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Metropolitan Planning Organization**



**General Planning Consultant (GPC) Services
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**Work Order # GPC III-15
Westchester Traffic Impact Study**

Final Report



June 30th, 2008



Table of Contents

Table of Contents	i
List of Tables	iii
List of Figures	iii
Executive Summary	v
Section 1: Introduction.....	1
Section 2: Study Coordination.....	3
2.1: Study Advisory Group.....	3
2.2: Transportation Planning Technical Advisory Committee.....	4
2.3: Transportation Planning Committee.....	4
Section 3 Existing Conditions and Analysis	5
3.1: Project Objective	5
3.1.1: Field Reconnaissance	5
3.2: Study Area Population and Employment Characteristics	6
3.3: Existing Land Uses	9
3.4: Transit Service	10
3.5: Bicycle and Pedestrian Issues.....	14
3.6: Existing Roadway Characteristics.....	16
3.7: Existing Traffic and Level of Service	17
3.8 Existing Travel Patterns.....	17
3.9: Recently Completed Projects	19
Section 4: Future Traffic Conditions Assessment.....	22
4.1 Base Year Model Validation	22
4.2: Comprehensive impact analysis of recently completed projects	24
4.3: Future year network modeling	27
4.4: Model Results.....	35
4.4.1: 2007, 2015 base and 2015 Advanced Priority Projects.....	35
4.4.2 Screenline Summary Analysis.....	36
Section 5: Recommendations	40
5.1: General Findings.....	40

5.2: Strategic Recommendations	41
5.2.1: Roadway Capacity Improvement Focus	41
Short-term (2010)	41
Mid-term (2015).....	42
Long-Term (2030).....	42
5.2.2: Transportation Demand Strategy Focus	43
Short-term (2010)	43
Mid-term (2010).....	43
Long-Term (2030).....	43
5.2.3: Transit Focus	44
Short Term (2010)	44
Mid Term (2015)	44
Long Term (2030)	44
5.2.4: Bicycle and Pedestrian Improvement Focus	44
Short Term (2010)	44
Mid Term (2015)	44
Long Term (2030)	44

Appendix A: TPTAC Presentations

Appendix B: Completed Projects Photographs

List of Tables

Table 1: Household and Employment Densities	6
Table 2: Comparison – Socio-Demographic	9
Table 3: Developments of Regional Impact adjacent to the Study Area	10
Table 4: North-South Roadways Typical Sections	16
Table 5: East-West Roadways Typical Sections.....	17
Table 6: Capacity improvement projects completed between 2005 and 2007.....	20
Table 7: RMSE percentage error by count groups	22
Table 8: FDOT Annual Average Daily Traffic Counts	27
Table 9: Priority I and II capacity improvement projects (not yet constructed).....	34
Table 10: Advanced priority capacity improvement projects	35
Table 11: 2007 and 2015 area-wide statistics.....	35
Table 12: Vehicle miles of travel by level of service category	36
Table 13: Screenline Movement and Location.....	36
Table 14: Screenline Summary.....	37

List of Figures

Figure 1: Study Area Map	2
Figure 2: Employment Growth, 2000 to 2015.....	7
Figure 3: Household Growth, 2000 to 2015.....	8
Figure 4: 2015 and 2025 Adopted Land use Map	11
Figure 5: Existing MDT bus routes.....	12
Figure 6: MDT Metrobus Average Weekday Boardings.....	13
Figure 7: Pedestrian and Bicycle Facilities	15
Figure 8: Existing Level of Service	18
Figure 9: 2007 Improvements	21
Figure 10: 2000 Volume to Count Ratio.....	23
Figure 11: 2007 Number of Lanes	25

Figure 12: 2007 Level of Service..... 26

Figure 13: 2015 Base Improvements 28

Figure 14: 2015 Base Number of Lanes 29

Figure 15: 2015 Base Level of Service 30

Figure 16: 2015 Advanced Priorities Improvements..... 31

Figure 17: 2015 Advanced Priorities Number of Lanes..... 32

Figure 18: 2015 Advanced Priorities Level of Service 33

Figure 19: Screenlines 38

Executive Summary

Overview

The objective of the Westchester Traffic Impact study is to evaluate current and future traffic conditions as a result of new development and roadway improvements taking place in the Westchester area. For the purposes of this study, the Westchester area is defined by the Palmetto Expressway (SR 826) to the east, Krome Avenue to the west, the Dolphin Expressway (SR 836) to the north and Miller Drive/SW 56th Street to the south. The study provides an assessment of the transportation network conditions for the area including the recently completed, and under construction projects (such as the expansion and toll of SR 836); it assesses future (2015) conditions with the implementation of additional LRTP Priority I and II improvements (2009-2015); and it assesses the advancement of new improvements to the network to enhance mobility (advanced priorities). The study recommendations were identified by strategic focus areas which included: roadway enhancement, transit enhancement, transportation demand strategy enhancement, and bicycle and pedestrian strategy enhancement. Some of the recommendations noted may be implementable through the use of development approvals. The main focus of the study was to identify projects that could be implemented in the short term or by 2015.

Background

The Westchester study area has great possibility for mobility enhancement since it is generally composed of a grid system of streets which can help disperse traffic. However, the expressways that serve the area also limit local mobility and act as potential barriers to the existing grid system. There were several recently completed major projects in the study area that enhance mobility including the extension of SR 836 (with a toll component), new construction of S.W. 137th Avenue, the widening of Coral Way (S.W. 24th Street) and the new extension of N.W. 97th Avenue over SR 836. Major land use changes are anticipated in the area including the expansion of Florida International University (FIU), and two major home improvement stores (Home Depot and Lowe's) along S.W. 24th Street and S.W. 8th Street, respectively. Other major developments are planned outside of the study area boundary. Opportunities were identified for additional transportation improvements that support transit, bicycle and pedestrian improvements and implementation of transportation demand strategies along with the planned major land use changes.

Methodology

The Miami-Dade travel demand model was used to run the analysis for the various study scenarios developed and, based on the results, recommendations were developed by differing strategic focus as well as by planning horizon year. The scenarios analyzed included:

- an existing 2005 scenario (developed for the MPO's recent Arterial Grid Analysis Study),
- a 2007 scenario that was inclusive of recently completed major widening projects such as the SR 836 widening and tolls, new construction of S.W. 137th Avenue, widening of S.W. 24th Street, widening of SR 826 and the new connection of N.W. 97th Avenue,
- a 2015 base year scenario which included Priority I and II LRTP projects, and
- a 2015 advanced priority year scenario which was compiled jointly from Study Advisory Group recommendations, field reconnaissance, review of previous MPO studies for the area, and advancement of key LRTP projects planned beyond 2015.

The Study Advisory Group (SAG) was consulted during the study process and included representatives from Miami-Dade Transit (MDT), Miami-Dade Public Works Department, Miami-Dade Planning and Zoning Department, Florida Department of Transportation (FDOT) District 6, and the Miami-Dade Expressway Authority (MDX). The Metropolitan Planning Organization (MPO) staff led the SAG discussions. A presentation of preliminary model results was also provided to the Transportation Planning Technical Advisory Committee (TPTAC) and their input was included in the final report.

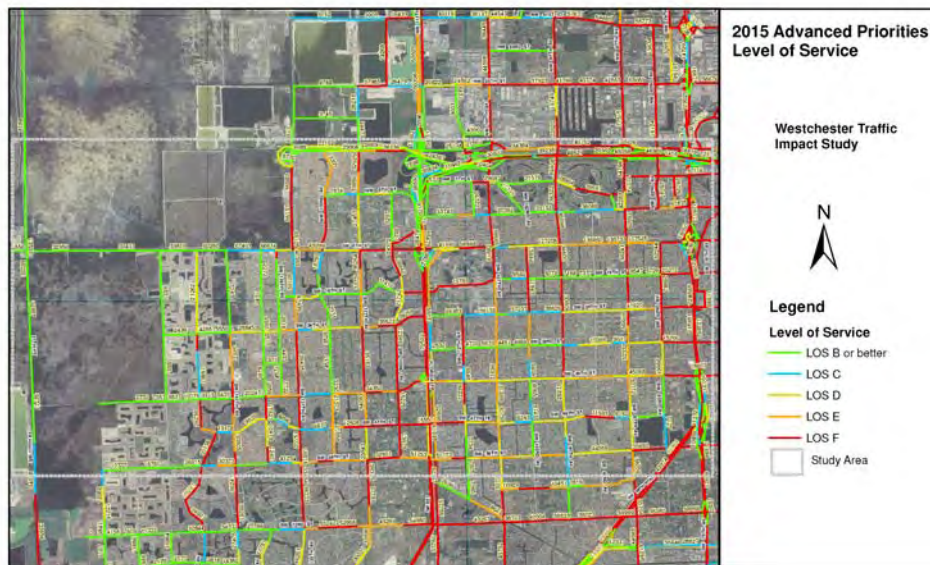
Traffic Analysis

The existing conditions travel analysis indicated that east-west travel from Westchester across SR 826 had the highest volume and is the most congested condition in all years. The next highest congestion occurred along north-south facilities traveling across SR 836. This analysis confirmed that the major bottlenecks occur at the intersection with major transportation facilities, therefore, improvements at these intersections and providing cross overs or connections across these facilities would prove to be most beneficial to the Westchester area. This assessment is supported by the completion of a new connection across SR 836 and N.W. 97th Avenue. Although the roadway link did not exist before, and therefore counts were not available, it was evidenced by the analysis that the N.W. 97th Avenue connection met a significant amount of demand that was using alternate roadways such as N.W. 87th Avenue and N.W. 107th Avenue.

One of the significant items analyzed in this study was whether the new toll on SR 836 had an impact on the Westchester area arterial roadways. This was accomplished by comparing the 2005 and 2007 Level of Service information as well as traffic count information provided by MDX which were conducted for the area. In general the widening of SR 836 had positive effects to traffic not just along SR 836 but also along the HEFT. LOS was improved along SR 836 and the HEFT LOS was improved all the way south to Bird Road. This would seem to indicate that traffic desiring to go west may have been using the Southbound HEFT to access another east/west arterial. Analysis of more detailed traffic information from MDX and FDOT indicated an immediate negative impact from the tolls along some arterials such as Flagler Street and N.W. 12th Street, particularly west of N./S.W. 87th Avenue, but a positive impact along S.W. 8th Street. These conditions were supported by a recently completed MDX before and after study regarding the SR 836 extension project.

Study results also indicated that implementation of LRTP Priority I and II projects will have a positive impact on the heaviest movement in the study area, which is the east-west movement across the SR 826 (Palmetto). It was noted during the study process that many of the LRTP Priority I and II projects were not fully funded. However, implementation of the advanced priority projects did not appear to significantly improve the

congested conditions along this east-west movement (V/C of 1.01 in 2015 base versus a V/C of 1.02 in 2015 advanced priorities). The next heaviest movement north-south across SR 836 significantly worsens in the 2015 base and remains deteriorated even with the



implementation of the advanced priority projects. Overall project costs for each scenario were also developed and ranged from \$250 million for implementation of Priority I and II projects to an additional \$170 million for advanced priority projects. Therefore, it appears that full funding of these projects would not necessarily improve mobility in the Westchester area but strategic implementation of some key projects and strategies could provide significant congestion relief.

Lastly, an analysis of the existing transit use in the study area indicated that congestion and lack of parking availability does not make transit very attractive. Premium transit is included in the County's long range plans, including the East-West corridor, but was not deemed implementable in the short term. However, opportunities exist for the identification of park and ride lot facilities along major new developments that can be coupled with express bus strategies to transport individuals from the Westchester area to where the travel patterns seem to indicate they need to go. A more likely short term scenario is to improve the current bus service, provide bus on shoulders along the existing expressways, and provide a major interim park-and-ride facility to access these express bus potential routes. Some of these short term improvements, such as enhancing the current bus service, are included in the County's People's Transportation Plan.

Key Project Recommendations

The key projects included are focused recommendations that could be implemented in the short term (2010-2015):

A) Roadway Capacity Improvement Focus

1. Focus on prioritizing and funding crossover improvements such as S.W. 16th Street at SR 826, S.W. 32nd Street at SR 826, S.W. 47th/48th Street at the HEFT and S.W. 18th Street at the HEFT. The benefit of these connections will be to enhance the established grid network in the area and relieve congestion throughout the entire roadway network. Based on general planning level estimates, a typical 2 lane connection improvement can cost from \$20 to \$25 million without right-of-way costs included. The LRTP process should prioritize and identify funding for these projects. It was noted at the Transportation Planning Council meeting of June 2, 2008 that the possibilities for enhancements across SR 826 may be limited since the SR 826 widening and reconstruction is already underway. However, opportunities to move across the HEFT should be explored since that segment is scheduled to be widened in the short term.
2. Focus on half-section line intersection improvements in mostly residential areas.
 - Additional turn lanes at S.W. 92nd Avenue and Flagler Street, S.W. 8th Street, S.W. 16th Street, S.W. 24th Street, S.W. 32nd Street, S.W. 40th Street, S.W. 48th Street and S.W. 56th Street.
 - Additional turn lane improvements at S.W. 82nd Avenue at S.W. 16 Street and S.W. 24 Street.
 - Advancement of the S.W. 82nd Avenue bridge improvement project at the Tamiami Canal.

B) Transportation Demand Improvement Focus

- Recommend the establishment of a park-and-ride lot facility (or designated area) as part of the Lowe's Home Improvement development at S.W. 8 Street and S.W. 137th Avenue and run express buses from this site to a central Metrorail station (airport). This facility could ultimately build ridership for an eventual east-west transit service.
- Recommend the establishment of a shared park-and-ride lot facility as part of the new Home Depot site on S.W. 24th Street. Additional areas to park could help increase ridership on the established Coral Way Max transit route.
- Encourage and support transportation demand strategies be implemented as part of the FIU master expansion plan. As a major employer to the area and major attractor of students, these strategies, including vanpool/carpool, should be implemented.

C) Transit Focus

- Encourage new development to subsidize transit use for employees
- Run an express bus, possibly as a demonstration project, along the shoulders of SR 836 into downtown. The express bus could originate at a park-and-ride facility along S.W. 8th Street and S.W. 137th Avenue (Lowe's Home Improvement site) to the MIC and/or downtown location.
- Encourage additional transit use by FIU. This could include improving the transit drop off area at the main entrance at S.W. 16th Street. Making this a more amenable transit center for students and employees could encourage greater use.

D) Bicycle and Pedestrian Improvement Focus

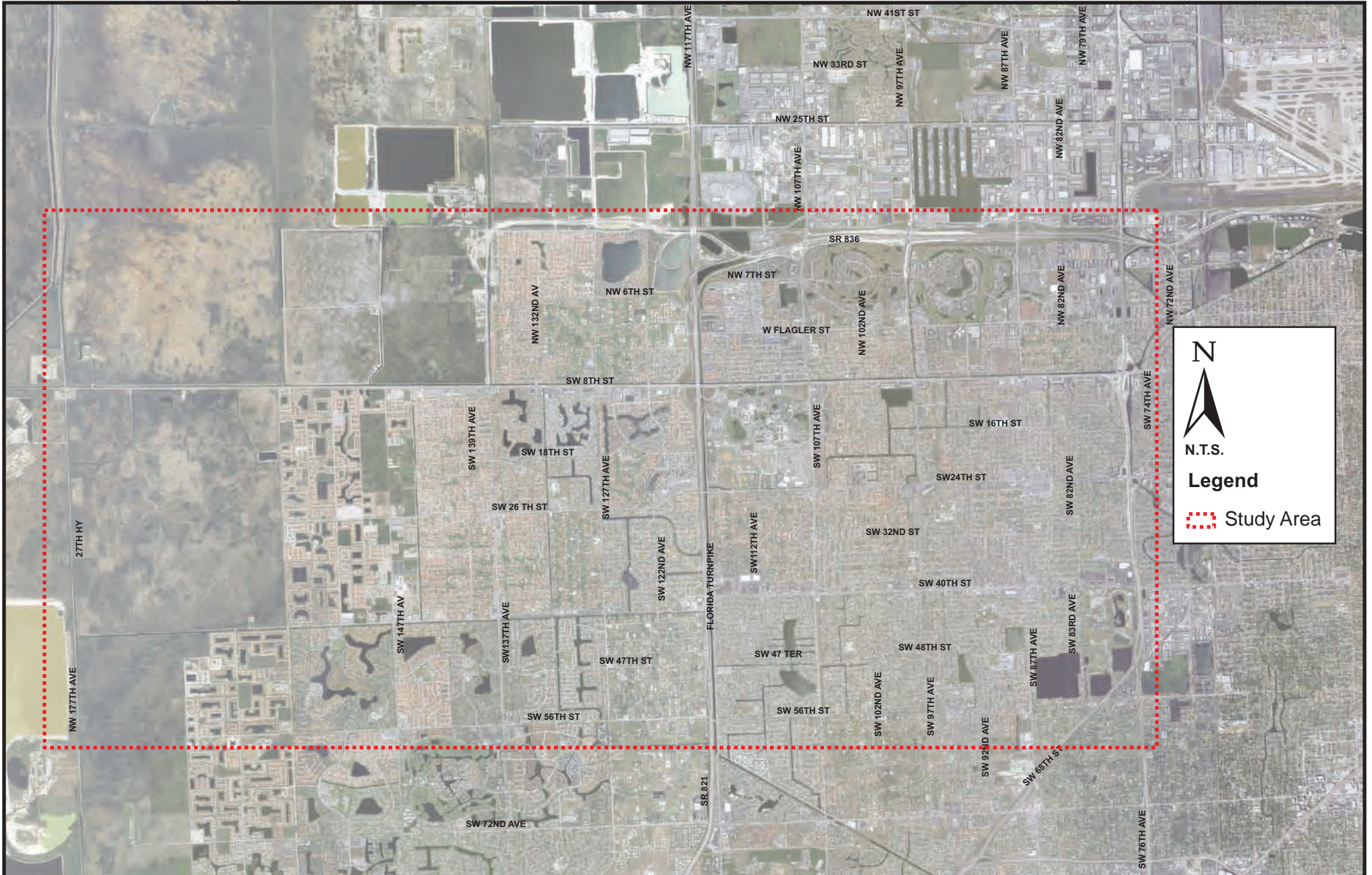
- Encourage all new development (Lowe's, Home Depot) to build bicycle parking facilities
- Implement the proposed bicycle trail connections (Snapper Creek Trail) in the area.
- Require all road widening improvement projects (under the roadway capacity focus) to consider the inclusion of sidewalks and on-road bicycle lanes.

Section 1: Introduction

The objective of the Westchester Traffic Impact study is to evaluate current and future traffic conditions as a result of new development and roadway improvements taking place in the Westchester area. The area is defined by the Palmetto Expressway (SR 826) to the east, Krome Avenue to the west, the Dolphin Expressway (SR 836) to the north and Miller Drive/SW 56th Street to the south. Figure 1 is an aerial photograph of the study area and the major transportation corridors that service it. As evidenced by this graphic, the area is generally composed of a grid system of streets which can help disperse traffic and enhance mobility. However, the expressways that serve the area also limit local mobility and act as potential barriers to the existing grid system.

As established by the Metropolitan Planning Organization (MPO) scope discussions, the study is intended to determine the impact of recently completed roadway capacity improvement projects on the Westchester area roadway, as well as determine if future improvements and alternatives, planned and unplanned, will be sufficient to provide for the future growth of the area. The planning horizon year established for the study was 2015 as the MPO's main focus was on identifying short term improvements. However, other longer range projects and strategies have been identified as part of the study process. The study identifies projects that would serve to overcome the existing major transportation barriers that produce bottlenecks in the area. In addition to potential improvements that could be advanced and new alternatives tested, the study attempts to identify potential policy recommendations to support improving the Westchester multi-modal transportation network.

This report summarizes the study background, study coordination, review of previous and current work, data collection and analysis, and future traffic conditions assessment and recommendations. Comments received from a Study Advisory Group (SAG) and other MPO advisory committees were incorporated into this final report as appropriate. Copies of presentations prepared for this project are included as an Appendix.



Section 2: Study Coordination

2.1: Study Advisory Group

A Study Advisory Group (SAG) was formed for this study process. Representatives from Miami-Dade Transit, Miami-Dade Public Works Department, Miami-Dade Planning and Zoning Department, Florida Department of Transportation (FDOT) District 6 and the Miami-Dade Expressway Authority (MDX) were in attendance at a meeting held on October 25, 2007. The group discussed an existing conditions report prepared for the study area which indicated that major bottlenecks occurred as a result of crossing the major transportation corridors that “box-in” the Westchester area, including SR 836, the Homestead Extension of Florida’s Turnpike (HEFT) and SR 826. Most of the section line roadways in the study area were deemed to be congested and alternatives for relieving this congestion were discussed. General suggestions from the SAG included extending certain roadways across the major transportation corridors that act as barriers, researching existing projects in the Long Range Transportation Plan (LRTP) that may be re-prioritized, short-term improvement focus on intersections, increasing capacity along half-section line roadways, and longer range improvements such as providing typical section uniformity along major section-line roadways where the change in typical sections contributes to congestion. Lastly, the SAG provided key recommendations with respect to the list of alternative project scenarios to test in the travel demand model. Project lists for a 2015 base model run scenario as well as projects included in an advanced priority 2015 scenario were developed in conjunction with the SAG.

MDX provided information regarding before and after traffic counts along major arterial roadways in the area with respect to the new SR 836 extension and toll installation. This information was used, in conjunction with other before and after Level of Service (LOS) information along adjacent roadways, to determine the impact of the new toll facility along study area roadways. MDX count information was part of an overall study recently completed by the agency whose results generally confirm the Westchester area study results with respect to the impact of the new extension and toll on area roadways. Specifically, 836 and the HEFT were improved by the implementation of the project as was S.W. 8th Street. N.W. 12th Street deteriorated from the effects of toll diversion.

FDOT discussed a new land use/transportation study being conducted along S.W. 107th Avenue by Florida International University (FIU). Additional information from this study was garnered from FIU in a meeting held with their facilities group on May 22, 2008. FIU also presented information on their master plan improvements, including a new Medical Center Campus at the intersection of S.W. 107th Avenue and S.W. 8th Street, and information regarding transportation coordination with the City of Sweetwater.

An existing conditions report, a preliminary modeling results technical memorandum, which highlighted the initial results from modeling the various scenarios within the study area, and a draft full report were submitted to the SAG, MPO committees and FIU, for review and input. Comments received from these groups on all documents were incorporated and addressed in this final report.

2.2: Transportation Planning Technical Advisory Committee

The modeling results technical memorandum information was presented to the Transportation Planning Technical Advisory Committee (TPTAC) of the MPO on February 27, 2008. The following were the TPTAC comments received:

- Miami-Dade Planning and Zoning wanted to assure that all new development proposals within the study area as well as adjacent to the study area be accounted for in the updated modeling scenarios. Several land use plan amendments were currently being considered in and adjacent to the study area.
- FDOT desired a footnote next to the Priority 1 and 2 projects that comprised the 2015 base analysis since many of these projects would not be able to be implemented due to lack of funding despite being classified as Priority 1 and 2 in the LRTP.
- The TPTAC asked that the 2015 base list of projects as well as the 2015 advanced priority projects be further clarified in terms of completion, whether they were in the Transportation Improvement Program/LRTP, in the FDOT work program or other information as to how these projects were identified for modeling scenario purposes.

At the suggestion of the TPTAC, an introduction to the study was also presented to a Bird Road citizens group on February 28, 2008. The citizens group was working in coordination with Miami-Dade Planning and Zoning to produce a land use vision for S.W. 40 Street (Bird Road) which is in the Westchester study area and would be impacted by any potential recommendations in the study area.

The TPTAC received a copy of the draft full report produced in March 2008 and a final presentation was made at the May 28, 2008 meeting. Appendix A includes both presentations made to the TPTAC. All comments received were incorporated into this final report.

2.3: Transportation Planning Committee

The study process and results were presented to the TPC on June 2, 2008. In general, the TPC was supportive of the recommendations, however, it was noted that new crossovers along the SR 826 would be difficult at this time given the advancement of the reconstruction of SR 826. Some of the crossovers recommended, such as S.W. 32 Street, may have been analyzed as part of the reconstruction and deemed too expensive.

Section 3 Existing Conditions and Analysis

In the last several years, the Westchester area has experienced significant growth and expansion. Residential land uses continue to expand westward, as typical for the rest of Miami-Dade County, and additional planned growth in the area includes the expansion of FIU and a new Home Depot at the site of the previous Westchester shopping center on S.W. 24 Street (Coral Way). Other major projects being planned in the area include a Lowe's Home Improvement store on S.W. 137th Avenue and S.W. 8th Street. Additional detail regarding land uses in the study area is included in a subsequent section. This growth and expansion has exacerbated the already congested conditions along the major arterial roadways in the study area.

3.1: Project Objective

Therefore, the objectives of this study, as established by the MPO staff and scope, are to provide an assessment of the transportation network conditions for the area including the recently completed, and under construction projects; assess future (2015) conditions with these projects and other LRTP Priority I and II improvements (2009-2015); and test the advancement of new improvements to the network to enhance mobility. The new improvements include long-term projects where the likelihood of right-of-way acquisition may be necessary along major arterials; mid-term projects that address connectivity issues and enhance capacity and right-of-way may be available; and short term projects including intersection capacity improvements, bicycle and pedestrian improvements and other transportation demand strategies. The planning horizon year selected for analysis by the MPO staff was 2015 to determine more feasible short term improvements. The new improvements tested for the various scenarios were identified by the MPO Study Advisory Group, field reconnaissance of the study area by the project team, and review of previous MPO studies where improvements were recommended within the study area.

3.1.1: Field Reconnaissance

On January 4th, 2008 an extensive field reconnaissance of the area was conducted by the project team with MPO staff. Results were used to confirm existing right-of-way and land use information and also helped to identify potential new projects that could be tested in the future network modeling to be performed for the study area. Additionally, connection projects across some of the major transportation corridors (SR 836), such as N.W. 7th Street and N.W. 82nd Avenue, were determined to be feasible in terms of right-of-way availability. These two particular projects will be implemented in conjunction with the SR 826/836 interchange project that is currently funded in the TIP. A new connection project identified during the field visit was the use of S.W. 18th Street west of the HEFT to connect to S.W. 16th Street east of the HEFT with an overpass or underpass at the HEFT. Southwest 18th Street appeared to be an underutilized but large facility in terms of right-of-way and

lanes. Discussions with FIU regarding this connection proved positive as this connection would open up access to their facility for students and employees.

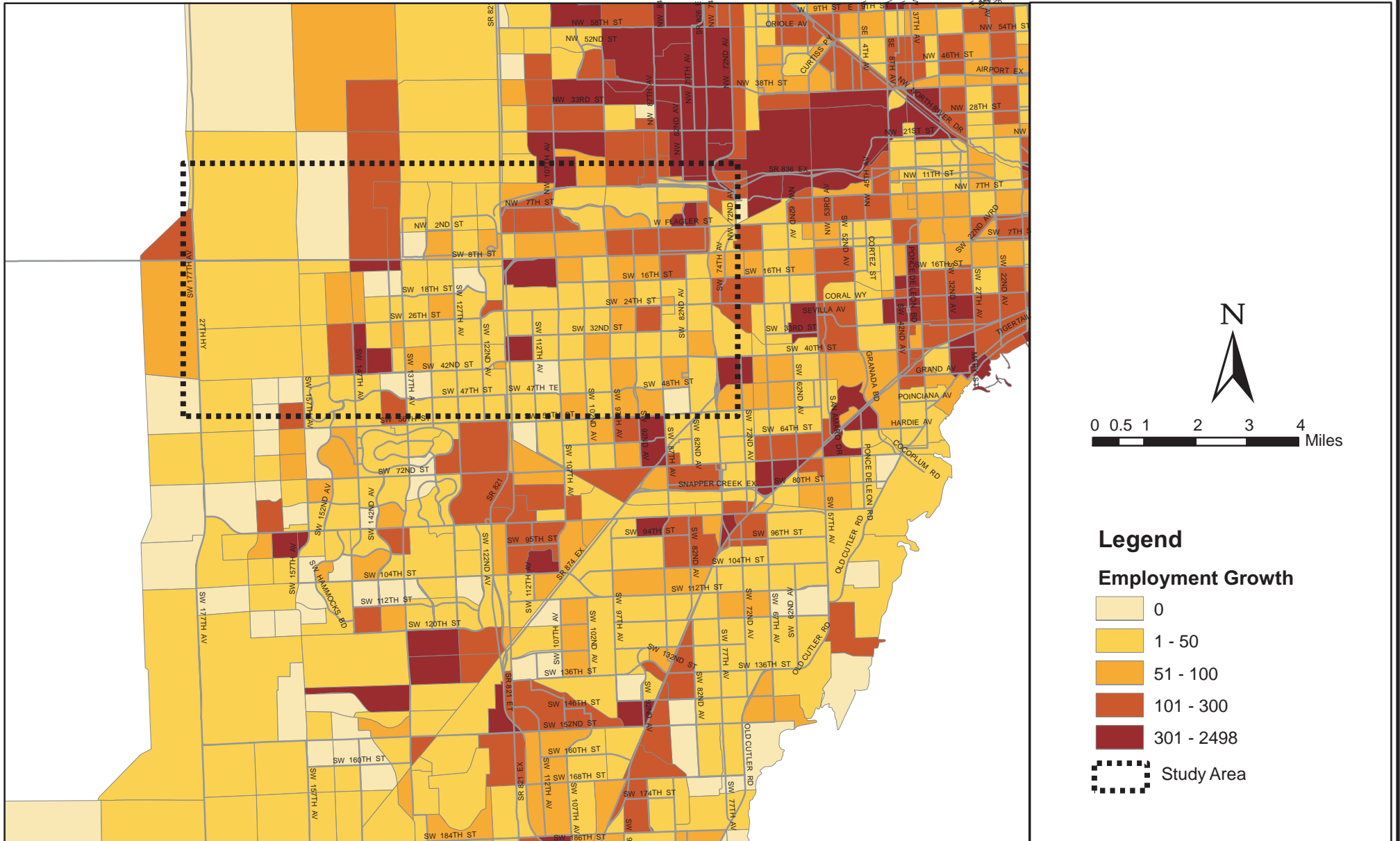
Potential intersection improvements were identified along major half section-line roadways that were more residential in nature. Intersection improvements were preliminarily determined to be more feasible in these residential areas than roadway widening. One such facility identified for intersection improvements was S.W. 92nd Avenue.

3.2: Study Area Population and Employment Characteristics

The study area is mostly located in unincorporated Miami-Dade County and also includes portions of the City of Sweetwater. The core of Westchester is the 5,162 acres between the two western-most major highways, SR 826/Palmetto Expressway and the HEFT and between SW 40th Street and SW 8th Street. As indicated in Figure 2, employment growth between 2005 and 2015 will continue to be concentrated along the major transportation corridors (SR 836, the HEFT, and SR 826) in the study area. Therefore, the arterial transportation network that leads to these major trip attractions will continue to be strained. Figure 3 confirms that household growth between 2005 and 2015 will continue to occur principally west of the HEFT. The challenge in this area, as in others throughout Miami-Dade County, is how to maximize the use of the existing transportation roadway system east of the HEFT while also financially supporting the expansion of transportation infrastructure west of the HEFT. Table 1 indicates that the percent change in the number of households and amount of employment for the overall study area between 2005 and 2015 is similar to Miami-Dade County as a whole.

Table 1: Household and Employment Densities

	Study Area			Miami Dade County		
	2005	2015	Percent Change	2005	2015	Percent Change
Households	85,158	96,639	13.5%	829,474	939,790	13.3%
Household Density	3.56	4.0		3.90	4.57	
Employment	60,291	68,664	13.9%	1,263,992	1,425,402	12.8%
Employment Density	3.59	4.02		14.80	16.67	



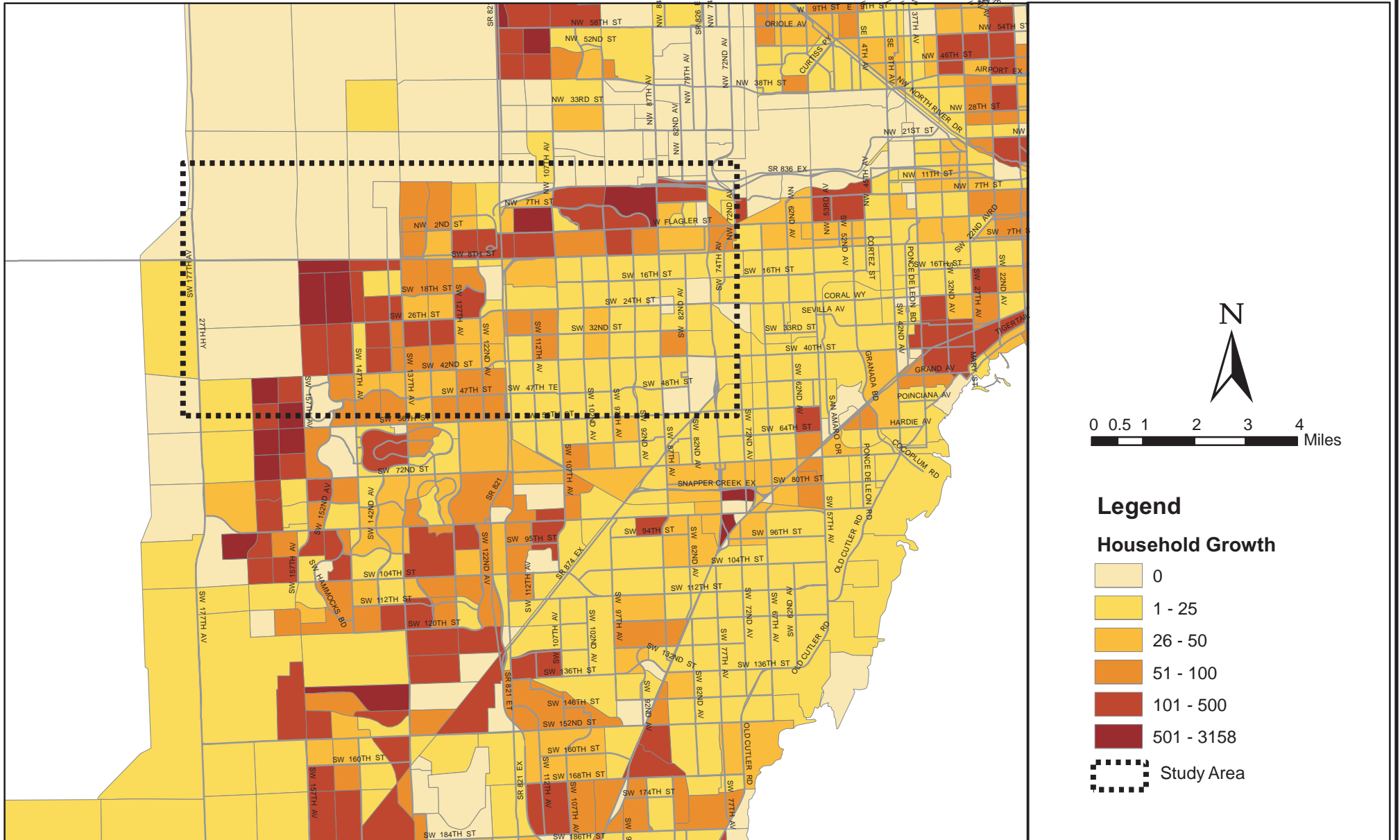


Table 2 provides the most recent US Census information for the area (2000) which highlights the overall similarity between the study area and the County in terms of income and age. However, the study area households have significantly more vehicles available to them than the County.

Table 2: Comparison – Socio-Demographic

	Percent within Study Area	Percent within Miami Dade County
Household Income		
Less than \$15,000	22%	24%
\$15,001-\$25,000	14%	13%
\$25,001-\$35,000	20%	18%
\$40,001-\$60,000	25%	23%
More than \$60,000	20%	22%
Total		
Vehicles per Household		
0-Vehicle	8%	11%
1-Vehicle	32%	40%
2-Vehicle	40%	37%
3-Vehicle or more	20%	12%
Age		
Under 18	21%	22%
18-65	66%	64%
65 or above	13%	14%

3.3: Existing Land Uses

A major institutional use in the Westchester area is FIU which occupies the area bounded by SW 117th Avenue on the north, SW 107th Avenue on the south, SW 20th Street on the west and SW 8th Street on the east. FIU is in the process of revising its Master Plan to include new facilities for the newly approved Medical and Law schools. The University's goals include building more on-campus housing, exploring alternative roadway patterns to access the campus, and placing more emphasis on the development of non-motorized transportation modes. They currently have a campus internal shuttle system, with low ridership, and a small transit drop off area at their main entrance at S.W. 16 Street and S.W. 107th Avenue. The City of Sweetwater also has a transit shuttle that connects the different FIU campus areas. Their goals include increasing transit ridership by participating in the South Florida Commuter Services program, which helps to encourage transit, carpool, vanpool and other transportation demand type strategies. There is a cost to park on campus for all students and employees. The general perception, however, is that parking has not kept pace with development. Currently, FIU does not offer any off-campus parking facilities; however, this policy may be revised based on discussions with the City of Sweetwater. The City would like to build mixed-use parking facilities as a means to attract university students



and staff to the area. In recent discussions with FIU staff, it was determined that the growth projections associated with the Master Plan, and therefore the above parking needs, may be overestimated due to the current economic conditions.

Other land uses in Westchester include mostly medium-low density residential and business and office centers. Major retail centers within the study area are located along S.W. 8th Street, S.W. 24th Street and S.W. 40th Street (Bird Road). The area west of SW 147th Avenue has experienced intense growth in low density residential land uses in the last several years. However, future development westward will be constrained as a result of the Urban Development Boundary.

In addition to the expansion west within the study area boundary, there are also planned Developments of Regional Impact proposals being reviewed and/or under construction just north of SR 836, outside the study area (Table 3). There is a possibility that traffic from these developments could indirectly impact the study area; however, the existence of SR 836 as a physical barrier, and also as a major transportation corridor to serve the mobility of that northern area, may minimize the direct impacts to the study area arterials. Figure 4 depicts the adopted 2015 and 2025 land use map for the Westchester area.

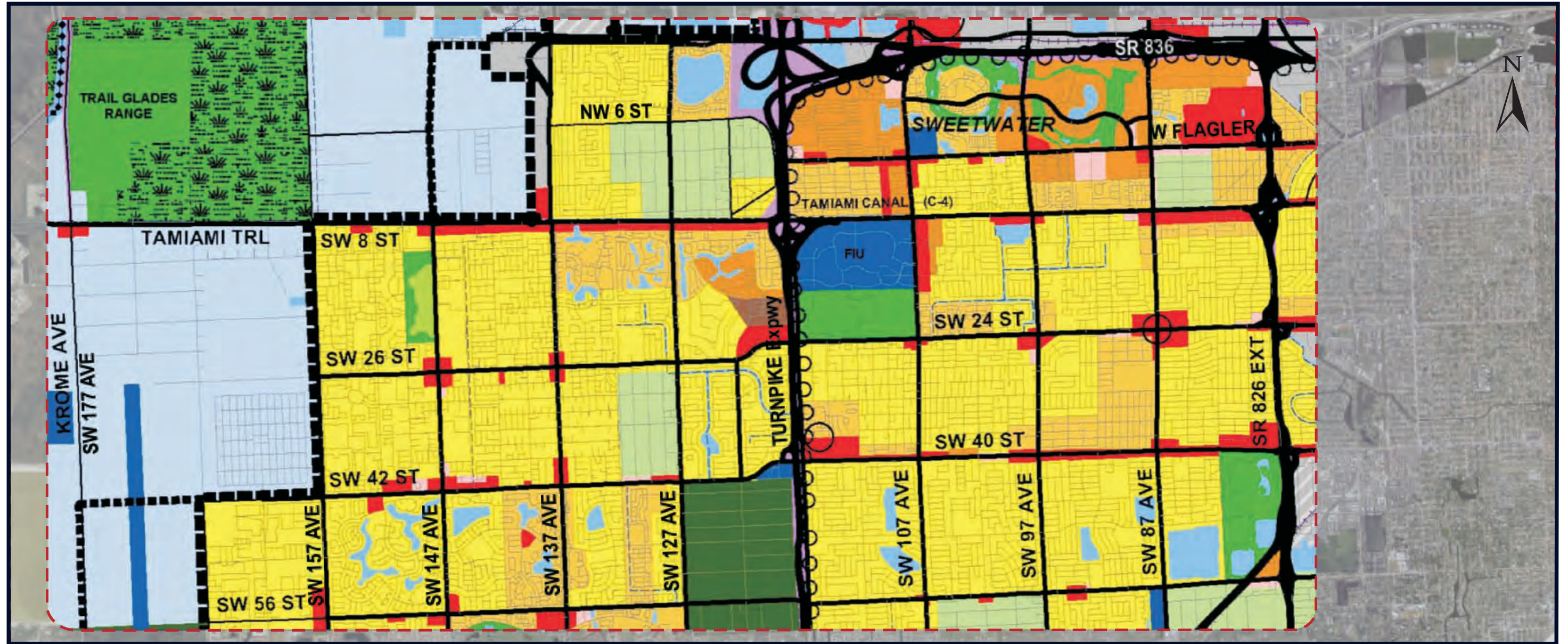
Table 3: Developments of Regional Impact adjacent to the Study Area

Development	Location	Proposed/Planned Development
Beacon Lakes DRI	Outside the study area - NE corner of the intersection of NW 137 th Avenue and NW 12 th Street	Project Area – 480.04 acres; Retail – 495,000 sq. ft.; Office – 175,000 sq. ft.; Warehouse – 5,300,000 (Please note that the warehouse component has been already built.)
Lowe’s (Application No. 5 - April 2008 CDMP Amendment)	Outside the study area - NW corner of the intersection of theoretical SW 138 th Avenue and SW 8 th Street	Project Area – 50.60 net acres; Retail - 357,192 sq. ft.; School - 2000-student High School
Application No. 3 – April 2008 CDMP Amendment	Outside the study area - NW corner of the intersection of NW 107 th Avenue and NW 12 th Street	Project Area – 59.95 net acres; Residential - 1,050 dwelling multifamily dwelling units; Retail - 799,000 sq. ft.; Hotel - 430 rooms; Office - 225,000 sq. ft.
Application No. 10 – April 2008 CDMP Amendment	Outside the study area - NW corner of the intersection of SW 137 th Avenue and SW 8 th Street	Project Area – 16.00 gross acres; Retail: 191,163 sq. ft.

Source: South Florida Regional Planning Council, Miami Dade County - Department of Planning and Zoning

3.4: Transit Service

The study area is serviced by MDT bus routes along the major east-west and north-south arterials. Limited stop bus service is also available on the following routes: Flagler Max (Route 51), Coral Way Max (routes 24 and 224), and Bird Road Max (Route 240). These routes provide connection to Government Center, Douglas Road and Dadeland North Metrorail station, respectively. The following is a description of the service area for each of these routes. Figure 5 depicts the bus routes providing service to the Westchester area.



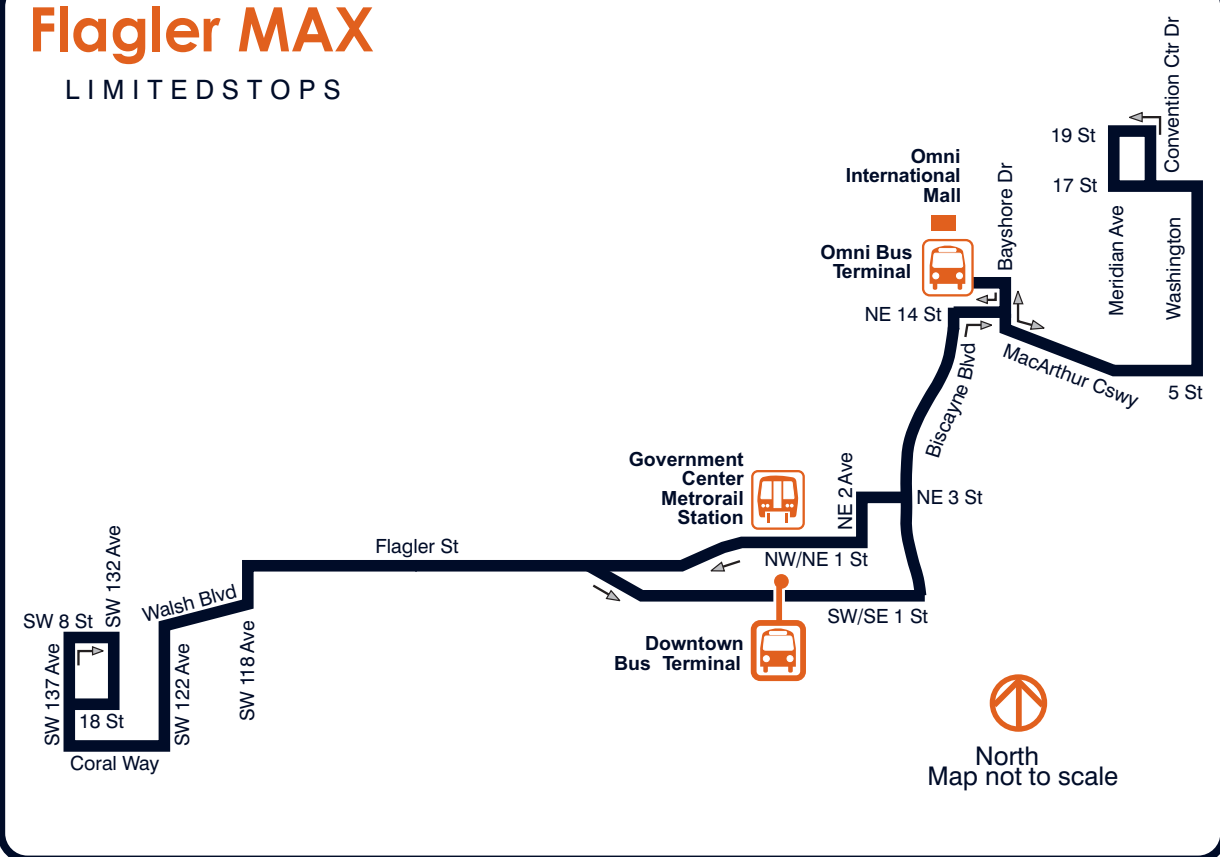
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| <ul style="list-style-type: none"> ■ 2015 URBAN DEVELOPMENT BOUNDARY ■ 2025 EXPANSION AREA BOUNDARY ++ RAILROAD - - CANAL ◆ LEVEE/CANAL □ STUDY AREA | <ul style="list-style-type: none"> ● EXISTING RAPID TRANSIT ○ FUTURE RAPID TRANSIT ▬ EXPRESSWAYS ▬ MAJOR ROADWAYS (3 OR MORE LANES) ▬ MINOR ROADWAYS (2 LANES) ⊙ REGIONAL COMMUNITY METROPOLITAN ⊙ ADOPTED METROPOLITAN URBAN CTR ⊙ ADOPTED COMMUNITY URBAN CTR | <ul style="list-style-type: none"> ■ ESTATE DENSITY (EDR) 1-2.5 DU/AC ■ LOW DENSITY (LDR) 2.5-6 DU/AC ■ LOW-MEDIUM DENSITY (LMDR) 6-13 DU/AC ■ MEDIUM DENSITY (MDR) 13-25 DU/AC ■ MEDIUM-HIGH DENSITY (MHDR) 25-60 DU/AC ■ HIGH DENSITY (HDR) 50-125 DU/AC OR MORE/GROSS AC ■ ESTATE DENSITY W/ ONE DENSITY INCREASE (DI-1) ■ LOW DENSITY W/ ONE DENSITY INCREASE (DI-1) ■ LOW-MEDIUM DENSITY W/ ONE DENSITY INCREASE (DI-1) ■ MEDIUM DENSITY W/ ONE DENSITY INCREASE (DI-1) ■ TWO DENSITY INCREASE WITH URBAN DESIGN (DI-2) ■ INDUSTRIAL AND OFFICE | <ul style="list-style-type: none"> ■ RESTRICTED INDUSTRIAL AND OFFICE ■ BUSINESS AND OFFICE ■ OFFICE/RESIDENTIAL ■ INSTITUTIONS UTILITIES, AND COMMUNICATIONS ■ PARKS AND RECREATION ■ AGRICULTURE ■ OPEN LAND ■ ENVIRONMENTAL PROTECTION ■ ENVIRONMENTALLY PROTECTED PARKS ■ TRANSPORTATION (ROW, RAIL, METRORAIL, ETC.) ■ TERMINALS ■ WATER |
|--|---|--|---|

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Flagler MAX

LIMITED STOPS



Route 224

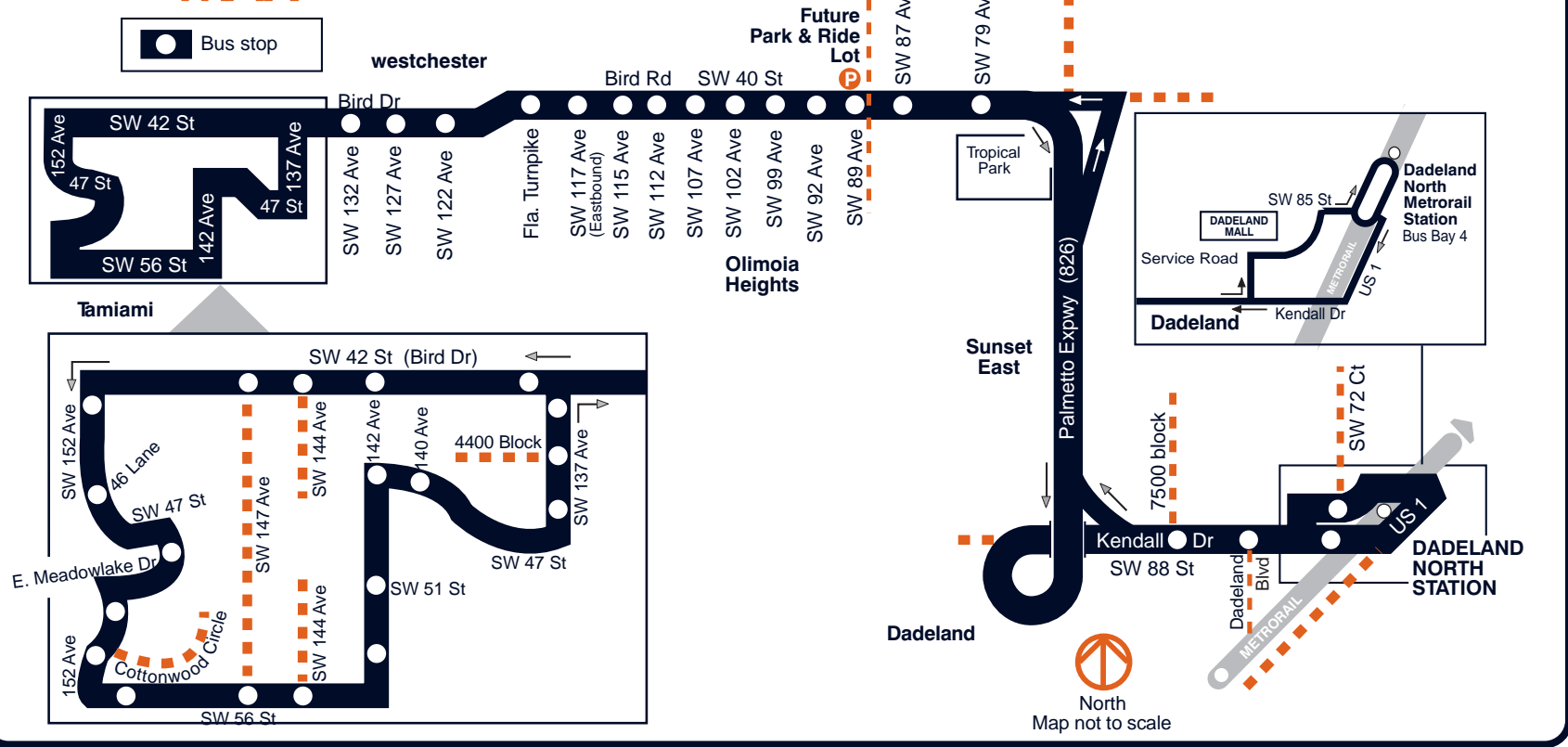
CoralWay MAX



- No service available on Saturday and Sunday.
- No hay servicio disponible los sábados y domingos.
- Pa genyen sévis samdi ak dimanch.

Route 240

Bird Road MAX

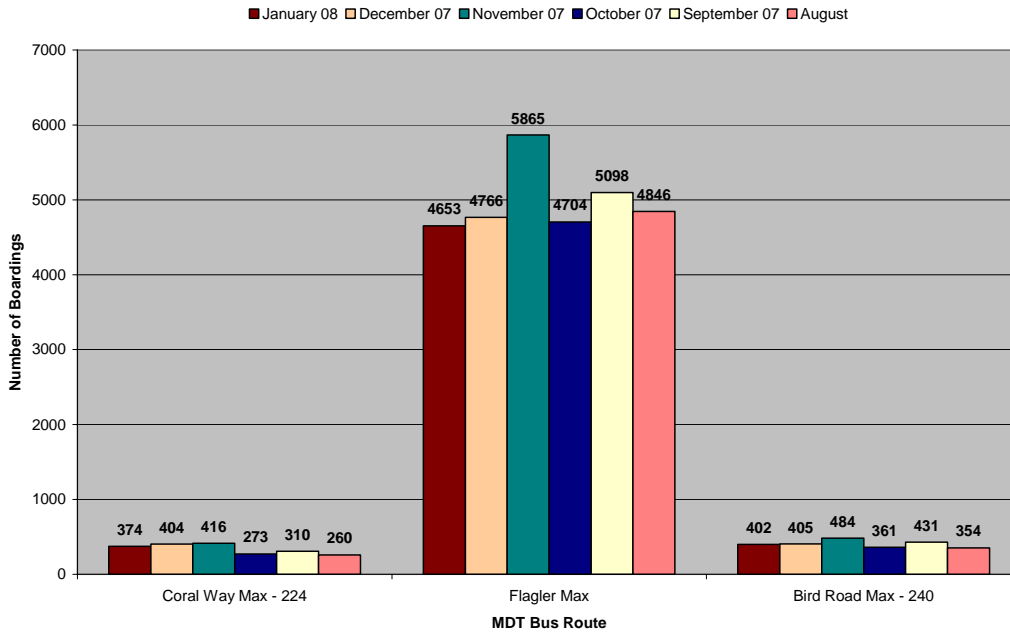


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- **Flagler Max:** SW 137 Ave./Coral Way, West Miami-Dade, West Flagler St., Downtown Bus Terminal, Government Ctr. Metrorail Station, Main Library, Historical Museum, Miami Art Museum, Biscayne Blvd., Omni Bus Terminal, MacArthur Causeway, Miami Beach, South Beach, Convention Ctr. Dr.
- **Coral Way Max:** Coral Way, Las Americas Shopping Center, Miami-Dade Permit Inspection Office, West Dade Regional Library, City of Coral Gables City Hall, Coral Gables Hospital, English Center, Douglas Road Metrorail Station
- **Bird Road Max:** West Miami-Dade, SW 152 Avenue/42 Street, Bird Road, Tropical Park, Kendall Drive, Dadeland Mall, Dadeland North Metrorail Station

Figure 6 below provides information regarding the last available 6 months of boardings for the three routes. As indicated, the Flagler Max route has consistently the highest ridership, while the Bird Road Max and Coral Way Max have low levels of ridership.

Figure 6: MDT Metrobus Average Weekday Boardings



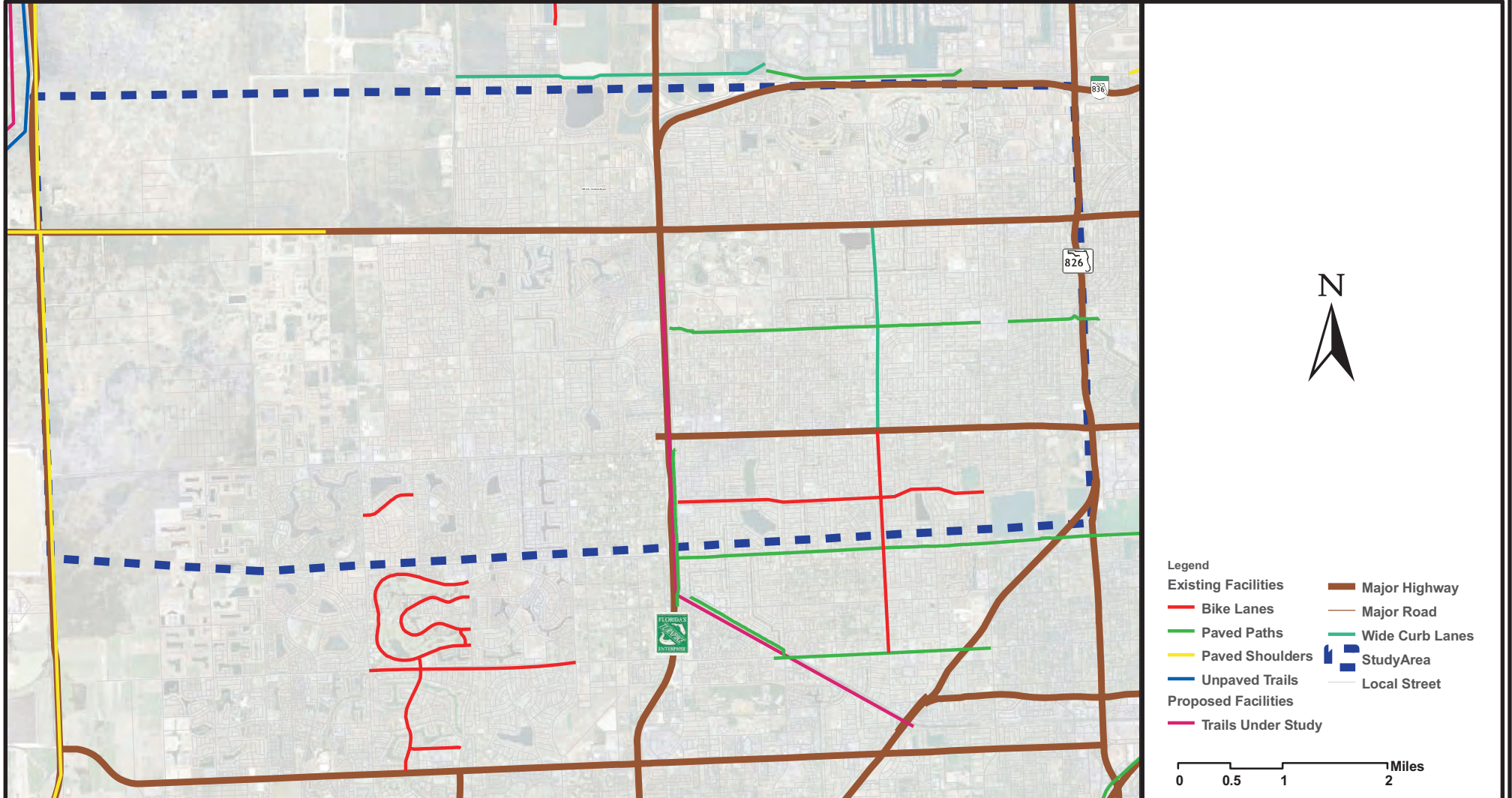
Future transit service was not tested as a 2015 potential alternative due to its need for dedicated right-of-way and high cost, thereby making it extremely difficult to implement in the short term (2015) which was the focus of the study. However, premium transit service is included in the LRTP to serve the area in the long term along the East-West Corridor (parallel to SR 836), the Kendall Corridor, the Palmetto Corridor and the HEFT. Many of these plans are currently unfunded. A more likely short term scenario is to improve the current bus service, provide bus on shoulders along the existing expressways, and provide a major interim park-and-ride facility to access these express bus potential routes. Some of these short term improvements, such as enhancing the current bus service, are included in the County's People's Transportation Plan.

3.5: Bicycle and Pedestrian Issues

Generally, the streets in the Westchester area include sidewalk along both sides. New road widening projects west of the HEFT are also being constructed to accommodate sidewalk connectivity. New interchange reconstruction projects along the SR 826 are considering and implementing pedestrian connections as noted for S.W. 24 Street where a pedestrian bridge was re-constructed. Planned interchange improvements along SR 826 and Bird Road (S.W. 40 Street) will also accommodate pedestrians. This favorable sidewalk condition is typical of a grid network of streets and good for transit accessibility. However, very few bicycle lanes are evident along the Westchester area streets, although there are a significant number of schools and other major attractions that can be accessed by bicycle.

The Miami-Dade MPO's 2030 Cost Feasible Plan has identified the following greenways in the Westchester area (Figure 7):

- Snapper Creek Trail from the FIU Man Campus to Old Cutler Road (a new paved path along Snapper Creek Canal). The Miami-Dade Parks Department is currently improving this trail and plans on building missing gaps in the trail. This trail connects to other existing "green and white" paths in Westchester: Miller Drive from SW 117th Avenue to SW 68th Avenue and Merrick Trail along Coral Way from SW 117th Avenue to SW 87th Avenue. A small amount of money has been identified for implementation of this project in the County's Building Better Communities program; however, at a cost of \$400,000-\$700,000 per mile of trail, additional funding must be secured.
- A new paved path along S.W. 107th Avenue, SW 97th Avenue and S.W. 92nd Avenue where an existing FPL easement is located. The limits for this path are from Snapper Creek to the Dolphin Expressway (S 836).
- General on-street bike lanes are recommended along the major arterial roadways of the Westchester area. These proposals would have to be implemented during reconstruction or resurfacing of existing roadways.



3.6: Existing Roadway Characteristics

The highway network in the Westchester area includes an extensive grid of east-west and north-south roadway facilities. Additionally, limited access facilities such as the HEFT, SR 836/Dolphin Expressway and SR 826/Palmetto Expressway also provide access to this area. Tables 4 and 5 depict the typical section and limits of the main north-south and east-west routes, respectively. It is relevant to point out that the typical section of most facilities changes along their north-south and east-west alignments. For instance, SW 137th Avenue has a 6-lane divided typical section from SW 56th Street to Coral Way, however, at this point the typical section changes to a 4-lane divided, and then from SW 8th Street to NW 12th Street the typical section changes once again to a 6-lane divided. A similar condition is also present on SW 127th Avenue where the typical section from SW 56th Street to SW 40th Street is 5 lanes (Two Way Left Turn Lane), but changes to a two-lane undivided section from SW 40th Street to Coral Way, and then becomes a 4-lane divided section from Coral Way to SW 8th Street. These changes in typical section have a significant impact on highway capacity for these facilities and were discussed at length with the MPO Study Advisory Committee. As a result, several projects to provide uniformity in typical sections along section line roadways and half section line roadways were eventually included in a list to test future alternative improvements.

Table 4: North-South Roadways Typical Sections

Roadway	Limits	Typical Section
SR 997 / Krome Avenue	Kendall Drive to Flagler Street	2-lane undivided
SW 147 Avenue	SW 56 Street to SW 26 Street	4-lane divided
	SW 26 Street to SW 8 Street	2-lane divided
SW 137 Avenue	SW 56 Street to Coral Way	6-lane divided
	Coral Way to SW 8 Street	4-lane divided
SW 127 Avenue	SW 56 Street to Bird Road	5-lane undivided
	Bird Road to Coral Way	2-lane divided
	Coral Way to SW 8 Street	4-lane divided
SW 117 Avenue	SW 56 Street to Bird Road	5-lane undivided
	Coral Way to SW 8 Street	2-lane undivided
SW 107 Avenue	SW 56 Street to Coral Way	5-lane undivided
	Coral Way to SW 8 Street	6-lane divided
	SW 8 Street to Flagler Street	4-lane divided
	Flagler Street to NW 12 Street	6-lane divided
SW 97 Avenue	SW 40 Street to SW 8 Street	2-lane undivided
	SW 8 Street to NW 7 Street	4-lane divided
SW 87 Avenue	SW 56 Street to Flagler Street	4-lane divided

Table 5: East-West Roadways Typical Sections

Roadway	Limits	Typical Section
SW 56 Street	SW 167 Avenue to SR 826	4-lane divided
	SW 157 Avenue to SR 821	4-lane divided
SW 40 Street	SR 821 to SR 826	6-lane divided
	SW 157 Avenue to SW 87 Avenue	4-lane divided
Coral Way	SW 87 Avenue to SR 826	6-lane divided
	Krome Avenue to SW 152 Avenue	4-lane divided
SW 8 Street	SR 821 to SW 87 Avenue	8-lane divided
	SW 87 Avenue to SR 826	6-lane divided
Flagler Street	SR 821 to SR 826	6-lane divided

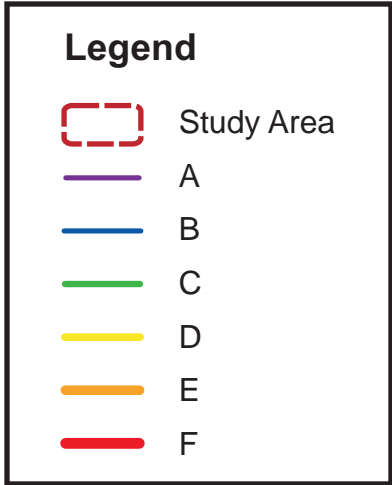
3.7: Existing Traffic and Level of Service

In March 2007, the MPO completed the “Arterial Grid Analysis Study”. This study established 2005 existing Level of Service (LOS) information for major section line roadways throughout the County using existing traffic count information. LOS is a general indicator of congested conditions along roadways with “A” being free flow conditions and “F” indicating that the roadway is operating over its capacity. For purposes of this study, actual LOS versus adopted planning level LOS conditions were deemed to be more relevant to identify future improvements.

As shown in Figure 8, a significant number of east-west facilities within the Westchester study area, such as SW 56th Street, SW 40th Street, and Coral Way are primarily operating at LOS F (2005). Additionally, north-south facilities such as SW 107th Avenue and most sections of SW 87th Avenue were also operating at LOS F.

3.8 Existing Travel Patterns

As will be discussed in more detail later in the report, a 2007 screenline analysis using the Miami-Dade travel demand model was conducted to determine the travel patterns currently occurring in the area. Consistent with the SAG discussions concerning the Westchester area being “boxed in” by major transportation corridors, such as SR 836, SR 826 and the HEFT, the screenline analysis found the heaviest congestion and the highest level of volume was in the east west movement along arterials crossing SR 826. The next heaviest congestion occurs along the north-south movement along the arterials crossing SR 836. This analysis confirms that the bottlenecks are occurring at these major transportation facility crossings and that the focus of improvements should be to providing additional cross through access to improve east-west and north-south mobility in the area.



3.9: Recently Completed Projects

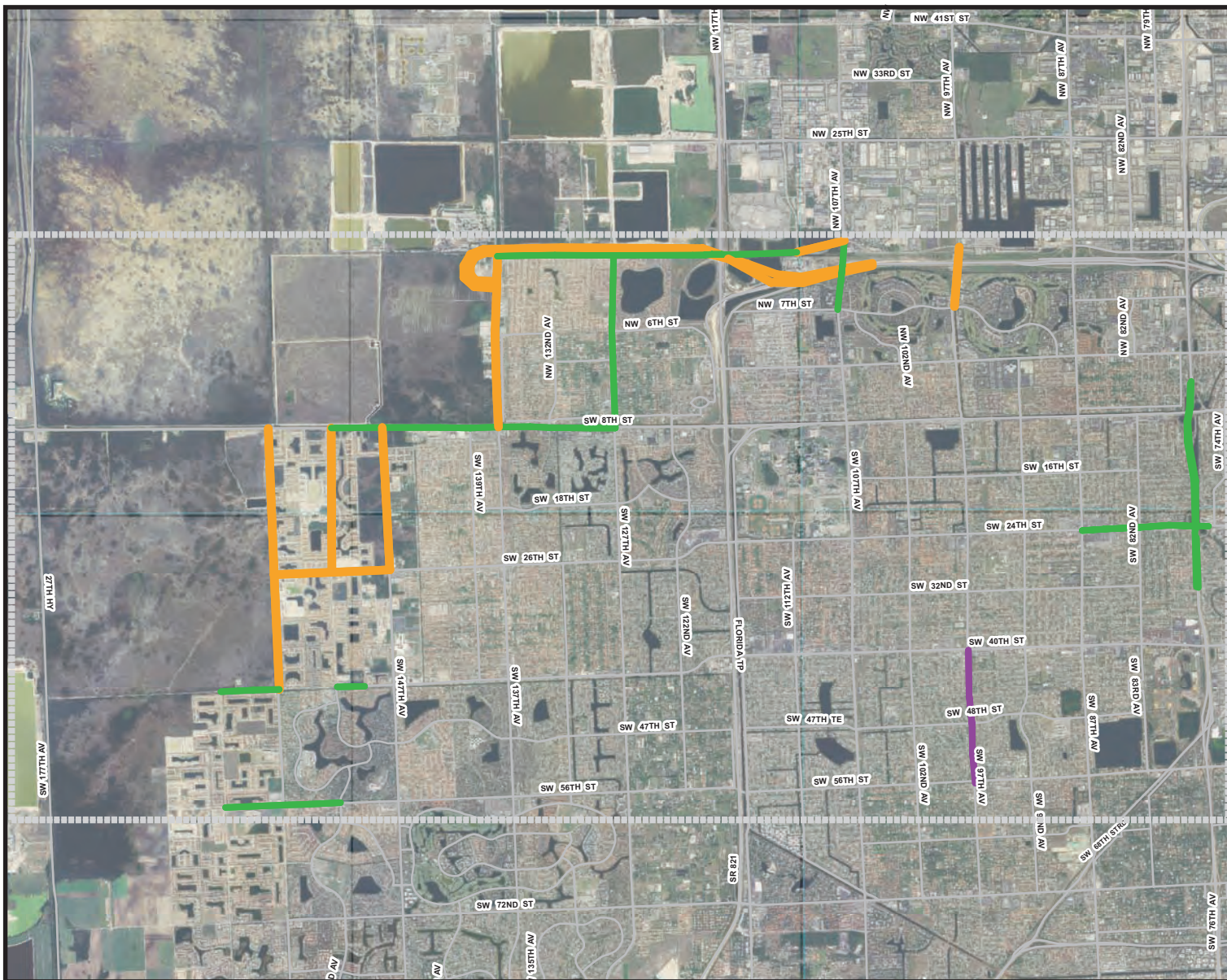
To accommodate growth in the area, several roadway capacity projects have recently been completed and others are planned for the area.

- Major east/west capacity improvements include –
 - Extension of the Dolphin Expressway (SR 836) to S.W. 137th Avenue. The project also included a 6 lane widening of S.W. 137th Avenue from SR 836 to SW 8 Street. The extension of the Dolphin Expressway included a new toll component which in some instances can contribute to a traffic diversion effect.
 - Widening of Coral Way (S.W. 24th Street) to 6 lanes from the Palmetto to S.W. 87th Avenue
 - Widening of S.W. 8th Street to 6 lanes from S.W. 127th Avenue to S.W. 152nd Avenue
- Major north/south improvements include –
 - Expansion of SR 826 from Coral Way (S.W. 24 Street) to S.W. 8th Street,
 - Widening of S.W. 97th Avenue from S.W. 24 Street to S.W. 56 Street,
 - A new flyover bridge along S.W. 97th Avenue over SR 836 from N.W. 7th Street to N.W. 14th Street.

The 2008 Transportation Improvement Program (TIP), the LRTP and the FDOT's Profile database were also reviewed to obtain recently completed project information. A list of major capacity improvement projects recently completed in the study area are shown in Table 6 and depicted in Figure 9. Sample pictures of these projects are also included in Appendix B. The analysis to determine what, if any, comprehensive impacts these major projects are having on the mobility and travel patterns of the study area is included in Section 4.2.







Table 6: Capacity improvement projects completed between 2005 and 2007

Roadway	From	To	Improvement
SR 826	SW 32 St	SW 16 St	Add lanes and reconstruct (8 to 10 lanes)
SR 826	SW 16 St	SW 2 St	Add lanes and reconstruct (8 to 10 lanes)
SR 836 Extension	NW 137 Ave	NW 107 Ave	Construction of a New 4 Lane Expressway Extension on SR 836 and Construction of a Portion of NW 137 Ave from SW 8 St to SW 12 St
NW 12 St	SW 107 Ave	SW 137 Ave	Widen from 2 to 4 Lanes and New 4 Lane Road from NW 111 Ave to NW 107 Ave
SW 8 St	SW 127 Ave	SW 137 Ave	Widen from 4 to 6 Lanes
SW 8 St	SW 137 Ave	SW 152 Ave	Widen from 4 to 6 Lanes
SW 24 St	SR 826	SW 87 Ave	Widen 4 to 6 Lanes
SW 26 St	SW 147 Ave	SW 157 Ave	New 4 Lane
SW 42 St	SW 149 Ave	SW 150 Ave	2 to 4 Lanes
SW 42 St	SW 157 Ave	SW 162 Ave	2 to 4 Lanes
SW 56 St	SW 152 Ave	SW 162 Ave	2 to 4 Lanes
NW 97 Ave			Construct 4 Lane Bridge Over SR 836
SW 97 Ave	SW 40 St	SW 56 St	2 to 3 Lanes
SW 147 Ave	SW 10 St	SW 22 St	
SW 107 Ave	NW 7 St	NW 12 St	Widen from 4 to 6 Lanes
W 127 Ave	SW 8 St	NW 12 St	Widen to 4 Lanes
W 137 Ave	SW 8 St	NW 12 St	New Construction: 6 Lanes
SW 152 Ave	SW 8 St	SW 26 St	New 4 Lane Road
SW 157 Ave	SW 8 St	SW 42 St	New 4 Lane Road



Legend

Type of Improvement

-  1 lane addition
-  2 lane addition
-  Turn lane addition
-  Grade Separation
-  New facility
-  Study Area

Section 4: Future Traffic Conditions Assessment

In order to complete an analysis of different alternative improvement scenarios for the Westchester area, the existing Miami-Dade MPO travel demand model was used to estimate roadway volumes and LOS for the years 2007 and 2015.

4.1 Base Year Model Validation

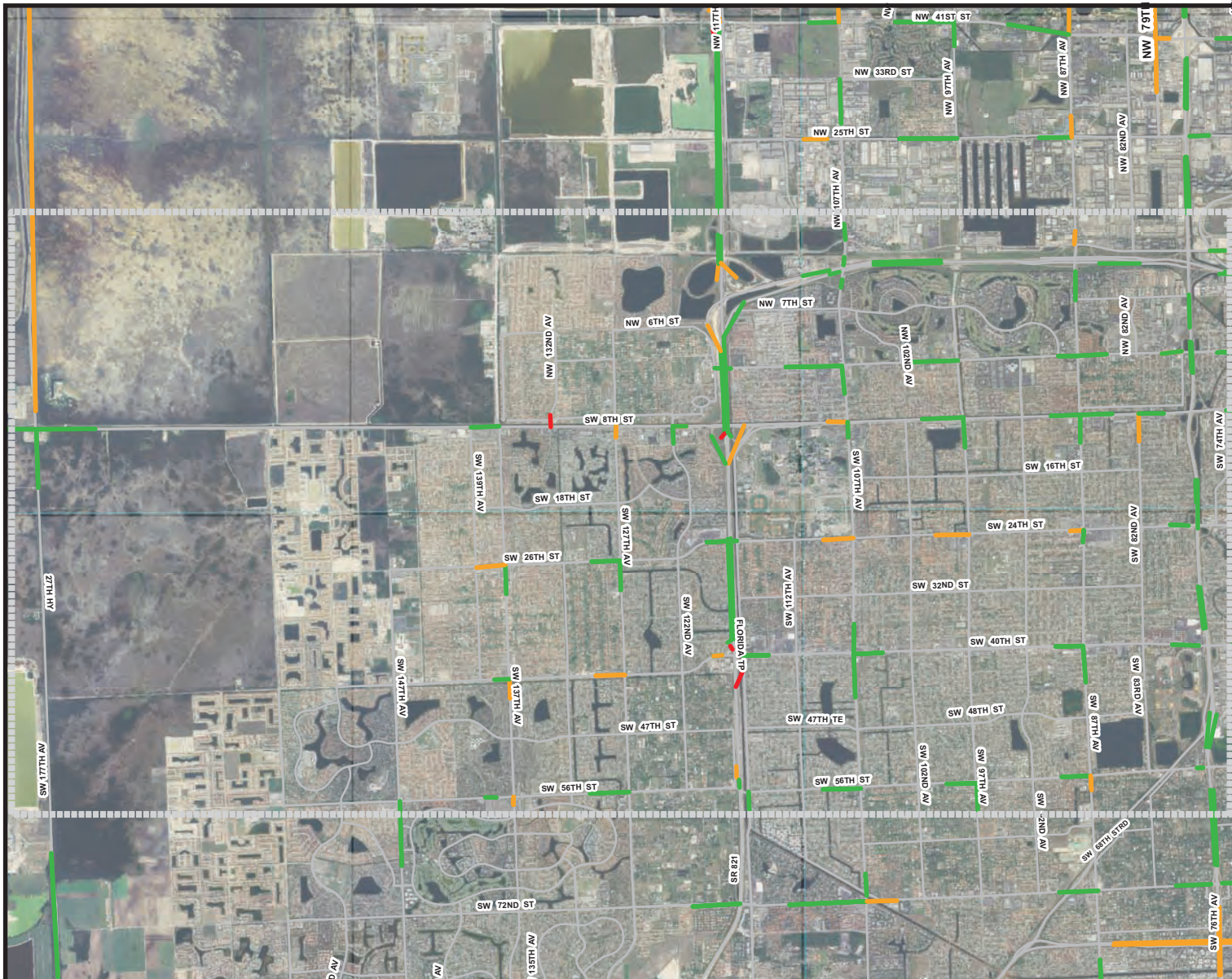
Prior to using the model for analysis in the area, a calibration and validation was performed against the base year (2000) data to determine how well the model was performing in the study area.

The base year 2000 model was validated against existing traffic counts. Traffic counts for 150 links within the study were available. Figure 10 shows the volume to count ratios for the base year. Table 7 shows the counts and root mean square error (RMSE) by count groups. It can be observed from the table that the RMSE varies between 1% and 52% for the individual count groups with an overall RMSE being 19%. The RMSE for all the count groups falls in acceptable range.

Table 7: RMSE percentage error by count groups

AADT Groupings	FDOT Acceptable Ranges		Counts	RMSE Percentage Error
	Low Range	High Range		
<=5000	45%	55%	8	52%
5000 to 10000	35%	45%	16	41%
10000 to 20000	27%	35%	36	23%
20000 to 30000	24%	27%	42	26%
30000 to 40000	22%	24%	22	15%
40000 to 50000	20%	22%	6	18%
50000 to 60000	18%	20%	2	1%
60000 to 70000	17%	18%	7	10%
70000 to 80000	16%	17%	n.a	n.a
80000 to 90000	15%	16%	2	12%
90000 to 100000	14%	15%	3	13%
> 100000	14%	14%	6	9%
Overall	32%	39%	150	19%

Based on this assessment, it appears that the model results match up very closely with the traffic counts in the study area and therefore can be relied upon to provide an accurate assessment of future conditions in the study area with and without improvements.



Legend

Volume to Count Ratio

- $v/c \leq 0.5$
- $0.5 < v/c \leq 0.75$
- $0.75 < v/c \leq 1.25$
- $1.25 < v/c \leq 2.00$
- $v/c > 2.0$

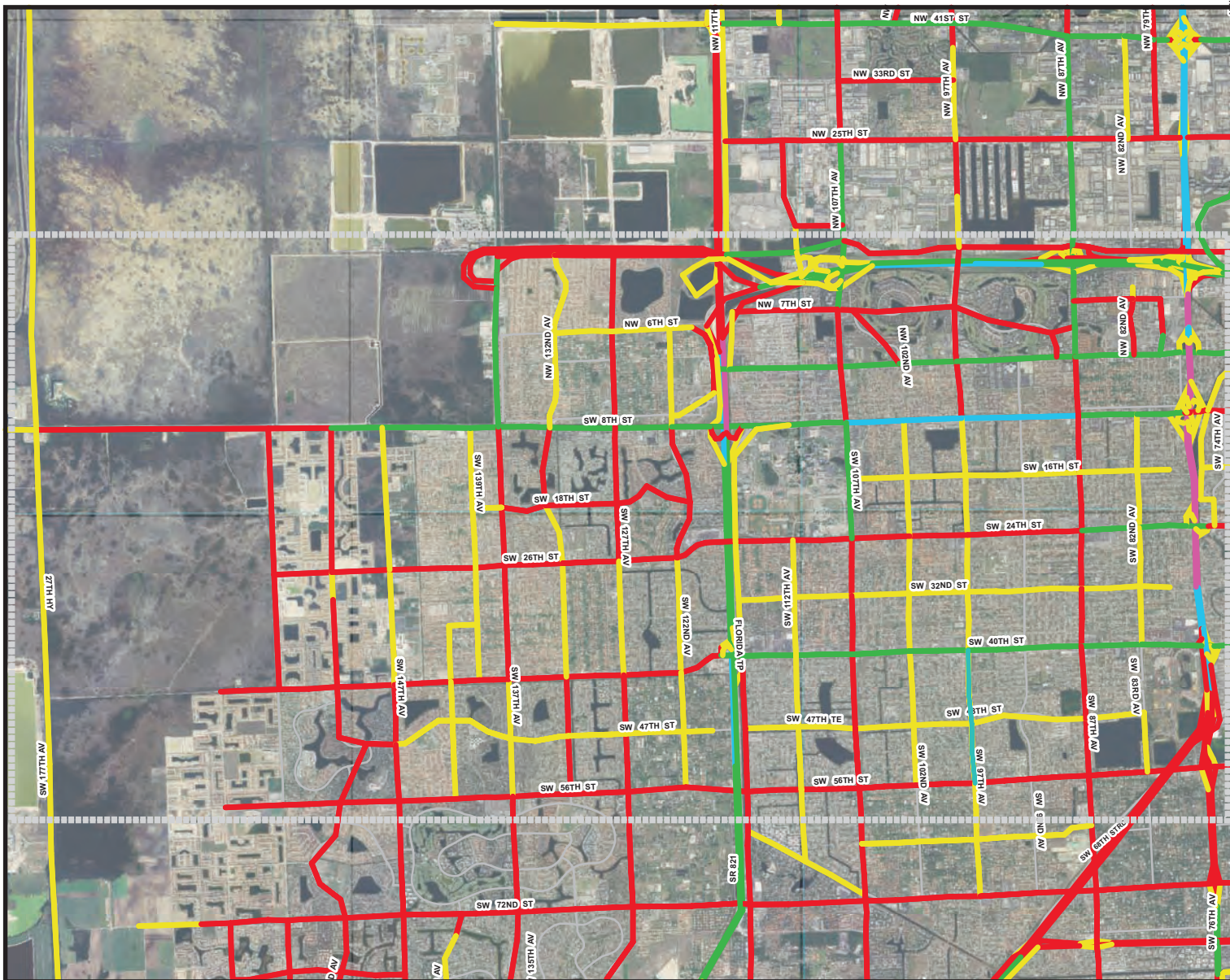
Study Area

4.2: Comprehensive impact analysis of recently completed projects

Consistent with MPO guidance, one of the purposes of this study is to determine if there have been any major transportation network and mobility changes as a result of recently completed roadway capacity projects. The 2005 LOS information from the Arterial Grid Analysis Study (see Figure 8) was therefore compared against the LOS of a new 2007 base year existing conditions network (generated from the travel demand model). The 2007 existing conditions analysis was performed using the 2007 roadway network and 2005 socio-economic data. Capacity improvement projects completed in/around the year 2007 were added to the 2005 network to represent the 2007 conditions. Figure 11 shows the number of lanes for the roadways after the improvements and Figure 12 shows the corresponding 2007 Level of Service.

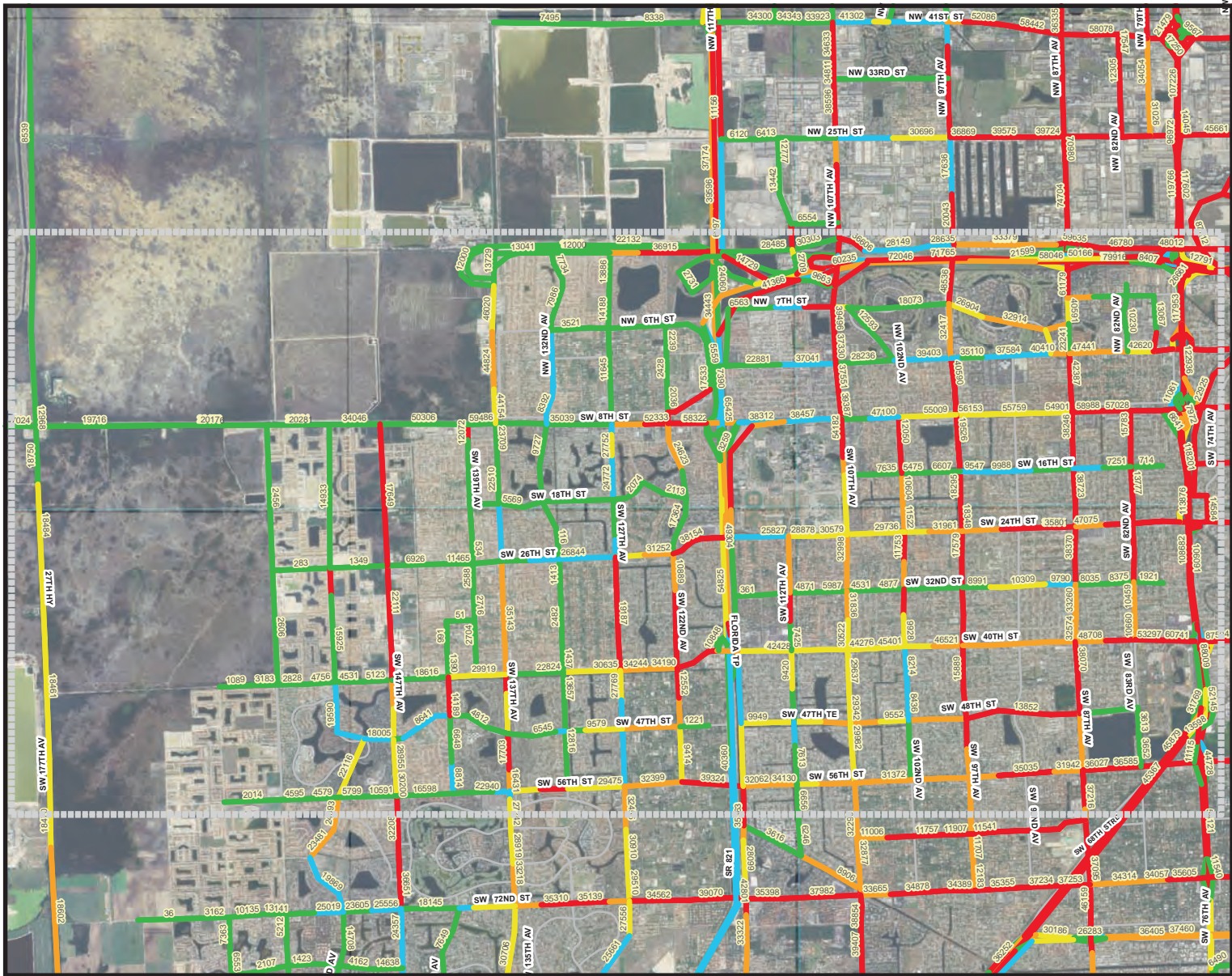
Results of the general comparison between the two networks are as follows:

- The widening of SR 836 had positive effects to traffic not just along SR 836 but also along the HEFT. LOS was improved along SR 836 and the HEFT LOS was improved all the way south to Bird Road. This would seem to indicate that traffic desiring to go west may have been using the Southbound HEFT to access another east/west arterial. It appears that this traffic has now been diverted to the SR 836 Extension to SW 137th Avenue.
- The improvement of SW 137th Avenue from SR 836 to SW 8th Street resulted in a deterioration in LOS from C to D and E. This confirms the demand for capacity along north-south facilities west of the HEFT.
- The widening of SW 127th Avenue from SR 836 to SW 8th Street caused an improvement from LOS D and F to B.
- Not surprisingly, as a result of the SW 137th Avenue and SW 127th Avenue widenings, LOS conditions improved along parallel arterial 2 lane roadways. SW 132 Avenue improved from F to B and C and SW 122nd Avenue improved from C and E to B north of SW 8 Street. Traffic will naturally be diverted to arterial roadways with more capacity, thereby; the more local roads have improved as a result.
- It appears that the overpass of SW 97th Avenue at SR 836 provides much needed capacity in the area. The roadway immediately becomes LOS F with the overpass connection for almost its entire length, north of SR 836 to south of S.W. 48 Street, indicating substantial demand for this movement. This connection across a major transportation barrier also provides a positive glimpse as to the potential benefit of other connections across major transportation barriers proposed for advancement as part of this study.
- The SR 826 widening mostly improved the interchange at SW 8 Street.
- There were no real significant changes in the overall east-west corridor movements except that SW 56 Street improved to LOS B from D as a result of widening west of SW 147th Avenue.



Legend

- Number of lanes**
- 1 lane road
- 2 lane road
- 3 lane road
- 4 lane road
- 5 or greater lane road
- Study Area



Legend

- Level of Service**
- LOS B or better
 - LOS C
 - LOS D
 - LOS E
 - LOS F
 - Study Area

To further confirm impacts of these recently completed projects, traffic count information provided by MDX was reviewed. The preliminary findings from the before and after counts would indicate that the inclusion of a toll along SR 836 may have caused some initial diversion to major east-west corridors such as Flagler Street and N.W. 12th Street, particularly west of N./S.W. 87th Avenue. Interestingly, there appeared to be a positive impact or volume reduction along S.W. 8th Street when reviewing the before and after count information. Available FDOT count information reviewed (Table 8) and the recently completed before and after study from MDX generally confirms that the SR 836 extension project had a positive impact on S.W. 8th Street.

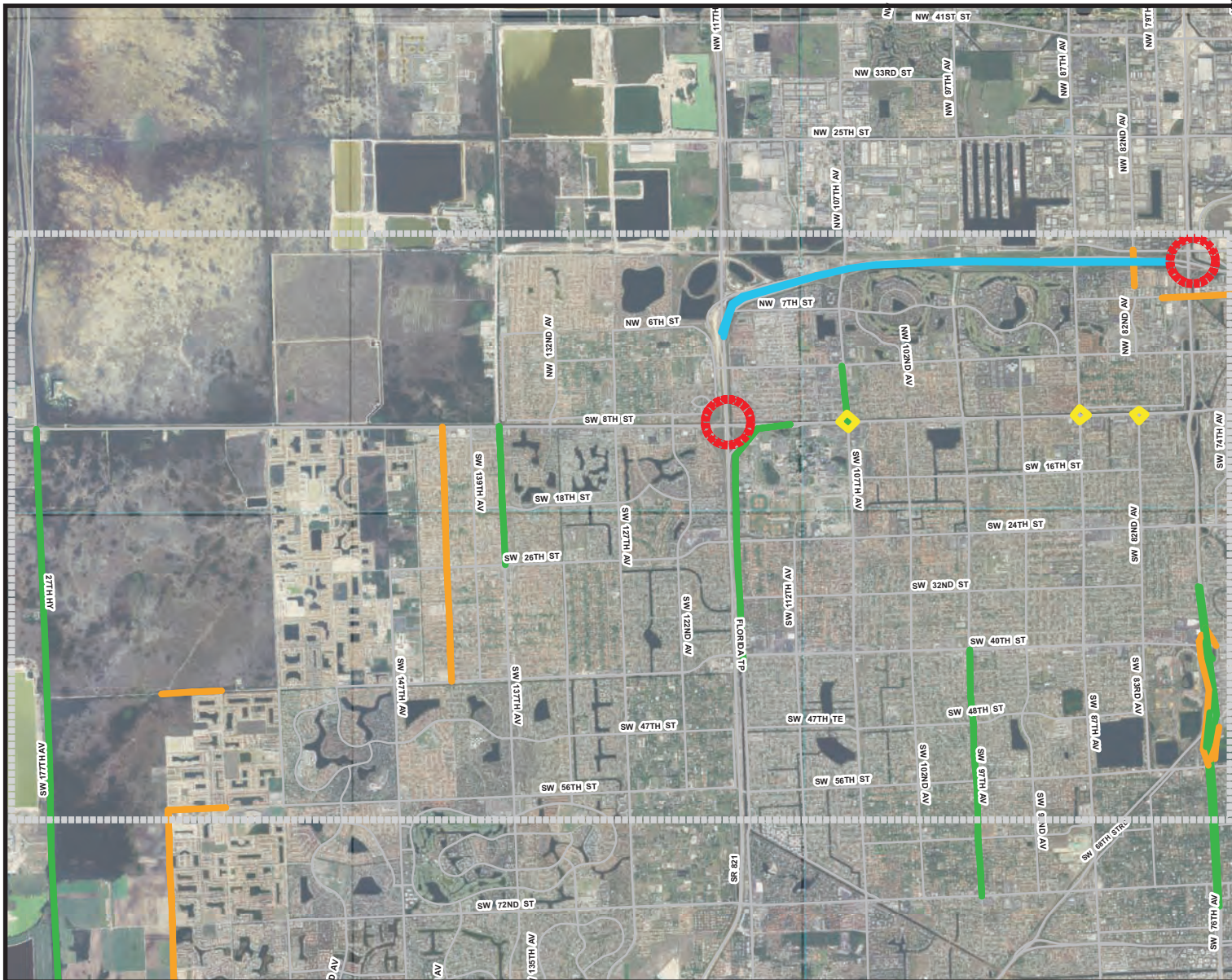
Table 8: FDOT Annual Average Daily Traffic Counts

Roadway	Count Location	2006			2007			Difference		
		EB	WB	Total	EB	WB	Total	EB	WB	Total
SR 836	W of NW 107 Avenue	61,500	62,000	123,500	57,500	55,500	113,000	-6.5%	-10.5%	-8.5%
SR 836	E of NW 107 Avenue	53,500	53,500	107,000	61,500	62,000	123,500	15.0%	15.9%	15.4%
SR 836	E of SW 87 Avenue	66,000	44,000	110,000	63,000	58,500	121,500	-4.5%	33.0%	10.5%
SW 8 Street	W of SW 122 Avenue	33,500	32,500	66,000	35,000	33,500	68,500	4.5%	3.1%	3.8%
SW 8 Street	E of SW 109 Ave	31,500	33,000	64,500	28,000	28,000	56,000	-11.1%	-15.2%	-13.2%
		NB	SB	Total	NB	SB	Total	NB	SB	Total
SW 107 Avenue	S of Flagler St	19,500	19,500	39,000	19,500	18,500	38,000	0.0%	-5.1%	-2.6%
SW 87 Avenue	S of Flagler St	20,500	15,500	36,000	20,500	18,500	39,000	0.0%	19.4%	8.3%

4.3: Future year network modeling








A 2015 base conditions analysis was performed by including roadway improvement projects listed under Priority I and II in the LRTP and 2015 socio-economic data. Priority I and II projects are anticipated to be constructed by 2015. However, it should be noted that funding for some of these projects have yet to be identified in FDOT’s work program. Table 9 and Figure 13 shows the Priority I and II capacity improvement projects. Figure 14 shows the number of lanes in the 2015 base roadway network and Figure 15 the corresponding Level of Service.

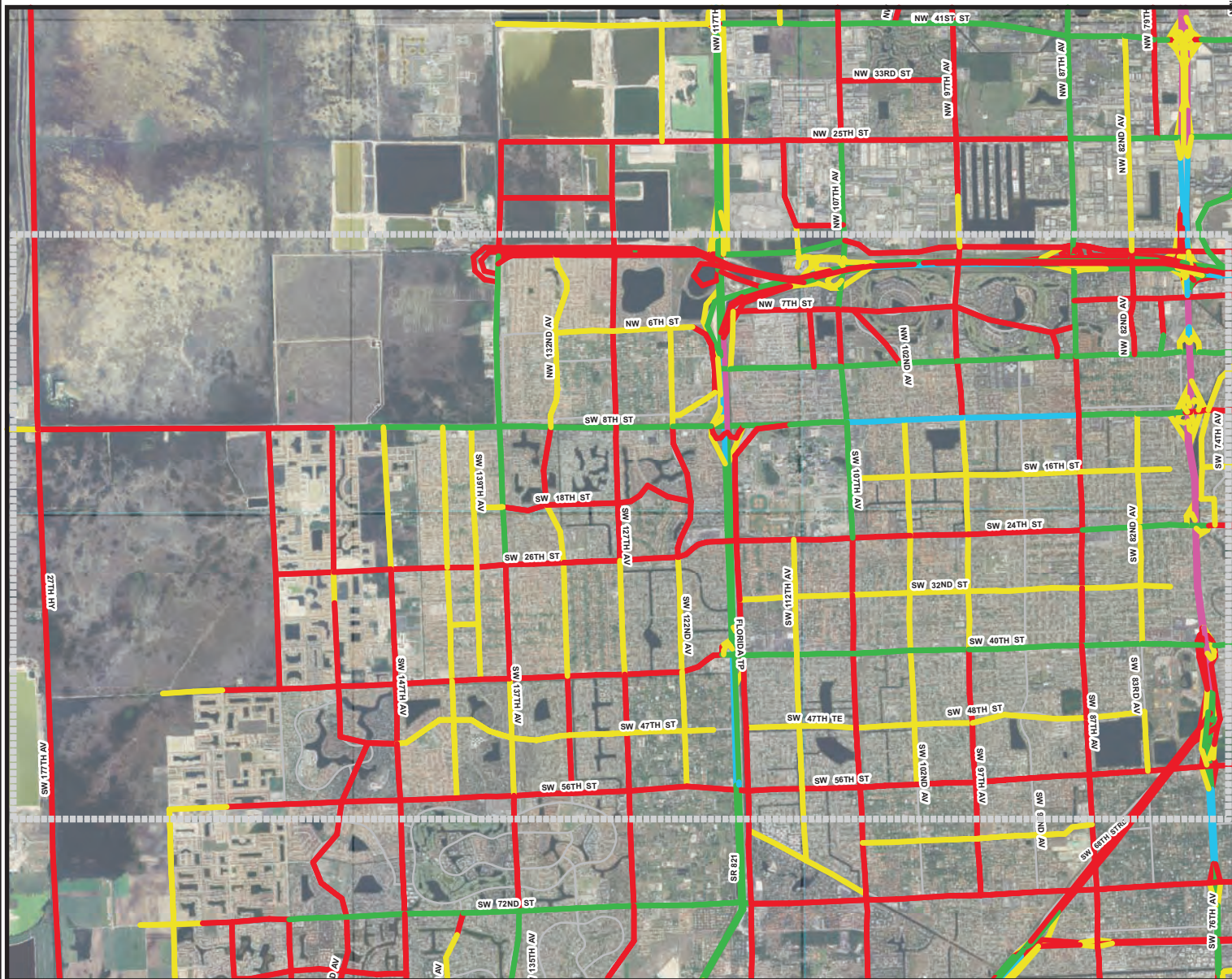
As previously discussed, a 2015 Advanced Priorities list was developed using input from previous studies, such as the Arterial Grid Analysis study, field visits to the study area, and input from a Study Advisory Group. A 2015 advanced priorities analysis was performed by including possible roadway improvements not listed under Priority I and II in the LRTP and 2015 socio-economic data. Table 10 and Figure 16 represent the capacity improvements projects for the 2015 advanced priorities network. Figure 17 shows the number of lanes in the 2015 advanced priority roadway network and Figure 18 the corresponding Level of Service.



Legend

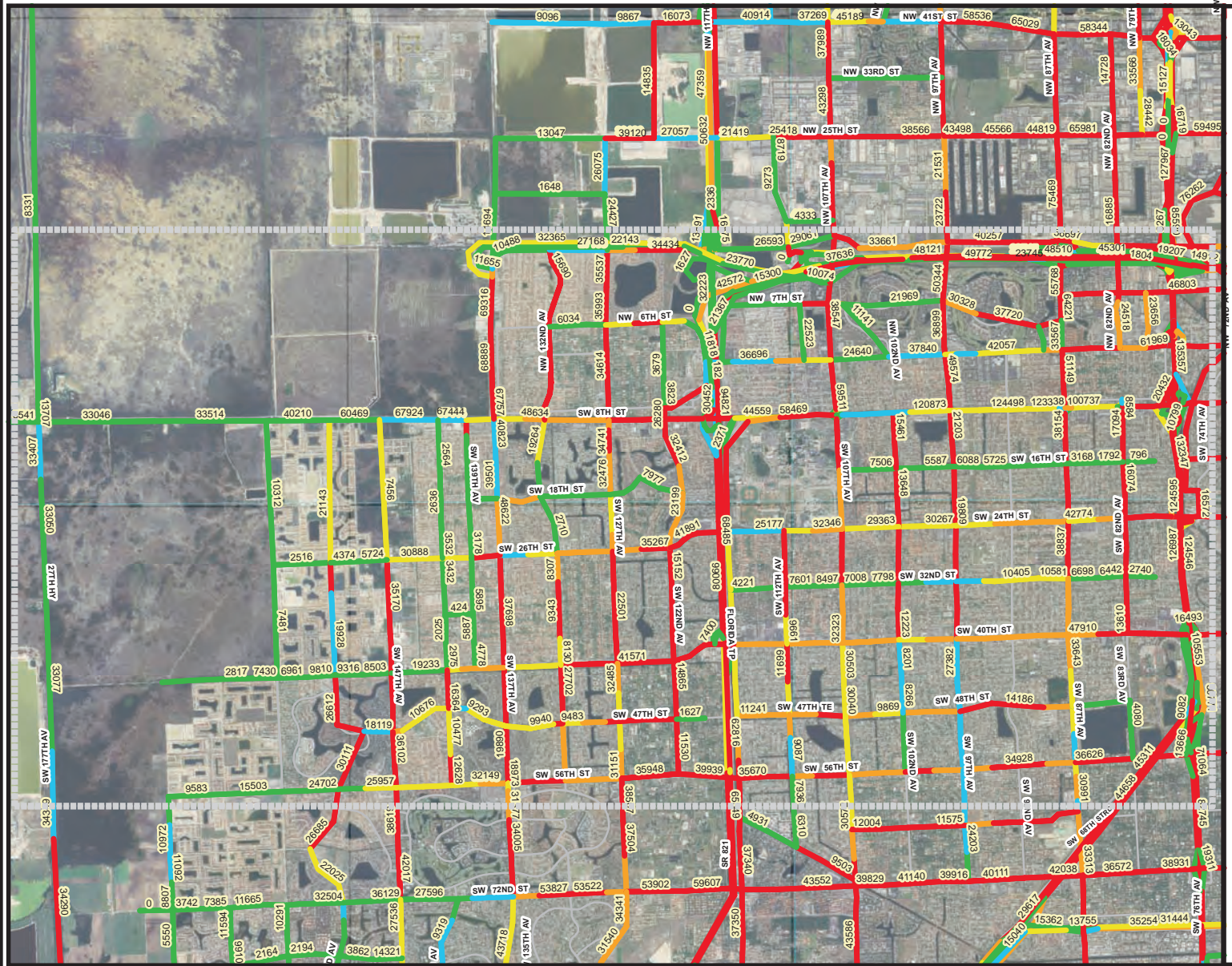
Type of Improvement

-  1 lane addition
-  2 lane addition
-  Turn lane addition
-  Grade Separation
-  New Facility
-  Interchange Improvement
-  Study Area



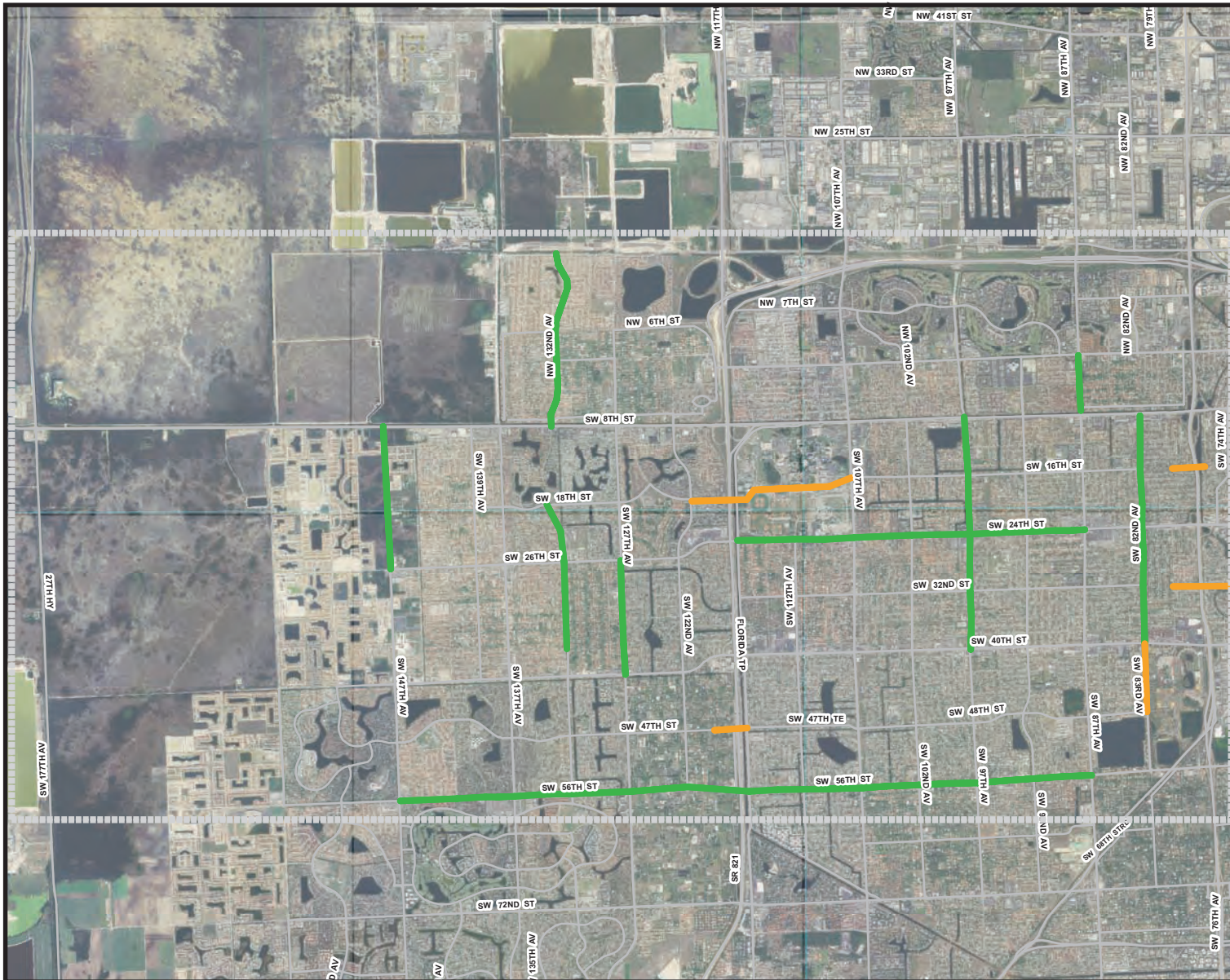
Legend

- Number of lanes**
- 1 lane road
 - 2 lane road
 - 3 lane road
 - 4 lane road
 - 5 or greater lane road
 - Study Area



Legend

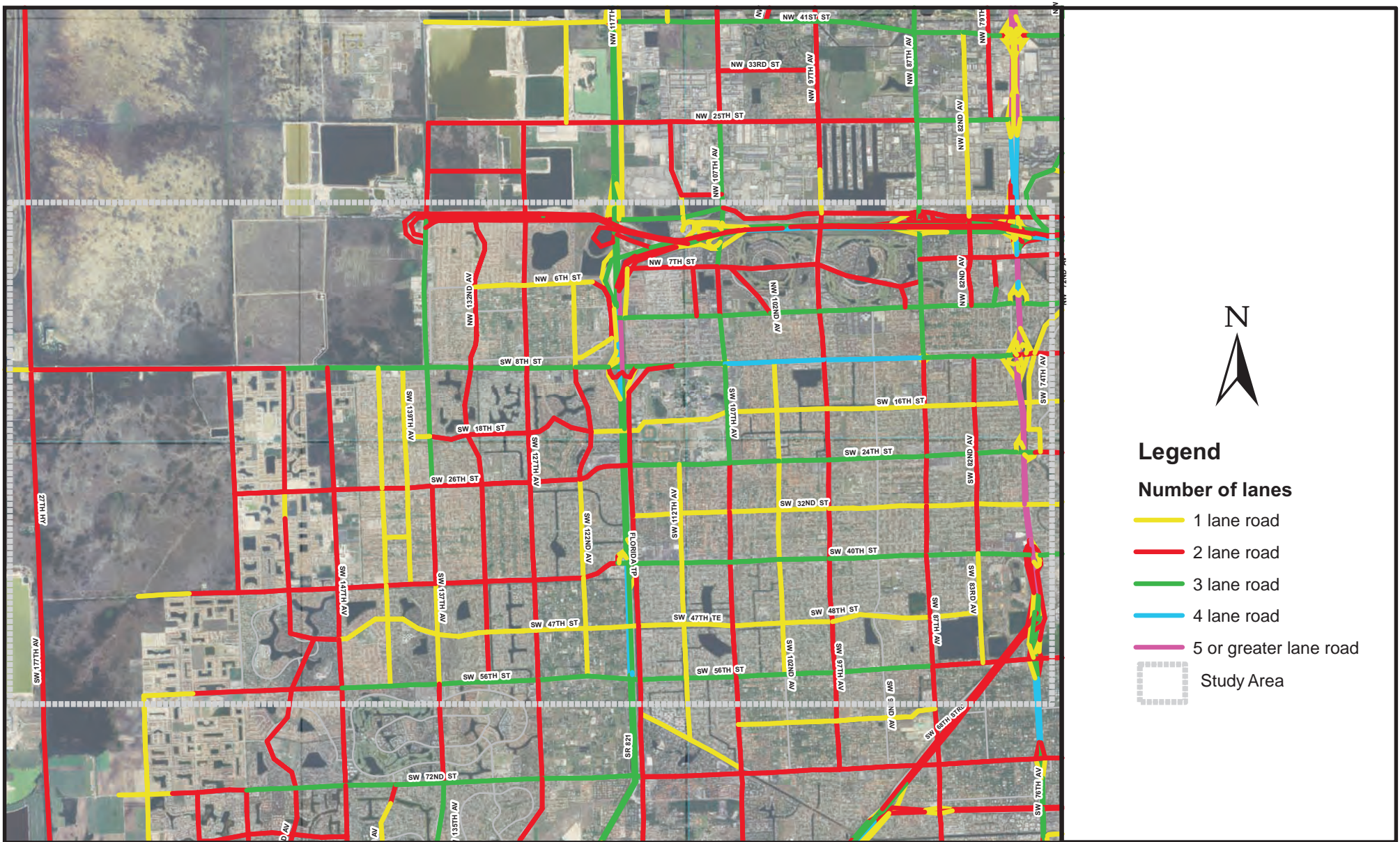
- Level of Service**
- LOS B or better
 - LOS C
 - LOS D
 - LOS E
 - LOS F
- Study Area

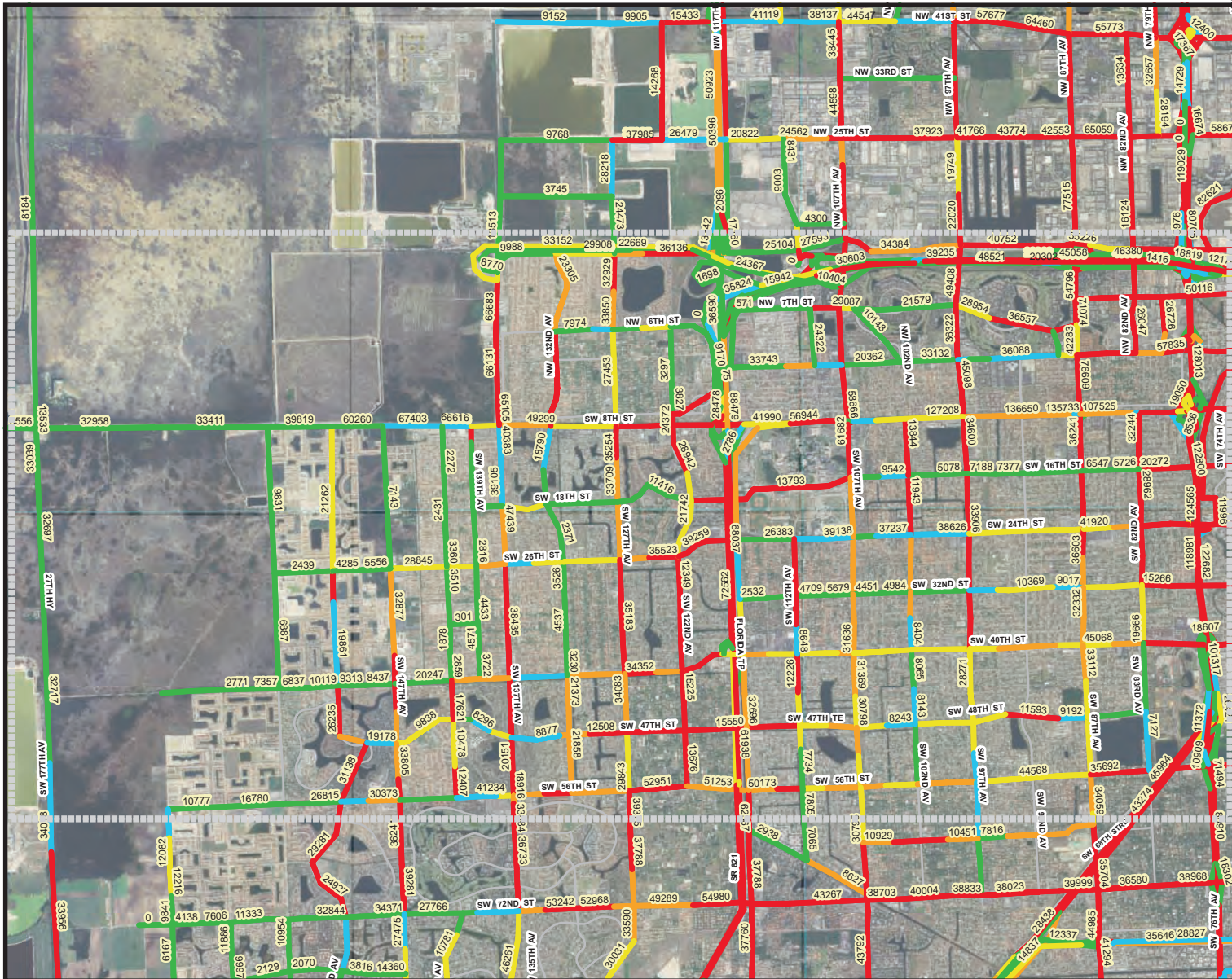


Legend

Type of Improvement

- 1 lane addition
- 2 lane addition
- Turn lane addition
- Grade Separation
- New Facility
- Study Area





Legend

- Level of Service**
- LOS B or better
 - LOS C
 - LOS D
 - LOS E
 - LOS F
- Study Area

Table 9: Priority I and II capacity improvement projects (not yet constructed)

Roadway	From	To	Improvement	TIP	FDOT Work Program
SR 836 Express Lanes	HEFT	SR 826/836 Interchange	4 lane divided expressway lanes in median of SR 836	No	No
SR 826 & SR 836 intersection	NW 87 Ave	NW 57 Ave	Widen interchange to 10 lanes	Yes	No
SR 836 Extension	NW 111 Ave	NW 87 Ave	Improvements from NW 107 to NW 87 Ave including a bidirectional mainline toll plaza	Yes	No
SR 826 / Palmetto	N Of Sunset Dr.	SW 32 St.	Add New Lane In Each Direction And Reconstruct Bird Rd/Miller Rd.	No	Yes
HEFT	At SW 8 St		Interchange modification	No	No
SW 137 Ave	SW 8 St	SW 26 St	4 to 6 lanes	No	No
SW 42 St	SW 157 Ave	SW 162 Ave	New 2 lane	Yes	No
SW 56 St	SW 158 Ave	SW 167 Ave	New 2 lane	No	No
NW 82 Ave	NW 8 St	NW 12 St	New 4 lane	No	No
SW 107 Ave	SW 8 St	W Flagler St	4 to 6 lanes	No	No
SW 142 Ave	SW 42 St	SW 8 St	New 2 lane	No	No
Krome Ave/ SW 177th Ave	SW 136 St	SW 8 St	Add 2 lanes to 2 lane Roadway	Yes	No
SW 97 Ave	SW 40 St	SW 72 St	2 to 4 Lanes	No	No
SW 117 Ave	SW 40 St	SW 8 St	Widen 2 to 4 lanes	Yes	No
SW 167 Ave	SW 56 St	SW 88 St	New 2 lane	No	No
SW 8th Street			Grade separation at SW 82nd, SW 87th Ave and SW 107th Ave	No	SW 8th Street

It is important to note that the majority of these Priority I and II projects are currently not included in the Transportation Improvement Program (TIP) nor in FDOT’s 5 year work program so that actual funding has yet to be identified. However, as noted in the analysis, the need for these projects is considered a minimum to keep pace with growth and development in the area.

General planning level cost estimates were developed for the Priority I and II projects using values found on the FDOT State Specifications and Estimates Cost per Mile Models. Statewide average unit prices were used for widening and new construction. Based on these general cost estimates, and not including any anticipated right-of-way costs, implementation of the Priority I and II projects total over \$250 million.

General planning level cost estimates were also developed for the advanced priority projects using the same FDOT information and not including anticipated right-of-way cost. Estimates for the implementation of this advanced priority package of projects were over \$170 million.

Table 10: Advanced priority capacity improvement projects

Roadway	From	To	Improvement	TIP
SW 87 Ave	SW 8 St	Flagler St	Widening- 4 to 6 lanes	No
SW 16 St	SW 82 Ave	SW 71 Ave	Overpass across SR 826	Yes
SW 127 Ave	SW 42 St	SW 26 St	Widening- 2 to 4 lanes	No
SW 132 Ave	SW 42 St	SR 836	Widening- 2 to 4 lanes	No
SW 24 St	SW 107 Ave	SW 87 Ave	Widening- 4 to 6 lanes	Yes
SW 24 St	SW 117 Ave	SW 107 Ave	Widening- 4 to 6 lanes	Yes
SW 147 Ave	SW 8 St	SW 26 St	Widening- 2 to 4 lanes	No
SW 82 Ave	SW 42 St	SW 48 St	2 lanes	No
SW 47/ 48 St	SW 112 Ave	SW 122 Ave	Overpass across HEFT	Yes
SW 56 St	SW 87 Ave	SW 147 Ave	4 to 6 lanes	No
SW 82 Ave	Flagler St	SW 40 St	2 to 4 Lanes	No
SW 97 Ave	SW 8th St	SW 40 St	2 to 4 Lanes	No
SW 18 St	SW 122nd Ave	SW 16th	New 2 lane with crossover at the HEFT and a tie in to SW 16th St	No
SW 32 St			Overpass across SR 826	No

4.4: Model Results

4.4.1: 2007, 2015 base and 2015 Advanced Priority Projects

The area-wide results from the 2007, 2015 base and 2015 advanced priority models are documented in Table 11. The table shows that the volume of traffic in the area increases by more than 30% between 2007 and 2015. It should be noted that the 2005 socio-economic data was used for the 2007 scenario therefore the 2007 volumes may be under-estimated. The table also shows that the capacity increases by 29% from 2007 to the 2015 base scenario and by 35% from 2007 to the 2015 advanced priorities scenario. The lanes miles increase by 13% from 2007 to the 2015 base scenario and by 21% from 2007 to the 2015 advanced priorities scenario. The volume to capacity ratio of 0.88 in 2007 increases to 0.92 in the 2015 base scenario and back to 0.89 in the 2015 advanced priority scenario. Therefore, it appears that implementation of LRTP Priority I and II improvements, as well as new capacity projects in the advanced priority network, are needed in 2015 to keep the level of congestion in the study area from deteriorating further beyond current conditions.

Table 11: 2007 and 2015 area-wide statistics

Scenario	2007	2015 Base		2015 Advanced Priorities	
	Value	Value	2007-2015 Delta	Value	2007-2015 Delta
Volume	23,870,000	32,088,000	34%	32,470,000	36%
Capacity	27,138,000	35,066,000	29%	36,526,000	35%
Lane Miles	671	761	13%	811	21%
Vol/Cap	0.88	0.92	4%	0.89	1%

Table 12 shows the percent of vehicle miles of travel (VMT) by LOS for the study area. The table shows that 47% VMT in 2007 occurs under LOS F, while the same statistics for 2015 base and advanced scenarios are 57% and 51% respectively.

Table 12: Vehicle miles of travel by level of service category

LOS	2007	2015 Base	2015 Advanced Priorities
A/B	15%	15%	16%
C	10%	6%	7%
D	13%	13%	13%
E	16%	11%	13%
F	47%	56%	51%
Total	100%	100%	100%

Notes: Volume/Capacity \leq 0.7 assigned LOS A/B; Volume/Capacity \leq 0.8 assigned LOS C; Volume/Capacity \leq 0.9 assigned LOS D; Volume/Capacity \leq 1.0 assigned LOS E; Volume/Capacity \geq 1.0 assigned LOS F

As indicated in Table 11 the 2015 base scenario has 4% higher volume to capacity ratio than 2007 and the vehicle miles of travel under LOS F (Table 12) increases by 10% between 2007 and the 2015 base scenario. In comparison to the 2007 base year, the inclusion of advanced priority projects results in an increase of only 1% volume to capacity ratio (Table 11) and a 4% increase in vehicle miles of travel under LOS F conditions (Table 12). These statistics indicate that the 2015 base scenario is projected to have significantly higher congestion than 2007, even with the implementation of Priority I and II projects. However, it is only when the advanced priority projects are implemented that congestion is reduced so that it is only slightly higher than 2007 levels.

A significant finding in the analysis of scenarios relates to the implementation of the grade separation projects along S.W. 8th Street. It appears that the inclusion of consecutive grade separation improvements at key intersections does in fact have a positive impact on corridor Level of Service, not just immediate to the intersection. Moreover, implementation of this project could have less of an impact to the adjacent land uses since the Tamiami Canal exists on one side of the roadway.

4.4.2 Screenline Summary Analysis

Four screenline summaries were computed for the study area to analyze the regions of congestion and the impact of the different alternatives on congestion levels. The exact location for the screenlines was agreed upon with MPO staff and consistent with previous MPO studies conducted for the Kendall/S.W. Miami-Dade area. Figure 19 depicts the screenline boundaries used. Table 13 describes the movement and location of the screenlines and Table 14 shows the screenline summaries for the 2007, 2015 base and 2015 advanced priorities scenarios.

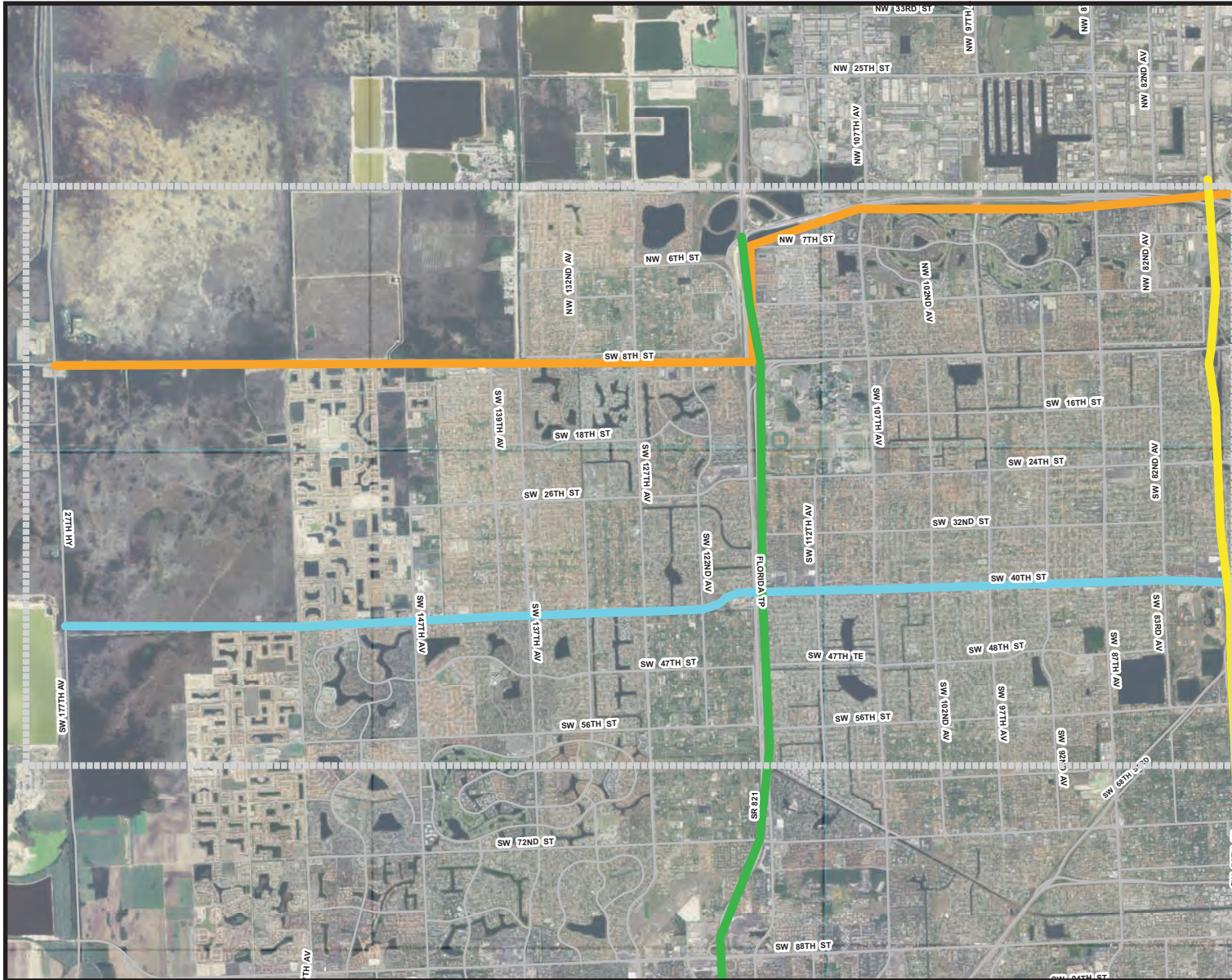
Table 13: Screenline Movement and Location

Screenline	Movement	Location
1	East-West	HEFT
2	North-South	SW 40 Street
3	East-West	West of SR 826
4	North-South	SR 836

Table 14: Screenline Summary


SL	2007			2015 Base			2015 Advanced Priorities		
	Volume	Capacity	V/C	Volume	Capacity	V/C	Volume	Capacity	V/C
1	558,700	556,200	1.00	651,000	589,600	1.10	661,100	630,800	1.05
2	572,800	572,800	1.00	745,800	666,500	1.12	735,100	721,500	1.02
3	711,700	666,000	1.07	809,000	785,400	1.03	814,500	798,300	1.02
4	553,700	520,200	1.06	791,300	672,200	1.18	780,300	684,300	1.14

Table 14 shows that in the year 2007, the highest level of volume and congestion occurs on an east-west movement across the SR 826 (screenline 3) and on the north-south movement across SR 836 (screenline 4).



Legend

Screenline

-  1
-  2
-  3
-  4

 Study Area

The additional capacity improvements to SR-836 relieve the congestion on the east-west movement across the Palmetto (screenline 3) in the 2015 base scenario. The congestion on the north-south movement across SR-836 (screenline 4) deteriorates further in the 2015 base. The east-west movement across the HEFT (screenline 1), and the north-south movement across SW 40th Street (screenline 2) also become congested in the 2015 base scenario. However, new capacity improvements to SW 56th street, SW 47/48th Street, SW 24th Street and SW 18th Street included in the 2015 advanced priorities scenario relieve congestion on the east-west movement across the HEFT (screenline 1), and capacity improvement projects on SW 132nd Avenue, SW 127th Avenue, SW 97th Avenue, and SW 82nd Avenue relieve congestion on the north-south movement across SW 40th street. The capacity improvement on SW 132nd Avenue also slightly relieves congestion on the north-south movement across SR-836 (screenline 4).

The results of the screenline analysis show that projects in the LRTP Priority I and II will have a positive impact on the heaviest movement in the study area, which is the east-west movement across the SR 826 (Palmetto). Implementation of the advanced priority projects does not appear to significantly improve the congested conditions along this screenline (V/C of 1.01 in 2015 base versus a V/C of 1.02 in 2015 advanced priorities). However, the next heaviest movement north-south across SR 836 significantly worsens in the 2015 base and remains deteriorated even with the implementation of the advanced priority projects. Future opportunities for improving this situation seem limited as the north side of SR 836 has less of a street grid than south of SR 836, thereby minimizing opportunities for connections, and the land uses are mostly office and industrial uses which also do not lend themselves to providing additional access points.

Finally, the east-west movement across the HEFT and the north-south movement across SW 40th street will emerge as bottlenecks in the 2015 base but inclusion of advanced priority projects would help to relieve the bottlenecks.

Information from the model results, as well as comments received regarding the model results, is the basis for a majority of the recommended strategies for improving mobility in the Westchester study area.

Section 5: Recommendations

5.1: General Findings

As discussed previously, the objective of this study is to provide a strategic direction and focus for improving mobility in the Westchester area by implementing short, mid and long-term strategies. In general, there are many constraints that have been identified to providing this mobility. Some constraints are physical such as the Tamiami canal which exists parallel to S.W. 8 Street. This canal provides a barrier to additional connectivity of potential alternate north-south roads such as S.W. 102nd Avenue and S.W. 82nd Avenue. It also provides a constraint to potential intersection improvements at S.W. 8th Street and north-south crossings. Another constraint relates to existing land uses and the single family residential nature of some of the roads that could be widened such as portions of S.W. 82nd Avenue and S.W. 97th Avenue. Not only would right-of-way availability be an issue but so would treatment of driveways for the residents and access to their property. More specifically, along portions of S.W. 97th Avenue, it appears that a proposed 4 lane widening was reduced to a 3 lane widening by the County to accommodate the adjacent land uses.

A major constraint to improving mobility is the ability to fund the improvements that are deemed necessary just to keep pace with the current congestion levels in the area. Several of the identified Priority I and II projects in the LRTP for the Westchester area are not currently funded. From a general perspective, it may be cost prohibitive to build all the priorities identified for advancement, especially when there are other needs throughout the County. However, the technical analysis that supports these priorities will be invaluable to justify moving some of the needed projects into higher priority during the update process of the LRTP and identifying funding for them through the financial analysis process.

Lastly, community impacts and balancing of interests is always a constraint on the potential implementation of projects. With respect to community impacts, there were no detailed assessments conducted of potential community impacts of the proposed recommendations. However, in general, the following items are of note for this study:

- Several of the projects identified in the LRTP and new projects consist of building pass through connections across some of the major transportation corridors such as the HEFT and SR 826. It is recommended that a detailed assessment be conducted to determine if potential crossings should in fact be an overpass versus an underpass since overpasses tend to have a greater impact on the adjacent land uses. Therefore, in the LRTP and other recommendations, the descriptions should allow for this flexibility and the projects should be more generally identified as crossings with no designation yet as to whether it is an overpass or underpass. Additionally, as evidenced by the N.W. 97th Avenue overpass construction at SR 836, these connections can prove to be invaluable and help relieve congestion throughout the immediate transportation network.
- There are proposed grade separation projects included in the 2015 Base (Priority I and II) along S.W. 8 Street at 87th Avenue and 107th Avenue. As indicated in the analysis these grade separation projects appear to relieve congestion along the corridor. Grade separation projects can have significant impact on the adjacent land use and can be costly to build (a 4 lane grade separation project is estimated at between \$20-\$40 million using FDOT standard costs), however, since one side of the roadway encompasses the Tamiami Canal the impacts could be minimized. Nevertheless, these grade

separation studies should consider and analyze the provision of some of the roadway network improvements (road widening) recommended for prioritization in the immediate area as an alternative to the grade separation. For example, the road widening of S.W. 107th Avenue for half a mile between S.W. 8th Street and Flagler Street could be substantially less in cost and provide more benefit.

- Another option being discussed for the grade separation studies along S.W. 8th Street is the construction of a grade separated limited access facility from the SR 826 west to S.W. 107th Avenue or the HEFT (instead of grade separation at the immediate intersection). In this instance, the existence of the canal adjacent to S.W. 8th Street may lessen the potential impact of a limited access facility which in all cases, due to its function, would improve area-wide mobility and lessen congestion.
- The community must be presented with a balanced perspective to solving the mobility issues in the area. For example, the LRTP currently includes a new bridge over the Tamiami Canal for a proposed widening of S.W. 82nd Avenue. This new bridge would enhance the north-south grid network in the area and help to alleviate congestion along major section line roadways such as S.W. 87th Avenue. However, the land uses along this corridor are mainly residential. The balanced perspective would include an analysis of a potential superarterial along S.W. 87th Avenue with a grade separated interchange at S.W. 8th Street, and its associated impacts, versus an enhanced widening of S.W. 82nd Avenue. Each project would need to be evaluated in the context of impacts versus benefits in relation to desired enhanced mobility.
- The MPO Arterial Grid Analysis study only identified Miller Drive in the Westchester study area as a roadway with potential for widening due to available existing right-of-way.

5.2: Strategic Recommendations

5.2.1: Roadway Capacity Improvement Focus

Short-term (2010)

Focus on prioritizing and funding crossover improvements such as S.W. 16th Street at SR 826, S.W. 32nd Street at SR 826, S.W. 47th/48th Street at the HEFT and S.W. 18th Street at the HEFT. The benefit of these connections will be to enhance the established grid network in the area and relieve congestion throughout the entire roadway network. Based on general planning level estimates, a typical 2 lane connection improvement can cost from \$20 to \$25 million without right-of-way costs included. The LRTP process should prioritize and identify funding for these projects.

Focus on half-section line intersection improvements in mostly residential areas.

- Additional turn lanes at S.W. 92nd Avenue and Flagler Street, S.W. 8th Street, S.W. 16th Street, S.W. 24th Street, S.W. 32nd Street, S.W. 40th Street, S.W. 48th Street and S.W. 56th Street.
- Additional turn lane improvements at S.W. 82nd Avenue at S.W. 16 Street and S.W. 24 Street.

Implement a short gap widening project along S.W. 40th Street in the vicinity of S.W. 149th Avenue. There is a short gap of road that is 2 lanes at this location and S.W. 40th Street is 4 lanes on either side.

New projects identified for improving mobility in the 2015 advanced priority scenario should be considered in the LRTP update process and funding identified. These include projects that provide typical section uniformity:

- The widening of S.W. 87th Avenue from 4 to 6 lanes from S.W. 8th Street to Flagler Street.
- The widening of S.W. 127th Avenue from 2 to 4 lanes from S.W. 42nd Street to S.W. 26th Street.
- The widening of S.W. 132nd Avenue from 2 to 4 lanes from S.W. 42nd Street to SR 836.
- The widening of S.W. 82nd Avenue from 2 to 4 lanes from Flagler Street to S.W. 40th Street.
- The widening of S.W. 97th Avenue from 2 to 4 lanes from S.W. 8th Street to S.W. 40th Street.

Mid-term (2015)

Mid-term improvements are mostly to address connectivity issues and typical section changes along major roadways. Ideally, no major right-of-way acquisition is anticipated for these projects.

- Widening of Miller Drive (S.W. 56 Street) from S.W. 87th Avenue to S.W. 147th Avenue from 4 to 6 lanes. As indicated in the technical analysis, the roadway level of service improves significantly (from F to C, D, and E) as a result of widening. According to the Arterial Grid Analysis study this roadway was recommended for capacity improvement since it was deemed to have significant right-of-way. Currently, this project is not in the LRTP, therefore it is recommended that it be included in the LRTP update and funding be identified.

Long-Term (2030)

These projects are major in terms of right-of-way acquisition and cost and therefore are recommended for future implementation.

Assure that funding is available for the identified Priority I and II capacity improvement projects in the area. Currently, some of the projects listed in Priority I and II are not fully funded, such as the S.W. 107th Avenue widening from S.W. 8th Street to Flagler St. However, S.W. 107th Avenue and S.W. 137th Avenue has been designated by the MPO as future “super arterials”. The focus should be to maximize the section line roadway capacities for these “super arterials”.

Identify funding for projects already in the LRTP within the Westchester area and move up in priority. These include:

- S.W. 24th Street widening from S.W. 87th Avenue to S.W. 117th Avenue from 4 to 6 lanes
- Widening of S.W. 147th Avenue from S.W. 8th Street to S.W. 26th Street from 2 to 4 lanes
- Construction of S.W. 82nd Avenue 2 lanes from S.W. 42nd Street to S.W. 48th Street

5.2.2: Transportation Demand Strategy Focus

Short-term (2010)

Recommend the establishment of a park-and-ride lot facility (or designated area) as part of the Lowe's Home Improvement development at S.W. 8 Street and S.W. 137th Avenue and run express buses from this site to a central Metrorail station (airport). This facility could ultimately build ridership for an eventual east-west transit service.

Recommend the establishment of a shared park-and-ride lot facility as part of the redevelopment plans for the new Home Depot site on S.W. 24th Street. Additional areas to park could help increase ridership on the established Coral Way Max transit route.

Mid-term (2010)

Recommend the establishment of a shared park-and-ride lot facility or use of existing parking at Tropical Park on S.W. 40th Street. This idea was presented by the retail owners along S.W. 40th Street at a "charette" meeting. Again, the availability of parking for transit use could potentially help the ridership of the Bird Road Max transit route.

Encourage and support transportation demand strategies be implemented as part of the FIU master expansion plan.

Encourage transportation demand strategies be implemented as part of the new Home Depot development along S.W. 24 Street and the Lowe's Home Improvement along S.W. 8th Street. These could include requiring the provision of subsidized transit passess for employees of the businesses.

Identify priority corridors in the Westchester area, most notably the north-south corridors that do not significantly improve as a result of advanced priorities (S.W. 107th Avenue, 87th Avenue, S.W. 127th Avenue and S.W. 137th Avenue), for implementation of Advanced Traveler Management System (ATMS) and signal progression improvements. These corridors should be included in the LRTP. ATMS improvements are currently on-going projects being implemented by Miami-Dade Public Works. Coral Way, Bird Road, Tamiami Trail and Flagler Street are all east-west corridors identified for ATMS improvements including variable message signs in the LRTP.

Long-Term (2030)

Continue to coordinate and provide input to the FIU land use study along S.W. 107th Avenue to assure that transit oriented development is highlighted as an alternative.

Continue to coordinate and provide input to the S.W. 40 Street "charette" currently being conducted by Miami-Dade Planning and Zoning. Recently the Miami-Dade Public Works Department completed a reversible lane feasibility study along S.W. 40th Street where it was determined to be feasible. However, no funding is identified for the reversible lane project and it should be coordinated with the land use planning efforts currently underway.

5.2.3: Transit Focus

Short Term (2010)

Encourage new development to subsidize transit use for employees

Mid Term (2015)

Run an express bus, possibly as a demonstration project, along the shoulders of SR 836 into downtown. The express bus could originate at a park-and-ride facility along S.W. 8th Street and S.W. 137th Avenue (Lowe's Home Improvement site) to the MIC and/or downtown location.

Encourage additional transit use by FIU. This could include improving the transit drop off area at the main entrance at S.W. 16th Street. Making this a more amenable transit center for students and employees could encourage greater use.

Long Term (2030)

Implement the plans to provide a transit station at FIU on S.W. 107th Avenue in close proximity to the proposed medical center facility.

5.2.4: Bicycle and Pedestrian Improvement Focus

Short Term (2010)

Encourage all new development (Lowe's, Home Depot) to build bicycle parking facilities.

Mid Term (2015)

Implement the proposed bicycle trail connections (Snapper Creek Trail) in the area.

Long Term (2030)

Require all road widening improvement projects (under the roadway capacity focus) to consider the inclusion of sidewalks and on-road bicycle lanes.

Appendix A: TPTAC Presentations



Westchester Traffic Impact Study

Presentation to
Transportation Planning Technical Advisory Committee (TPTAC)

February 27, 2008



Agenda

- ▶ Study Area and Background
- ▶ Data Collection and Analysis
 - Existing Conditions and Issues
- ▶ Study Advisory Committee
- ▶ Impacts of Newly Implemented Projects
- ▶ Sub-area Analysis (2015)
- ▶ Next Steps

Study Area and Background

- ▶ Purpose of Study
 - Evaluate current and future traffic conditions as a result of new development and roadway improvements taking place in the area
- ▶ Impacts of Newly Implemented Projects
- ▶ 2015 Sub-area Analysis
- ▶ Recommend Short, Mid and Long Term Strategies

Study Area

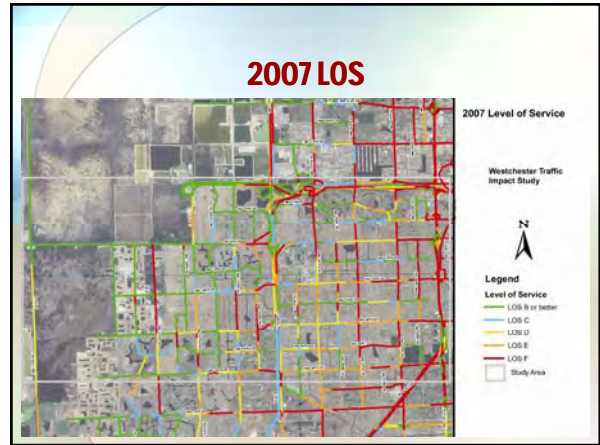
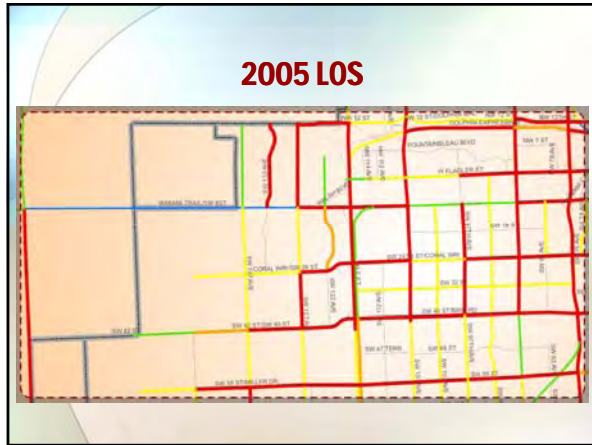
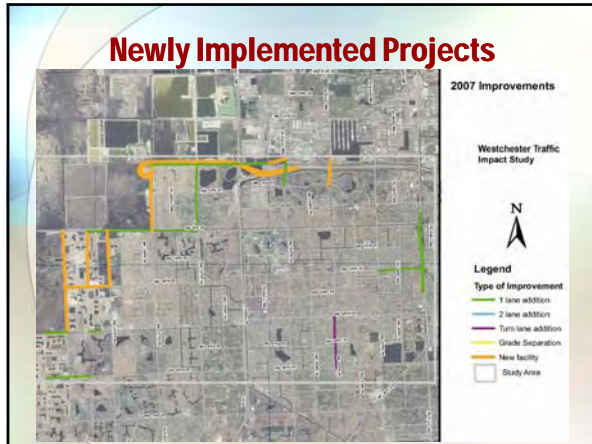


Data Collection and Analysis

- ▶ Existing and Future land uses
- ▶ Existing roadway characteristics and LOS
- ▶ Roadway and transit service conditions
- ▶ Bicycle and Pedestrian Facilities
- ▶ Field inspections
- ▶ Review previous studies
- ▶ Identify segment deficiencies

Study Advisory Committee

- ▶ Miami Dade Public Works
- ▶ Miami Dade Transit
- ▶ Florida Department of Transportation
- ▶ Miami Dade Expressway Authority
- ▶ Miami Dade Planning and Zoning
- ▶ Florida International University



- ### Newly Implemented Projects
- ▶ **SR 836 extension and widening**
 - Positive LOS effects to SR 836
 - Positive LOS effects along HEFT to SW 40 Street
 - No negative effects evident on local streets
 - ▶ **SW 137th Avenue widening**
 - LOS deteriorates from C and D to E from SR 836 to SW 8 Street
 - ▶ **SW 127th Avenue widening**
 - From SR 836 to SW 8th street improved LOS from D and F to B

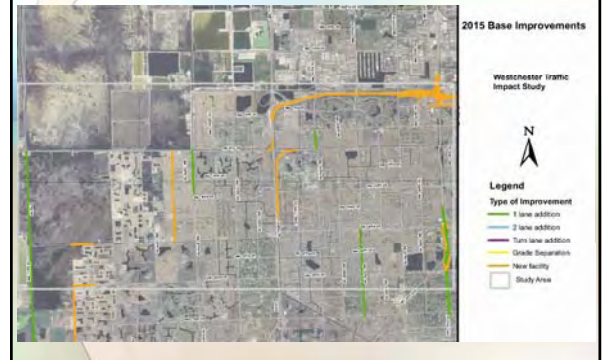
- ### Newly Implemented Projects
- ▶ Improved LOS conditions along parallel 2 lane roadways (SW 132nd Avenue and 122nd Avenue)
 - From F to B and C
 - From C and E to B
 - ▶ **SW 97th Avenue Overpass at SR 836**
 - Satisfying latent demand
 - Immediately becomes LOS F entire route
 - ▶ **SR 826 widening**
 - Improved conditions at SW 8 Street and south of Bird Road
 - ▶ **Widening of SW 56 Street west of SW 147th Avenue**
 - Improved conditions from LOS D to B

Sub-area Analysis

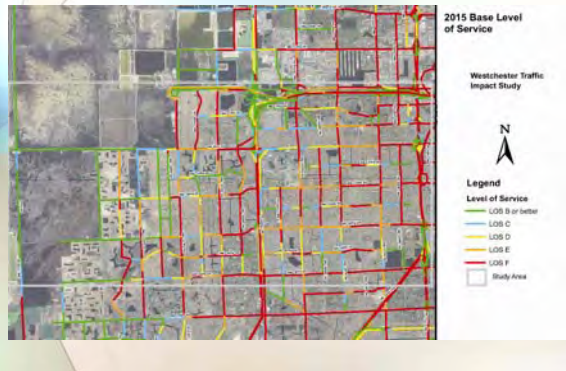
► 2015 Base (Priority 1 and 2 Capacity Projects)

Roadway	From	To	Improvement
SR 826	SW 32 St	SW 16 St	Add lanes and reconstruct (8 to 10 lanes)
SR 826	SW 16 St	SW 2 St	Add lanes and reconstruct (8 to 10 lanes)
SR 836 Extension	NW 137 Ave	NW 107 Ave	Construction of a New 4 Lane Expressway Extension on SR 836 and Construction of a Portion of NW 137 Ave from SW 8 St to SW 12 St
NW 12 St	SW 107 Ave	SW 137 Ave	Widen from 2 to 4 Lanes and New 4 Lane Road from NW 11 Ave to NW 107 Ave
SW 8 St	SW 127 Ave	SW 137 Ave	Widen from 4 to 6 Lanes
SR 836 Express Lanes	HEFT	SR 826/836 Interchange	4 lane divided expressway lanes in median of SR 836
SR 826 & SR 836 Intersection	NW 87 Ave	NW 57 Ave	Widen interchange to 10 lanes
SR 836 Extension	NW 111 Ave	NW 87 Ave	Improvements from NW 107 to NW 87 Ave including a bidirectional mainline toll plaza
Sr 826 / Palmetto	N Of Sunset Dr.	Sw 32 St	Add New Lane In Each Direction And Reconstruct Bird Rd/Miller Rd
HEFT	At SW 8 St	NW 87 Ave	Interchange modification
SW 137 Ave	SW 8 St	SW 26 St	4 to 6 lanes
SW 42 St	SW 162 Ave	SW 167 Ave	New 2 lane
SW 56 St	SW 162 Ave	SW 167 Ave	New 2 lane
NW 82 Ave	NW 8 St	NW 12 St	New 4 lane
SW 107 Ave	SW 8 St	W Flagler St	4 to 6 lanes
SW 142 Ave	SW 42 St	SW 8 St	New 2 lane
Krome Ave SW 177th Ave	SW 136 St	SW 8 St	Add 2 lanes to 2 lane Roadway
SW 37 Ave	SW 40 St	SW 72 St	2 to 4 Lanes
SW 117 Ave	SW 40 St	SW 8 St	Widen 2 to 4 lanes
SW 167 Ave	SW 56 St	SW 66 St	New 2 lane

Sub-area Analysis



Sub-area Analysis



Sub-area Analysis

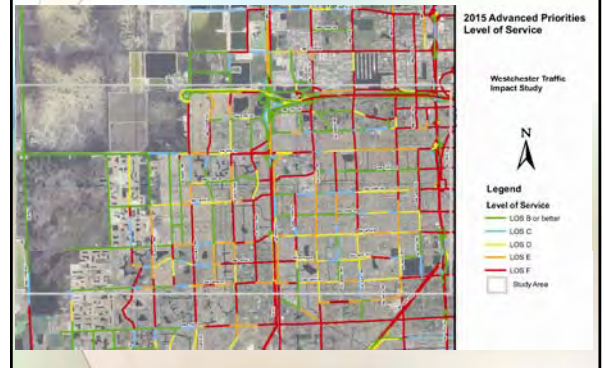
► 2015 Advanced Priorities

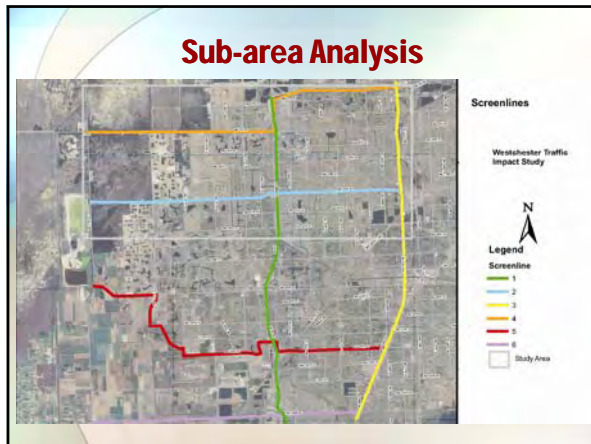
Roadway	From	To	Improvement
SW 8th Street			Grade separation at SW 82nd, SW 87th Ave and SW 107th Ave
SW 87 Ave	SW 8th St	Flagler	Widening- 4 to 6 lanes
SW 16 St	SW 82 Ave	SW 71 Ave	Overpass across SR 826
SW 127 Ave	SW 42 St	SW 26 St	Widening- 2 to 4 lanes
SW 132 Ave	SW 42 St	SR 836	Widening- 2 to 4 lanes
SW 24 St	SW 107 Ave	SW 87 Ave	Widening- 4 to 6 lanes
SW 24 St	SW 117 Ave	SW 107 Ave	Widening- 4 to 6 lanes
SW 147 Ave	SW 8 St	SW 26 St	Widening- 2 to 4 lanes
SW 82 Ave	SW 42 St	SW 48 St	2 lanes
SW 47/ 48 St	SW 112 Ave	SW 122 Ave	Overpass across HEFT
SW 56 St	SW 87 Ave	SW 147 Ave	4 to 6 lanes
SW 82 Ave	Flagler	SW 40 St	2 to 4 Lanes
SW 97 Ave	SW 8th St	SW 40 St	2 to 4 Lanes
SW 18 St	SW 122nd Ave	SW 16th	New 2 lane with crossover at the HEFT, and a tie in to SW 16th st
SW 32 St			Overpass across SR 826

Sub-area Analysis



Sub-area Analysis





Sub-area Analysis

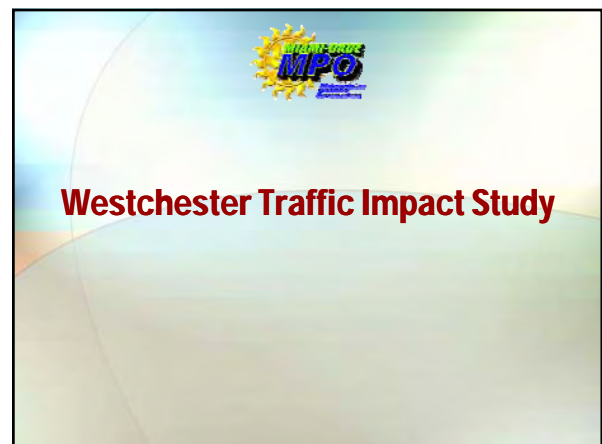
▶ Screenline Summary


Screenline	2007			2015 Base			2015 Advanced Priorities		
	Volume	Capacity	V/C	Volume	Capacity	V/C	Volume	Capacity	V/C
1	558,700	556,200	1.00	648,400	589,600	1.10	661,100	630,800	1.05
2	572,800	572,800	1.00	740,800	666,500	1.11	735,100	721,500	1.02
3	711,700	666,000	1.07	791,500	785,400	1.01	814,500	798,300	1.02
4	553,700	520,200	1.06	788,800	672,200	1.17	780,300	684,300	1.14
5	353,500	440,800	0.80	455,200	589,000	0.77	451,800	589,000	0.77
6	221,900	229,900	0.97	309,100	365,200	0.85	307,900	365,200	0.84

- ### Preliminary Findings
- ▶ **Implementation of Priority 1 and 2 projects**
 - Positive impact on east west movement across SR 826 (most congested)
 - Has little impact on the north-south movement across SR 836 (next most congested)
 - Advanced priority projects do not significantly improve this north/south congestion
 - ▶ **Volume to Capacity Ratios for Study Area**
 - Deteriorate in 2015 even with LRTP improvements
 - Returns to current level (2007) with advanced priorities
 - ▶ **Vehicle Miles of Travel in Congested Conditions**
 - Increases 9% in 2015 even with LRTP improvements
 - Returns to current level (2007) with advanced priorities

- ### Preliminary Findings
- ▶ **Grade Separation Projects**
 - Positive impact only in immediate project area
 - Improvements to grid network has more impact
 - ▶ **Focus on half-section line roadway improvements**
 - SW 92nd Avenue Intersection Improvements
 - SW 82nd Avenue Widening or Intersection Improvements
 - ▶ **Focus on enhancing connections across major transportation corridors**
 - Crossover at HEFT at SW 18, SW 32, and SW 48 Streets
 - Crossover at SR 826 and SW 16 Street

- ### Next Steps
- ▶ **Conceptual Cost Estimates**
 - ▶ **Identify Short, Mid and Long Term Recommendations**
 - Based on available right-of-way
 - Based on funding
 - ▶ **Identify bicycle and pedestrian linkage opportunities**
 - ▶ **Identify transportation demand strategies for FIU**






Westchester Traffic Impact Study

Presentation to
Transportation Planning Technical Advisory Committee (TPTAC)


May 28, 2008



Agenda

- ▶ Input from February TPTAC meeting
 - Land Use changes
 - Project List changes for 2015 scenario
 - Next steps update
- ▶ Additional traffic analysis
- ▶ Study Recommendations
- ▶ Final Report

Study Area



Land Use Changes

- ▶ New Home Depot and Lowe's in study area included in analysis
- ▶ Other major projects (DRI) outside study area

Development	Location	Proposed/Planned Development
Beacon Lakes DRI	Outside the study area - NE corner of the intersection of NW 137 th Avenue and NW 12 th Street	Project Area - 480.04 acres; Retail - 495,000 sq. ft.; Office - 175,000 sq. ft.; Warehouse - 5,300,000 (Please note that the warehouse component has been already built.)
Lowe's (Application No. 5 - April 2008 CDMP Amendment)	Outside the study area - NW corner of the intersection of theoretical SW 138 th Avenue and SW 8 th Street	Project Area - 50.60 net acres; Retail - 357,182 sq. ft.; School - 2000-student High School
Application No. 3 - April 2008 CDMB Amendment	Outside the study area - NW corner of the intersection of NW 120 th Avenue and NW 12 th Street	Project Area - 59.95 net acres; Residential - 1,050 dwelling multifamily dwelling units; Retail - 799,000 sq. ft.; Hotel - 430 rooms; Office - 235,000 sq. ft.
Application No. 10 - April 2008 CDMB Amendment	Outside the study area - NW corner of the intersection of SW 137 th Avenue and SW 8 th Street	Project Area - 16.00 gross acres; Retail: 191,163 sq. ft.

2015 Project List Changes

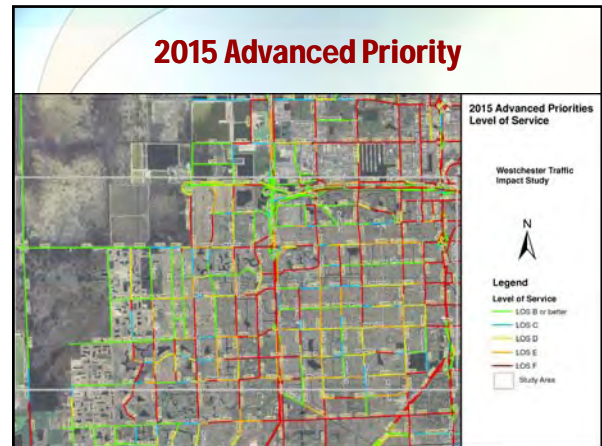
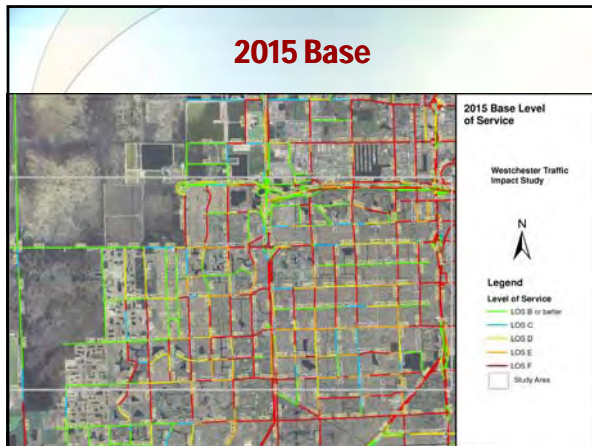
- ▶ Included SW 8th Street Grade Separations in Priority 1 and 2 project list

Roadway	From	To	Improvement	TIP	FDOT Work
SR 836 Express Lanes	HEFT	SR 826/836 Interchange	4 lane divided expressway lanes in median of SR 836	No	No
SR 826 & SR 836 Intersection	NW 87 Ave	NW 57 Ave	Widen interchange to 10 lanes	Yes	No
SR 836 Extension	NW 111 Ave	NW 87 Ave	Improve from NW 107 to NW 87 Ave including a bidirectional mainline toll plaza	Yes	No
SR 826 / Palmetto	N Of Sunset Dr.	SW 32 St.	Add New Lane In Each Direction And Reconstruct Bird Rd/Millar Rd.	No	Yes
HEFT	At SW 8 St		Interchange modification	No	No
SW 137 Ave	SW 8 St	SW 26 St	4 to 6 lanes	No	No
SW 42 St	SW 157 Ave	SW 162 Ave	New 2 lane	Yes	No
SW 56 St	SW 158 Ave	SW 167 Ave	New 2 lane	No	No
NW 82 Ave	NW 8 St	NW 23 St	New 4 lane	No	No
SW 107 Ave	SW 8 St	W Flagler St	4 to 6 lanes	No	No
SW 142 Ave	SW 42 St	SW 8 St	New 2 lane	No	No
Krome Ave/ SW 127th Ave	SW 136 St	SW 8 St	Add 2 lanes to 2 lane Roadway	Yes	No
SW 97 Ave	SW 40 St	SW 72 St	2 to 4 Lanes	No	No
SW 117 Ave	SW 40 St	SW 8 St	Widen 2 to 4 lanes	Yes	No
SW 147 Ave	SW 56 St	SW 88 St	New 2 lane	No	No
SW 8th Street			Grade separation at SW 82nd, SW 87th Ave and SW 107th Ave	No	SW 8th Street

2015 Project List Changes

- ▶ Advanced priority list clarification
- ▶ SAG, field visits, LRTP (Priority 3 and 4)

Roadway	From	To	Improvement	TIP
SW 87 Ave	SW 8 St	Flagler St	Widening: 4 to 6 lanes	No
SW 16 St	SW 82 Ave	SW 71 Ave	Overpass across SR 826	Yes
SW 117 Ave	SW 42 St	SW 26 St	Widening: 2 to 4 lanes	No
SW 112 Ave	SW 42 St	SR 836	Widening: 2 to 4 lanes	No
SW 24 St	SW 107 Ave	SW 87 Ave	Widening: 4 to 6 lanes	Yes
SW 24 St	SW 117 Ave	SW 107 Ave	Widening: 4 to 6 lanes	Yes
SW 147 Ave	SW 8 St	SW 26 St	Widening: 2 to 4 lanes	No
SW 82 Ave	SW 42 St	SW 48 St	2 lanes	No
SW 47/48 St	SW 112 Ave	SW 122 Ave	Overpass across HEFT	Yes
SW 56 St	SW 87 Ave	SW 147 Ave	4 to 6 lanes	No
SW 82 Ave	Flagler St	SW 40 St	2 to 4 Lanes	No
SW 97 Ave	SW 8th St	SW 40 St	2 to 4 Lanes	No
SW 16 St	SW 122nd Ave	SW 16th	New 2 lane with crossover at the HEFT and a tie in to SW 16th St	No
SW 32 St			Overpass across SR 826	No



Next Steps Update

- ▶ Meeting with Florida International University
 - Supportive of S.W. 18th Street Extension
 - Growth projections will need to be revised
- ▶ Planning Level Cost Estimates
 - FDOT standard prices
 - Right-of-way not included
 - Priority 1 and 2 package of projects (over \$250 million)
 - Advanced priority package of projects (over \$170 additional)

Additional Traffic Analysis

- ▶ SW 97th Avenue Overpass at SR 836
 - Model indicated satisfying latent demand
 - Model indicated improved LOS on N.W. 87th Avenue (between N.W. 7th Street and Flagler)
 - FDOT before and after counts along parallel roadways
 - Appears to contribute a positive impact to southbound N.W. 87th Avenue

Roadway	Count Location	2006		2007		Percent Change				
		Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Total		
SW 87 th Avenue	S of Bird Road	13,000	12,000	25,000	13,500	13,500	27,000	3.8%	12.5%	8.0%
	S of SW 24 th Street	18,500	18,000	37,500	18,000	17,500	35,500	-7.7%	-2.9%	-5.3%
	S of Flagler St	19,000	18,500	37,500	20,500	15,500	36,000	7.9%	-19.4%	-4.0%
	N of NW 8 th Street	35,500	29,500	65,000	34,500	28,000	62,500	-2.8%	-5.4%	-3.8%
SW 107 th Avenue	N of NW 12 th Street	1,500	39,000	40,500	18,500	18,500	38,500	6.7%	-81.8%	-27.8%
	S of Bird Road	18,500	21,500	40,000	17,500	17,500	35,000	-5.4%	-22.9%	-12.5%
SW 107 th Avenue	S of Bird Road	17,500	17,500	35,000	18,500	18,500	37,000	5.7%	5.4%	5.7%
	S of SW 8 th Street	20,000	22,500	42,500	28,500	28,500	57,000	1.9%	11.9%	7.2%
	S of Flagler St	18,500	18,500	37,000	19,500	19,500	39,000	0.0%	5.1%	2.6%

Additional Traffic Analysis

- ▶ SR 836 Extension and Toll
 - FDOT before and after counts along parallel roadways
 - MDX before and after counts reviewed
 - Overall LOS along S.W. 8th Street and Flagler Street improved in model
 - Immediate traffic diversion (toll) apparent along N.W. 12th Street and Flagler Street west of N.W. 87th Avenue

Roadway	Count Location	2008			2007			Percent Change		
		Eastbound	Westbound	Total	Eastbound	Westbound	Total	Eastbound	Westbound	Total
SR 836	W of NW 107 Avenue	61,500	62,000	123,500	57,500	55,500	113,000	-6.5%	-10.5%	-8.5%
SR 836	E of NW 107 Avenue	53,500	53,500	107,000	61,500	62,000	123,500	15.0%	15.9%	15.4%
SR 836	E of SW 87 th Avenue	66,000	44,000	110,000	63,000	58,500	121,500	-4.5%	-33.0%	10.5%
SW 8 th Street	W of SW 122 nd Avenue	33,500	32,500	66,000	35,000	33,500	68,500	4.5%	3.1%	3.8%
SW 8 th Street	E of SW 109 Ave	31,500	33,000	64,500	28,000	29,000	57,000	-11.1%	-15.2%	-13.2%
		Northbound	Southbound	Total	Northbound	Southbound	Total			
SW 107 th Avenue	200 S of Flagler St	19,500	19,500	39,000	19,500	18,500	38,000	0.0%	-6.1%	-2.6%
NW 87 th Avenue	200 S of Flagler St	20,000	19,500	39,500	20,000	19,500	39,500	0.0%	-19.4%	8.3%

Study Recommendations

- ▶ Results indicate more expenditure in study area may not lead to improved mobility
- ▶ Key targeted short term recommendations
- ▶ Roadway capacity focus
 - Cross connection improvements at S.W. 18th Street at HEFT, S.W. 16th Street at SR 826, 47th/48th Street at HEFT, S.W. 32 Street at SR 826
 - Half Section line intersection improvements along N.W. 92nd Avenue and NW 82nd Avenue

Study Recommendations (cont.)

- ▶ **Transportation Demand Focus**
 - Park and Ride or transit hubs at Lowe's Site, Home Depot Site, Enhanced at FIU
- ▶ **Transit Focus**
 - Current ridership low due to congestion and lack of parking
 - Premium transit improvements not implementable short term
 - Express bus on shoulders along SR 836 to downtown

Study Recommendations (cont.)

- ▶ **Bicycle and Pedestrian Focus**
 - Implementation of Snapper Creek trail connections
 - Bicycle parking at all new developments
 - Streetscape improvements along major section line roadways

Final Report

- ▶ Draft Final Report submitted to Study Advisory Group
- ▶ Draft Final Report presented to Transportation Planning Council June 2, 2008
- ▶ All comments on Draft Final Report by June 9, 2008
- ▶ Final Report by June 30, 2008



Westchester Traffic Impact Study

Appendix B: Completed Projects Photographs

SR 36 Dolphin Expwy from SW 103 Ave to SW 137 Ave



NW 12 St from SW 107 Ave to SW 137 Ave



NW 127 Ave from NW 12 St to SW 8 St



NW 107 Ave from NW 7 St to W Flagler St



SW 8 St from SW 152 Ave to SW 127 Ave



SW 152 Ave from SW 8 St to SW 42 St



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SW 157 Ave from SW 14 St to SW 42 St



SW 26 St from SW 147 Ave to SW 157 Ave



SW 42 St from SW 152 Ave to SW 162 Ave



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SW 56 St from Westwind Rd to SW 167 Ave



NW 97 Ave from NW 12 St to NW 7 Ave



SW 97 Ave from SW 24 St to SW 56 St



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SW 24 St From Palmetto Expwy to 87 Ave



SW 8 St & Palmetto Expwy



SW 40 St & Palmetto Expwy



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