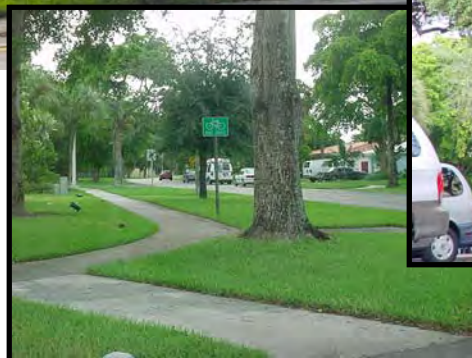
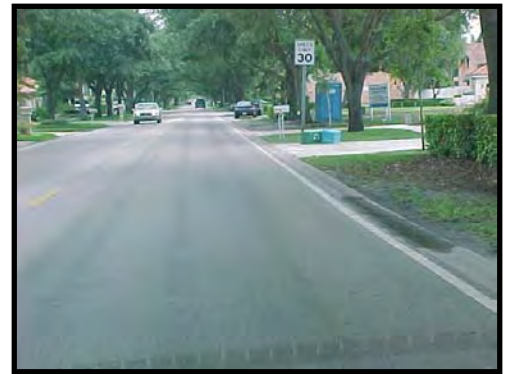


Town of Miami Lakes

Transportation Master Plan



Final Report
February 2004



**Kimley-Horn
and Associates, Inc.**

Town of Miami Lakes Transportation Master Plan

FINAL REPORT

**Prepared for:
Town of Miami Lakes**

**Prepared by:
Kimley-Horn and Associates, Inc.**

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February 2004
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EXECUTIVE SUMMARY



Miami Lakes Transportation Master Plan

Introduction

Continued growth in the region is placing a strain on the Town of Miami Lakes' transportation system resulting in vehicular congestion that is compromising the quality of life for residents and adversely impacting the community's sense of place. To address these and other transportation issues within the Town, this transportation master plan was undertaken. The objective of this study was to develop a plan for the Town of Miami Lakes to accommodate local mobility needs. The transportation master plan was intended to recommend improvements for multiple modes of transportation to develop a comprehensive vision of mobility for the Town. The product of the plan is a program of interrelated improvements to address traffic congestion and provide attractive alternatives to the single occupant automobile as a means of transportation.

The *Town of Miami Lakes Transportation Master Plan* consisted of five primary tasks: (1) Intergovernmental Coordination/Public Involvement, (2) Data Collection and Analysis, (3) Determination of Mobility Needs, (4) Identification of Transportation Mobility Strategies, and (5) Implementation Plan.

Intergovernmental Coordination/Public Involvement

The Intergovernmental Coordination/Public Involvement task was an ongoing effort throughout the study. A study advisory committee (SAC) comprised of Town leaders, stakeholders, and technical staff from various agencies was formed to guide the project and met on a regular basis throughout the course of the study. This group provided invaluable insight and contributions toward the development this transportation master plan.

Data Collection and Analysis

Existing transportation plans and studies were reviewed as an initial effort to provide a foundation for this study so that this study could build upon previously developed improvements and develop consistent strategies. Traffic data collected by the Florida Department of Transportation (FDOT), the Miami-Dade Public Works Department (PWD), and in previous traffic studies were assembled and evaluated. Transit system data were obtained from Miami-Dade Transit (MDT) and analyzed. Bicycle and pedestrian facilities were inventoried.

Determination of Mobility Needs

Based on an analysis of transportation data and land use patterns, mobility needs and deficiencies in the areas of traffic operations, transit, bicycling, pedestrian movements, and neighborhood traffic management were identified. The technical analysis was supplemented with feedback from the SAC and input from members of the community acquired in a series of workshops prior to the initiation of this study.

Identification of Transportation Mobility Strategies

A program of transportation strategies was developed to accommodate local mobility needs for the Town of Miami Lakes. The transportation mobility strategies were segmented based on transportation mode. The strategies that specifically address traffic and roadway needs were further divided into four sections: transportation demand management (TDM), transportation



EXECUTIVE SUMMARY



Miami Lakes Transportation Master Plan

system management (TSM), neighborhood traffic management, and long-term system improvements. The alternative transportation modes addressed in the plan were transit, bicycle, and pedestrian.

Implementation Plan

A project comparison system was developed to evaluate the transportation improvements identified in this study according to six prioritization criteria:

- Improves Quality of the User’s Experience
- Promotes the Use of Alternative Travel
- Discourages Neighborhood Traffic Intrusion
- Improves Safety
- Improves System Capacity
- Satisfies Multiple Project Categories

A project comparison matrix was developed to present the results of the evaluation of transportation improvements and assist in the prioritization of improvements. Preliminary order of magnitude cost estimates were also developed for the recommended improvements and mobility strategies. After an initial grouping of projects into priority levels based on the score obtained in the project evaluation matrix, the preliminary order of magnitude cost estimates were also taken into consideration. Several projects were shifted into a different priority level to allow some lower cost projects that offer benefits to be implemented while funding is secured for some of the higher cost projects. Table ES-1 presents the recommended prioritization schedule for the mobility strategies recommended in this study.

Conclusion

The *Town of Miami Lakes Transportation Master Plan* provides the framework to assist the Town in the programming of transportation improvements and may also be used as a tool for the Town to seek funding to implement transportation improvements. The plan should be examined periodically to assess the status of the implementation of the recommended improvements and, based on findings, the phasing of projects could be adjusted in response to changing needs in the community.



Existing Enhanced Pedestrian Crossing



Canopy Improves Livability of Local Street



Table ES-1
MIAMI LAKES "TRANSPORTATION MASTER PLAN"
Project Prioritization Schedule

Priority Level	Project Description	Project Evaluation "Score"	Planning Level Cost Estimate
1	Implement Recommendations from the NW 82nd Avenue Corridor Study	8	\$150,000
1	Implement FDOT Improvements along NW 154th Street in the Vicinity of the Palmetto Expressway Including Changes to Lane Configuration, Sidewalks, Bicycle Lanes, Pedestrian Signal Heads, and Crosswalks	7	(1)
1	Construct Missing Sidewalk Section along Miami Lakes Drive between the Palmetto Expressway Northbound Exit Ramp and NW 77th Avenue	6	\$3,000
1	Develop External Site Access and Internal Circulation Plans for the Schools within the Town	6	\$80,000
1	Capacity Enhancements for the Palmetto Expressway Interchanges at Ludlam Road and Red Road	6	(1)
1	Establish Miami Lakes Transit Circulator Service - East Route ⁽²⁾	6	\$200,000
1	Establish Miami Lakes Transit Circulator Service - West Route ⁽²⁾	6	\$200,000
1	Implement TDM Strategies Including Alternative Work Schedules and Preferential Parking Treatment through Coordination with SFCS ⁽³⁾	4	\$25,000
1	Extend Westbound Right-Turn Lane on Miami Lakeway North at Ludlam Road	4	\$50,000
1	Extend Eastbound Left-Turn Lane on Miami Lakeway North at Ludlam Road	4	\$50,000
1	Modify the Hialeah Gardens Connection Route to Serve the Miami Lakes Business Park West	3	\$10,000
1	Total Planning Level Cost Estimate for Priority Level 1 Projects		\$768,000
2	Construct Sidewalks along Local Streets in the Miami Lakes Business Park East ⁽⁴⁾	8	\$500,000
2	Construct Sidewalks along Local Streets in the Miami Lakes Business Park West ⁽⁴⁾	8	\$375,000
2	Optimize Traffic Signals along Ludlam Road and Red Road in the vicinity of the Palmetto Expressway	6	\$30,000
2	Construct Bus Shelters with Benches at Ten Priority Locations ⁽⁵⁾	5	\$150,000
2	Total Planning Level Cost Estimate for Priority Level 2 Projects		\$1,055,000
3	Construct Sidewalks along Local Streets in the Miami Lakes Technical Education Center ⁽⁴⁾	8	\$275,000
3	Construct Bicycle Lanes along Miami Lakes Drive	8	\$200,000
3	Construct Bicycle Lanes along NW 154th Street West of FDOT Project	8	\$75,000
3	Construct Bicycle Lanes along NW 87th Avenue	8	\$175,000
3	Create a Network of Shared Use Paths in the Eastern Portion of the Town	8	\$400,000
3	Implement a Speed Management Plan along the Residential Sections of Miami Lakeway North and Miami Lakeway South. Possible enhancements include traffic circles and textured crosswalks at intersections.	7	\$250,000
3	Monitor the NW 154th Street Corridor Following Implementation of FDOT Improvements to Determine if Further Capacity Improvements are Needed including Signal Re-Optimization	3	\$20,000
3	Total Planning Level Cost Estimate for Priority Level 3 Projects		\$1,395,000
Total Planning Level Cost Estimate for all Projects			\$3,218,000

Notes:

- (1) Cost expected to be funded by FDOT.
- (2) Funded mostly from transit portion of People's Transportation Plan.
- (3) SFCS (South Florida Commuter Services)
- (4) Streets identified in Table 10.
- (5) Ten priority locations identified in Transit section of report.

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INTRODUCTION

The Town of Miami Lakes is located in northwest Miami-Dade County, north of Hialeah and west of Opa-Locka. Figure 1 presents a map of the Town. The “Big Bend” of the Palmetto Expressway is located in the northern portion of the Town and the Palmetto Expressway’s interchange with I-75 and the Gratigny Expressway is located in the southern portion of the Town. The I-75 corridor, connecting western Broward County with northwest Miami-Dade County, has experienced rapid growth since the construction of the road. The hometown character of the Town, the proximity of the Town to these major transportation corridors, and the Town’s strategic location in northwest Miami-Dade County has led to rapid residential and employment growth in recent years, especially in the western section of Miami Lakes. Approximately 22,000 residents make their home in Miami Lakes and 12,000 employees work within the Town.

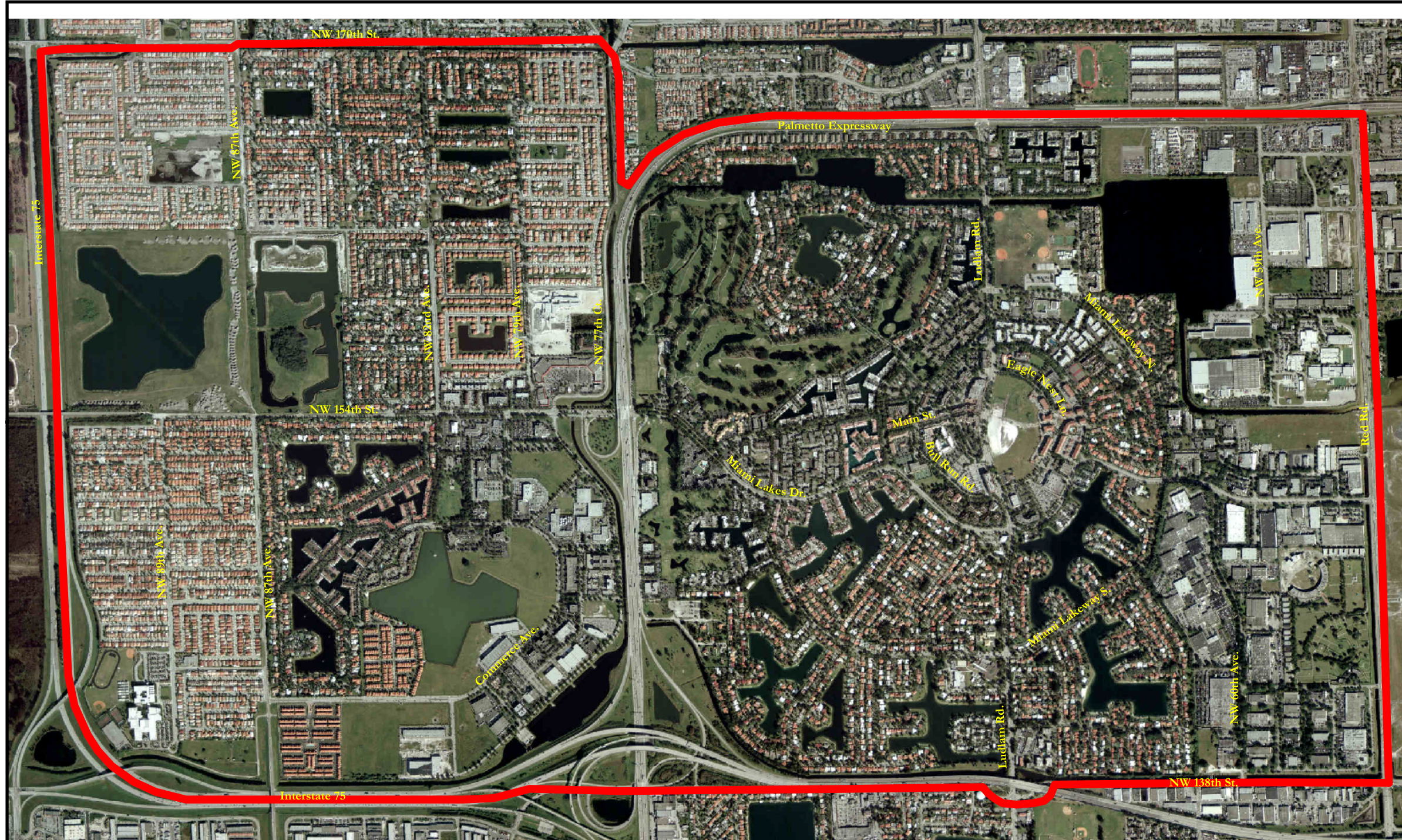
The Town of Miami Lakes incorporated in December, 2000. However, the area known as Miami Lakes has been a model of community master plan development for approximately 35 years. Several of the Town’s amenities and design features have earned the community awards in national publications. Despite the presence of an attractive, pedestrian-friendly town center district, multimodal accessibility could be improved within the Town. In addition, the continued growth in the region has placed a strain on the local transportation system resulting in vehicular congestion that is compromising the quality of life for residents and adversely impacting the community’s sense of place.

To address these and other transportation issues within the Town of Miami Lakes, a transportation master plan was undertaken. The objective of this study was to develop a plan for the Town of Miami Lakes to accommodate local mobility needs while enhancing the character of the community and improving the quality of life for its residents. The transportation master plan was intended to recommend improvements for multiple modes of transportation to develop a comprehensive vision of mobility for the Town. Other aspects considered in the study include multimodal connectivity and neighborhood traffic management. The product of the plan is a program of interrelated improvements to address traffic congestion and provide attractive alternatives to the single occupant automobile as a method of transportation.



Town of Miami Lakes

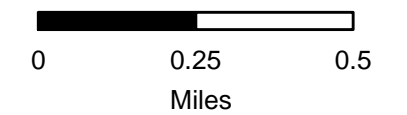
Transportation Master Plan



Town Map (Figure 1)

Legend

 Town Boundary



The Town of Miami Lakes Transportation Master Plan consisted of five primary tasks listed below.

- Intergovernmental Coordination / Public Involvement
- Data Collection and Analysis
- Determination of Mobility Needs
- Identification of Transportation Mobility Strategies
- Implementation Plan

The Intergovernmental Coordination / Public Involvement task was an ongoing effort throughout the study. A study advisory committee (SAC) was formed to guide the project and met on a regular basis throughout the course of the study. The study advisory committee was comprised of Town leaders, stakeholders, and technical staff from various agencies including the Town of Miami Lakes, Miami-Dade Metropolitan Planning Organization (MPO), Miami-Dade Transit (MDT), and the Florida Department of Transportation (FDOT). Meeting notes were prepared summarizing the public involvement activities and were distributed to members of the committee.

For the other tasks of this study, interim technical memoranda were prepared documenting the analyses and recommendations. The study documents have been merged into this full report that describes the entire study. This report is divided into the following chapters: (1) Introduction, (2) Data Collection and Analysis, (3) Determination of Mobility Needs, (4) Transportation Mobility Strategies, (5) Implementation Plan, and (6) Summary and Next Steps.

DATA COLLECTION AND ANALYSIS

The “Data Collection and Analysis” portion of the Miami Lakes Transportation Master Plan was conducted to develop a database of information on existing transportation conditions, as well as planned improvements, within the Town of Miami Lakes. Transportation data were obtained from existing sources including the “Transportation Element” of the *Town of Miami Lakes’ Comprehensive Plan*, the *Miami-Dade County Comprehensive Development Master Plan* (CDMP), Miami-Dade County Public Works Department (MDPWD), Miami-Dade Transit (MDT), and the Florida Department of Transportation (FDOT) Statistics Office. The “Data Collection and Analysis” chapter of the report is divided into the following sections.

- Review of Transportation Plans
- Existing Traffic Conditions
- Existing Transit Conditions
- Existing Bicycle and Pedestrian Facilities
- Land Use Characteristics

Review of Transportation Plans

Transportation plans were reviewed to gather information about planned and programmed transportation improvements within the Town of Miami Lakes. This effort represents a key study component so that recommendations and strategies may be developed consistent with improvements that have already been identified in existing plans.

The review undertaken for this project included the following transportation plans.

- Miami-Dade County Comprehensive Development Master Plan
- Miami-Dade 2025 Long Range Transportation Plan
- Miami-Dade Transportation Improvement Program
- Miami-Dade Transit Development Program

Pertinent information contained in these plans are summarized in this section of the report.

Miami-Dade County Comprehensive Development Master Plan

The *Miami-Dade County Comprehensive Development Master Plan* (CDMP) provides the framework that guides development within Miami-Dade County. The CDMP is organized into the following “Plan Elements”:

1. Land Use Element
2. Transportation Element
3. Housing Element
4. Conservation, Aquifer Recharge and Drainage Element
5. Water, Sewer, and Solid Waste Element
6. Recreation and Open Space Element
7. Coastal Management Element
8. Intergovernmental Coordination Element
9. Capital Improvements Elements
10. Educational Element

The “Transportation Element” was the primary focus of this review. The purpose of the “Transportation Element” of the CDMP is to plan for an integrated multimodal transportation system providing for the circulation of motorized and non-motorized traffic in Miami-Dade County. The “Transportation Element” is divided into five subelements, two of which are most relevant to this study and are discussed further in the following subsections. The “Traffic Circulation Subelement” addresses the needs of automobile traffic, bicyclists, and pedestrians. The “Mass Transit Subelement” addresses the need to continue to promote and expand the public transportation system to increase its role as a major component of the County’s overall transportation system.

Traffic Circulation Subelement

The “Traffic Circulation Subelement” (1) analyzes current roadway capacity and deficiencies in Miami-Dade County, (2) provides recommendations for improving future highway capacity, and (3) establishes goals, objectives, and policies aimed at meeting future needs. The overall goal of the “Traffic Circulation Subelement” is to develop, operate, and maintain a safe, efficient, and economical traffic circulation system in Miami-Dade County that provides ease of mobility for

people and goods, is consistent with desired land use patterns, conserves energy, and protects the natural environment. Specific objectives toward attaining this goal include the following:

- Objective 1 – It is desirable that all roadways in Miami-Dade County operate at level of service (LOS) C or better.¹
- Objective 2 – Right-of-way and corridors needed for existing and future transportation facilities should be designated and reserved.
- Objective 3 – The County’s transportation system should emphasize safe and efficient management of traffic flow.
- Objective 4 – The “Traffic Circulation Subelement” should continue to be coordinated with the goals, objectives and policies of the “Land Use Element,” including the land uses, “Urban Development Boundary,” and “Urban Expansion Area” designated on the Land Use Plan map. The “Traffic Circulation Subelement” should also be coordinated with the goals, objectives, and policies of all other Elements of the CDMP.
- Objective 5 – The traffic circulation system should protect community and neighborhood integrity.
- Objective 6 – The transportation system should preserve environmentally sensitive areas, conserve energy and natural resources, and promote community aesthetic values.
- Objective 7 – Miami-Dade County’s “Traffic Circulation Subelement,” and the plans and programs of the state, region and local jurisdiction, should continue to be coordinated.

Both the CDMP and the *Miami-Dade 2025 Long-Range Transportation Plan* (LRTP) present planned improvements to the transportation system. However, the improvements identified in the CDMP are based on the 2015 LRTP, which was the adopted transportation plan at the time the CDMP was developed. Nevertheless, the projects presented in Table 1 are improvements identified in the CDMP that are located within the Town of Miami Lakes.

¹ Although the CDMP presents LOS C as a desirable objective, the actual peak period LOS standard established by the CDMP is LOS E for roadways within the Urban Infill Area (east of the Palmetto Expressway). Outside of the Urban Infill Area, the LOS standard is LOS D. Please note that lower levels of service are allowed in areas where transit services are provided.

Table 1. Comprehensive Development Master Plan Improvements

Status	Project / Facility	From	To	Project Description
Cost Feasible	NW 138 th Street	NW 77 th Avenue	NW 57 th Avenue	Widen 2 to 4 Lanes
Cost Feasible	NW 154 th Street	NW 97 th Avenue	NW 87 th Avenue	Construct 4 Lanes
Cost Feasible	SR 826 (Palmetto Expressway)	NW 103 rd Street	Interstate 95	Widen 6 to 8 Lanes
Unfunded	NW 170 th Street	NW 87 th Avenue	NW 77 th Avenue	Widen 2 to 4 Lanes

According to the CDMP, the projects identified as Cost Feasible are projects for which the requisite revenue to implement the project is anticipated to be available. Since the publication of the CDMP, the NW 170th Street widening has been removed from the unfunded list through an amendment to the LRTP. In addition, the NW 138th Street widening has been removed from the 2025 LRTP, as discussed later in this section of the report.

Mass Transit Subelement

The purpose of the “Mass Transit Subelement” is to provide a basis for the development of mass transit facilities to enhance mobility as a major component of the overall transportation system in Miami-Dade County. The Adopted Components of this subelement contain the mass transit goal, objectives and policies, a series of mass transit maps showing planned future facilities and service areas, and procedures for monitoring and evaluating conditions. The overall goal of the “Mass Transit Subelement” is to maintain, operate, and develop a mass transit system in Miami-Dade County that provides efficient, convenient, accessible, and affordable service to all residents and tourists.

The use of the term rapid transit in the CDMP refers to any heavy rail, light rail, or express buses operating on exclusive rights-of-way. No existing or planned rapid transit lines are within the Town of Miami Lakes.

The CDMP identifies a potential Metrobus service expansion along NW 154th Street from NW 79th Court to NW 87th Avenue. In addition, a potential Metrobus service expansion is identified along NW 138th Street along the southern boundary of the Town of Miami Lakes.

Miami-Dade 2025 Long Range Transportation Plan

The *Miami-Dade 2025 Long Range Transportation Plan* (LRTP), adopted by the Miami-Dade County Metropolitan Planning Organization (MPO), was developed to guide long-term transportation investments in Miami-Dade County. The LRTP focuses on the County’s transportation infrastructure needs including connections to major activity centers. The LRTP also addresses transit facilities, bicycle facilities, pedestrian facilities, and other modes of transportation.

The LRTP lists a number of improvements and these improvements are categorized based on priority and project description. The improvements were selected and prioritized based on goals and objectives approved by the MPO. The LRTP splits Miami-Dade County into six analysis areas; the Town of Miami Lakes lies entirely within the “Northwest Area.” The projects presented in Table 2 were listed as improvements in the 2025 LRTP and would affect transportation facilities within the Town of Miami Lakes.

Table 2. Long Range Transportation Plan Improvements

Priority	Time	Project / Facility	From	To	Project Description
I	2006 – 2010	SR 826 (Palmetto Expressway)	Corridor-wide		Intelligent Corridor System (ICS)
IV	2021 – 2025	NW 170 th Street ²	NW 87 th Avenue	NW 77 th Avenue	Widen 2 to 4 Lanes
IV – Unfunded	2021 – 2025	SR 826 (Palmetto Expressway)	I-75	Golden Glades	One HOV Lane in Each Direction
Developer Responsibility	2002 – 2025	NW 154 th Street	NW 107 th Avenue	NW 87 th Avenue	Construct 2 Lanes
Developer Responsibility	2002 – 2025	NW 170 th Street	NW 107 th Avenue	NW 87 th Avenue	Construct 2 Lanes

The five projects identified in Table 2 are part of the recommended minimum revenue (cost feasible) plan. This indicates that these projects are candidate projects for which funding is projected to be available, although funding has not been specifically identified. The NW 154th Street construction and the NW 170th Street construction are listed as Developer Responsibility, indicating that the construction of these roadways will be the responsibility of the entity developing the land adjacent to these roadways. The NW 170th Street widening project was

² Since the adoption of the LRTP, the NW 170th Street widening project was removed from the LRTP through an amendment by the MPO Board on October 23, 2003.

removed from the LRTP through an amendment by the MPO Board October 23, 2003.

Furthermore, another project listed in the CDMP has been removed from the 2025 LRTP – the NW 138th Street widening from NW 77th Avenue to NW 57th Avenue.

Miami-Dade Transportation Improvement Program

The *Miami-Dade Transportation Improvement Program* (TIP) was approved by the MPO in May 2003 for Fiscal Years 2004-2008. The TIP specifies programmed improvements to be implemented in Miami-Dade County over the next five years. The TIP is organized into the following three parts:

1. Three-Year Federal Funded Project Listing. As required by federal regulations, projects receiving federal funding must be chosen from this list.
2. Five-Year Project Listing. Projects beyond the third year are included as proposed so they will be periodically evaluated by the MPO.
3. Unfunded Priority Needs. This category includes MPO priorities not included in the other two sections.

Improvements included in the TIP are characterized as Intermodal, Highway, Transit, Aviation, Seaport, and Non-Motorized.

Projects programmed in the TIP for the Town of Miami Lakes are presented in Table 3.

Table 3. Transportation Improvement Program Improvements

Year	Project / Facility	From	To	Project Description
2003 / 2004	Barbara Goleman High School access road	NW 138 th Street	Barbara Goleman High School	Construct new two-lane access road
2003 / 2004	NW 87 th Avenue	NW 138 th Street	NW 154 th Street	Bridge widening over I-75 and approaches
RUSH Program ³	NW 77 th Court	@ NW 154 th Street intersection		Construct northbound left-turn lane
⁴	NW 87 th Avenue	NW 154 th Street	NW 186 th Street	Construct new four-lane facility

³ Resourceful Use of Streets and Highways (RUSH) Program. No specific funding year identified.

⁴ Developer responsibility construction funding identified in three separate fiscal years: 2005 / 2006, 2006 / 2007, and 2007 / 2008.

Miami-Dade Transit Development Program

The *Miami-Dade Transit Development Program* (TDP) was completed by Miami-Dade Transit (MDT). The 2002 Update to the TDP presents the operating environment, committed improvements, an amended 5-year Recommended Service Plan (RSP), and financial analysis of proposed transit improvements for the period ending in 2007. The “Committed Improvements” are projects that affect the delivery of transit services and are expected to be implemented during the next five years. These improvements, in conjunction with the 2002 TDP’s existing conditions, form the baseline conditions from which the “2007 Recommended Service Plan” is developed. The “Recommended Service Plan” addresses unmet community transit needs and prioritizes these needs. The “Committed Improvements” shown are projects that are funded and are expected to be implemented; however, projects in the “Recommended Service Plan” are unfunded. Table 4 presents the improvements listed in the TDP that would affect routes passing through the Town of Miami Lakes.

Table 4. Transit Development Program Improvements

Route	Committed Bus Service Improvements	2007 Recommended Service Plan
29	No planned improvements	Improve weekday headways from 70 to 30
73	No planned improvements	Improve peak period headways from 30 to 20; improve mid-day and weekend headways from 60 to 30
75	No planned improvements	Extend service to the Northeast Transit Terminal
83	No planned improvements	Improve peak period headways from 20 to 15
E	No planned improvements	Improve weekday headways from 60 to 30; extend mid-day service to west Miami Lakes area
Ludlam MAX	Minor modification to first morning southbound trip to improve connections to Metrorail at the Okeechobee Station	No planned improvements
North Dade Connection	No planned improvements	No planned improvements

In addition to the service improvements, fifteen new Metrobus routes are identified as part of the recommended service plan in the TDP. One of these routes serves the Town of Miami Lakes – the Hialeah Gardens Connection. This route has recently been initiated following the passage of the People’s Transportation Plan. In addition, one of the two possible options for the proposed Intercounty Connection route passes through the Town of Miami Lakes. The Intercounty

Connection would be a new premium transit route from Southwest Broward County to the new Palmetto Metrorail Station. The two possible options for the alignment of this route are I-75 and Ludlam Road. Even if Ludlam Road is chosen as the alignment for the Intercounty Connection route, few if any stops would be provided within the Town of Miami Lakes because service along this route would likely be limited stop express bus service operating during peak periods only.

Existing Traffic Conditions

Existing traffic conditions within the Town of Miami Lakes were assessed to evaluate demand on the existing street network and identify deficient roadway segments. Traffic data collected by the Florida Department of Transportation (FDOT) and the Miami-Dade County Public Works Department (MDPWD) were assembled along with data from previous traffic studies conducted within the Town of Miami Lakes. Upon examining the available traffic count data from existing sources, gaps in the available data were identified. New traffic counts were subsequently collected at key locations to provide a more complete database of traffic information for the Town of Miami Lakes.

Included in the analysis of existing traffic conditions are the identification of the primary roadway network (functional classification and number of lanes), traffic volumes, and level of service measurements. The existing traffic conditions provide a base to assist in the determination of needs for various transportation studies and improvements.

Roadway Network

For transportation planning purposes, roadway facilities are grouped by functional classification to help define the roadway's character. In urban areas the hierarchy of the functional system consists of principal arterials, minor arterials, collectors and local streets. Principal arterials primarily serve through traffic and carry the highest traffic volumes; minor arterials augment principal arterials at a somewhat lower level of mobility; collector roadways carry lower traffic volumes and provide a connection between high traffic corridors and the local street network; local streets provide access to adjacent land uses.

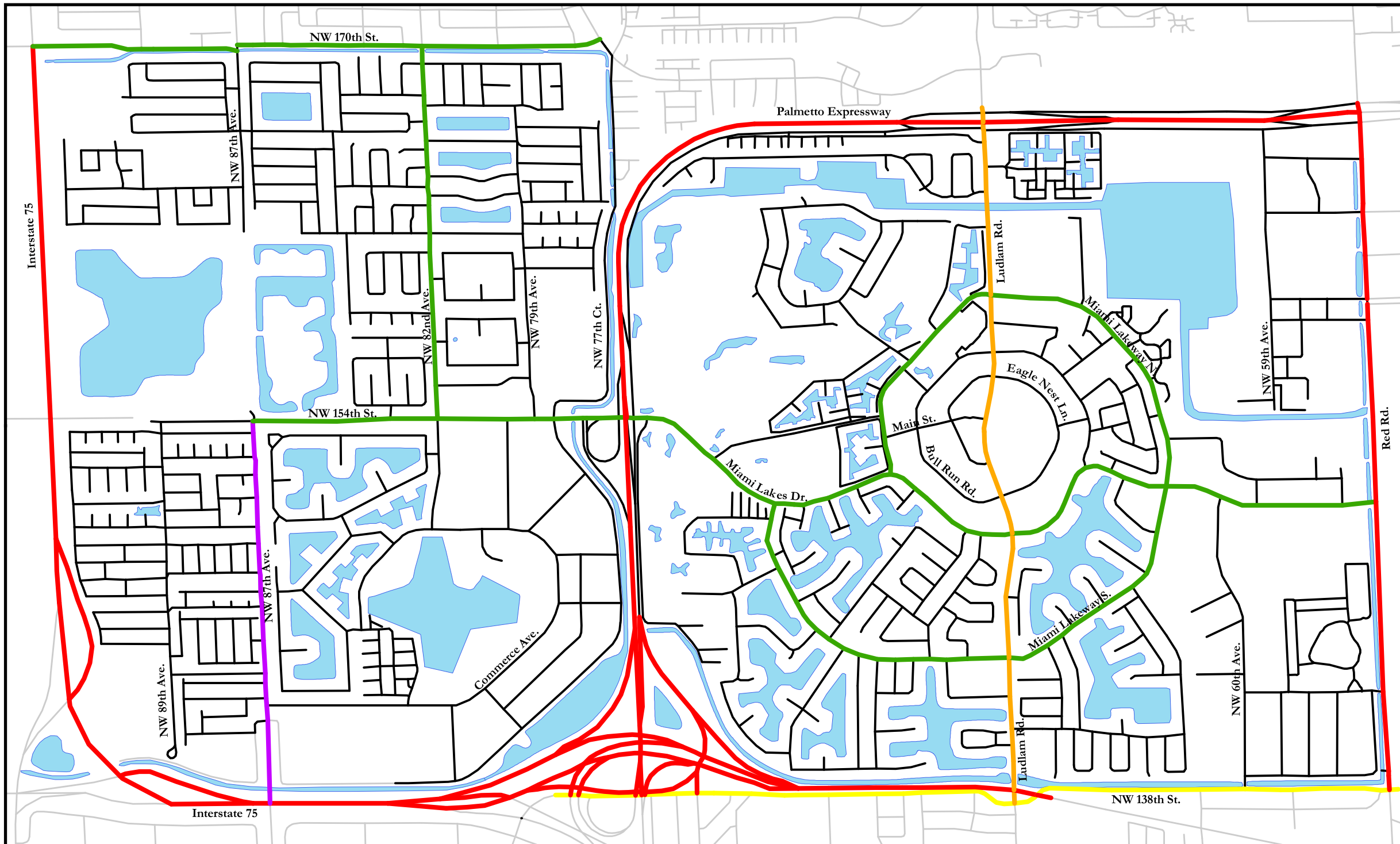
Figure 2 presents the functional classification of the roadway network within the Town of Miami Lakes. Figure 3 presents the number of travel lanes on major streets within the Town.



Town of Miami Lakes

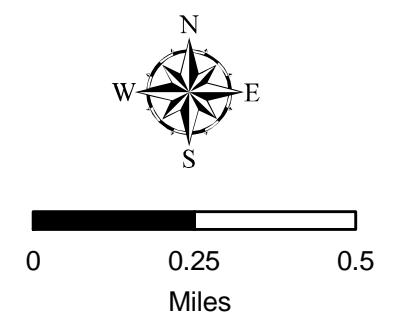
Transportation Master Plan

Major Thoroughfares by Functional Classification (Figure 2)



Legend

- State Principal Arterial
- State Minor Arterial
- County Minor Arterial
- County Collector
- Town Collector
- Local Streets
- Lakes/Canals

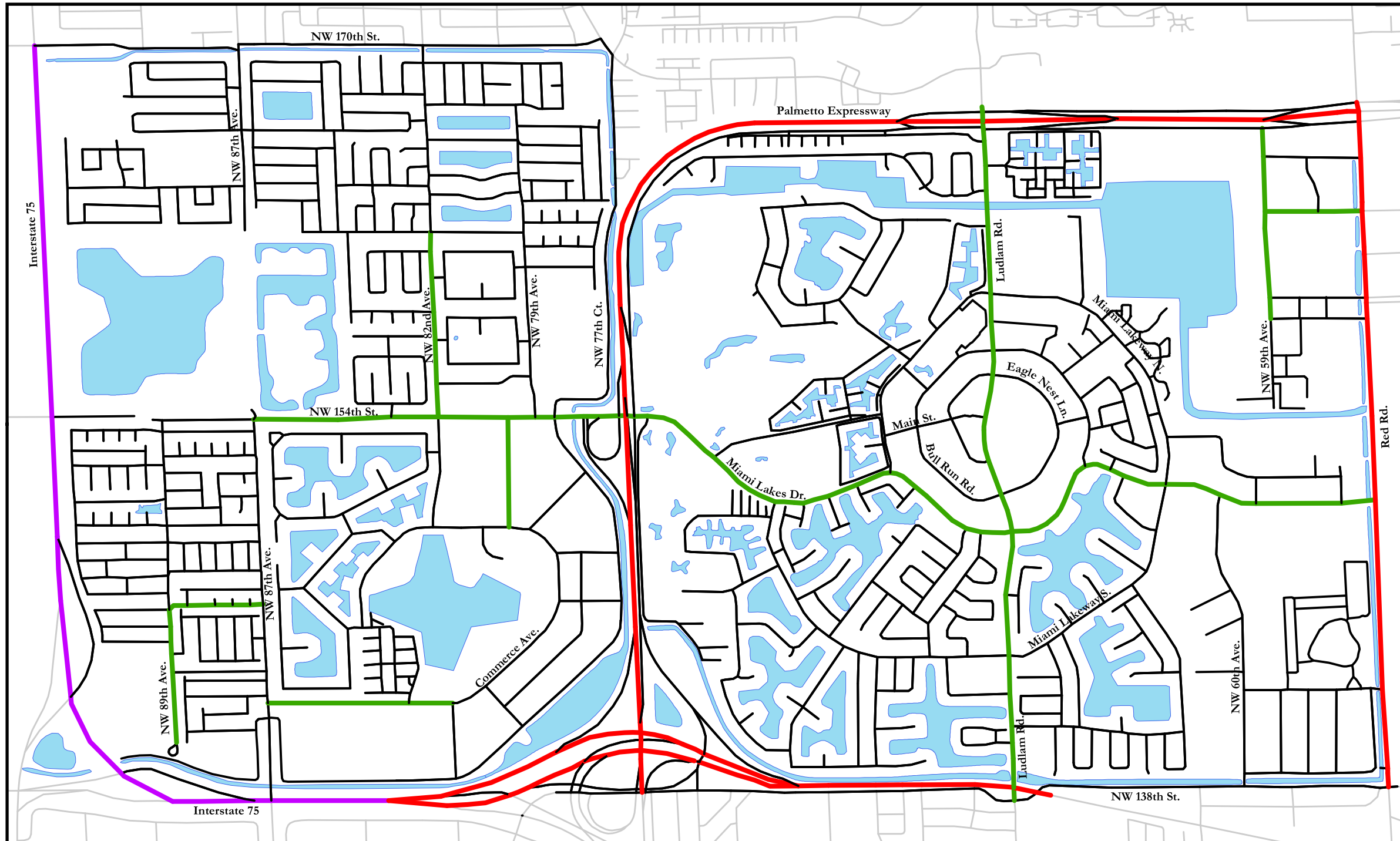




Town of Miami Lakes

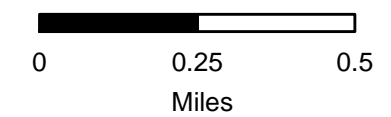
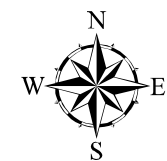
Transportation Master Plan

Major Thoroughfares by Number of Lanes (Figure 3)



Legend

- Two Lanes
- Four Lanes
- Six Lanes
- Eight Lanes
- Lakes/Canals



The *Miami-Dade County Comprehensive Development Master Plan* (CDMP) identifies four principal arterials, two minor arterials (one state minor arterial and one county minor arterial), and five collector roadways within the Town of Miami Lakes. These facilities are described below.

➤ State Principal Arterials

- Interstate 75 – This eight-lane limited access facility runs along the western and southern boundary of the Town of Miami Lakes. Interstate 75 connects Southwestern Broward County to Miami-Dade County via SR 826 (Palmetto Expressway) and SR 924 (Gratigny Parkway). Interstate 75 serves a mobility function for through trips and does not have an interchange with local roadways that directly serve the Town of Miami Lakes.
- SR 826 (Palmetto Expressway) – This six-lane limited access facility runs east-west along the northern boundary of Miami Lakes between NW 57th Avenue and the “Big Bend” near NW 77th Avenue, and runs north-south through Miami Lakes between the “Big Bend” and Interstate 75. To the east, the Palmetto Expressway provides access to Interstate 95. To the south, the Palmetto Expressway is the principal arterial connecting Northwest Miami-Dade to Miami International Airport, SR 836 (Dolphin Expressway), and U.S. 1 in Southwest Miami-Dade County. The Palmetto Expressway has interchanges with three roadways that serve Miami Lakes – SR 823 (NW 57th Avenue), NW 67th Avenue, and NW 154th Street.
- SR 924 (Gratigny Parkway) – This six-lane limited access toll road runs east-west along the southern boundary of Miami Lakes between Interstate 75 and SR 823 (NW 57th Avenue). The majority of the Gratigny Parkway corridor lies within the City of Hialeah. No interchanges exist within the Town of Miami Lakes, although the interchange with SR 823 (NW 57th Avenue) is approximately one-quarter mile south of the boundary between Miami Lakes and Hialeah.
- SR 823 (NW 57th Avenue) – This six-lane divided facility runs north-south along the entire eastern boundary of Miami Lakes between the Palmetto Expressway and NW 138th Street. NW 57th Avenue is also known as Red Road. NW 57th Avenue serves mainly through trips, connecting Miramar

and Pembroke Pines in the north with Hialeah and U.S 27 (Okeechobee Road) in the south.

➤ State Minor Arterial

- SR 916 (NW 138th Street) – This facility provides east-west traffic flow parallel to Interstate 75 and the Gratigny Parkway. NW 138th Street is a two-lane undivided facility that connects to Hialeah Gardens Boulevard in the west (south of the Interstate 75 interchange). In the east, this roadway becomes Opa Locka Boulevard and provides a connection to Interstate 95.

➤ County Minor Arterial

- NW 67th Avenue – This four-lane facility is the primary north-south facility through the eastern portion of Miami Lakes. NW 67th Avenue is also known as Ludlam Road. An interchange with the Palmetto Expressway provides a connection to the regional roadway network. To the south, NW 67th Avenue connects to Hialeah and U.S. 27 (Okeechobee Road). NW 67th Avenue is a divided facility north of Miami Lakeway South and is an undivided facility with a two-way left-turn (TWLT) lane south of Miami Lakeway South.

➤ Collectors

- NW 154th Street – This four-lane divided facility is the primary east-west roadway through Miami Lakes. NW 154th Street connects NW 87th Avenue and the western area of Miami Lakes with NW 67th Avenue (near the Miami Lakes Town Center) and NW 57th Avenue. NW 154th Street is also known as Miami Lakes Drive in the eastern portion of the Town. An interchange with the Palmetto Expressway provides a connection to the regional roadway network.
- NW 87th Avenue – This two-lane undivided facility runs north-south through the western area of Miami Lakes. NW 87th Avenue distributes traffic to the residential streets south of NW 154th Street and provides a connection to Hialeah and Hialeah Gardens south of Interstate 75. Between Commerce Way and NW 154th Street, the existing layout of NW 87th Avenue can accommodate four lanes of traffic, only two lanes of which are currently in use. As discussed in the previous section of this report, NW 87th Avenue is programmed to be extended to the north from NW 154th Street to NW 170th Street. Construction is currently underway to widen the NW 87th Avenue

bridge over Interstate 75. NW 87th Avenue will eventually be a four-lane roadway throughout the limits of Miami Lakes.

- NW 82nd Avenue – This two-lane undivided facility runs north-south through a residential area north of NW 154th Street. NW 82nd Avenue distributes traffic to the residential streets in the area. A short section of NW 82nd Avenue between NW 154th Street and NW 162nd Street is a four-lane undivided roadway.
- Miami Lakeway North and Miami Lakeway South – These two-lane undivided roadways serve as “ring-roads” around the Miami Lakes Town Center, distributing traffic to the local streets in the area. Both roadways are residential in nature. Miami Lakes Elementary School is located along Miami Lakeway South and Miami Lakes Middle School is located along Miami Lakeway North.

In addition to these arterials and collectors, the Town of Miami Lakes has a supporting local street system that provides access to adjacent land uses. These local streets are designed around the circular roadway pattern in eastern Miami Lakes. In western Miami Lakes, many local streets are laid out in a grid pattern. Many of the local streets in western Miami Lakes lead to gated residential communities. These characteristics of the local street network help reduce the occurrence of cut-through traffic on local streets.

Three of the four principal arterials are limited access roadways under FDOT jurisdiction that pass through the Town of Miami Lakes but do not serve local trips (Interstate 75, the Palmetto Expressway, and the Gratigny Parkway). Therefore, this study will concentrate on roadway improvements for these principal arterials only at the interchanges where they connect to the internal roadway network of Miami Lakes.

Traffic Data

Traffic count data were compiled from information provided by the Florida Department of Transportation (FDOT), Miami-Dade County Public Works Department (MDPWD), and various traffic studies within the Town of Miami Lakes. New traffic counts were conducted in key locations where data were not available. Table 5 presents annual average daily traffic (AADT) volumes for the primary roadways in the Town of Miami Lakes. Figure 4 depicts the AADT volumes in Miami Lakes on a map.

Table 5. Traffic Data for Major Roadways within the Town of Miami Lakes

Segment	Number of Lanes	Median	Functional Classification	AADT
<u>SR 826 (Palmetto Expwy.)</u>				
NW 57th Ave. to NW 67th Ave.	6	Divided	State Principal Arterial	123,700
NW 67th Ave. to NW 154th St.	6	Divided	State Principal Arterial	111,400
NW 154th St. to Interstate 75	6	Divided	State Principal Arterial	107,300
<u>Interstate 75</u>				
Hialeah Gardens Blvd. to SR 826	8	Divided	State Principal Arterial	103,300
<u>SR 924 (Gratigny Parkway)</u>				
SR 826 to NW 57th Ave.	6	Divided	State Principal Arterial	63,000
<u>SR 823 (NW 57th Avenue)</u>				
SR 826 to Miami Lakes Drive	6	Divided	State Principal Arterial	47,200
Miami Lakes Drive to NW 138th St.	6	Divided	State Principal Arterial	47,800
<u>NW 170th Street</u>				
NW 87th Ave. to NW 77th Ave.	2	Undivided	County Collector	9,100
<u>NW 154th Street</u>				
Interstate 75 to NW 87th Ave.	2	Undivided	County Collector	3,600
NW 87th Ave. to NW 82nd Ave.	4	Divided	County Collector	28,800
NW 82nd Ave. to NW 79th Ave.	4	Divided	County Collector	35,700
NW 79th Ave. to SR 826	4	Divided	County Collector	49,800
<u>Miami Lakes Drive</u>				
SR 826 to Fairway Dr.	4	Divided	County Collector	32,500
Fairway Dr. to Miami Lakeway N.	4	Divided	County Collector	21,400
Miami Lakeway N. to NW 67th Ave.	4	Divided	County Collector	7,600
NW 67th Ave. to Miami Lakeway N.	4	TWLT	County Collector	4,000
Miami Lakeway N. to NW 57th Ave.	4	TWLT	County Collector	18,600
<u>SR 916 (NW 138th Street)</u>				
SR 826 to NW 67th Ave.	2	Undivided	State Minor Arterial	20,900
NW 67th Ave. to NW 57th Ave.	2	Undivided	State Minor Arterial	23,900
<u>NW 87th Avenue</u>				
NW 154th St. to Interstate 75	4 / 2	Undivided	County Collector	13,900
<u>NW 82nd Avenue</u>				
NW 170th St. to NW 162nd St.	2	Undivided	County Collector	15,800
NW 162nd St. to NW 154th St.	4	Paved	County Collector	20,100
<u>NW 67th Avenue</u>				
SR 826 to Miami Lakeway N.	4	Divided	County Minor Arterial	44,000
Miami Lakeway N. to Mia. Lks. Dr.	4	Divided	County Minor Arterial	39,100
Mia. Lks. Dr. to NW 138th St.	4	TWLT	County Minor Arterial	34,300
<u>Fairway Drive</u>				
Mia. Lks. Dr. to Miami Lakeway N.	2	Undivided	Local	8,200
<u>Miami Lakeway North</u>				
Mia. Lks. Dr. to NW 67th Ave. (west)	2	Undivided	County Collector	16,900
NW 67th Ave. to Mia. Lks. Dr. (east)	2	Undivided	County Collector	13,200
<u>Miami Lakeway South</u>				
Mia. Lks. Dr. to NW 67th Ave. (west)	2	Undivided	County Collector	7,900
NW 67th Ave. to Mia. Lks. Dr. (east)	2	Undivided	County Collector	12,600

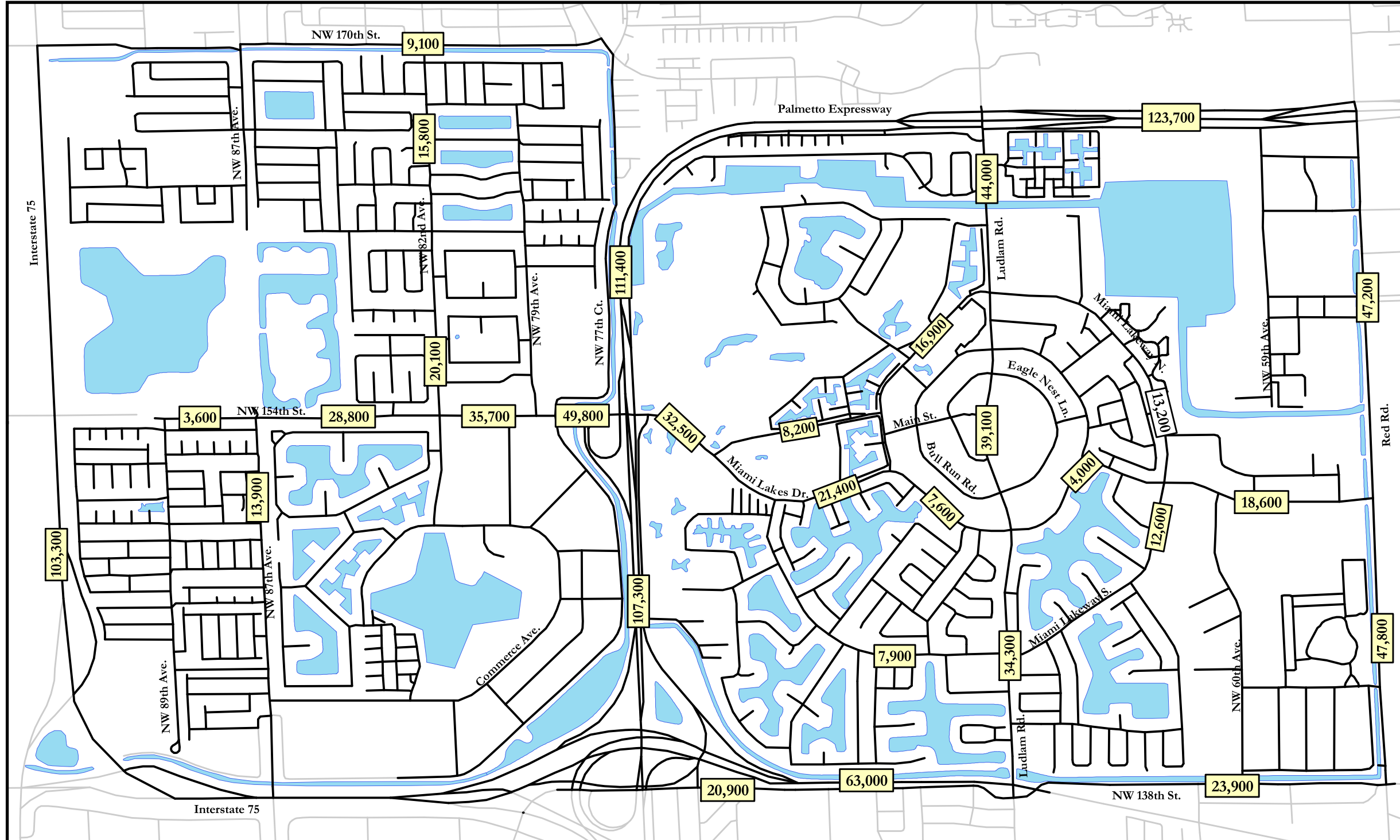
Note:

(1) Based on volume thresholds provided in FDOT's 2002 *Quality / Level of Service Handbook*



Town of Miami Lakes

Transportation Master Plan

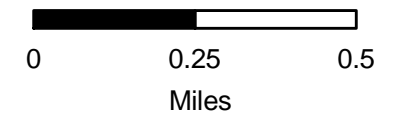
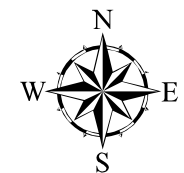


**Average Annual Daily Traffic (AADT)
(Figure 4)**

Legend

- Local Streets
- Lakes/Canals

23,900 = Average Annual Daily Traffic (AADT)



Level of Service

Level of service (LOS) is a quality measure describing operational characteristics within a traffic stream generally in terms of such characteristics as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. The level of service for a roadway is represented by one of the letters A through F, with LOS A representing the best operating conditions and LOS F the worst. Analytical methods specified in the *Highway Capacity Manual* (HCM 2000) establish methodologies to approximate level of service based upon quantitative measures such as maximum traffic flow rates, volume-to-capacity ratios, and travel speeds.

The existing level of service for roadways within the Town of Miami Lakes was determined for each location where traffic volume data were analyzed. Levels of service were based upon the maximum flow rates provided in FDOT's *2002 Quality / Level of Service Handbook*, which provides generalized level of service tables. These service volume tables estimate the number of vehicles a facility can carry at various levels of service considering factors such as functional classification, number of lanes, and density of traffic signals.

Tables 6 and 7 present the peak period level of service for roadways within the Town of Miami Lakes for the AM and PM peak periods, respectively. Peak period levels of service are provided for each direction of travel. This analysis relied upon "Table 4-7" from FDOT's *2002 Quality / Level of Service Handbook*, which provides peak period directional volume thresholds.

Tables 6 and 7 indicate that several roadways within the Town of Miami Lakes exhibit LOS F including:

- NW 67th Avenue (Ludlam Road)
- NW 82nd Avenue
- NW 138th Street
- Miami Lakeway North
- Miami Lakeway South
- NW 154th Street immediately west of the Palmetto Expressway

Figures 5 and 6 depict the level of service in the peak direction for the AM and PM peak periods, respectively.

Table 6. AM Peak Period Level of Service (LOS)

Segment	AM Peak (NB or EB)	AM Peak (SB or WB)	AM Peak LOS⁽¹⁾ (NB or EB)	AM Peak LOS⁽¹⁾ (SB or WB)
<u>SR 826 (Palmetto Expwy.)</u>				
NW 57th Ave. to NW 67th Ave.	3,605	5,291	C	D
NW 67th Ave. to NW 154th St.	3,952	3,270	C	C
NW 154th St. to Interstate 75	3,807	3,150	C	C
<u>Interstate 75</u>				
Hialeah Gardens Blvd. to SR 826	3,821	2,362	B	B
<u>SR 924 (Gratigny Parkway)</u>				
SR 826 to NW 57th Ave.	3,088	2,059	C	B
<u>SR 823 (NW 57th Avenue)</u>				
SR 826 to Miami Lakes Drive	1,355	2,200	D	D
Miami Lakes Drive to NW 138th St.	1,703	2,422	C	D
<u>NW 170th Street</u>				
NW 87th Ave. to NW 77th Ave.	643	370	D	C
<u>NW 154th Street</u>				
Interstate 75 to NW 87th Ave.	88	359	C	C
NW 87th Ave. to NW 82nd Ave.	1,473	982	D	C
NW 82nd Ave. to NW 79th Ave.	1,522	1,082	D	C
NW 79th Ave. to SR 826	2,184	1,816	F	F
<u>Miami Lakes Drive</u>				
SR 826 to Fairway Dr.	1,580	1,027	D	C
Fairway Dr. to Miami Lakeway N.	1,040	676	C	C
Miami Lakeway N. to NW 67th Ave.	397	368	C	C
NW 67th Ave. to Miami Lakeway N.	269	279	C	C
Miami Lakeway N. to NW 57th Ave.	1,042	706	C	C
<u>SR 916 (NW 138th Street)</u>				
SR 826 to NW 67th Ave.	1,034	793	F	E
NW 67th Ave. to NW 57th Ave.	1,182	907	F	F
<u>NW 87th Avenue</u>				
NW 154th St. to Interstate 75	662	605	D	D
<u>NW 82nd Avenue</u>				
NW 170th St. to NW 162nd St.	493	908	D	F
NW 162nd St. to NW 154th St.	554	1,196	C	D
<u>NW 67th Avenue</u>				
SR 826 to Miami Lakeway N.	1,131	1,927	D	F
Miami Lakeway N. to Mia. Lks. Dr.	1,083	1,624	C	E
Mia. Lks. Dr. to NW 138th St.	913	1,452	C	D
<u>Fairway Drive</u>				
Mia. Lks. Dr. to Miami Lakeway N.	334	312	D	D
<u>Miami Lakeway North</u>				
Mia. Lks. Dr. to NW 67th Ave. (west)	1,062	447	F	C
NW 67th Ave. to Mia. Lks. Dr. (east)	1,355	240	F	C
<u>Miami Lakeway South</u>				
Mia. Lks. Dr. to NW 67th Ave. (west)	344	318	C	C
NW 67th Ave. to Mia. Lks. Dr. (east)	995	764	F	E

Note:

(1) Based on volume thresholds provided in FDOT's 2002 *Quality / Level of Service Handbook*

Table 7. PM Peak Period Level of Service (LOS)

Segment	PM Peak (NB or EB)	PM Peak (SB or WB)	PM Peak LOS⁽¹⁾ (NB or EB)	PM Peak LOS⁽¹⁾ (SB or WB)
<u>SR 826 (Palmetto Expwy.)</u>				
NW 57th Ave. to NW 67th Ave.	4,443	3,771	D	C
NW 67th Ave. to NW 154th St.	3,402	3,530	C	C
NW 154th St. to Interstate 75	3,277	3,400	C	C
<u>Interstate 75</u>				
Hialeah Gardens Blvd. to SR 826	3,025	3,734	B	B
<u>SR 924 (Gratigny Parkway)</u>				
SR 826 to NW 57th Ave.	2,316	2,831	B	B
<u>SR 823 (NW 57th Avenue)</u>				
SR 826 to Miami Lakes Drive	1,839	1,484	D	D
Miami Lakes Drive to NW 138th St.	1,827	1,841	C	C
<u>NW 170th Street</u>				
NW 87th Ave. to NW 77th Ave.	266	443	C	C
<u>NW 154th Street</u>				
Interstate 75 to NW 87th Ave.	101	194	C	C
NW 87th Ave. to NW 82nd Ave.	1,048	1,572	C	D
NW 82nd Ave. to NW 79th Ave.	1,256	1,506	D	D
NW 79th Ave. to SR 826	1,747	1,932	F	F
<u>Miami Lakes Drive</u>				
SR 826 to Fairway Dr.	1,267	1,085	D	C
Fairway Dr. to Miami Lakeway N.	834	714	C	C
Miami Lakeway N. to NW 67th Ave.	294	379	C	C
NW 67th Ave. to Miami Lakeway N.	169	223	C	C
Miami Lakeway N. to NW 57th Ave.	828	863	C	C
<u>SR 916 (NW 138th Street)</u>				
SR 826 to NW 67th Ave.	856	971	F	F
NW 67th Ave. to NW 57th Ave.	979	1,110	F	F
<u>NW 87th Avenue</u>				
NW 154th St. to Interstate 75	728	438	D	C
<u>NW 82nd Avenue</u>				
NW 170th St. to NW 162nd St.	819	491	F	D
NW 162nd St. to NW 154th St.	977	616	C	C
<u>NW 67th Avenue</u>				
SR 826 to Miami Lakeway N.	1,810	1,349	F	D
Miami Lakeway N. to Mia. Lks. Dr.	1,648	1,349	E	D
Mia. Lks. Dr. to NW 138th St.	1,495	1,300	D	D
<u>Fairway Drive</u>				
Mia. Lks. Dr. to Miami Lakeway N.	331	292	D	D
<u>Miami Lakeway North</u>				
Mia. Lks. Dr. to NW 67th Ave. (west)	653	671	D	D
NW 67th Ave. to Mia. Lks. Dr. (east)	736	370	D	C
<u>Miami Lakeway South</u>				
Mia. Lks. Dr. to NW 67th Ave. (west)	469	319	C	C
NW 67th Ave. to Mia. Lks. Dr. (east)	580	644	D	D

Note:

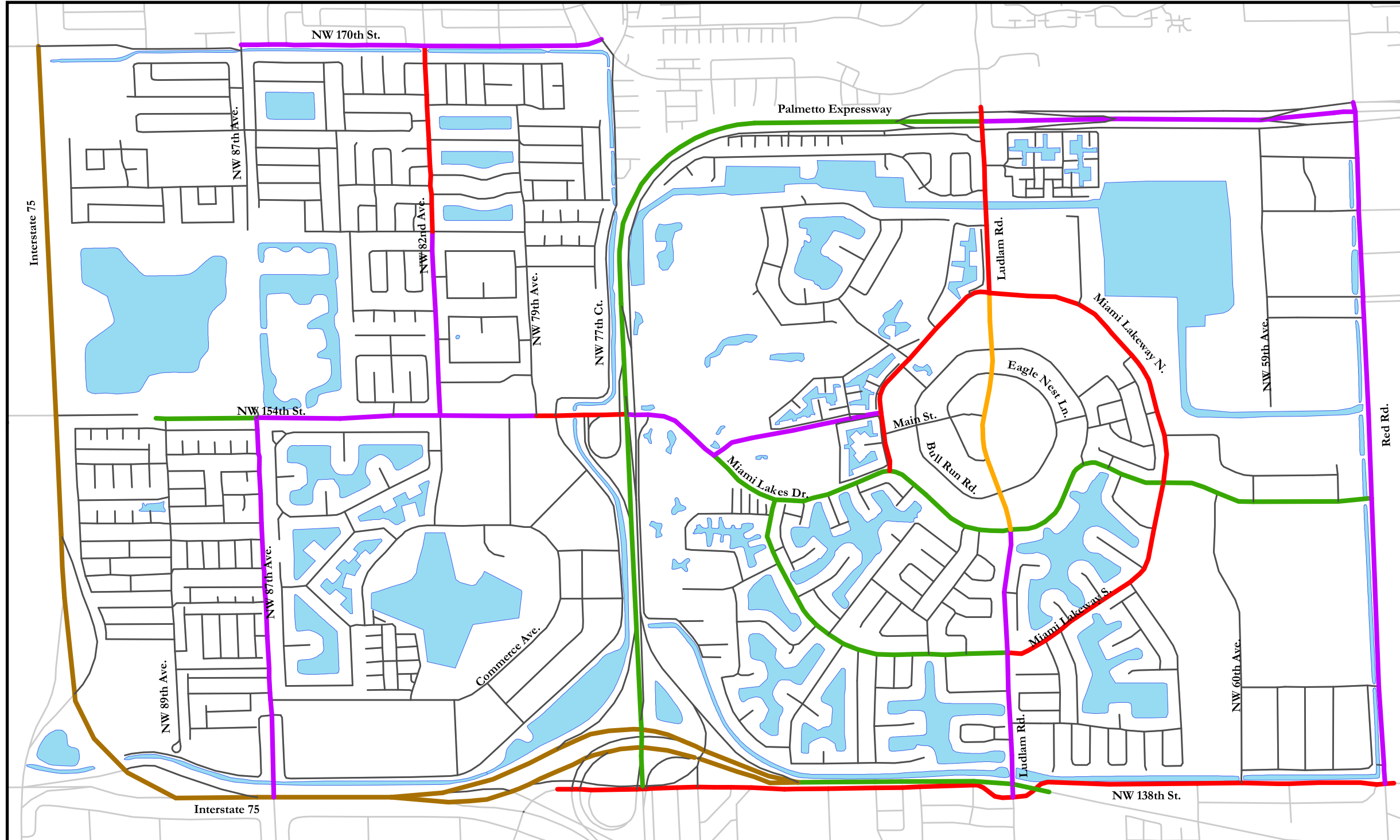
(1) Based on volume thresholds provided in FDOT's 2002 *Quality / Level of Service Handbook*



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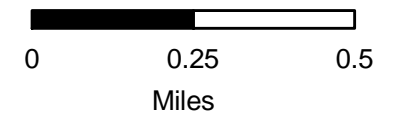
Transportation Master Plan

AM Peak Hour Level of Service (Figure 5)



Legend

- Level of Service A
- Level of Service B
- Level of Service C
- Level of Service D
- Level of Service E
- Level of Service F
- Lakes/Canals



Several roadways experience high directionality during peak periods of travel including:

- NW 67th Avenue (high southbound volume in the AM peak and high northbound volume in the PM peak)
- NW 57th Avenue (high southbound volume in the AM peak and high northbound volume in the PM peak)
- NW 154th Street west of NW 79th Court (high eastbound volume in the AM peak and high westbound volume in the PM peak)

Existing Transit Service

Existing transit service within the Town of Miami Lakes was inventoried to gauge current transit service levels. Characteristics that were identified for this study include route alignments, hours of operation, headways, ridership, and planned service expansion.

Transit service in the Town of Miami Lakes is provided by Miami-Dade Transit (MDT). MDT operates the 16th largest public transit system in the United States and the largest transit system in Florida. Within Miami-Dade County, MDT's fixed-route transit service consists of (1) the Metrobus bus system, (2) the Metrorail rapid transit system, and (3) the Metromover automated people mover (APM) system.

The Town of Miami Lakes is currently serviced by eight Metrobus routes operated by MDT including Routes 29, 73, 75, 83, E, Ludlam Max, North Dade Connection, and Hialeah Gardens Connection. The alignments of the eight Metrobus routes are illustrated in Figure 7 and each route is described below.

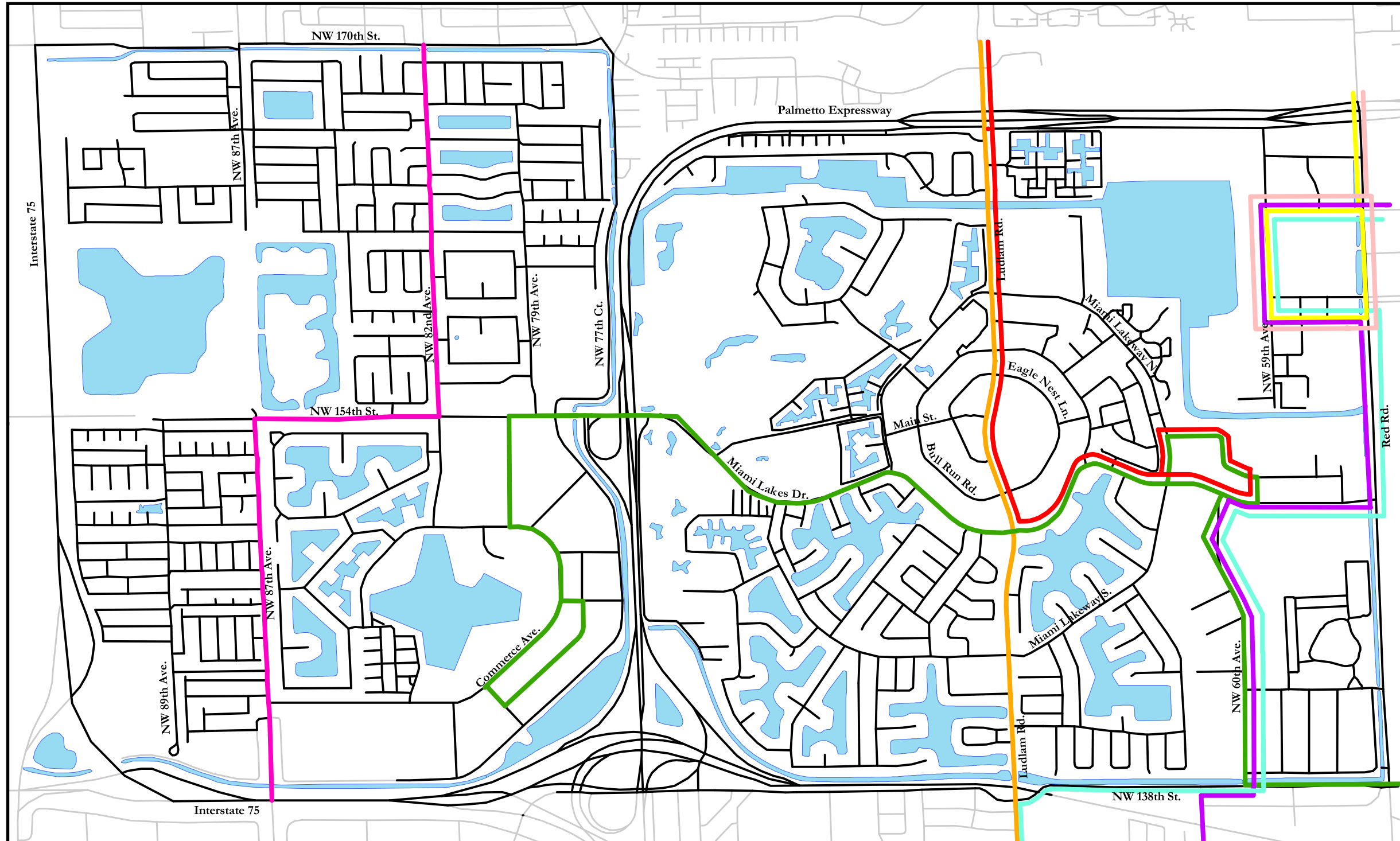
- **Metrobus Route 29** enters the Town of Miami Lakes from Hialeah in the south via NW 62nd Avenue and NW 138th Street, with service provided along NW 60th Avenue, Miami Lakes Drive, and NW 57th Avenue to the Miami Lakes Technical Education Center. Route 29 can be used to access the Palmetto General Hospital and the Hialeah Metrorail Station. Route 29 operates Monday through Friday on 70-minute headways. No weekend service is provided.



Town of Miami Lakes

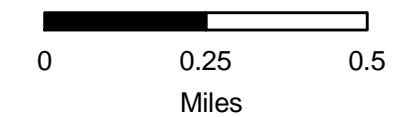
Transportation Master Plan

Existing Transit Routes (Figure 7)



Legend

- Route E
- Ludlam Max
- Route 29
- Route 73
- Route 75
- Route 83
- North Dade Connection
- Hialeah Gardens Connection
- Roadways
- Lakes/Canals



- **Metrobus Route 73** enters the Town of Miami Lakes from Hialeah in the south via NW 67th Avenue and NW 138th Street, with service provided along NW 60th Avenue, Miami Lakes Drive, and NW 57th Avenue to the Miami Lakes Technical Education Center. Route 73 can be used to access the Okeechobee Metrorail Station, the Dadeland Mall, and the South Dade Busway at the Dadeland South Metrorail Station. Route 73 operates on 30-minute headways during peak daytime hours and 60-minute headways during off-peak and evening hours. Weekend service operates on 60-minute headways.
- **Metrobus Route 75** provides service to the Miami Lakes Technical Education Center, which functions as the western terminus of the route. Route 75 enters the Town of Miami Lakes from the north along NW 57th Avenue. Route 75 also serves Carol City, the 163rd Street Mall, and the Miami-Dade Community College North Campus. Route 75 operates on 30-minute headways during peak and mid-day hours. Evening and weekend service operates on 60-minute headways.
- **Metrobus Route 83** provides bus service to the Miami Lakes Town Center along NW 67th Avenue north of Miami Lakes Drive. Route 83 also operates along Miami Lakes Drive east to NW 59th Court. The Town of Miami Lakes is the western terminus of Route 83, which also serves Carol City along Miami Gardens Drive, the 163rd Street Mall, and the Florida International University North Miami Campus. Route 83 operates on 20-minute headways during peak daytime hours and 30-minute headways during off-peak hours and weekends.
- **Metrobus Route E** provides bus service to the Miami Lakes Business Park West along Commerce Avenue and to the Miami Lakes Business Park East along NW 60th Avenue and Miami Lakes Drive. Route E enters the Town of Miami Lakes from the east along NW 138th Street and traverses Miami Lakes via NW 60th Avenue and Miami Lakes Drive. The Town of Miami Lakes is the western terminus of Route E, which also serves the Opa-Locka Tri-Rail Station, the Golden Glades Park-n-Ride and Tri-Rail Station, the 163rd Street Mall, and the Aventura Mall. Weekend service terminates at the Opa-Locka Tri-Rail Station and thus does not serve the Town of Miami Lakes. Recent service improvements have reduced Route E peak period headways to 30 minutes. Route E mid-day and evening headways are 60 minutes.

- **Metrobus Ludlam MAX** provides service to the Town of Miami Lakes along NW 67th Avenue (Ludlam Road). Ludlam MAX is a peak period limited-stop service between Miami Gardens Drive in the north and the Okeechobee Metrorail Station in the south. Within the Town of Miami Lakes, stops are provided at Loch Ness Drive, Bull Run Drive, New Barn Road, and Eagle Nest Lane. Ludlam MAX operates Monday through Friday on 20-minute headways during peak hours. Ludlam MAX provides the quickest Metrobus service between the Town of Miami Lakes and the Metrorail system, albeit only during weekday peak hours.

- **Metrobus North Dade Connection** provides service to Miami Lakes Technical Education Center, which is the western terminus of the route. The North Dade Connection enters the Town of Miami Lakes from the east along NW 163rd Street. The North Dade Connection also serves the Golden Glades Park-n-Ride and Tri-Rail Station, as well as various industrial areas along the Palmetto Expressway, U.S. 441, and Interstate 95. The North Dade Connection operates on 30-minute headways during weekday peak hours and on 60-minute headways during off-peak and evening hours. No weekend service is provided.

- **Metrobus Hialeah Gardens Connection** provides service between the new Palmetto Metrorail Station, the City of Hialeah Gardens, the western portion of the Town of Miami Lakes (NW 87th Avenue and NW 82nd Avenue), and Miami Gardens Drive. The Hialeah Gardens Connection operates on 30-minute peak period headways and on 60-minute mid-day and evening headways; weekend service is also provided on 60-minute headways for this route.

In addition to the eight Metrobus routes listed above, Metrobus Route 54 serves Barbara Goleman High School on select weekday trips only (twice in the morning and twice in the afternoon). Route 54 enters the Town of Miami Lakes from the south along NW 87th Avenue connecting portions of Hialeah and Hialeah Gardens to Barbara Goleman High School via NW 143rd Street.

Listed in Table 8 are service and performance data for the Metrobus routes in the vicinity of the Town of Miami Lakes. This information was obtained from Metrobus route schedules, the *2002 Transit Development Program* prepared by MDT, and *Miami-Dade Transit Ridership Technical Reports* prepared by MDT for the period from January 2001 to December 2001. In addition,

service improvements implemented since the passage of the People’s Transportation Plan were researched and included in Table 8.

Table 8. Metrobus Route Information

Route	Weekday Hours of Operation	Headway (Peak/Off-Peak) ⁽¹⁾	Average Weekday Ridership ⁽²⁾	Boardings per Revenue Hour ⁽²⁾
29	6:00 AM – 8:00 PM	70/70	413	12.2
73	5:00 AM – 10:45 PM	30/60	1,754	23.6
75	5:15 AM – 11:30 PM	30/30	2,666	34.5
83	5:15 AM – 12:00 AM	20/30	4,490	40.0
E ⁽³⁾	5:15 AM – 9:15 PM	30/60	880	18.2
Ludlam MAX	5:40 AM – 9:30 AM	20/(n/a)	277	8.5
	3:30 PM – 7:30 PM			
North Dade Connection	5:30 AM – 9:45 PM	30/60	291	6.4
Hialeah Gardens Connection ⁽³⁾	5:30 AM – 9:00 PM	30/60	n/a ⁽⁴⁾	n/a ⁽⁴⁾

Notes:

- (1) Source: Transit Development Program 2003 & www.co.miami-dade.fl.us/transit/
- (2) Source: Miami-Dade Transit Ridership Technical Reports (Jan 2001-Dec 2001)
- (3) Routes with service improvements made since the passage of the People’s Transportation Plan on November 5, 2002
- (4) Ridership data not yet available for the Hialeah Gardens Connection

A review of the existing transit service demonstrates that the Miami Lakes Technical Education Center as well as the Miami Lakes Business Park East along NW 60th Avenue are served moderately well by Metrobus routes. However, other sections of Miami Lakes are not served as extensively by Metrobus routes. Only two north-south routes and one east-west route operate adjacent to the Miami Lakes Town Center. Furthermore, one of these routes, Ludlam MAX, only operates during weekday peak travel periods. Metrobus service west of the Palmetto Expressway is less extensive. Only two routes, Route E and the Hialeah Gardens Connection, serve the western area of Miami Lakes. Moreover, Route E only serves the Miami Lakes Business Park along Commerce Avenue. Off-peak headways are 60 minutes or longer for all routes in the Town of Miami Lakes except Routes 75 and 83, indicating low levels of transit service for trip purposes other than work-related trips.

Existing Pedestrian and Bicycle Facilities

The availability of pedestrian and bicycle facilities and amenities plays a crucial role in encouraging the use of alternative modes of travel to the automobile. Not only do walking and bicycling serve as independent modes of transportation, the presence of pedestrian and bicycling facilities can enhance access to public transportation. Benefits associated with walking and bicycling include reducing traffic congestion, enhancing personal health and recreation, and reducing the need for automobile parking facilities.

Pedestrian Facilities

In order for walking to be considered a realistic transportation alternative, existing conditions need to be favorable for pedestrian use. The existing pedestrian network within the Town of Miami Lakes is depicted in Figure 8. Generally, the sidewalk coverage within the Town of Miami Lakes is good, especially within residential neighborhoods and the Miami Lakes Town Center. Most of the streets within residential neighborhoods have sidewalks on both sides of the street, as do streets within the commercial portions of the Town Center. However, significant sidewalk deficiencies exist in the business park on the east side of the Town of Miami Lakes, particularly along existing transit routes (NW 59th Avenue and NW 60th Avenue). Although a sidewalk exists along Commerce Avenue, the Miami Lakes Business Park West generally exhibits a lack of pedestrian features. In addition, the presence of the Palmetto Expressway bisecting the Town of Miami Lakes restricts the number of east-west pedestrian trip opportunities.

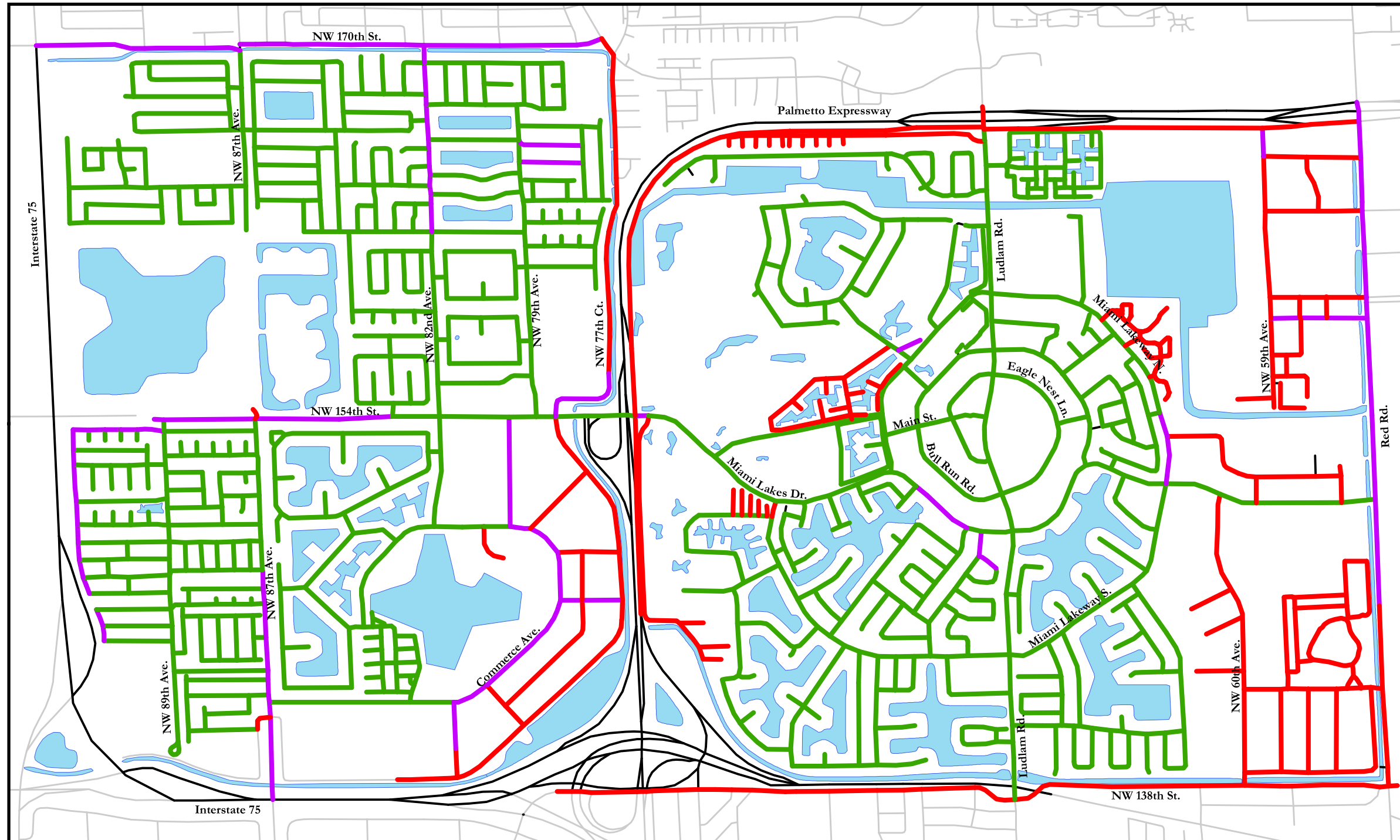
Bicycle Facilities

According to information maintained by the Miami-Dade County MPO, no dedicated bicycle facilities exist within the Town of Miami Lakes. However, a path exists along Ludlam Road that can be used by bicyclists, although this path does not meet standards to be classified as a bicycle facility. Several neighborhood streets are suitable for bicycle routes with low traffic volumes and low posted speed limits. By enhancing the presence of bicycle facilities, people will be encouraged to use alternative modes of transportation.

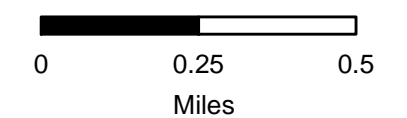
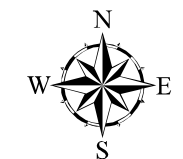
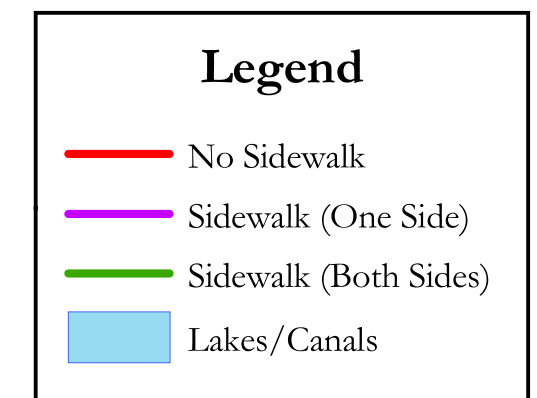


Town of Miami Lakes

Transportation Master Plan



Existing Pedestrian Facilities (Figure 8)



Pedestrian and Bicycle Level of Service

Similar to roadway level of service (LOS) discussed in the “Existing Traffic Conditions” section of this report, level of service measurements can be performed for the pedestrian and bicycle modes of transportation. The Miami-Dade MPO has assigned a level of service value, A through F, to arterial and collector streets within the Town of Miami Lakes for pedestrian level of service and bicycle level of service.

Pedestrian level of service was calculated based on the following five factors.

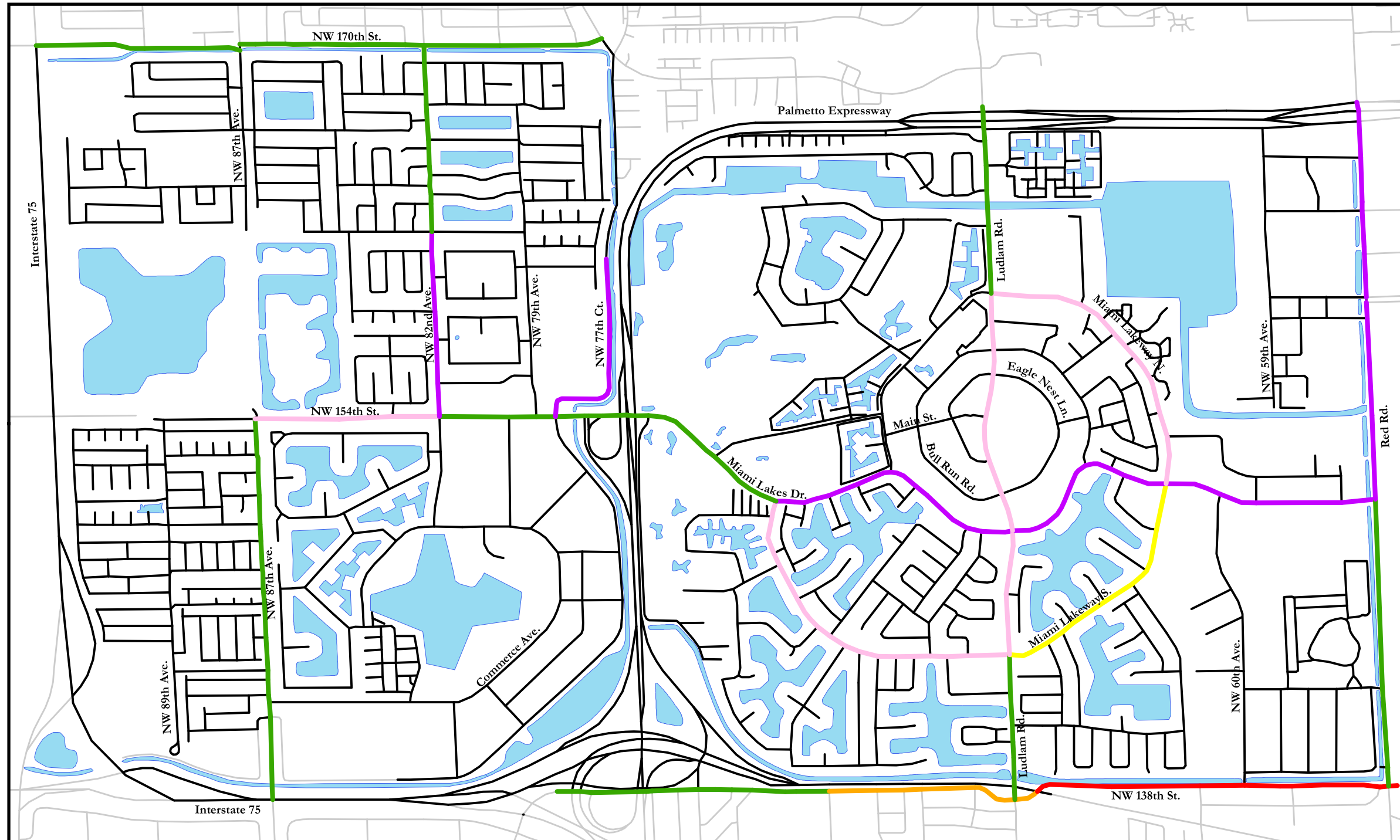
- Lateral separation between the vehicle and the pedestrian
- Traffic volumes
- Posted travel speed
- Vehicle mix
- Frequency of driveways

Each of these variables was weighted by a coefficient derived by stepwise regression modeling importance. A numerical score was determined and stratified to a level of service grade. Figure 9 presents the pedestrian level of service for arterials and collectors within the Town of Miami Lakes. Pedestrian level of service within Miami Lakes ranges from A to D for roadways except NW 138th Street, which is the only roadway to receive level of service grades of E and F.

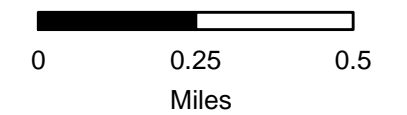
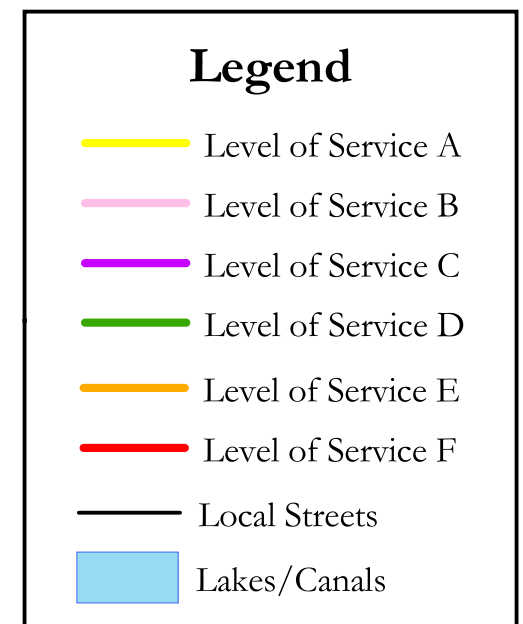


Town of Miami Lakes

Transportation Master Plan



**Pedestrian
Level of Service
(Figure 9)**



Bicycle level of service was calculated based on the following six factors.

- Traffic volumes
- Percent heavy vehicles
- Posted speed limit
- Pavement width and number of travel lanes
- Pavement condition
- Presence of shoulder or bicycle lane

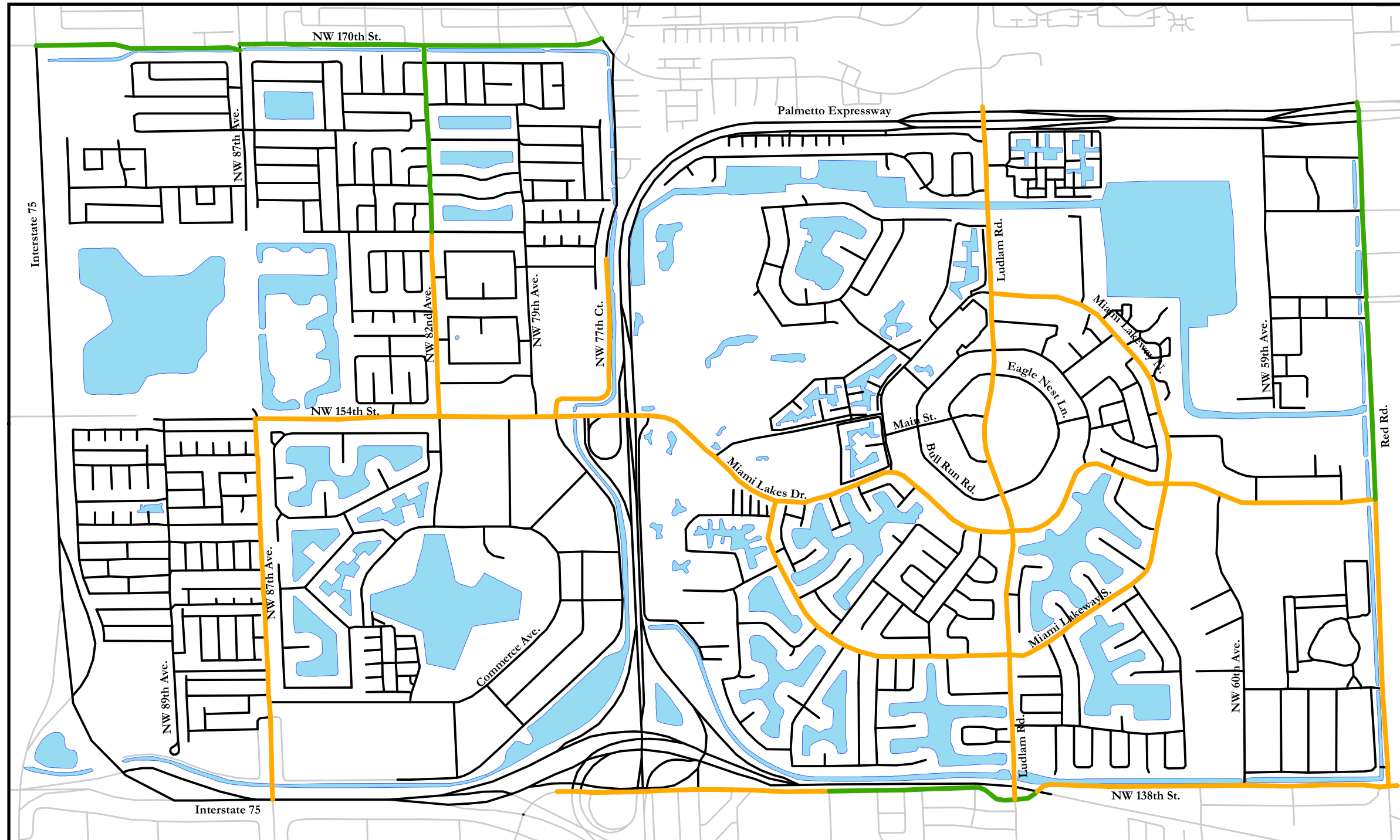
As with pedestrian level of service, each of these variables was weighted by a coefficient derived by stepwise regression modeling importance. A numerical score was determined and stratified to a level of service grade. Figure 10 presents the bicycle level of service for arterials and collectors within the Town of Miami Lakes. The vast majority of arterials and collectors within the Town of Miami Lakes exhibit a bicycle LOS E, representing poor conditions for bicyclists and a lack of provisions for bicycling as a mode of transportation.

Ludlam Road exhibits a bicycle LOS E, despite the presence of a bicycle path parallel to Ludlam Road. The bicycle level of service model does not take this facility into consideration because it only considers on-road bicycle facilities.

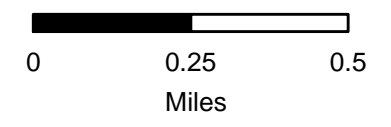
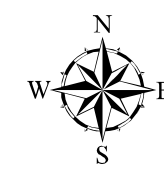
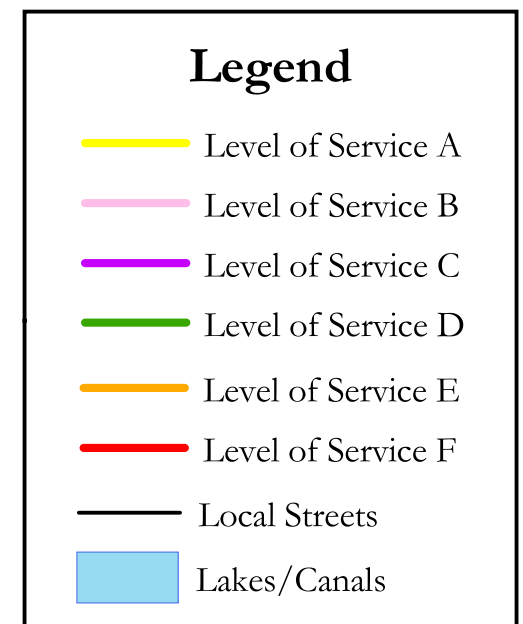


Town of Miami Lakes

Transportation Master Plan



**Bicycle
Level of Service
(Figure 10)**



Land Use Characteristics

The consideration of land use data is vital in multimodal transportation planning due to the synergy between land use and transportation. Compatibility of land uses with adjacent transportation infrastructure is important to enhance community livability and aesthetics.

The Town of Miami Lakes contains approximately 4,362 acres of land. Residential land uses account for the majority (56 percent) of the total land with low-density residential land use alone accounting for 40 percent. The next largest existing land use category is industrial and office, which totals an estimated 13 percent of the total land use. Table 9 lists the primary land uses along some of the Town's significant transportation corridors.

Figure 11 depicts major destinations within the Town of Miami Lakes. These are areas that attract a significant number of trips due to their land use characteristics. The major destinations within the Town include the Miami Lakes Town Center along Main Street (near NW 67th Avenue), the Miami Lakes Technical Education Center, the Miami Lakes Business Parks, schools, and the industrial areas along NW 57th Avenue and NW 59th Avenue in the eastern portion of Miami Lakes.

Figure 12 depicts the Future Land Use Map developed in the Town's Comprehensive Plan. Land use zoning is of vital importance when studying travel patterns because different types of land use produce different travel characteristics. For example, business and industrial land uses generate a high percentage of work-related trips but a low percentage of off-peak trips. As shown in Figure 12, much of the business and industrial land use areas within the Town are located along major transportation corridors such as NW 154th Street, NW 67th Avenue, and NW 57th Avenue. A medium-high density residential district is located around the north and west sides of the Miami Lakes Town Center. Significant areas of low density residential neighborhoods exist in both the eastern and western portions of the Town.

Table 9. Primary Land Uses Adjacent to Major Transportation Corridors

Segment	Functional Classification	Primary Land Uses
<u>NW 87th Avenue</u>		
NW 154th St. to Interstate 75	County Collector	Low Density Residential
<u>NW 82nd Avenue</u>		
NW 170th St. to NW 154th St.	County Collector	Low Density Residential
<u>NW 67th Avenue</u>		
SR 826 to Miami Lakeway N.	County Minor Arterial	Low Density Residential; Business/Office
Miami Lakeway N. to Mia. Lks. Dr.	County Minor Arterial	Medium-High Density Residential; Business/Office
Mia. Lks. Dr. to NW 138th St.	County Minor Arterial	Low Density Residential
<u>NW 60th Avenue</u>		
Mia. Lks. Dr. to NW 138th St.	Local	Industrial/Office
<u>SR 823 (NW 57th Avenue)</u>		
SR 826 to Miami Lakes Drive	State Principal Arterial	Industrial/Office; Institutional
Miami Lakes Drive to NW 138th St.	State Principal Arterial	Industrial/Office; Institutional
<u>NW 170th Street</u>		
NW 87th Ave. to NW 77th Ave.	County Collector	Low Density Residential
<u>NW 154th Street</u>		
NW 87th Ave. to NW 82nd Ave.	County Collector	Low Density Residential
NW 82nd Ave. to SR 826	County Collector	Business/Office; Industrial/Office
<u>Miami Lakes Drive</u>		
SR 826 to Miami Lakeway N.	County Collector	Business/Office; Parks/Recreation; Low-Medium Residential
Miami Lakeway N. to NW 67th Ave.	County Collector	Low/Low-Medium/Medium/Medium-High Residential
NW 67th Ave. to NW 57th Ave.	County Collector	Business/Office; Industrial/Office; Low Density Residential
<u>SR 916 (NW 138th Street)</u>		
SR 826 to NW 67th Ave.	State Minor Arterial	Business/Office; Low Density Residential
NW 67th Ave. to NW 57th Ave.	State Minor Arterial	Industrial/Office



Town of Miami Lakes

Transportation Master Plan



Major Destinations
(Figure 11)

Legend

- Major Destination
- Future Major Destination
- Schools
- Roadways
- Lakes/Canals

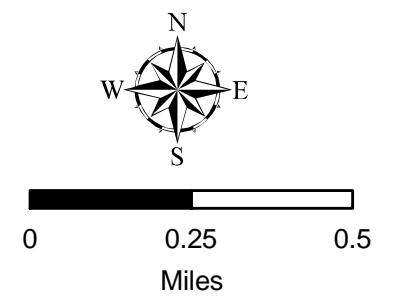
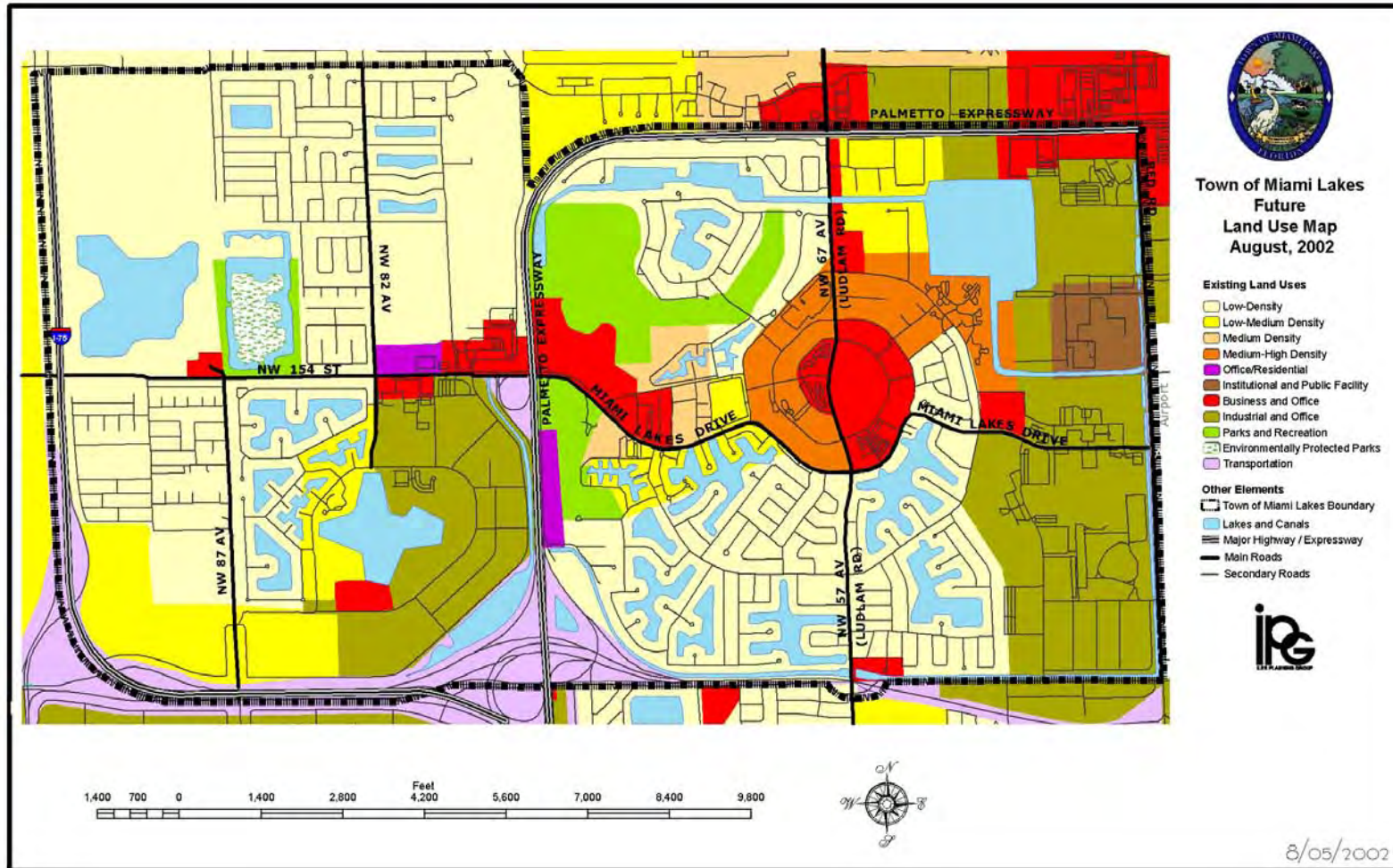


Figure 12. Future Land Use Map



DETERMINATION OF MOBILITY NEEDS

Based on an analysis of transportation data and land use patterns, mobility needs and deficiencies in the areas of traffic operations, transit, bicycling, pedestrian movements, and neighborhood traffic management were identified. Additionally, input was obtained from the study advisory committee (SAC) to further develop the list of transportation mobility needs. This chapter of the report outlines a general description of the determination of transportation mobility needs for the Town of Miami Lakes. A number of multimodal transportation strategies will be identified during the subsequent phase of this study to address these mobility deficiencies.

The “Determination of Mobility Needs” chapter of this report is divided into the following sections.

- Traffic
- Transit
- Bicycle
- Pedestrian
- Neighborhood Traffic Management

Traffic

Although a primary focus of this study is to identify strategies to increase the use and maximize the efficiency of alternative modes of transportation, several vehicular traffic needs were identified during the data analysis portion of this study. In addition, the study advisory committee (SAC) provided input on problem traffic locations within the Town. Vehicular capacity constraints were identified during this study at the following locations.

- NW 154th Street – High traffic volumes exist between NW 82nd Avenue and the Palmetto Expressway. Several traffic signals in this area further restrain capacity. Five traffic signals are located between NW 82nd Avenue and the northbound ramps of the Palmetto Expressway. This roadway segment is particularly vital because it provides a connection between the expanding residential areas in the western portion of Miami Lakes and the Palmetto Expressway. Furthermore, NW 154th Street provides the only connection between the eastern portion of the Town and the



Exhibit 1. Traffic Queues Often Form along NW 154th Street in the Vicinity of the Palmetto Expressway Interchange

western portion. In addition, NW 154th Street narrows to two lanes for the short segment between NW 85th Avenue and NW 87th Avenue. When NW 87th Avenue is constructed north of NW 154th Street, the segment of NW 154th Street between NW 82nd Avenue and NW 87th Avenue is expected to carry increased traffic volumes.

- NW 138th Street – High traffic volumes exist along this two-lane roadway that forms the southern boundary of the Town of Miami Lakes.
- Miami Lakeway North – Turning movements from this roadway onto Ludlam Road are particularly congested during peak periods and school commencement and dismissal.
- Ludlam Road – The interchange of Ludlam Road and the Palmetto Expressway creates a “bottleneck” effect; northbound traffic often queues along Ludlam Road to the south through the Town. During the morning peak, southbound traffic along Ludlam Road often experience delays at the Miami Lakeway North intersection.
- Red Road – Similar to Ludlam Road, the interchange of Red Road and the Palmetto Expressway creates a “bottleneck” effect. The numerous businesses and industrial parks along Red Road produce traffic congestion during the traditional peak periods of traffic when employees are traveling to and from work.
- NW 82nd Avenue north of NW 162nd Street – A lack of turn lanes at several intersections creates queues along the two-lane portion of NW 82nd Avenue because left-turning traffic blocks the through traffic. Although street closures have impacted several intersections along this corridor, some intersections remain open and may experience increased usage due to diverted traffic from adjacent street closures.

- Palmetto Expressway Frontage Road (NW 77th Court) – High traffic volumes along this roadway in conjunction with constrained capacity at the signalized intersection at NW 154th Street often create excessive delays and traffic queues.



Exhibit 2. Traffic Queue on Southbound NW 77th Court (Palmetto Expressway Frontage Road) Approaching NW 154th Street

Transit

During the data analysis portion of this study, several transit service gaps and needs were identified. Existing transit service within the Town provided by Miami-Dade Transit (MDT) includes several Metrobus routes. The Metrobus routes primarily travel along major thoroughfares and the service is focused on regional travel. Circulation for trips within the Town is not as well served by existing routes. Therefore, a potential municipal trolley bus service may be appropriate to serve transit circulation needs within the Town. This potential service will be further evaluated during the “Transportation Mobility Strategies” chapter of this study.

The western portion of the Town is not as well served by transit routes as the eastern portion. Only two Metrobus routes operate west of the Palmetto Expressway. Route E serves the Miami Lakes Business Park West; the Hialeah Gardens Connection serves NW 87th Avenue and NW 82nd Avenue, connecting to the Palmetto Metrorail Station. Although 20- to 30-minute headways exist for most routes during peak travel periods, most routes that serve the Town exhibit infrequent headways during the off-peak period. Therefore, trips other than work-related trips are not well-served by the Metrobus service including lunch trips. These characteristics are an important aspect for consideration during the feasibility analysis for the potential municipal trolley bus.

Although the Town of Miami Lakes features a thriving, pedestrian-friendly Town Center, there is no transit hub to facilitate multimodal accessibility in the area. No circulator buses or trolleys currently operate in the area. Two Metrobus routes operate along Ludlam Road, although the Ludlam MAX only operates during the morning and afternoon peak periods. A transit hub, possibly located along Ludlam Road near Main Street, could improve multimodal accessibility to the Town Center. The transit hub could consist of various components including a bus pullout/driveway and an expanded bus shelter. The transit hub could also serve as a focal point for a potential municipal trolley bus service and function as a public plaza.

Although some bus stops in Miami Lakes provide shelter and a bench, others provide no amenities for transit patrons waiting for a bus. A need exists to provide benches at bus stops within the Town that currently do not have these amenities. In addition, shelters are needed at some bus stops with high levels of passenger activity. Providing a consistent design and set of amenities at bus stops will increase familiarity and enhance the quality of transit patrons' experience.



Exhibit 3. Some Bus Stops within the Town Have No Amenities and are only Marked by a Standard Sign

Bicycle

Most streets in the Town of Miami Lakes are primarily designed for motorized vehicles at the expense of non-motorized modes of travel. Currently, the lack of convenient and appropriate bicycle facilities in the area often leads to bicyclists riding in mixed traffic conditions, which may discourage some people who would like to bicycle as a means of transportation or recreation. There is a general lack of on-street bicycle facilities within the Town. A few off-street pathways exist that bicyclists can use such as the path along the east side of Ludlam Road. However, wider pathways that can serve as multi-use paths may be beneficial toward improving accessibility for

bicyclists. In addition, a broader network of multi-use paths would improve mobility for bicyclists and expand the number of destinations served by bicycle facilities.



Exhibit 4. The Wide Sidewalk along the East Side of Ludlam Road

Bicycle facilities along roadways with a high level of transit service could allow bicyclists to take advantage of Miami-Dade Transit’s Bike & Ride program. In addition, installing bicycle racks at employment centers, recreational parks, and other public places could encourage the use of bicycling as a means of transportation. Providing a safe and effective network of bicycle improvements will be key to encouraging bicycling.

Pedestrian

The success of transit and other alternative modes of travel are highly dependent on the level of pedestrian facilities and amenities. As a travel mode, walking offers the potential to reduce traffic congestion by encouraging short trips to be made on foot and by increasing accessibility to public transportation. As a recreational activity, walking offers the potential to contribute to a healthy citizenry. As presented in the “Data Collection and Analysis” chapter of this report, the Town of Miami Lakes generally has good sidewalk coverage, especially in residential areas. However, sidewalks are lacking along many roadways in employment areas, especially within the Miami Lakes Business Parks. This is contradictory with the high concentration of transit service in these employment areas. Increasing the provision and interconnectivity of sidewalks in these

employment areas would facilitate walking to and from the bus stops and could increase the use of public transit as a means for accessing these employment centers.



Exhibit 5. Most Streets within the Miami Lakes Business Park East do not have Sidewalks

Neighborhood Traffic Management

Traffic management concerns in residential neighborhoods have been identified during this study. These include speeding and a general lack of left-turn lanes on NW 82nd Avenue north of 162nd Street. In addition, there are school-related traffic issues around Miami Lakes Elementary School, Miami Lakes Middle School, Barbara Goleman High School, and the Bob Graham Education Center. Various established neighborhoods have also been increasingly impacted by regional cut-through traffic as traffic congestion on roadways serving regional trips worsens.

Summary

In this chapter of the report, mobility needs and deficiencies in the areas of traffic operations, transit, bicycling, pedestrian movements, and neighborhood traffic management were identified for the Town of Miami Lakes. Figure 13 presents a summary of the transportation needs and deficiencies identified as part of the *Town of Miami Lakes Transportation Master Plan*.

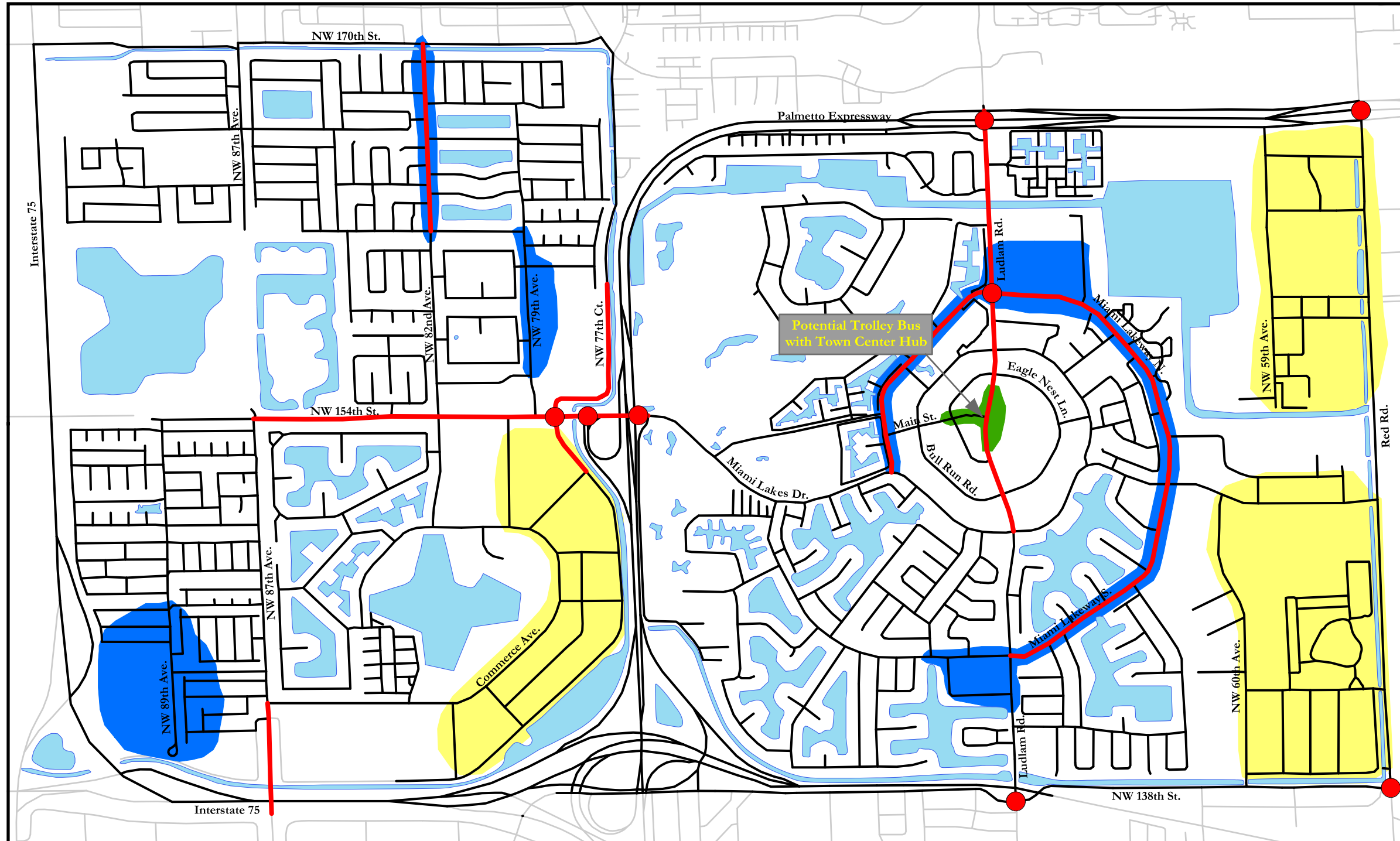
A series of community workshops were held by Town leaders prior to the beginning of this study. During the workshops, members of the community were given the opportunity to provide input on various transportation issues within the Town. Figure 14 presents potential transportation projects identified by the public during these community workshops.



Town of Miami Lakes

Transportation Master Plan

Transportation Needs (Figure 13)



Legend

- Intersection Capacity Deficiencies
- Roadway Segment Overcapacity
- Potential Transit Hub
- Enhanced Sidewalk Network
- Neighborhood Traffic Management
- Local Streets
- Lakes/Canals

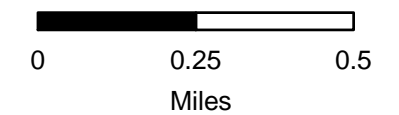
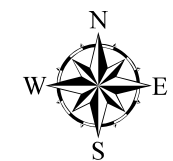
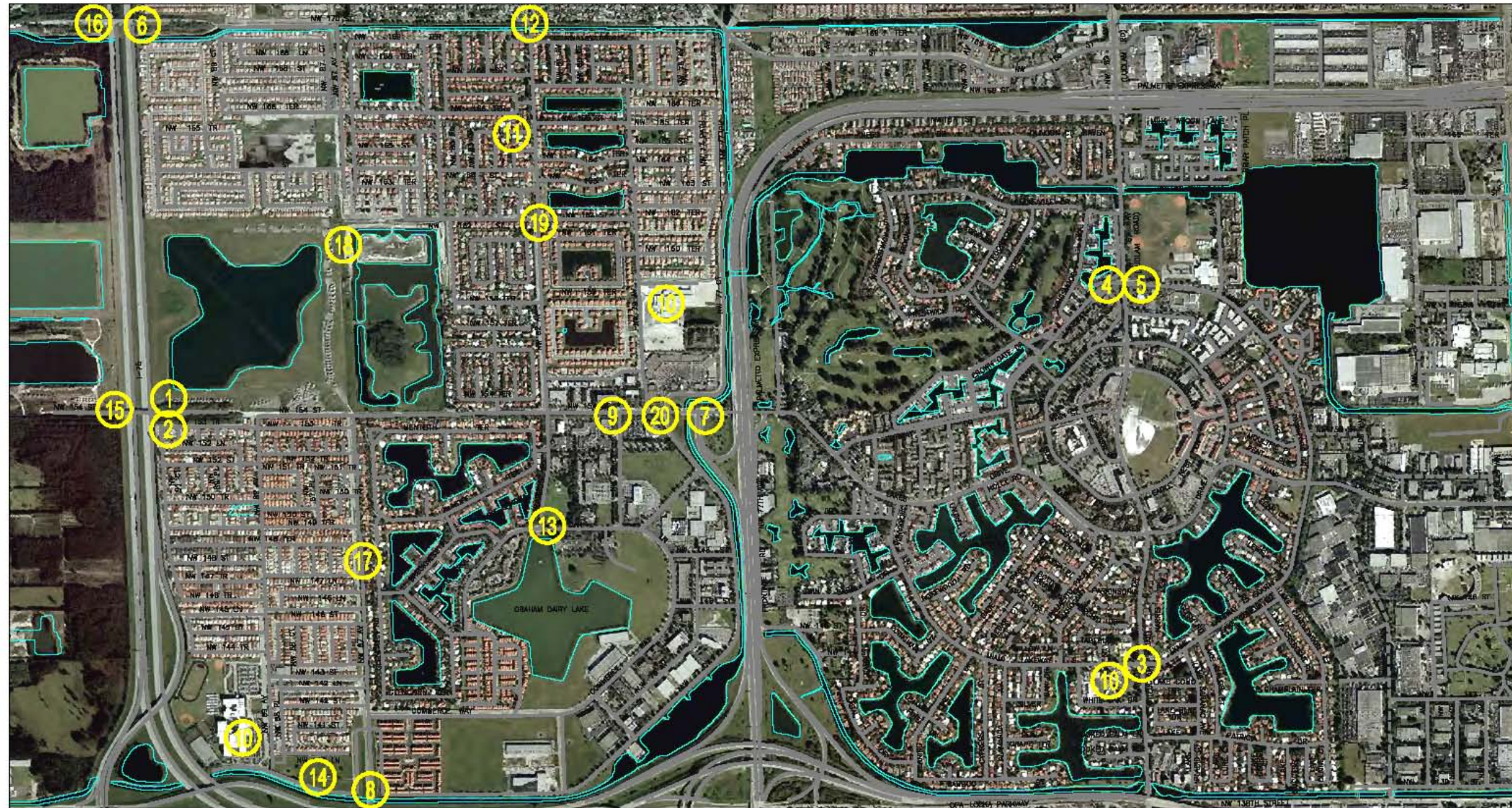


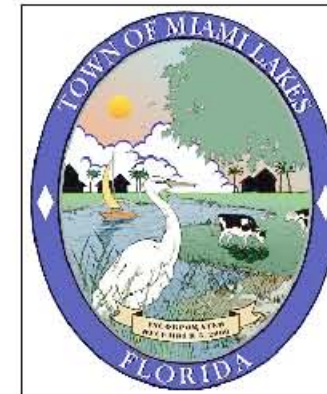
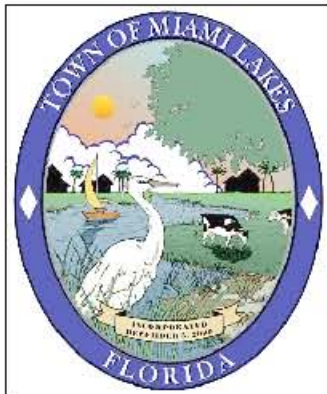


Figure 14



POTENTIAL PROJECTS REFERENCE NUMBER AND DESCRIPTION

- | | | |
|--|--|--|
| 1. CONSTRUCT NORTHBOUND RAMP ON TO I-75 AT NW 154 STREET | 8. ON/OFF RAMP AT NW 67 AVENUE AND I-75 | 14. CONSTRUCT BARBARA GOLDMAN ACCESS ROAD |
| 2. CONSTRUCT EXIT RAMP ON NORTHBOUND I-75 AT NW 154 STREET | 9. SIGNALIZATION/TRAFFIC LIGHT TIMING ON NW 154 STREET BETWEEN SR 826 AND NW 82 AVENUE | 15. EXTEND NW 154 STREET WEST OF I-75 |
| 3. EXTENDING DEDICATED RIGHT TURN LANE TRAVELING EASTBOUND ON MIAMI LAKEWAY SOUTH TO TURN SOUTH ON TO NW 67 AVENUE | 10. COORDINATION OF SCHOOL HOURS FOR BARBARA GOLEMAN SENIOR HIGH, BOB GRAHAM EDUCATIONAL CENTER, AND PALM SPRINGS NORTH ELEMENTARY | 16. EXTEND NW 170 STREET WEST OF I-75 |
| 4. EXTEND LEFT TURN LANE EASTBOUND ON MIAMI LAKEWAY NORTH AT NW 67 AVENUE | 11. ADDITIONAL BUS ROUTES WEST OF SR 826 | 17. WIDEN NW 67 AVENUE FROM NW 138 STREET TO NW 154 STREET |
| 5. EXTEND RIGHT TURN LANE WESTBOUND ON MIAMI LAKEWAY NORTH AT NW 67 AVENUE | 12. EXTEND LEFT TURN LANE NORTHBOUND ON NW 82 AVENUE AT NW 170 STREET | 18. CONSTRUCT/WIDEN NW 67 AVENUE FROM NW 154 STREET TO NW 186 STREET |
| 6. ON/OFF RAMP AT NW 170 STREET AND I-75 | 13. CONSTRUCT LEFT TURN LANE SOUTHBOUND ON NW 82 AVENUE AT NW 82 AVENUE AND OAK LANE | 19. CONSTRUCT LEFT TURN LANE NORTHBOUND ON NW 82 AVENUE AT NW 162 STREET |
| 7. REALIGNMENT OF NW 154 STREET AND THE ACCESS ROAD AT SR 826 | | 20. CONSTRUCT RIGHT TURN LANE SOUTHBOUND ON NW 77 COURT AT NW 154 STREET |



Potential Projects from Public Outreach

TRANSPORTATION MOBILITY STRATEGIES

Based on the transportation data analysis and identification of transportation needs described earlier in this report, a program of transportation strategies has been developed to accommodate local mobility needs for the Town of Miami Lakes. The strategies recommended in this study are intended to address transportation system deficiencies while also enhancing the character of the community and improving the quality of life for its citizenry.

The transportation mobility strategies are divided into sections based on transportation mode. The strategies that specifically address traffic and roadway needs have been further divided into four sections: transportation demand management (TDM), transportation system management (TSM), neighborhood traffic management, and long-term system improvements. Other sections addressing mobility strategies for alternative transportation modes include transit, bicycle, and pedestrian.

Transportation Demand Management (TDM)

Many conventional transportation improvement strategies solve some problems, but exacerbate others. For example, roadway widening provides more capacity but often leads to higher traffic volumes and vehicle speeds that tend to contradict other economic, social, and environmental goals. In addition, conventional roadway widening is generally a high cost strategy and places a strain on limited land resources. Therefore, alternative transportation mobility strategies are often desired that meet a broader set of goals.

Transportation demand management (TDM) is a general term for strategies that result in more efficient use of transportation resources without modifying the transportation network. TDM strategies are designed to promote programs intended to maximize the people-moving capability of the transportation system by techniques such as shifting travel to non-automobile modes, increasing the number of persons in vehicles, and influencing the time of or need to travel. TDM strategies typically involve employers and public agencies who influence the travel behavior of employees and citizens through work hour policies, provision and pricing of parking, shuttles, commuter benefits, ridematching services, or vanpool formation assistance.

Numerous TDM programs are currently being employed in urban areas across the country, some of which may be beyond the Town's level of interest. Potential TDM strategies include the following.

- Carpooling – Carpooling is an arrangement in which two or more people share the use and cost of privately-owned vehicles while traveling together to and from prearranged destinations.
- Vanpooling – Vanpooling is typically a more structured form of carpooling that involves more people and thus, higher capacity vehicles. Vanpooling is most practical when a number of employees working in the same office or industrial park have longer distance commutes and also live near each other or can meet at a park-n-ride lot. One member of the vanpool volunteers to drive (and typically rides free), while the others share the cost of operating the van. Vanpools can be (1) owned and operated by an individual, (2) owned by an employer, or (3) provided through a third-party leasing arrangement. Sharing the cost of fuel and maintenance can lead to significant cost reductions for commuters.
- Commuter Tax Benefit – Federal tax law stipulates that employers can subsidize their employees' vanpool or transit commutes. An employer can give its employees up to \$100 per month tax-free to commute on transit or in a qualified vanpool. The employer can deduct the cost of this assistance as a business expense.
- Compressed Work Week – A compressed work week is an alternative work schedule in which employees work longer hours each day but fewer days per week. Compressed work weeks typically allow employees to travel to and from work outside of traditional peak hours of travel.
- Congestion Pricing – Market-based pricing strategies can be designed to encourage a shift of peak period trips to off-peak periods or to route traffic away from congested facilities during peak demand periods. Congestion pricing can also be used to encourage transit and carpooling by giving preferential treatment to high-occupancy vehicles. For example, on February 17, 2003, the City of London, U.K., began charging a fee for driving an automobile in its central area during weekdays as a way to reduce traffic congestion and raise revenues to fund transportation improvements.
- Flex-Time – Flex-time is an alternative work schedule in which employees choose their own work schedule within a set standard number of hours. Employees can

choose a schedule that allows them to travel outside of the traditional peak hours of travel. Organizations with a large number of employees will likely experience a broad range of working hours, thereby reducing the strain on the transportation system caused by many employees arriving and departing within a small window of time.

- Parking Management – Parking management strategies utilize a variety of factors to balance the availability of parking with the availability of modal alternatives. Numerous strategies are included in parking management including parking pricing, shared use parking, and time restrictions. One common strategy is preferential parking locations, or discounted parking, provided by employers for carpools to encourage ridesharing.
- Park-n-Ride Lots – These parking facilities allow a transfer from low occupancy vehicles to carpools, vanpools, or transit services. These facilities are often located in the vicinity of a transit hub.
- Staggered Work Hours – Staggered work hours is an alternative work schedule in which different groups of employees arrive and depart at different times to offset the employment center’s congestion impacts on the surrounding roadway network.
- Telecommuting – Telecommuting is a work arrangement in which employees work at home or another location outside of a central facility on one or more days per week. These off-site employees often use technology-based applications such as e-mail and teleconferencing to communicate with fellow employees.
- Transportation Management Organization/Coordinator – A public or private organization or professional staff can help provide information and guidance for TDM programs to businesses and individuals leading to increased awareness and participation in these programs. In addition, employers can appoint their own employee transportation coordinators (ETC) who can help coordinate transportation options.
- Transportation Management Association (TMA) – A TMA is formed to help solve transportation issues within a specific area, such as a town, a central business district, or a university campus. A TMA is incorporated to combine business resources and expertise with government efforts to solve local transportation problems. Funding typically comes from both public and private sectors including government grants, dues paid by member companies, and tax deductible in-kind contributions. TMAs often serve as operators for transit circulator systems.

Many of the described TDM strategies have potential application based on the needs of the Town of Miami Lakes. For instance, the alternative work schedule strategies could be promoted to businesses and corporations within the Town's two large business parks. Typically, alternative work schedule strategies are most effective when 100 or more employees are located at a single site. Preferential parking treatment for carpools and vanpools is another strategy that could be applied within the business parks.

Collecting data from employers could allow further analysis into the feasibility of TDM strategies within the Town of Miami Lakes, especially in the two business parks. Pertinent data that could be collected from employers include the number of employees per shift, the level of interest in participating in commuter assistance programs, and the current modal split of commuters (i.e. – what percentage of commuters drive alone to work versus carpooling, riding transit, or walking). Results of an employer survey that is being prepared by the Miami Lakes Economic Development Committee should be examined and may provide insight into the feasibility of TDM strategies.

The Florida Department of Transportation (FDOT) operates a commuter assistance program called South Florida Commuter Services (SFCS). SFCS is dedicated to improving South Florida's traffic conditions by promoting alternatives to drive-alone commuting. Town staff have already begun meeting with representatives of SFCS to discuss implementing TDM strategies within the Town. SFCS also works closely with employers to serve as a guide on employee transportation issues and a source of information on TDM strategies. To encourage employers to become involved in transportation demand management, Town staff should recommend that employers participate in workshops with the SFCS.

As a method of reasoned and sustainable transportation planning, TDM strategies are consistent with the goals and vision of the Miami Lakes Transportation Master Plan. The following is the recommended TDM strategy for the Town of Miami Lakes:

1. Encourage TDM strategies including alternative work schedules (compressed work week, flex-time, and staggered work hours) and preferential parking treatment for carpools and vanpools for businesses and corporations in the business parks. This can be accomplished by continuing to work with representatives of the South Florida Commuter Services (SFCS) to provide guidance and direction to employers for implementing TDM strategies. Results of a survey being prepared by the Miami Lakes Economic

Development Committee could be used to provide data about the viability of TDM strategies in various organizations. In addition, SFCS maintains an employer database. If employers' participation level in TDM strategies proves to be good, the Town may consider appointing a staff member (or a portion of a staff member's time) to serve as transportation coordinator with the responsibility of supplementing the work done by SFCS and further championing TDM strategies within the Town.

Transportation System Management (TSM)

Transportation system management (TSM) is the process of modifying or optimizing the existing transportation system through less capital intensive means to increase system efficiency. Unlike TDM strategies, which focus on driver behavior, TSM strategies focus on physical changes to the roadway network that increase capacity through less capital intensive measures than traditional roadway widening. Potential TSM strategies are discussed below.

- Traffic Signal Optimization – Coordinating a group of traffic signals can provide efficient vehicle progression along a roadway corridor. Cycle lengths and signal offsets can be optimized to increase vehicle throughput. However, the needs of pedestrians must also be considered when timing traffic signals by providing sufficient pedestrian clearance intervals in the signal phase timings.
- Geometric Roadway Improvements – Spot roadway and lane improvements can be implemented to provide relief for specific bottlenecks along a corridor.
- Intersection Improvements – Intersections often represent the most severe capacity restraints on roadway networks in urban environments. Capacity improvements at intersections can often increase the capacity of an urban transportation network. Intersection improvement strategies include changes in traffic control, signal phasing modifications, safety improvements, pedestrian infrastructure, construction of additional turn lanes, or other traffic treatments.
- Access Management Enhancements – Access management is a comprehensive approach to the management and regulation of driveways, medians, median openings, and traffic signals. The goal of access management is to limit and separate traffic conflict points. Urban corridors with a proliferation of poorly located and closely spaced driveways, intersections, and traffic signals are candidates for access management enhancements.

Based on the mobility needs of the Town of Miami Lakes, TSM strategies offer the potential to increase transportation network capacity without conflicting with the Town's livability and quality of life goals. The following are the recommended TSM strategies for the Town of Miami Lakes:

1. Extend westbound right-turn lane on Miami Lakeway North at the Ludlam Road intersection.
2. Extend eastbound left-turn lane on Miami Lakeway North at the Ludlam Road intersection.

FDOT Improvements along NW 154th Street

3. Implement potential improvements identified by the Florida Department of Transportation (FDOT) along NW 154th Street in the vicinity of the Palmetto Expressway interchange. Coordination with FDOT will be required throughout the design and construction process. The potential improvements include:
 - Eastbound dual left-turn lanes on the eastbound to northbound movement
 - Westbound dual left-turn lanes on the westbound to southbound movement
 - Eastbound exclusive right-turn lane for the eastbound to southbound movement
 - Southbound dual left-turn lanes on the NW 77th Court (Palmetto Expressway frontage road) approach to NW 154th Street
 - Northbound exit ramp capacity improvements and lane extensions (right-turn lane)
 - Sidewalks along the north side and the south side of NW 154th Street should be reconstructed and pedestrian ramps added
 - Bicycle lanes (4 feet in width) added along the length of the NW 154th Street construction project in the vicinity of the Palmetto Expressway.

Other Improvements along the NW 154th Street Corridor

4. Traffic signals along the NW 154th Street corridor will likely require re-timing as a result of the improvements described above. These intersection improvements combined with traffic signal optimization should improve traffic flow in the corridor and reduce delay on cross-streets. The Town should monitor the NW 154th Street corridor following

implementation of FDOT improvements to determine if further capacity improvements are needed.



Exhibit 6. Northbound Left-Turns Are Often Restricted during the Afternoon Peak Period on the Palmetto Expressway Exit Ramp by Traffic Congestion along NW 154th Street

Neighborhood Traffic Management

Neighborhood traffic management seeks to improve neighborhood livability by reducing the impact of traffic in residential neighborhoods and promoting safe and pleasant conditions for all users of local streets. School-related traffic issues are also discussed in the “Neighborhood Traffic Management” section.

Motorists often take advantage of long, straight roadways to drive at higher speeds and more aggressively than is appropriate on residential roadways. Neighborhood traffic management can be accomplished through means such as traffic calming measures to physically alter the environment or increased enforcement levels to change driver behavior. Since funding for increased enforcement is often limited, local agencies often employ traffic calming techniques as a method of slowing automobile traffic on residential and local streets. Traffic calming techniques include measures to alter motorists’ perception, such as streetscaping, and measures to alter the physical nature of the roadway, such as constructing traffic circles or chicanes. Traffic

circles require motorists to slowly maneuver around a landscaped median. Chicanes are curb extensions that alternate from one side of the street to the other, forming S-shaped curves that discourage high speeds by forcing horizontal deflection.

School-related traffic concerns also are considered neighborhood traffic management issues. Four schools exist within Miami Lakes: Miami Lakes Elementary School, Miami Lakes Middle School, Barbara Goleman High School, and Bob Graham Education Center. A preliminary analysis was performed regarding traffic flow issues associated with daily commencement and dismissal at the four schools.

The possibility of one-way traffic flow in the street network surrounding the schools was studied as a potential solution to solve long traffic queues that often develop, especially around school dismissal. Only Barbara Goleman High School and Bob Graham Educational Center are in the vicinity of a street network that might be appropriate for allowing one-way traffic flow. However, changing the direction of traffic flow presents significant traffic engineering challenges and should only be implemented following a detailed study of specific traffic flows around the schools including the following issues:

- Shifting traffic movements from one intersection to an alternate intersection(s) could significantly degrade operations and increase overall system travel time.
- Providing proper signing is a primary concern in cases where traffic flow rules are significantly altered at different times of the day.
- Long single file queues often form to enter a school driveway, especially during the afternoon dismissal period. Since the entrances and exits are often one-lane driveways, providing two lanes of capacity by implementing one-way traffic flow on a two-lane roadway approaching a school may not be an appropriate solution to reduce traffic queues. However, this solution would allow traffic with a destination other than the school to pass without having to wait in the queue for the school. Removing these vehicles from the school queue would also slightly reduce the length of the queue.
- Implementing significant changes to traffic flow in the surrounding street network should only be applied after studying the site access and traffic circulation on the school grounds to determine if on-site solutions can be found.

Conducting a specific traffic study aimed at school traffic is recommended to determine what improvements could be implemented to ease traffic congestion associated with school commencement and dismissal. On-site solutions should be considered first including potential options such as providing multiple pick-up/drop-off points, extending vehicle storage lengths, using school transportation workers to direct traffic, and staggering school hours. Potential one-way traffic flow alternatives that should be studied in more detail include (1) a counterclockwise loop at Barbara Goleman High School utilizing NW 146th Street and NW 89th Street following construction of the access road and (2) operating NW 79th Avenue as northbound only in the vicinity of Bob Graham Education Center during the school dismissal period.

Neighborhood traffic management strategies are important components of enhancing the quality of life for residents of Miami Lakes. The following are the recommended neighborhood traffic management strategies for the Town of Miami Lakes:

1. Implement recommendations from the NW 82nd Avenue corridor study to reduce speeding and enhance safety along NW 82nd Avenue between NW 154th Street and NW 170th Street. Some of the recommendations from this study may no longer be valid due to recent changes in the entrance streets to adjacent residential neighborhoods. However, the following improvements are still valid for the NW 82nd Avenue corridor.
 - a. Remove four-way stop control and install traffic circle at the intersection of NW 82nd Avenue and NW 162nd Street.
 - b. Install a raised center island at mid-block location(s) between NW 154th Street and NW 162nd Street.
 - c. Implement various other enhancements to signage and pavement markings along the NW 82nd Avenue corridor and side streets.
2. Develop external site access and internal circulation plans for the schools in the Town of Miami Lakes to determine what improvements could be implemented to ease traffic congestion associated with school commencement and dismissal.
3. Develop a speed management plan along Miami Lakeway North and Miami Lakeway South and the residential neighborhoods that surround these roadways. The speed management plan should consider measures that influence travel speeds such as traffic circles and raised crosswalks at intersections. Improvements that discourage cut-through traffic in surrounding residential neighborhoods should be implemented where warranted.



Exhibit 7. The Tree-lined Miami Lakeway South Is a Community Asset Where Traffic Should Be Limited to a Respectful Speed

Long-Term Roadway Strategies

Palmetto Expressway Corridor

The Palmetto Expressway interchanges with Ludlam Road and Red Road exhibit similar traffic congestion patterns during the morning and afternoon peak periods. Long traffic queues often develop for northbound through traffic that affect operations at several other intersections within the Town. Both interchanges also experience queues along the westbound exit ramps that often extend to the Palmetto Expressway main line during peak periods. In addition, limited storage is available for northbound and southbound left-turn lanes below the Palmetto Expressway overpasses due to the close proximity of the Palmetto Expressway frontage road intersections on either side.

Field reviews were conducted during both morning and afternoon peak periods at these two interchanges. In addition, an analysis of the network of roadways, lane configurations, and ramps was conducted using aerial photography and measurements gathered during the field review. A few minor modifications may be implementable that could affect traffic operations, but most modifications will require in-depth study of the corridor. Therefore, the Town should encourage

the Florida Department of Transportation (FDOT) to examine the issue of traffic congestion at the Red Road and Ludlam Road interchanges in a more detailed study to develop viable alternatives.

Potential short-term capacity improvements that could provide benefit include optimizing traffic signal timing and paving the gravel shoulder of the westbound Ludlam Road exit ramp to extend the storage length of the left-turn lane.

Potential long-term capacity improvements at the Palmetto Expressway interchanges could include extending ramps to provide more queue storage, closing specific movements to provide increased capacity for other movements, and adding auxiliary lanes along the Palmetto Expressway between the Ludlam Road and Red Road interchanges. Analysis of these alternatives should include a queuing analysis along the intersection approaches, weaving analysis of the ramps along the Palmetto Expressway, and traffic safety impacts of the alternatives.



Exhibit 8. Gravel shoulder along westbound Ludlam Road exit ramp

Transit

The data analysis and determination of mobility needs section of this study determined that several transit deficiencies exist within the Town of Miami Lakes. While service provided by

Miami-Dade Transit (MDT) is well-focused on regional travel, circulation for shorter trips within the Town is not served as well. In addition, existing Metrobus service is concentrated during the morning and afternoon peak periods of travel; trip purposes that typically occur in the off-peak periods, such as shopping and lunch, are not well served by existing Metrobus service. Furthermore, no transit route directly connects the residential neighborhoods in the western portion of the Town to the Town Center.

According to guidelines set forth in Miami-Dade County's *Local Municipal Transit Circulator Policy Study*, the demographics of the Town of Miami Lakes are not indicative of transit dependency including the percentage of residents aged 65 and older, percentage of households with income less than \$20,000, and percentage of households with zero automobiles. However, other criteria developed in the study are met including the availability of a potential funding source for the transit circulator, recognizable gaps where transit service is not currently provided, presence of a specific activity center in the community, and obtaining requests for service from members of the community.

In particular, the Town's portion of the tax revenue generated by the People's Transportation Plan sales tax is a potential funding source for a local transit circulator service. In addition, portions of the Town are beyond a ¼-mile walking distance from an existing transit stop. Although two Metrobus routes pass close to the Miami Lakes Town Center along Ludlam Road, one of these routes (Ludlam MAX) only operates during peak travel periods and the other route (Route 83) serves a limited number of destinations within Miami Lakes along Ludlam Road. Therefore, a potential demand may exist for a municipal transit circulator within the Town of Miami Lakes that would serve residential and commercial areas within the Town and link these areas to the Miami Lakes Town Center and other popular shopping destinations.

Three primary options were considered for providing municipal transit service within the Town of Miami Lakes.

- Conventional fixed-route transit circulator service
- Transit circulator with specific target populations
- Dial-a-Ride paratransit service

Route Characteristics – Conventional Fixed-Route

Figure 15 presents conceptual transit circulator routes that could be evaluated for implementation in the Town of Miami Lakes. The following characteristics describe these conceptual transit routes.

- Routes were designed to be compatible with a 30-minute headway schedule. Headways of 30 minutes or fewer are recommended for municipalities that are serious about providing a viable transportation alternative for its citizenry. Headways can be reduced by adding multiple buses on the route.
- Most routes serve either the eastern or the western portion of the Town. Based on the size of the Town and the street network characteristics, providing 30-minute headways on a route that serves the entire Town is not possible with only one bus.
- The Miami Lakes Town Center along Main Street serves as a focal point and common destination for the transit routes; a high-density area with mixed uses is generally regarded as a relatively ideal environment for a transit center.

Route Characteristics – Specific Target Populations

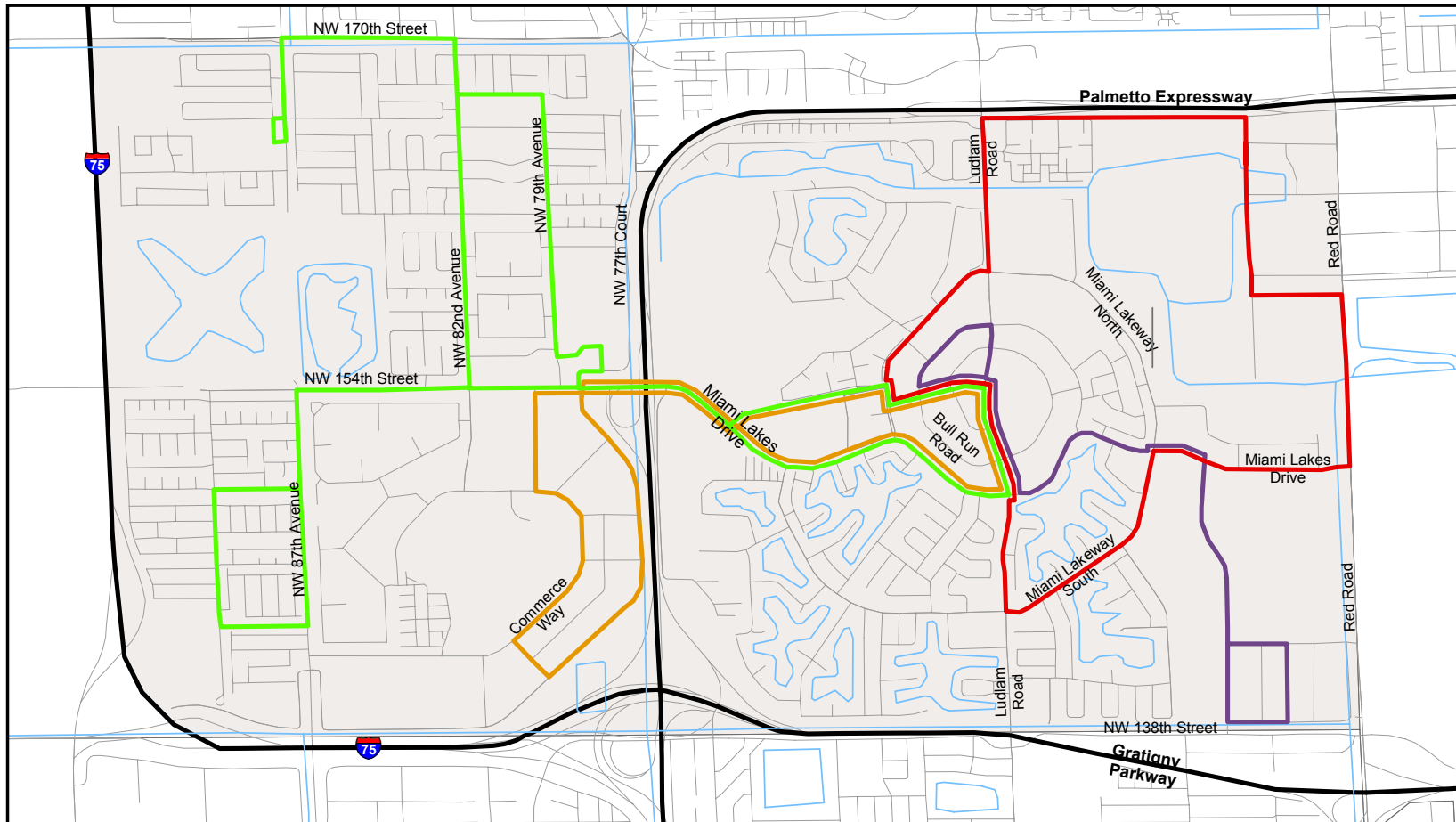
One option for transit circulator services within the Town is to provide a service that targets specific population groups such as school-age children and lunch goers. The concept is to utilize the same buses for different purposes throughout the day. The following characteristics describe the conceptual transit service that could serve this purpose.

- The transit service could transport children to schools during the morning school commencement period. Service should be targeted to children that live within the school boundaries that would be placed at risk if they walked to school due to difficult crossings or other obstacles.
- A lunch route could operate between the business parks and the Miami Lakes Town Center during the mid-day period. One route could serve the Miami Lakes Business Park East and another route could serve the Miami Lakes Business Park West. Each route could be served with one bus on 20-minute headways or two buses on 10-minute headways. Strong consideration should be given to providing headways of 10 minutes (four total buses along two routes) or less because many potential lunch



Town of Miami Lakes

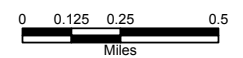
Transportation Master Plan



**Potential
Transit Circulator
Network
(Figure 15)**

Legend

- Route 1 West
- Route 2 East
- Lunch Route West
- Lunch Route East
- Streets



route riders are “choice riders” that may not use the system if it is perceived as being too inconvenient.

- The transit service could be utilized in the afternoon to transport children from schools to parks or other recreation centers for after-school activities. This service could potentially reduce the demand for parents to drive to the school to pick-up children and transport them to after-school activities.

Route Characteristics – Dial-a-Ride Paratransit Service

Providing paratransit, or dial-a-ride, service for residents of the Town is another option for local transit service. An option is to utilize a sports utility vehicle or similar van with distinctive markings to promote the service and provide a sense of style and comfort.

Paratransit systems typically provide door-to-door service for individuals who are prevented from using the fixed-route transit system. Typical patrons are the elderly or the disabled, who often receive priority service and/or reduced fares. Destinations often include medical centers, hospitals, grocery stores, parks, and shopping malls. Reservations are usually required to be made at least one day in advance. Standard fares typically range from \$1.00 to \$2.50.

Alternatively, the Town may consider providing paratransit as a free service and market not only traditional paratransit riders, but the general population of the Town as well. Residents, employees, and visitors of the Town could call the dial-a-ride system and schedule a complimentary ride for trip purposes such as medical appointments, shopping, dining, and recreation.

Complimentary dial-a-ride systems have proven effective in some tourist destinations, where visitors may not have an automobile available or may wish to leave their automobile parked due to a lack of knowledge of the local roadways or a lack of parking available for internal trips within the area. For example, the ski resort of Mountain Village, Colorado, offers a fleet of luxury dial-a-ride Chevrolet Suburbans and minivans to transport guests within the Village. However, Mountain Village encompasses a smaller area than Miami Lakes and is a pedestrian-oriented community where guests are encouraged to leave their vehicle or rental car parked during their stay. A comparable system may not be as successful in urbanized areas such as

Miami Lakes where the vast majority of the population exhibit high automobile availability, understand the local roadway network, and are familiar with parking availability.

Vehicle Technology Options

Several vehicle technology options are available for providing transit circulator service within the Town of Miami Lakes including vans, mini-buses, low-floor buses, traditional fixed-route buses, alternative fuel vehicles, and vintage trolleybuses. Smaller vehicles are preferable for circulator services or dial-a-ride systems because their size is more in scale with residential neighborhoods and they can better maneuver through residential streets. A bus with a seating capacity of approximately 25 passengers typically provides adequate capacity for a standard municipal circulator service. Low-floor buses are preferable because boarding and alighting is easier, particularly for the elderly and disabled. Vehicles used for transit circulator service must be compliant with Americans with Disabilities Act (ADA) standards.

Vintage trolleybuses are popular vehicle types for providing circulator services because of their size and appearance. Marketing for these systems can employ a sense of nostalgia. In addition, vintage trolleybuses can be easily identified by potential transit patrons and will not be confused with the mini-buses or full-size buses utilized by Miami-Dade Transit.

Marketing and Community Support

The level of community support is an important factor in assessing the likely success of local municipal transit service. A lack of marketing has been identified as an underlying theme in communities that have not been successful with municipal transit service. If residents and employees are unaware of the availability of the service or of the destinations served, achieving significant ridership on the system is difficult. Therefore, developing an effective marketing plan for the transit circulator service is vital to the success of the service. As mentioned previously, an easily distinguishable vehicle will aid in increasing recognition of the service. A paint scheme identifying the bus as providing unique service for the Town of Miami Lakes is another important marketing tool. Town leaders and staff should assume a sense of ownership of the service and promote its use throughout the Town. Color brochures and schedules should be published and distributed around Town at locations including shops and restaurants within the Town Center, grocery stores, libraries, schools, parks, and community centers.

Potential Costs

Typical costs associated with transit circulator services include capital and operating (which typically includes labor, maintenance, fuel, marketing, and other overhead expenses).

Capital costs for standard mini-buses with seating capacity for 14 to 25 passengers typically range from \$60,000 to \$120,000. According to a survey by the American Public Transportation Association (APTA), the average cost paid by transit agencies for a mini-bus (smaller than 27'6" in length) during fiscal year 2002-2003 was \$94,000. Other types of vehicles including alternative fuel vehicles, electric vehicles, and electric-hybrid vehicles typically cost more than standard mini-buses. For example, electric mini-buses range in cost from approximately \$210,000 to \$250,000; however, the electric mini-buses may introduce significant savings in operating costs through better fuel efficiency. Another vehicle type often considered by municipal transit operators is the trolley replica bus. According to the same APTA survey referenced above, the average price paid for a trolley replica (considering all vehicle lengths) during fiscal year 2002-2003 was \$248,000. Dial-a-ride vehicles often have a lower capital cost; however, more vehicles must be purchased to provide a similar level of service since vehicles are dedicated to specific scheduled trips for individuals or small groups.

Operating costs for municipal circulator systems vary widely depending on the service characteristics of the system such as number and type of buses utilized, hours of operation, days of operation, and marketing efforts. A typical municipal circulator system incurs operating costs of approximately \$30 to \$40 per service hour of operation. Therefore, a hypothetical circulator system operating two buses for twelve hours per day and six days per week may incur approximate operating costs of \$250,000 to \$300,000 annually.

Paratransit services typically incur higher costs than fixed-route circulator systems. According to the Federal Transit Administration (FTA), the high cost per paratransit trip is the result of not being able to maximize the use of vehicles and personnel by spreading the cost of a given trip over a greater number of passengers. Miami-Dade Transit's ADA-complementary paratransit services generally cost approximately \$16 per trip for the County to provide. Providing paratransit services in Seattle and Santa Clara County, California costs approximately \$27 and \$28, respectively, per trip. Therefore, fixed-route circulator systems that average approximately 2.5 passengers per revenue hour or better are more cost efficient than typical paratransit service.

Management Plan

A sound management plan is an important component of a municipal transit circulator system. The management plan provides an organizational structure and defines roles and responsibilities for operating the circulator system. Three basic administrative options are available to municipalities for transit circulator services.

- Operate and maintain all service with municipal staff and facilities.
- Acquire the transit vehicles and contract out all or portions of administration, operations, and maintenance activities.
- Contract out the entire service to a public or private transit service provider.

All three options offer advantages. A municipality that operates the transit circulator service internally is apt to take a more active role and may become more intrinsically involved with ensuring the system's success. However, a municipality may benefit from having an experienced operator that specializes in the provision of transit services. By contracting the service, the municipality may also avoid the capital investment of purchasing buses and may speed up the implementation of transit circulator service. Research performed for the *Local Municipal Transit Circulator Policy Study* demonstrates that municipalities that contract the transit circulator service to a transit service provider typically pay \$30 to \$45 hourly per vehicle.

A key component of the management plan is the recognition of the importance of a marketing strategy, which is vital for building community support for a transit circulator service. Marketing for the system may consist of a coordinated blend of research, community outreach, public relations, promotions, and advertising. The marketing strategy should seek to attract riders by increasing the visibility of the system, increasing support for the circulator's role in the community, and increasing use of the system by providing potential riders with pertinent information.

Hialeah Gardens Connection Modifications

As discussed during the data analysis section of this study, Miami-Dade Transit has recently added the Hialeah Gardens Connection route along NW 87th Avenue and NW 82nd Avenue in the western portion of the Town. The Hialeah Gardens Connection provides a connection to Metrorail at the new Palmetto Metrorail Station. However, the route does not currently serve the

Miami Lakes Business Park West. As shown in Figure 7, the route operates through residential areas along NW 87th Avenue, NW 154th Street, and NW 82nd Avenue. Ridership could potentially be increased by modifying the route to pass through the Miami Lakes Business Park West. Approximately 20 to 25 percent of Metrorail's daily boardings occur between 7:00 AM and 9:00 AM, indicating a high percentage of work trips. Since passengers can easily transfer from Metrorail to the Hialeah Gardens Connection route, serving the Miami Lakes Business Park West would provide additional transit options for employees of the business park. Modifying the route could be accomplished by utilizing Commerce Way and NW 79th Court. In addition, existing bus stops already provided along Commerce Way within the Miami Lakes Business Park could be utilized for the modified route.

Furthermore, the name "Hialeah Gardens Connection" does not imply a connection to Metrorail, which is offered at the new Palmetto Metrorail Station. The route serves many areas outside of Hialeah Gardens including Medley, Hialeah, Miami Lakes, and Palm Springs North. Consider working with MDT staff to modify the name of the route to a name more descriptive of the function of the route, such as "Palmetto Metrorail Connection." This may help promote the route to Town residents living west of the Palmetto Expressway.

Bus Stops

Some bus stops in the Town offer a shelter, benches, and other amenities such as newspaper stands and trash receptacles. However, many bus stops offer no infrastructure other than a signpost indicating the existence of the stop. A portion of the Town's funding from the People's Transportation Plan could be used to pay for amenities at existing bus stops. Bus stop improvements should be concentrated in locations where passenger activity is high and at junctions between routes where transfer wait times may occur.

At a minimum, benches should be provided at bus stops within the Town. Shelters should be considered at those locations where passenger boardings are high and at stops that could potentially be used in the future by a transit circulator service. Shelters should have a consistent design to be easily identifiable. Although advertising can generate small revenue amounts, advertising on shelters can diminish the attractiveness and may not be appropriate for bus stops within the Town. The following list presents the ten top priority bus stops for infrastructure improvements.

- Ludlam Road (southbound) south of Main Street
- Ludlam Road (northbound) south of Main Street
- NW 60th Avenue (southbound) south of Miami Lakes Drive
- NW 60th Avenue (northbound) south of Miami Lakes Drive
- Commerce Way (northbound) at NW 148th Street
- NW 158th Street (eastbound) west of Red Road
- Miami Lakes Drive West (eastbound) west of Miami Lakeway South
- NW 154th Street (eastbound) west of NW 79th Avenue
- Miami Lakes Drive East (eastbound) west of Red Road
- NW 60th Avenue (northbound) north of NW 142nd Street

Recommendations

The following are the recommended transit strategies for the Town of Miami Lakes.

1. Consider implementing a transit circulator service to provide mobility options for residents and employees within the Town. The circulator service should serve both the western and eastern portions of the Town and have the Miami Lakes Town Center as its focal point. Segmenting the circulator service into an eastern route and a western route would be beneficial for (1) reducing trip lengths and (2) would allow utilization of the Town Center as a hub for the transit service. The Town Center would likely be the primary destination; however, the Town Center would also offer a pleasant environment for passengers transferring from one route to another. Marketing of the service should include a sense of ownership of the service by Town leaders and staff, an attractive, easily identifiable vehicle, and color brochures and schedules that explain the characteristics of the service and destinations served. A detailed feasibility assessment is recommended.
2. Coordinate with Miami-Dade Transit (MDT) to modify the Hialeah Gardens Connection route to serve the Miami Lakes Business Park West. Consider changing the name of the route to promote the connection to Metrorail.
3. Implement bus stop improvements within the Town. Consider providing benches at bus stops throughout the Town. In addition, ten priority bus stops have been identified for enhanced amenities including shelters. Enhanced amenities should be provided for locations where passenger boarding levels are high and at locations that represent junctions between routes where transfer wait times may occur.

Bicycle

On-street bicycle lanes do not exist within the Town of Miami Lakes. However, a concrete path exists along the eastern side of Ludlam Road between Lake Patricia Drive in the south and the Palmetto Expressway frontage road in the north. A similar path exists along Miami Lakeway North between Ludlam Road and Miami Lakes Drive in the vicinity of Miami Lakes Middle School. These concrete paths are approximately 8.5 feet in width, making them wider than a typical urban sidewalk, and are offset from the road by green space and trees. Although no bicycle route signage exists along these paths, bicyclists often use these paths along with pedestrians. Bus stop infrastructure, utility poles, and other objects have been built in several locations within the path restricting access for bicyclists, as shown in Exhibit 9.



Exhibit 9. Bus Stop Infrastructure within Shared Use Path along Ludlam Road

Since the shared use path is only provided on the east side of Ludlam Road, it functions as a two-directional path. According to the Florida Department of Transportation's (FDOT) Plans Preparation Manual, the minimum paved width recommended for a two-directional shared use path is 12 feet. However, the Manual of Uniform Minimum Standards for Design, Construction, and Maintenance for Streets and Highways (the Florida Greenbook) states that the minimum width for paved paths can be reduced under some circumstances to 10 feet. These circumstances include an unusually low volume of bicycle traffic, good horizontal and vertical alignment with

frequent passing opportunities, and the path will not be subjected to maintenance vehicle loading conditions. Since the recommendations of this plan are meant to facilitate and encourage bicycle use, a minimum width of 12 feet should be considered as standard for shared use paths within the Town of Miami Lakes.

As depicted in Exhibit 10, bicycle route signs have been erected along a sidewalk (5 feet in width) on the south side of Miami Lakeway South. Sidewalks are typically designed for pedestrian speeds and maneuverabilities and are generally not safe for higher speed bicycle use. Furthermore, conflicts are common between pedestrians and bicyclists on standard width sidewalks. Bicyclists riding on sidewalks are common in residential neighborhoods with young children. With lower bicycle speeds, potential conflicts with pedestrians are somewhat lessened, but conflicts still occur. Although this type of bicycle sidewalk use is generally accepted, it is inappropriate to sign a sidewalk as a shared use path or a bicycle route.



Exhibit 10. Bicycle Route Signage along the South Side of Miami Lakeway South

According to the FDOT Plans Preparation Manual, the minimum width of a one-directional bicycle path is 5 feet. However, this standard assumes the bicycle path will not be shared with pedestrians. In addition, one-way bicycle paths are frequently used as two-way facilities unless effective measures are taken to assure one-way operation. There is no indication that the bicycle

route depicted in Exhibit 10 is a one-way bicycle path that is not to be used by pedestrians. Therefore, the minimum width of this shared use path should be 12 feet.

The south side of Miami Lakeway South is designated as a greenway and thus has a wide green space offset between the roadway and the sidewalk, also depicted in Exhibit 10. Expanding the current sidewalk/bike route to shared use path standards could be accomplished while still preserving a wide green space between the roadway and the sidewalk. Providing a continuous, shared use path of 12 feet in width along Miami Lakeway South would encourage bicycling in the area and provide a connection to the Ludlam Road path.

The sidewalk/bike route on the south side of Miami Lakeway South intersects Miami Lakes Drive in the southeast quadrant of the intersection. However, the existing 8.5-foot shared use path along Miami Lakeway North intersects Miami Lakes Drive in the northwest quadrant of the intersection. Therefore, an enhanced bicycle/pedestrian crossing should be considered at this intersection to improve the connectivity between the two shared use paths and enhance the safety of users who may wish to cross Miami Lakes Drive and use the shared use paths on either side. Several potential intersection treatments could provide enhanced crossings for pedestrians and bicyclists while increasing motorists' awareness of the crossing. One example is providing textured crosswalk markings and signage to channelize pedestrian movements. Textured paving



Exhibit 11. Example of an enhanced crossing with textured paving material

materials can be used to make the crosswalk more conspicuous, although textured paving materials are more expensive than typical paving materials. Enhanced bicycle/pedestrian crossings are also appropriate at other intersections in Miami Lakes including Ludlam Road/Miami Lakeway South and Ludlam Road/Miami Lakeway North.

Encouraging bicycling as a means of transportation and recreation is a key goal of this multimodal transportation plan for the Town of Miami Lakes. The following are the recommended bicycle strategies for the Town of Miami Lakes. Figure 16 depicts the recommended bicycle network within the Town of Miami Lakes.

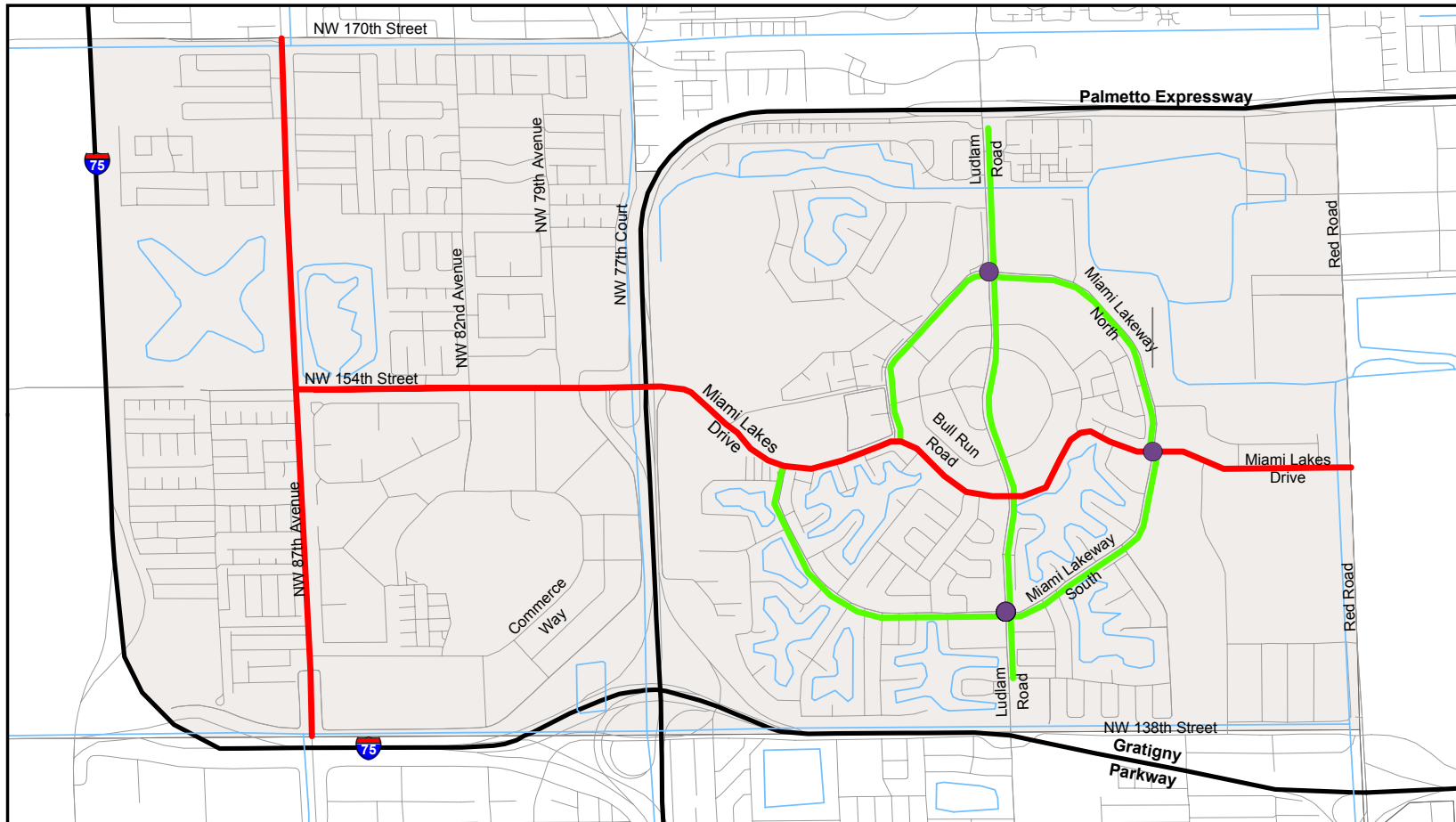
1. Create a network of shared use paths within the Town of Miami Lakes. Shared use paths should be 12 feet wide to accommodate two-directional travel for both bicyclists and pedestrians. Some infrastructure is already in place that can provide the foundation for this network.
 - a. The existing concrete path along the east side of Ludlam Road should be expanded to 12 feet in width from Lake Patricia Drive in the south to the Palmetto Expressway frontage road in the north. Special attention should be given to locations where bus stop infrastructure or other objects have been placed within the path. Some sections of this concrete path are physically constrained from widening by existing curb-and-gutter or concrete residential neighborhood walls. Due to cost and right-of-way impacts, the Town should consider leaving these sections at the existing 8.5 feet in width. However, 12 feet is recommended as the desired width wherever possible for this shared use facility.
 - b. The existing concrete path along the south side of Miami Lakeway North near the Miami Lakes Middle School should be expanded to 12 feet in width at locations where no right-of-way or physical constraints restrict widening.
 - c. The 5-foot concrete path in the greenway south of Miami Lakeway South should be expanded to 12 feet in width. This facility is signed as a bicycle route and should be improved to recommended shared use path standards.
 - d. Enhanced crosswalks should be provided at the intersection of Miami Lakes Drive East and Miami Lakeway North/South in order to connect the shared use path along the west side of Miami Lakeway North to the shared use path along the east side of Miami Lakeway South.

- e. Proper bicycle route signage should be installed along the shared use paths to inform bicyclists and pedestrians of the path as well as to warn motorists of the increased presence of bicyclists and pedestrians. The signage plan should include standard signs provided in the Manual on Uniform Traffic Control Devices (MUTCD).
2. Provide bicycle lanes along major Town corridors that are not part of the shared use path network described above. These bicycle lanes should provide access to destinations that could be popular for bicycle trips such as Barbara Goleman High School and the proposed Royal Oaks Park. Bicycle lanes are appropriate for the entire length of NW 87th Avenue within the Town (including the future construction), as well as NW 154th Street / Miami Lakes Drive. Bicycle lanes are already planned by FDOT along NW 154th Street in the vicinity of the Palmetto Expressway interchange. This segment could serve as the beginning of bicycle lane implementation along NW 154th Street / Miami Lakes Drive, connecting the eastern and western portions of the Town. Please note that it is not appropriate to provide bicycle lanes on roadways adjacent to a standard shared use path.

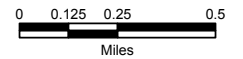
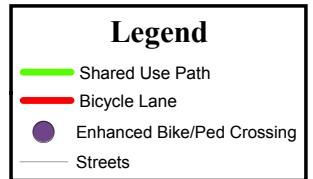


Town of Miami Lakes

Transportation Master Plan



**Recommended
Bicycle
Network
(Figure 16)**



Pedestrian

Some pedestrian improvements have already been addressed in the shared use path discussion of the bicycle section. The remaining pedestrian improvements are discussed in this section.

Providing a proper pedestrian network promotes walking as a viable transportation mode and encourages short trips to be made on foot. In some cases, this can help relieve congestion on local streets while also contributing to a healthy citizenry. Pedestrian provisions can lead to an increased use of public transit by improving the accessibility of bus stops or transit stations. Increasing pedestrian activity is consistent with the mobility and social goals of the Town of Miami Lakes.

Table 10 presents the recommended sidewalk construction by location. Figure 17 depicts the sidewalk additions on a map. As discussed in the Data Collection and Analysis chapter of this report, the sidewalk coverage within the Town of Miami Lakes is good within residential neighborhoods and the Miami Lakes Town Center. Most of the recommended sidewalk improvements are concentrated in the business parks, where existing sidewalk coverage is low. Constructing sidewalks in the business parks will complement the existing transit service by providing increased accessibility to bus stops.

Table 10. Recommended Sidewalk Additions

<i>Location</i>	<i>Street Name</i>	<i>From</i>	<i>To</i>	<i>Number of Sides</i>	<i>Linear Feet</i>	<i>Cost \$</i>	<i>Total Cost Per Location</i>
Miami Lakes Business Park East	NW 139th St.	NW 57th Ct	NW 60th Ave.	2	3600	\$54,000	\$500,000
Miami Lakes Business Park East	NW 57th Ct	NW 139th St.	NW 142nd St.	2	2300	\$34,500	
Miami Lakes Business Park East	NW 58th Ave.	NW 139th St.	NW 142nd St.	2	2300	\$34,500	
Miami Lakes Business Park East	NW 58th Ct	NW 139th St.	NW 142nd St.	2	2300	\$34,500	
Miami Lakes Business Park East	NW 59th Ave.	NW 139th St.	NW 142nd St.	2	2300	\$34,500	
Miami Lakes Business Park East	NW 142nd St.	NW 57th Ct	NW 60th Ave.	2	3600	\$54,000	
Miami Lakes Business Park East	NW 60th Ave.	NW 139th St.	Miami Lakes Dr. East	2	8100	\$121,500	
Miami Lakes Business Park East	NW 57th Ct	Miami Lakes Dr. East	NW 151st St.	2	600	\$9,000	
Miami Lakes Business Park East	NW 59th Ct.	Miami Lakes Dr. East	NW 151st St.	2	800	\$12,000	
Miami Lakes Business Park East	NW 151st St.	NW 57th Ct	NW 59th Ct.	2	2400	\$36,000	
Miami Lakes Business Park East	NW 60th Ave.	NW 151st St.	NW 153rd St.	2	1800	\$27,000	
Miami Lakes Business Park East	NW 153rd St.	NW 60th Ave.	Miami Lakes Dr. East	2	1400	\$21,000	
Miami Lakes Business Park East	Mia Lkwy North	Miami Lakes Dr. East	Existing Sidewalk	1	1000	\$15,000	
Miami Lakes Technical Education Center	NW 59th Ave.	Biscayne Canal	NW 165th Ter.	2	7100	\$106,500	\$275,000
Miami Lakes Technical Education Center	NW 59th Ave.	NW 165th Ter.	NW 167th St.	1	400	\$6,000	
Miami Lakes Technical Education Center	NW 158th St.	NW 59th Ave.	Red Rd.	2	2600	\$39,000	
Miami Lakes Technical Education Center	NW 159th St.	NW 59th Ave.	Red Rd.	1	1300	\$19,500	
Miami Lakes Technical Education Center	NW 163rd St.	NW 59th Ave.	Red Rd.	2	2700	\$40,500	
Miami Lakes Technical Education Center	58th Ave.	NW 163rd St.	NW 165th Ter.	2	1500	\$22,500	
Miami Lakes Technical Education Center	NW 165th Ter.	NW 59th Ave.	Red Rd.	2	2600	\$39,000	
Miami Lakes Business Park West	NW 82nd Ave.	NW 77th Ct.	Northern Entrance to P-Lot	2	1000	\$15,000	\$375,000
Miami Lakes Business Park West	NW 82nd Ave.	Northern Entrance to P-Lot	Commerce Way	1	500	\$7,500	
Miami Lakes Business Park West	NW 80th Ave.	NW 77th Ct.	Commerce Way	2	1400	\$21,000	
Miami Lakes Business Park West	NW 77th Ct.	NW 82nd Ave.	NW 154th St.	1	6500	\$97,500	
Miami Lakes Business Park West	NW 78th Ave.	NW 80th Ave.	NW 148th St.	2	5300	\$79,500	
Miami Lakes Business Park West	Commerce Way	NW 82nd Ave.	NW 148th St.	1	2900	\$43,500	
Miami Lakes Business Park West	NW 146th St.	Commerce Way	NW 77th Ct.	1	900	\$13,500	
Miami Lakes Business Park West	NW 148th St.	Commerce Way	NW 77th Ct.	2	1600	\$24,000	
Miami Lakes Business Park West	Oak Ln.	NW 148th St.	NW 79th Ct.	1	800	\$12,000	
Miami Lakes Business Park West	NW 79th Ct.	Oak Ln.	NW 154th St.	1	1500	\$22,500	
Miami Lakes Business Park West	NW 149th St.	Oak Ln.	NW 77th Ct.	2	2200	\$33,000	
Miscellaneous	Mahogany Ct.	Miami Lakes Dr. East	Parkinsonia Dr.	1	300	\$4,500	\$9,000
Miscellaneous	Parkinsonia Dr.	Mahogany Ct.	Existing Sidewalk	1	300	\$4,500	
Miscellaneous	Mia Lks Drive	Palmetto Expwy NB Exit	NW 77th Ave.	1	150	\$3,000	\$3,000

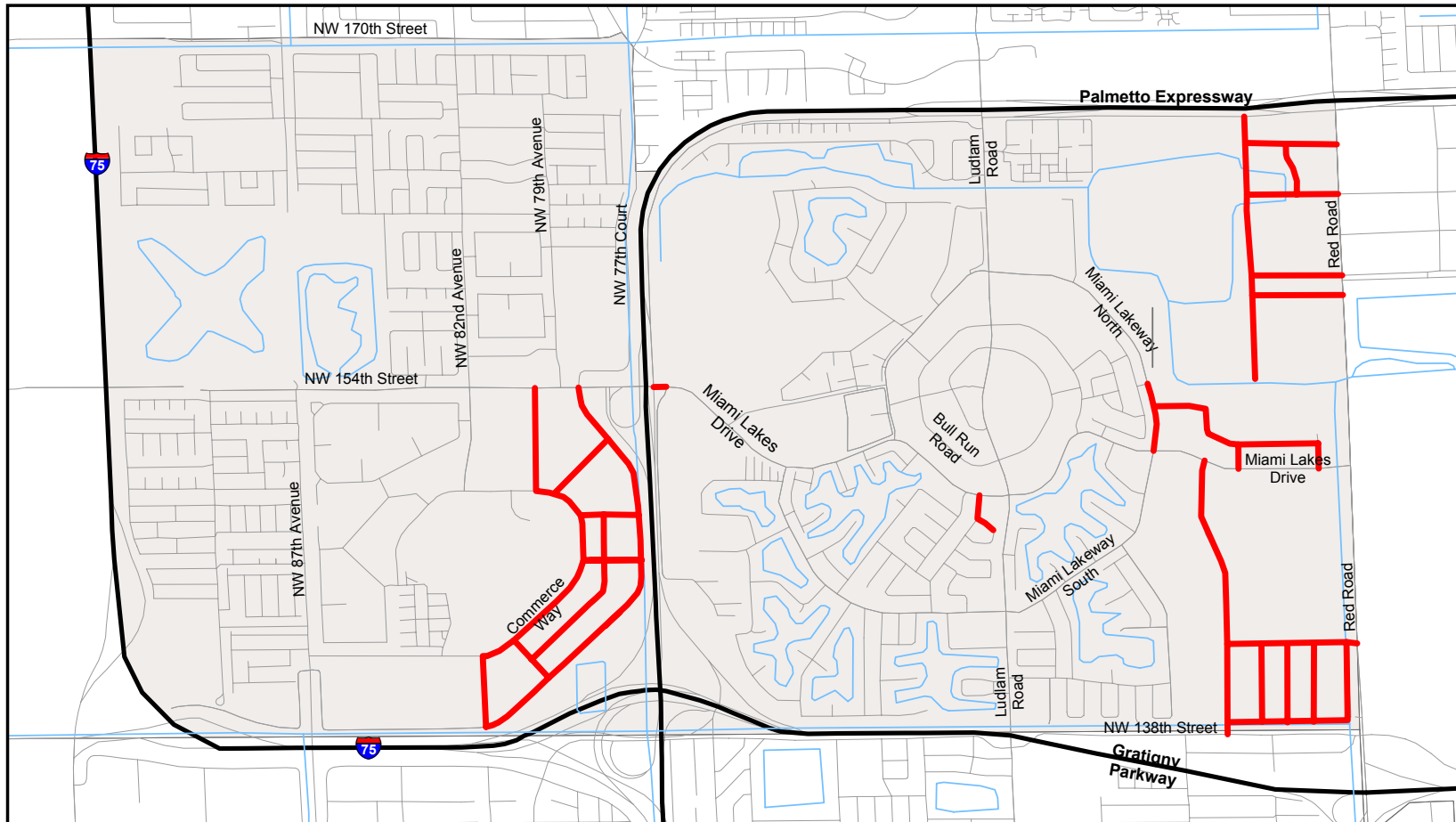
Note: Sidewalk Cost per Cubic Yard = \$27.00

TOTAL COST	\$1,162,000
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Town of Miami Lakes

Transportation Master Plan



Recommended Sidewalk Additions (Figure 17)

Legend

-  New Sidewalks
-  Streets

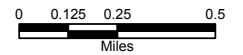




Exhibit 12. Despite Good Transit Service, Sidewalks Are Not Provided within the Miami Lakes Business Park East

The following are the recommended pedestrian improvements for the Town of Miami Lakes.

1. Provide sidewalks along local streets within the Miami Lakes Business Park (West and East) and the Miami Lakes Technical Education Center. In Miami Lakes, the existing density of transit service is highest within the business parks and the technical education center, yet these areas have the worst sidewalk coverage. Improving the sidewalk coverage in these areas will enhance the level of service provided to transit users and will encourage short trips to be made on foot.
2. Construct a sidewalk along the south side of Miami Lakes Drive between the Palmetto Expressway northbound exit ramp and NW 77th Avenue. A segment of the sidewalk is missing in this area.
3. Construct a sidewalk along Miami Lakeway North from north of Miami Lakes Drive East to the end of the existing sidewalk north of NW 153rd Street.
4. Provide pedestrian signals along the south side of NW 154th Street at the southbound Palmetto Expressway ramps.

IMPLEMENTATION PLAN

This study has identified a number of projects aimed at creating a transportation system for the Town of Miami Lakes that enhances mobility and provides multimodal opportunities. The first step toward realizing these improvements is to develop an implementation plan.

This section of the report provides a methodology for comparing the recommended improvements against the goals of this study and also begins to provide order of magnitude planning level cost estimates for implementing these projects. This information should be used by the Town of Miami Lakes to establish a course of action for moving forward with the transportation enhancements presented in this transportation master plan.

Project Evaluation

Improvements identified in this study were segmented by type into the following categories.

- Transportation Demand Management
- Transportation System Management
- Neighborhood Traffic Management
- Long Term Roadway Strategies
- Transit
- Bicycle
- Pedestrian

A project comparison system was developed to evaluate the improvements identified in this study according to six prioritization criteria. The six prioritization criteria were developed based on the objectives outlined at the outset of this study including:

- Developing a transportation plan to accommodate local mobility needs while enhancing the character of the community
- Identifying improvements for alternative modes of transportation to develop a comprehensive vision of mobility
- Creating a program of interrelated improvements to address traffic congestion and provide attractive alternatives to the single occupant automobile

The criteria that were considered in the qualitative evaluation of the projects include the following.

- Improves Quality of the User's Experience – The project makes the experience of the driver, transit passenger, pedestrian, or bicyclist more enjoyable by reducing travel times, improving aesthetics, or providing amenities such as bus stops, signage, or streetscape.
- Promotes the Use of Alternative Travel Modes – The project encourages the use of transit, walking, or bicycling through the improvement or creation of facilities for these travel modes.
- Discourages Neighborhood Traffic Intrusion – The project discourages cut-through traffic affecting local neighborhoods by making cut-through routes less desirable to motorists or improving collector or arterial routes to enhance traffic flow on these facilities.
- Improves Safety – The project generally improves transportation safety through such strategies as separating modes of travel or correcting existing deficiencies in how the facility operates.
- Improves System Capacity – The project contributes to improving the capacity of the transportation system.
- Satisfies Multiple Project Categories – The implementation of a project satisfies multiple project categories. This criterion was developed to satisfy the objective of providing a program of interrelated improvements.

Projects were assigned a score between 0 and 2 based on their ability to satisfy the evaluation criteria. The scores were determined as follows.

- 0 = The project does not meet or has an unfavorable relationship to the criterion.
- 1 = The project partially meets or has a moderately favorable relationship to the criterion.
- 2 = The project meets or has a favorable relationship to the criterion.

A project comparison matrix (see Table 11) was developed to present the results of the evaluation of improvements and assist in the prioritization of improvements. The scores for the evaluation criteria were added together in the matrix to determine an overall score for each improvement.

Table 11
MIAMI LAKES "TRANSPORTATION MASTER PLAN"
Project Comparison Matrix

	Improves Quality of User's Experience	Promotes Use of Alternative Travel Modes	Discourages Neighborhood Traffic Intrusion	Improves Safety	Improves System Capacity	Satisfies Multiple Project Categories	Total Score
Transportation Demand Management							
Implement TDM Strategies Including Alternative Work Schedules and Preferential Parking Treatment through Coordination with SFCS (South Florida Commuter Services)	1	2	0	0	1	0	4
Transportation System Management							
Extend Westbound Right-Turn Lane on Miami Lakeway North at Ludlam Road	2	0	0	1	1	0	4
Extend Eastbound Left-Turn Lane on Miami Lakeway North at Ludlam Road	2	0	0	1	1	0	4
Implement FDOT Improvements along NW 154th Street in the Vicinity of the Palmetto Expressway Including Changes to Lane Configuration, Sidewalks, Bicycle Lanes, Pedestrian Signal Heads, and Crosswalks	2	1	0	1	2	1	7
Monitor the NW 154th Street Corridor Following Implementation of FDOT Improvements to Determine if Further Capacity Improvements are Needed including Signal Re-Optimization	1	0	0	1	1	0	3
Optimize Traffic Signals along Ludlam Road and Red Road in the vicinity of the Palmetto Expressway	2	0	0	1	2	1	6
Neighborhood Traffic Management							
Implement Recommendations from the NW 82nd Avenue Corridor Study	1	1	2	2	1	1	8
Implement a Speed Management Plan along the Residential Sections of Miami Lakeway North and Miami Lakeway South	1	1	2	2	0	1	7
Develop External Site Access and Internal Circulation Plans for the Schools within the Town	1	1	1	2	1	0	6
Long Term Roadway Strategies							
Capacity Enhancements for the Palmetto Expressway Interchanges at Ludlam Road and Red Road	2	0	0	1	2	1	6
Transit							
Establish Miami Lakes Transit Circulator Service - East Route	2	2	0	0	1	1	6
Establish Miami Lakes Transit Circulator Service - West Route	2	2	0	0	1	1	6
Modify the Hialeah Gardens Connection Route to Serve the Miami Lakes Business Park West	1	2	0	0	0	0	3
Construct Bus Shelters with Benches at Ten Priority Locations	2	2	0	0	0	1	5
Bicycle							
Create a Network of Shared Use Paths in the Eastern Portion of the Town	2	2	0	2	0	2	8
Construct Bicycle Lanes along Miami Lakes Drive	2	2	0	2	0	2	8
Construct Bicycle Lanes along NW 154th Street West of FDOT Project	2	2	0	2	0	2	8
Construct Bicycle Lanes along NW 87th Avenue	2	2	0	2	0	2	8
Pedestrian							
Construct Sidewalks along Local Streets in the Miami Lakes Business Park East	2	2	0	2	0	2	8
Construct Sidewalks along Local Streets in the Miami Lakes Business Park West	2	2	0	2	0	2	8
Construct Sidewalks along Local Streets in the Miami Lakes Technical Education Center	2	2	0	2	0	2	8
Construct Missing Sidewalk Section along Miami Lakes Drive between the Palmetto Expressway Northbound Exit Ramp and NW 77th Avenue	2	1	0	2	0	1	6

Note:
The score recorded for each project was based on a qualitative evaluation of how well it satisfied the evaluation criteria. A point value was assigned to each criterion using the following point system:
0 = The project does not meet/has an unfavorable relationship to the criterion.
1 = The project partially meets/has a moderately favorable relationship to the criterion.
2 = The project meets/has a favorable relationship to the criterion.

Order of Magnitude Cost Estimates

Preliminary order of magnitude cost estimates for the recommended improvements and mobility strategies are presented in Table 12. These cost estimates were generally based on the costs of local projects of similar scale. Sidewalk cost estimates are based on data from the Town of Miami Lakes' Capital Improvements Plan. The purpose of these cost estimates was to assist in the prioritization of the improvements. As the specific projects are developed further, more detailed cost estimates should be prepared to identify the required funds that should be programmed.

Project Prioritization

The mobility strategies developed during this study were grouped into four categories based on the evaluation presented in the project comparison matrix and the preliminary order of magnitude cost estimates. The projects were initially assigned to one of four priority levels based on the scores obtained in the project comparison matrix. Projects earning total scores of 8 points or more were classified as Priority Level One Projects; projects earning total scores of 7 points were classified as Priority Level Two Projects; projects earning total scores of 6 or 5 points were classified as Priority Level Three Projects; projects earning total scores of 3 points or less were classified as Priority Level Four Projects.

After the initial grouping of projects into priority levels based on the score obtained in the project evaluation matrix, the preliminary order of magnitude cost estimates were also taken into consideration. The more costly projects generally scored higher in the project evaluation matrix because these larger scale projects tended to satisfy several evaluation criteria, while less costly projects generally scored lower in the project evaluation matrix because these smaller scale projects tended to satisfy less of the evaluation criteria. Therefore, several projects were shifted into a different priority level to allow some lower cost projects that offer benefits to be implemented while funding is secured for some of the higher cost projects. Table 13 presents the recommended prioritization schedule for the mobility strategies recommended in this study.

Table 12
MIAMI LAKES "TRANSPORTATION MASTER PLAN"
Order of Magnitude Cost Estimates

	Planning Level Cost Estimate
Transportation Demand Management	
Implement TDM Strategies Including Alternative Work Schedules and Preferential Parking Treatment through Coordination with SFCS (South Florida Commuter Services)	\$25,000 ⁽¹⁾
Transportation System Management	
Extend Westbound Right-Turn Lane on Miami Lakeway North at Ludlam Road	\$50,000
Extend Eastbound Left-Turn Lane on Miami Lakeway North at Ludlam Road	\$50,000
Implement FDOT Improvements along NW 154th Street in the Vicinity of the Palmetto Expressway Including Change to Lane Configuration, Sidewalks, Bicycle Lanes, Pedestrian Signal Heads, and Crosswalks	(2)
Monitor the NW 154th Street Corridor Following Implementation of FDOT Improvements to Determine if Further Capacity Improvements are Needed including Signal Re-Optimization	\$20,000 ⁽³⁾
Optimize Traffic Signals along Ludlam Road and Red Road in the vicinity of the Palmetto Expressway	\$30,000
Neighborhood Traffic Management	
Implement Recommendations from the NW 82nd Avenue Corridor Study	\$150,000
Implement a Speed Management Plan along the Residential Sections of Miami Lakeway North and Miami Lakeway South	\$250,000
Develop External Site Access and Internal Circulation Plans for the Schools within the Town	\$80,000 ⁽⁴⁾
Long Term Roadway Strategies	
Capacity Enhancements for the Palmetto Expressway Interchanges at Ludlam Road and Red Road	\$125,000 ⁽⁵⁾
Transit	
Establish Miami Lakes Transit Circulator Service - East Route	\$150,000 ⁽⁶⁾ - \$250,000 ⁽⁷⁾
Establish Miami Lakes Transit Circulator Service - West Route	\$150,000 ⁽⁶⁾ - \$250,000 ⁽⁷⁾
Modify the Hialeah Gardens Connection Route to Serve the Miami Lakes Business Park West	\$10,000
Construct Bus Shelters with Benches at Ten Priority Locations	\$150,000 ⁽⁸⁾
Bicycle	
Create a Network of Shared Use Paths in the Eastern Portion of the Town	\$400,000
Construct Bicycle Lanes along Miami Lakes Drive	\$200,000
Construct Bicycle Lanes along NW 154th Street West of FDOT Project	\$75,000
Construct Bicycle Lanes along NW 87th Avenue	\$175,000
Pedestrian	
Construct Sidewalks along Local Streets in the Miami Lakes Business Park East	\$500,000
Construct Sidewalks along Local Streets in the Miami Lakes Business Park West	\$375,000
Construct Sidewalks along Local Streets in the Miami Lakes Technical Education Center	\$275,000
Construct Missing Sidewalk Section along Miami Lakes Drive between the Palmetto Expressway Northbound Exit Ramp and NW 77th Avenue	\$3,000
Notes:	
(1) Typically, South Florida Commuter Services (SFCS) conducts most of the work associated with implementing TDM strategies.	
(2) Cost expected to be funded by FDOT.	
(3) Cost associated with traffic operations study of corridor following recommended improvements.	
(4) Cost for developing site circulation plans; construction of improvements not included.	
(5) Cost for conducting detailed study of the Palmetto Expressway corridor (which may be funded by FDOT); does not include construction costs (most likely funded by FDOT).	
(6) Cost for contracting service from a transportation provider operating two vehicles for one year.	
(7) Cost including purchase of two vehicles and costs for operating two routes for one year.	
(8) Cost for providing amenities at 10 bus stops.	

Table 13
MIAMI LAKES "TRANSPORTATION MASTER PLAN"
Project Prioritization Schedule

Priority Level	Project Description	Project Evaluation "Score"	Planning Level Cost Estimate
1	Implement Recommendations from the NW 82nd Avenue Corridor Study	8	\$150,000
1	Implement FDOT Improvements along NW 154th Street in the Vicinity of the Palmetto Expressway Including Changes to Lane Configuration, Sidewalks, Bicycle Lanes, Pedestrian Signal Heads, and Crosswalks	7	(1)
1	Construct Missing Sidewalk Section along Miami Lakes Drive between the Palmetto Expressway Northbound Exit Ramp and NW 77th Avenue	6	\$3,000
1	Develop External Site Access and Internal Circulation Plans for the Schools within the Town	6	\$80,000
1	Capacity Enhancements for the Palmetto Expressway Interchanges at Ludlam Road and Red Road	6	(1)
1	Establish Miami Lakes Transit Circulator Service - East Route ⁽²⁾	6	\$200,000
1	Establish Miami Lakes Transit Circulator Service - West Route ⁽²⁾	6	\$200,000
1	Implement TDM Strategies Including Alternative Work Schedules and Preferential Parking Treatment through Coordination with SFCS ⁽³⁾	4	\$25,000
1	Extend Westbound Right-Turn Lane on Miami Lakeway North at Ludlam Road	4	\$50,000
1	Extend Eastbound Left-Turn Lane on Miami Lakeway North at Ludlam Road	4	\$50,000
1	Modify the Hialeah Gardens Connection Route to Serve the Miami Lakes Business Park West	3	\$10,000
1	Total Planning Level Cost Estimate for Priority Level 1 Projects		\$768,000
2	Construct Sidewalks along Local Streets in the Miami Lakes Business Park East ⁽⁴⁾	8	\$500,000
2	Construct Sidewalks along Local Streets in the Miami Lakes Business Park West ⁽⁴⁾	8	\$375,000
2	Optimize Traffic Signals along Ludlam Road and Red Road in the vicinity of the Palmetto Expressway	6	\$30,000
2	Construct Bus Shelters with Benches at Ten Priority Locations ⁽⁵⁾	5	\$150,000
2	Total Planning Level Cost Estimate for Priority Level 2 Projects		\$1,055,000
3	Construct Sidewalks along Local Streets in the Miami Lakes Technical Education Center ⁽⁴⁾	8	\$275,000
3	Construct Bicycle Lanes along Miami Lakes Drive	8	\$200,000
3	Construct Bicycle Lanes along NW 154th Street West of FDOT Project	8	\$75,000
3	Construct Bicycle Lanes along NW 87th Avenue	8	\$175,000
3	Create a Network of Shared Use Paths in the Eastern Portion of the Town	8	\$400,000
3	Implement a Speed Management Plan along the Residential Sections of Miami Lakeway North and Miami Lakeway South. Possible enhancements include traffic circles and textured crosswalks at intersections.	7	\$250,000
3	Monitor the NW 154th Street Corridor Following Implementation of FDOT Improvements to Determine if Further Capacity Improvements are Needed including Signal Re-Optimization	3	\$20,000
3	Total Planning Level Cost Estimate for Priority Level 3 Projects		\$1,395,000
Total Planning Level Cost Estimate for all Projects			\$3,218,000

Notes:

- (1) Cost expected to be funded by FDOT.
- (2) Funded mostly from transit portion of People's Transportation Plan.
- (3) SFCS (South Florida Commuter Services)
- (4) Streets identified in Table 10.
- (5) Ten priority locations identified in Transit section of report.

SUMMARY AND NEXT STEPS

This study developed a multimodal mobility plan for the Town of Miami Lakes aimed at accommodating local mobility needs while enhancing the character of the community and improving the quality of life for its residents. This transportation master plan was intended to recommend improvements for multiple modes of transportation to develop a comprehensive vision of mobility for the Town. The product of the plan is a program of interrelated transportation related improvements to address traffic congestion and provide attractive alternatives to the single occupant automobile as a method of transportation.

A study advisory committee (SAC) was formed to guide the project and met on a regular basis throughout the course of the study. The study advisory committee was comprised of Town leaders, stakeholders, and technical staff from various agencies including the Town of Miami Lakes, Miami-Dade Metropolitan Planning Organization (MPO), Miami-Dade Transit (MDT), and the Florida Department of Transportation (FDOT). This group provided invaluable insight and contributions toward the development of this transportation master plan.

The *Town of Miami Lakes Transportation Master Plan* provides the framework to assist the Town in the programming of transportation improvements. The plan may also be used as a tool for the Town to seek funding to implement transportation improvements, as the plan demonstrates that the Town has a comprehensive vision toward providing multimodal transportation opportunities to reduce reliance on the single-occupant automobile.

The plan should be examined periodically to assess the status of the implementation of the improvements identified in this study. The examination should include an evaluation of project scheduling, costs, and funding sources. Based on findings, the phasing of projects could be adjusted over time in response to changing needs in the community.