thru/right-turn auxiliary lane approaching the intersection for both east and westbound direction. In order to provide the proposed queue-jump lane the lane assignment was modified to 3 through lanes and a right turn only lane. The right turn only lane was also used for the busses as the queue-jump lane.

Table 11 summarizes the impacts of TSP and queue-jump lanes on transit vehicles. The simulation results indicated that the provision of queue-jump lanes at the intersections of Kendall Drive at SW 137 Avenue and SW 127 Avenue was generally beneficial to buses. For the Kendall Cruiser (288), reductions in travel time of 7.9% for the westbound to 14.2% for the eastbound were obtained when Queue-jump lanes were provided. Similarly, local buses (Route 88/88A) also experienced reductions in travel time ranging from negligible to 14.7%.

TABLE 11: KENDALL DRIVE – IMPACT OF TSP+QUEUE-JUMP LANES ON TRANSIT VEHICLES

Route	Existing		With TSP + Queue-Jump		Existing – (minus) With TSP			
	Travel Time (s)	Speed (mph)	Travel Time (s)	Speed (mph)	Time Δ	Time % Δ	Speed Δ	Speed % Δ
288 EB	635.7	13.1	545.2	15.3	90.6	14.2%	-2.2	-16.6%
288 WB	613.4	13.6	564.8	14.8	48.5	7.9%	-1.2	-8.6%
88 A EB	734.0	11.4	733.8	11.4	0.2	0.0%	0.0	0.0%
88 EB	491.6	7.6	419.4	8.9	72.2	14.7%	-1.3	-17.5%
88 A WB	773.2	10.8	734.2	11.4	39.0	5.0%	-0.6	-5.5%
88 WB	433.2	8.6	390.4	9.5	42.8	9.9%	-0.9	-10.6%

Table 12 summarizes impacts of TSP and queue-jump lanes on non-transit vehicles. The provision of queue-jump lanes results in negative impacts for non-transit vehicles as increase in travel time and approach delays were observed. Queue-jump lanes resulted in over a 3.9% increase in the travel time for SW 137 Avenue northbound and over a 3.4% for the southbound approach. The travel time for SW 127 Avenue increased over 42.8% for northbound and 2.5% for the southbound direction. The travel time along Kendall Drive for non-transit vehicles showed an increase for the westbound direction of 3.8%, while for the eastbound direction, there was a reduction of the travel time of 4.2%. This improvement is because non-transit vehicles using the extended green time.

TABLE 12: KENDALL DRIVE – IMPACT OF TSP+QUEUE-JUMP LANES ON NON-TRANSIT VEHICLES

From	Existing – (minus) TSP			
	Time (s) Δ	Time % Δ	Speed (mph) Δ	Speed %Δ
EB - SW 138 Blk to SW 122 Ave	13.2	4.2%	-0.8	-4.3%
WB -SW 122 Ave to SW 138 Blk	-9.0	-3.8%	0.9	3.6%
SW 137 Ave NB	-3.1	-3.9%	0.4	3.6%
SW 137 Ave SB	-2.7	-3.4%	0.3	3.2%
SW 127 Ave NB	-48.4	-42.8%	2.6	25.3%
SW 127 Ave SB	-2.8	-2.5%	0.2	2.3%

3.3.7. Kendall Drive – TSP Impact Analysis Conclusions

The results indicate that in both scenarios, the TSP and the queue-jump lanes will provide significant benefit to transit services, but private vehicle traffic will suffer. Travel time for the TSP scenario improved 14.7% for the Kendall Cruiser eastbound, and 6.4% for the westbound, while for the TSP + queue-jump lanes scenario, the travel time for the Kendall Cruiser improved further. Similar improvements were also seen for Route 88/88A. Non-transit vehicles, especially on north-south streets, see an increase in travel time. Non-transit vehicle impacts can be minimized. For instance, the operations at SW 127 Avenue can be further improved if an additional right turn lane is provided in the east and west approach instead of changing the existing lane alignment to reduce one through lane. It should be noted that an average transit vehicle along Kendall Drive carries anywhere from 10 to 40 passengers during peak periods while single-occupancy vehicle carry, on an average, 1.5 passengers per vehicle. Priority acknowledgement criteria should be revisited with more detailed analysis to ensure that person throughput is optimized.

3.4. KENDALL DRIVE - TRANSIT STATION IMPROVEMENTS

Transit stations are the first contact point between passengers and transit service, and thus a major determinant for the acceptance of the transit service. Also, research has indicated that travelers tend to consider out-of-vehicle travel time (walking, waiting, transferring, etc.) to be substantially more burdensome than in-vehicle travel time. Therefore, attracting new travelers or commuters to transit in significant numbers requires a sharp focus on improving transit users' experience outside of their vehicles – walking, waiting, and transferring. Currently, stops along Route 288 or Kendall Cruiser have infrastructure, limited to a bench or a shelter (Figure 16). The MPO, along with MDT recently completed Branding Plan for Enhanced Bus Service, which includes Rapid Bus Services. The plan recommends improved infrastructure at stops or stations. The recommended station layout provides two alternatives: (1) for conditions where right-of-way is available or can be easily acquired and a 15 feet deep and 25 feet long station area can be developed (Figure 17); and, (2) for constrained physical conditions where right-of-way acquisition will be required with smaller foot print, 8 feet deep by 26 feet long, can be developed (Figure 18). MDT has decided to use these designs throughout the county. On March 6, 2013, the MPO's Transportation Aesthetic Review Committee (TARC) accepted these designs and recommended that site-specific modifications should be made to make them more context-appropriate. MDT will do these modifications during the design phase.

FIGURE 17: KENDALL DRIVE - TYPICAL STATION AREA

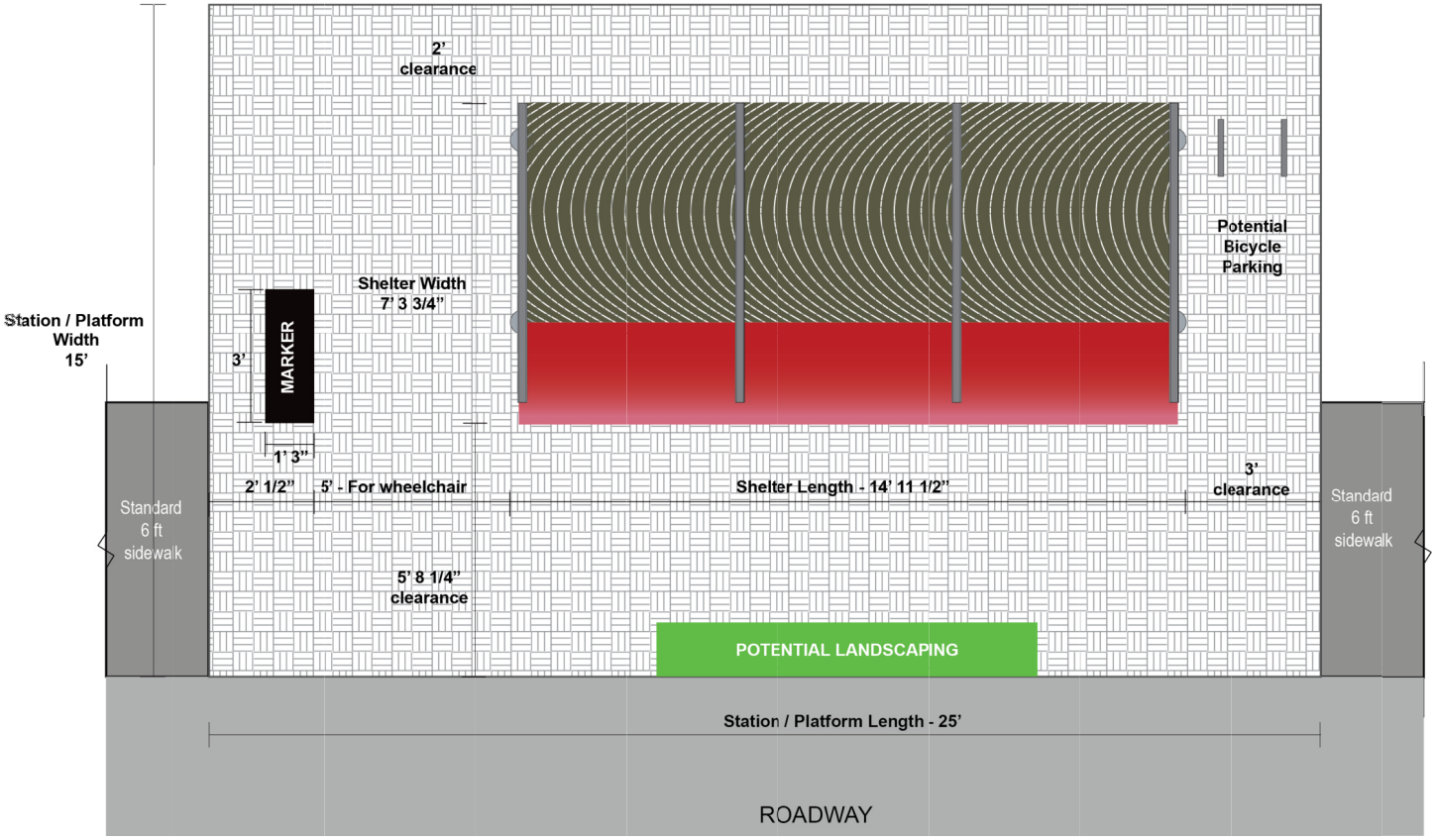
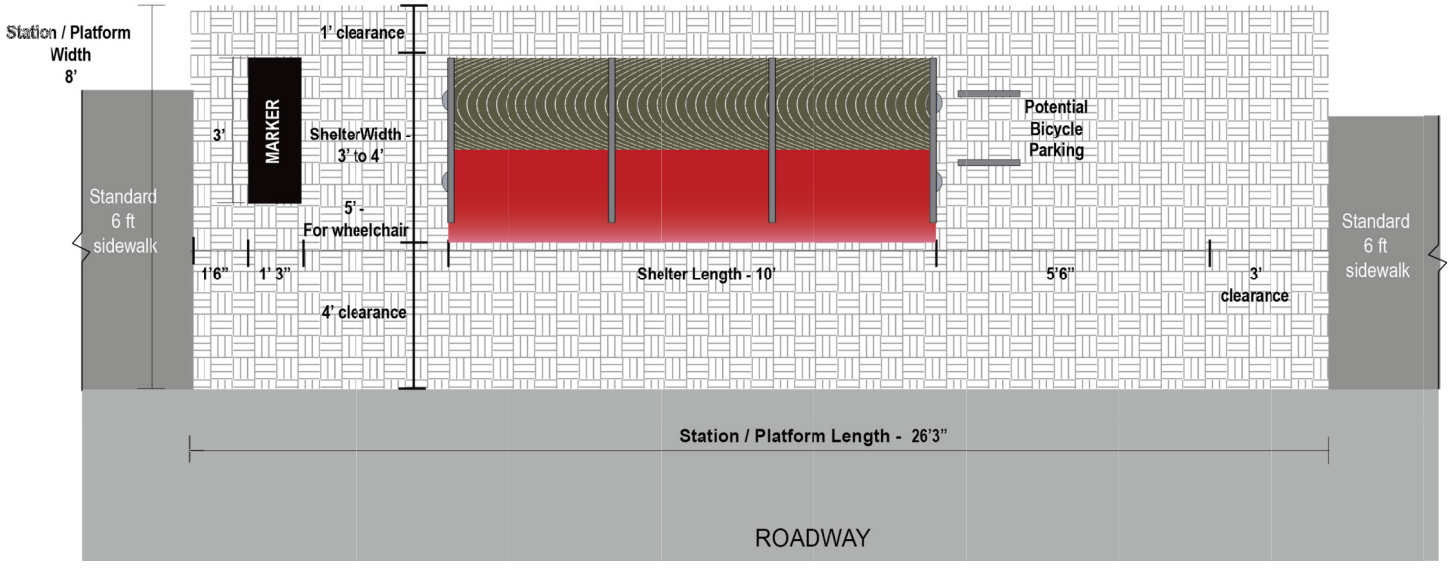
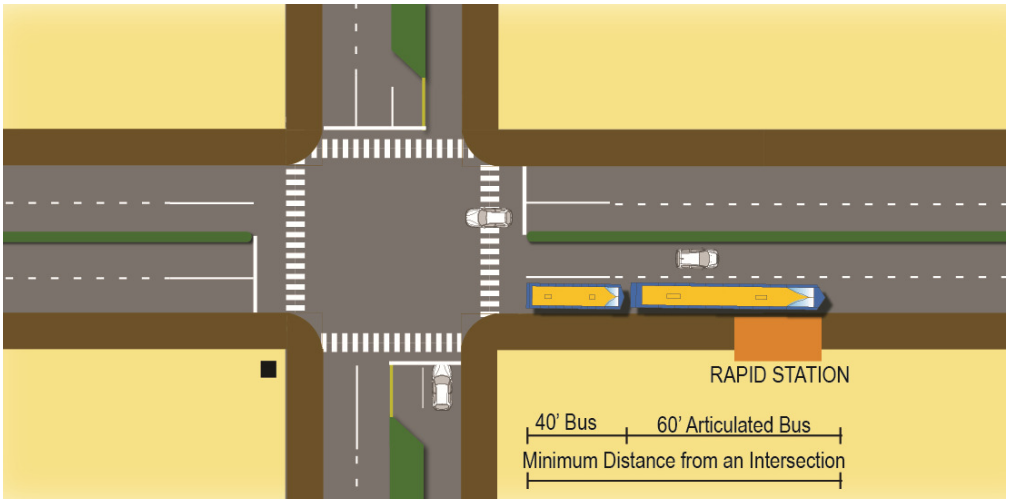


FIGURE 18: KENDALL DRIVE - TYPICAL STATION AREA FOR CONSTRAINED RIGHT-OF-WAY



Station areas, wherever possible were located farside of an intersection. Farside stops also maximize effectiveness of potential TSP applications. Success of TSP, which is reducing travel time and improving travel time reliability, relies on accuracy of predictable arrival time at the intersection. A nearside stop increases uncertainty associated with predictable arrival time because the number of passengers boardings and alighting at a nearside stop varies with time-of-day and other factors. Therefore, buses may be required to stop twice at an intersection with a nearside stop: once for a red traffic signal and, again at the station to load and unload riders. A farside stop allows a transit vehicle to activate the priority call

FIGURE 19: KENDALL DRIVE - STATION IN RELATION TO A TYPICAL INTERSECTION



prior to arriving at the intersection, progress through the intersection, and then stop at the farside platform. Furthermore, farside station locations also afford the ability to add queue-jump lanes that use auxiliary lanes (turn or through lanes at intersections) on the nearside of the intersection to bypass traffic. Therefore, stations for the Kendall EBS are recommended to be on the farside of a typical intersection (Figure 19).

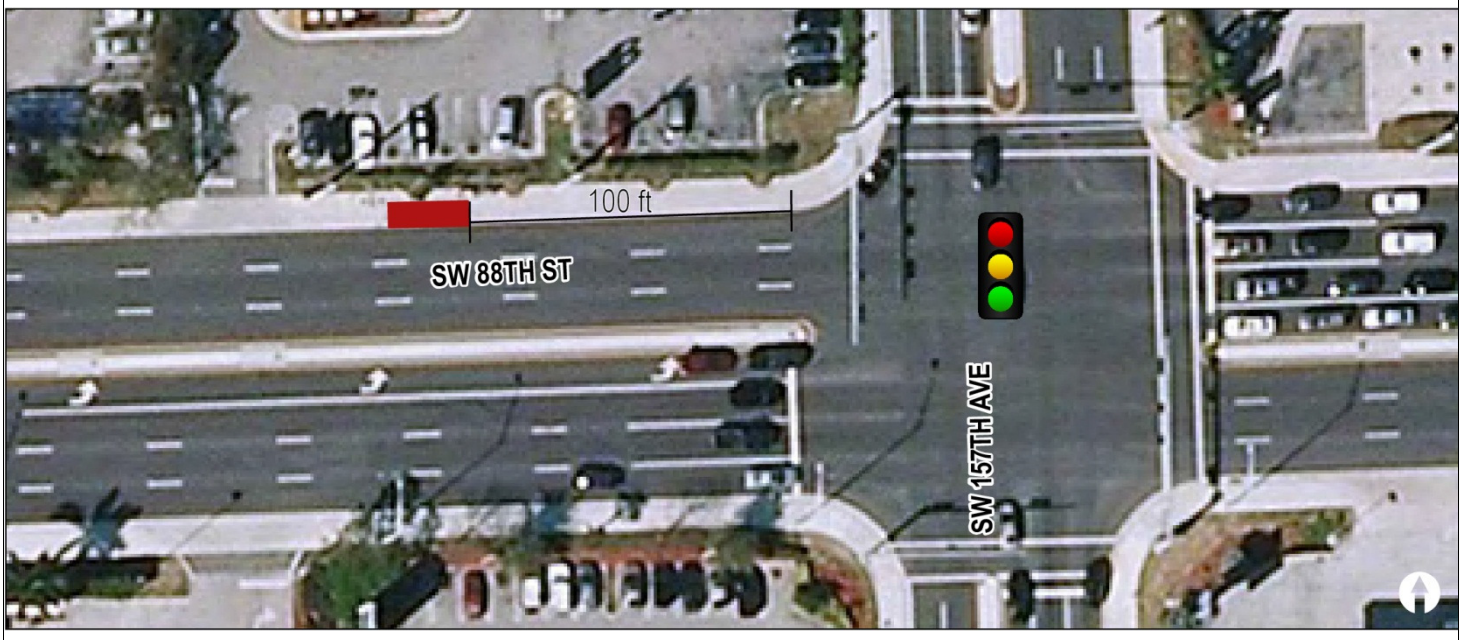
There are some exceptions to the station location preference as many factors contribute towards determination of a stop location. For instance, right-of-way constraints, identified in the subsequent sections may require a nearside stop location. Similarly, if a farside location is "too" downstream (250 ft or more) away from intersection, then potential benefits of farside stations are likely to be outweighed by discomfort to walking passengers.

3.4.1. Kendall Drive - Station Locations

A detailed description of the recommended station area and recommendations is included on subsequent pages. The locations are based on the existing Route 288 stop locations.

1. SW 157 Ave (WB)

Plan View



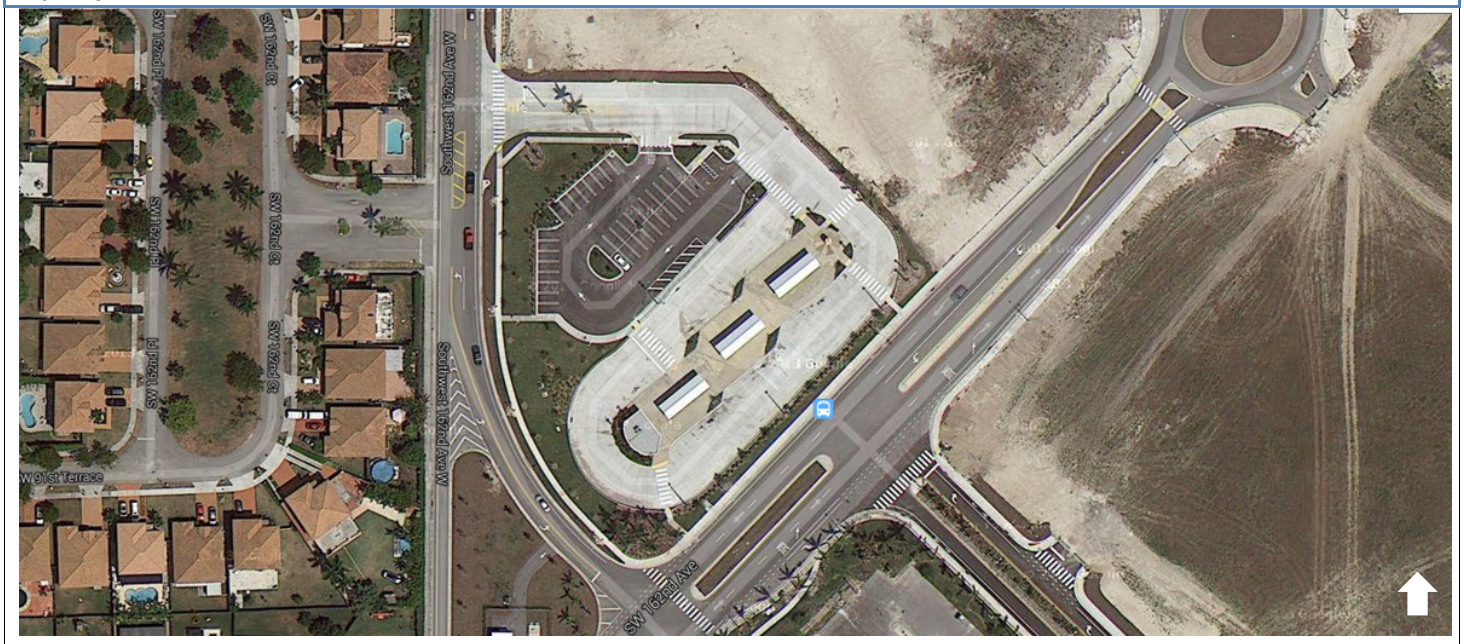
Photograph: Facing the Station Area

Photograph: In the Direction of Travel

• **Street**	SW 88 Street
• **Cross-street**	SW 157 Avenue
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	6' X 25'
• **Station Platform**	8' X 25'
• **Shelter Type**	Narrow
• **Marker Type**	Small
• **Other Considerations or Constraints**	ROW is insufficient at this location. An easement with the property owner is recommended. The station will block frontage of existing businesses owner and therefore, further coordination is required. Due to overhead utilities, marker height will have to be reduced.
• **Other Recommended Improvements**	Crosswalks on all legs of Kendall Drive and SW 157 Avenue are recommended.

2. West Kendall Transit Terminal

Plan View



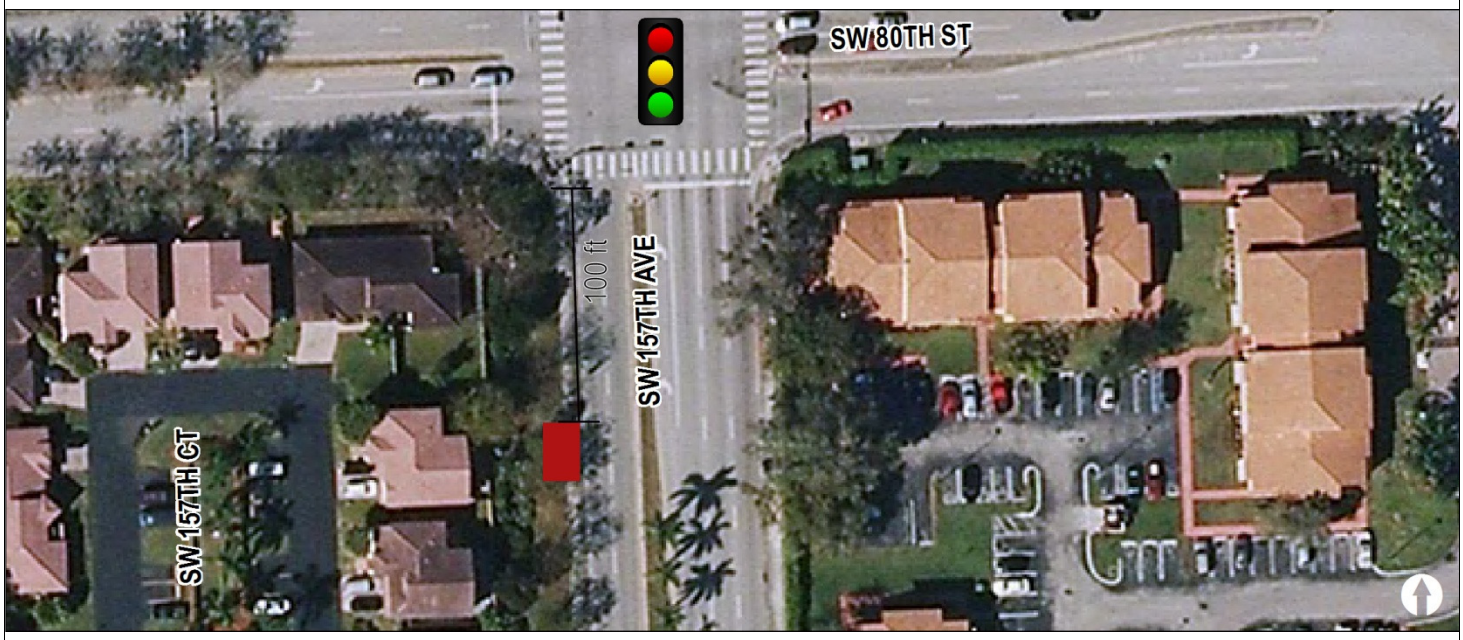
Photograph: Facing the Station Area

Photograph: In the Direction of Travel

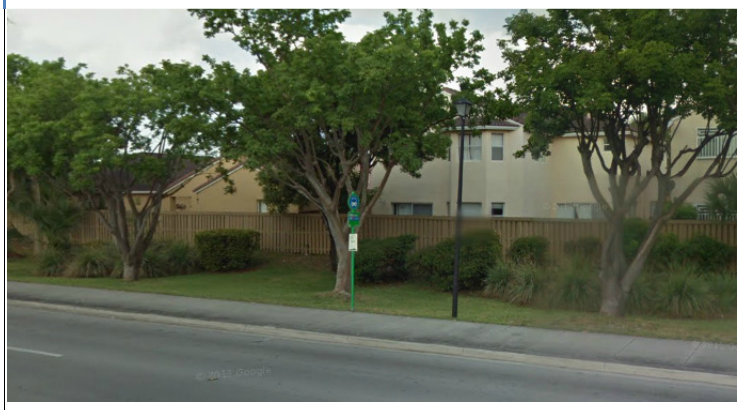
• **Street**	SW 162 Avenue
• **Cross-street**	N.A.
• **Desired ROW**	N.A.
• **Available ROW (Preliminary)**	N.A.
• **Station Platform**	N.A.
• **Shelter Type**	N.A.
• **Marker Type**	N.A.
• **Other Considerations or Constraints**	This is an existing terminal. No additional improvements related to Route 288 are needed at this time.
• **Other Recommended Improvements**	None

3. SW 80 St and SW 157 Ave (EB)

Plan View



Photograph: Facing the Station Area



Photograph: In the Direction of Travel

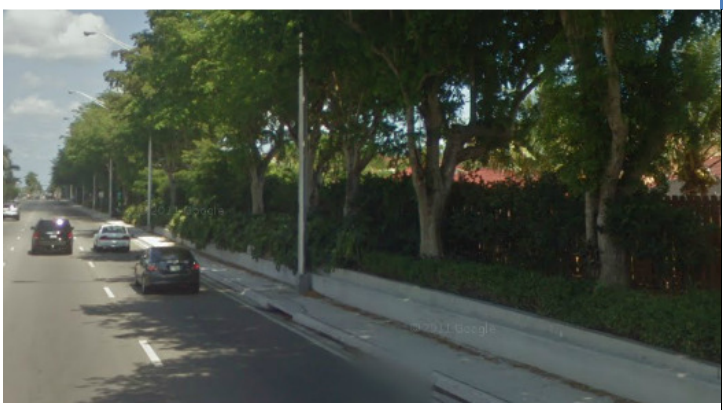
• **Street**	SW 80 Street
• **Cross-street**	SW 157 Avenue
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	8.5' X 25'
• **Station Platform**	8' X 25'
• **Shelter Type**	Narrow
• **Marker Type**	Standard
• **Other Considerations or Constraints**	None
• **Other Recommended Improvements**	None

4. SW 152 Ave (EB)

Plan View

Photograph: Facing the Station Area

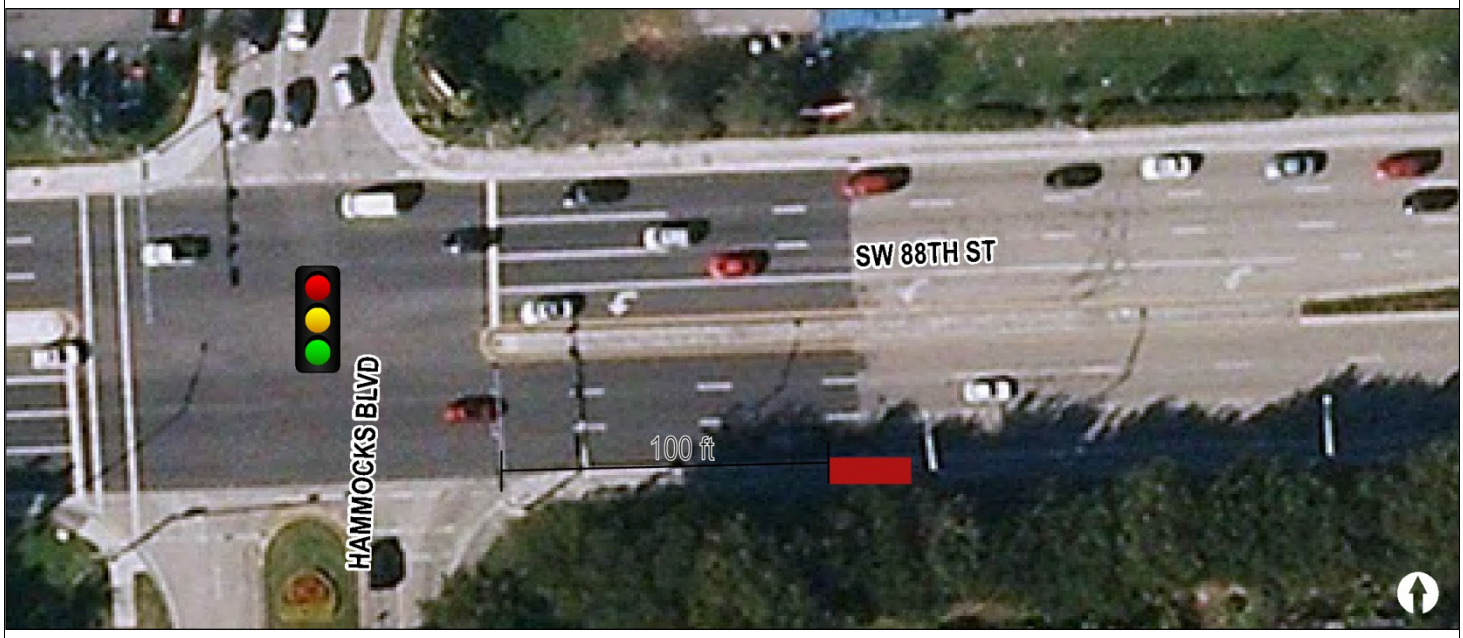
Photograph: In the Direction of Travel



• **Street**	SW 88 Street
• **Cross-street**	SW 152 Avenue
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	5' X 25'
• **Station Platform**	8' X 25'
• **Shelter Type**	Narrow
• **Marker Type**	Standard
• **Other Considerations or Constraints**	ROW is insufficient at this location. An easement with the property owner is recommended.
• **Other Recommended Improvements**	None.

5. SW 150 Ave (EB)

Plan View



Photograph: Facing the Station Area

Photograph: In the Direction of Travel

• **Street**	SW 88 Street
• **Cross-street**	SW 150 Avenue
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	5' X 25'
• **Station Platform**	8' X 25'
• **Shelter Type**	Narrow
• **Marker Type**	Standard
• **Other Considerations or Constraints**	ROW is insufficient at this location. An easement with the property owner is recommended.
• **Other Recommended Improvements**	None

6. SW 147 Ave (EB)

Plan View

Photograph: Facing the Station Area

Photograph: In the Direction of Travel

• **Street**	SW 88 Street
• **Cross-street**	SW 147 Avenue
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	6' X 25'
• **Station Platform**	8' X 25'
• **Shelter Type**	Narrow
• **Marker Type**	Standard
• **Other Considerations or Constraints**	ROW is insufficient at this location. An easement with the property owner is recommended.
• **Other Recommended Improvements**	None

7. SW 142 Ave (EB)

Plan View

Photograph: Facing the Station Area

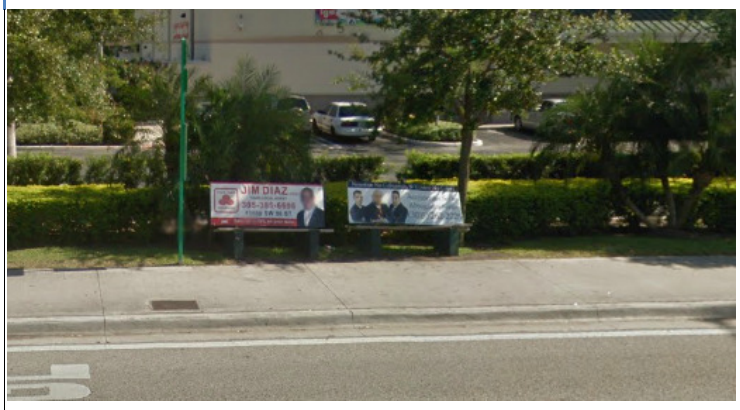
Photograph: In the Direction of Travel

• **Street**	SW 88 Street
• **Cross-street**	SW 142 Avenue
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	6.5' X 25'
• **Station Platform**	8' X 25'
• **Shelter Type**	Narrow
• **Marker Type**	Standard
• **Other Considerations or Constraints**	ROW is insufficient at this location. An easement with the property owner is recommended.
• **Other Recommended Improvements**	None

8. SW 137 Ave (EB)

Plan View

Photograph: Facing the Station Area

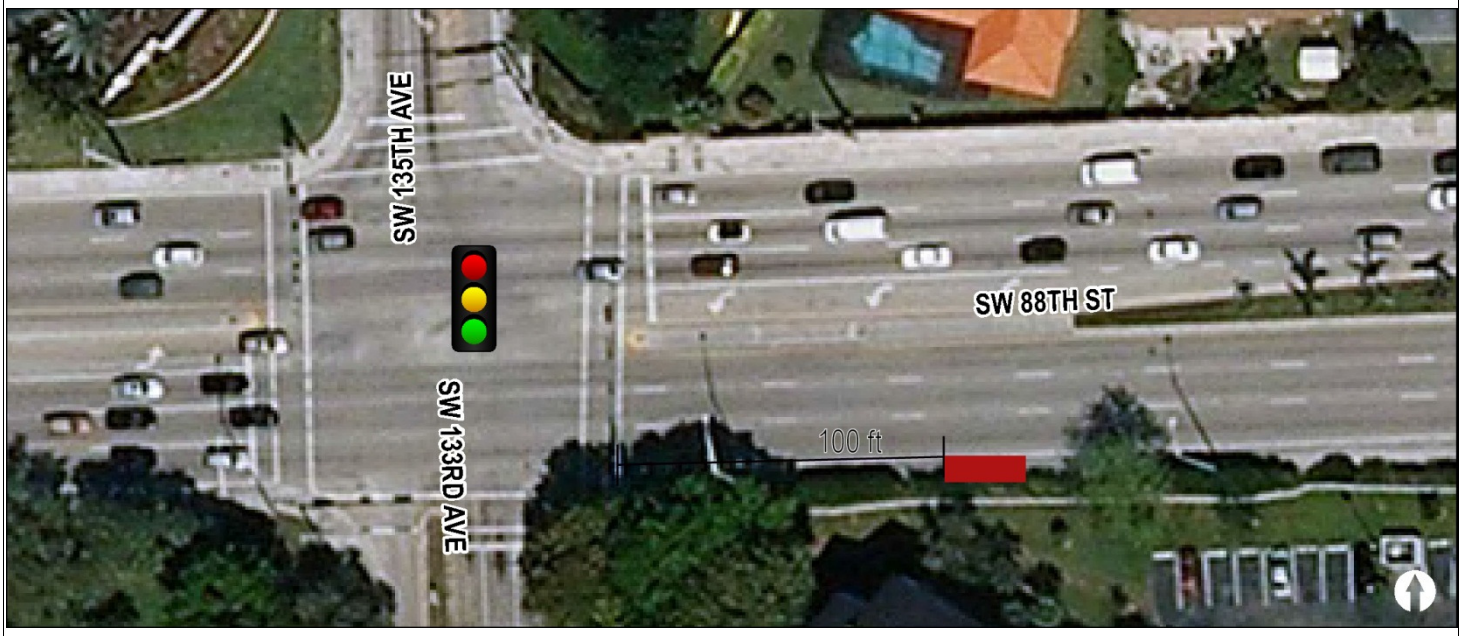


Photograph: In the Direction of Travel

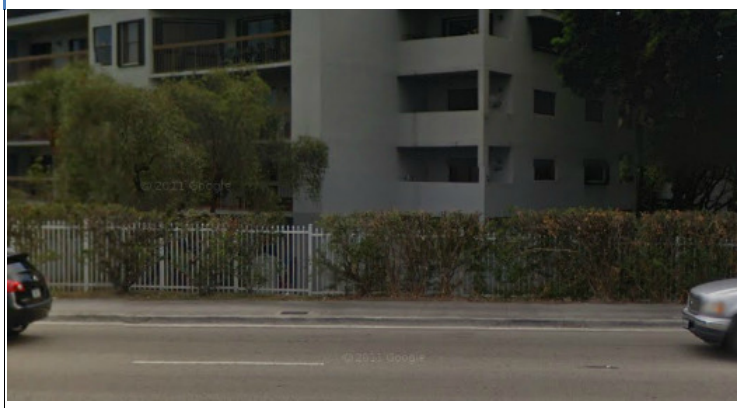
• **Street**	SW 88 Street
• **Cross-street**	SW 137 Avenue
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	6' X 25'
• **Station Platform**	8' X 25'
• **Shelter Type**	Narrow
• **Marker Type**	Standard
• **Other Considerations or Constraints**	ROW is insufficient at this location. An easement with the property owner is recommended.
• **Other Recommended Improvements**	None

9. SW 133 / 135 Ave (EB)

Plan View



Photograph: Facing the Station Area

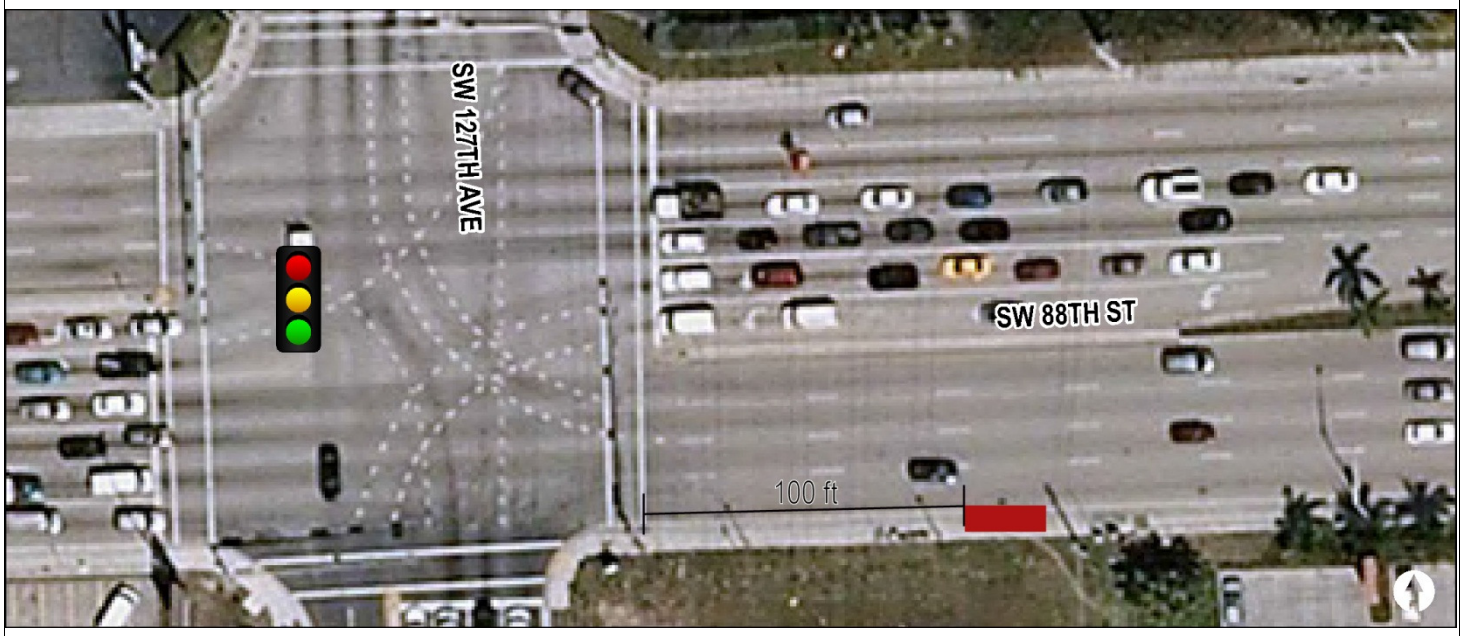


Photograph: In the Direction of Travel

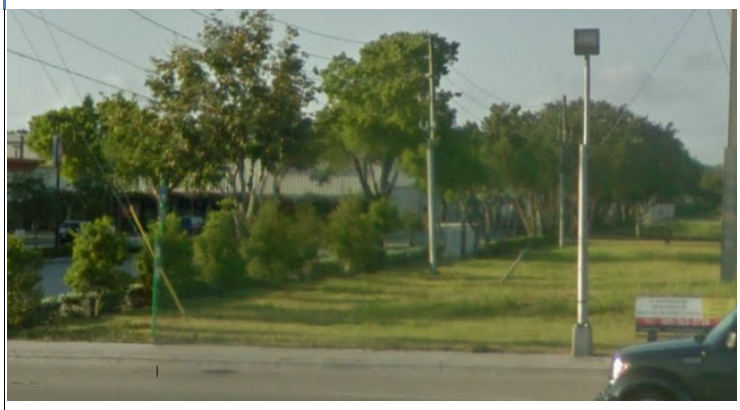
• **Street**	SW 88 Street
• **Cross-street**	SW 133 / 135 Avenue
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	5' X 25'
• **Station Platform**	8' X 25'
• **Shelter Type**	Narrow
• **Marker Type**	Standard
• **Other Considerations or Constraints**	ROW is insufficient at this location. An easement with the property owner is recommended.
• **Other Recommended Improvements**	None

10. SW 127 Ave (EB)

Plan View



Photograph: Facing the Station Area

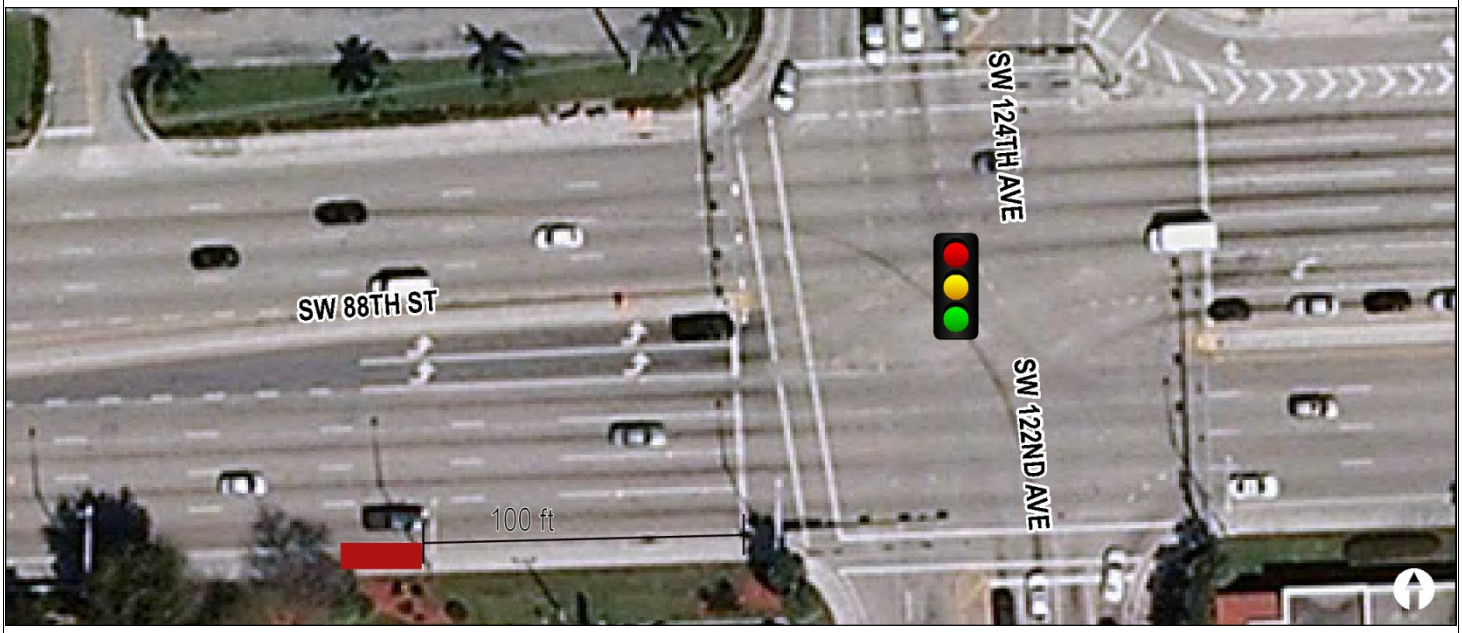


Photograph: In the Direction of Travel

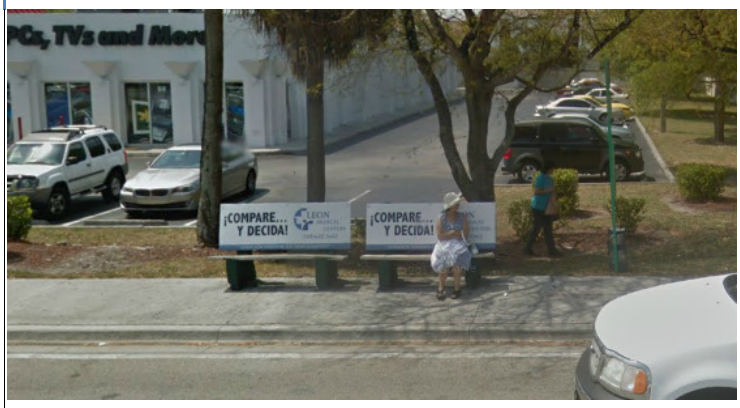
• **Street**	SW 88 Street
• **Cross-street**	SW 127 Avenue
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	6' X 25'
• **Station Platform**	8' X 25'
• **Shelter Type**	Narrow
• **Marker Type**	Standard
• **Other Considerations or Constraints**	ROW is insufficient at this location. An easement with the property owner is recommended.
• **Other Recommended Improvements**	None

11. SW 122/124 Ave (EB)

Plan View



Photograph: Facing the Station Area

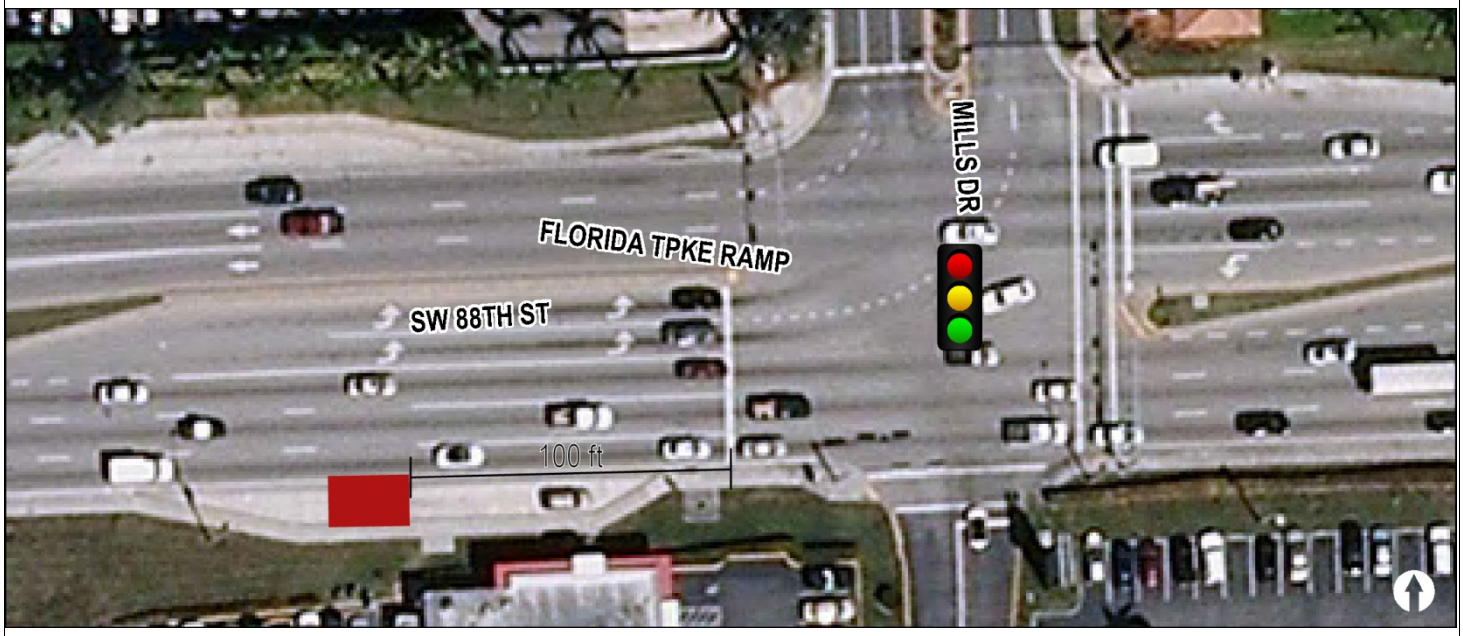


Photograph: In the Direction of Travel

• **Street**	SW 88 Street
• **Cross-street**	SW 122 / SW 124 Avenue
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	6' X 25'
• **Station Platform**	8' X 25'
• **Shelter Type**	Narrow
• **Marker Type**	Standard
• **Other Considerations or Constraints**	ROW is insufficient at this location. An easement with the property owner is recommended.
• **Other Recommended Improvements**	None

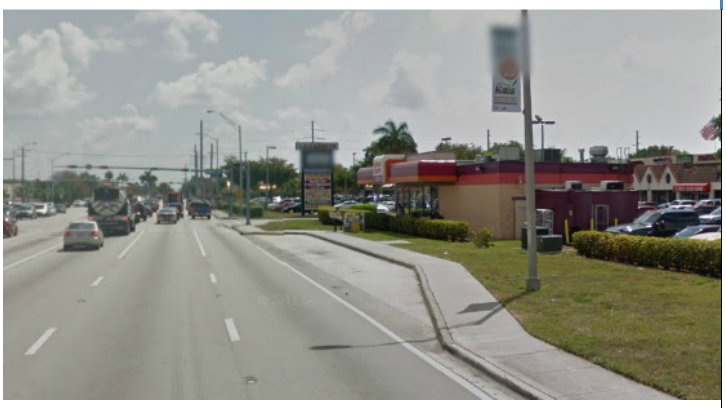
12. SW 117 Ave (EB)

Plan View



Photograph: Facing the Station Area

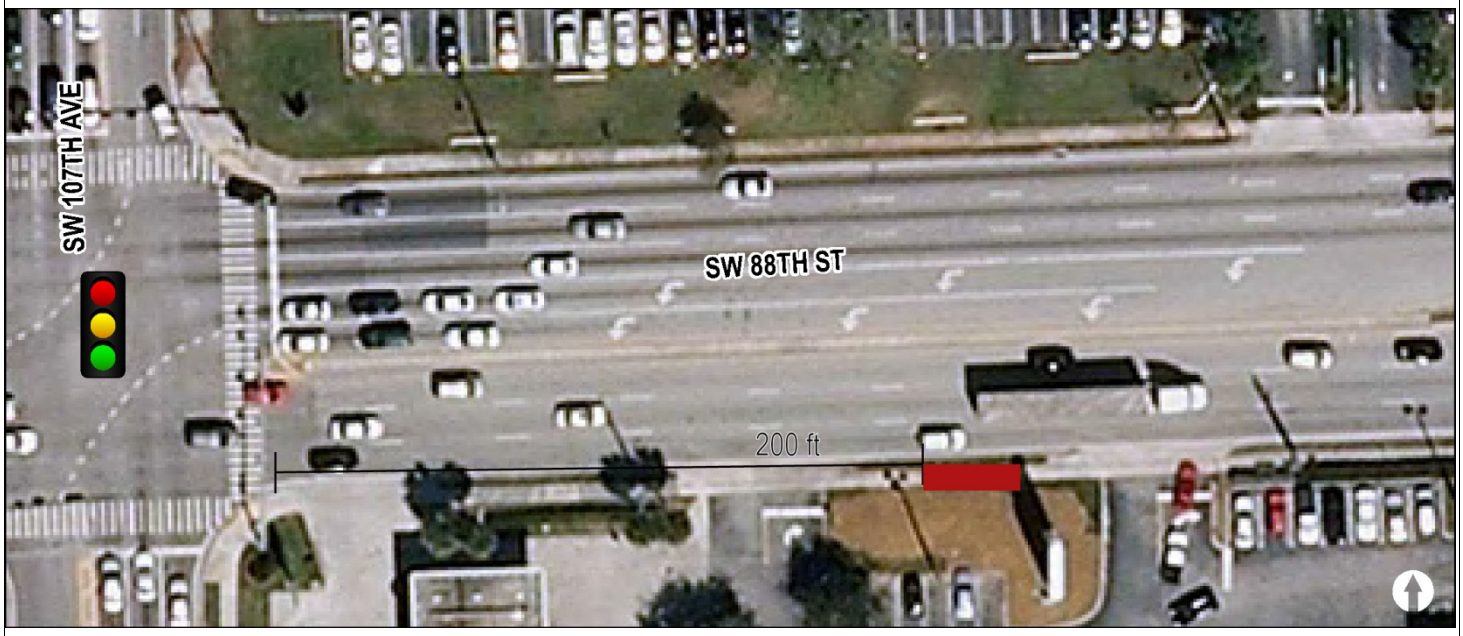
Photograph: In the Direction of Travel



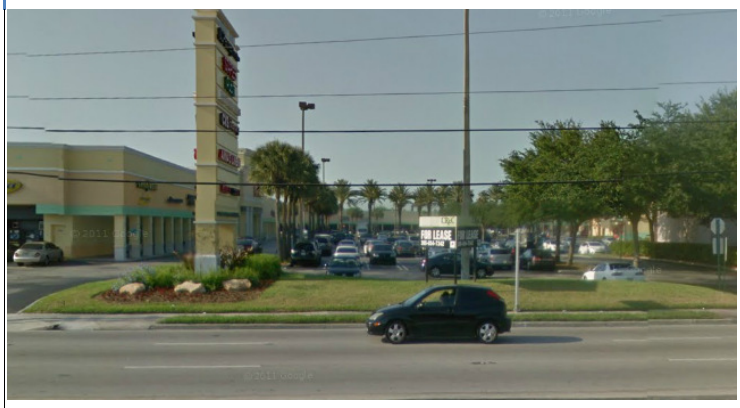
• **Street**	SW 88 Street
• **Cross-street**	SW 117 Avenue
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	16' X 25'
• **Station Platform**	15' X 25'
• **Shelter Type**	Standard
• **Marker Type**	Standard
• **Other Considerations or Constraints**	Eliminate Busbay to incorporate a station area
• **Other Recommended Improvements**	Crosswalks on all legs of this intersection are recommended.

13. SW 107 Ave (EB)

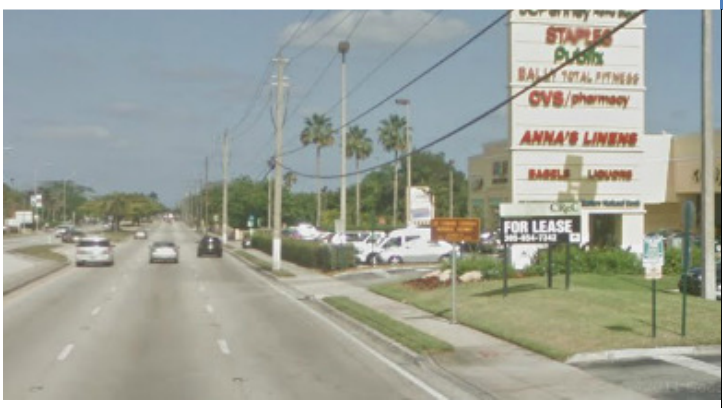
Plan View



Photograph: Facing the Station Area



Photograph: In the Direction of Travel



• **Street**	SW 88 Street
• **Cross-street**	SW 107 Avenue
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	6' X 25'
• **Station Platform**	8' X 25'
• **Shelter Type**	Narrow
• **Marker Type**	Small
• **Other Considerations or Constraints**	ROW is insufficient at this location. An easement with the property owner is recommended. Due to overhead utilities, marker height will have to be reduced.
• **Other Recommended Improvements**	None

14. SW 107 Ave (WB)

Plan View

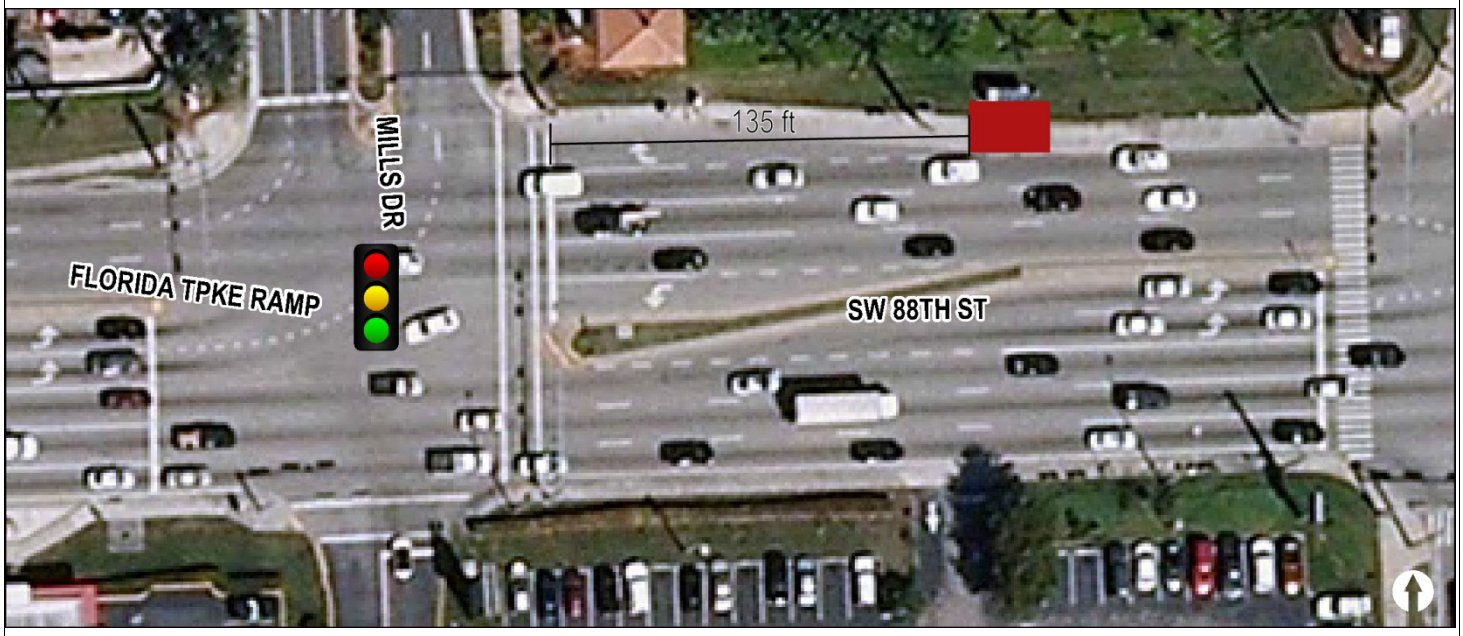
Photograph: Facing the Station Area

Photograph: In the Direction of Travel

• **Street**	SW 88 Street
• **Cross-street**	SW 107 Avenue
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	7.5' X 25'
• **Station Platform**	8' X 25'
• **Shelter Type**	Narrow
• **Marker Type**	Standard
• **Other Considerations or Constraints**	ROW is insufficient at this location. An easement with the property owner is recommended.
• **Other Recommended Improvements**	None

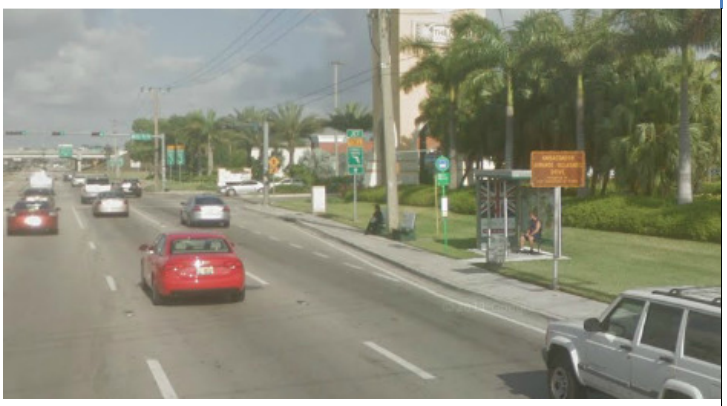
15. SW 117 Ave (WB)

Plan View



Photograph: Facing the Station Area

Photograph: In the Direction of Travel

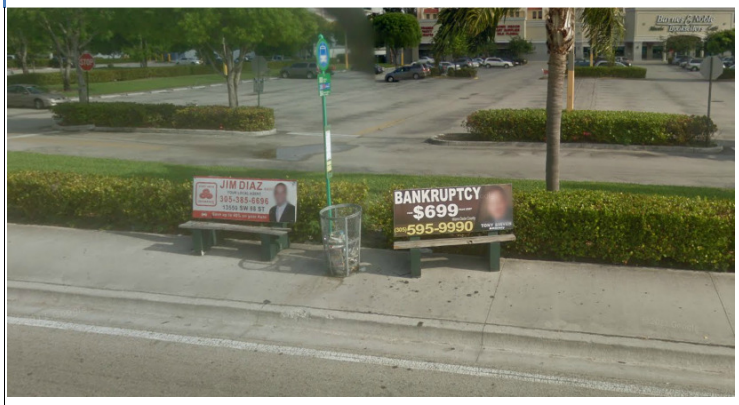


• **Street**	SW 88 Street
• **Cross-street**	SW 117 Avenue
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	13.5' X 25' (with the assumed easement)
• **Station Platform**	15' X 25'
• **Shelter Type**	Standard
• **Marker Type**	Small
• **Other Considerations or Constraints**	It appears that an easement or an agreement between MDT and the property owner exists. The same agreement can be used to install a standard shelter. A crosswalk at the northern leg of this intersection is recommended. Due to overhead utilities, marker height will have to be reduced.
• **Other Recommended Improvements**	None

16. SW 122/124 Ave (WB)

Plan View

Photograph: Facing the Station Area



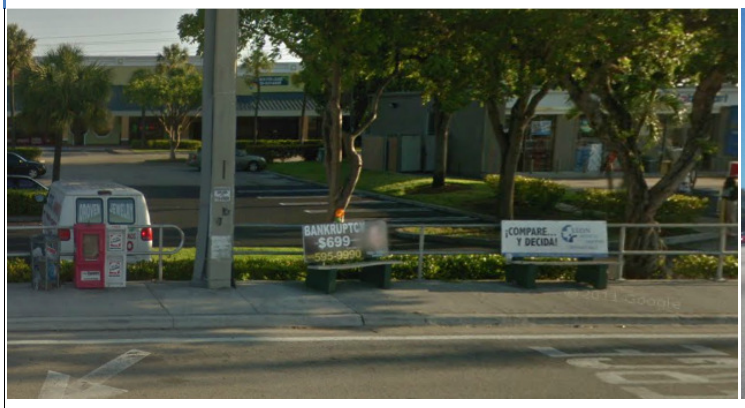
Photograph: In the Direction of Travel

• **Street**	SW 88 Street
• **Cross-street**	SW 122 / 124 Avenue
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	6' X 25'
• **Station Platform**	8' X 25'
• **Shelter Type**	Narrow
• **Marker Type**	Small
• **Other Considerations or Constraints**	ROW is insufficient at this location. An easement with the property owner is recommended. Due to overhead utilities, marker height will have to be reduced.
• **Other Recommended Improvements**	None

17. SW 127 Ave (WB)

Plan View

Photograph: Facing the Station Area

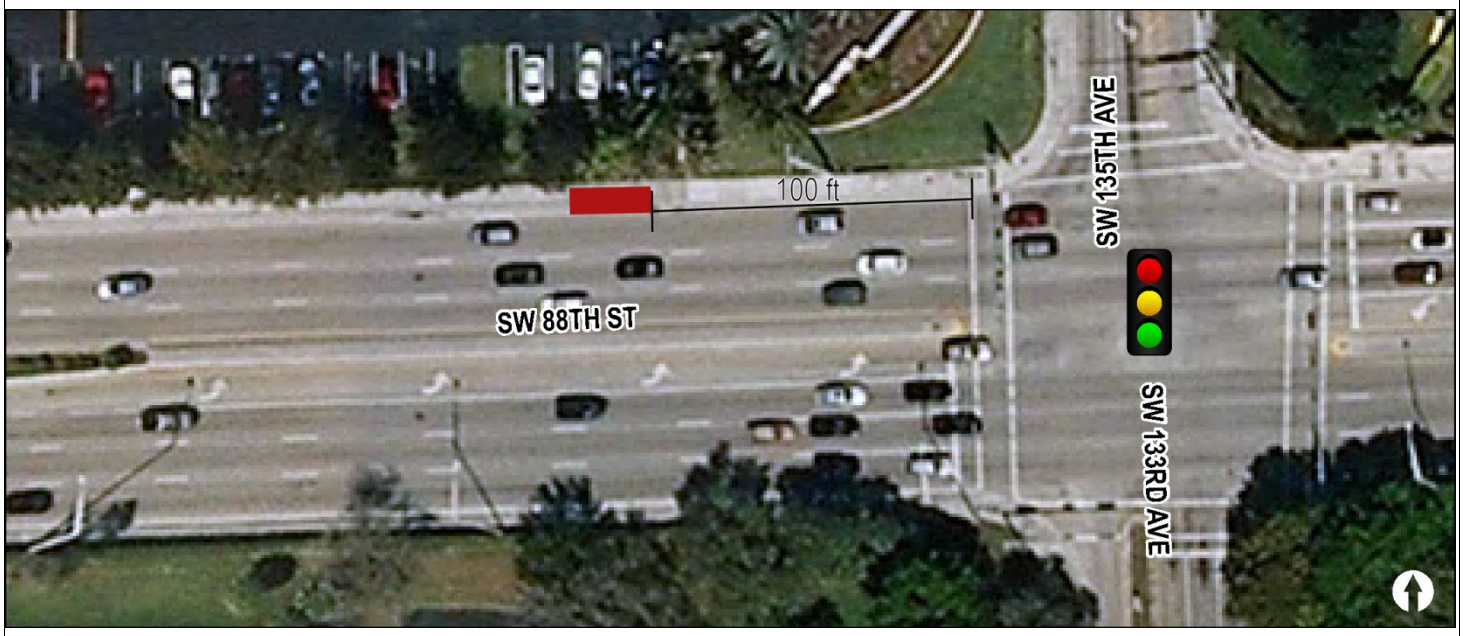


Photograph: In the Direction of Travel

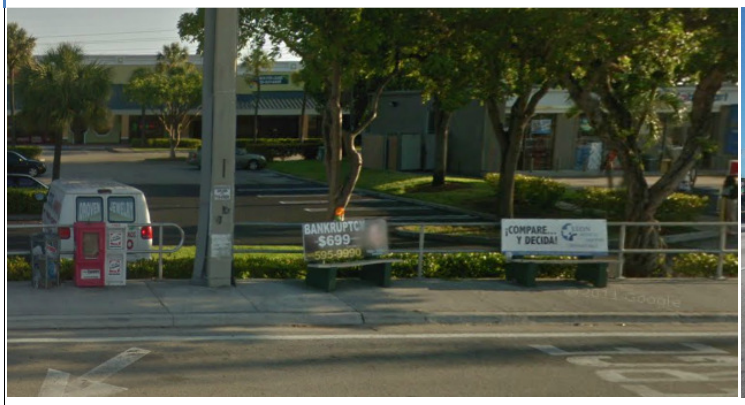
• **Street**	SW 88 Street
• **Cross-street**	SW 127 Avenue
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	6' X 25'
• **Station Platform**	8' X 25'
• **Shelter Type**	Narrow
• **Marker Type**	Small
• **Other Considerations or Constraints**	ROW is insufficient at this location. An easement with the property owner is recommended. Due to overhead utilities, marker height will have to be reduced.
• **Other Recommended Improvements**	None

18. SW 133/135 Ave (WB)

Plan View



Photograph: Facing the Station Area



Photograph: In the Direction of Travel

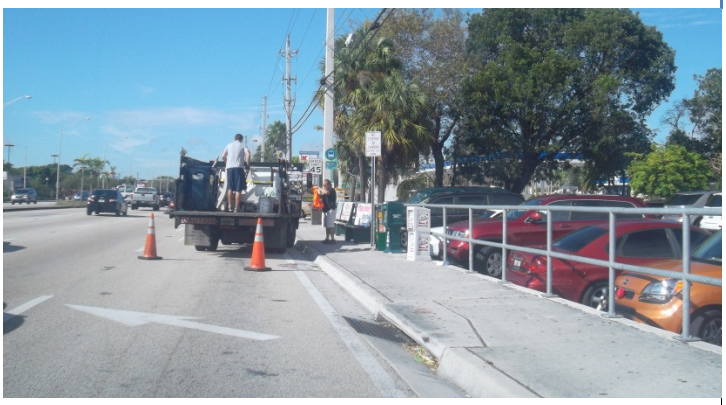
• **Street**	SW 88 Street
• **Cross-street**	SW 133/135 Avenue
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	6' X 25'
• **Station Platform**	8' X 25'
• **Shelter Type**	Narrow
• **Marker Type**	Small
• **Other Considerations or Constraints**	ROW is insufficient at this location. An easement with the property owner is recommended. Due to overhead utilities, marker height will have to be reduced.
• **Other Recommended Improvements**	None

19. SW 137 Ave (WB)

Plan View

Photograph: Facing the Station Area

Photograph: In the Direction of Travel

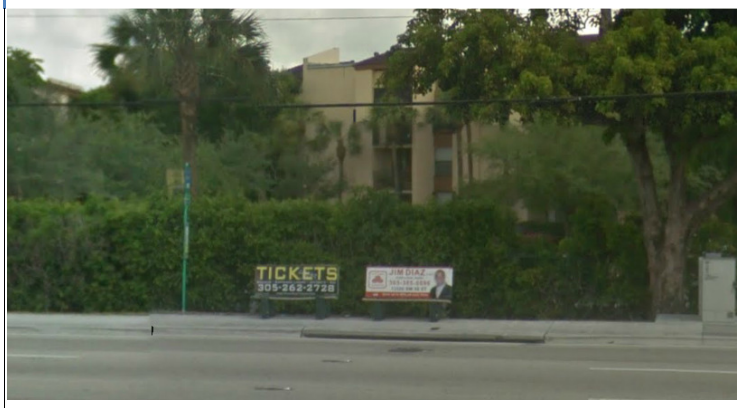


• **Street**	SW 88 Street
• **Cross-street**	SW 137 Avenue
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	6' X 25'
• **Station Platform**	8' X 25'
• **Shelter Type**	Narrow
• **Marker Type**	Small
• **Other Considerations or Constraints**	ROW is insufficient at this location. An easement with the property owner is recommended. Due to overhead utilities, marker height will have to be reduced.
• **Other Recommended Improvements**	None

20. SW 142 Ave (WB)

Plan View

Photograph: Facing the Station Area

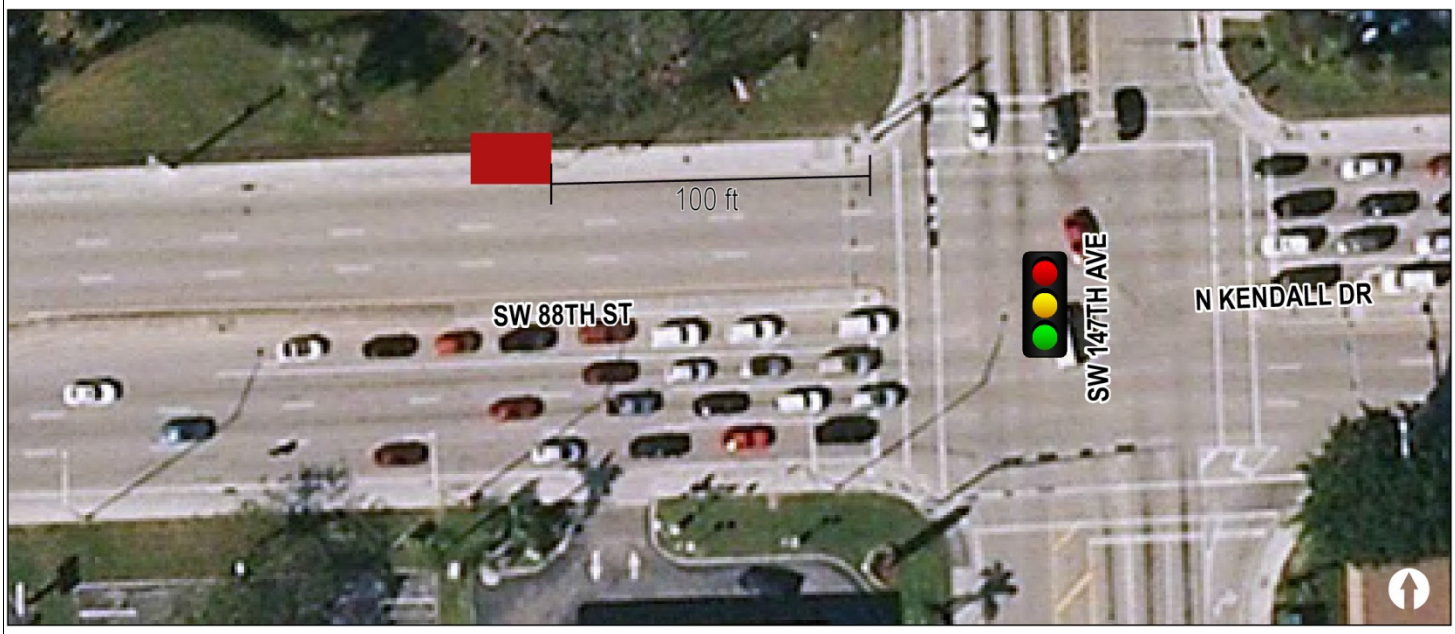


Photograph: In the Direction of Travel

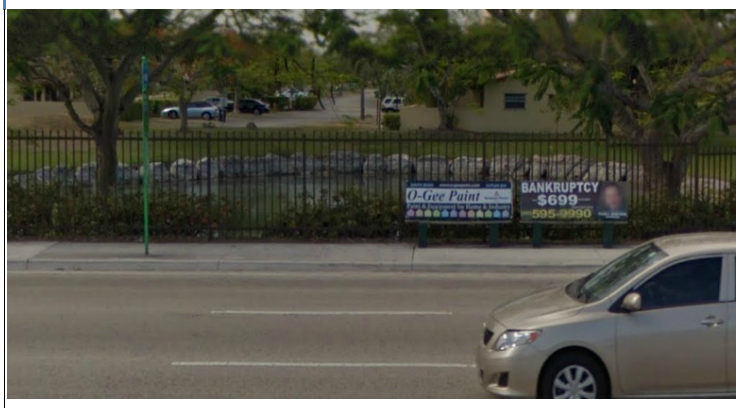
• **Street**	SW 88 Street
• **Cross-street**	SW 142 Avenue
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	6' X 25'
• **Station Platform**	8' X 25'
• **Shelter Type**	Narrow
• **Marker Type**	Small
• **Other Considerations or Constraints**	ROW is insufficient at this location. An easement with the property owner is recommended. Due to overhead utilities, marker height will have to be reduced.
• **Other Recommended Improvements**	None

21. SW 147 Ave (WB)

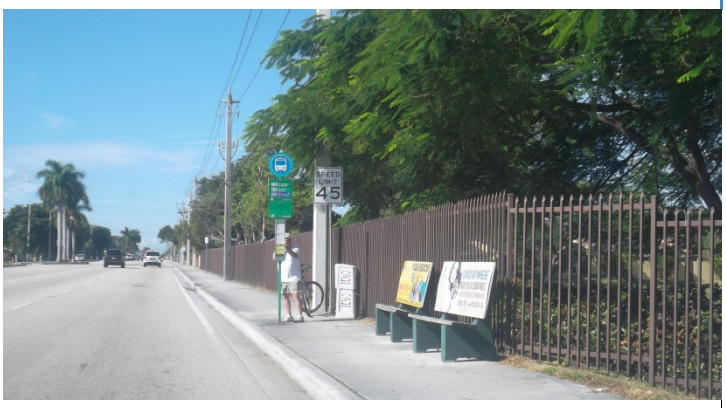
Plan View



Photograph: Facing the Station Area



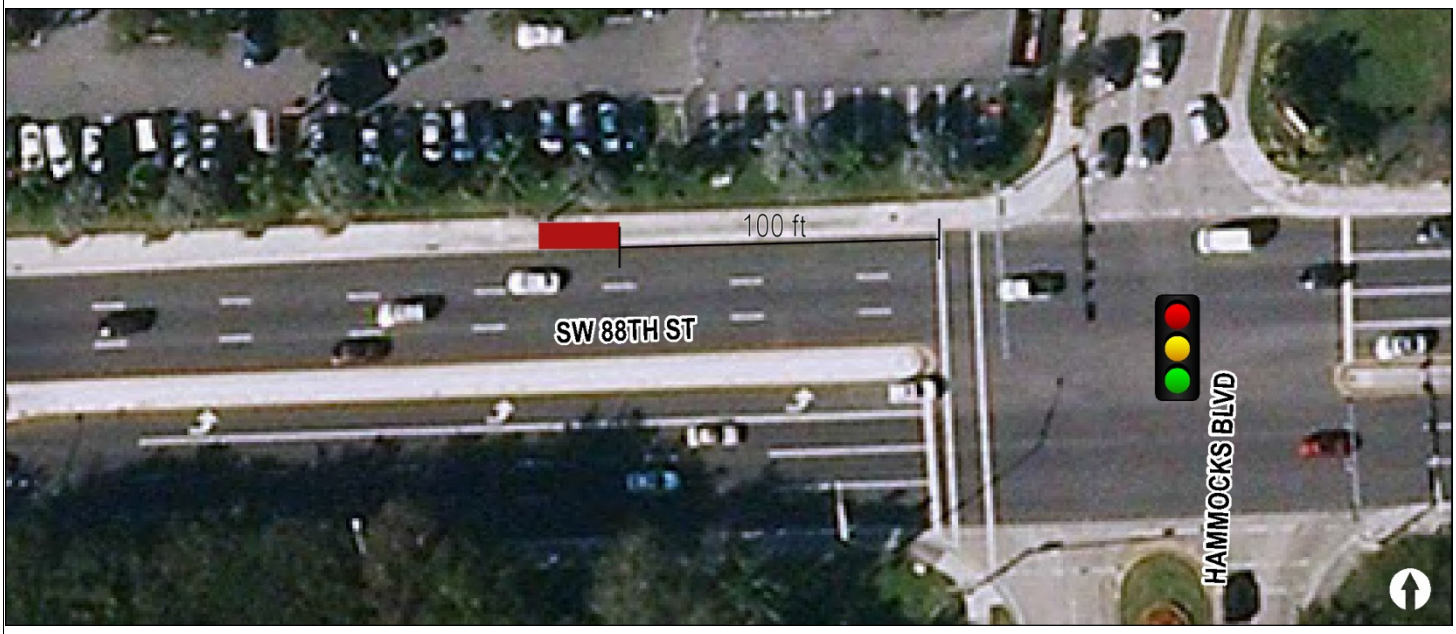
Photograph: In the Direction of Travel



• **Street**	SW 88 Street
• **Cross-street**	SW 147 Avenue
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	6' X 25'
• **Station Platform**	8' X 25'
• **Shelter Type**	Narrow
• **Marker Type**	Small
• **Other Considerations or Constraints**	ROW is insufficient at this location. An easement with the property owner is recommended. Due to overhead utilities, marker height will have to be reduced.
• **Other Recommended Improvements**	None

22. SW 150 Ave (WB)

Plan View



Photograph: Facing the Station Area

Photograph: In the Direction of Travel

• **Street**	SW 88 Street
• **Cross-street**	SW 150 Avenue
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	5' X 25'
• **Station Platform**	8' X 25'
• **Shelter Type**	Narrow
• **Marker Type**	Small
• **Other Considerations or Constraints**	ROW is insufficient at this location. An easement with the property owner is recommended. Due to overhead utilities, marker height will have to be reduced. Crosswalk restriping is recommended at this intersection.
• **Other Recommended Improvements**	None

23. SW 152 Ave (WB)

Plan View

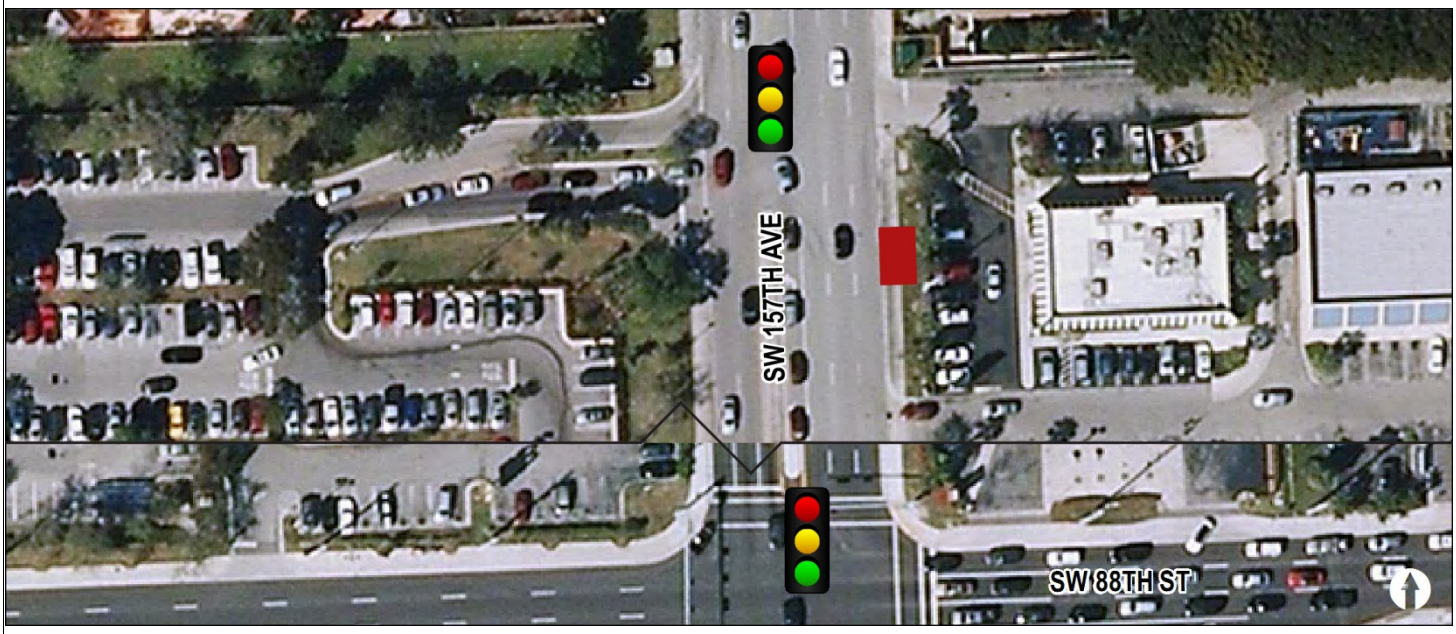
Photograph: Facing the Station Area

Photograph: In the Direction of Travel

• **Street**	SW 88 Street
• **Cross-street**	SW 152 Avenue
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	6' X 25'
• **Station Platform**	8' X 25'
• **Shelter Type**	Narrow
• **Marker Type**	Small
• **Other Considerations or Constraints**	ROW is insufficient at this location. An easement with the property owner is recommended. Due to overhead utilities, marker height will have to be reduced. Crosswalk restriping is recommended at this intersection.
• **Other Recommended Improvements**	None

24. SW 157 Ave and SW 86 St (WB)

Plan View



Photograph: Facing the Station Area

Photograph: In the Direction of Travel

• **Street**	SW 157 Avenue
• **Cross-street**	SW 86 Street
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	6' X 25'
• **Station Platform**	8' X 25'
• **Shelter Type**	Narrow
• **Marker Type**	Standard
• **Other Considerations or Constraints**	ROW is insufficient at this location. An easement with the property owner is recommended.
• **Other Recommended Improvements**	None

25. SW 157 Ave and SW 80 St (WB)

Plan View

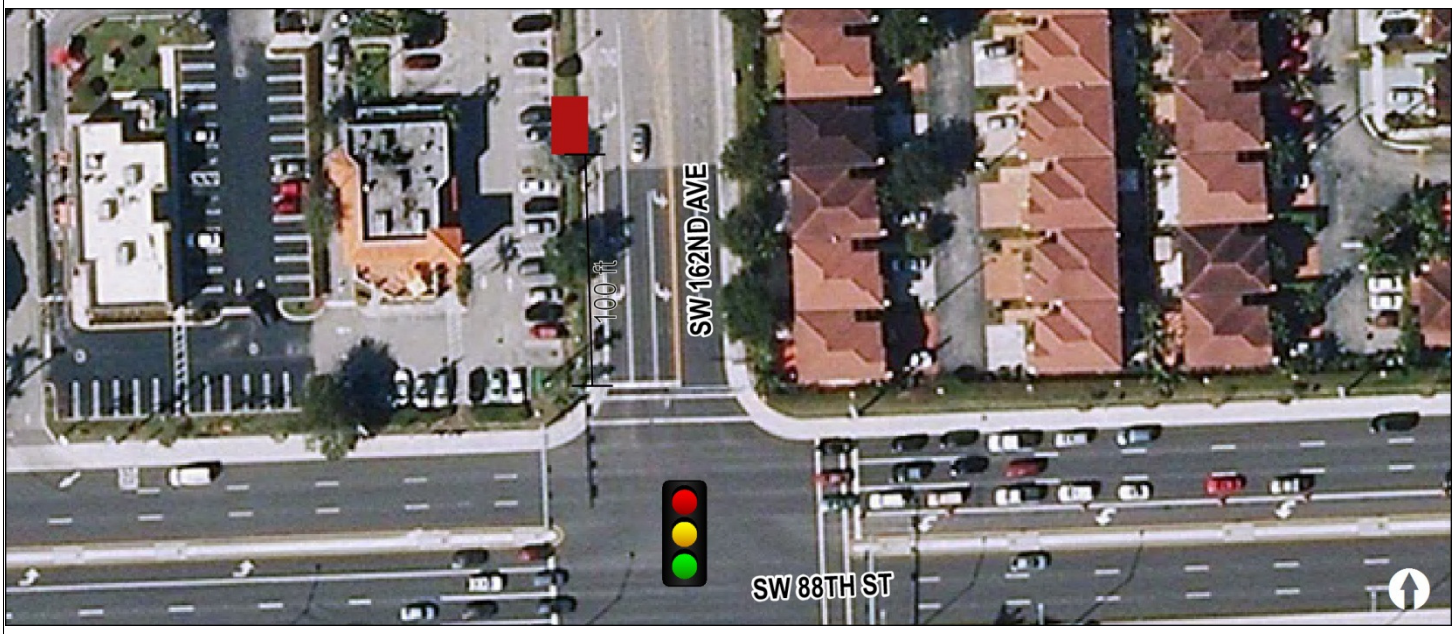
Photograph: Facing the Station Area

Photograph: In the Direction of Travel

• **Street**	SW 80 Street
• **Cross-street**	SW 157 Avenue
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	18' X 25'
• **Station Platform**	15' X 25'
• **Shelter Type**	Standard
• **Marker Type**	Standard
• **Other Considerations or Constraints**	None
• **Other Recommended Improvements**	None

26. SW 162 Ave and SW 88 St (WB)

Plan View



Photograph: Facing the Station Area

Photograph: In the Direction of Travel

• **Street**	SW 162nd Avenue
• **Cross-street**	SW 88th Street
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	5.5' X 25'
• **Station Platform**	8' X 25'
• **Shelter Type**	Narrow
• **Marker Type**	Standard
• **Other Considerations or Constraints**	ROW is insufficient at this location. An easement with the property owner is recommended.
• **Other Recommended Improvements**	None

27. SW 162 Ave and SW 88 St (EB)

Plan View

Photograph: Facing the Station Area

Photograph: In the Direction of Travel

• **Street**	SW 88 Street
• **Cross-street**	SW 162 Avenue
• **Desired ROW**	15' X 25'
• **Available ROW (Preliminary)**	7' X 25'
• **Station Platform**	8' X 25'
• **Shelter Type**	Narrow
• **Marker Type**	Standard
• **Other Considerations or Constraints**	ROW is insufficient at this location. An easement with the property owner is recommended.
• **Other Recommended Improvements**	None

3.5. KENDALL DRIVE - IMPLEMENTATION PLAN FOR KENDALL DRIVE

3.5.1. Kendall Drive - Cost Estimates per Unit

Capital costs include the one-time expenditure to build a system. Capital costs for Kendall Drive include stations, TSP and queue-jump lane improvements, and signalization and communications systems. Also included are "soft costs" for items such as engineering, construction services, insurance, and owner's costs, as well as contingencies for uncertainty in both the estimating process and the scope of the project. Some of these costs are measurable and have been included in this section. Other costs, such as right-of-way acquisition are unknown and therefore reasonable estimates cannot be developed at this time.

The MPO's Implementation Plan for Enhanced Bus Service along Biscayne Boulevard provided planning-level cost estimates for some of the key elements. Those unit costs were used for this analysis as well. The total project cost is nearly $12.3 million (Table 13).

TABLE 13: KENDALL DRIVE - PRELIMINARY COST ESTIMATES PER UNIT

Infrastructure Element	Cost per Unit/Intersection[1]	Number of Units/Intersections[2]	Total Cost
Station with Standard Shelter	$363,000	3	$1,089,000
Station with Narrow Shelter	$290,000	23	$6,670,000
Queue-Jump Improvements	$153,000	9	$1,377,000
Design Analysis	$30,000	9	$270,000
TSP Improvements	$77,00	28	$2,156,000
Traffic Engineering Analysis	$25,000	28	$700,000
Total Project Cost			$12,262,000

Notes:
1. Source: Miami-Dade MPO's Implementation Plan for Enhanced Bus Service along Biscayne Boulevard.
2. Except, Kendall Drive intersections at SW 162 Avenue and SR-878, all 28 signalized intersections along Route 288 are assumed to have TSP. Queue-jump lanes are assumed to be at the following nine intersections: SW 157 Avenue, SW 152 Avenue, SW 147 Avenue, SW 142 Avenue, SW 137 Avenue, SW 127 Avenue, SW 122 Avenue, SW 117 Avenue, SW 107 Avenue.

3.5.2. Kendall Drive - Funding Source for Recommended Improvements

MDT does not have a funding source identified for these improvements and therefore, they remain unfunded at this point. In 2002 the voters of Miami-Dade County passed a half-cent sales surtax that was dedicated to transportation funding, to implement premium transit services along nine corridors in the County. The plan, referred to as People's Transportation Plan (PTP), envisioned a premium transit service along Kendall Drive. Therefore, the half-cent sales surtax, which is managed by Citizen's Independent Transportation Trust (CITT), remains a potential source. Federal discretionary funding sources such as the Transportation Investment Generating Economic Recovery (TIGER) grants are also potential funding sources.

3.6. KENDALL DRIVE - RECOMMENDATIONS

1. Implement TSP: The 2009 Update of the CMP included a hierarchical set of goals. Single-occupancy auto trips were given lower priority over transit or high-occupancy auto trips. In line with the CMP goals, Kendall Drive achieves the objectives by ensuring that transit vehicles, that carry more people, receive priority over single-occupancy vehicles. This is a more sustainable solution given that a Kendall Drive widening could have severe right-of-way and environmental impacts. Based on the traffic impact analysis, TSP implementation is recommended along all

signalized intersections along Kendall Drive. However, given the impact of TSP, improvements can be gradually phased in to create more awareness. The first phase can restrict TSP to Route 288/ Kendall Cruiser.

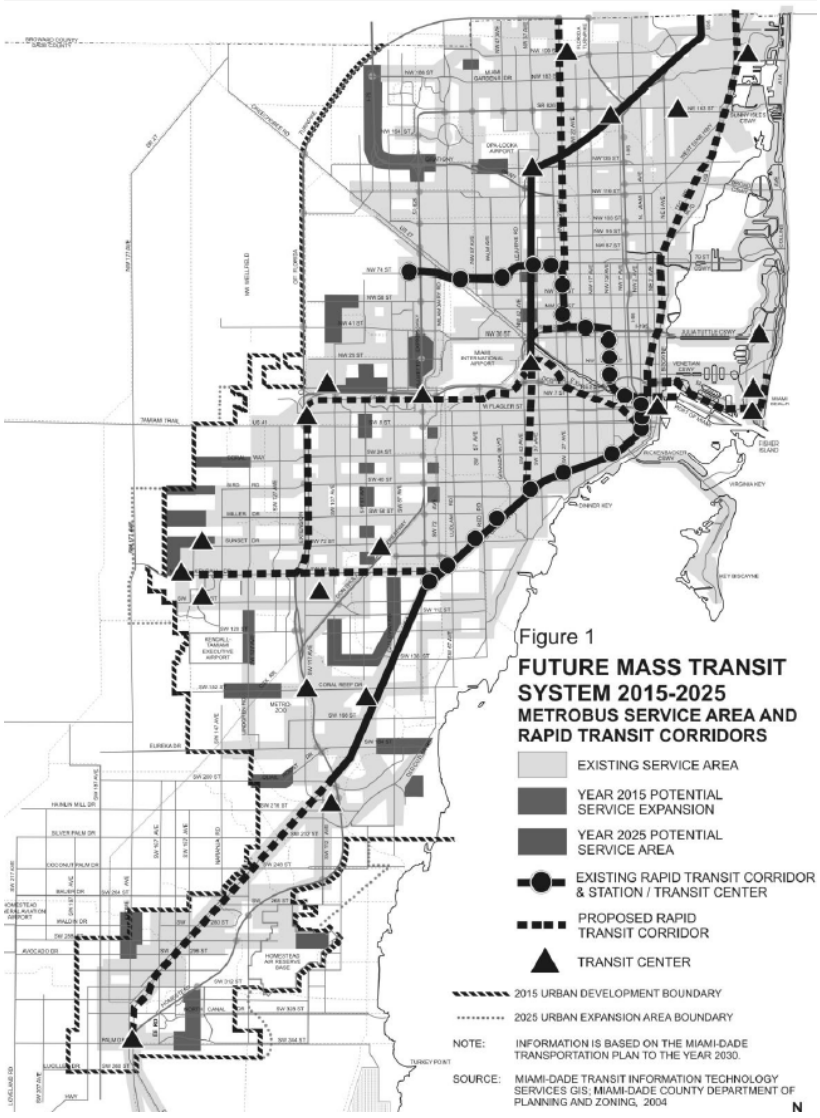
2. TSP Acknowledgement Criteria: TSP will improve travel time and travel time reliability but, in absence of an unconditional priority, the benefits of TSP are somewhat limited. Initial simulation runs completed for this study showed minor benefits to transit, in exchange for insignificant impacts to traffic on intersecting streets, if conditional priority is implemented. Any TSP improvements will not realize their full potential if acknowledgement criteria are too stringent. The purpose of simulating worst case scenario for this exercise was to demonstrate the real or actual potential of TSP. The preliminary results indicate that travel time benefits can be as high as 15 percent for transit riders which makes transit truly competitive with private auto.

3. Conduct Queue Length Study: The results demonstrated that the benefits of queue-jump lanes are limited if queue forming does not occur. Therefore, a queue length studies are recommended at all intersections with arterial roadways.

4. Land Use and Zoning: The entirety of Kendall Drive is in unincorporated Miami-Dade. The land use is under the umbrella of the County's Comprehensive Development Master Plan (CDMP). The Future Master Transit System included in the CDMP identifies rapid transit along the Kendall corridor as well as transit center at SW 162 Avenue and Kendall Drive (Figure 20). However, it does not identify station areas which will allow land use policies to take effect. It is recommended that future amendments to CDMP include the identified station areas along Kendall Drive.

5. Urban Form and Design: Integrating transit and pedestrian-oriented urban design practices around transit stations is critical for transit riders to feel comfortable making last-mile connections from the station to their destination. Residential uses in the western portion of the study area are typically within mixed use developments. Townhouse and apartment complexes tend to be located along Kendall Drive, while single family homes can be found further within the interior blocks and away from the major roadways. Developments are typically separated from adjacent roadways and neighborhoods by gates, walls or other physical barriers. As MDT implements the study recommendations, it should consider coordinating with neighborhood associations to make the proposed station areas more accessible from developments. It should consider bearing the cost of access improvements as it ultimately benefits the entire transit system.

FIGURE 20: FUTURE MASTER TRANSIT SYSTEM INCLUDED IN THE COUNTY'S CDMP



6. Community Outreach: The key to the success of an improved transit service is community outreach, to ensure higher awareness of the service and its unique features. Improvements, when implemented, should be advertised and community outreach for this specific project is recommended to be included as one of the MDT's Public Involvement Initiatives.

3.7. KENDALL DRIVE – VISUALIZATION

Conceptual renderings were prepared to facilitate public involvement efforts associated with this effort. Figures 21 to 25 show a typical location where a park-and-ride may be present.

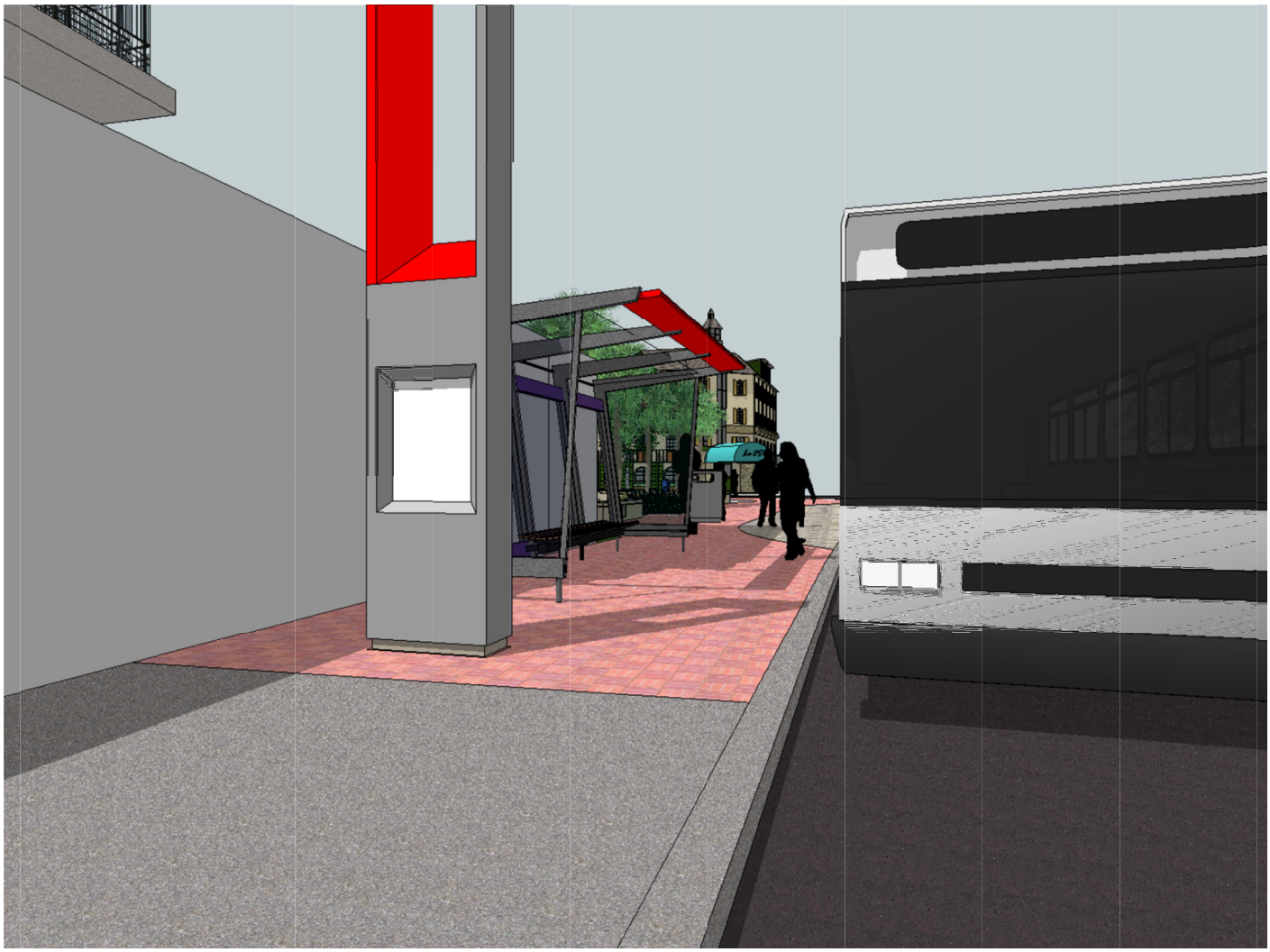
FIGURE 21: KENDALL DRIVE – RENDERING 1

FIGURE 22: KENDALL DRIVE – RENDERING 2

FIGURE 23: KENDALL DRIVE – RENDERING 3

FIGURE 24: KENDALL DRIVE – RENDERING 4

FIGURE 25: KENDALL DRIVE – RENDERING 5



Section 4

EVALUATION OF OLD CUTLER ROAD

Old Cutler Road, is a historically designated two-lane roadway that traverses through the City of Miami, City of Coral Gables, Village of Pinecrest, Village of Palmetto Bay, and Town of Cutler Bay (Figure 27). A portion of the road turns in to Red Road or SW 57th Avenue. Some portions of this corridor are also called Ingraham Highway. The 2009 CMP identified congestion between SW 216 Street in the Town of Cutler Bay and SW 37 Avenue in the City of Miami. This segment primarily traverses residential neighborhoods that rely on Old Cutler Road to access other transportation facilities to the west such as SR-5/US-1/South Dixie Highway. This roadway also passes several public and private schools with school zone restrictions. The school zones are in effect during different but overlapping periods that principally affect morning peak period traffic.

Traffic is particularly slow during peak periods in the northern portion of the corridor. Queues form at signalized intersections and generally are indicative of heavy traffic volumes relative to the capacity of a two-lane roadway. Traffic conditions are worst during the PM peak period in the southbound direction. AADT counts compiled by PWWM are included in Figure 26. Traffic volumes along this two-lane roadway varies from 13,000 to 19,000 per day.

FIGURE 26: OLD CUTLER ROAD – AVERAGE ANNUAL DAILY TRAFFIC BY PWWM (2012)

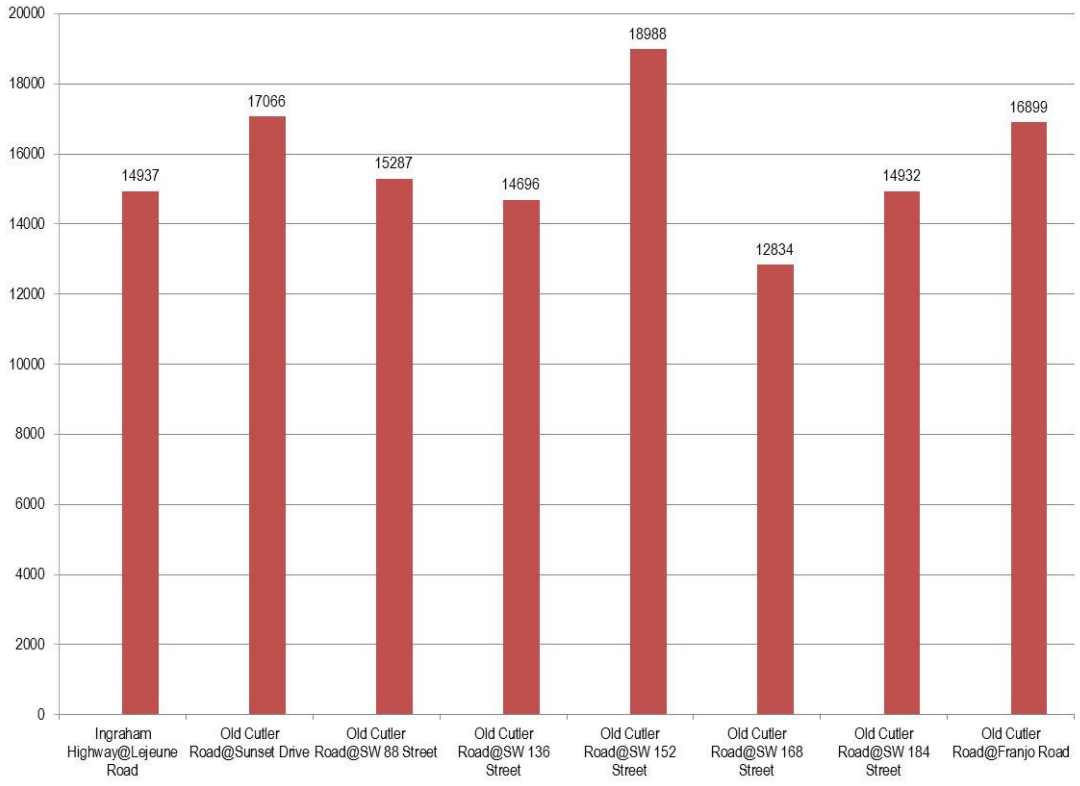
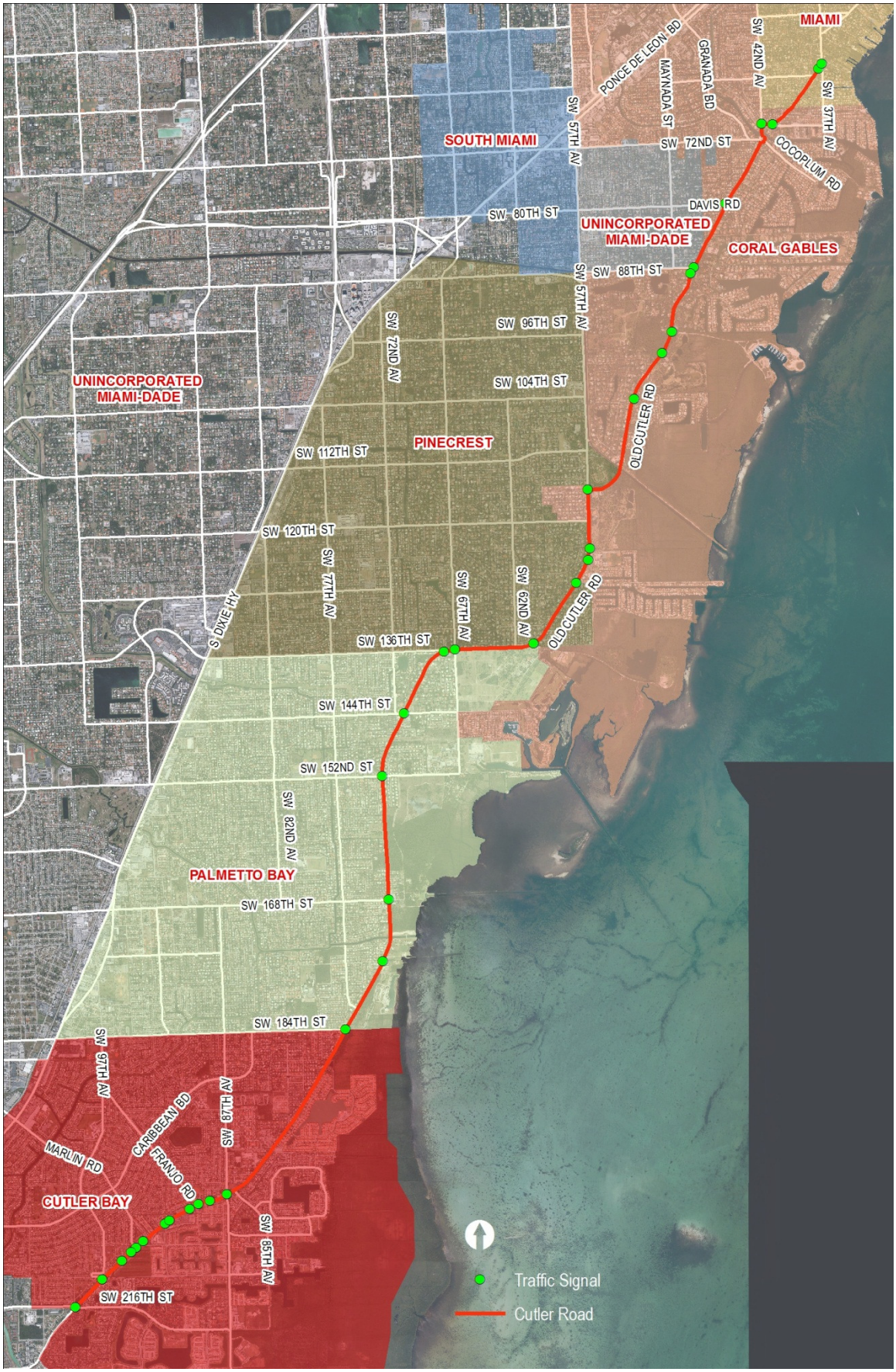
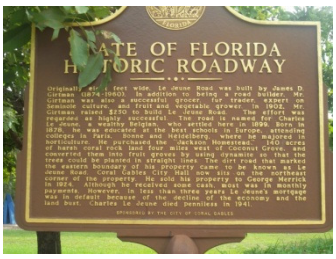


FIGURE 27: OLD CUTLER ROAD – LOCATION MAP



4.1. OLD CUTLER ROAD - EXISTING ISSUES



In 1974 Old Cutler Road was designated as a historic road by Senate Bill No. 340. This bill prohibited the use of state funds for certain physical changes on or near the road. For instance, it prohibits usage of state funds to cut or remove any tree with a diameter of 6", within 35' of the edge of pavement.

Section 9-2 of the Miami-Dade County Code prohibits the widening or expansion of Old Cutler Road from its presently paved right-of-way, except for the purpose of assuring safe travel. The Code permits limited expansion of intersections provided that an advertised public hearing is held to present the findings of fact necessitating such work prior to approval by Miami-Dade Board of County Commissioners. Due to these provisions, capacity expansion improvements are ruled out leaving room for operational improvements as long as they meet the applicable codes and criteria. There are limited ways to manage and relieve congestion on a two-lane roadway (Figure 28). The primary benefits come from physically separating turning or slow vehicles from other vehicles by either providing auxiliary turn lanes or passing lanes. The number of permissible improvements along Old Cutler Road is limited. A brief evaluation of potential improvements for a two-lane roadway is included in Table 14. Auxiliary turn lanes, provided that they meet the provisions in the state and local regulations, can help.

FIGURE 28: CONGESTION ALONG OLD CUTLER ROAD

TABLE 14: OLD CUTLER ROAD - COMPARISON OF OPERATIONAL AND SAFETY IMPROVEMENT ALTERNATIVES FOR TWO-LANE HIGHWAYS

Improvement Alternative	Improvement Type (Passing or Turning)	Relative Cost	Travel Time Benefits	Safety Benefits	Applicability for Old Cutler Road
			Travel Time	Safety	Reason
Four-lane divided	Both	High	Reduction	Reduction	Not considered as it is prohibited
Realignment		High	Variable effect	Reduction	Not considered as it is prohibited
Access control	Turning	High	Negligible	Reduction	Few opportunities given the historic nature and limited alternatives
Grade separation	Turning	High	Negligible	Reduction	Not considered as it is prohibited
Passing lanes	Passing	Moderate	Reduction	Reduction	Not considered as it is prohibited
Shoulder driving	Passing	Low	Small reduction		Not applicable since there are no shoulders
Auxiliary turn lane	Turning	Low	Reduction	Reduction	Considered - Depending on certain conditions, this is possible. PWWM and the Town of Cutler Bay have implemented this strategy.
Road Signing		Low	Negligible	Reduction	Not considered as it has little or no impact on congestion management

Adopted and modified from: Tom Domagalski, Illinois Department of Transportation, April 1988 / Illinois Municipal Review / Page 19

4.2. OLD CUTLER ROAD - RELEVANT RECENTLY COMPLETED OR PLANNED PROJECTS

A list of recently completed or planned projects in the vicinity of Old Cutler Road is included in Table 15. According to the Town of Cutler Bay Transportation Master Plan, congestion relief along Old Cutler Road can mainly be gained at intersections – consistent with the approach of this study. PWWM recently completed resurfacing of Old Cutler Shared Use Path. The Town of Cutler Bay will resurface and make some operational improvements between NW 87 Avenue and NW 97 Avenue.

TABLE 15: OLD CUTLER ROAD - RELEVANT RECENTLY COMPLETED OR PLANNED PROJECTS IN THE VICINITY

Roadway	From	To	Agency	Status
Old Cutler Road Resurfacing	SW 224 Street	SW 97 Avenue	Cutler Bay	Completed (ARRA)
Old Cutler Road Resurfacing	SW 87 Avenue	SW 184 Street	Cutler Bay	Completed (ARRA)
Old Cutler Road Improvements (Resurfacing, Aesthetics, Operational)	SW 97 Avenue	SW 87 Avenue	Town of Cutler Bay	Ongoing
Old Cutler Road Resurfacing	Cartagena Plaza	Kendall Drive	PWWM	Completed
Old Cutler Shared Use Path / Trail – Phase 2	SW 136 Street	Cartagena Park	PWWM	In Design
Old Cutler Shared Use Path / Trail – Phase 1	SW 216 Street	SW 136 Street	PWWM	Completed

4.3. OLD CUTLER ROAD - POTENTIAL IMPROVEMENTS

Consistent with the approach outlined in Table 14, intersections along Old Cutler Road, between SW 216 Street and SW 37 Avenue, were evaluated. Auxiliary left-turn lanes exist at many intersections between SW 216 Street and Farmer Road (Figure 29). However, the northern section of the corridor, which witnesses heavier traffic, has fewer auxiliary left-turn lanes (Figure 30). The northern section is also more challenging as mature trees and utility poles are located close to the pavement. These trees are to be preserved per the state and county regulations. Right-of-way plans were obtained from PWWM and, where needed, property appraiser dataset was used to identify right-of-way. PWWM Department also provided drawings that helped identify the locations of some of the trees and the poles. This information was available for the east side of the roadway where a shared path exists.

Presently Old Cutler Road has 10.5 feet wide lanes at several places. Therefore, the proposed improvements also included 10.5 feet wide lanes to minimize physical impacts. Per American the Association of State Highway and Transportation Officials, Policy on the Geometric Design of Highways and Streets (AASHTO Green Book, 2011), "At unsignalized intersections, the storage length, exclusive of taper, may be based on the number of turning vehicles likely to arrive in any average two-minute period within the peak hour. Space for at least two passenger cars should be provided; with over 10% truck traffic, provisions should be made for at least one car and one truck." Therefore, storage at auxiliary lanes was limited to 50 feet to minimize impacts to this historic roadway. A queue-length study may suggest altering the storage capacity. Similarly, deceleration lane or taper was also limited to 50 feet. Figures 31 through 43 show potential improvements at 13 intersections. These intersections were chosen due to availability of right-of-way, determined based on available information.

It should be noted that these potential improvements are based on preliminary information and a complete survey may require some changes. After a complete survey, some locations may require physical barriers between the pavement and portion of the existing paved path due to horizontal clearance requirements. At some places existing utility poles may have to be relocated. As required by the County ordinance, these improvements will have to be presented to Miami-Dade Board of County Commissioners and public hearing will be required prior to design or construction.

FIGURE 29: OLD CUTLER ROAD –SIMPLIFIED STRAIGHT-LINE DIAGRAM 1

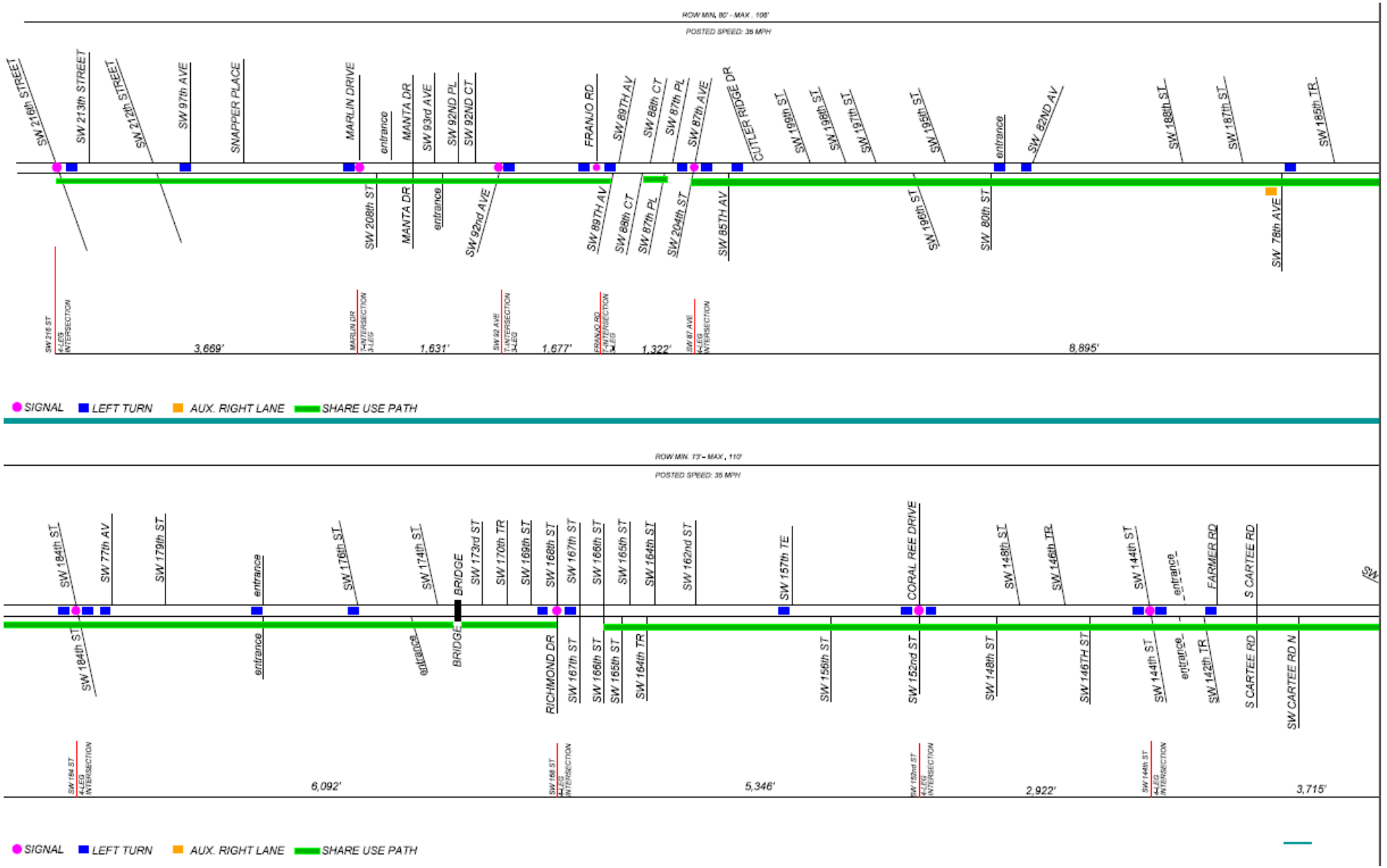


FIGURE 30: OLD CUTLER ROAD –SIMPLIFIED STRAIGHT-LINE DIAGRAM 2

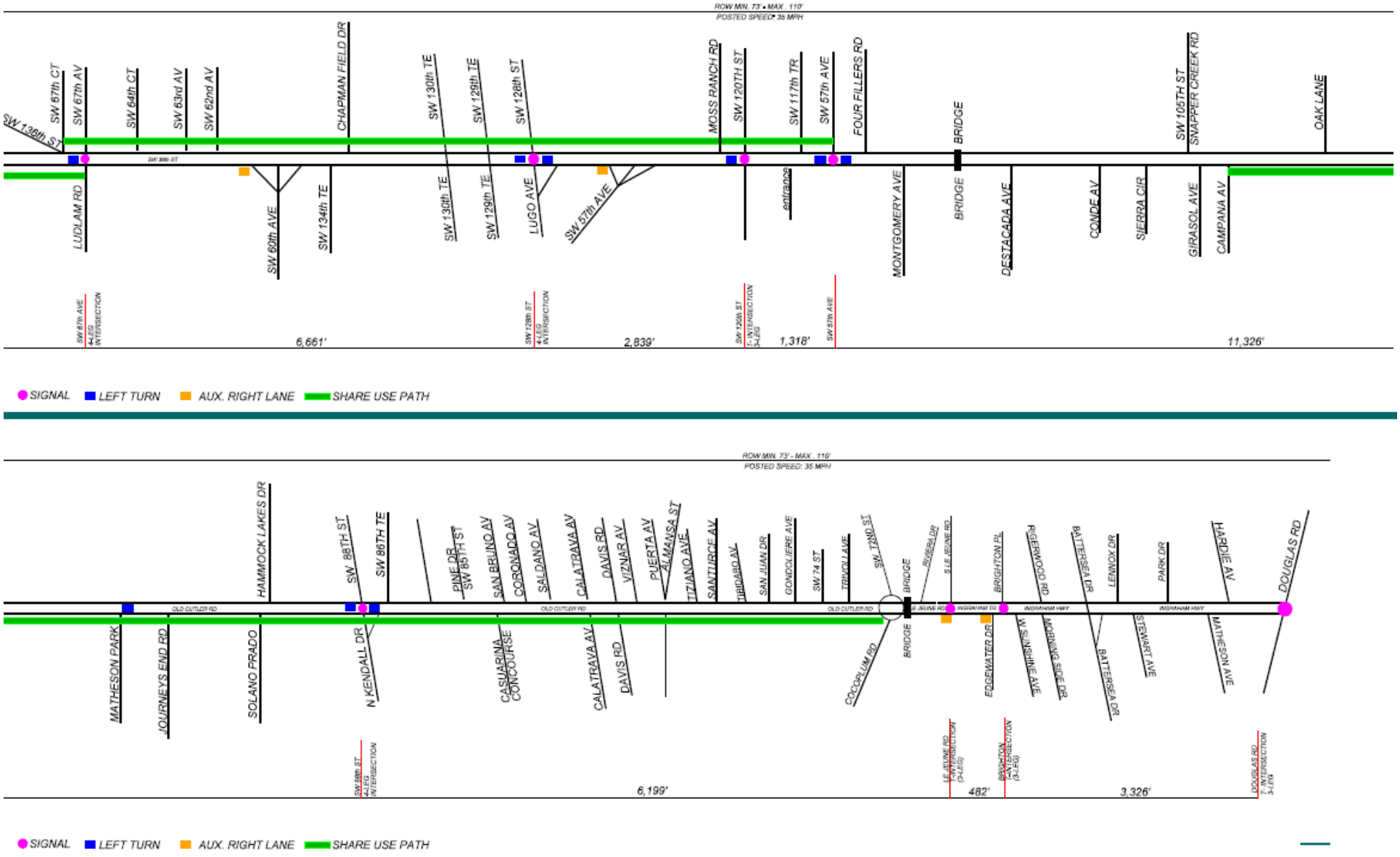


FIGURE 31: OLD CUTLER ROAD – POTENTIAL IMPROVEMENTS AT HARDIE AVENUE

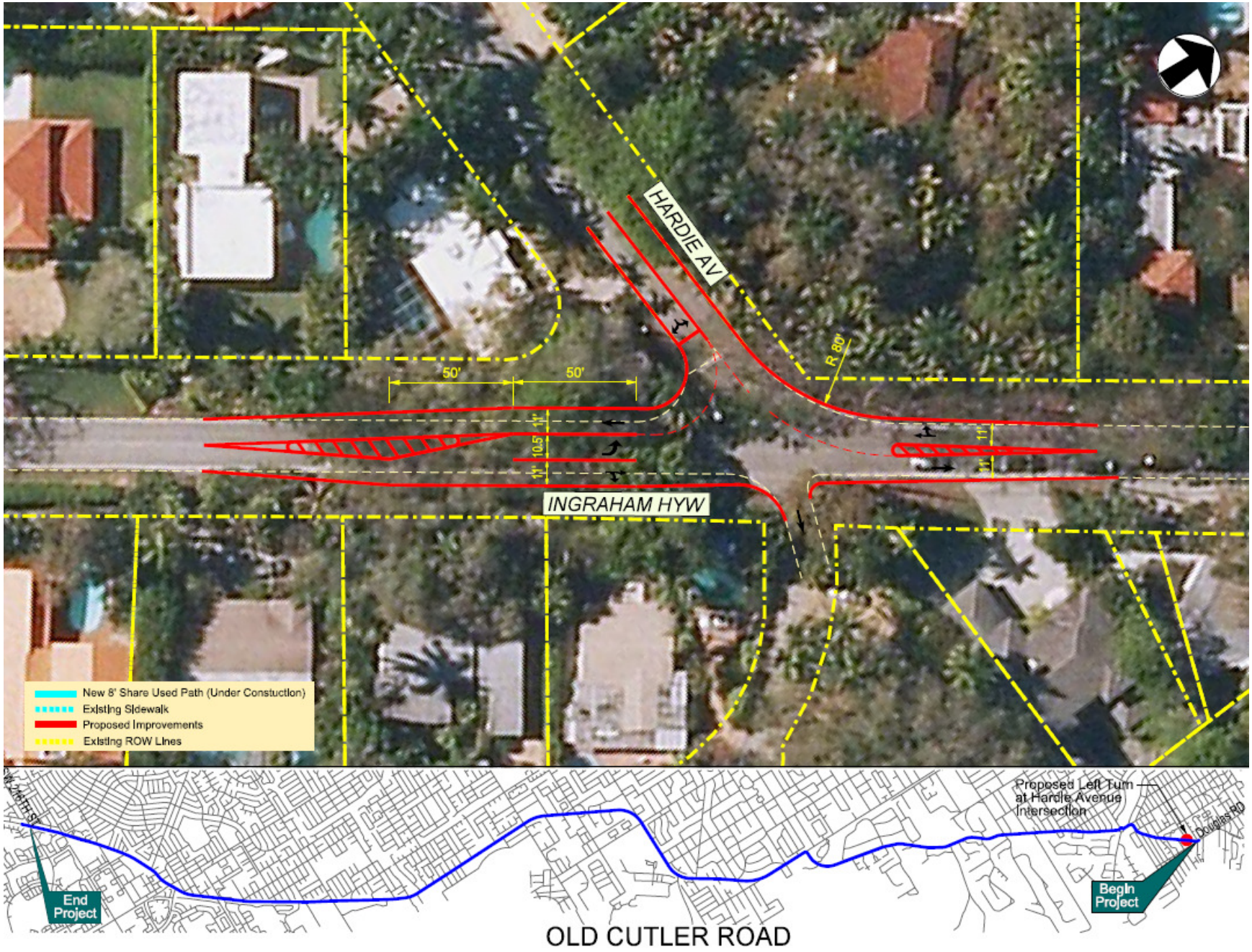


FIGURE 32: OLD CUTLER ROAD – POTENTIAL IMPROVEMENTS AT BATTERSEA ROAD

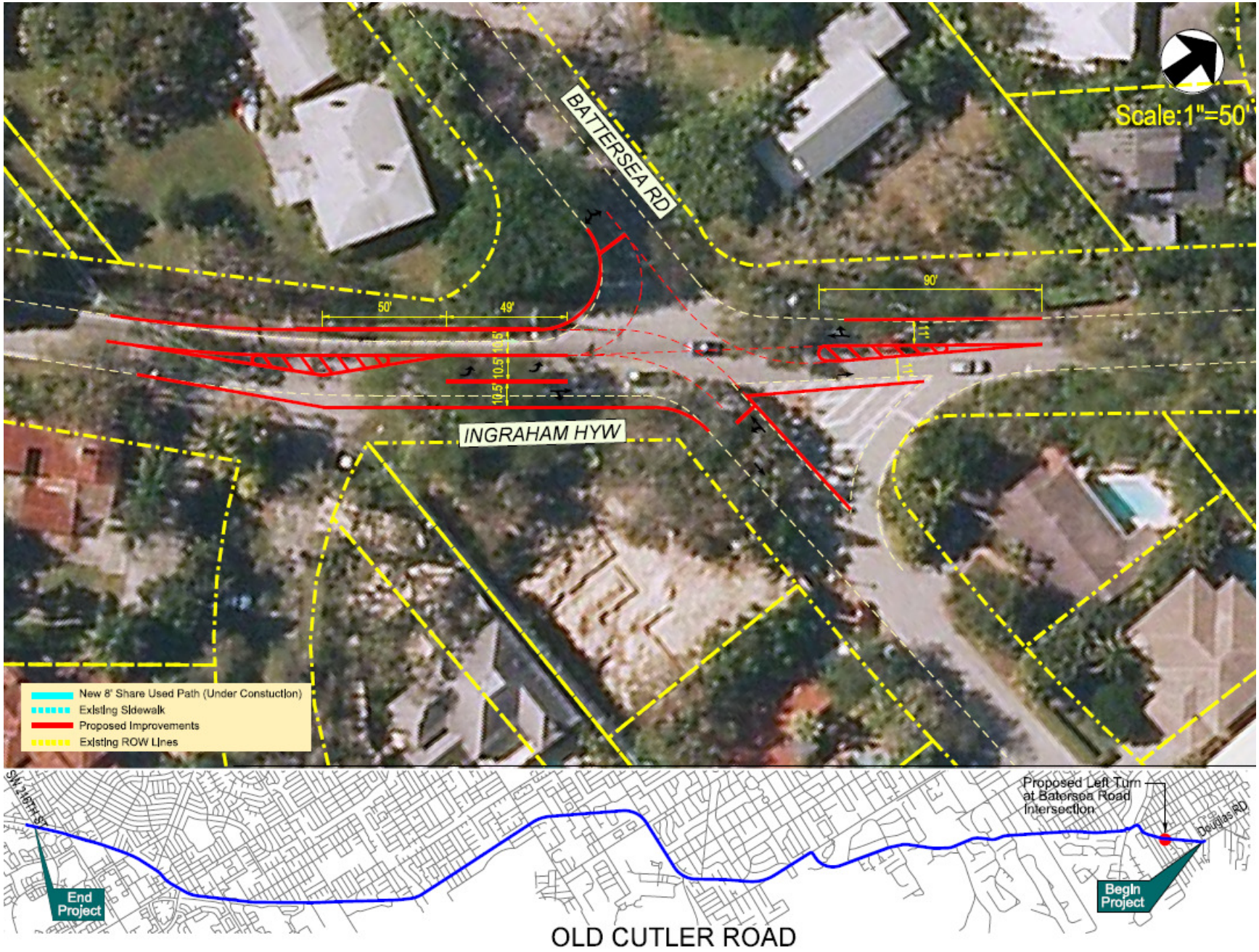


FIGURE 33: OLD CUTLER ROAD – POTENTIAL IMPROVEMENTS AT RIDGEWOOD ROAD AND SUNRISE AVENUE

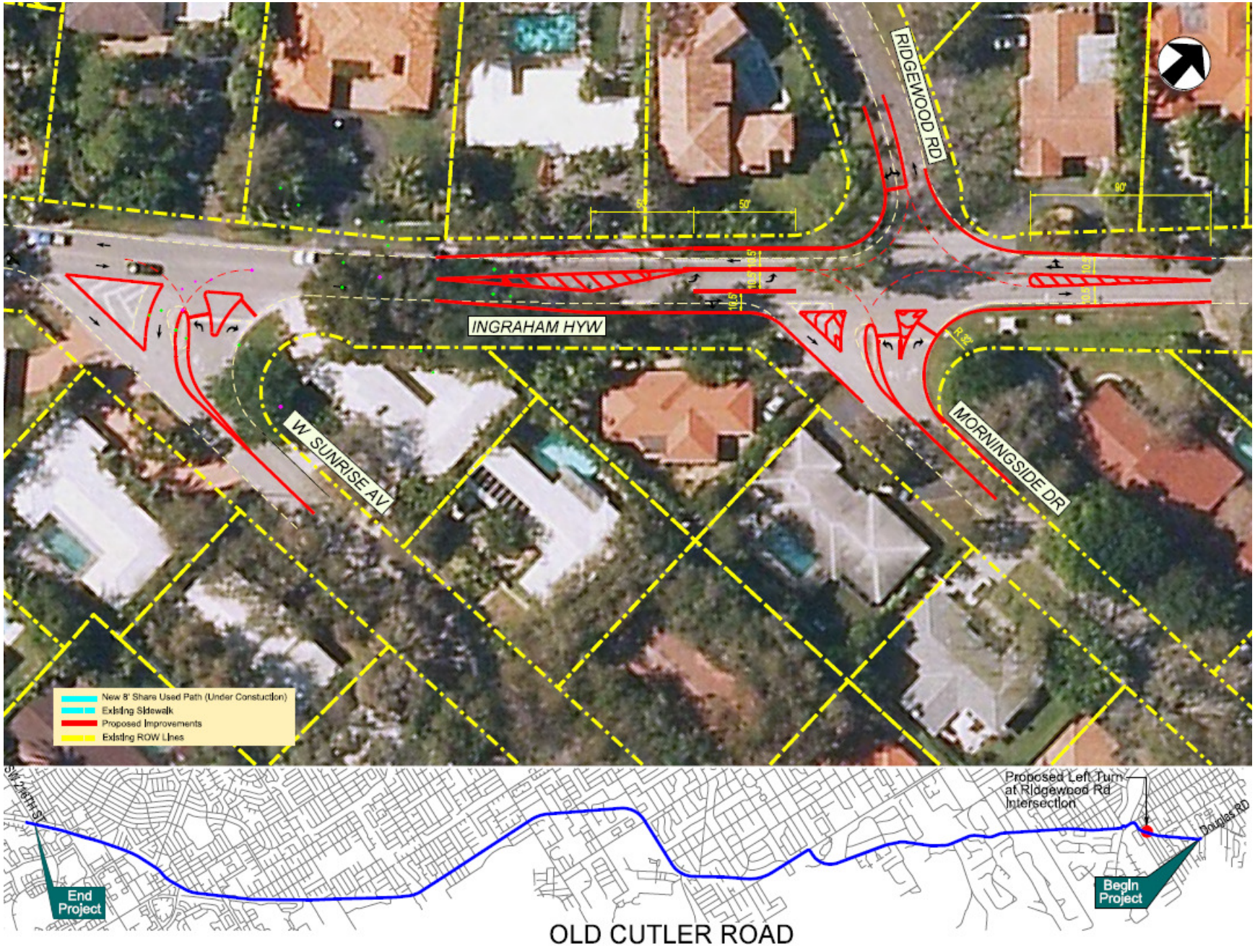


FIGURE 34: OLD CUTLER ROAD – POTENTIAL IMPROVEMENTS AT BRIGHTON PLACE

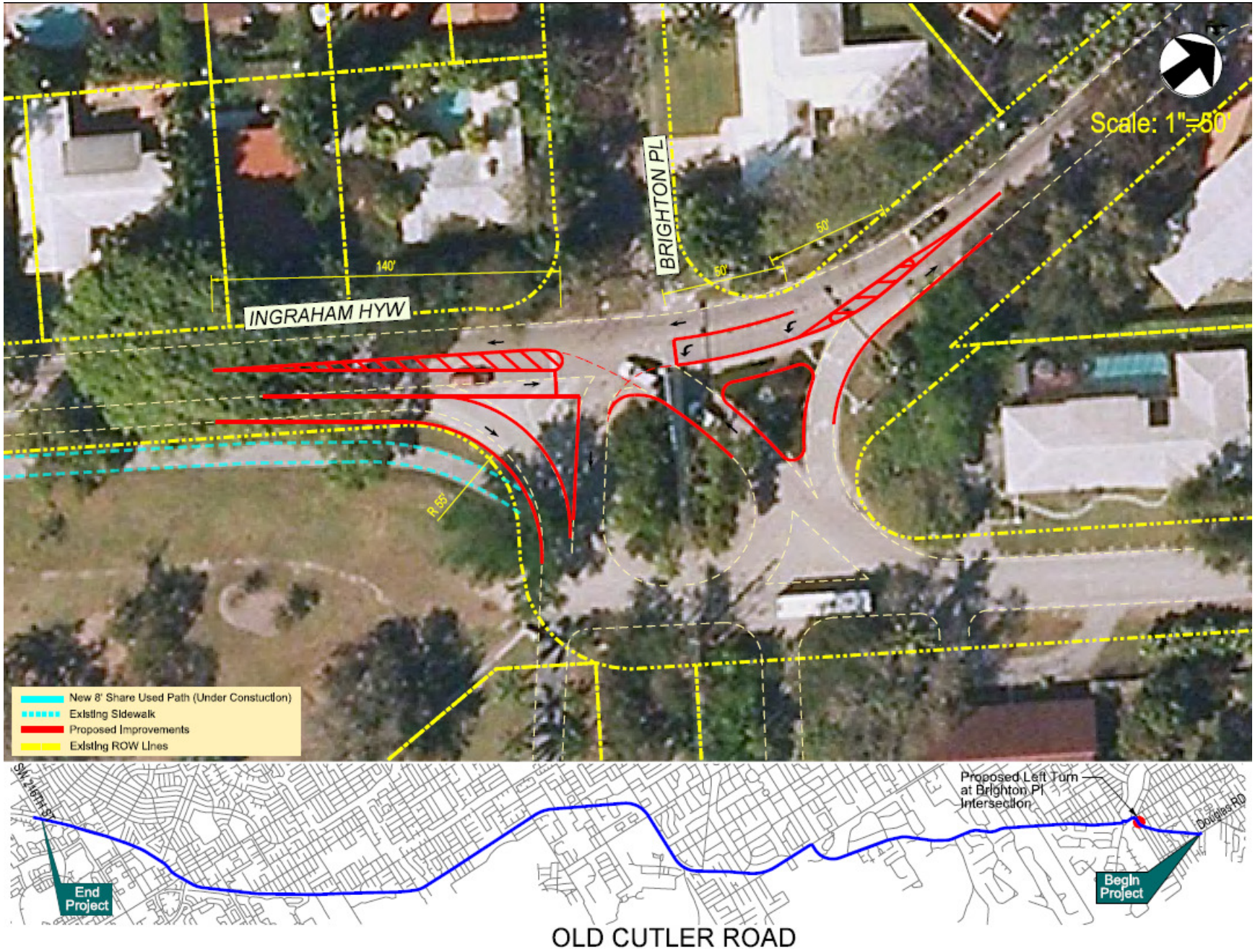


FIGURE 35: OLD CUTLER ROAD – POTENTIAL IMPROVEMENTS AT PUERTA AVENUE

FIGURE 36: OLD CUTLER ROAD – POTENTIAL IMPROVEMENTS AT SW 80 STREET

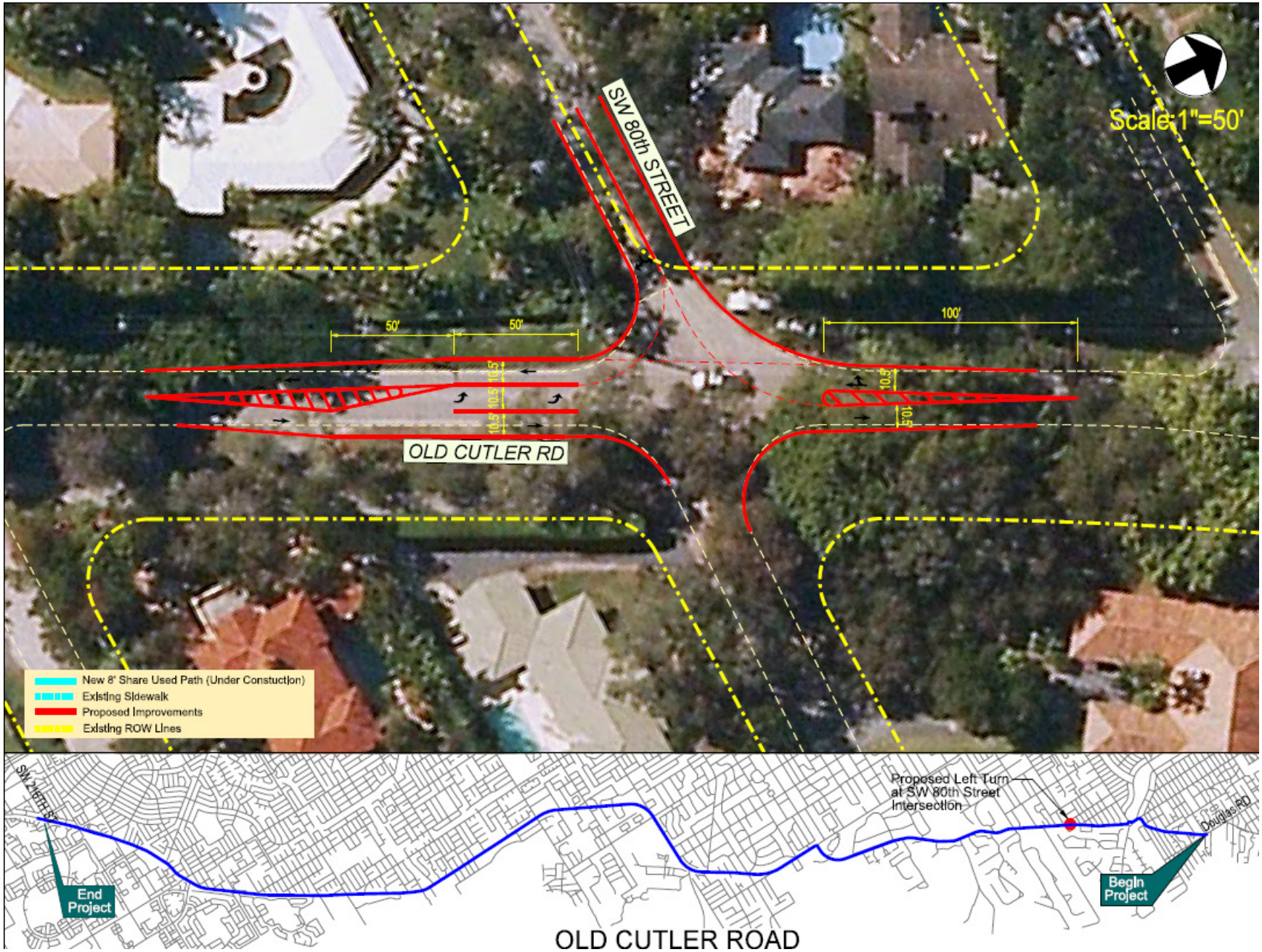


FIGURE 37: OLD CUTLER ROAD – POTENTIAL IMPROVEMENTS AT SALDANO AVENUE

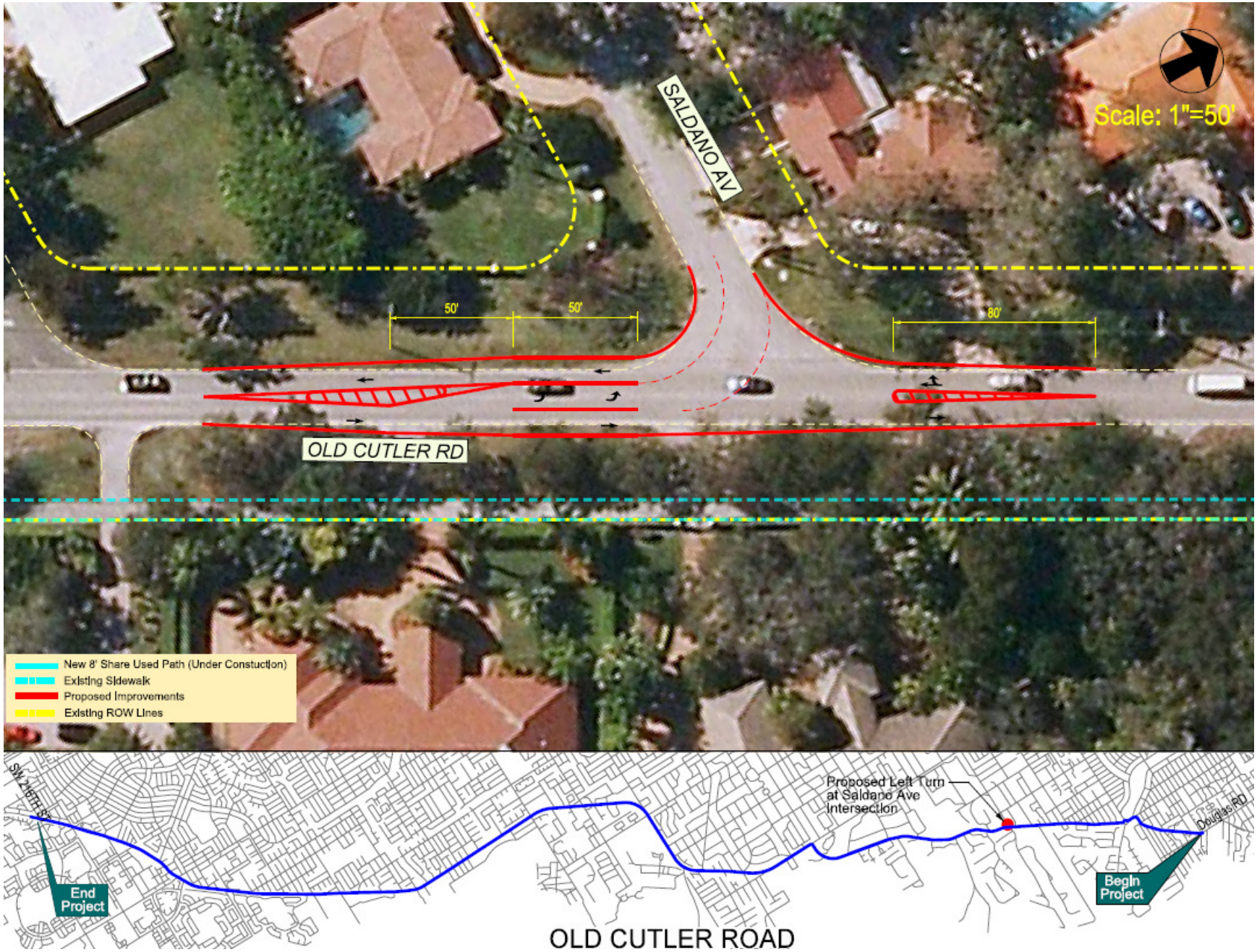


FIGURE 38: OLD CUTLER ROAD – POTENTIAL IMPROVEMENTS AT SW 85 STREET

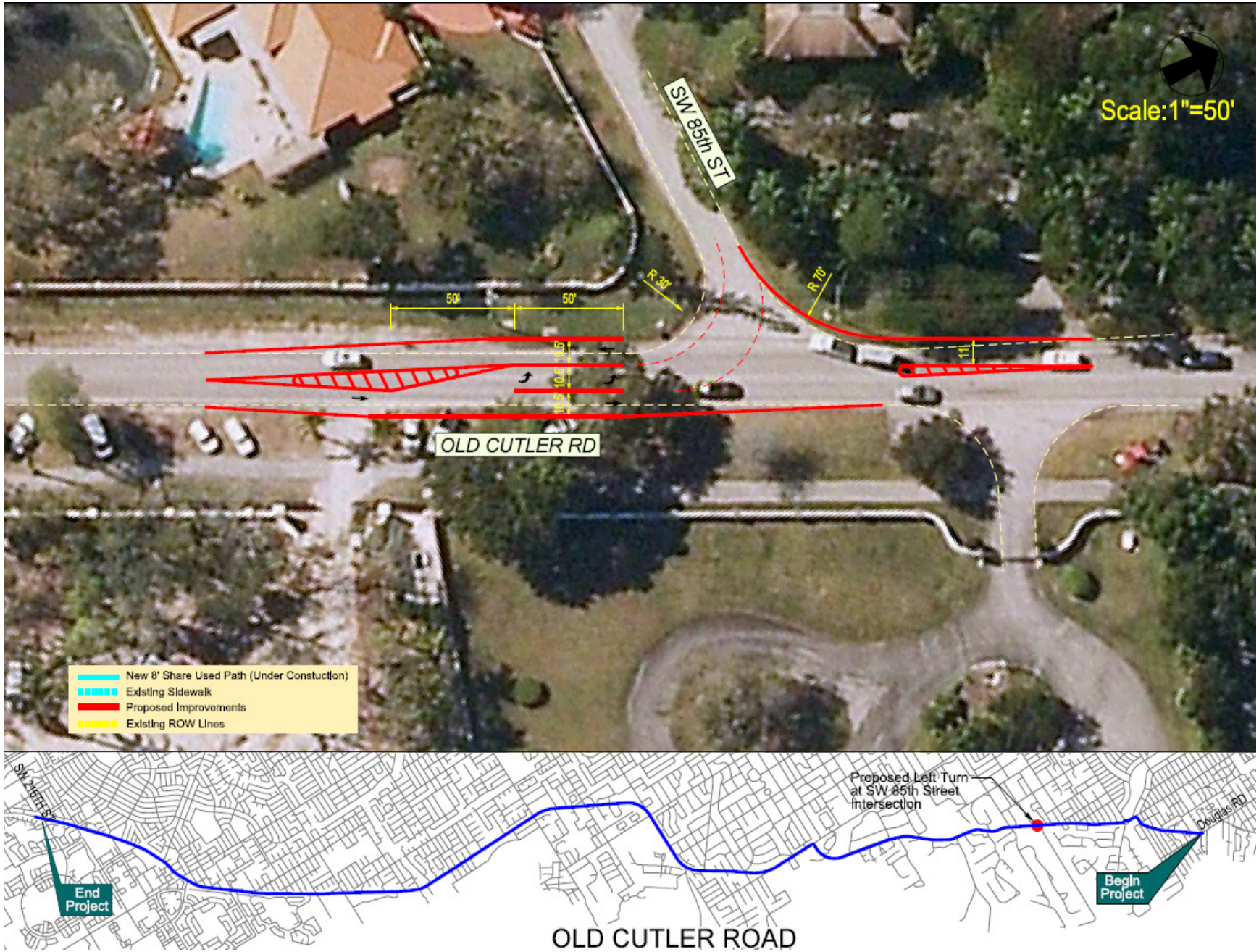


FIGURE 39: OLD CUTLER ROAD – POTENTIAL IMPROVEMENTS AT CAMPANA AVNEUE

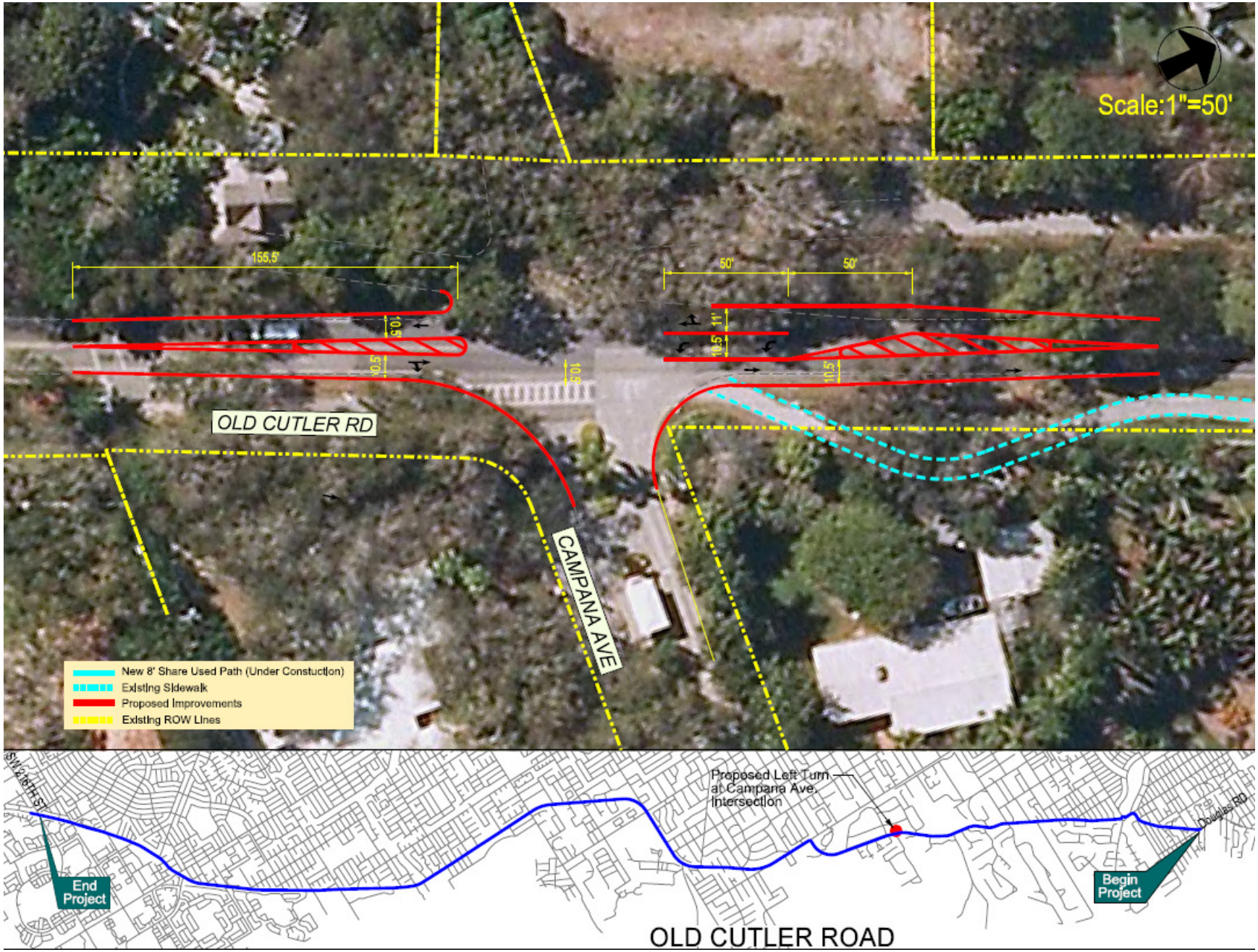


FIGURE 40: OLD CUTLER ROAD – POTENTIAL IMPROVEMENTS AT SW 148 STREET

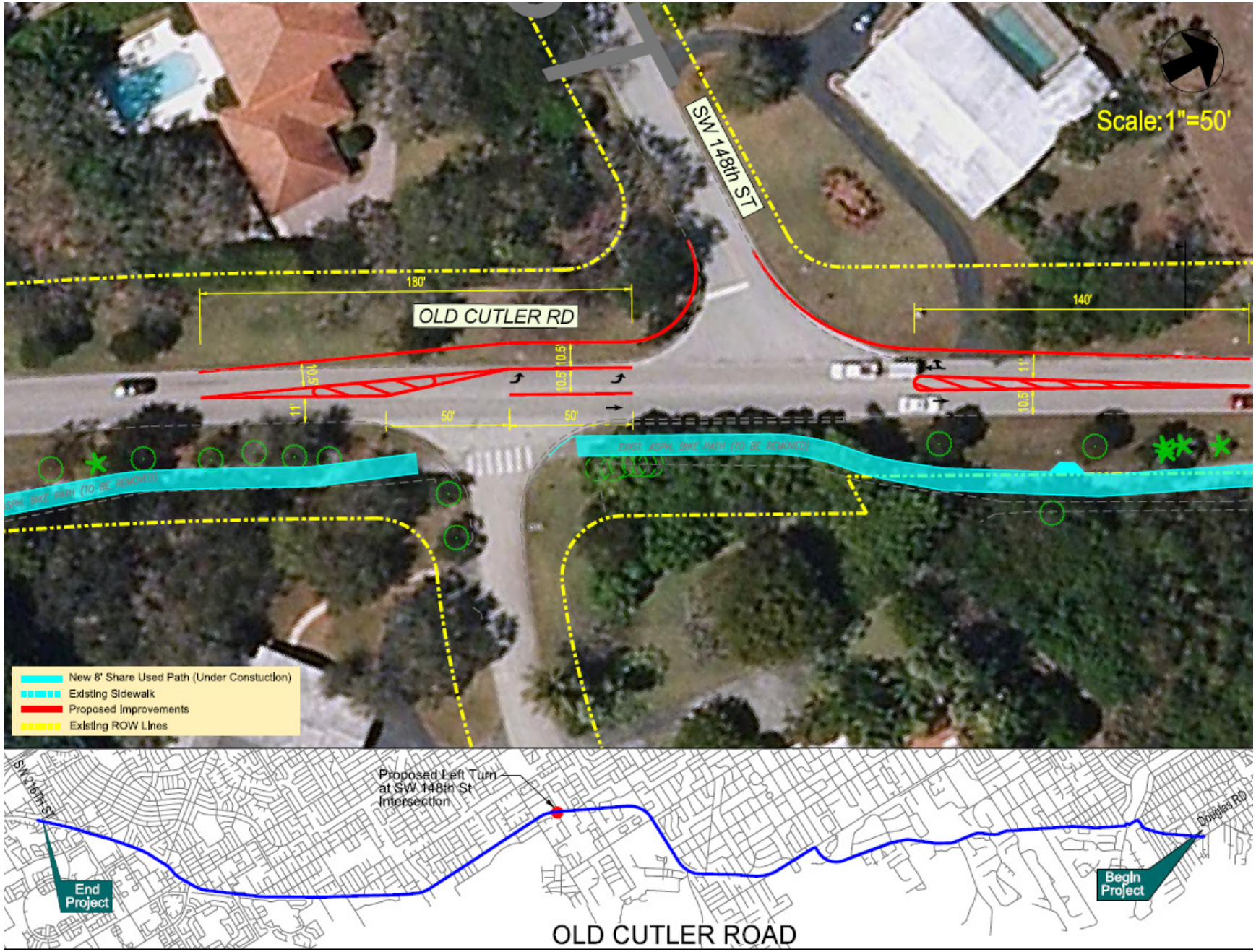


FIGURE 41: OLD CUTLER ROAD – POTENTIAL IMPROVEMENTS AT SW 174 STREET

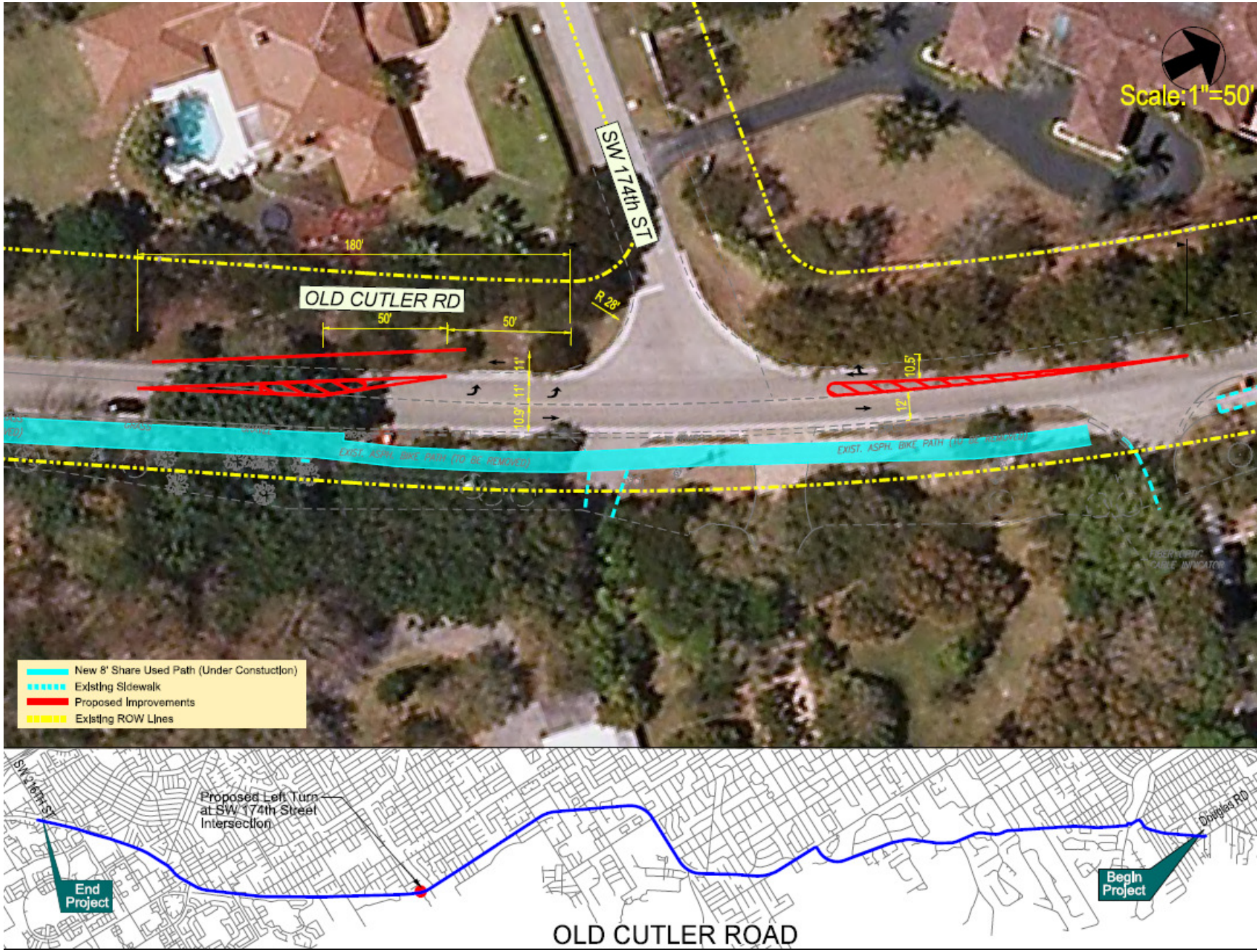


FIGURE 42: OLD CUTLER ROAD – POTENTIAL IMPROVEMENTS AT SW 196 STREET

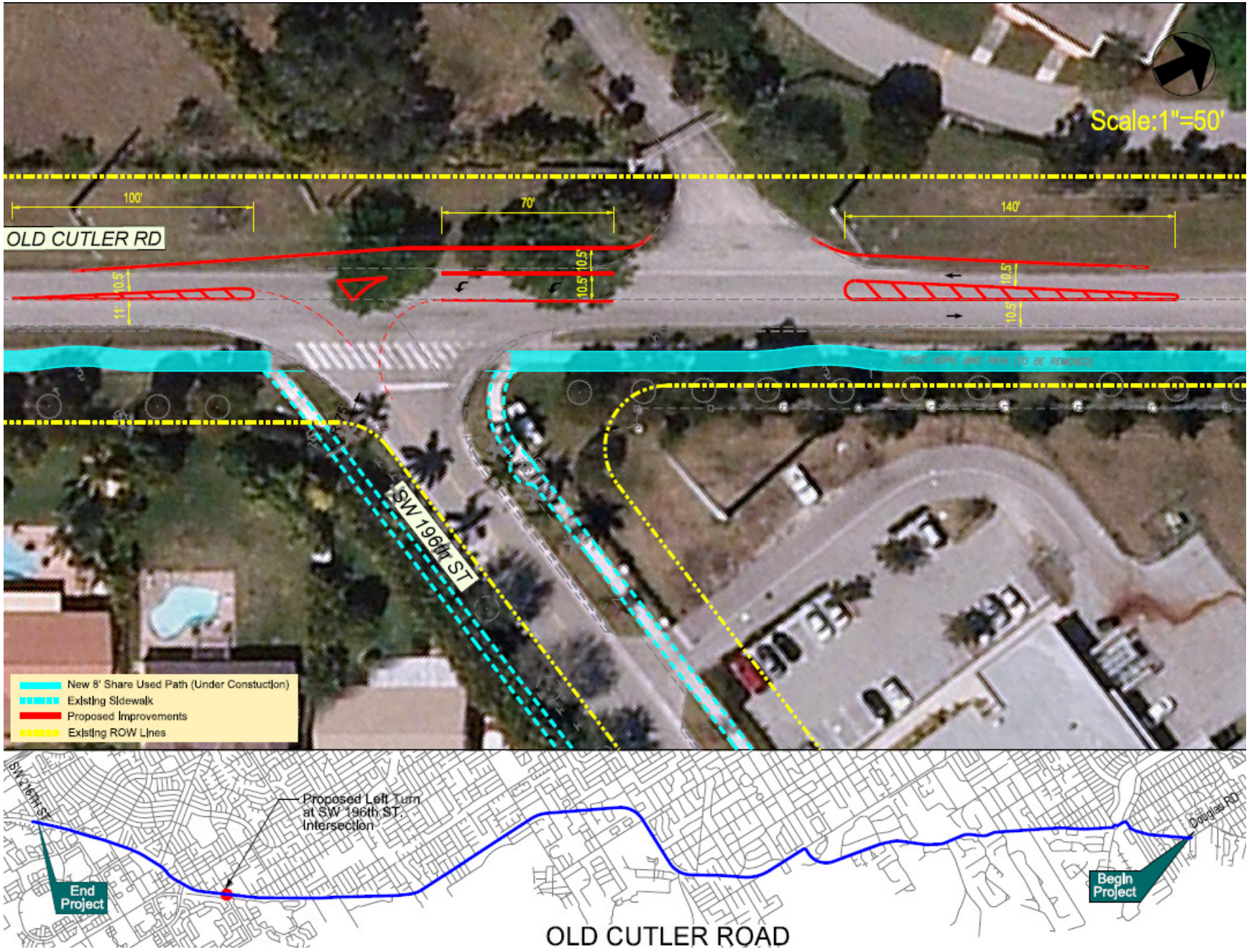


FIGURE 43: OLD CUTLER ROAD – POTENTIAL IMPROVEMENTS AT SW 198 STREET

4.4. OLD CUTLER ROAD – IMPLEMENTATION PLAN

4.4.1. Old Cutler Road – Cost Estimates

Estimates are based on FDOT 2010 Long Range Estimates for widening an urban road for 300 feet long turn lane. The estimates were modified based on the conceptual layouts developed for this project. Instead of developing estimate for each turn lane, estimate for a typical turn lane were developed. As shown in Table 16, a typical 100 feet long turn lane is estimated to cost approximately $51,000

TABLE 16: OLD CULTER ROAD - COST ESTIMATES FOR A DIRECTIONAL AUXILARY TURN LANE

Item	Description	Unit	Avg. Unit Price	Quantity	Total
0107 1	Litter Removal	AC	$21	0.33	$7
0107 2	Mowing	AC	$35	0.33	$11
0110 1 1	Clearing and Grubbing	AC	$9,505	0.33	$3,138
	Regular Excavation	CY	$4	70.00	$216
0160 4	*Type B Stabilization*	SY	$3	210.00	$647
285701	Optional Base, Base Group 09	SY	$13	210.00	$2,801
0327 70 1	Milling Existing Asphalt 1"	SY	$2	1,063.56	$1,755
0334 1 13	Superpave Asphalt Trafic C	TN	$87	23.10	$2,021
0337 7 5	Asphalt Concrete FC -5	TN	$132	101.88	$13,449
0706 3	Retro-Reflective Pavement Markers	EA	$3	64.00	$209
0711 11111	Thermoplastic Standard White Solid 6"	NM	$3,815	1.00	$3,815
0711 11211	Thermoplastic Standard Yellow 6"	NM	$2,917	1.00	$2,917
0711 11170	Thermostatic white arrow	EA	$54	2.00	$108
SUBTOTAL					**$31,093**
0101 1	Mobilization		10% of the sub-total		$3,109
0102 1	Maintenance of Traffic		20% of the sub-total		$6,219
SUBTOTAL WITH MOBILIZATION AND MOT					**$40,421**
TOTAL (BASED ON 2010 LRE)					**$48,506**
TOTAL (INFLATED TO 2013 DOLLARS)					**$50,721**

In total, there are 15 auxiliary turn lanes and, at an average cost of $51,000 per lane, all improvements are expected to cost $765,000. This estimate does not include the cost of design, permitting, and public involvement.

4.4.2. Old Cutler Road - Funding Source for Recommended Improvements

These proposed improvements are currently unfunded. Various funding sources are used for PWWM projects. Local option gas taxes, road impact fees and secondary gas taxes are some examples of funding sources used to build and improve roadways within Miami-Dade County. A portion of the half-penny sales tax is used for PWWM construction projects.

4.5. OLD CUTLER ROAD - RECOMMENDATIONS

1. Old Cutler Shared-use Path: There are some missing links along the Old Cutler Shared-use Path. It is recommended that intersection improvement projects be combined with bicycle and pedestrian improvements.
2. Coordination with the Town of Cutler Bay: As mentioned previously, the Town of Cutler Bay will soon undertake a construction project along Old Cutler Road, between SW 97 Avenue and SW 87 Avenue. Coordination with the City is recommended to ensure that design consistency is maintained between different segments along Old Cutler Road.
3. Coordination with local municipalities: Old Cutler Road, between SW 216 Street and SW 37 Avenue, is in incorporated areas therefore close coordination with municipalities is recommended before the design phase. Different public hearings can be conducted for each municipality to ensure that they receive appropriate scrutiny.
4. Data collection: Three-day turning movement counts are recommended before and after the recommended improvements are implemented. Such data collection program will help quantify benefits of such improvements.

4.6. OLD CUTLER ROAD – VISUALIZATION

Conceptual renderings were prepared to facilitate public involvement efforts associated with this effort. Figure 44 show improvements at SW 85 Street.

FIGURE 44: OLD CUTLER ROAD – POTENTIAL IMPROVEMENTS AT SW 85 STREET

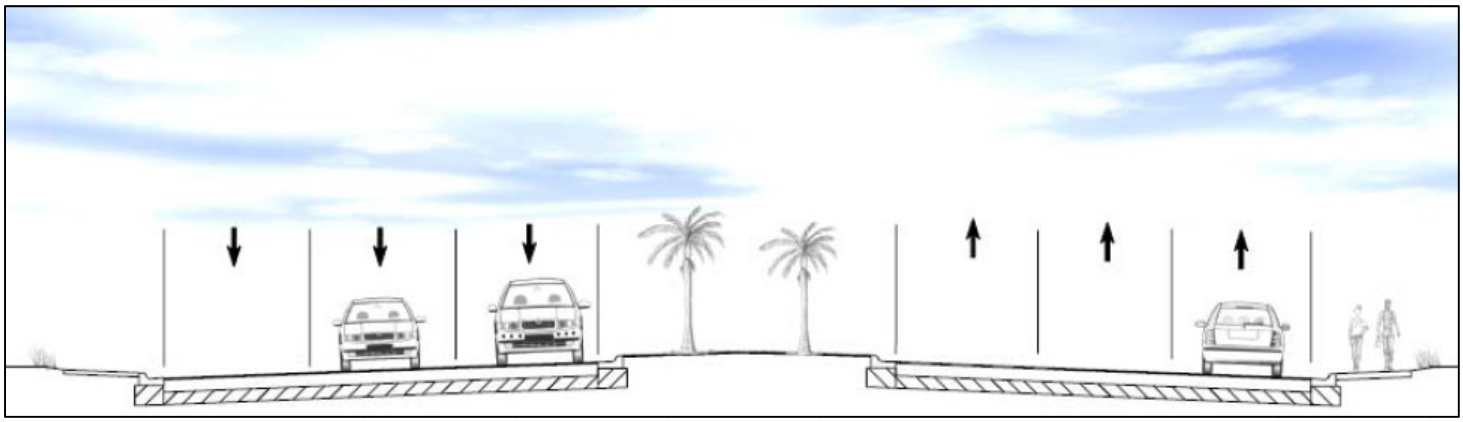
Section 5

EVALUATION OF DORAL BOULEVARD

The Doral Boulevard, NW 36/41 Street, is a six-lane divided arterial located within the boundaries of the City of Doral and can be characterized as one of the primary veins of access to and travel within the City of Doral. The 2009 CMP identified Doral Boulevard, between HEFT and NW 42 Avenue, as a congested corridor. It also identified Doral Boulevard's intersections with NW 97 Avenue and NW 87 Avenue as congested. Therefore, the focus of this effort is on the segment between the HEFT and SR-826. This segment is maintained by the PWWM Department. A location map is included as Figure 44 and typical section as Figure 46.

FIGURE 45: DORAL BOULEVARD – LOCATION MAP

FIGURE 46: DORAL BOULEVARD - TYPICAL SECTION BETWEEN HEFT AND NW 79 AVENUE



5.1. DORAL BOULEVARD - EXISTING ISSUES

The City of Doral is a major freight hub and attracts large number of trucks. Warehouse spaces are mainly located between NW 25 Street and NW 36/41 Street. Traffic counts compiled for an MPO study showed that proportion of heavy vehicles on Doral Boulevard varies from 4 to 11 percent (Figures 49 and 50). The counts were collected in August 2011. It is higher than an average arterial in Miami-Dade County. This problem becomes more acute during morning and evening peak hours (Figures 47 and 50).

FIGURE 47: DORAL BOULEVARD - WESTBOUND 24-HOUR VOLUMES (SOURCE: MIAMI-DADE MPO)

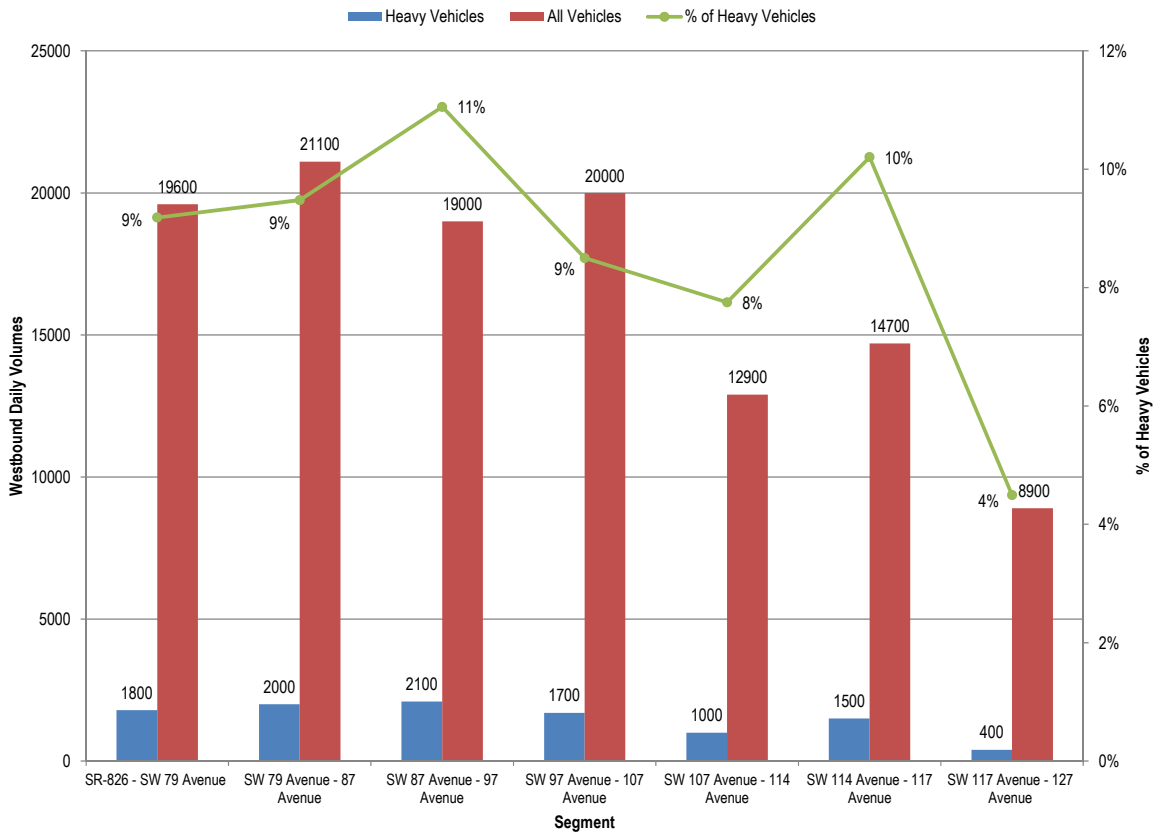


FIGURE 48: DORAL BOULEVARD - EASTBOUND 24-HOUR VOLUMES (SOURCE: MIAMI-DADE MPO)

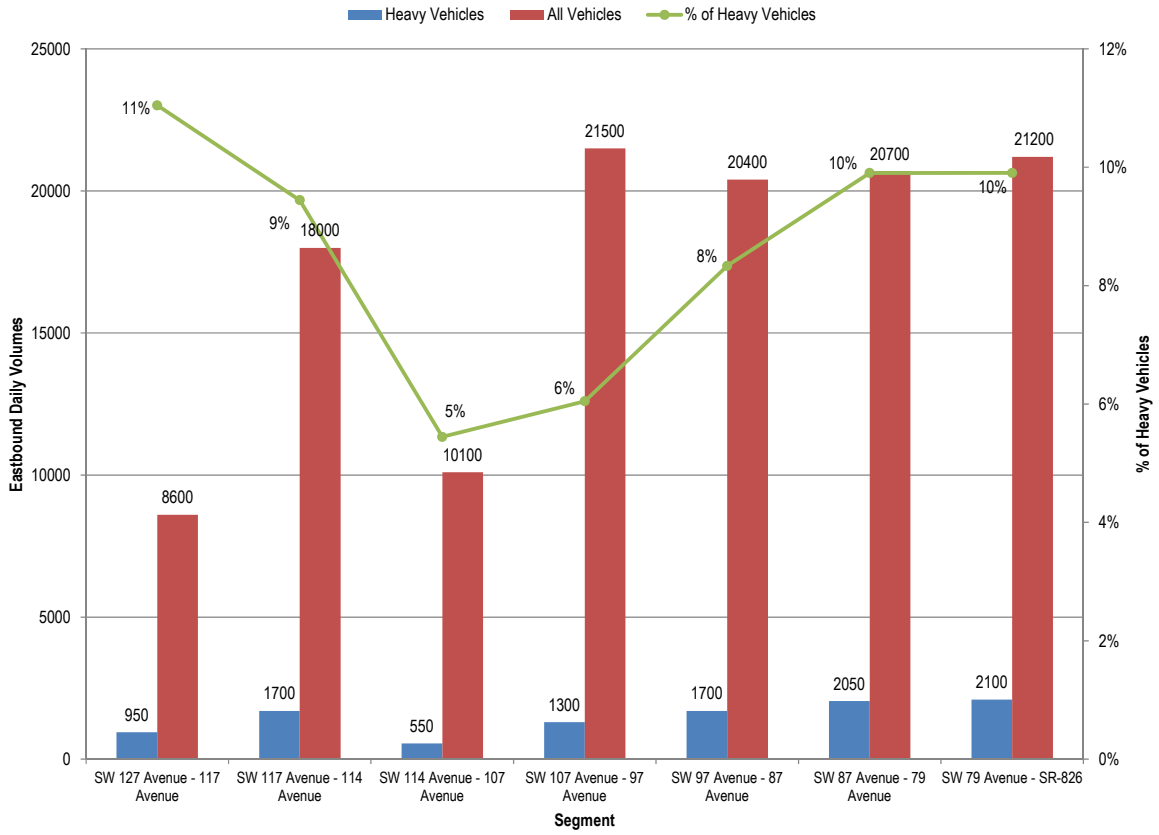


FIGURE 49: DORAL BOULEVARD - MORNING PEAK HOUR HEAVY VEHICLE VOLUMES

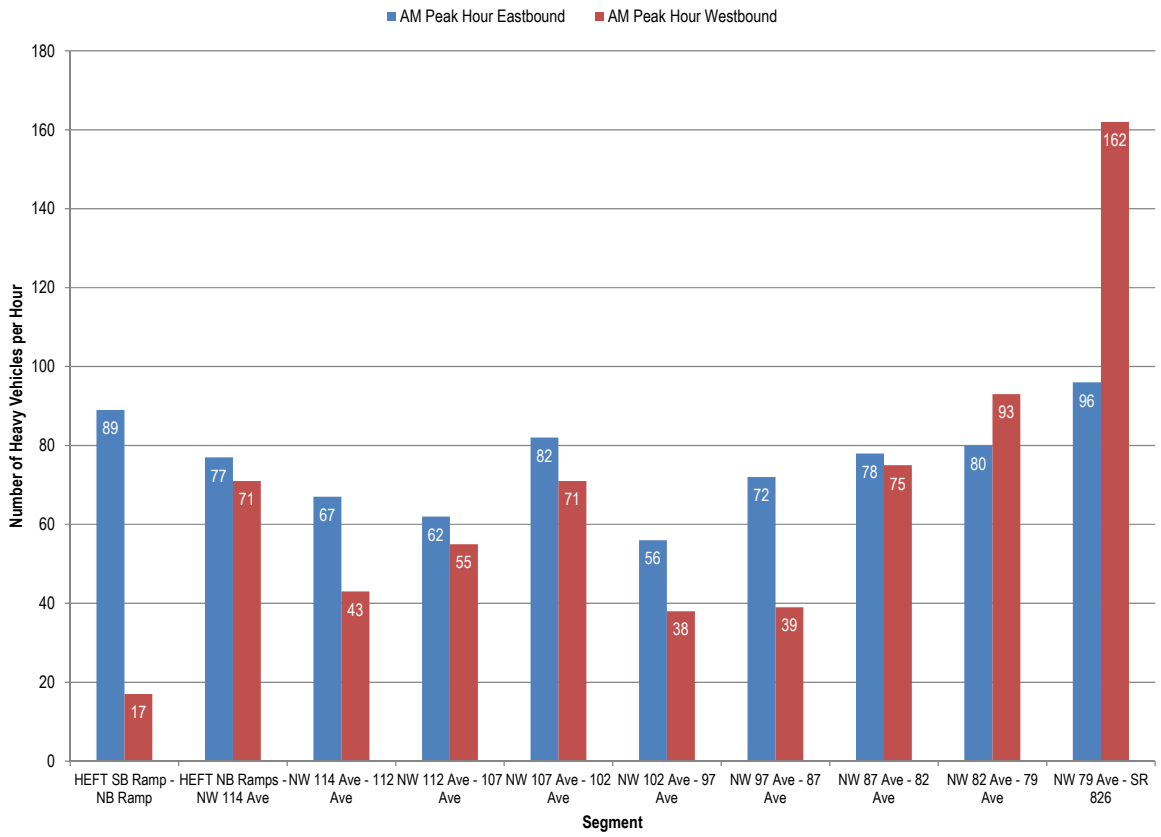
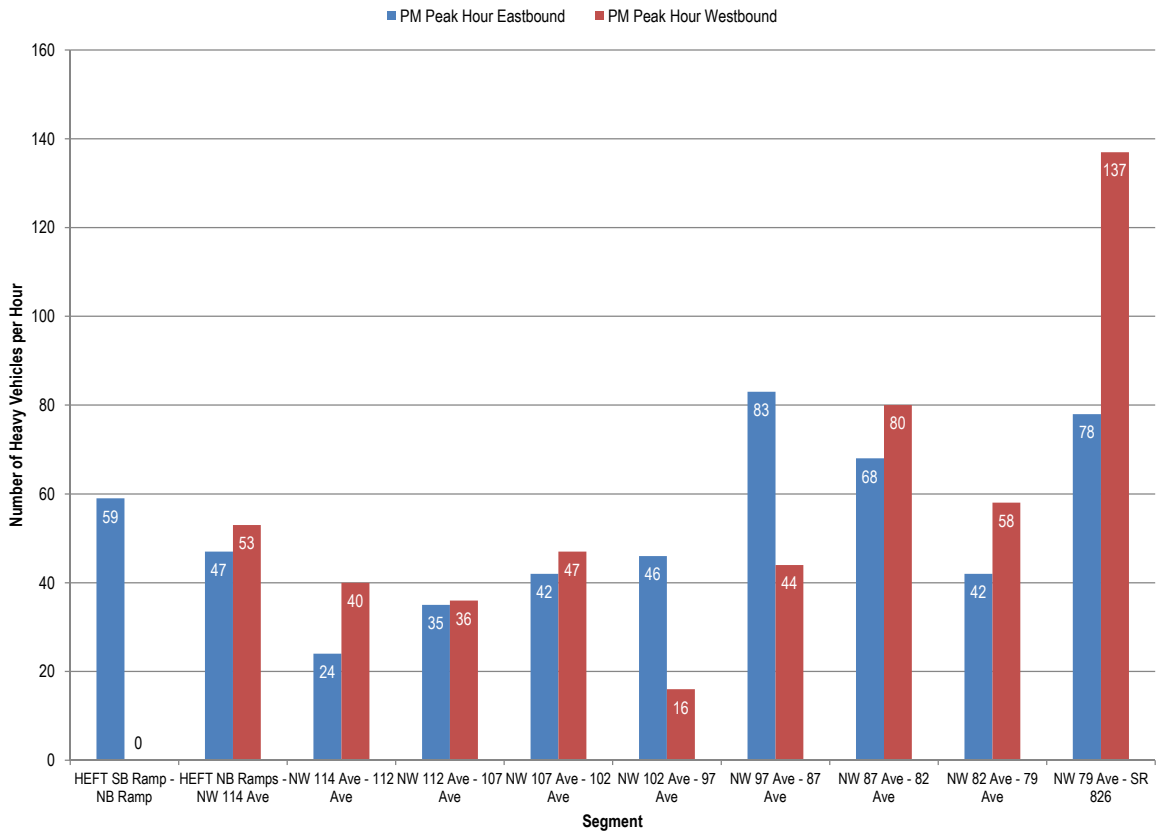


FIGURE 50: DORAL BOULEVARD - EVENING PEAK HOUR HEAVY VEHICLE VOLUMES



A recent MPO study evaluated level of service at key intersections along Doral Boulevard and found that intersections are failing primarily because of turning movements (Appendix 5). It should be noted that through truck movements are prohibited north of Doral Boulevard on NW 87 Avenue, NW 97 Avenue, and NW 107 Avenue. A field visit and desktop analysis was conducted to identify sufficiency of turn lane storage capacity and turning radii. The following was noted:

1. With a 12-foot lane, passenger vehicle can turn with no encroachment on adjacent lane at the end of the turn. However, heavy vehicles, WB-50 and WB-62FL, seen on Doral Boulevard, single unit and semi-, swing wide on both sides of streets and occupy two lanes at the end of the turn. This problem becomes more acute for the following movements:
    1. Westbound NW 36 Street to Northbound NW 79 Avenue
    2. Northbound 79 Avenue to Eastbound NW 36 Street
    3. Northbound 87 Avenue to Eastbound NW 41 Street
    4. Northbound 97 Avenue to Eastbound NW 41 Street
    5. Northbound 107 Avenue to Eastbound NW 41 Street
2. Turning heavy vehicles very frequently climb on medians while making the following movements:
    1. Westbound NW 36 Street to Southbound NW 79 Avenue
    2. Northbound NW 87 Avenue to Westbound NW 41 Street
    3. Westbound NW 41 Street to Southbound NW 87 Avenue
    4. Northbound NW 97 Avenue to Westbound 41 Street
    5. Northbound NW 107 Avenue to Westbound NW 41 Street

FIGURE 51: DORAL BOULEVARD – INTERSECTIONS WITH TIGHT TURNING RADII FOR HEAVY VEHICLES

As discussed previously, Doral Boulevard or NW 36/41 Street attracts a higher than average number of heavy vehicles. High volume turning movements for heavy vehicles, based on the MPO study, are shown in Figure 51. These vehicles currently worsen congestion due to maneuverability issues. Therefore, turning movements with high friction create congestion as well as unsafe conditions for heavy vehicles, other passenger vehicles as well as for pedestrians who might be on sidewalks. Trucks either block vehicles traveling in the same direction or those in the opposite directions. For instance, heavy vehicles making westbound NW 36 Street to northbound NW 79 Avenue turn encroach on turning lanes in the southbound direction, often leading to long queues. Therefore, the focus of this effort was on ensuring less frictional movement for heavy vehicles. Turning movements for heavy vehicles were simulated and WB-62FL dimensions were used as a standard.

During study coordination, PWWM also mentioned roadway alignment issues at NW 107 Avenue that leads to a split phase and negative traffic impacts. They mentioned that they have been in discussions with the property owner (CVS Pharmacy) at the northwest corner of Doral Boulevard and NW 107 Avenue for potential right-of-way acquisition. A conceptual design for NW 107 Avenue realignment was also prepared.

5.1.1. Importance of Turning Radii

The intersection of two roadways requires construction of curves (designated by a curb radius) to allow vehicles to maneuver while turning without driving over the curb line or entering into opposing travel lanes. Large curves are utilized to allow larger vehicles (such as trucks) to turn within the roadway and/or to allow smaller vehicles to turn at higher speeds. The minimum turning radius of a heavy vehicle is defined as the path of the outer front wheel, following a circular arc at a very low speed, and is limited by the vehicle steering mechanism. Parameters such as weight, weight distribution, and suspension characteristics, have a negligible role in turns at very low speed. The required curb radius for a vehicle to make the turn is known as the effective curb radius. However, accommodating large turning radius, if the roadway has higher than average heavy vehicle volume, is not possible. Larger curves require more land and lengthen pedestrian crossing distances which may not be acceptable due to signal timing or safety issues. Right-of-way and aesthetic considerations are two of many other considerations. Like all street design efforts, designing for truck movements is completed on a case-by-case basis. Based on the field observations discussed above, Doral Boulevard or NW 34/41 Street is a candidate roadway for truck-movement specific improvements.

AASHTO Green Book provides the basis for roadway geometric design throughout the country. The Green Book states that "Where it is appropriate to provide for turning vehicles within minimum space, as at unchannelized intersections, the corner radii should be based on the minimum turning path of the selected design vehicles." The Green Book also states that "the appropriate design may depend on other factors such as the type, character and location of the intersecting roads, the vehicular and pedestrian traffic volumes, the number and frequency of the larger vehicles involved in turning movements, and the effect of these larger vehicles on other traffic. For example, if turning traffic is nearly all passenger vehicles, it may not be cost-effective or pedestrian friendly to design for large trucks. However, the design should allow for the occasional large truck to turn by swinging wide and encroaching on other traffic lanes without disrupting traffic significantly."

The FDOT Plans Preparation Manual (PPM) notes that WB-62FL is a more representative of heavy vehicles seen on Florida's roadways. Therefore, WB-62FL was used as the standard for turning movement simulation.

5.2. DORAL BOULEVARD - POTENTIAL IMPROVEMENTS

Figures 47 through 50 show potential intersection improvements to facilitate heavy vehicles movement, especially turning movements of heavy vehicles. Truck movements from the right-most lane to the second to the right lane, wherever possible, were allowed for this simulation. A right-lane to right-lane turns for WB-62FL required significant right-of-way and therefore were not considered. Please note that these are conceptual level drawings and more detailed analysis will be required before these improvements can be constructed.

1. At NW 79 Avenue: This intersection turning radius is recommended to be increased to facilitate truck movement. The existing medians are recommended to be modified to accommodate turning movement of heavy vehicles (Figure 52).
2. At NW 87 Avenue: This intersection turning radius is recommended to be increased to facilitate truck movement. Mast arm replacement and sidewalk reconstruction will also be required (Figure 53).
3. At NW 97 Avenue: Turning radius at three corners is recommended to be increased to facilitate truck movement (Figure 54)
4. At NW 107 Avenue: Realignment of the northbound NW 107 Avenue is recommended to allow auxiliary dual left turn lanes (Figure 55).

FIGURE 52: DORAL BOULEVARD - POTENTIAL IMPROVEMENTS AT NW 79 AVENUE INTERSECTION

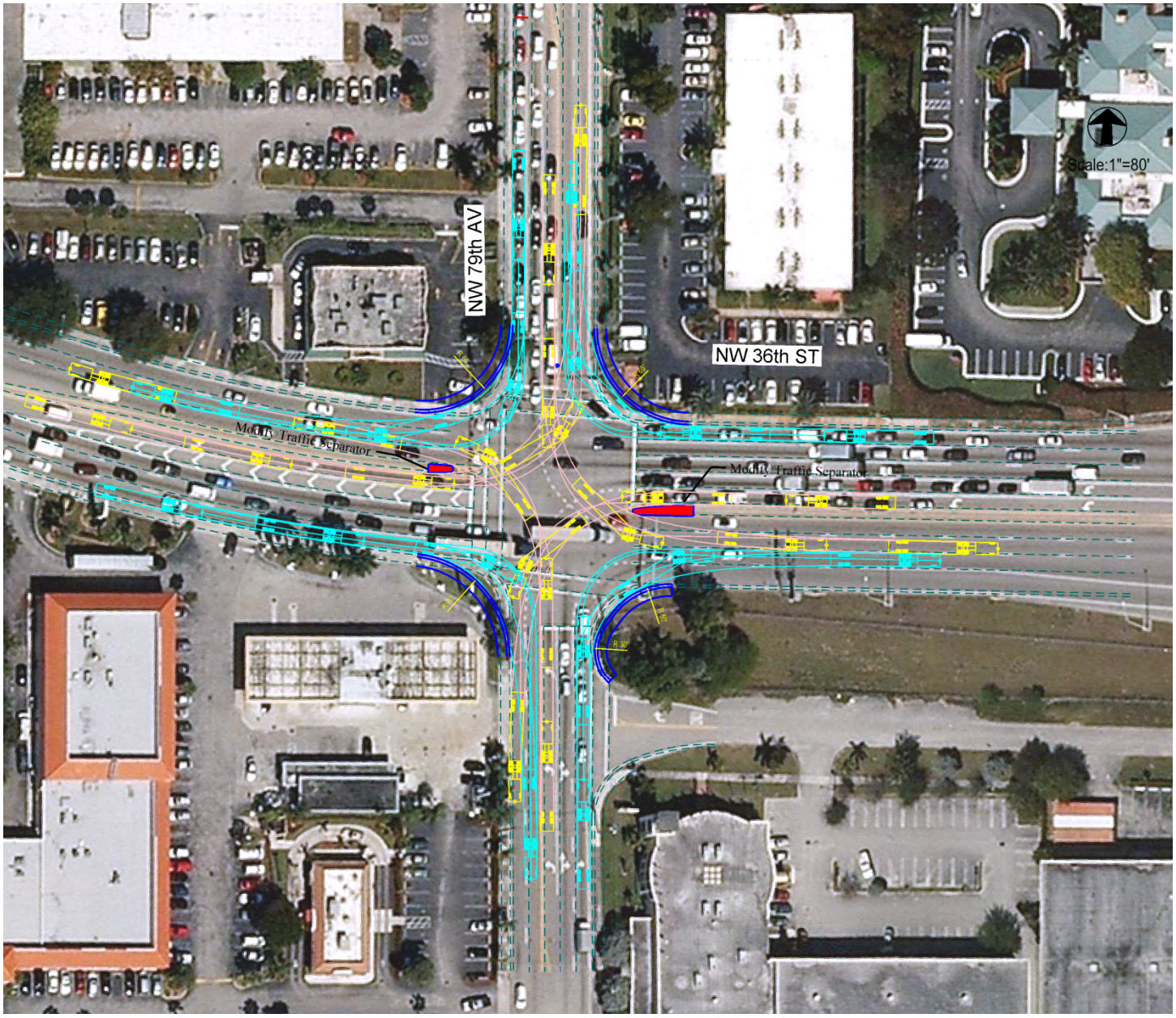


FIGURE 53: DORAL BOULEVARD - POTENTIAL IMPROVEMENTS AT NW 87 AVENUE INTERSECTION

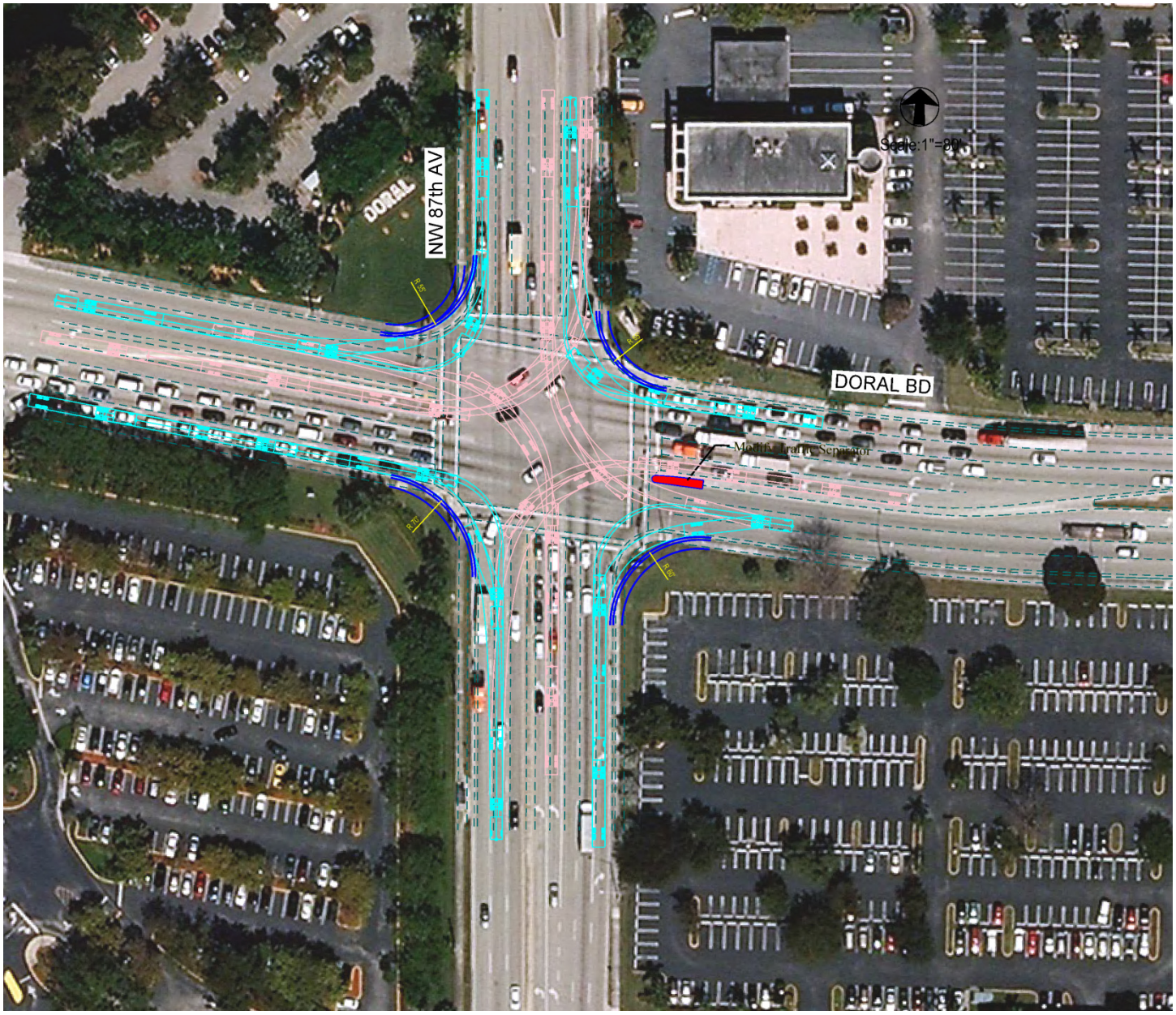


FIGURE 54: DORAL BOULEVARD - POTENTIAL IMPROVEMENTS AT NW 97 AVENUE INTERSECTION

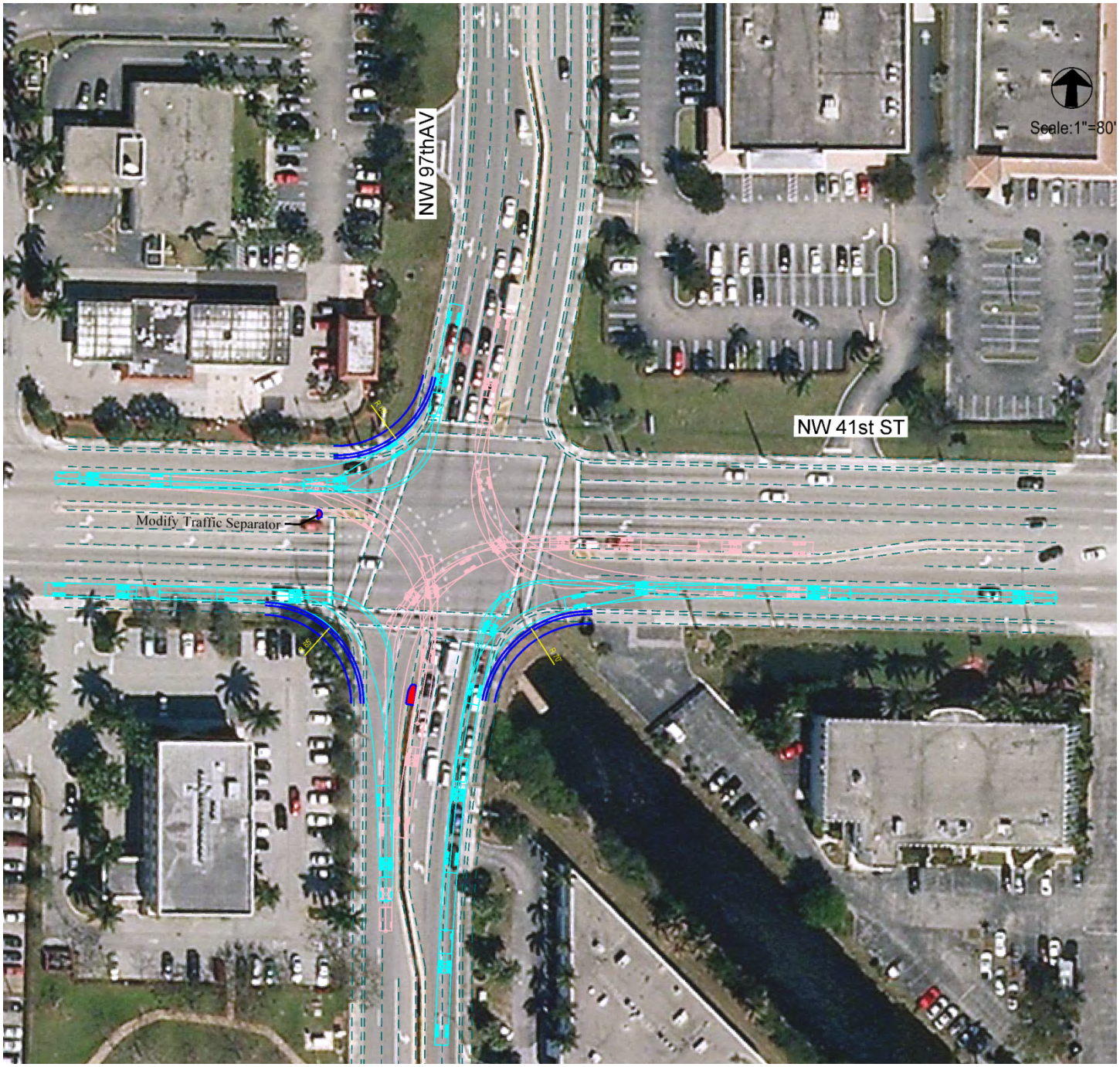
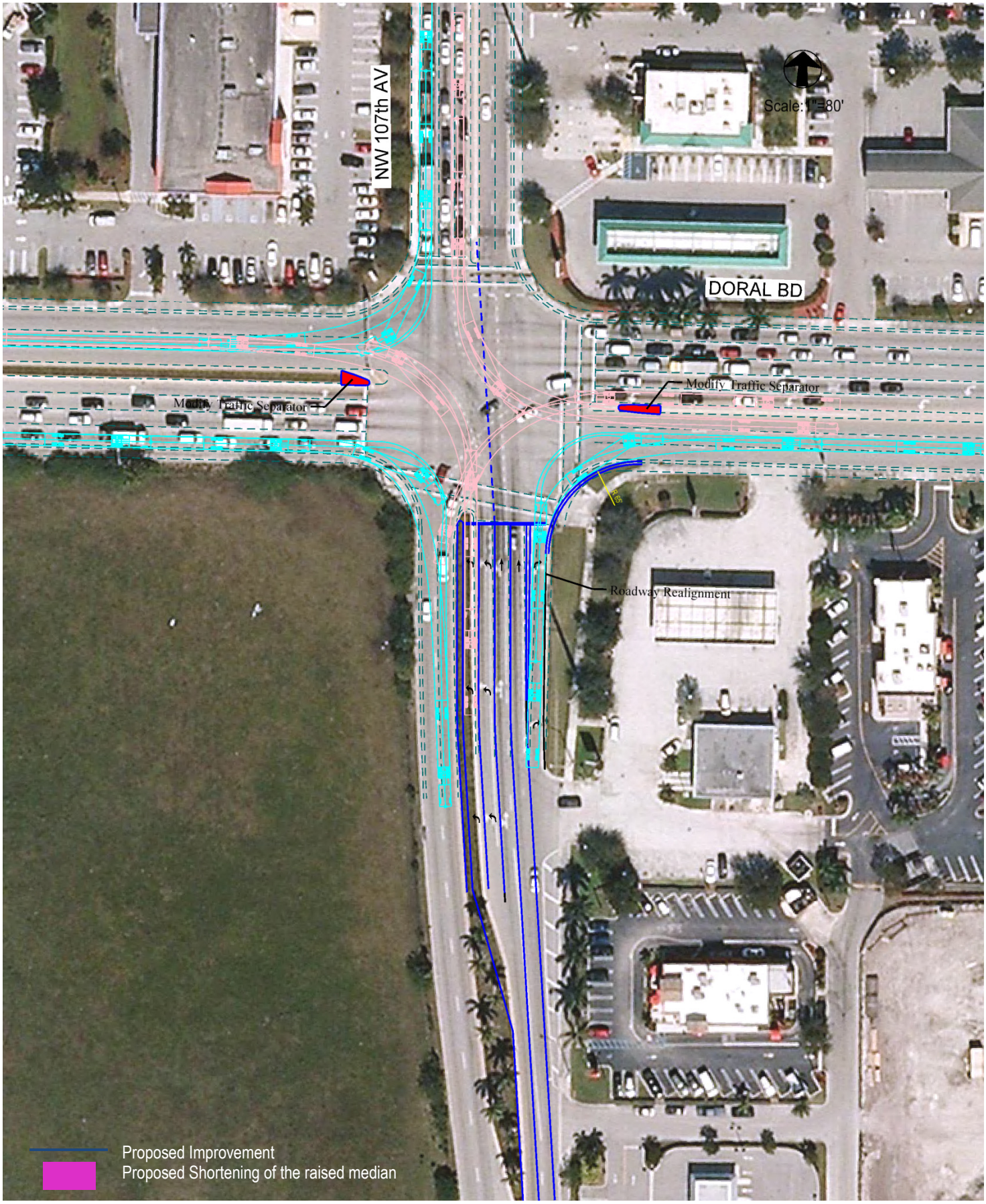


FIGURE 55: DORAL BOULEVARD - POTENTIAL IMPROVEMENTS AT NW 107 AVENUE INTERSECTION



5.3. DORAL BOULEVARD – IMPLEMENTATION PLAN

5.3.1. Doral Boulevard – Cost Estimates

Estimates are based on FDOT Long Range Estimates for widening an urban road for 300 feet long turn lane. The estimates were modified based on the conceptual layouts developed for this project. Cost estimates for a typical intersection were developed. As shown in Table 17, improvements at a typical intersection are estimated to cost approximately $387,000.

TABLE 17: DORAL BOULEVARD - COST ESTIMATES FOR A TYPICAL INTERSECTION IMPROVEMENT

Item	Description	Unit	Avg. Unit Price	Quantity	Total
0107 1	LITTER REMOVAL	AC	$17	0.26	$5
0107 2	MOWING	AC	$35	0.26	$9
110-1	CLEARING AND GRUBBING	AC	$9,505	0.26	$2,450
020 1	REGULAR EXCAVATION	CY	$5	97.78	$453
0160 4	TYPE B STABILIZATION	SY	$3	293.33	$903
285701	OPTIONAL BASE, BASE GROUP 09	SY	$13	293.33	$3,913
327-70-1	MILLING EXISTING ASPH. PAVT. (1" AVG.)	SY	$1	3,154.56	$4,227
0334 1 13	SUPARPAVE ASPHALT TRAFFIC C	TN	$87	275.83	$24,132
0337 7 5	ASPH. CONC. FRICTION COURSE (FC-9.5) (RUBBER)	TN	$132	32.27	$4,259
425-5	MANHOLES (ADJUST)	EA	$636	4.00	$2,545
	SIDEWALK REMOVAL				
0522 1	CONCRETE SIDEWALK (4")	SY	$28	267.00	$7,348
0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF	$13	400.00	$5,256
653-191	PEDESTRIAN SIGNAL, LED - COUNTDOWN, 1 Direction	AS	$562	2.00	$1,124
690-20	SIGNAL PEDESTRIAN ASSEMBLY REMOVAL	EA	$33	2.00	$66
660-2-101	LOOP ASSEMBLY (TYPE A)	AS	$906	12.00	$10,877
0700-40-1	SIGN SINGLE POST- LESS THAN 12	AS	$287	12.00	$3,439
0700 48 18	SIGN PANELS, F & I, 15 OR <	AS	$307	8.00	$2,453
	REMOVE SPAN WIRES AND INSTALL MAST ARMS	LS	$150,000	1.00	$150,000
0699 1 21	INTERNAL ILLUM SIGN, INSTALL, ST NAME	EA	$902	4.00	$3,609
0690-50	CONTROLLER ASSEMBLY, REMOVE, COMPLETE	EA	$407	1.00	$407
0670-5-120	TRAFFIC CONTROLLER ASSEMBLY, F&I, 170	AS	$18,179	1.00	$18,179
0715 19119	HIGH MAST LIGHT POLE, F&I, WIND SPEED-150 MPH, CUSTOM HEIGHT	EA	$44,154	1.00	$44,154
0715 4600	LIGHT POLE COMPLETE, REMOVE	EA	$202	1.00	$202
706-3	RETRO REFLECTIVE PAVEMENT MARKER Y/R	EA	$4	5	$21
710-90	PAINTED PAVEMENT MARKINGS (FINAL SURFACE)	LS	$3,429		$0
*710-11-123	SOLID TRAFFIC STRIPE (12" WHITE)	LF	$1	880	$862
*710-11-125	SOLID TRAFFIC STRIPE (24" WHITE)	LF	$2	140	$249
*710-11-111	SOLID TRAFFIC STRIPE (6" WHITE)	NM	$1,138	1.0000	$1,138
*710-11-211	SOLID TRAFFIC STRIPE (6" YELLOW)	NM	$1,180	1.0000	$1,180

Item	Description	Unit	Avg. Unit Price	Quantity	Total
SUBTOTAL					**$293,462**
0101 1	Mobilization	10% of the sub-total			$29,346
0102 1	Maintenance of Traffic	10% of the sub-total			$29,346
SUBTOTAL WITH MOBILIZATION AND MOT					**$352,155**
TOTAL (WITH 10% CONTINGENCY)					**$387,370**

In total, there are four intersections and, at an average cost of $387,000 per intersection, all improvements are expected to cost $1,548,000. This estimate does not include the cost of design, permitting, and public involvement.

5.3.2. Doral Boulevard - Funding Source for Recommended Improvements

These proposed improvements are currently unfunded. Various funding sources are used for PWWM projects. Local option gas taxes, road impact fees and secondary gas taxes are some examples of funding sources used to build and improve roadways within Miami-Dade County. A portion of the half-penny sales tax is used for PWWM construction projects.

5.4. DORAL BOULEVARD - RECOMMENDATIONS

1. Need for further analysis: Further analysis is recommended to quantify benefits of the curve radii improvements recommended in this report. Additional safety analysis should be completed before moving forward with implementation of these improvements.
2. Coordination with the City of Doral: Doral Boulevard is the artery of the City of Doral and any improvements along this roadway should be closely coordinated with the City. It is recommended that
3. Data collection: This project, if implemented, should be used a pilot case for similar improvements. Before-and-after turning movement counts are recommended to identify feasibility of the recommended congestion management strategies. The purpose of these counts would be to identify more accurate cost and benefit data or, for the purpose of prioritization, develop more reliable net present value of future benefits.
4. Pedestrian accommodation: As mentioned previously, the decision to increase turning radii is a difficult one as it increases walking distance and exposure of pedestrians to vehicular movement. Pedestrian improvements such as pedestrian refuge islands should be considered wherever turning radii is increased.

APPENDIX 1: KENDALL DRIVE - TURNING MOVEMENT COUNTS

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: SW 127 Ave at SW 88th St
Site Code:
Start Date: 11/13/2012

Turning Movement Data

Start Time	SR 88TH ST Eastbound						SR 88TH ST Westbound						SW 127TH AVE Northbound						SW 127TH AVE Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	31	734	12	0	777	1	32	233	64	0	330	0	12	112	37	0	161	0	136	62	14	0	212	1480
7:15 AM	0	30	727	14	0	771	0	41	251	72	0	364	0	24	132	29	0	185	0	160	71	11	0	242	1562
7:30 AM	0	47	719	30	0	796	0	43	296	65	0	404	0	27	157	34	0	218	0	171	64	20	0	255	1673
7:45 AM	0	34	719	22	0	775	0	41	310	57	0	408	0	29	130	45	0	204	0	143	82	35	0	260	1647
Hourly Total	0	142	2899	78	0	3119	1	157	1090	258	0	1506	0	92	531	145	0	768	0	610	279	80	0	969	6362
8:00 AM	1	30	689	38	0	758	0	55	292	59	0	406	0	34	113	26	0	173	0	138	85	30	0	253	1590
8:15 AM	1	42	539	33	0	615	0	37	311	70	0	418	0	36	79	28	0	143	0	87	78	38	3	203	1379
8:30 AM	0	49	672	30	0	751	0	69	305	71	0	445	0	43	135	32	0	210	1	149	109	34	2	293	1699
8:45 AM	0	51	679	42	0	772	0	61	307	49	1	417	0	46	158	54	0	258	0	169	106	34	3	309	1756
Hourly Total	2	172	2579	143	0	2896	0	222	1215	249	1	1686	0	159	485	140	0	784	1	543	378	136	8	1058	6424
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	1	41	446	38	0	526	0	86	729	107	0	922	0	53	79	29	1	161	1	83	113	52	2	249	1858
4:15 PM	1	32	461	34	0	528	3	59	732	113	0	907	0	65	105	32	2	202	0	86	97	43	2	226	1863
4:30 PM	3	33	456	41	0	533	0	69	674	101	0	844	0	48	115	38	3	201	0	80	108	30	1	218	1796
4:45 PM	0	36	456	45	0	537	0	75	695	101	0	871	0	74	114	31	1	219	0	61	121	37	1	219	1846
Hourly Total	5	142	1819	158	0	2124	3	289	2830	422	0	3544	0	240	413	130	7	783	1	310	439	162	6	912	7363
5:00 PM	1	33	469	40	0	543	0	74	697	112	0	883	0	66	109	21	1	196	0	69	117	43	0	229	1851
5:15 PM	0	42	473	38	0	553	1	59	656	130	0	846	0	59	100	26	3	185	0	110	124	40	0	274	1858
5:30 PM	0	37	489	36	0	562	0	56	682	95	0	833	0	67	104	36	3	207	0	81	112	44	0	237	1839
5:45 PM	0	45	408	29	0	482	2	72	666	129	0	869	0	63	107	27	0	197	0	79	130	43	0	252	1800
Hourly Total	1	157	1839	143	0	2140	3	261	2701	466	0	3431	0	255	420	110	7	785	0	339	483	170	0	992	7348
Car	8	607	8985	516	-	10116	7	913	7666	1353	-	9939	0	735	1839	513	-	3087	2	1777	1564	544	-	3887	27029
% Car	100.0	99.0	98.3	98.9	-	98.4	100.0	98.3	97.8	97.0	-	97.8	-	98.5	99.5	97.7	-	98.9	100.0	98.6	99.1	99.3	-	98.9	98.3
Truck	0	6	151	6	-	163	0	16	170	42	-	228	0	11	10	12	-	33	0	25	15	4	-	44	468
% Truck	0.0	1.0	1.7	1.1	-	1.6	0.0	1.7	2.2	3.0	-	2.2	-	1.5	0.5	2.3	-	1.1	0.0	1.4	0.9	0.7	-	1.1	1.7
Ped	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	14	-	-	-	-	-	14	-	-
% Ped	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: SW 127 Ave at SW 88th St
Site Code:
Start Date: 11/13/2012

Turning Movement Peak Hour Data (7:15 AM)

Start Time	SR 88TH ST Eastbound						SR 88TH ST Westbound						SW 127TH AVE Northbound						SW 127TH AVE Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
7:15 AM	0	30	727	14	0	771	0	41	251	72	0	364	0	24	132	29	0	185	0	160	71	11	0	242	1562
7:30 AM	0	47	719	30	0	796	0	43	296	65	0	404	0	27	157	34	0	218	0	171	64	20	0	255	1673
7:45 AM	0	34	719	22	0	775	0	41	310	57	0	408	0	29	130	45	0	204	0	143	82	35	0	260	1647
8:00 AM	1	30	689	38	0	758	0	55	292	59	0	406	0	34	113	26	0	173	0	138	85	30	0	253	1590
PHF	0.250	0.750	0.981	0.684	-	0.974	0.000	0.818	0.927	0.878	-	0.969	0.000	0.838	0.847	0.744	-	0.894	0.000	0.895	0.888	0.686	-	0.971	0.967
Car	1	141	2817	103	-	3062	0	172	1087	239	-	1498	0	110	529	133	-	772	0	608	298	95	-	1001	6333
% Car	100.0	100.0	98.7	99.0	-	98.8	-	95.6	94.6	94.5	-	94.7	-	96.5	99.4	99.3	-	99.0	-	99.3	98.7	99.0	-	99.1	97.9
Truck	0	0	37	1	-	38	0	8	62	14	-	84	0	4	3	1	-	8	0	4	4	1	-	9	139
% Truck	0.0	0.0	1.3	1.0	-	1.2	-	4.4	5.4	5.5	-	5.3	-	3.5	0.6	0.7	-	1.0	-	0.7	1.3	1.0	-	0.9	2.1
Ped	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Ped	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: SW 127 Ave at SW 88th St
Site Code:
Start Date: 11/13/2012

Turning Movement Peak Hour Data (4:45 PM)

Start Time	SR 88TH ST Eastbound						SR 88TH ST Westbound						SW 127TH AVE Northbound						SW 127TH AVE Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
4:45 PM	0	36	456	45	0	537	0	75	695	101	0	871	0	74	114	31	1	219	0	61	121	37	1	219	1846
5:00 PM	1	33	469	40	0	543	0	74	697	112	0	883	0	66	109	21	1	196	0	69	117	43	0	229	1851
5:15 PM	0	42	473	38	0	553	1	59	656	130	0	846	0	59	100	26	3	185	0	110	124	40	0	274	1858
5:30 PM	0	37	489	36	0	562	0	56	682	95	0	833	0	67	104	36	3	207	0	81	112	44	0	237	1839
PHF	0.250	0.881	0.965	0.883	-	0.976	0.250	0.880	0.979	0.842	-	0.972	0.000	0.899	0.936	0.792	-	0.921	0.000	0.730	0.956	0.932	-	0.875	0.995
Car	1	147	1858	159	-	2165	1	264	2712	429	-	3406	0	263	425	112	-	800	0	318	471	164	-	953	7324
% Car	100.0	99.3	98.5	100.0	-	98.6	100.0	100.0	99.3	97.9	-	99.2	-	98.9	99.5	98.2	-	99.1	-	99.1	99.4	100.0	-	99.4	99.1
Truck	0	1	29	0	-	30	0	0	18	9	-	27	0	3	2	2	-	7	0	3	3	0	-	6	70
% Truck	0.0	0.7	1.5	0.0	-	1.4	0.0	0.0	0.7	2.1	-	0.8	-	1.1	0.5	1.8	-	0.9	-	0.9	0.6	0.0	-	0.6	0.9
Ped	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	8	-	-	-	-	-	1	-	-
% Ped	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: SW 132 Ave at SW 88th St
Site Code:
Start Date: 11/13/2012

Turning Movement Data

Start Time	SW 88TH ST Eastbound						SW 88TH ST Westbound						SW 132 AVE Northbound						SW 132 AVE Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	18	707	1	0	726	0	4	229	14	0	247	0	1	8	33	2	42	0	80	2	5	2	87	1102
7:15 AM	0	14	661	0	0	675	2	7	245	21	0	275	0	3	6	21	0	30	0	112	5	11	1	128	1108
7:30 AM	0	8	669	1	0	678	1	2	302	15	0	320	0	2	4	26	3	32	0	107	1	12	1	120	1150
7:45 AM	0	13	646	1	0	660	1	7	307	25	0	340	0	3	3	32	1	38	0	105	1	14	0	120	1158
Hourly Total	0	53	2683	3	0	2739	4	20	1083	75	0	1182	0	9	21	112	6	142	0	404	9	42	4	455	4518
8:00 AM	0	22	618	1	0	641	1	3	317	30	0	351	0	5	5	30	0	40	0	117	2	28	0	147	1179
8:15 AM	0	20	493	3	0	516	2	3	339	30	0	374	0	4	4	23	3	31	0	94	3	40	0	137	1058
8:30 AM	0	31	632	3	0	666	3	4	337	24	1	368	0	1	5	23	1	29	0	85	1	17	2	103	1166
8:45 AM	0	38	699	1	0	738	2	5	344	17	0	368	0	3	2	26	2	31	0	49	3	16	1	68	1205
Hourly Total	0	111	2442	8	0	2561	8	15	1337	101	1	1461	0	13	16	102	6	131	0	345	9	101	3	455	4608
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	28	485	1	2	514	2	23	731	40	0	796	0	7	4	6	4	17	0	25	3	15	3	43	1370
4:15 PM	0	23	491	5	1	519	2	19	770	37	0	828	0	2	3	7	1	12	0	41	4	23	2	68	1427
4:30 PM	0	27	472	8	1	507	8	12	673	43	1	736	0	2	0	13	1	15	0	36	6	23	1	65	1323
4:45 PM	0	24	474	3	3	501	4	14	701	50	1	769	0	5	2	19	2	26	0	41	4	17	0	62	1358
Hourly Total	0	102	1922	17	7	2041	16	68	2875	170	2	3129	0	16	9	45	8	70	0	143	17	78	6	238	5478
5:00 PM	1	28	490	10	0	529	2	18	702	52	0	774	0	2	3	12	1	17	0	46	7	28	2	81	1401
5:15 PM	0	27	523	1	1	551	2	17	684	67	0	770	0	2	1	20	0	23	0	46	5	32	0	83	1427
5:30 PM	1	32	506	0	2	539	3	17	702	58	0	780	0	2	3	9	0	14	0	35	2	29	2	66	1399
5:45 PM	0	26	445	6	0	477	3	18	728	36	2	785	0	2	4	5	2	11	0	31	2	35	0	68	1341
Hourly Total	2	113	1964	17	3	2096	10	70	2816	213	2	3109	0	8	11	46	3	65	0	158	16	124	4	298	5568
Car	2	374	8874	43	-	9293	38	168	7934	543	-	8683	0	45	56	301	-	402	0	1036	50	340	-	1426	19804
% Car	100.0	98.7	98.5	95.6	-	98.5	100.0	97.1	97.8	97.1	-	97.8	-	97.8	98.2	98.7	-	98.5	-	98.7	98.0	98.6	-	98.6	98.2
Truck	0	5	137	2	-	144	0	5	177	16	-	198	0	1	1	4	-	6	0	14	1	5	-	20	368
% Truck	0.0	1.3	1.5	4.4	-	1.5	0.0	2.9	2.2	2.9	-	2.2	-	2.2	1.8	1.3	-	1.5	-	1.3	2.0	1.4	-	1.4	1.8
Ped	-	-	-	-	10	-	-	-	-	-	5	-	-	-	-	-	23	-	-	-	-	-	17	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: SW 132 Ave at SW 88th St
Site Code:
Start Date: 11/13/2012

Turning Movement Peak Hour Data (8:00 AM)

Start Time	SW 88TH ST Eastbound						SW 88TH ST Westbound						SW 132 AVE Northbound						SW 132 AVE Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
8:00 AM	0	22	618	1	0	641	1	3	317	30	0	351	0	5	5	30	0	40	0	117	2	28	0	147	1179
8:15 AM	0	20	493	3	0	516	2	3	339	30	0	374	0	4	4	23	3	31	0	94	3	40	0	137	1058
8:30 AM	0	31	632	3	0	666	3	4	337	24	1	368	0	1	5	23	1	29	0	85	1	17	2	103	1166
8:45 AM	0	38	699	1	0	738	2	5	344	17	0	368	0	3	2	26	2	31	0	49	3	16	1	68	1205
PHF	0.000	0.730	0.873	0.667	-	0.868	0.667	0.750	0.972	0.842	-	0.977	0.000	0.650	0.800	0.850	-	0.819	0.000	0.737	0.750	0.631	-	0.774	0.956
Car	0	109	2406	7	-	2522	8	13	1280	96	-	1397	0	12	16	100	-	128	0	341	9	100	-	450	4497
% Car	-	98.2	98.5	87.5	-	98.5	100.0	86.7	95.7	95.0	-	95.6	-	92.3	100.0	98.0	-	97.7	-	98.8	100.0	99.0	-	98.9	97.6
Truck	0	2	36	1	-	39	0	2	57	5	-	64	0	1	0	2	-	3	0	4	0	1	-	5	111
% Truck	-	1.8	1.5	12.5	-	1.5	0.0	13.3	4.3	5.0	-	4.4	-	7.7	0.0	2.0	-	2.3	-	1.2	0.0	1.0	-	1.1	2.4
Ped	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	6	-	-	-	-	-	3	-	-
% Ped	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: SW 132 Ave at SW 88th St
Site Code:
Start Date: 11/13/2012

Turning Movement Peak Hour Data (4:45 PM)

Start Time	SW 88TH ST Eastbound						SW 88TH ST Westbound						SW 132 AVE Northbound						SW 132 AVE Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
4:45 PM	0	24	474	3	3	501	4	14	701	50	1	769	0	5	2	19	2	26	0	41	4	17	0	62	1358
5:00 PM	1	28	490	10	0	529	2	18	702	52	0	774	0	2	3	12	1	17	0	46	7	28	2	81	1401
5:15 PM	0	27	523	1	1	551	2	17	684	67	0	770	0	2	1	20	0	23	0	46	5	32	0	83	1427
5:30 PM	1	32	506	0	2	539	3	17	702	58	0	780	0	2	3	9	0	14	0	35	2	29	2	66	1399
PHF	0.500	0.867	0.953	0.350	-	0.962	0.688	0.917	0.993	0.847	-	0.991	0.000	0.550	0.750	0.750	-	0.769	0.000	0.913	0.643	0.828	-	0.880	0.978
Car	2	109	1963	14	-	2088	11	64	2768	224	-	3067	0	11	9	59	-	79	0	167	18	105	-	290	5524
% Car	100.0	98.2	98.5	100.0	-	98.5	100.0	97.0	99.2	98.7	-	99.2	-	100.0	100.0	98.3	-	98.8	-	99.4	100.0	99.1	-	99.3	98.9
Truck	0	2	30	0	-	32	0	2	21	3	-	26	0	0	0	1	-	1	0	1	0	1	-	2	61
% Truck	0.0	1.8	1.5	0.0	-	1.5	0.0	3.0	0.8	1.3	-	0.8	-	0.0	0.0	1.7	-	1.3	-	0.6	0.0	0.9	-	0.7	1.1
Ped	-	-	-	-	6	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	4	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: SW 133 Ave at SW 88th St
Site Code:
Start Date: 11/15/2012

Turning Movement Data

Start Time	SW 88TH ST Eastbound						SW 88TH ST Westbound						SW 133RD AVE Northbound						SW 133RD AVE Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	1	23	577	6	1	607	0	11	253	8	0	272	0	5	18	47	0	70	0	38	6	21	0	65	1014
7:15 AM	0	11	570	4	0	585	0	6	243	11	0	260	0	8	12	44	3	64	0	57	7	18	1	82	991
7:30 AM	1	6	577	8	0	592	0	12	292	16	0	320	1	15	3	47	0	66	0	51	7	18	0	76	1054
7:45 AM	2	7	566	5	1	580	0	12	287	16	0	315	0	18	11	54	3	83	0	44	9	32	0	85	1063
Hourly Total	4	47	2290	23	2	2364	0	41	1075	51	0	1167	1	46	44	192	6	283	0	190	29	89	1	308	4122
8:00 AM	2	22	547	4	2	575	0	16	349	22	0	387	0	15	8	46	0	69	0	47	11	36	0	94	1125
8:15 AM	1	26	560	8	1	595	0	17	342	11	1	370	0	14	9	40	0	63	0	39	16	34	0	89	1117
8:30 AM	3	24	584	8	0	619	0	8	357	11	0	376	0	14	3	39	0	56	0	24	4	20	0	48	1099
8:45 AM	2	20	554	16	1	592	0	11	344	8	0	363	0	13	3	29	3	45	0	30	3	28	0	61	1061
Hourly Total	8	92	2245	36	4	2381	0	52	1392	52	1	1496	0	56	23	154	3	233	0	140	34	118	0	292	4402
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	13	35	468	8	1	524	0	22	686	29	0	737	0	9	6	18	1	33	0	14	6	18	3	38	1332
4:15 PM	16	30	458	17	0	521	0	25	682	30	0	737	0	13	7	16	0	36	0	24	4	31	0	59	1353
4:30 PM	5	15	466	20	0	506	0	32	694	31	0	757	0	5	5	22	0	32	0	19	5	20	2	44	1339
4:45 PM	3	28	484	13	1	528	0	34	671	30	0	735	0	11	8	22	0	41	0	17	5	28	0	50	1354
Hourly Total	37	108	1876	58	2	2079	0	113	2733	120	0	2966	0	38	26	78	1	142	0	74	20	97	5	191	5378
5:00 PM	11	19	513	18	1	561	0	27	695	27	0	749	0	16	7	18	0	41	0	22	3	29	1	54	1405
5:15 PM	7	25	505	16	1	553	0	36	717	28	2	781	0	14	9	20	2	43	0	23	5	29	1	57	1434
5:30 PM	3	26	491	11	0	531	0	31	719	40	0	790	0	14	6	25	1	45	0	23	5	24	1	52	1418
5:45 PM	6	24	462	6	2	498	0	32	683	38	1	753	0	5	10	29	0	44	0	26	7	21	1	54	1349
Hourly Total	27	94	1971	51	4	2143	0	126	2814	133	3	3073	0	49	32	92	3	173	0	94	20	103	4	217	5606
Car	76	336	8243	166	-	8821	0	328	7830	347	-	8505	1	188	123	513	-	825	0	492	100	394	-	986	19137
% Car	100.0	98.5	98.3	98.8	-	98.4	-	98.8	97.7	97.5	-	97.7	100.0	99.5	98.4	99.4	-	99.3	-	98.8	97.1	96.8	-	97.8	98.1
Truck	0	5	139	2	-	146	0	4	184	9	-	197	0	1	2	3	-	6	0	6	3	13	-	22	371
% Truck	0.0	1.5	1.7	1.2	-	1.6	-	1.2	2.3	2.5	-	2.3	0.0	0.5	1.6	0.6	-	0.7	-	1.2	2.9	3.2	-	2.2	1.9
Ped	-	-	-	-	12	-	-	-	-	-	4	-	-	-	-	-	13	-	-	-	-	-	10	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: SW 133 Ave at SW 88th St
Site Code:
Start Date: 11/15/2012

Turning Movement Peak Hour Data (7:45 AM)

Start Time	SW 88TH ST Eastbound						SW 88TH ST Westbound						SW 133RD AVE Northbound						SW 133RD AVE Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:45 AM	2	7	566	5	1	580	0	12	287	16	0	315	0	18	11	54	3	83	0	44	9	32	0	85	1063
8:00 AM	2	22	547	4	2	575	0	16	349	22	0	387	0	15	8	46	0	69	0	47	11	36	0	94	1125
8:15 AM	1	26	560	8	1	595	0	17	342	11	1	370	0	14	9	40	0	63	0	39	16	34	0	89	1117
8:30 AM	3	24	584	8	0	619	0	8	357	11	0	376	0	14	3	39	0	56	0	24	4	20	0	48	1099
PHF	0.667	0.760	0.966	0.781	-	0.957	0.000	0.779	0.935	0.682	-	0.935	0.000	0.847	0.705	0.829	-	0.816	0.000	0.819	0.625	0.847	-	0.840	0.979
Car	8	78	2227	25	-	2338	0	51	1275	58	-	1384	0	61	30	179	-	270	0	153	39	118	-	310	4302
% Car	100.0	98.7	98.7	100.0	-	98.7	-	96.2	95.5	96.7	-	95.6	-	100.0	96.8	100.0	-	99.6	-	99.4	97.5	96.7	-	98.1	97.7
Truck	0	1	30	0	-	31	0	2	60	2	-	64	0	0	1	0	-	1	0	1	1	4	-	6	102
% Truck	0.0	1.3	1.3	0.0	-	1.3	-	3.8	4.5	3.3	-	4.4	-	0.0	3.2	0.0	-	0.4	-	0.6	2.5	3.3	-	1.9	2.3
Ped	-	-	-	-	4	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	0	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: SW 133 Ave at SW 88th St
Site Code:
Start Date: 11/15/2012

Turning Movement Peak Hour Data (4:45 PM)

Start Time	SW 88TH ST Eastbound						SW 88TH ST Westbound						SW 133RD AVE Northbound						SW 133RD AVE Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
4:45 PM	3	28	484	13	1	528	0	34	671	30	0	735	0	11	8	22	0	41	0	17	5	28	0	50	1354
5:00 PM	11	19	513	18	1	561	0	27	695	27	0	749	0	16	7	18	0	41	0	22	3	29	1	54	1405
5:15 PM	7	25	505	16	1	553	0	36	717	28	2	781	0	14	9	20	2	43	0	23	5	29	1	57	1434
5:30 PM	3	26	491	11	0	531	0	31	719	40	0	790	0	14	6	25	1	45	0	23	5	24	1	52	1418
PHF	0.545	0.875	0.971	0.806	-	0.968	0.000	0.889	0.974	0.781	-	0.967	0.000	0.859	0.833	0.850	-	0.944	0.000	0.924	0.900	0.948	-	0.934	0.978
Car	24	96	1955	58	-	2133	0	127	2774	123	-	3024	0	55	30	85	-	170	0	85	18	109	-	212	5539
% Car	100.0	98.0	98.1	100.0	-	98.2	-	99.2	99.0	98.4	-	99.0	-	100.0	100.0	100.0	-	100.0	-	100.0	100.0	99.1	-	99.5	98.7
Truck	0	2	38	0	-	40	0	1	28	2	-	31	0	0	0	0	-	0	0	0	0	1	-	1	72
% Truck	0.0	2.0	1.9	0.0	-	1.8	-	0.8	1.0	1.6	-	1.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.9	-	0.5	1.3
Ped	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	3	-	-	-	-	-	3	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: SW 137th Ave at SW 88th St
Site Code:
Start Date: 11/15/2012

Turning Movement Data

Start Time	SW 88TH ST Eastbound						SW 88TH ST Westbound						SW 137TH AVE Northbound						SW 137TH AVE Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	1	33	442	31	2	507	0	46	201	29	3	276	0	38	216	123	0	377	0	57	113	15	2	185	1345
7:15 AM	0	24	433	18	0	475	1	46	173	33	1	253	0	46	219	111	0	376	1	46	175	22	3	244	1348
7:30 AM	0	22	420	37	3	479	0	58	205	38	2	301	1	47	198	88	0	334	0	60	214	24	5	298	1412
7:45 AM	0	35	396	38	2	469	0	73	225	33	2	331	0	56	209	96	0	361	0	52	216	33	1	301	1462
Hourly Total	1	114	1691	124	7	1930	1	223	804	133	8	1161	1	187	842	418	0	1448	1	215	718	94	11	1028	5567
8:00 AM	0	51	428	50	5	529	0	63	273	44	1	380	0	48	207	89	0	344	0	62	204	35	4	301	1554
8:15 AM	0	42	386	38	2	466	0	64	279	38	1	381	0	65	204	107	0	376	0	63	203	42	0	308	1531
8:30 AM	0	29	414	44	3	487	0	65	248	47	1	360	0	57	203	101	0	361	0	69	209	39	2	317	1525
8:45 AM	0	44	390	44	1	478	0	68	257	32	0	357	0	67	187	106	0	360	0	65	226	39	2	330	1525
Hourly Total	0	166	1618	176	11	1960	0	260	1057	161	3	1478	0	237	801	403	0	1441	0	259	842	155	8	1256	6135
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	41	356	80	1	477	0	112	497	81	1	690	6	75	186	110	0	377	0	72	182	46	2	300	1844
4:15 PM	0	33	322	71	5	426	0	110	525	85	3	720	2	83	204	102	0	391	0	69	195	55	6	319	1856
4:30 PM	0	39	337	70	5	446	1	110	513	84	2	708	6	85	163	102	1	356	0	57	169	54	1	280	1790
4:45 PM	0	32	348	61	1	441	1	108	492	80	0	681	6	75	172	108	1	361	0	74	194	54	0	322	1805
Hourly Total	0	145	1363	282	12	1790	2	440	2027	330	6	2799	20	318	725	422	2	1485	0	272	740	209	9	1221	7295
5:00 PM	0	33	357	81	3	471	0	103	533	83	4	719	0	73	188	106	6	367	0	71	161	52	2	284	1841
5:15 PM	0	33	348	87	6	468	1	115	541	92	0	749	0	87	206	115	0	408	0	64	206	46	4	316	1941
5:30 PM	0	28	315	73	1	416	0	122	524	84	0	730	0	85	191	104	0	380	0	71	208	55	2	334	1860
5:45 PM	0	34	333	100	3	467	0	123	494	70	0	687	0	90	191	94	0	375	1	76	200	60	5	337	1866
Hourly Total	0	128	1353	341	13	1822	1	463	2092	329	4	2885	0	335	776	419	6	1530	1	282	775	213	13	1271	7508
Car	1	546	5921	915	-	7383	4	1351	5828	944	-	8127	21	1058	3094	1637	-	5810	2	1013	3042	660	-	4717	26037
% Car	100.0	98.7	98.3	99.1	-	98.4	100.0	97.5	97.5	99.1	-	97.6	100.0	98.2	98.4	98.5	-	98.4	100.0	98.5	98.9	98.4	-	98.8	98.2
Truck	0	7	104	8	-	119	0	35	152	9	-	196	0	19	50	25	-	94	0	15	33	11	-	59	468
% Truck	0.0	1.3	1.7	0.9	-	1.6	0.0	2.5	2.5	0.9	-	2.4	0.0	1.8	1.6	1.5	-	1.6	0.0	1.5	1.1	1.6	-	1.2	1.8
Ped	-	-	-	-	43	-	-	-	-	-	21	-	-	-	-	-	8	-	-	-	-	-	41	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: SW 137th Ave at SW 88th St
Site Code:
Start Date: 11/15/2012

Turning Movement Peak Hour Data (8:00 AM)

Start Time	SW 88TH ST Eastbound						SW 88TH ST Westbound						SW 137TH AVE Northbound						SW 137TH AVE Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
8:00 AM	0	51	428	50	5	529	0	63	273	44	1	380	0	48	207	89	0	344	0	62	204	35	4	301	1554
8:15 AM	0	42	386	38	2	466	0	64	279	38	1	381	0	65	204	107	0	376	0	63	203	42	0	308	1531
8:30 AM	0	29	414	44	3	487	0	65	248	47	1	360	0	57	203	101	0	361	0	69	209	39	2	317	1525
8:45 AM	0	44	390	44	1	478	0	68	257	32	0	357	0	67	187	106	0	360	0	65	226	39	2	330	1525
PHF	0.000	0.814	0.945	0.880	-	0.926	0.000	0.956	0.947	0.856	-	0.970	0.000	0.884	0.967	0.942	-	0.958	0.000	0.938	0.931	0.923	-	0.952	0.987
Car	0	163	1591	175	-	1929	0	247	999	160	-	1406	0	226	789	397	-	1412	0	253	833	152	-	1238	5985
% Car	-	98.2	98.3	99.4	-	98.4	-	95.0	94.5	99.4	-	95.1	-	95.4	98.5	98.5	-	98.0	-	97.7	98.9	98.1	-	98.6	97.6
Truck	0	3	27	1	-	31	0	13	58	1	-	72	0	11	12	6	-	29	0	6	9	3	-	18	150
% Truck	-	1.8	1.7	0.6	-	1.6	-	5.0	5.5	0.6	-	4.9	-	4.6	1.5	1.5	-	2.0	-	2.3	1.1	1.9	-	1.4	2.4
Ped	-	-	-	-	11	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	8	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: SW 137th Ave at SW 88th St
Site Code:
Start Date: 11/15/2012

Turning Movement Peak Hour Data (5:00 PM)

Start Time	SW 88TH ST Eastbound						SW 88TH ST Westbound						SW 137TH AVE Northbound						SW 137TH AVE Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
5:00 PM	0	33	357	81	3	471	0	103	533	83	4	719	0	73	188	106	6	367	0	71	161	52	2	284	1841
5:15 PM	0	33	348	87	6	468	1	115	541	92	0	749	0	87	206	115	0	408	0	64	206	46	4	316	1941
5:30 PM	0	28	315	73	1	416	0	122	524	84	0	730	0	85	191	104	0	380	0	71	208	55	2	334	1860
5:45 PM	0	34	333	100	3	467	0	123	494	70	0	687	0	90	191	94	0	375	1	76	200	60	5	337	1866
PHF	0.000	0.941	0.947	0.853	-	0.967	0.250	0.941	0.967	0.894	-	0.963	0.000	0.931	0.942	0.911	-	0.938	0.250	0.928	0.931	0.888	-	0.943	0.967
Car	0	128	1326	340	-	1794	1	461	2075	329	-	2866	0	332	765	412	-	1509	1	280	767	210	-	1258	7427
% Car	-	100.0	98.0	99.7	-	98.5	100.0	99.6	99.2	100.0	-	99.3	-	99.1	98.6	98.3	-	98.6	100.0	99.3	99.0	98.6	-	99.0	98.9
Truck	0	0	27	1	-	28	0	2	17	0	-	19	0	3	11	7	-	21	0	2	8	3	-	13	81
% Truck	-	0.0	2.0	0.3	-	1.5	0.0	0.4	0.8	0.0	-	0.7	-	0.9	1.4	1.7	-	1.4	0.0	0.7	1.0	1.4	-	1.0	1.1
Ped	-	-	-	-	13	-	-	-	-	-	4	-	-	-	-	-	6	-	-	-	-	-	13	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: SW 138th Ave at SW 88th St
Site Code:
Start Date: 11/15/2012

Turning Movement Data

Start Time	SW 88TH ST Eastbound						SW 88TH ST Westbound						SW 138TH AVE Northbound						SW 138TH AVE Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	5	14	515	6	1	540	5	3	227	7	0	242	0	4	1	1	0	6	0	2	0	2	0	4	792
7:15 AM	2	25	472	4	0	503	0	8	226	5	0	239	0	3	1	3	0	7	0	6	2	3	1	11	760
7:30 AM	0	21	469	4	0	494	9	12	234	9	0	264	0	4	1	3	1	8	0	5	0	3	3	8	774
7:45 AM	5	18	454	5	0	482	11	23	262	11	0	307	0	12	5	0	0	17	1	8	5	3	1	17	823
Hourly Total	12	78	1910	19	1	2019	25	46	949	32	0	1052	0	23	8	7	1	38	1	21	7	11	5	40	3149
8:00 AM	3	20	447	8	0	478	15	18	302	4	0	339	0	7	1	5	1	13	0	8	4	4	0	16	846
8:15 AM	4	22	466	6	0	498	15	16	330	7	0	368	0	8	4	6	0	18	0	10	2	4	0	16	900
8:30 AM	4	32	449	6	0	491	20	20	288	17	0	345	0	9	1	2	4	12	0	9	0	9	2	18	866
8:45 AM	5	34	417	4	2	460	20	13	311	11	0	355	0	9	0	4	0	13	0	27	1	10	2	38	866
Hourly Total	16	108	1779	24	2	1927	70	67	1231	39	0	1407	0	33	6	17	5	56	0	54	7	27	4	88	3478
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	13	34	361	11	2	419	16	34	520	18	0	588	0	25	4	7	2	36	0	32	4	16	3	52	1095
4:15 PM	8	27	371	7	2	413	24	33	555	23	0	635	0	17	5	8	2	30	0	33	4	13	4	50	1128
4:30 PM	9	47	376	11	2	443	21	40	527	29	0	617	0	12	9	3	1	24	0	31	6	13	0	50	1134
4:45 PM	9	27	389	6	1	431	12	31	544	32	0	619	0	29	6	4	3	39	0	38	3	21	2	62	1151
Hourly Total	39	135	1497	35	7	1706	73	138	2146	102	0	2459	0	83	24	22	8	129	0	134	17	63	9	214	4508
5:00 PM	7	34	368	9	0	418	18	37	552	32	0	639	0	29	3	4	1	36	0	44	4	10	4	58	1151
5:15 PM	8	29	359	11	2	407	17	28	580	36	1	661	0	25	5	9	1	39	0	35	4	16	1	55	1162
5:30 PM	2	39	344	8	2	393	22	30	585	26	0	663	0	26	6	4	0	36	0	34	7	17	1	58	1150
5:45 PM	12	35	361	15	0	423	15	33	550	17	0	615	0	23	1	10	1	34	0	37	2	19	2	58	1130
Hourly Total	29	137	1432	43	4	1641	72	128	2267	111	1	2578	0	103	15	27	3	145	0	150	17	62	8	229	4593
Car	96	452	6502	121	-	7171	236	379	6438	279	-	7332	0	241	53	73	-	367	1	356	48	163	-	568	15438
% Car	100.0	98.7	98.2	100.0	-	98.3	98.3	100.0	97.6	98.2	-	97.8	-	99.6	100.0	100.0	-	99.7	100.0	99.2	100.0	100.0	-	99.5	98.2
Truck	0	6	116	0	-	122	4	0	155	5	-	164	0	1	0	0	-	1	0	3	0	0	-	3	290
% Truck	0.0	1.3	1.8	0.0	-	1.7	1.7	0.0	2.4	1.8	-	2.2	-	0.4	0.0	0.0	-	0.3	0.0	0.8	0.0	0.0	-	0.5	1.8
Ped	-	-	-	-	14	-	-	-	-	-	1	-	-	-	-	-	17	-	-	-	-	-	26	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: SW 138th Ave at SW 88th St
Site Code:
Start Date: 11/15/2012

Turning Movement Peak Hour Data (8:00 AM)

Start Time	SW 88TH ST Eastbound						SW 88TH ST Westbound						SW 138TH AVE Northbound						SW 138TH AVE Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
8:00 AM	3	20	447	8	0	478	15	18	302	4	0	339	0	7	1	5	1	13	0	8	4	4	0	16	846
8:15 AM	4	22	466	6	0	498	15	16	330	7	0	368	0	8	4	6	0	18	0	10	2	4	0	16	900
8:30 AM	4	32	449	6	0	491	20	20	288	17	0	345	0	9	1	2	4	12	0	9	0	9	2	18	866
8:45 AM	5	34	417	4	2	460	20	13	311	11	0	355	0	9	0	4	0	13	0	27	1	10	2	38	866
PHF	0.800	0.794	0.954	0.750	-	0.967	0.875	0.838	0.933	0.574	-	0.956	0.000	0.917	0.375	0.708	-	0.778	0.000	0.500	0.438	0.675	-	0.579	0.966
Car	16	102	1748	24	-	1890	69	67	1157	37	-	1330	0	33	6	17	-	56	0	52	7	27	-	86	3362
% Car	100.0	94.4	98.3	100.0	-	98.1	98.6	100.0	94.0	94.9	-	94.5	-	100.0	100.0	100.0	-	100.0	-	96.3	100.0	100.0	-	97.7	96.7
Truck	0	6	31	0	-	37	1	0	74	2	-	77	0	0	0	0	-	0	0	2	0	0	-	2	116
% Truck	0.0	5.6	1.7	0.0	-	1.9	1.4	0.0	6.0	5.1	-	5.5	-	0.0	0.0	0.0	-	0.0	-	3.7	0.0	0.0	-	2.3	3.3
Ped	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	5	-	-	-	-	-	4	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: SW 138th Ave at SW 88th St
Site Code:
Start Date: 11/15/2012

Turning Movement Peak Hour Data (4:45 PM)

Start Time	SW 88TH ST Eastbound						SW 88TH ST Westbound						SW 138TH AVE Northbound						SW 138TH AVE Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
4:45 PM	9	27	389	6	1	431	12	31	544	32	0	619	0	29	6	4	3	39	0	38	3	21	2	62	1151
5:00 PM	7	34	368	9	0	418	18	37	552	32	0	639	0	29	3	4	1	36	0	44	4	10	4	58	1151
5:15 PM	8	29	359	11	2	407	17	28	580	36	1	661	0	25	5	9	1	39	0	35	4	16	1	55	1162
5:30 PM	2	39	344	8	2	393	22	30	585	26	0	663	0	26	6	4	0	36	0	34	7	17	1	58	1150
PHF	0.722	0.827	0.938	0.773	-	0.956	0.784	0.851	0.966	0.875	-	0.974	0.000	0.940	0.833	0.583	-	0.962	0.000	0.858	0.643	0.762	-	0.940	0.993
Car	26	129	1428	34	-	1617	67	126	2238	125	-	2556	0	108	20	21	-	149	0	151	18	64	-	233	4555
% Car	100.0	100.0	97.8	100.0	-	98.1	97.1	100.0	99.0	99.2	-	99.0	-	99.1	100.0	100.0	-	99.3	-	100.0	100.0	100.0	-	100.0	98.7
Truck	0	0	32	0	-	32	2	0	23	1	-	26	0	1	0	0	-	1	0	0	0	0	-	0	59
% Truck	0.0	0.0	2.2	0.0	-	1.9	2.9	0.0	1.0	0.8	-	1.0	-	0.9	0.0	0.0	-	0.7	-	0.0	0.0	0.0	-	0.0	1.3
Ped	-	-	-	-	5	-	-	-	-	-	1	-	-	-	-	-	5	-	-	-	-	-	8	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: SW 12500Blk at Sw 88th St
Site Code:
Start Date: 11/13/2012

Turning Movement Data

Start Time	SW 88TH ST Eastbound					SW 88TH ST Westbound					SW 12500 BLK Northbound					
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	Int. Total
7:00 AM	0	881	4	0	885	2	3	309	1	314	0	1	23	0	24	1223
7:15 AM	0	876	10	0	886	1	5	359	0	365	0	1	21	0	22	1273
7:30 AM	1	856	7	0	864	3	2	341	0	346	0	3	28	1	31	1241
7:45 AM	0	874	10	0	884	1	3	409	0	413	0	0	13	0	13	1310
Hourly Total	1	3487	31	0	3519	7	13	1418	1	1438	0	5	85	1	90	5047
8:00 AM	0	782	12	0	794	1	1	356	0	358	0	1	14	1	15	1167
8:15 AM	0	659	10	0	669	3	5	452	0	460	0	1	23	0	24	1153
8:30 AM	0	867	12	0	879	3	8	402	0	413	0	4	22	0	26	1318
8:45 AM	0	847	8	0	855	6	9	376	0	391	0	1	15	1	16	1262
Hourly Total	0	3155	42	0	3197	13	23	1586	0	1622	0	7	74	2	81	4900
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	533	21	0	554	3	13	872	0	888	0	17	25	2	42	1484
4:15 PM	0	567	22	0	589	5	22	822	0	849	0	15	25	2	40	1478
4:30 PM	0	550	23	0	573	2	25	808	0	835	0	23	20	1	43	1451
4:45 PM	0	528	19	0	547	0	23	832	0	855	0	18	30	1	48	1450
Hourly Total	0	2178	85	0	2263	10	83	3334	0	3427	0	73	100	6	173	5863
5:00 PM	0	530	27	0	557	3	14	820	0	837	0	17	22	1	39	1433
5:15 PM	0	577	22	0	599	5	18	801	0	824	0	11	32	1	43	1466
5:30 PM	0	592	25	0	617	4	17	781	0	802	0	12	35	1	47	1466
5:45 PM	0	492	23	0	515	4	22	822	1	848	0	13	22	1	35	1398
Hourly Total	0	2191	97	0	2288	16	71	3224	1	3311	0	53	111	4	164	5763
Car	1	10808	253	-	11062	41	187	9313	-	9541	0	138	368	-	506	21109
% Car	100.0	98.2	99.2	-	98.2	89.1	98.4	97.4	-	97.4	-	100.0	99.5	-	99.6	97.8
Truck	0	203	2	-	205	5	3	249	-	257	0	0	2	-	2	464
% Truck	0.0	1.8	0.8	-	1.8	10.9	1.6	2.6	-	2.6	-	0.0	0.5	-	0.4	2.2
Ped	-	-	-	0	-	-	-	-	2	-	-	-	-	13	-	-
% Ped	-	-	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: SW 12500Blk at Sw 88th St
Site Code:
Start Date: 11/13/2012

Turning Movement Peak Hour Data (7:00 AM)

Start Time	SW 88TH ST Eastbound					SW 88TH ST Westbound					SW 12500 BLK Northbound					
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	Int. Total
7:00 AM	0	881	4	0	885	2	3	309	1	314	0	1	23	0	24	1223
7:15 AM	0	876	10	0	886	1	5	359	0	365	0	1	21	0	22	1273
7:30 AM	1	856	7	0	864	3	2	341	0	346	0	3	28	1	31	1241
7:45 AM	0	874	10	0	884	1	3	409	0	413	0	0	13	0	13	1310
PHF	0.250	0.990	0.775	-	0.993	0.583	0.650	0.867	-	0.870	0.000	0.417	0.759	-	0.726	0.963
Car	1	3431	31	-	3463	7	13	1319	-	1339	0	5	84	-	89	4891
% Car	100.0	98.4	100.0	-	98.4	100.0	100.0	93.0	-	93.1	-	100.0	98.8	-	98.9	96.9
Truck	0	56	0	-	56	0	0	99	-	99	0	0	1	-	1	156
% Truck	0.0	1.6	0.0	-	1.6	0.0	0.0	7.0	-	6.9	-	0.0	1.2	-	1.1	3.1
Ped	-	-	-	0	-	-	-	-	1	-	-	-	-	1	-	-
% Ped	-	-	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-

FTE (Florida Transportation Engineering)
Fax# (941) 639-4851
8250 Pascal Drive
Punta Gorda, Florida, United States 33950
Ph# (800) 639-4851

Count Name: SW 12500Blk at Sw 88th St
Site Code:
Start Date: 11/13/2012

Turning Movement Peak Hour Data (4:00 PM)

Start Time	SW 88TH ST Eastbound					SW 88TH ST Westbound					SW 12500 BLK Northbound					
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	Int. Total
4:00 PM	0	533	21	0	554	3	13	872	0	888	0	17	25	2	42	1484
4:15 PM	0	567	22	0	589	5	22	822	0	849	0	15	25	2	40	1478
4:30 PM	0	550	23	0	573	2	25	808	0	835	0	23	20	1	43	1451
4:45 PM	0	528	19	0	547	0	23	832	0	855	0	18	30	1	48	1450
PHF	0.000	0.960	0.924	-	0.961	0.500	0.830	0.956	-	0.965	0.000	0.793	0.833	-	0.901	0.988
Car	0	2120	85	-	2205	10	83	3287	-	3380	0	73	100	-	173	5758
% Car	-	97.3	100.0	-	97.4	100.0	100.0	98.6	-	98.6	-	100.0	100.0	-	100.0	98.2
Truck	0	58	0	-	58	0	0	47	-	47	0	0	0	-	0	105
% Truck	-	2.7	0.0	-	2.6	0.0	0.0	1.4	-	1.4	-	0.0	0.0	-	0.0	1.8
Ped	-	-	-	0	-	-	-	-	0	-	-	-	-	6	-	-
% Ped	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

APPENDIX 2: KENDALL DRIVE - SIGNAL TIMING DATA

TOD Schedule Report

for 3842: Kendall Dr&SW 137 Av

Print Date: 10/13/2012

Print Time: 3:03 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3842	Kendall Dr&SW 137 Av	DOW-7		N/A	0	0	N/A	0	Max 0

Splits

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

Active Phase Bank: Phase Bank 1

Phase		Walk	Don't Walk	Min Initial	Veh Ext	Max Limit	Max 2	Yellow	Red
		Phase Bank 1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3		
1	EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2.5 - 2.5 - 2.5	7 - 15 - 15	35 - 10 - 0	3	1
2	WBT	0 - 0 - 0	0 - 0 - 0	18 - 18 - 18	1 - 1 - 1	30 - 40 - 40	0 - 30 - 0	4.3	1.4
3	SBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2.5 - 2.5 - 2.5	12 - 15 - 15	30 - 15 - 0	3	1
4	NBT	7 - 7 - 7	23 - 23 - 23	7 - 7 - 7	2.5 - 2.5 - 2.5	17 - 20 - 20	50 - 15 - 0	4	1.7
5	WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2.5 - 2.5 - 2.5	10 - 30 - 20	42 - 20 - 0	3	1
6	EBT	0 - 0 - 0	0 - 0 - 0	18 - 18 - 18	1 - 1 - 1	30 - 40 - 40	0 - 30 - 0	4.3	1.4
7	NBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2.5 - 2.5 - 2.5	12 - 20 - 15	30 - 15 - 0	3	1
8	SBT	7 - 7 - 7	23 - 23 - 23	7 - 7 - 7	2.5 - 2.5 - 2.5	17 - 20 - 20	50 - 15 - 0	4	1.7

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12345678
External Permit 0	--------
External Permit 1	12345678
External Permit 2	12345678

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 SBL	4 NBT	5 WBL	6 EBT	7 NBL	8 SBT	Ring Offset	Offset
	1	180	20	80	16	44	10	90	16	44	0	6
	2	120	13	40	17	30	23	30	17	30	0	30
	4	130	23	41	17	29	23	41	17	29	0	73
	6	130	20	44	17	29	29	35	17	29	0	121
	8	100	12	37	12	19	15	34	12	19	0	30
	11	130	12	53	17	28	12	53	17	28	0	81
	12	150	18	67	17	28	18	67	17	28	0	119
	13	150	16	69	16	29	36	49	16	29	0	5
	14	130	18	44	19	29	31	31	19	29	0	81
	15	180	10	80	20	50	34	56	20	50	0	176
	18	90	12	27	12	19	12	27	12	19	0	83
	23	150	31	54	16	29	31	54	16	29	0	26
	25	170	16	80	18	36	19	75	12	42	0	156
	26	130	12	46	14	36	18	42	16	34	0	104
	27	180	10	92	17	39	38	66	20	36	0	178
	28	110	10	40	14	26	14	34	14	26	0	100

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0530	2	M T W Th F S
0630	1	M T W Th F
0700	23	S
0800	2	Su
0900	2	S
0930	23	M T W Th F
1000	14	S
1100	14	Su
1200	23	Su S
1500	15	M T W Th F
1800	13	Su
1930	13	M T W Th F
2000	13	S
2100	8	M T W Th
2100	13	F
2200	2	Su S
2300	Free	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-------1	SuM T W ThF S
0100	TOD OUTPUTS	------2-	Su S
0530	TOD OUTPUTS	--------	M T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-------1	SuM T W ThF S
0030	TOD OUTPUTS	------2-	M T W ThF
0100	TOD OUTPUTS	------2-	Su S
0530	TOD OUTPUTS	--------	M T W ThF S
0800	TOD OUTPUTS	--------	Su
2300	TOD OUTPUTS	-------1	M T W ThF

*** Settings**

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

No Calendar Defined/Enabled

TOD Schedule Report

for 3964: Kendall Dr&SW 130 Av S&SW 132 Av N

Print Date: 10/13/2012

Print Time: 3:04 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3964	Kendall Dr&SW 130 Av S&SW 132 Av N	DOW-7		N/A	0	0	N/A	0	Max 0

Splits

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

Active Phase Bank: Phase Bank 1

Phase		Walk	Don't Walk	Min Initial	Veh Ext	Max Limit	Max 2	Yellow	Red
		Phase Bank 1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3		
1	EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	5 - 5 - 7	22 - 5 - 0	3	0
2	WBT	0 - 0 - 0	0 - 0 - 0	18 - 18 - 18	1 - 1 - 1	60 - 49 - 60	0 - 45 - 0	4.3	1.1
3	NBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2.5 - 2.5 - 2.5	7 - 8 - 9	20 - 8 - 0	4	1
4	SBT	4 - 4 - 4	18 - 18 - 18	7 - 7 - 7	2.5 - 2.5 - 2.5	12 - 23 - 20	28 - 19 - 0	4	1
5	WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	5 - 5 - 7	22 - 5 - 0	3	0
6	EBT	0 - 0 - 0	0 - 0 - 0	18 - 18 - 18	1 - 1 - 1	60 - 49 - 60	0 - 45 - 0	4.3	1.1
7	-	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8	-	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	123456--
External Permit 0	--------
External Permit 1	123456--
External Permit 2	123456--

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 NBT	4 SBT	5 WBL	6 EBT	7 -	8 -	Ring Offset	Offset
	1	180	12	111	16	23	7	116	0	0	0	72
	2	120	7	66	10	19	7	66	0	0	0	12
	4	130	9	71	9	23	9	71	0	0	0	29
	6	130	9	71	9	23	9	71	0	0	0	77
	8	100	5	49	8	20	5	49	0	0	0	76
	11	130	5	76	8	23	5	76	0	0	0	22
	12	150	7	92	10	23	7	92	0	0	0	50
	13	150	9	90	12	21	17	82	0	0	0	108
	14	130	7	76	10	19	7	76	0	0	0	59
	15	180	15	104	17	26	15	104	0	0	0	112
	16	90	5	36	8	23	5	36	0	0	0	69
	18	90	5	36	8	23	5	36	0	0	0	85
	23	150	9	91	9	23	9	91	0	0	0	116
	25	170	17	102	13	20	10	109	0	0	0	60
	26	130	12	67	10	23	10	69	0	0	0	55
	27	180	10	119	10	23	17	112	0	0	0	117
	28	110	10	49	10	23	10	49	0	0	0	18

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0530	2	M T W Th F S
0630	1	M T W Th F
0700	23	S
0800	2	Su
0900	2	S
0930	23	M T W Th F
1000	14	S
1100	14	Su
1200	23	Su S
1500	15	M T W Th F
1800	13	Su
1930	13	M T W Th F
2000	13	S
2100	8	M T W Th
2100	13	F
2200	2	Su S
2300	Free	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-------1	SuM T W ThF S
0100	TOD OUTPUTS	------2-	Su S
0530	TOD OUTPUTS	--------	M T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-------1	SuM T W ThF S
0030	TOD OUTPUTS	------2-	M T W ThF
0100	TOD OUTPUTS	------2-	Su S
0530	TOD OUTPUTS	--------	M T W ThF S
0800	TOD OUTPUTS	--------	Su
2300	TOD OUTPUTS	-------1	M T W ThF

*** Settings**

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

No Calendar Defined/Enabled

TOD Schedule Report

for 4286: Kendall Dr@SW 12500 Blk

Print Date: 10/13/2012

Print Time: 3:04 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
4286	Kendall Dr@SW 12500 Blk	DOW-7		N/A	0	0	N/A	0	Max 0

Splits

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

Active Phase Bank: Phase Bank 1

Phase	Walk	Don't Walk	Min Initial	Veh Ext	Max Limit	Max 2	Yellow	Red
	Phase Bank 1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3		
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 WBT	0 - 0 - 0	0 - 0 - 0	18 - 16 - 16	1 - 1 - 1	40 - 60 - 60	0 - 0 - 0	4.3	0.8
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 NBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2.5 - 2.5 - 2.5	15 - 15 - 15	30 - 0 - 0	4	1
5 WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 7 - 7	22 - 0 - 0	3	0
6 EBT	0 - 0 - 0	0 - 0 - 0	18 - 16 - 16	1 - 1 - 1	40 - 60 - 60	0 - 0 - 0	4.3	0.8
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

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

TOD Schedule Report

for 4334: Kendall Dr&SW 127 Av

Print Date: 10/13/2012

Print Time: 3:04 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
4334	Kendall Dr&SW 127 Av	DOW-7		N/A	0	0	N/A	0	Max 0

Splits

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

Active Phase Bank: Phase Bank 1

Phase		Walk	Don't Walk	Min Initial	Veh Ext	Max Limit	Max 2	Yellow	Red
		Phase Bank 1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3		
1	EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2.5 - 2.5 - 2.5	7 - 7 - 7	22 - 25 - 25	3	1
2	WBT	0 - 0 - 0	0 - 0 - 0	18 - 18 - 18	1 - 1 - 1	45 - 56 - 46	0 - 75 - 75	4	1
3	SBT	7 - 7 - 7	29 - 29 - 29	7 - 7 - 7	3 - 3 - 3	20 - 25 - 25	36 - 25 - 25	4	1
4	NBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	3 - 3 - 3	10 - 10 - 10	46 - 40 - 40	4	1
5	WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	3.5 - 3.5 - 3.5	7 - 7 - 7	60 - 20 - 20	3	1
6	EBT	0 - 0 - 0	0 - 0 - 0	18 - 18 - 18	1 - 1 - 1	45 - 56 - 46	0 - 75 - 75	4	1
7	-	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8	-	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	123456--
External Permit 0	--------
External Permit 1	123456--
External Permit 2	123456--

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 SBT	4 NBT	5 WBL	6 EBT	7 -	8 -	Ring Offset	Offset
	1	180	19	85	25	32	13	91	0	0	0	84
	2	120	14	42	20	25	14	42	0	0	0	1
	4	130	14	51	23	23	14	51	0	0	0	27
	6	130	14	51	23	23	14	51	0	0	0	73
	8	100	7	46	11	17	8	45	0	0	0	58
	12	150	11	75	20	25	11	75	0	0	0	54
	13	150	9	86	18	18	34	61	0	0	0	76
	14	130	16	45	25	25	16	45	0	0	0	45
	15	180	7	101	25	28	31	77	0	0	0	95
	18	90	8	27	18	18	8	27	0	0	0	75
	23	150	16	65	25	25	16	65	0	0	0	106
	25	170	17	80	31	23	17	80	0	0	0	64
	26	130	10	45	36	20	10	45	0	0	0	8
	27	180	25	88	25	23	25	88	0	0	0	125
	28	110	10	30	36	15	10	30	0	0	0	8

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0530	2	M T W Th F S
0630	1	M T W Th F
0700	23	S
0800	2	Su
0900	2	S
0930	23	M T W Th F
1000	14	S
1100	14	Su
1200	23	Su S
1500	15	M T W Th F
1800	13	Su
1930	13	M T W Th F
2000	13	S
2100	8	M T W Th
2100	13	F
2200	2	Su S
2300	Free	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-------1	SuM T W ThF S
0100	TOD OUTPUTS	-----3--	Su S
0530	TOD OUTPUTS	--------	M T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-------1	SuM T W ThF S
0030	TOD OUTPUTS	-----3--	M T W ThF
0100	TOD OUTPUTS	-----3--	Su S
0530	TOD OUTPUTS	--------	M T W ThF S
0800	TOD OUTPUTS	--------	Su
2300	TOD OUTPUTS	-------1	M T W ThF

*** Settings**

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

No Calendar Defined/Enabled

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	WBT	-	NBT	WBL	EBT	-	-		
	1	180	0	145	0	25	14	128	0	0	0	93
	2	120	0	100	0	10	5	92	0	0	0	59
	4	130	0	105	0	15	9	93	0	0	0	74
	6	130	0	105	0	15	9	93	0	0	0	119
	8	100	0	75	0	15	8	64	0	0	0	80
	12	150	0	130	0	10	5	122	0	0	0	0
	13	150	0	125	0	15	14	108	0	0	0	105
	14	130	0	110	0	10	5	102	0	0	0	101
	15	180	0	145	0	25	14	128	0	0	0	113
	18	90	0	65	0	15	8	54	0	0	0	3
	23	150	0	115	0	25	12	100	0	0	0	143
	25	170	0	147	0	13	13	131	0	0	0	107
	26	130	0	107	0	13	13	91	0	0	0	83
	27	180	0	153	0	17	17	133	0	0	0	128
	28	110	0	87	0	13	10	74	0	0	0	41

Local TOD Schedule

Time	Plan	DOW
0000	Flash	Su M T W Th F S
0800	2	Su
0900	2	S
0930	23	M T W Th F
1000	14	S
1100	14	Su
1200	23	Su S
1500	15	M T W Th F
1800	13	Su
1930	13	M T W Th F
2000	13	S
2100	8	M T W Th
2100	13	F
2200	2	Su S
2300	Free	M T W Th F

Current Time of Day Function

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

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
2300	TOD OUTPUTS	-------1	M T W ThF

*** Settings**

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

No Calendar Defined/Enabled

TOD Schedule Report

for 4598: Kendall Dr&SW 133 Av

Print Date: 10/13/2012

Print Time: 3:05 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
4598	Kendall Dr&SW 133 Av	DOW-7		N/A	0	0	N/A	0	Max 0

Splits

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

Active Phase Bank: Phase Bank 1

Phase	Walk Phase Bank 1 2 3	Don't Walk 1 2 3	Min Initial 1 2 3	Veh Ext 1 2 3	Max Limit 1 2 3	Max 2 1 2 3	Yellow	Red
1 EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 7 - 7	20 - 5 - 0	3	0
2 WBT	0 - 0 - 0	0 - 0 - 0	18 - 18 - 18	1 - 1 - 1	50 - 37 - 50	0 - 45 - 0	4.3	1.1
3 SBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 5 - 7	30 - 5 - 0	3	0
4 NBT	2 - 2 - 2	19 - 19 - 19	7 - 7 - 7	2.5 - 2.5 - 2.5	20 - 20 - 20	31 - 20 - 0	4	1.2
5 WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 7 - 7	20 - 5 - 0	3	0
6 EBT	0 - 0 - 0	0 - 0 - 0	18 - 18 - 18	1 - 1 - 1	50 - 37 - 50	0 - 45 - 0	4.3	1.1
7 NBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 5 - 7	17 - 5 - 0	3	0
8 SBT	2 - 2 - 2	19 - 19 - 19	7 - 7 - 7	2.5 - 2.5 - 2.5	20 - 20 - 20	31 - 20 - 0	4	1.2

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12345678
External Permit 0	--------
External Permit 1	12345678
External Permit 2	12345678

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 SBL	4 NBT	5 WBL	6 EBT	7 NBL	8 SBT	Ring Offset	Offset
	1	180	11	119	8	26	6	124	8	26	0	45
	2	120	7	69	8	20	7	69	8	20	0	110
	4	130	10	77	10	17	10	77	10	17	0	9
	6	130	10	77	10	17	10	77	10	17	0	55
	8	100	7	52	8	17	7	52	8	17	0	4
	11	130	5	79	8	22	5	79	8	22	0	4
	12	150	6	99	8	21	6	99	8	21	0	39
	13	150	10	96	8	20	17	89	8	20	0	141
	14	130	7	79	8	20	7	79	8	20	0	39
	15	180	18	104	12	30	18	104	12	30	0	139
	16	90	7	41	6	20	7	41	6	20	0	42
	18	90	7	42	8	17	7	42	8	17	0	56
	23	150	10	92	10	22	10	92	10	22	0	92
	25	170	10	112	20	12	10	112	12	20	0	17
	26	130	10	79	10	15	10	79	10	15	0	69
	27	180	15	124	10	15	15	124	10	15	0	135
	28	110	10	59	10	15	10	59	10	15	0	97

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0530	2	M T W Th F S
0630	1	M T W Th F
0700	23	S
0800	2	Su
0900	2	S
0930	23	M T W Th F
1000	14	S
1100	14	Su
1200	23	Su S
1500	15	M T W Th F
1800	13	Su
1930	13	M T W Th F
2000	13	S
2100	8	M T W Th
2100	13	F
2200	2	Su S
2300	Free	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-------1	SuM T W ThF S
0100	TOD OUTPUTS	------2-	Su S
0530	TOD OUTPUTS	--------	M T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-------1	SuM T W ThF S
0030	TOD OUTPUTS	------2-	M T W ThF
0100	TOD OUTPUTS	------2-	Su S
0530	TOD OUTPUTS	--------	M T W ThF S
0800	TOD OUTPUTS	--------	Su
2300	TOD OUTPUTS	-------1	M T W ThF

*** Settings**

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

No Calendar Defined/Enabled

TOD Schedule Report

for 4604: Kendall Dr@SW 13800 Blk

Print Date: 10/13/2012

Print Time: 3:06 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
4604	Kendall Dr@SW 13800 Blk	DOW-7		N/A	0	0	N/A	0	Max 0

Splits

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

Active Phase Bank: Phase Bank 1

Phase		Walk Phase Bank 1	Walk Phase Bank 2	Walk Phase Bank 3	Don't Walk Phase Bank 1	Don't Walk Phase Bank 2	Don't Walk Phase Bank 3	Min Initial Phase Bank 1	Min Initial Phase Bank 2	Min Initial Phase Bank 3	Veh Ext Phase Bank 1	Veh Ext Phase Bank 2	Veh Ext Phase Bank 3	Max Limit Phase Bank 1	Max Limit Phase Bank 2	Max Limit Phase Bank 3	Max 2 Phase Bank 1	Max 2 Phase Bank 2	Max 2 Phase Bank 3	Yellow	Red
1	EBL	0	0	0	0	0	0	5	5	5	2	2	2	5	7	7	30	0	0	3	0
2	WBT	0	0	0	0	0	0	16	16	16	1	1	1	25	30	50	0	0	0	4.3	1
3	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	NBT	0	0	0	0	0	0	7	7	7	2.5	2.5	2.5	21	20	22	40	0	0	4	1.4
5	WBL	0	0	0	0	0	0	5	5	5	2	2	2	5	7	7	30	0	0	3	0
6	EBT	0	0	0	0	0	0	16	16	16	1	1	1	25	30	50	0	0	0	4.3	1
7	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	SBT	7	7	7	19	19	19	7	7	7	2.5	2.5	2.5	15	20	22	40	0	0	4	1.4

Last In Service Date: 12/09/2009 12:54

Permitted Phases

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

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 -	4 NBT	5 WBL	6 EBT	7 -	8 SBT	Ring Offset	Offset
	1	180	11	129	0	27	6	134	0	27	0	29
	2	120	6	79	0	22	6	79	0	22	0	57
	4	130	15	77	0	25	15	77	0	25	0	79
	6	130	15	77	0	25	15	77	0	25	0	1
	8	100	6	59	0	22	6	59	0	22	0	68
	12	150	6	109	0	22	6	109	0	22	0	138
	13	150	14	97	0	26	17	94	0	26	0	48
	14	130	21	67	0	29	21	67	0	29	0	98
	15	180	16	116	0	35	18	114	0	35	0	49
	16	90	6	49	0	22	6	49	0	22	0	74
	18	90	6	49	0	22	6	49	0	22	0	88
	23	150	15	92	0	30	15	92	0	30	0	44
	25	170	17	118	0	22	20	115	0	22	0	8
	26	130	21	67	0	29	21	67	0	29	0	124
	27	180	27	107	0	33	35	99	0	33	0	18
	28	110	17	57	0	23	17	57	0	23	0	69

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0030	Flash	M T W Th F
0100	Flash	Su S
0530	2	M T W Th F S
0630	1	M T W Th F
0700	23	S
0800	2	Su
0900	2	S
0930	23	M T W Th F
1000	14	S
1100	14	Su
1200	23	Su S
1500	15	M T W Th F
1800	13	Su
1930	13	M T W Th F
2000	13	S
2100	8	M T W Th
2100	13	F
2200	2	Su S
2300	Free	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0100	TOD OUTPUTS	--------	Su S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0030	TOD OUTPUTS	--------	M T W ThF
0100	TOD OUTPUTS	--------	Su S
2300	TOD OUTPUTS	-------1	M T W ThF

*** Settings**

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

No Calendar Defined/Enabled

TOD Schedule Report

for 4863: Kendall Dr&SW 122 Av S&SW 124 Av N

Print Date: 10/13/2012

Print Time: 3:07 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
4863	Kendall Dr&SW 122 Av S&SW 124 Av N	DOW-7		N/A	0	0	N/A	0	Max 0

Splits

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

Active Phase Bank: Phase Bank 1

Phase		Walk	Don't Walk	Min Initial	Veh Ext	Max Limit	Max 2	Yellow	Red
		Phase Bank 1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3		
1	EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2.5 - 2.5 - 2.5	9 - 0 - 0	26 - 0 - 0	4	0
2	WBT	0 - 0 - 0	0 - 0 - 0	18 - 18 - 18	1 - 1 - 1	35 - 0 - 0	0 - 0 - 0	4.3	1
3	SBT	7 - 7 - 7	27 - 27 - 27	7 - 7 - 7	2.5 - 2.5 - 2.5	12 - 0 - 0	26 - 0 - 0	4	2
4	NBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2.5 - 2.5 - 2.5	12 - 0 - 0	40 - 0 - 0	4	2
5	WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2.5 - 2.5 - 2.5	9 - 0 - 0	38 - 0 - 0	4	0
6	EBT	0 - 0 - 0	0 - 0 - 0	18 - 18 - 18	1 - 1 - 1	35 - 0 - 0	0 - 0 - 0	4.3	1
7	-	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8	-	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	123456--
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 SBT	4 NBT	5 WBL	6 EBT	7 -	8 -	Ring Offset	Offset
	1	180	15	100	11	33	7	108	0	0	0	121
	2	120	12	43	19	25	12	43	0	0	0	37
	4	130	12	56	17	24	12	56	0	0	0	66
	6	130	12	56	17	24	17	51	0	0	0	111
	8	100	18	34	15	12	18	34	0	0	0	22
	9	100	10	44	13	12	10	44	0	0	0	25
	12	150	7	58	11	53	7	58	0	0	0	85
	13	150	10	79	20	20	30	59	0	0	0	38
	14	130	12	52	20	25	12	52	0	0	0	83
	15	180	10	109	20	20	30	89	0	0	0	60
	16	100	7	47	13	12	7	47	0	0	0	42
	18	90	17	24	16	12	17	24	0	0	0	29
	23	150	17	71	17	24	17	71	0	0	0	142
	25	170	10	99	15	24	9	101	0	0	0	98
	26	130	15	62	13	18	16	62	0	0	0	15
	27	180	17	98	19	24	32	84	0	0	0	103
	28	110	12	50	13	14	14	48	0	0	0	88

Local TOD Schedule

Time	Plan	DOW
0000	9	Su M T W Th F S
0030	Free	M T W Th F
0100	Free	Su S
0530	2	M T W Th F S
0630	1	M T W Th F
0700	23	S
0800	2	Su
0900	2	S
0930	23	M T W Th F
1000	14	S
1100	14	Su
1200	23	Su S
1500	15	M T W Th F
1800	13	Su
1930	13	M T W Th F
2000	13	S
2100	8	M T W Th
2100	13	F
2200	2	Su S
2300	9	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0100	TOD OUTPUTS	--------	Su S
0530	TOD OUTPUTS	--------	M T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0030	TOD OUTPUTS	--------	M T W ThF
0100	TOD OUTPUTS	--------	Su S
0530	TOD OUTPUTS	--------	M T W ThF S
0800	TOD OUTPUTS	--------	Su

*** Settings**

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

No Calendar Defined/Enabled

TOD Schedule Report

for 4898: Kendall Dr&SW 123 Ct S&SW 125 Av N

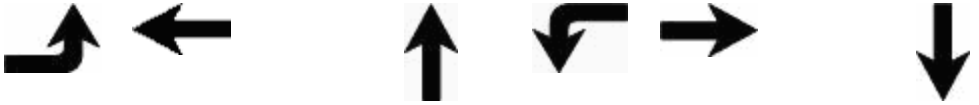
Print Date: 10/13/2012

Print Time: 3:07 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
4898	Kendall Dr&SW 123 Ct S&SW 125 Av N	DOW-7		N/A	0	0	N/A	0	Max 0

Splits

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



Active Phase Bank: Phase Bank 1

Phase		Walk	Don't Walk	Min Initial	Veh Ext	Max Limit	Max 2	Yellow	Red
		Phase Bank 1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3		
1	EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	6 - 6 - 7	20 - 10 - 10	3	0
2	WBT	0 - 0 - 0	0 - 0 - 0	18 - 18 - 18	1 - 1 - 1	46 - 46 - 50	0 - 0 - 0	4.3	2
3	-	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4	NBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	2.5 - 2.5 - 2.5	18 - 30 - 15	35 - 24 - 24	4	1
5	WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	6 - 6 - 7	28 - 10 - 10	3	0
6	EBT	0 - 0 - 0	0 - 0 - 0	18 - 18 - 18	1 - 1 - 1	46 - 46 - 50	0 - 0 - 0	4.3	2
7	-	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8	SBT	4 - 4 - 4	25 - 25 - 25	7 - 7 - 7	2.5 - 2.5 - 2.5	18 - 30 - 15	35 - 24 - 24	4	1

Last In Service Date: unknown

Permitted Phases

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

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 -	4 NBT	5 WBL	6 EBT	7 -	8 SBT	Ring Offset	Offset
	1	180	16	119	0	31	6	129	0	31	0	115
	2	120	10	65	0	31	10	65	0	31	0	47
	4	130	13	72	0	31	13	72	0	31	0	70
	6	130	13	72	0	31	13	72	0	31	0	120
	8	100	6	49	0	31	6	49	0	31	0	35
	12	150	6	99	0	31	6	99	0	31	0	96
	13	150	7	109	0	20	17	99	0	20	0	76
	14	130	10	75	0	31	10	75	0	31	0	95
	15	180	12	124	0	30	22	114	0	30	0	71
	16	90	6	39	0	31	6	39	0	31	0	39
	18	90	6	39	0	31	6	39	0	31	0	37
	23	150	13	92	0	31	13	92	0	31	0	2
	25	170	10	117	0	29	10	117	0	29	0	87
	26	130	15	72	0	29	13	74	0	29	0	28
	27	180	15	122	0	29	23	114	0	29	0	127
	28	110	10	57	0	29	10	57	0	29	0	89

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0030	Flash	M T W Th F
0100	Flash	Su S
0530	2	M T W Th F S
0630	1	M T W Th F
0700	23	S
0800	2	Su
0900	2	S
0930	23	M T W Th F
1000	14	S
1100	14	Su
1200	23	Su S
1500	15	M T W Th F
1800	13	Su
1930	13	M T W Th F
2000	13	S
2100	8	M T W Th
2100	13	F
2200	2	Su S
2300	Free	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0100	TOD OUTPUTS	--------	Su S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0030	TOD OUTPUTS	--------	M T W ThF
0100	TOD OUTPUTS	--------	Su S
2300	TOD OUTPUTS	--------	M T W ThF

*** Settings**

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

No Calendar Defined/Enabled

APPENDIX 3: KENDALL DRIVE - ROUTE 288 SCHEDULE

Miami-Dade County Miami-Dade Transit

Routes Schedule

Schedule

Back to previous page *(javascript: history.go(-1))*

Service: WEEKDAY **Direction:** WESTBOUND

Dadeland North Station	SW 88 St & 127 Ave	SW 80 St & 157 Ave	West Kendall Terminal
06:05AM	06:21AM	:	06:36AM
06:17AM	06:33AM	:	06:48AM
06:29AM	06:45AM	:	07:00AM
06:39AM	06:55AM	:	07:10AM
06:49AM	07:05AM	:	07:20AM
07:04AM	07:20AM	:	07:35AM
07:17AM	07:33AM	:	07:48AM
07:29AM	07:45AM	:	08:00AM
07:41AM	07:57AM	:	08:12AM
07:53AM	08:09AM	:	08:24AM
08:05AM	08:21AM	:	08:36AM
08:17AM	08:33AM	:	08:48AM
08:29AM	08:45AM	:	09:00AM
08:41AM	08:57AM	:	09:12AM
03:20PM	03:43PM	04:00PM	04:02PM
03:35PM	03:58PM	04:15PM	04:17PM
03:50PM	04:13PM	04:30PM	04:32PM
04:05PM	04:28PM	04:45PM	04:47PM
04:16PM	04:39PM	04:56PM	04:58PM
04:28PM	04:51PM	05:09PM	05:11PM
04:38PM	05:03PM	05:21PM	05:23PM
04:50PM	05:15PM	05:33PM	05:35PM
05:02PM	05:27PM	05:45PM	05:47PM
05:14PM	05:39PM	05:57PM	05:59PM
05:26PM	05:51PM	06:09PM	06:11PM
05:38PM	06:03PM	06:20PM	06:22PM
05:50PM	06:15PM	06:32PM	06:34PM
06:02PM	06:24PM	06:41PM	06:43PM

06:14PM	06:36PM	06:53PM	06:55PM
06:26PM	06:48PM	07:05PM	07:07PM
06:38PM	07:00PM	07:15PM	07:17PM
06:50PM	07:12PM	07:27PM	07:29PM
07:05PM	07:25PM	07:40PM	07:42PM
07:20PM	07:40PM	07:55PM	07:57PM
07:35PM	07:55PM	08:10PM	08:12PM

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Page Last Edited: Wed Feb 15, 2012 11:29:39 AM

Miami-Dade County Miami-Dade Transit

Routes Schedule

Schedule

Back to previous page *(javascript: history.go(-1))*

Service: WEEKDAY **Direction:** EASTBOUND

West Kendall Terminal	SW 80 St & 157 Ave	SW 88 St & 127 Ave	Dadeland North Station
05:28AM	05:31AM	05:45AM	06:00AM
05:40AM	05:43AM	05:57AM	06:12AM
05:51AM	05:54AM	06:09AM	06:24AM
06:01AM	06:04AM	06:19AM	06:34AM
06:11AM	06:14AM	06:29AM	06:44AM
06:26AM	06:29AM	06:44AM	06:59AM
06:34AM	06:37AM	06:52AM	07:12AM
06:43AM	06:46AM	07:04AM	07:24AM
06:55AM	06:58AM	07:16AM	07:36AM
07:07AM	07:10AM	07:28AM	07:48AM
07:19AM	07:22AM	07:40AM	08:00AM
07:31AM	07:34AM	07:52AM	08:12AM
07:43AM	07:46AM	08:04AM	08:24AM
07:55AM	07:58AM	08:16AM	08:36AM
08:07AM	08:10AM	08:28AM	08:48AM
08:19AM	08:22AM	08:40AM	09:00AM
08:31AM	08:34AM	08:52AM	09:12AM
08:50AM	08:53AM	09:11AM	09:27AM
09:06AM	09:09AM	09:26AM	09:42AM
09:21AM	09:24AM	09:41AM	09:57AM
04:04PM	:	04:19PM	04:35PM
04:19PM	:	04:34PM	04:50PM
04:34PM	:	04:49PM	05:05PM
04:49PM	:	05:04PM	05:20PM
05:00PM	:	05:15PM	05:31PM
05:13PM	:	05:28PM	05:44PM
05:25PM	:	05:40PM	05:56PM
05:37PM	:	05:52PM	06:08PM

05:49PM	:	06:04PM	06:20PM
06:01PM	:	06:16PM	06:32PM
06:13PM	:	06:28PM	06:44PM
06:24PM	:	06:39PM	06:55PM
06:36PM	:	06:51PM	07:07PM
06:45PM	:	07:00PM	07:15PM

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Page Last Edited: Wed Feb 15, 2012 11:29:39 AM

Miami-Dade County Miami-Dade Transit

Routes Schedule

Schedule

Back to previous page *(javascript: history.go(-1))*

Service: WEEKDAY **Direction:** WESTBOUND

Dadeland North Station	SW 88 St & 107 Ave	SW 88 St & 132 Ave	SW 72 St & 137 Ave	SW 84 St & 141 Ave	SW 88 St & 152 Ave	West Kendall Terminal
:	:	:	05:49AM	05:52AM	:	:
05:40AM	05:52AM	05:58AM	:	:	06:08AM	06:13AM
:	:	:	06:24AM	06:27AM	:	:
06:12AM	06:26AM	06:34AM	06:39AM	06:42AM	06:46AM	06:51AM
:	:	:	06:52AM	06:55AM	:	:
06:32AM	06:46AM	06:54AM	06:59AM	07:04AM	:	:
06:52AM	07:06AM	07:14AM	:	:	07:24AM	07:29AM
07:12AM	07:26AM	07:34AM	07:40AM	07:45AM	:	:
07:32AM	07:46AM	07:54AM	:	:	08:04AM	08:09AM
08:02AM	08:16AM	08:24AM	08:30AM	08:35AM	:	:
08:32AM	08:46AM	08:54AM	:	:	09:04AM	09:09AM
09:02AM	09:18AM	09:27AM	09:33AM	09:37AM	:	:
09:32AM	09:48AM	09:57AM	:	:	10:07AM	10:12AM
10:02AM	10:18AM	10:27AM	10:33AM	10:37AM	:	:
10:32AM	10:48AM	10:57AM	:	:	11:07AM	11:12AM
11:02AM	11:18AM	11:27AM	11:33AM	11:37AM	:	:
11:32AM	11:48AM	11:57AM	:	:	12:07PM	12:12PM
12:02PM	12:18PM	12:27PM	12:33PM	12:37PM	:	:
12:32PM	12:48PM	12:57PM	:	:	01:07PM	01:12PM
01:02PM	01:18PM	01:27PM	01:33PM	01:37PM	:	:
01:32PM	01:48PM	01:57PM	:	:	02:07PM	02:12PM
02:02PM	02:18PM	02:27PM	02:33PM	02:37PM	:	:
02:32PM	02:48PM	02:57PM	:	:	03:08PM	03:13PM
03:02PM	03:19PM	03:32PM	03:40PM	03:44PM	:	:
03:32PM	03:49PM	04:02PM	:	:	04:13PM	04:18PM
:	:	:	04:32PM	04:36PM	:	:
04:02PM	04:19PM	04:32PM	04:40PM	04:44PM	:	:
04:22PM	04:39PM	04:52PM	:	:	05:03PM	05:08PM

04:42PM	04:59PM	05:14PM	05:22PM	05:26PM	:	:
05:02PM	05:19PM	05:34PM	:	:	05:45PM	05:50PM
05:22PM	05:39PM	05:54PM	06:02PM	06:06PM	:	:
05:42PM	05:59PM	06:14PM	:	:	06:25PM	06:30PM
06:02PM	06:19PM	06:34PM	06:42PM	06:46PM	:	:
06:22PM	06:39PM	06:54PM	:	:	07:05PM	07:10PM
06:42PM	06:59PM	07:14PM	07:19PM	07:22PM	:	:
07:05PM	07:19PM	07:31PM	07:36PM	07:39PM	07:43PM	07:48PM
07:35PM	07:49PM	08:01PM	:	:	08:10PM	08:15PM
08:05PM	08:19PM	08:31PM	:	:	08:40PM	08:45PM
08:30PM	08:44PM	08:56PM	:	:	09:05PM	09:10PM
09:02PM	09:14PM	09:22PM	:	:	09:29PM	09:34PM
09:33PM	09:45PM	09:53PM	:	:	10:00PM	10:05PM
10:15PM	10:27PM	10:35PM	:	:	10:42PM	10:47PM
11:00PM	11:12PM	11:20PM	:	:	11:27PM	11:32PM
11:50PM	12:02AM	12:10AM	:	:	12:17AM	12:22AM
12:50AM	01:02AM	01:10AM	:	:	01:17AM	01:22AM

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Miami-Dade County Miami-Dade Transit

Routes Schedule

Schedule

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Service: WEEKDAY **Direction:** EASTBOUND

West Kendall Terminal	SW 88 St & 152 Ave	SW 84 St & 141 Ave	SW 72 St & 137 Ave	SW 88 St & 132 Ave	SW 88 St & 107 Ave	Dadeland South Station	Dadeland North Station
04:59AM	05:06AM	:	:	05:13AM	05:20AM	:	05:32AM
05:31AM	05:38AM	:	:	05:45AM	05:52AM	:	06:05AM
:	:	05:52AM	05:56AM	06:02AM	06:12AM	:	06:25AM
06:01AM	06:09AM	:	:	06:22AM	06:32AM	:	06:45AM
:	:	06:27AM	06:33AM	06:39AM	06:49AM	:	07:05AM
06:32AM	06:40AM	:	:	06:53AM	07:09AM	:	07:25AM
:	:	06:55AM	07:03AM	07:13AM	07:29AM	:	07:45AM
07:09AM	07:19AM	:	:	07:33AM	07:49AM	:	08:05AM
:	:	07:35AM	07:43AM	07:53AM	08:09AM	:	08:25AM
07:49AM	07:59AM	:	:	08:13AM	08:29AM	:	08:45AM
:	:	08:15AM	08:23AM	08:33AM	08:49AM	:	09:05AM
08:30AM	08:40AM	:	:	08:54AM	09:10AM	:	09:25AM
:	:	09:15AM	09:19AM	09:27AM	09:40AM	:	09:55AM
09:38AM	09:46AM	:	:	09:57AM	10:10AM	:	10:25AM
:	:	10:15AM	10:19AM	10:27AM	10:40AM	:	10:55AM
10:38AM	10:46AM	:	:	10:57AM	11:10AM	:	11:25AM
:	:	11:15AM	11:19AM	11:27AM	11:40AM	:	11:55AM
11:38AM	11:46AM	:	:	11:57AM	12:10PM	:	12:25PM
:	:	12:15PM	12:19PM	12:27PM	12:40PM	:	12:55PM
12:38PM	12:46PM	:	:	12:57PM	01:10PM	:	01:25PM
:	:	01:15PM	01:19PM	01:27PM	01:40PM	:	01:55PM
01:38PM	01:46PM	:	:	01:57PM	02:10PM	:	02:25PM
:	:	02:15PM	02:19PM	02:27PM	02:40PM	:	02:55PM
02:38PM	02:46PM	:	:	02:57PM	03:10PM	:	03:25PM
:	:	03:16PM	03:20PM	03:28PM	03:40PM	:	03:55PM
03:29PM	03:37PM	:	:	03:48PM	04:00PM	:	04:15PM
:	:	03:56PM	04:00PM	04:08PM	04:20PM	:	04:35PM
04:09PM	04:17PM	:	:	04:28PM	04:40PM	:	04:55PM

:	:	04:36PM	04:40PM	04:48PM	05:00PM	:	05:15PM
04:49PM	04:57PM	:	:	05:08PM	05:20PM	:	05:35PM
:	:	05:17AM	05:21AM	05:28AM	05:40AM	:	05:55AM
05:30PM	05:38PM	:	:	05:48PM	06:00PM	:	06:15PM
:	:	05:57PM	06:01PM	06:08PM	06:20PM	:	06:35PM
06:10PM	06:18PM	:	:	06:28PM	06:40PM	:	06:55PM
:	:	06:39PM	06:43PM	06:50PM	07:02PM	:	07:15PM
06:55PM	07:03PM	:	:	07:12PM	07:22PM	:	07:35PM
:	:	07:22PM	07:26PM	07:32PM	07:42PM	:	07:55PM
:	:	07:22PM	07:26PM	:	:	:	:
07:36PM	07:43PM	:	:	07:52PM	08:02PM	:	08:15PM
08:18PM	08:25PM	:	:	08:34PM	08:44PM	:	08:57PM
08:50PM	08:57PM	:	:	09:06PM	09:15PM	:	09:28PM
09:18PM	09:25PM	:	:	09:33PM	09:42PM	:	09:55PM
10:18PM	10:25PM	:	:	10:33PM	10:42PM	:	10:55PM
10:54PM	11:01PM	:	:	11:08PM	11:15PM	:	11:27PM
11:55PM	12:02AM	:	:	12:09AM	12:16AM	12:27AM	:
:	:	:	:	:	:	12:37AM	12:40AM

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APPENDIX 4: KENDALL DRIVE - ROUTE 88/88A SCHEDULE

Miami-Dade County Miami-Dade Transit

Routes Schedule

Schedule

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Service: WEEKDAY **Direction:** WESTBOUND

Dadeland North Station	SW 88 St & 127 Ave	SW 80 St & 157 Ave	West Kendall Terminal
06:05AM	06:21AM	:	06:36AM
06:17AM	06:33AM	:	06:48AM
06:29AM	06:45AM	:	07:00AM
06:39AM	06:55AM	:	07:10AM
06:49AM	07:05AM	:	07:20AM
07:04AM	07:20AM	:	07:35AM
07:17AM	07:33AM	:	07:48AM
07:29AM	07:45AM	:	08:00AM
07:41AM	07:57AM	:	08:12AM
07:53AM	08:09AM	:	08:24AM
08:05AM	08:21AM	:	08:36AM
08:17AM	08:33AM	:	08:48AM
08:29AM	08:45AM	:	09:00AM
08:41AM	08:57AM	:	09:12AM
03:20PM	03:43PM	04:00PM	04:02PM
03:35PM	03:58PM	04:15PM	04:17PM
03:50PM	04:13PM	04:30PM	04:32PM
04:05PM	04:28PM	04:45PM	04:47PM
04:16PM	04:39PM	04:56PM	04:58PM
04:28PM	04:51PM	05:09PM	05:11PM
04:38PM	05:03PM	05:21PM	05:23PM
04:50PM	05:15PM	05:33PM	05:35PM
05:02PM	05:27PM	05:45PM	05:47PM
05:14PM	05:39PM	05:57PM	05:59PM
05:26PM	05:51PM	06:09PM	06:11PM
05:38PM	06:03PM	06:20PM	06:22PM
05:50PM	06:15PM	06:32PM	06:34PM
06:02PM	06:24PM	06:41PM	06:43PM

06:14PM	06:36PM	06:53PM	06:55PM
06:26PM	06:48PM	07:05PM	07:07PM
06:38PM	07:00PM	07:15PM	07:17PM
06:50PM	07:12PM	07:27PM	07:29PM
07:05PM	07:25PM	07:40PM	07:42PM
07:20PM	07:40PM	07:55PM	07:57PM
07:35PM	07:55PM	08:10PM	08:12PM

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Miami-Dade County Miami-Dade Transit

Routes Schedule

Schedule

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Service: WEEKDAY **Direction:** EASTBOUND

West Kendall Terminal	SW 80 St & 157 Ave	SW 88 St & 127 Ave	Dadeland North Station
05:28AM	05:31AM	05:45AM	06:00AM
05:40AM	05:43AM	05:57AM	06:12AM
05:51AM	05:54AM	06:09AM	06:24AM
06:01AM	06:04AM	06:19AM	06:34AM
06:11AM	06:14AM	06:29AM	06:44AM
06:26AM	06:29AM	06:44AM	06:59AM
06:34AM	06:37AM	06:52AM	07:12AM
06:43AM	06:46AM	07:04AM	07:24AM
06:55AM	06:58AM	07:16AM	07:36AM
07:07AM	07:10AM	07:28AM	07:48AM
07:19AM	07:22AM	07:40AM	08:00AM
07:31AM	07:34AM	07:52AM	08:12AM
07:43AM	07:46AM	08:04AM	08:24AM
07:55AM	07:58AM	08:16AM	08:36AM
08:07AM	08:10AM	08:28AM	08:48AM
08:19AM	08:22AM	08:40AM	09:00AM
08:31AM	08:34AM	08:52AM	09:12AM
08:50AM	08:53AM	09:11AM	09:27AM
09:06AM	09:09AM	09:26AM	09:42AM
09:21AM	09:24AM	09:41AM	09:57AM
04:04PM	:	04:19PM	04:35PM
04:19PM	:	04:34PM	04:50PM
04:34PM	:	04:49PM	05:05PM
04:49PM	:	05:04PM	05:20PM
05:00PM	:	05:15PM	05:31PM
05:13PM	:	05:28PM	05:44PM
05:25PM	:	05:40PM	05:56PM
05:37PM	:	05:52PM	06:08PM

05:49PM	:	06:04PM	06:20PM
06:01PM	:	06:16PM	06:32PM
06:13PM	:	06:28PM	06:44PM
06:24PM	:	06:39PM	06:55PM
06:36PM	:	06:51PM	07:07PM
06:45PM	:	07:00PM	07:15PM

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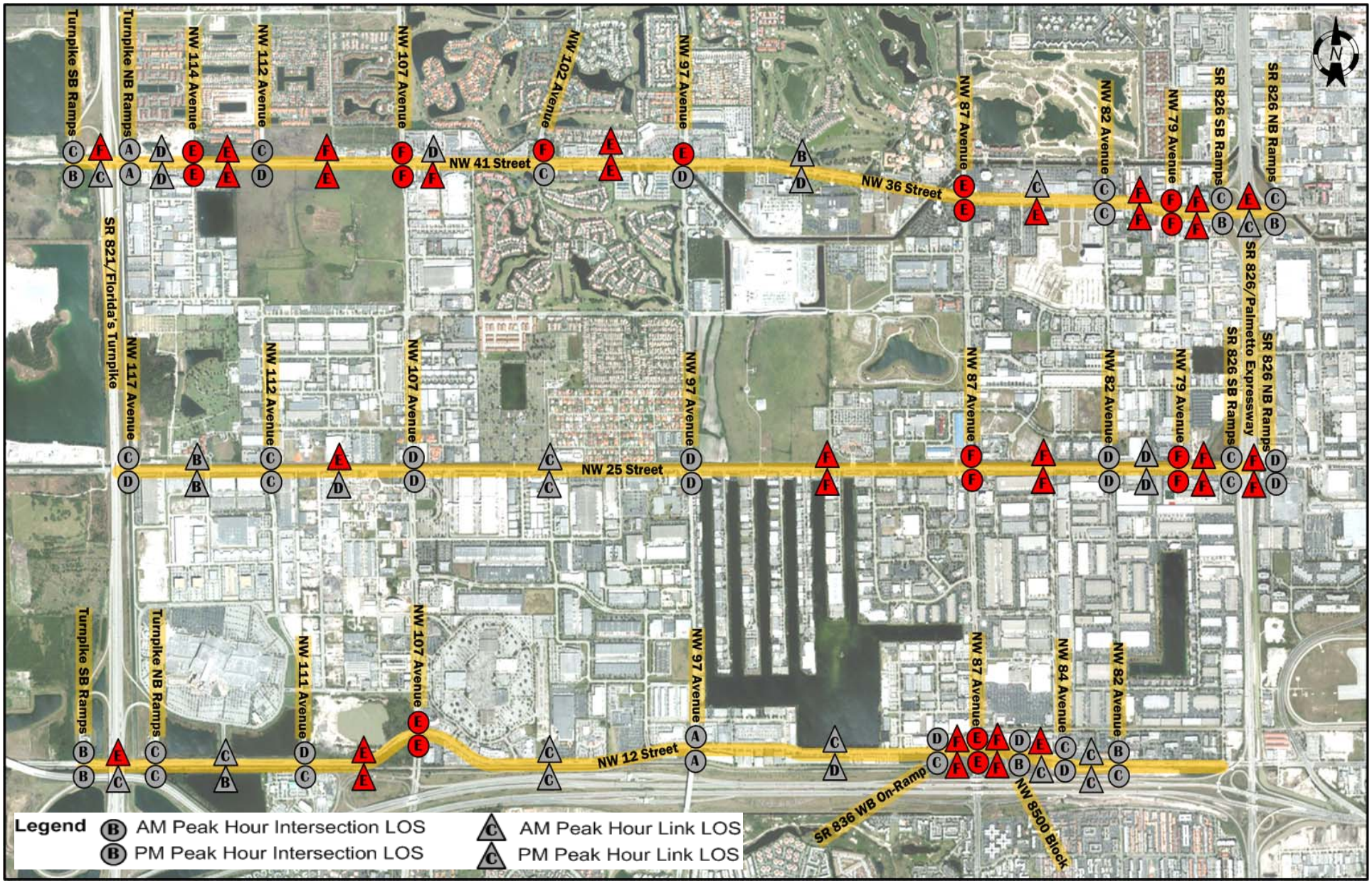
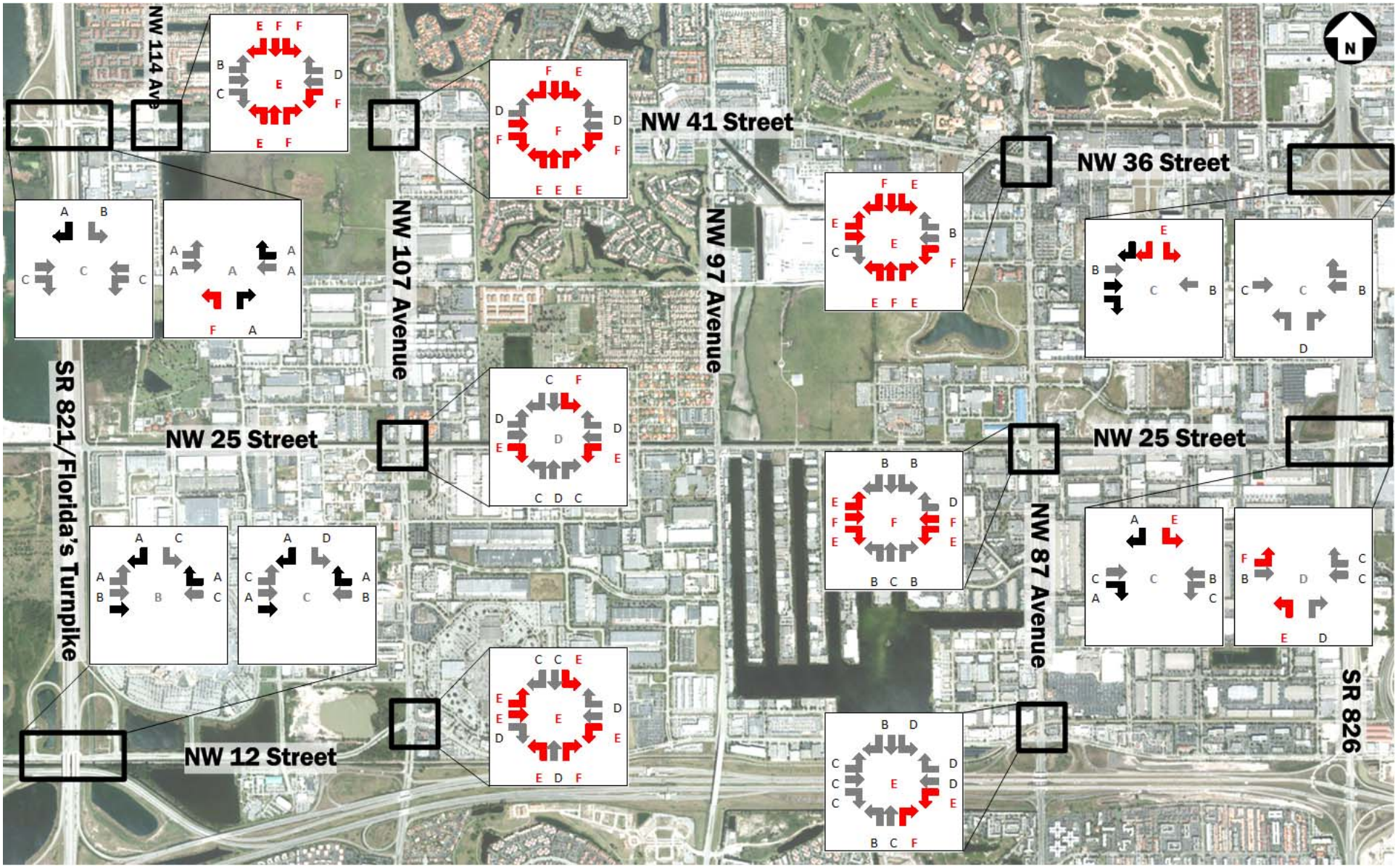
APPENDIX 5: DORAL BOULEVARD – INTERSECTION LEVEL OF SERVICE

EXISTING PERFORMANCE



EXISTING PERFORMANCE, cont.

AM Peak Hour - Key Intersections



EXISTING PERFORMANCE, cont.

PM Peak Hour - Key Intersections