



CITY OF DORAL 2010 TRANSPORTATION MASTER PLAN



THE CORRADINO GROUP, INC.



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Introduction

Introduction

The City of Doral 2010 Transportation Master Plan is an integrated element of the City's most recent Comprehensive Plan Update. The Plan is intended to give the elected officials, staff and citizens a thorough understanding of the multimodal mobility network in Doral, what it is, how it functions, what forces influence its function, and potential internal and external efforts that can be implemented to impact the system to further meet the goals and objectives of the City from the combined perspectives of transportation, land use and economic development. Furthermore it is the plans intent to meet requirements of the Florida Growth Management Act.

This plan updates the existing transportation master plan and includes a capital improvement plan as required by state statute. In projecting traffic conditions for the future it updates the existing traffic counts and forecast traffic conditions to the horizon year 2030. The plan examines transportation in and around Doral. It weighs the impact of Doral internally and externally on the region and, as such, suggests near term and long term transportation projects that help those users of the city, which not only includes the residents who originate in Doral, but the thousands of workers who are destined for Doral every day. The plan holistically considers all other City plans, particularly those associated with land use, parks and recreation, and capital improvements as they relate to the future City Center commercial area, and its potential impacts on the transportation system.

The plan was accomplished in three main phases

- Data Gathering and Analysis
- Plan Development
- Plan Adoption

With five individual tasks within these phases:

- Data Collection
- Analysis



Transportation Master Plan

- Public Involvement
- Financing
- Final Reporting

Data was collected relative to the transportation system as necessary to assess the existing and future condition of the system to 2015 and 2030 and the city was mapped.

Applicable plans from FDOT, the MPO, MDT and Miami Dade County Public Works were evaluated and potential future facilities and improvements will be located and described.

Existing policy documents such as the Comprehensive Plan and the Traffic Impact Review Guidelines were reviewed. Meetings with individual City staff and elected officials were held to determine the current transportation issues faced by the City.

Traffic conditions were projected to 2015 and 2030.

The resulting understanding of the systems function provides enough information to make educated decisions on projects that can be developed to improve the transportation system. The needs have been expressed through the analysis and projected over time. The resulting deficiencies were converted into projects. Project development can take many forms. Traditionally in South Florida, only roadway projects are developed. This lack of consideration for other modes of transportation has left the traveling public with few options for mobility. Projects in this master plan were developed in a multimodal manner all the while considering the proposed future land use plan. Care was taken to assure that the recommend projects selected fit the character of the community, while fulfilling the requirements of the existing growth management regulations from the State. Three project categories included:

- Roadway
- Alternative Modes
- Policy

For each project a purpose, need, description and location were provided, so that it is understood why the project is being considered. This was coupled with a potential cost so that each could be evaluated. The purpose and need were derived from the technical analysis and the existing level of service or remaining capacity.

The City of Doral was incorporated June 24, 2003 and is one of 34 municipalities in Miami-Dade County, FL. It is conveniently located in the west central part of the county and is one of the most accessible locations in the region—bordered on the west by the Ronald Reagan



Turnpike, to the north by the Town of Medley, to the east by the Palmetto Expressway and to the south by the Dolphin Expressway, and crossed by roadways (74th St, 58th Street, 41st Street and 12th Street) that provide direct connection between the Turnpike and the Palmetto Expressway. The city's location, accessibility, land use mix and proximity to Miami International Airport provide Doral with the significant potential to become a primary economic engine in Miami Dade County.

Doral is home to approximately 36,000 residents (Doral's population has grown 77 percent in the last eight years and 8,000 new home and mixed use units are planned in the next seven to 10 years) and regularly hosts in excess of 100,000 people who work within the city. The City of Doral occupies a land area of 15 square miles.

The City of Doral has operated under the Mayor-Council-Manager form of government since incorporation. Policy making and legislative authority are vested in a governing council consisting of the mayor and four other council members. The council, which is elected at large, is responsible for passing ordinances and resolutions, adopting the annual budget, appointing the city manager, city clerk and city attorney. The city manager is responsible for carrying out the policies and ordinances of the council, for overseeing the daily operations of the government, and for appointing the heads of various departments.

The City of Doral offers a wide range of services through its departments including the Office of the City Manager, Office of the City Clerk, Finance Department, Planning and Zoning Department, Public Works Department, Building Department, IT Department, Code Compliance Department, Parks and Recreation Department, Human Resources Department, and the Police Department. Described as the premier place to live, work and play, the many city assets provide for a superior quality of life in an urban center known for its domestic and international commerce.

A goal of the Transportation Master Plan is to provide a comprehensive look at the city's entire mobility system. The Plan works on the goals of identifying specific projects and programs to address transportation needs and objectives. The city updates its Master Plan about every five years to coincide with its Capital Improvement Plan.

In 2005 the original master plan created a set of projects was then produced. Projects in each area were examined in detail and prioritized based on criteria developed within the community. Some of the proposed projects such as the turnpike interchange on NW 74th Street and the widening of both 97th Ave and 107th Ave have already been completed. Doral is also now LAP certified and is already reaping the rewards in the form of more than a million dollars in federal stimulus money.



Task 1: Data Collection

Introduction

The 2010 Transportation Master Plan was undertaken in three main phases:

- Spring/Summer 2009: Data Gathering and Analysis
- Spring 2010: Plan Development
- Summer 2010: Plan Adoption

The first phase of the project is focused on understanding transportation with the City as it exists today.

The transportation infrastructure of a City is comprised of:

- Road and highway networks, including structures, signage and markings, electrical systems and edge treatments;
- Railways, including structures, terminal facilities, level crossings, signaling and communications systems;
- Airports, including air navigational systems;
- Mass transit systems;
- Bicycle paths and pedestrian walkways;
- Canals and navigable waterways requiring continuous maintenance; and
- Seaports and lighthouses.

Data relative to the transportation system necessary to assess the existing conditions within the City was gathered during this phase.



Transportation Master Plan

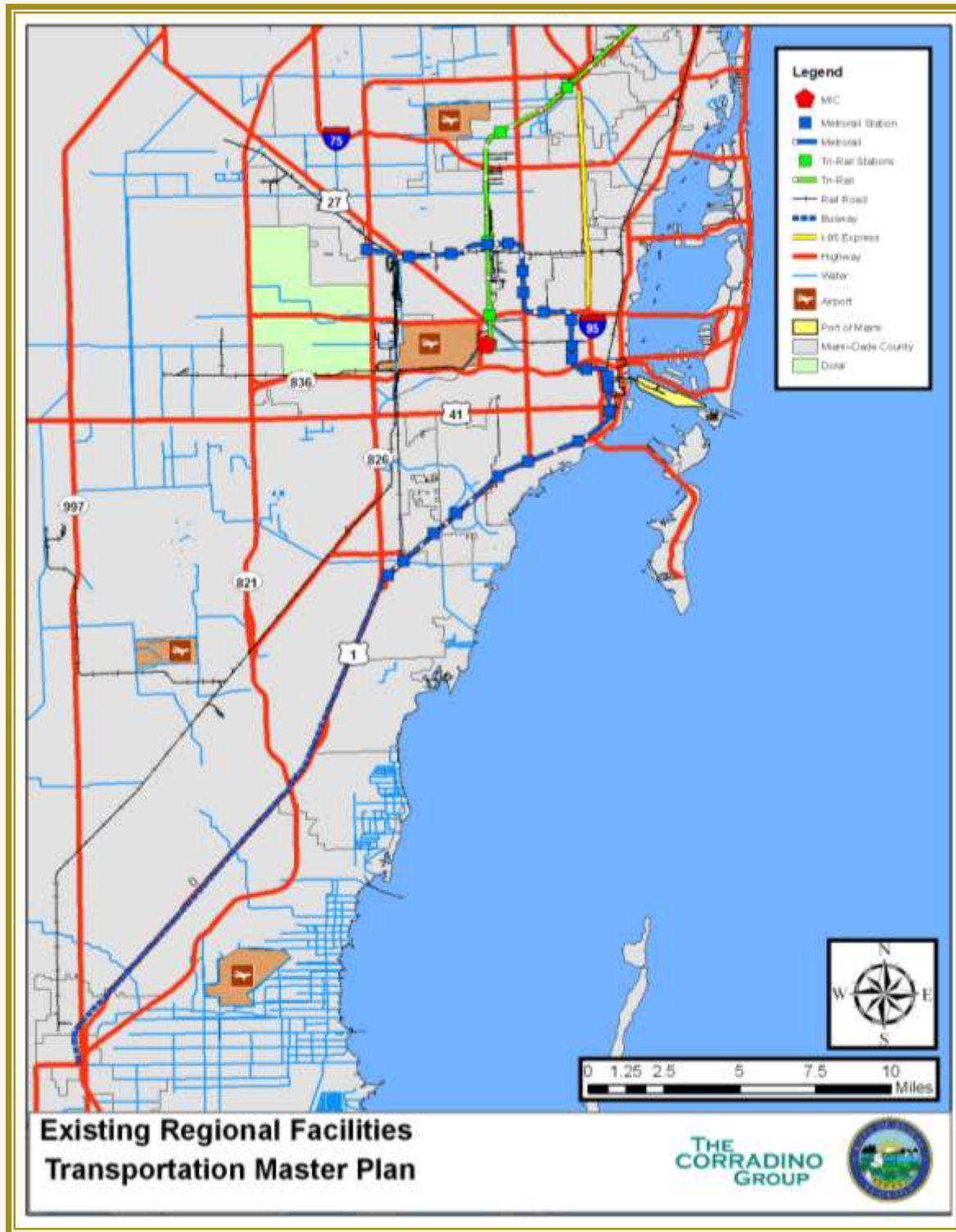


Figure 1 – Regional Facilities



Roadway Systems

The Transportation Master Plan (TMP) envisions the City as a multimodal system incorporating cars, trucks, bicycles, pedestrians, transit and the needs of persons with disabilities. The roadway system is comprised of arterials, collectors and local roads.

Existing Regional Facilities

The City of Doral is located west of the Palmetto Expressway/SR 826, north of the Dolphin Expressway/SR 836, east of Homestead's Extension of Florida's Turnpike (HEFT)/SR 821 and just south of Okeechobee Road/US-27. Figure 1 shows regional transportation facilities such as the major roadways, as well as transit, railway and airport facilities.

Functional Classification

Federal Highway Administration (FHWA) Functional Classification Handbook defines functional classification as the process when streets and highways are grouped into classes, or systems, according to the character of service they provide. It further indicates that in urban areas, such as the City of Doral, roadways are classified as principal arterials, minor arterials, collectors and local roads.

Likewise, roadways are formally categorized by the Florida Department of Transportation (FDOT) through a statewide, cooperative process within county and local jurisdictions.

The Hierarchy of Functional Classification is:

- Arterials
 - Principal arterials such as interstates, freeways, expressways and other
 - Minor arterials
- Collector
- Local

Arterials can be broadly defined as those facilities which carry relatively heavy volumes of traffic for activities such as shopping and employment as well as the movement of goods and services. Arterial roadways provide for regional movement; for travel to destinations outside the City; or for non-locally-oriented traffic to travel through Doral to other destinations within the region.



Transportation Master Plan

Collector facilities serve an intermediate function to collect/distribute traffic between regional arterial facilities and local roadways. Local streets, in turn, serve as site-specific terminal routes for each end of a trip.

Principal Arterial – A major highway designed for the movement of large volumes of traffic over relatively long distances. This type of facility carries the major portion of trips through the urban areas of the county, as well as many trips not destined or originating within the county. This facility class does not exclude access to property, though its primary function is to facilitate longer distance movement. Access to adjacent properties should be controlled to the maximum extent possible. In every urban environment there exists a system of streets and highways which can be identified as unusually significant to the area in terms of the nature and composition of travel it serves. This system of streets and highways is the urban principal arterial system and should serve the major centers of activity of a metropolitan area, the highest traffic volume corridors, and the longest trip desires; and should carry a high proportion of the total urban area travel on a minimum of mileage. In Miami Dade County, because of the disconnected local surface roadway grid consisting of Section-Line and Half Section-Line roads, a preponderance of trips is focused on the principal arterial system of highways, which has deteriorated the level of service. In brief, there are too few alternatives for roadway travel between origins and destinations.

The principal arterial system typically carries the major portion of trips entering and leaving an urban area, as well as the majority of through movements desiring to bypass a central city. In addition, significant intra-area travels, such as between central business districts and outlying residential areas, between major inner city communities, or between major suburban centers should be served by this system. Frequently, the principal arterial system will carry important intra-urban as well as intercity bus routes.

Because of the nature of the travel served by the principal arterial system, almost all fully and partially controlled access facilities such as freeways and expressways will be part of this functional system. However, this system is not



Figure 2 – Roadway Functional Classification (Arterial)



restricted to controlled access routes. In order to preserve the identification of controlled access facilities, the principal arterial system is stratified as follows: (1) interstate, (2) other freeways and expressways, and (3) other principal arterials (with no control of access).

Examples of Principal Arterials are:

- Interstate:
 - I-75
 - I-95
- Freeways and Expressways:
 - SR 821/Florida Turnpike
 - SR 826/Palmetto Expressway
 - SR 836/Dolphin Expressway
- Other Principal Arterial:
 - NW 36 Street/41 Street/Doral Boulevard.
 - NW 12th Street

For principal arterials, as previously indicated, the concept of service to abutting land should be subordinate to the provision of travel service to major traffic movements. It should be noted that only facilities within the "other principal arterial" system are capable of providing any direct access to adjacent land, and such service should be secondary to the primary functional responsibility of this system.

Minor Arterial – Similar in function to a principal arterial, this facility class is designed to carry moderate volumes of traffic between urban areas and connect with the principal arterial system. A main function is to provide an intermediate connection between the principal arterial system and other roadways within the local area. This facility allows more access to adjacent properties than a principal arterial.



**Figure 3 – Functional Classification
(Collector)**



Transportation Master Plan

The minor arterial street system should interconnect with and augment the urban principal arterial system and provide service to trips of moderate length at a somewhat lower level of travel mobility than principal arterials. This system also distributes travel to geographic areas smaller than those identified with the higher system.

The minor arterial street system includes all arterials not classified as a principal and contains facilities that provides a higher level of land access than the higher system, and offer a lower level of traffic mobility. Such facilities may carry local bus routes and provide intra-community continuity, but ideally should not penetrate identifiable neighborhoods.

Examples of minor arterials are:

- NW 25 Street
- NW 58 Street
- NW 74 Street
- NW 107 Avenue
- NW 87 Avenue

Collector – These are generally roadways which serve the internal traffic movement within a given geographic sub-area and connect the sub-area to the arterial system. This type of facility is not intended to serve long trips, but mainly short to moderate length trips. Collector roadways carry a moderate volume of traffic at moderate speeds. Property access is an appropriate function of this facility, provided it does not inhibit local traffic movement.

The collector street system provides land access service and traffic circulation within residential neighborhoods, commercial and industrial areas. It differs from the arterial system in that facilities on the collector system may penetrate residential neighborhoods, distributing trips from the arterials through the area to the ultimate destination. Conversely, the collector street also collects traffic from local streets in residential neighborhoods and channels it into the arterial system. In the central business district, and in other areas of like development and traffic density, the collector system may include the street grid which forms a logical entity for traffic circulation.



Examples of collectors are:

- NW 79 Avenue
- NW 82 Avenue
- NW 97 Avenue
- NW 107 Avenue
- NW 112 Avenue

Local— A roadway having the primary purpose of providing access to adjacent property. Average speeds and volumes are low; trips are usually of short duration with the purpose of connecting with a higher order facility. A local road should not carry through traffic. The trip being served should originate or be destined for the immediate surrounding area. The local street system comprises all facilities not on one of the above described higher systems. Local roads provide basic access between residential and commercial properties, connecting with higher order highways. It serves primarily to provide direct access to residential neighborhoods. It offers the lowest level of mobility and usually contains no bus routes. Service to through traffic movement is discouraged.

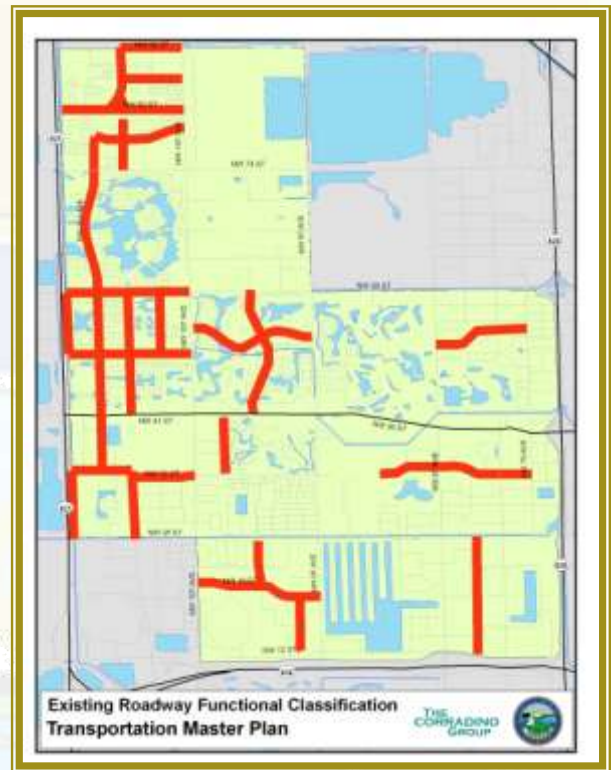


Figure 4 – Functional Classification (Local)

Examples of local roadways are:

- NW 114 Avenue
- NW 114 Passage
- NW 114 Path
- NW 72 Street
- NW 48 Lane
- NW 33 Street
- NW 28 Terrace

Figure 5 on the following page depicts the functional classification of the roadways within the Doral City limits.



Transportation Master Plan

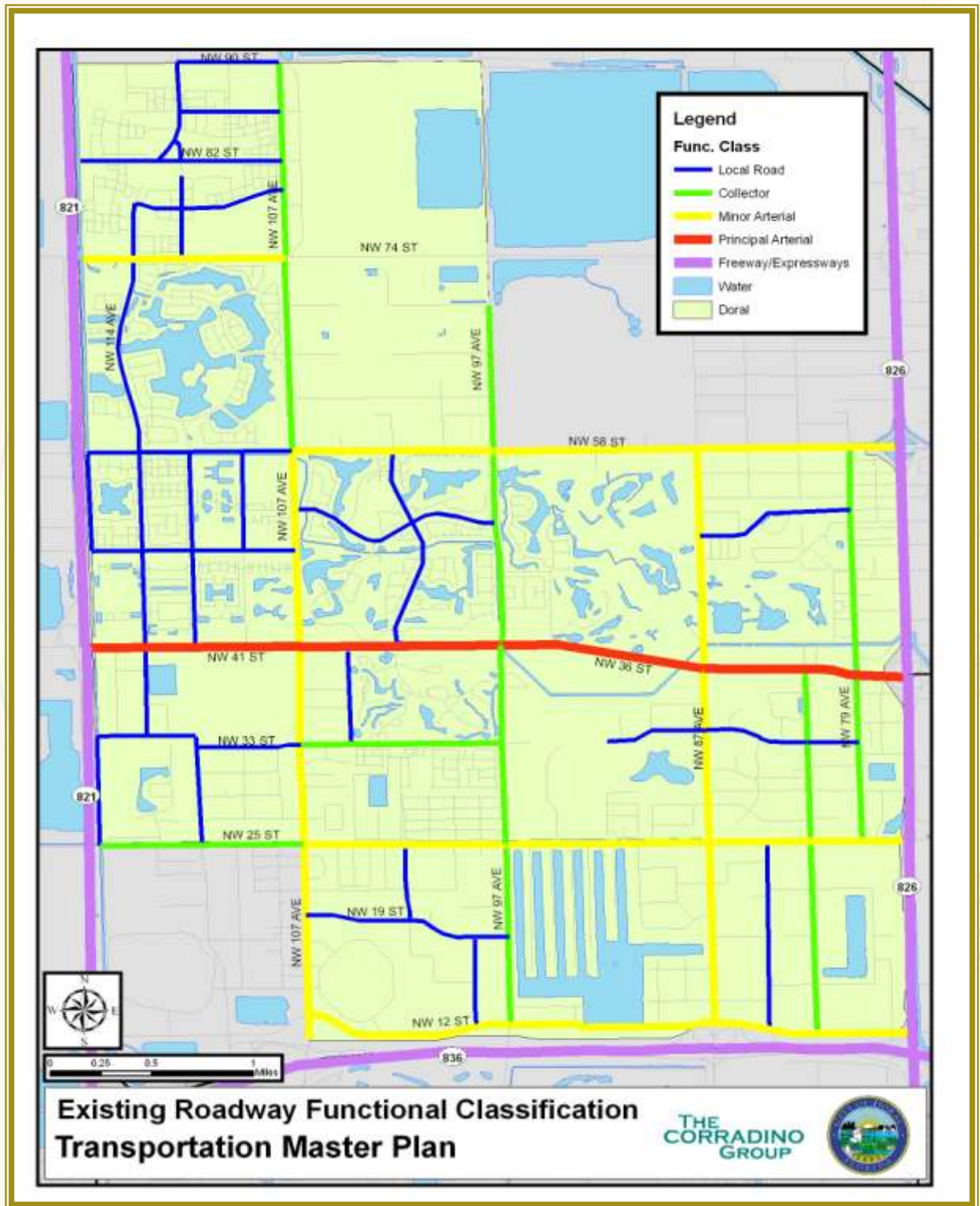


Figure 5 – Roadway Functional Classification



Maintenance Responsibilities/Jurisdiction

As with all roads within Miami-Dade County, roads fall into one of the four categories of maintenance responsibilities:

1. State (2.2 miles)
2. County (27.7 miles)
3. City (55.5 miles)
4. Private (83.7 miles)

There is approximately 170 miles of roads within the City of Doral. Each jurisdiction provides routine maintenance on the roadways. However, all roadway traffic control such as speed limit signs, stop signs and traffic signals fall under the jurisdiction of, and are maintained by, Miami-Dade County. Doral provides maintenance on 55.5 miles of roadway. Over the years, the City has taken jurisdiction over most of the neighborhood streets through inter-local agreements with the county. The City of Doral also contains more than 60 traffic signals. Figure 3 depicts the locations of existing traffic signals. Figure 4 depicts the roadway maintenance responsibilities.

Number of Lanes and Median Types

The amounts of through-lanes that exist within the City of Doral are depicted in Figure 5. Roadways fall under two directional classifications: 1) two-way, and 2) one-way. Additionally roadways are either divided (through lanes in the opposite direction are separated by a median) or undivided (there is no physical separation between lanes) by a median. Tables 1 and 2 depict the number of lanes and the median types. Where:

1. The number of through lanes is labeled with the letter “D” after the number signifying that there is a raised median; or the median is a Two-Way Left Turn Lane (TWLTL).
2. The number of through-lanes is labeled without the letter “D” after the number signifying that there is either no raised median.

It should be noted that only certain roadways were selected by the City for this level of analysis and thus, those are the only roadways that are depicted in the associated maps.



Table 1 – East/West Roadways Information

ROAD	LIMITS		JURISDICTION	FUNCTION CLASSIFICATION	No. of LANES	Median Type
NW 12 ST	SR 826	- 87 AVE	COUNTY	MINOR ARTERIAL	4D	Raised
NW 12 ST	87 AVE	- 97 AVE	COUNTY	MINOR ARTERIAL	4	None
NW 12 ST	97 AVE	- 107 AVE	COUNTY	MINOR ARTERIAL	4D	Raised
NW 17-19 ST	97 AVE	- 107 AVE	CITY	LOCAL ROAD	4D	Raised
NW 25 ST	SR 826	- 87 AVE	COUNTY	MINOR ARTERIAL	4	None
NW 25 ST	87 AVE	- 97 AVE	COUNTY	MINOR ARTERIAL	4	None
NW 25 ST	97 AVE	- 107 AVE	COUNTY	MINOR ARTERIAL	4	None
NW 25 ST	107 AVE	- 117 AVE	COUNTY	COLLECTOR	4	None
NW 33 ST	79 AVE	- 82 AVE	CITY	LOCAL ROAD	2	None
NW 33 ST	82 AVE	- 87 AVE	CITY	LOCAL ROAD	4D	Raised
NW 33 ST	87 AVE	- 92 AVE	CITY	LOCAL ROAD	2	Raised
NW 33 ST	97 AVE	- 107 AVE	CITY	COLLECTOR	4D	Raised
NW 33 ST	107 AVE	- 112 AVE	CITY	LOCAL ROAD	2	None
NW 34 ST	112 AVE	- 117 AVE	CITY	LOCAL ROAD	2	None
NW 36 ST	SR 826	- 87 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	Raised
NW 36/41 ST	87 AVE	- 97 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	Raised
NW 41 ST	97 AVE	- 107 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	Raised
NW 41 ST	107 AVE	- 117 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	Raised
NW 50 ST	107 AVE	- 117 AVE	CITY	LOCAL ROAD	2	None
NW 53 ST	79 AVE	- 87 AVE	CITY	LOCAL ROAD	4D	Raised
NW 58 ST	SR 826	- 87 AVE	COUNTY	MINOR ARTERIAL	4D	TWLTL
NW 58 ST	87 AVE	- 97 AVE	COUNTY	MINOR ARTERIAL	4D	TWLTL
NW 58 ST	97 AVE	- 107 AVE	COUNTY	MINOR ARTERIAL	4D	Raised
NW 58 ST	107 AVE	- 117 AVE	COUNTY	LOCAL ROAD	4D	Raised
NW 74 ST	107 AVE	- 117 AVE	STATE	MINOR ARTERIAL	4D	Raised
NW 78 ST	107 AVE	- 109 AVE	CITY	LOCAL ROAD	2	None
NW 78 ST	109 AVE	- 114 AVE	CITY	LOCAL ROAD	2	None
NW 82 ST	107 AVE	- 116 AVE	CITY	LOCAL ROAD	2	None
NW 86 ST	107 AVE	- 116 AVE	CITY	LOCAL ROAD	2	None
NW 90 ST	107 AVE	- 112 AVE	CITY	LOCAL ROAD	2	Raised



Table 2 - North/South Roadway Information

ROAD	LIMITS	JURISDICTION	FUNCTION CLASSIFICATION	No. of LANES	Median Type
NW 79 AVE	25 ST - 36 ST	CITY	COLLECTOR	4D	TWLTL
NW 79 AVE	36 ST - 58 ST	CITY	COLLECTOR	4D	TWLTL
NW 82 AVE	12 ST - 25 ST	CITY	COLLECTOR	4D	Raised
NW 82 AVE	25 ST - 41 ST	CITY	LOCAL ROAD	2	Raised
NW 84 AVE	12 ST - 25 ST	CITY	LOCAL ROAD	4D	Raised
NW 87 AVE	12 ST - 25 ST	COUNTY	MINOR ARTERIAL	6D	Raised
NW 87 AVE	25 St - 36 St	COUNTY	MINOR ARTERIAL	6D	Raised
NW 87 AVE	36 St - 58 St	COUNTY	MINOR ARTERIAL	4D	Raised
NW 97 AVE	12 ST - 25 ST	COUNTY	COLLECTOR	4D	TWLTL
NW 97 AVE	25 ST - 33 ST	COUNTY	COLLECTOR	4D	Raised
NW 97 AVE	33 ST - 41 ST	COUNTY	COLLECTOR	4D	Raised
NW 97 AVE	41 ST - 52 ST	COUNTY	COLLECTOR	4D	Raised
NW 97 AVE	52 ST - 58 ST	COUNTY	COLLECTOR	2	None
NW 97 AVE	58 ST - 66 ST	COUNTY	COLLECTOR	2	None
NW 102 AVE	41 ST - 58 ST	CITY	LOCAL ROAD	4D	Raised
NW 107 AVE	12 ST - 25 ST	COUNTY	MINOR ARTERIAL	6D	Raised
NW 107 AVE	25 ST - 41 ST	COUNTY	MINOR ARTERIAL	4D	Raised
NW 107 AVE	41 ST - 58 ST	COUNTY	MINOR ARTERIAL	4D	Raised
NW 107 AVE	58 ST - 74 ST	COUNTY	COLLECTOR	4D	Raised
NW 107 AVE	74 ST - 90 ST	COUNTY	COLLECTOR	4D	Raised
NW 109 AVE	50 ST - 58 ST	CITY	LOCAL ROAD	2	None
NW 112 AVE	25 ST - 33 ST	CITY	LOCAL ROAD	2D	TWLTL
NW 112 AVE	41 ST - 58 ST	CITY	LOCAL ROAD	2D	TWLTL
NW 112 AVE	74 ST - 79 LN	CITY	LOCAL ROAD	4	None
NW 112 AV-CT	82 ST - 90 ST	CITY	LOCAL ROAD	4D	Raised
NW 114 AVE	34 ST - 41 ST	CITY	LOCAL ROAD	2D	TWLTL
NW 114 AVE	41 ST - 58 ST	CITY	LOCAL ROAD	2	None
NW 114 AVE	58 ST - 74 ST	CITY	LOCAL ROAD	4D	Raised
NW 114 AVE	74 ST - 80 ST	CITY	LOCAL ROAD	4D	Raised
NW 117 AVE	25 ST - 33 ST	CITY	LOCAL ROAD	2	None
NW 117 AVE	50 ST - 58 ST	CITY	LOCAL ROAD	2	None







Transit Routes

The City of Doral is served by the Miami-Dade Transit (MDT) routes number 7, 36, 71, 87, 132, 137, 238, the 95-Express Earlington Heights (952) as well as by its local circulator, the Doral Trolley. Figure 9 shows the routes of Miami-Dade Transit within the City of Doral and the Doral Transit System's Trolley Route. Table 3 shows the headways of these routes.

Table 3 – Miami-Dade Transit Routes Serving Doral

Route	Peak Headway	Off-Peak
Doral Trolley	45	45
7	30	40
36	(20)60	60
71	30	60
87	30	45
95 Earl	60*	-
132	60	-
137	30	45
238	45	60
*Express service commits one bus in the AM peak hour and one in the PM () 20 min headways at Doral Center. 60 at Dolphin Mall.		

Pedestrian/Bicycle Facilities

The City's goal is to encourage intra-City trips utilizing the bicycle and pedestrian modes. The majority of the City is interconnected by sidewalks. The City currently does not have designated bicycle facilities. However, the City has developed a bikeway network in its Bikeway Network Plan, that proposes a series of bike lanes and multi-use paths. Figure 10 depicts the proposed bicycle routes.

Waterways

The City's surface drainage is maintained by Doral and is under the jurisdiction of the Department of Environmental Resources Management (DERM). This system also includes culverts. All culverts in Doral are also interconnected with the many canals that exist throughout the City. The City has developed a Storm Water Master plan which establishes standard principles and practices for the analysis, design, construction and maintenance of waterways and drainage systems in the City for the benefit and safety of Doral.



Transportation Master Plan

Railways

Rail tracks run along the southern portion of the City. There are no rail yards or rail stations within the City of Doral.

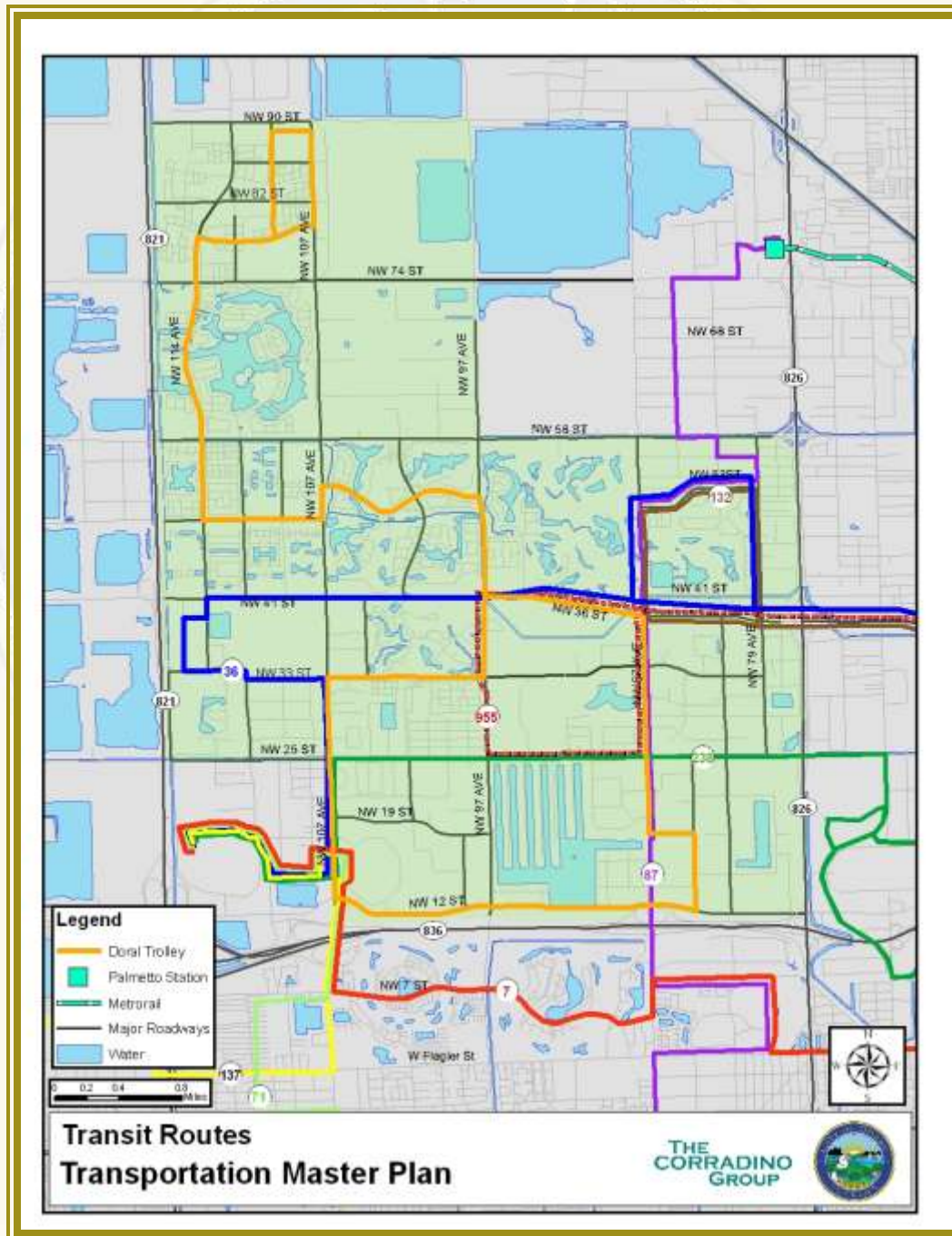


Figure 9 – Existing Transit Routes

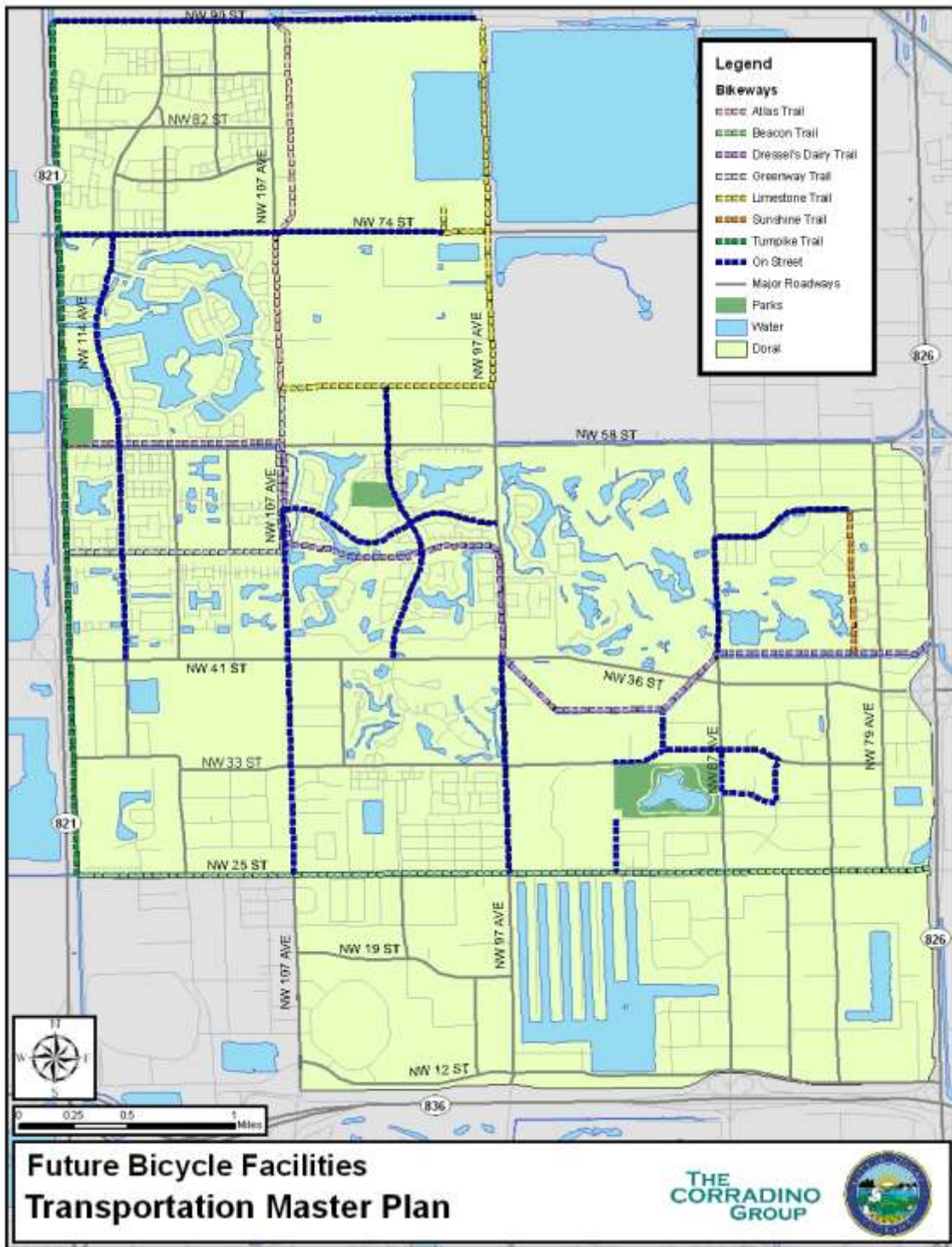


Figure 10 – Future Bicycle Facilities



Transportation Master Plan

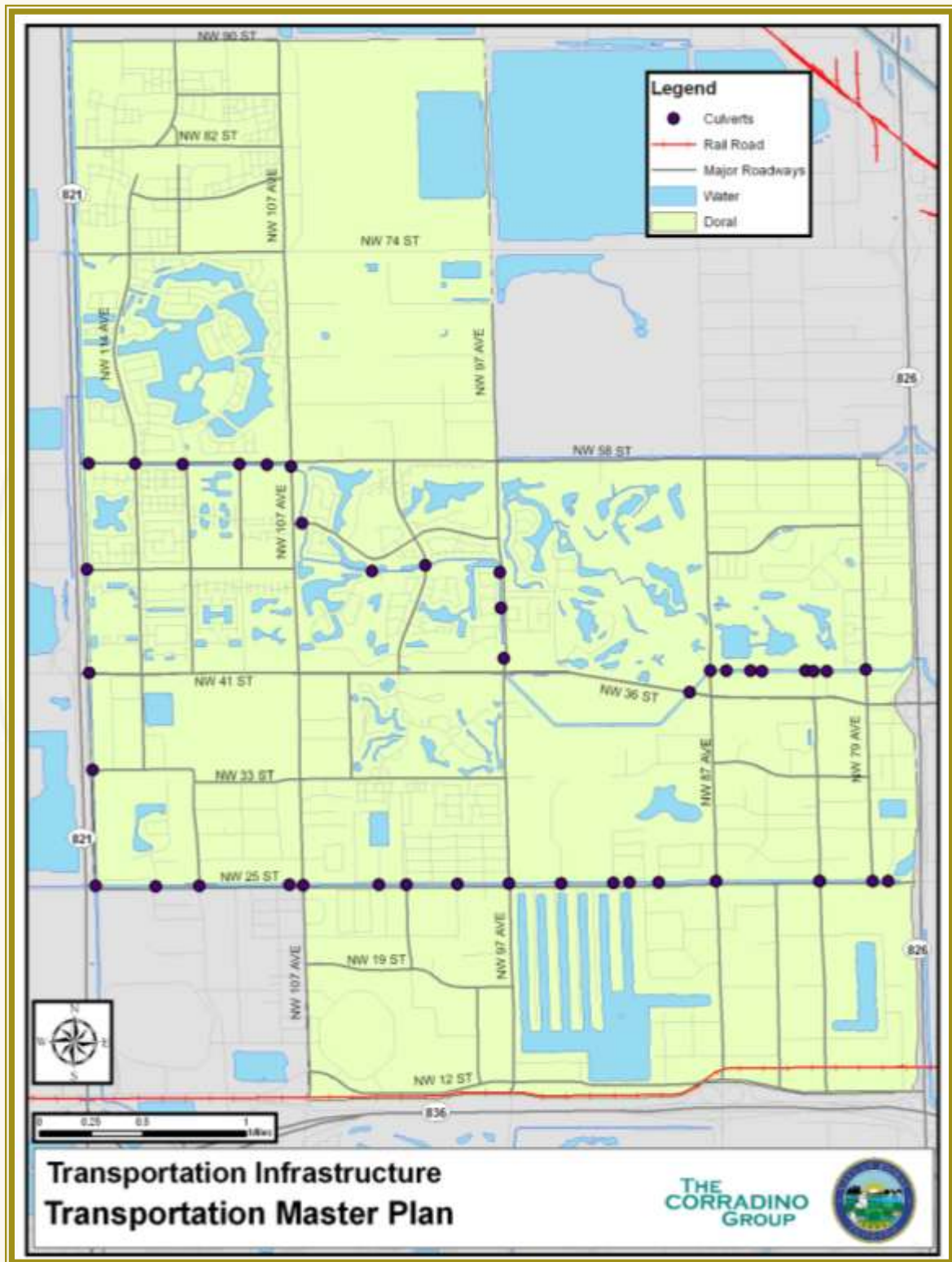


Figure 11 – Other Transportation Infrastructure



On-going and Future Projects Impacting Doral

City of Doral— Capital Improvement Plan (CIP)

A capital improvement plan is the basis for planning a community's capital expenditures and is one of the most important responsibilities of local government officials. It coordinates community planning, financial capacity and physical development.

The capital improvements program is composed of two parts:

- Capital budget
- Capital program

The capital budget is the upcoming year's spending plan for capital items (tangible assets or projects that cost at least \$15,000 and have a useful life of at least five years). The capital program is a plan for capital expenditures that extends five years beyond the capital budget.

Development of a CIP insures sound fiscal and capital planning. The benefits of the CIP are that it:

- Facilitates coordination between capital needs and the operating budgets.
- Enhances the community's credit rating, control of its tax rate, and avoids sudden changes in its debt service requirements.
- Identifies the most economical means of financing capital projects.
- Increases opportunities for obtaining federal and state aid.
- Relates public facilities to other public and private development and redevelopment policies and plans.
- Focuses attention on community objectives and fiscal capacity.
- Keeps the public informed about future needs and projects.
- Coordinates the activities of neighboring and overlapping units of local government to reduce duplication.
- Encourages careful project planning and design to avoid costly mistakes and help a community reach desired goals.

The City of Doral has developed and maintains a Capital Improvement Program. The CIP is a five-year plan designed to carry out current and forecasted future public improvements and facilities in the City and provide data concerning infrastructure, facility and large equipment needs, costs, timing, funding sources and budget impacts and alternatives.



Transportation Master Plan

The CIP also identifies:

- The expected beginning and ending date of each project.
- The amount to be expended in each year.
- The method of financing those expenditures.

Miami-Dade Metropolitan Planning Organization (Plans Review)

The Miami-Dade Long Range Transportation Plan (LRTP) update to the year 2030 has been developed by the Metropolitan Planning Organization (MPO) to guide transportation investments in Miami-Dade County through the next 20 years with the purpose of achieving the best possible mobility connections in the transportation system. Transportation planning and implementation in Miami-Dade County follows an ever narrowing, detailed process which is led by the MPO. Here, long-term projects are tested and prioritized. The funded capital improvements aspect of the plan are prioritized and included in a five-year plan called the Transportation Improvement Program (TIP). In addition, the county and each of the municipalities develop comprehensive plans that set goals, objectives and policies for land use and transportation, among other elements including transportation. These are then further implemented through the detailed master planning, leading to the design and construction of individual projects.

TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

The TIP is split into six different improvement characteristics: intermodal, highway, transit, aviation, seaport and non-motorized improvements. Table 4 shows the projects listed in the 2009 TIP that are within and adjacent to the City of Doral.

LONG RANGE TRANSPORTATION PLAN

As previously indicated, The Miami-Dade MPO 2030 LRTP was developed to establish a long-term strategy for transportation improvements within the county. The LRTP consists of multi-modal projects such as for major roadways, airports and seaport surface access, transit, and intermodal facilities that function together as an integrated transportation system. The LRTP groups the projects in terms of priority based on relative need and funding availability:

- Priority I: The projects in most need of being completed in order to respond to the most pressing and current urban travel deficiencies. These projects are scheduled to be funded by 2009 and are programmed in the Miami-Dade Transportation Improvement Program 2005-2009.
- Priority II: Projects planned to be funded between 2010 and 2015.
- Priority III: Projects planned to be funded between 2016 and 2020.
- Priority IV: Projects planned to be funded between 2021 and 2030.



- Priority IV: Unfunded: Projects that have been identified as needed. However, revenues are not available to fund these projects.

The projects listed in Table 5 are projects from the LRTP within the City of Doral.

Table 4 – Miami-Dade 2009 TIP

MPO #	FACILITY	LIMITS	WORK PROGRAM	CONST. YR
FLORIDA DEPARTMENT OF TRANSPORTATION				
DT2495811	SR 826 & SR 836 INT	NW 87 AVE TO NW 57 AVE	INTERCHANGE (MODIFY)	2009
DT2496502	SR 826/PALMETTO EXPY	NW 31 ST TO NW 47 ST	LANDSCAPING	2011
DT2496512	SR 826/PALMETTO EXPY	NW 47 ST TO NW 62 ST	LANDSCAPING	2009
DT2511851	NW 25 ST	NW 89 CT TO SR 826	ADD LANES & RECONSTRUCT	2013
DT2511852	NW 25 ST	SR 826 TO NW 67 AVE	ADD LANES & RECONSTRUCT	2009
DT4056152	NW 87 AVE	NW 58 ST TO NW 74 ST	NEW ROAD CONSTRUCTION (4 LANE MEDIAN)	2009
DT4056653	NW 25 ST VIADUCT	SR 826 TO NW 68 AVE	NEW ROAD CONSTRUCTION	2009
DT4147313	SR 934/NW 74 ST	NW 114 AVE TO NW 107 AVE	ADD LANES & REHABILITATE PVMNT	2013
DT4180901	SR 973/NW 87 AVE	N OF FLAGLER ST TO S OF NW 12 ST	RESURFACING	2009
DT4242071	SR 948/NW 36 ST	NW 79 AVE TO NW 74 AVE	SIDEWALK	2011
PRIVATE SECTOR				
PS000025	NW 90 ST	NW 114 AVE TO NW 112 AVE	NEW CONSTRUCTION: 2 LANES	N/A
PS0000120	NW 66 ST	NW 102 AVE TO NW 107 AVE	FULL IMPROVEMENT	N/A
PS0000121	NW 102 AVE	NW 62 ST TO NW 67 ST	2 LANES & 1/2 OF TURN LANE	N/A
MIAMI-DADE COUNTY PUBLIC WORKS DEPARTMENT				
PW20040355	NW 74 ST	HEFT TO SR 826	NEW 6 LANES	2009
MIAMI-DADE TRANSIT				
TA0000002	East West Corridor	MIC TO FIU	METRORAIL EXTENSION	N/A
FLORIDA TURNPIKE				
TP4159053	FLORIDA TURNPIKE/HEFT	OKEECHOBEE TOLL PLAZA	LANDSCAPING	2011
TP4233711	FLORIDA TURNPIKE/HEFT	SR 836 TO E OF NW 57 AVE	PD&E/EMO STUDY - ADD LANES (6 TO 12 LANES)	N/A
MIAMI-DADE EXPRESSWAYS				
XA10017	SR 836/ DOLPHIN EXPY	NW 137 AVE TO I-95	TOLL SYSTEM CONVERSION	2011
XA83608	SR 826/SR 836	INTERCHANGE	NEW CONSTRUCTION: 4 LANE DIVIDED EXPRESS LANES	2009
XA83617	SR 836	NW 137 AVE TO NW 87 AVE	LANDSCAPING	2009



Table 5 – 2030 LRTP Projects

Priority	Project Roadway	Limits	Project Description
1	SR 823, SR 836	ITS	MAINTENANCE OF FIELD ELECTRONIC DEVICES
	SR 823, SR 836	ITS	SAFETY PATROLS
	SR 823 & SR 836 INTERSECTION	FROM NW 87 AVE TO NW 57 AVE	WIDEN INTERCHANGE TO 10 LANES
	SR 836 EXPRESS LANES	FROM HEFT TO SR 826	4 LANE DIVIDED EXPRESS LANES IN MEDIAN
	EAST-WEST CORRIDOR	FROM FIU TO MIC	PREMIUM TRANSIT (HEAVY RAIL)
	SR 826	FROM N OF NW 25 ST TO NW 47 ST	ADD LANES AND RECONSTRUCT (8 TO 10)
	NW 87 AVE	FROM NW 58 ST TO NW 74 ST	NEW 4 LANE ROAD
	SR 836	FROM HEFT TO NW 107 AVE	RECONSTRUCTION OF EXISTING WB 836 TO SB HEFT CONNECTION
	NW 74 ST	FROM HEFT TO NW 87 AVE	NEW 2 LANES
	NW 25 ST	FROM NW 87 AVE TO SR 826	ADD LANES AND RECONSTRUCT (ADD 1)
	NW 74 ST	FROM HEFT TO NW 82 AVE	NEW 3 LANES
	NW 97 AVE	FROM NW 41 ST TO NW 25 ST	WIDEN FROM 2 TO 4 LANES
	NW 58 ST	FROM NW 107 AVE TO NW 102 AVE	WIDEN FROM 2 TO 4 LANES
	NW 25 ST	FROM NW 117 AVE TO NW 127 AVE	NEW 4 LANE DIVIDED ARTERIAL
	SR 836 EXTENSION	FROM NW 111 AVE TO NW 87 AVE	IMPROVEMENT FROM NW 107 AVE TO NW 87 AVE INCLUDING A NEW BIDIRECTIONAL MAINLINE TOLL PLAZA
	NW 97 AVE	FROM NW 12 ST TO NW 7 ST	CONSTRUCTION OF 4 LANE BRIDGE OVER SR 836
2	NW 25 ST VIADUCT	FROM NW 68 AVE TO NW 77 AVE	NEW 2 LANE VIADUCT
	NW 74 ST	FROM HEFT TO SR 826	WIDEN TO 6 LANES
	NW 87 AVE	FROM NW 36 ST TO NW 58 ST	4 TO 6 LANES
	NW 58 ST & NW 74 ST	FROM HEFT TO A1A	ITS (INCLUDES CCTV, ROADWAY SENSORS, ARTERIAL DYNAMIC MESSAGE SIGNS, WIRELESS COMM)
	NW 36 ST	FROM SR 826 TO US-1	ITS (INCLUDES CCTV, ROADWAY SENSORS, ARTERIAL DYNAMIC MESSAGE SIGNS, WIRELESS COMM)
3	HEFT	AT NW 74 ST	INTERCHANGE (MAJOR)
	NW 107 AVE	FROM NW 41 ST TO NW 25 ST	WIDEN 4 TO 6 LANES
	NW 87 AVE	FROM NW 58 ST TO NW 74 ST	WIDEN 4 TO 6 LANES
	NW 97 AVE	FROM NW 58 ST TO NW 74 ST	WIDEN 2 TO 4 LANES
4	HEFT	FROM SR 836 TO US-27	WIDEN 6 TO 8 LANES + 2 AUX LANES
	NW 36/41 ST	FROM NW 42 AVE TO HEFT	EXPRESS STREET (ITS, GRADE SEPARATIONS, ETC.)



Evaluation of Local Policy

The City of Doral's Comprehensive Plan Transportation Element Goal is to provide for a safe, convenient, effective and energy-efficient multimodal transportation system, which is intricately related to the land use pattern and improves the level of mobility for all residents and visitors. To this end, the City of Doral Comprehensive Plan's Transportation Element and the Land Development Code's Traffic Impact Analysis guidelines were reviewed and the recommendations below are made.

Recommendations to the Comprehensive Plan's Transportation Element Goals, Objectives and Policies (GOPs) (~~Stricken through~~ words are deletions and underlined words are additions).

Policy 2.1.6: Preserve existing rights-of-way to the extent that they continue to be necessary, and require new rights-of-way be dedicated in perpetuity in connection with future development, where they are necessary to maintain the City's minimum level-of-service standards and for future transportation improvements identified in the Transportation Master Plan. Right-of-way dedications will be obtained by the City through the development review process or by public acquisition, when deemed necessary.

Policy 2.1.8: The City will amend the land development regulations to provide parking strategies for development to promote the transportation goals and objectives for Doral. Parking strategies shall include the following:

- a) Reduced parking requirements for shared parking agreements between mixed-use developments or proximal comparable uses;
- b) Preferential parking for carpooling;
- c) Customized parking ratio requirements to reflect local conditions; and
- d) Payment-in-lieu of required parking to be used toward a municipal public parking program or transit fund.
- e) Preferential parking for low emission vehicles such as hybrids.

Under Policy 2.2 include:

2.2.13 The City shall develop, designate, map and adopt functional classification of existing and future roadways within the municipal boundaries in consultation with the Florida Department of Transportation (FDOT), Miami-Dade County and adjacent municipalities. The location of the primary transit terminals for MetroRail shall be added to the functional classification map to reflect the key mass transit nodes within the City. Additionally, the roadways that are collector and arterial roadways where transit service having headways of 20 minutes or less is provided within 1/2 mile distance and the collector and arterial roadways where extraordinary transit services such as commuter rail or express bus service exists,



generally parallel to and within to 1/2 mile of such roads shall also be located on the map.

2.2.14 High frequency accident locations shall be monitored by maintaining detailed data acquired by the City from within as well as from other agencies, to provide for the identification of significant safety deficiencies and to develop potential improvements to address the identified deficiencies and eliminate or reduce hazardous conditions.

2.2.15 The traffic circulation system will protect community and neighborhood integrity. The City will strive to conserve and protect the character of neighborhoods by discouraging the intrusion of through vehicles on residential local and collector roadways. The City shall discourage through traffic in neighborhoods by use of traffic management techniques, including signage, landscape, roadway design and other traffic calming measures. Major thoroughfares and intersections should be located and designed in a manner which would not tend to sever or fragment land which is or could otherwise be developed as well defined neighborhoods.

2.2.16 The City shall develop a level-of-service measurement which acknowledges multimodal mobility.

2.2.17 The City shall manage growth through the maintenance of multimodal mobility across the City, encouraging integrated, safe pedestrian and bicycle system which reduce reliance on motorized vehicles, and provides convenient access to schools, activity centers, transit stops, parks and other recreation areas throughout the City. This mobility will be funded from a variety of sources including fair share contributions from developers and market driven.

New Objective:

Objective 2.9: Environmental Quality and Energy Conservation

Plan and develop a transportation system that preserves environmentally sensitive areas, reduces air, water, noise and street lights pollution, conserves energy, natural resources, and maintains and enhances community aesthetic values.

Policy 2.9.1: The City will pursue and support transportation programs and projects that will help improve or maintain air, water, and noise quality, and that will further the conservation of transportation-related energy. Such programs can include but are not limited to: rapid transit, express buses, rapid transit auxiliary services and ancillary facilities, high occupancy vehicle (HOV) facilities, carpooling and vanpooling programs, bikeways, pedestrian ways, traffic signals coordination and synchronization, among others.

Policy 2.9.2: The City shall provide landscaping along roadways to maintain the quality of the environment and avoid transportation improvements that encourage or subsidize



development in environmentally sensitive areas identified in the conservation element.

Policy 2.9.3: The City shall require that all new street lighting projects reduce light pollution without unduly sacrificing safety and traffic operations.

Evaluation of Doral Traffic Impact Analysis Methodology Review

The following represents the recommendation for an updated traffic impact analysis methodology for future developments.

The goal is to determine if a proposed land development generated vehicular traffic impact will create significant operational and safety issues and concerns to the transportation system, and if needed, identify transportation improvements to mitigate the site's generated traffic impact.

The approach developed herein is a multi-level approach based on the size of an individual land development. The size of each project will dictate the number, location, and type of traffic counts and analyses that will be required. Each level is determined by the number of trips the project will generate, as stated in the latest edition of the Institute of Transportation Engineers, Trip Generation. Each level of analysis is a minimum threshold and may be exceeded by the applicant. Notwithstanding, the City may require additional analyses to address site specific issues and/or conditions. This is especially true for impact studies for schools.

The City will review each impact analysis and respond with an approval, denial or a request for additional information.

INTRODUCTION

The City of Doral has established the following guidelines for the preparation of Traffic Impact Analysis (TIA) reports. It will maintain the measurement of impact in order to fund the maintenance of multimodal mobility and determine specific locations of congestion in order to focus mitigation efforts. The purpose of the guidelines is to establish procedures to ensure consistency of analysis and the adequacy of information presented and timely review by City. It is required that the applicant's transportation planner/engineer consult with City staff before beginning the study to establish the scope of services, basic assumptions methodology of the study from the guidelines to avoid unnecessary delays or revisions. For assistance in the TIA scoping process the Transportation Division can be contacted at (305) 593-6740. Any School study will need additional data collection and analysis requirements.



A Traffic Impact Analysis is required for all applicable new land developments or additions to existing developments. The specific analysis requirements and level of detail are determined by the following categories:

CATEGORY I – Developments which generate 100 or more peak hour trips but fewer than 250 trips during the morning or afternoon peak hour. A Category I Traffic Impact Analysis may also be required for sites generating less than 100 trips during the morning or afternoon peak hour for any of the following reasons and at the discretion of the City's transportation engineer:

- The existence of any current traffic problems or concerns in the local area such as an offset intersection, a high number of traffic accidents, etcetera
- The sensitivity of the adjacent neighborhoods or other areas where the public may perceive an adverse impact
- The proximity of site drives to other drives or intersections
- Other specific problems or concerns that may be aggravated by the proposed development

Should such conditions arise the City's Transportation Engineer will evaluate the need for the study based on technical merit.

CATEGORY II – Land developments which generate 251 or more peak hour trips but fewer than 500 trips during the morning or afternoon peak hour.

CATEGORY III – Land developments which generate more than 500 peak hour trips but fewer than Regional Development trips during the morning or afternoon peak hour.

CATEGORY IV – Regional Developments

The City may require additional analyses to address site specific issues and/or conditions.

The developer must first estimate the number of vehicle trips generated by the proposed development using the procedure(s) outlined in this document. The developer must obtain the agreement of the City's Transportation Engineer on the number of trips generated by the development, if TIA is required, and the analysis category. The developer may also directly request the City's Transportation Engineering staff make these determinations. Should the developer be unable to meet the approval of the City's Transportation Engineer the developer may make an appeal to the director of Doral's Public Works Department.



Full occupancy and build-out shall be assumed for single-phase developments. Multi-phase developments may require assessment of up to three horizon years corresponding to key phases as directed by the City transportation engineer.



Table 6 – Traffic Impact Guidelines

ANALYSIS CATEGORY	DEVELOPMENT CHARACTERISTICS	STUDY HORIZONS	MINIMUM STUDY AREA
I	Small (100 - 250 Total Peak Hour Trips)	1, 2 & 3	<ol style="list-style-type: none"> 1. Site access drives 2. Roadway segments between, before and after analyzed signalized intersections. 3. Adjacent Signal controlled intersections within 1/2 mile and/or major street intersections without signal control and driveways within 500 feet.
II	Moderate (251 - 500 Total Peak Hour Trips)	1, 2 & 3	<ol style="list-style-type: none"> 1. Site access drives 2. Roadway segments between, before and after analyzed signalized intersections. 3. Adjacent Signal controlled intersections within 1 mile and/or major street intersections without signal control and driveways within 500 feet.
III	Large (more than 500 but less than Regional Development Total Peak Hour Trips)	1, 2 & 3	<ol style="list-style-type: none"> 1. Site access drives 2. Roadway segments between, before and after analyzed signalized intersections. 3. Adjacent Signal controlled intersections within 2 miles and/or major street intersections without signal control and driveways within 500 feet.
IV	Regional Development		<ol style="list-style-type: none"> 1. Site access drives 2. Roadway segments between, before and after analyzed signalized intersections. 3. Key signal controlled intersections within 3 miles and/or major street intersections without signal control and driveways within 500 feet.

ANALYSIS TIME PERIOD

Both the morning and afternoon weekday peak hours of the adjacent street traffic are to be analyzed. If the proposed project is not expected to generate new net trips or a very low number of new net trips during either the morning or evening peak periods the requirement to analyze



one or both of these periods may be waived by the City transportation engineer at the discretion of the City.

Where the peak traffic hour in the study area occurs during a time period other than the normal commuting morning or afternoon peak travel periods of the adjacent street network, or occurs on a weekend, or if the proposed project has unusual peaking characteristics, these peak hours must also be analyzed.

SEASONAL ADJUSTMENTS

The traffic volumes for the analysis hours should be adjusted for the peak season. Use of seasonal adjustment factors should be approved by the City's Transportation Engineer. The intent is not to assess maximum peak hourly volumes, such as the day after Christmas for a retail development, but to address peak seasonal volumes. Weekly adjustment rates published by the FDOT shall be used to seasonally adjust counts.

DATA COLLECTION NEEDS

All roadway, traffic and transportation related data is to be collected in accordance with the latest edition of the ITE Manual of Transportation Engineering Studies (MTES), FDOT Manual on Uniform Traffic Studies (MUTS) or as directed by the City's Transportation Engineer if not specifically covered in the ITE MTES or FDOT MUTS.

- a. Turning movement classification counts shall be obtained for all existing cross-street intersections to be analyzed during the morning and afternoon peak periods and include pedestrian/bicycle and trucks.
- b. 72-hour roadway link counts shall be collected on the roadway links delineated by signalized intersections within the study area.
- c. All vehicle, pedestrian and bicycle counts shall adhere to the Florida Department of Transportation (FDOT) Manual on Uniform Traffic Studies (MUTS) and other applicable standards.
- d. The current and projected daily traffic volumes shall be presented in the report.
- e. Roadway geometric information shall be obtained including roadway width, number of lanes, turning lanes, vertical grade, location of nearby driveways, and lane configuration at intersections.
- f. The location and type of traffic controls including signs shall be identified.
- g. Traffic counts used in any analysis shall not be older than one year and originate from a Tuesday, Wednesday or Thursday.
- h. Transit routes within one-half mile including headways and ridership.
- i. Transit facilities within one-half mile including stops, shelters, benches and signage.
- j. Pedestrian facilities within one-half mile including sidewalks, sidewalk widths,



crosswalks, pedestrian signals.

- k. Bicycle facilities within one-half mile including bicycle lanes, bicycle paths, bicycle lane/path widths, bicycle parking amenities

TRIP GENERATION

The latest edition of ITE Trip Generation shall be used for selecting trip generation rates. The guidelines contained in the Trip Generation shall be used to determine whether the average trip generation rate or equation should be used.

Local or special trip generation rates based on comparable sites may be used if substantial sample size is used and complete documentation is furnished. Guidance can be found in the Trip Generation Handbook, An ITE Proposed Recommended Practice.

The applicant may consider applicable trip reduction methods such as internal capture rates and pass-by trips rates. Guidance can be found in the Trip Generation Handbook; An ITE Proposed Recommended Practice and is subject to review and approval by the City transportation engineer.

TRIP DISTRIBUTION AND ASSIGNMENT

Distribute and assign new trips to the roadway system by using manual methods or the Florida Standard Urban Transportation Model Structure (FSUTMS).

For all trip distribution methods used, a map illustrating the impacted roadway segments and trip distribution on each segment is the preferred method of illustration.

Manual trip distribution shall begin by defining the Traffic Analysis Zone (TAZ) number for the project location. Distribute trips using the project's TAZ distribution percentages from the current Miami-Dade MPO's Long Range Transportation.

In addition to a map, the number of new trips generated from the proposed development and distributed on each impacted roadway segment within the study area should be summarized in a table.

GROWTH RATES

Use the City of Doral traffic counts to determine growth trends and/or the MPO adopted LRTP network assignment volumes. Other growth rates may be developed upon review and approval by the City.



CAPACITY ANALYSIS

Using the data collected, analyses will be undertaken to reflect the applicable study horizons. Level-of-service shall be computed for traffic signal controlled and non-signal controlled intersections and driveways as identified in the study area in Table 8, in accordance with the latest edition of the Highway Capacity Manual.

Analyze the applicable weekday peak hour(s); or any other peak-hour as determined by the City. Determine if the vehicle traffic generated by the proposed land development will create significant operational and safety issues/concerns at the analyzed intersections and driveways.

Traffic Control Needs

Traffic signals shall be identified by Miami-Dade County Asset ID. Existing signal phasing/timing shall be utilized in the analysis.

Vehicle Queuing Analysis

A vehicular queuing analysis shall be conducted for all turn lanes under stop or signal control intersection and driveways within the study area.

Speed Considerations

Vehicle speed is used to estimate safe stopping and cross-corner sight distances at intersections according to applicable design standards.

Safe stopping and cross-corner sight distances shall be evaluated using procedures outlined in the latest FDOT Roadway Design Guidelines.

Build-Out Year

This represents a date in the future in which the proposed land development will be completed and fully operational. It shall be used as the date for future conditions analysis.

Committed Developments

All committed developments within the study area shall be quantified in terms of generated vehicular trips to adjacent roadways. This data should be collected from the City of Doral and Miami-Dade County's Department of Planning and Zoning. It will include all developments that have entered the site application process, yet have not been constructed, within the study area, as defined by the City's Planning Department (generally within a one-mile radius of the project.) An alternative method will be to apply an annual growth factor in consultation with and approved by the City.



The report should contain tables to summarize existing volume, allocated/committed volume, project volume, subtotal (existing plus allocated/committed and existing + allocated/committed plus project) volume, and roadway capacities for each impacted intersection approach.

Future Transportation Projects

Capacity and operational improvements provided by roadway projects which are scheduled for construction within three years in the adopted work program of the FDOT, the Miami-Dade MPO Transportation Improvement Program and the Capital Improvement Program of the City are to be taken into account in the analysis.

Significant Impact

For study intersections and driveways, the impact is considered to be operational and/or significant safety wise if the addition of the traffic generated from the proposed project results in any one or more of the following:

- Causes an intersection operating at a level-of-service (LOS) D or better to operate at levels of service E or F;
- Causes an intersection operating at LOS E to operate at LOS F;
- Increases the average delay for a study intersection that is already operating at LOS F by more than 10 percent;
- Resulting vehicular queues cannot be accommodated within the proposed site, and/or will result in obstructing vehicular circulation within the site;
- Resulting vehicular queues cannot be accommodated within the existing impacted exclusive left turn lanes vehicle storage length;
- Resulting vehicular queues entering or exiting the site will result in obstructing one or more through lanes of adjacent roadways.

MITIGATION/IMPROVEMENT ANALYSIS

All trips added to the system shall be mitigated by the developer. This mitigation shall partially fund on-going multimodal mobility within the system. The cost to mitigate per trip is defined in the City's Mobility Fee Ordinance.

The roadway and intersections within the study area shall be analyzed for the applicable study horizons identified in Table 6 and as described herein to identify existing and projected impacts with regard to operations and safety.

The City may require additional analyses to address site specific issues and/or conditions.



If intersections and/or driveways are found to have operational and/or safety deficiencies, alternatives to mitigate these deficiencies will be developed and evaluated as part of the study.

The report should document what multimodal projects and other improvement efforts are proposed, and how the improvements will maintain adequate mobility as defined in the multimodal level-of-service to improve operations and safety. The report should indicate the entities responsible for the implementation of the proposed multimodal improvement(s).

For mitigation of a project with substantial impacts, such as developments with generated site traffic of more than 1,200, the project will be reviewed through coordination with Miami-Dade County Public Works Department, the Florida Department of Transportation, South Florida Regional Planning Council, Department of Community Affairs, and/or other appropriate agencies.

CERTIFICATION

The Traffic Impact Analysis shall be signed and sealed by a qualified and experienced Registered Professional Engineer in the State of Florida.

APPROVALS

- Submit traffic impact analysis study report to the City of Doral.
- A two-week review period will be provided. If another jurisdiction is involved, an inter-jurisdictional agreement will be made between City of Doral, the developer and the other agency/agencies. The review period may be extended an additional two weeks for a maximum review period of four weeks.
- The City's Transportation Engineer or designated representative shall review and approve the Traffic Impact Analysis.
- Should the developer be unable to meet the approval of the City's Transportation Engineer, the developer may make an appeal to Doral's director of Public Works.

DESIGN STANDARD REFERENCE

- Roadway design shall be in accordance with the current FDOT Roadway Design Manual and other current City of Doral and Miami-Dade County policies, procedures and standards.
- Capacity/level-of-service analyses shall be in accordance with the latest edition of the Highway Capacity Manual.
- Analyses and data collection in accordance with the latest edition of the ITE Manual of Traffic Engineering Studies and the FDOT Manual on Uniform Traffic Studies.



- Trip generation shall be in accordance with the latest edition of the ITE publication Trip Generation and the latest edition of ITE Trip Generation Handbook, An ITE Recommended Practice.

The following provides an outline of the minimum recommended content of an impact study and a series of questions for evaluating a study conducted:

I. BACKGROUND:

- Description of proposed development.
- Identification of peak hours and whether weekends will be used in the impact analysis.
- Description of study area.
- Location of proposed access points.

II. EXISTING TRAFFIC CONDITIONS:

- Description of road network and intersections adjacent to site and at access points including pedestrian, bicycle and transit facilities.
- Traffic counts during peak-impact hours.
- Capacity/LOS analysis results at the selected intersections and driveways.

III. SITE TRAFFIC GENERATION:

- Trip generation rates used and the source of these rates.
- Traffic generated during peak impact hours.

IV. SITE TRAFFIC DISTRIBUTION:

- Method used to distribute traffic.
- Table and/or figure showing estimated traffic movements by direction.
- Discussion of method used for traffic assignment and assumptions for assignment of traffic to network.

V. NON-SITE TRAFFIC PROJECTIONS:

- Definition of design year/opening of proposed development.
- Identification of development in study area whose traffic is to be included in calculations.
- Adjustments of off-site through traffic volumes.
- Assembling of off-site traffic forecast for design year.

VI. TRAFFIC ASSIGNMENTS:

- Assignment of peak-period traffic to intersections and access points.
- Tables and/or figures for existing peak impact traffic hours, site traffic and total traffic.



- Recommended access design improvements.

VII. FUTURE TRAFFIC CONDITIONS:

- Capacity/LOS analysis results at the selected intersections and driveways under the following scenarios:
 - Future conditions without the proposed site generated traffic.
 - Future conditions including the proposed site generated traffic.
 - Future conditions including the proposed site generated traffic with proposed improvements if applicable.

VIII. REVIEW OF SITE PLAN:

- Internal reservoir at access points.
- Sight triangles.
- Parking layout.
- Loading dock locations and access, including design truck used.
- Recommended changes.
- Other developments in area.

IX. MULTIMODAL CONDITIONS

- Pedestrian, bicycle and transit capacity/LOS analysis

X. FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

- All findings and recommendations should be clearly documented

ISSUES IDENTIFICATION

Meetings with individual City staff were held during this task to identify current transportation issues faced by the City.



Accident Data

The City of Doral Police Department compiles and maintains a detailed accounting of all vehicular traffic accidents resulting in bodily injury and/or property damage. The Police Department identified a total of 20 intersections with the highest number of accidents. Table 7, below, summarizes the City's accident data at the 20 most frequent accident locations and figure 12 show the locations. The intersection of NW 12th Street with NW 87th Avenue has the highest number of accidents and is in close proximity to the interchange of NW 87th Avenue and the Dolphin Expressway/SR 836.

2007 Florida Traffic Crash Statics Report shows there were a total of 256,206 traffic crashes statewide with 45,218 of these within Miami-Dade County.

According to Police Information, these locations within Doral experienced a total of 1,098 accidents between January 3, 2007 and March 15, 2008. Of these, 342 accidents involved rear-end collisions. Seventy-eight accidents involved left-turning vehicles, and two involved pedestrians or cyclists. Disregarding traffic signals and careless driving accounted for the majority of the crashes.

Table 7 – High Accident Locations

Intersection	A	V	RSP	RANK
NW 12 St & NW 87 Ave	97	78,975	2.8	19
NW 41 St & NW 97 Ave	87	92,275	2.2	16
NW 36 St & NW 79 Ave	86	50,500	3.9	20
NW 25 St & NW 79 Ave	87	79,100	2.5	18
NW 41 St & NW 107 Ave	68	92,150	1.7	10
NW 12 St & NW 107 Ave	80	94,500	1.9	14
NW 36 St & NW 87 Ave	82	92,150	2.0	15
NW 25 St & NW 87 Ave	65	87,600	1.7	11
NW 58 St & NW 107 Ave	51	64,400	1.8	13
NW 13 Ter & NW 87 Ave	43	72,250	1.4	3
NW 36 St & NW 82 Ave	46	61,525	1.7	12
NW 25 St & NW 97 Ave	41	39,150	2.4	17
NW 41 St & NW 114 Ave	45	66,250	1.6	8
NW 58 St & NW 79 Ave	39	58,550	1.5	7
NW 25 St & NW 107 Ave	36	60,425	1.4	4
NW 12 St & NW 84 Ave	34	46,400	1.7	9
NW 25 St & NW 82 Ave	33	57,650	1.3	2
NW 14 St & NW 107 Ave	27	43,950	1.4	5
NW 41 St & NW 115 Ave	26	41,650	1.4	6
NW 41 St & NW 102 Ave	25	81,925	0.7	1

A: number of accidents reported
V: sum of the entering AADT on all approach legs
RSP: Spot Accident Rate per million vehicles

There is a short segment of highway (generally 0.3 miles or less) used to identify high accident spots such as bridges, RR crossings, intersections, etc.. The Spot Accident Rate per million vehicles (RSP) is found by dividing the accident experienced by the exposure.

For the purposes of this study, a site is identified as hazardous, if its spot accident rate exceeds 2.0. These locations are deemed hazardous based on accident experiences and elements that are potentially hazardous due to their geometrics or physical features. These intersections are:

- NW 25th Street and NW 79th Avenue
- NW 12th Street and NW 87th Avenue
- NW 13th Terrace and NW 87th Avenue
- NW 36th Street and NW 79th Avenue
- NW 41st Street and NW 97th Avenue
- NW 41st Street and NW 107th Avenue



Transportation Master Plan

It is recommended that a detailed study for improving these intersections be carried out by identifying and evaluating countermeasures.

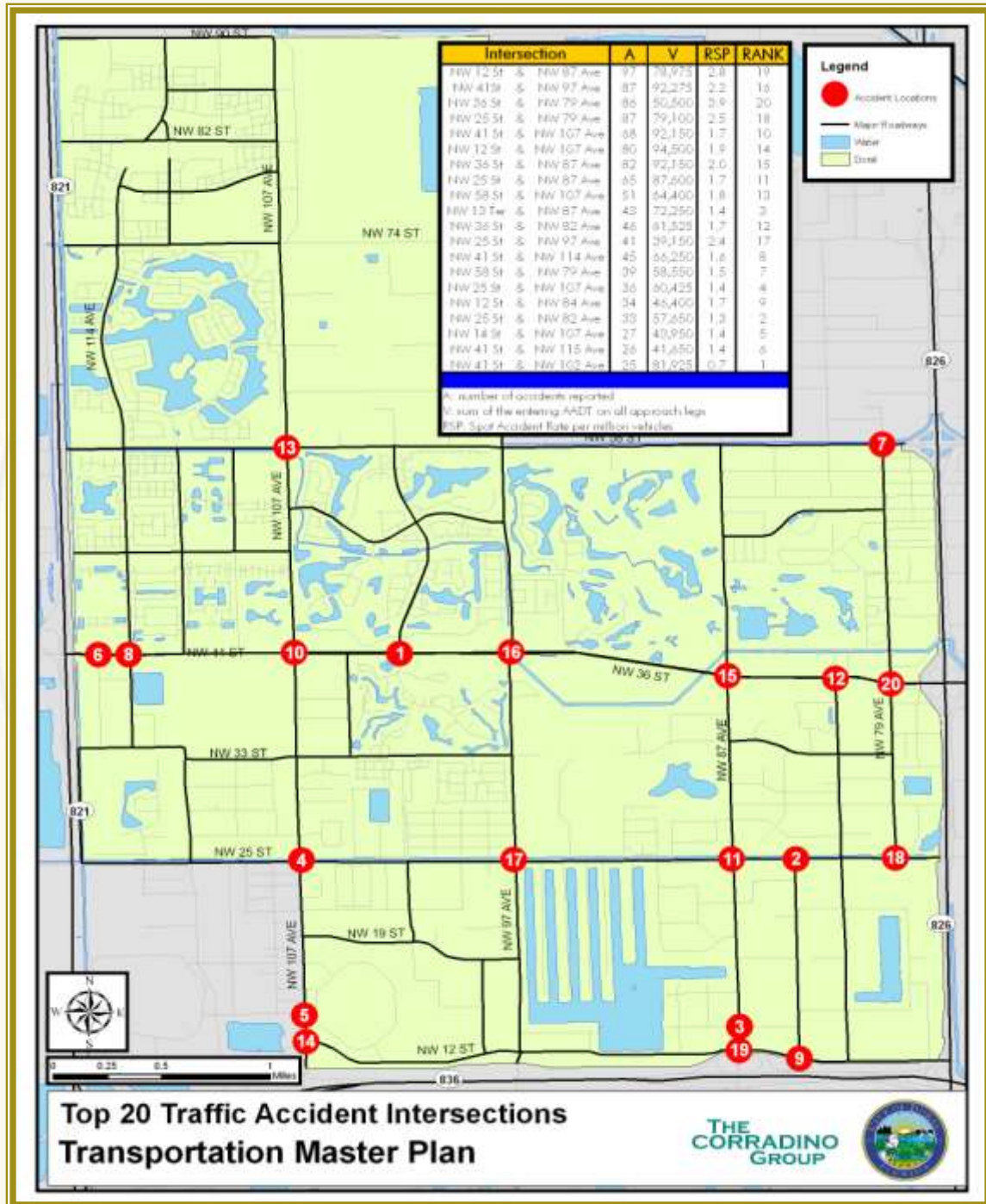


Figure 12 – Top 20 Vehicular Collision Locations



Pedestrian & Bicycle Level-of-Service

Roadways have historically been analyzed based on the efficiency of automobiles. In order to improve upon multimodal use in today's roadways, roadways must be analyzed for each kind of mobility available. Figure 13 below, depicts the examples of Level-of-Service, LOS, by mode for Urban Roadways such as those found within the City.

Pedestrian Level-of-Service was analyzed based upon the amount of sidewalk available within a roadway segment. Since pedestrian corridors within the City have not historically shown a great amount of use a pedestrian count was not conducted. An analysis of pedestrian activity within Doral is recommended for a more accurate depiction of Pedestrian LOS. Roadway segments with sidewalk coverage less than 30% have been given a LOS of F. Sidewalk coverage more than 30% till 50% was given a LOS of E. Sidewalk coverage of more than 50 % to 75% was given a LOS of D. Sidewalk coverage of more than 75% was given a LOS of C.

Bicycle Level-of-Service, like the Pedestrian LOS, was conducted based upon the amount of infrastructure within a roadway to encourage the use of bicycles. Roadway segments analyzed within this study do not have any infrastructure encouraging the use of bicycles. Knowing this LOS for the roadway segments won't get a better LOS than D. A LOS D indicates that sidewalks exist throughout the segments but no bicycle lanes are present. A LOS E was given to a segment with little sidewalk present and no bicycle lanes. A LOS F was given to segments with no sidewalk and bicycle lanes.

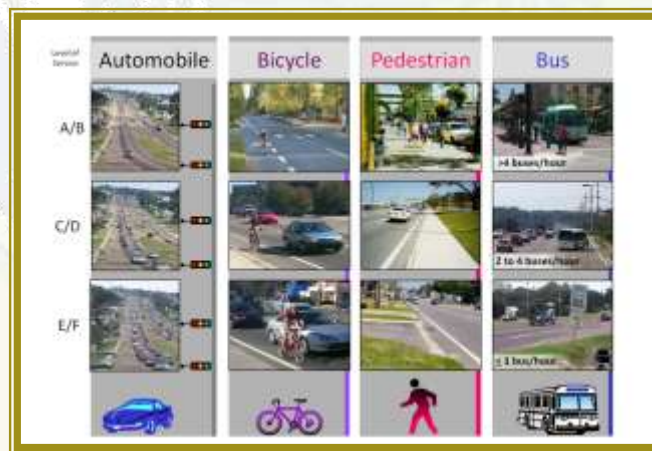


Figure 13 – Examples of LOS by Mode for Urban Roadways (FDOT Q/LOS Manual)

Tables 8 & 9 depict the Pedestrian & Bicycle LOS of the analyzed roadway segments within the City. It's recommended that pedestrian and bicycle infrastructure be improved though out the City. Both a Pedestrian & Bicycle Master plan is recommended to be studied and adopted for the City, as well as, a speed limit study.



Table 8 – North/South Bicycle and Pedestrian Level of Service

ROAD	LIMITS		Sidewalk Coverage (ft)		Missing Sidewalk (ft)		Sidewalk Coverage (%)		Speed Limit (MPH)	Bicycle Mode LOS	Ped Mode LOS
			East	West	East	West	East	West			
NW 79 AVE	25 ST	- 36 ST	4,500	4,500	0	0	100%	100%	40	D	C
NW 79 AVE	36 ST	- 58 ST	6,157	6,157	0	0	100%	100%	40	D	C
NW 82 AVE	12 ST	- 25 ST	5,175	5,175	0	0	100%	100%	40	D	C
NW 82 AVE	25 ST	- 41 ST	0	0	5,420	5,420	0%	0%	40	F	F
NW 84 AVE	12 ST	- 25 ST	500	500	4,575	4,575	10%	10%	40	F	F
NW 87 AVE	12 ST	- 25 ST	4,610	4,610	0	0	100%	100%	40	D	C
NW 87 AVE	25 St	- 36 St	4,745	4,745	0	0	100%	100%	40	D	C
NW 87 AVE	36 St	- 58 St	5,920	5,920	0	0	100%	100%	40	D	C
NW 97 AVE	12 ST	- 25 ST	4,880	4,880	0	0	100%	100%	40	D	C
NW 97 AVE	25 ST	- 33 ST	2,740	2,740	0	0	100%	100%	40	D	C
NW 97 AVE	33 ST	- 41 ST	2,560	2,560	0	0	100%	100%	40	D	C
NW 97 AVE	41 ST	- 58 ST	5,300	5,300	0	0	100%	100%	40	D	C
NW 97 AVE	58 ST	- 66 ST	0	0	2,645	2,645	0%	0%	40	F	F
NW 102 AVE	41 ST	- 58 ST	5,590	5,590	0	0	100%	100%	35	D	C
NW 107 AVE	12 ST	- 25 ST	4,625	4,625	0	0	100%	100%	40	D	C
NW 107 AVE	25 ST	- 41 ST	5,375	5,375	0	0	100%	100%	40	D	C
NW 107 AVE	41 ST	- 58 ST	5,290	5,290	0	0	100%	100%	40	D	C
NW 107 AVE	58 ST	- 74 ST	5,240	5,240	0	0	100%	100%	40	D	C
NW 107 AVE	74 ST	- 90 ST	5,295	5,295	0	0	100%	100%	40	D	C
NW 109 AVE	50 ST	- 58 ST	2,675	2,675	0	0	100%	100%	40	D	C
NW 112 AVE	25 ST	- 33 ST	700	700	1,975	1,975	26%	26%	40	F	F
NW 112 AVE	41 ST	- 58 ST	5,320	5,320	0	0	100%	100%	40	D	C
NW 112 AVE	74 ST	- 79 LN	1,850	1,850	0	0	100%	100%	40	D	C
NW 112 AV-CT	82 ST	- 90 ST	2,780	2,780	0	0	100%	100%	40	D	C
NW 114 AVE	34 ST	- 41 ST	2,395	2,395	0	0	100%	100%	40	D	C
NW 114 AVE	41 ST	- 58 ST	5,300	5,300	0	0	100%	100%	40	D	C
NW 114 AVE	58 ST	- 74 ST	5,300	5,300	0	0	100%	100%	40	D	C
NW 114 AVE	74 ST	- 80 ST	1,875	1,875	0	0	100%	100%	40	D	C
NW 117 AVE	25 ST	- 33 ST	2,970	2,970	0	0	100%	100%	35	D	C
NW 117 AVE	50 ST	- 58 ST	2,645	0	0	2,645	100%	0%	35	E	D

The above table indicates that the majority of pedestrian and bicycle facilities on North/South roadways within the City of Doral operate at acceptable levels of service, with respect to comfort. Roadways that require attention include NW 82nd Ave, NW 84th Ave, NW 97th Ave and NW 112 Ave.



Table 9 – East/West Bicycle and Pedestrian Level of Service

ROAD	LIMITS		Sidewalk Coverage (ft)		Missing Sidewalk (ft)		Sidewalk Coverage (%)		Speed Limit (MPH)	Bicycle Mode LOS	Ped Mode LOS
			North	South	North	South	North	South			
NW 12 ST	SR 826	- 87 AVE	3,010	0	2,165	5,175	58%	0%	40	E	E
NW 12 ST	87 AVE	- 97 AVE	1,375	4,610	3,970	735	26%	86%	40	E	D
NW 12 ST	97 AVE	- 107 AVE	5,415	1,325	0	4,090	100%	24%	40	E	D
NW 17-19 ST	97 AVE	- 107 AVE	0	0	5,380	5,380	0%	0%	35	F	F
NW 25 ST	SR 826	- 87 AVE	0	1,685	5,315	3,630	0%	32%	40	F	F
NW 25 ST	87 AVE	- 97 AVE	0	5,250	5,250	0	0%	100%	40	E	D
NW 25 ST	97 AVE	- 107 AVE	0	5,310	5,310	0	0%	100%	40	E	D
NW 25 ST	107 AVE	- 117 AVE	1,730	5,180	3,450	0	33%	100%	40	E	D
NW 33 ST	79 AVE	- 82 AVE	0	0	1,325	1,325	0%	0%	35	F	F
NW 33 ST	82 AVE	- 87 AVE	0	0	2,705	2,705	0%	0%	35	F	F
NW 33 ST	87 AVE	- 92 AVE	0	0	2,715	2,715	0%	0%	35	F	F
NW 33 ST	97 AVE	- 107 AVE	1,295	5,220	3,925	0	25%	100%	35	E	D
NW 33 ST	107 AVE	- 112 AVE	0	0	2,720	2,720	0%	0%	35	F	F
NW 34 ST	112 AVE	- 117 AVE	0	0	2,550	2,550	0%	0%	35	F	F
NW 36 ST	SR 826	- 87 AVE	4,281	4,058	1,025	1,247	81%	76%	40	D	C
NW 36/41 ST	87 AVE	- 97 AVE	5,310	5,310	0	0	100%	100%	40	D	C
NW 41 ST	97 AVE	- 107 AVE	5,263	5,263	0	0	100%	100%	40	D	C
NW 41 ST	107 AVE	- 117 AVE	2,792	5,366	2,575	0	52%	100%	40	E	D
NW 50 ST	107 AVE	- 117 AVE	5,214	0	53	5,267	99%	0%	35	E	D
NW 53 ST	79 AVE	- 87 AVE	0	0	4,154	4,154	0%	0%	35	F	F
NW 58 ST	SR 826	- 87 AVE	0	1,260	5,274	4,014	0%	24%	40	F	F
NW 58 ST	87 AVE	- 97 AVE	0	0	5,289	5,289	0%	0%	40	F	F
NW 58 ST	97 AVE	- 107 AVE	4,412	5,255	843	0	84%	100%	40	D	C
NW 58 ST	107 AVE	- 117 AVE	5,244	0	0	5,244	100%	0%	40	E	D
NW 74 ST	107 AVE	- 117 AVE	3,942	3,942	1,279	1,279	76%	76%	40	D	C
NW 78 ST	107 AVE	- 109 AVE	1,339	1,339	0	0	100%	100%	30	D	C
NW 78 ST	109 AVE	- 114 AVE	2,575	2,575	0	0	100%	100%	30	D	C
NW 82 ST	107 AVE	- 116 AVE	4,941	2,357	0	2,584	100%	48%	30	E	D
NW 86 ST	107 AVE	- 116 AVE	4,096	4,096	0	0	100%	100%	30	D	C
NW 90 ST	107 AVE	- 112 AVE	2,615	2,615	0	0	100%	100%	35	D	C

The above table indicates that most of pedestrian and bicycle facilities on East/West roadways within the City of Doral operate at acceptable levels of service, with respect to comfort. Roadways that require attention include NW 17th St, NW 19th St, NW 33rd St, NW 34th St, NW 53rd St and NW 58th St.



Task 2: Analysis

Using the data collected in the previous task, traffic conditions have been projected to 2015 and 2030 using a combination of MPO and local growth factors, derived from an understanding of existing and planned future development. This provides an assessment of future conditions in order to determine project needs. Existing Conditions have been analyzed and traffic counts have been displayed in tabular form by facility. This serves as a hand book to detail the condition of each facility in the City. Categories of data include:

- Specific Link
- Number of Lanes
- Existence of a Median
- Road Jurisdiction
- Functional Classification
- Number of Traffic Signals
- Segment Length
- Signals per Mile
- Speed Limit
- Roadway Class
- Existing Level of Service Standard
- Service Volume at LOS C, D, E
- Average Annual Daily Traffic
- Peak Hour Volume
- Existing Level of Service
- Remaining Capacity
- Projected MPO Growth Rate (from latest MPO LRTP Model)

With this information a firm understanding of the issues is developed. Roadway constraints were examined. GIS maps will be made of Vehicular LOS, Bicycle Pedestrian and Bus LOS, as well as critical crash locations. The Future Conditions have been analyzed using traditional growth factors. Projections were shown in similar tabular form, and mapped for each horizon year. The result of this analysis will be the identification of multi-modal projects to be



considered for inclusion in the Capital Improvements Program. This is explained in a subsequent task.

The Doral Circulator has been evaluated and new routes have been developed and tested. A final route has been recommended. In this task Corradino has tested the circulator's ridership. Corradino added this to the project because no other municipal circular has been tested in terms of ridership. Routes have been set up by merely looking at origins and destinations. Ridership scenarios were tested, in what should be an example of quality transit planning at the very local level.

In summary, Doral has an evenly split land use scenario, with residential in the North, commercial in the center and industrial in the south. Even with 30,000 residents, Doral is overall a destination, with over a hundred thousand workers coming in to it each day. These workers are mainly coming from the eastern and southern parts of Miami Dade County. There are a number of regional transportation projects planned in and around Doral, all of which will impact the system. These include the 25th Street Viaduct, the 826/836 interchange, the 74th Street Extension, and even a Metrorail extension to FIU. Some of these projects are realistic, and some are not. Metrorail is not, and represents a repetitive failure of our transportation planners to recognize what is appropriate, beneficial and fundable transit for Miami Dade County.

Currently, the Doral roadway network is overall operating at adequate levels-of-service. However, due to the interrupted grid system in conjunction with the physical constraints bordering the City, the roadway network will deteriorate. This situation not only creates congestion on roadways within Doral but may also contribute to the high accident rates along these segments.

Today about 25% of the roadway links function worse than the acceptable level of service. This will deteriorate over time, and by 2030 over 40% of the roadways will function at an unacceptable level. Without the combination of a coordinated land use, roadway and transit initiatives the deteriorated mobility could impact the quality of life and economic viability of Doral.

The Doral Trolley is by all accounts successful. It provides one free route with a bus about every 40 minutes. The Doral Trolley operates about 75 hours per week at a cost of \$6,439 per week. The system carries about 3000 passengers in this time period. This equals about 40 passengers each hour, exceeding the 20 passenger per hour goal. The service is provided at a cost of \$86/hr or \$2.14 per passenger. This is a relatively efficient service that is well received by the community.



The system compares very favorably with other systems like the Aventura system which carries 17,000 per month, and North Miami which carries 18,000 per month.

Most of the ridership is from transit dependant people. The vast majority of ridership takes place during peak hour travel for both AM peak and PM peak. The existing route carries ridership far above initial goals. A large number of riders use the Doral Trolley as a transfer to and from an MDT bus. The most common complaints were to extend service in the evening and to make shorter headways. Many of the riders come from only a few of the stops. In the afternoons ridership is largely school related.

After further review, the following are suggestions that should help better serve the existing ridership, create new ridership and cut costs to a minimum in order to maximize the proficiency of the trolley:

- Discontinue the existing lunch route
- Saturday service should be cut to only 1 bus
- Create better amenities at the bus stops with high usage with such things as bus shelters, bus bays, real time information, etc.
- Continue service until 9pm with 1 trolley
- Change the existing route slightly to capture ridership and Espinosa K-8 School
- Place a bike rack on the front of the trolley
- Place another trolley on existing route during peak hours to shorten headways
- Perform more marketing of the Doral Trolley
- Perform yearly onboard surveys
- A new route connecting Downtown Doral and the Palmetto Metrorail station has been suggested. It will compare favorably with the existing service, and if an additional bus is provided it could carry nearly 1000 riders each week day.



Traffic Volumes

The City of Doral conducts an on-going roadway level-of-service (LOS) program of average daily traffic volumes on roadways within the City. Based on traffic counts collected as part of this Transportation Master Plan 2009 updated LOS of adjacent principal arterials was assessed. Peak hour volumes were obtained by collecting 48 hours counts at locations listed below in Table 10. Figure 14, in the next page, depict the locations on a map.

Table 10 – Analyze Roadway Segments

SITE	ROADWAY	FROM - TO	SITE	ROADWAY	FROM - TO
D01	NW 12 ST	SR 826 - 87 AVE	D31	NW 79 AVE	25 ST - 36 ST
D02	NW 12 ST	87 AVE - 97 AVE	D32	NW 79 AVE	36 ST - 58 ST
D03	NW 12 ST	97 AVE - 107 AVE	D33	NW 82 AVE	12 ST - 25 ST
D04	NW 17-19 ST	97 AVE - 107 AVE	D34	NW 82 AVE	25 ST - 41 ST
D05	NW 25 ST	SR 826 - 87 AVE	D35	NW 84 AVE	12 ST - 25 ST
D06	NW 25 ST	87 AVE - 97 AVE	D36	NW 87 AVE	12 ST - 25 ST
D07	NW 25 ST	97 AVE - 107 AVE	D37	NW 87 AVE	25 St - 36 St
D08	NW 25 ST	107 AVE - 117 AVE	D38	NW 87 AVE	36 St - 58 St
D09	NW 33 ST	79 AVE - 82 AVE	D39	NW 97 AVE	12 ST - 25 ST
D10	NW 33 ST	82 AVE - 87 AVE	D40	NW 97 AVE	25 ST - 33 ST
D11	NW 33 ST	87 AVE - 92 AVE	D41	NW 97 AVE	33 ST - 41 ST
D12	NW 33 ST	97 AVE - 107 AVE	D42	NW 97 AVE	41 ST - 58 ST
D13	NW 33 ST	107 AVE - 112 AVE	D43	NW 97 AVE	58 ST - 66 ST
D14	NW 34 ST	112 AVE - 117 AVE	D44	NW 102 AVE	41 ST - 58 ST
D15	NW 36 ST	SR 826 - 87 AVE	D45	NW 107 AVE	12 ST - 25 ST
D16	NW 36/41 ST	87 AVE - 97 AVE	D46	NW 107 AVE	25 ST - 41 ST
D17	NW 41 ST	97 AVE - 107 AVE	D47	NW 107 AVE	41 ST - 58 ST
D18	NW 41 ST	107 AVE - 117 AVE	D48	NW 107 AVE	58 ST - 74 ST
D19	NW 50 ST	107 AVE - 117 AVE	D49	NW 107 AVE	74 ST - 90 ST
D20	NW 53 ST	79 AVE - 87 AVE	D50	NW 109 AVE	50 ST - 58 ST
D21	NW 58 ST	SR 826 - 87 AVE	D51	NW 112 AVE	25 ST - 33 ST
D22	NW 58 ST	87 AVE - 97 AVE	D52	NW 112 AVE	41 ST - 58 ST
D23	NW 58 ST	97 AVE - 107 AVE	D53	NW 112 AVE	74 ST - 79 LN
D24	NW 58 ST	107 AVE - 117 AVE	D54	NW 112 AV-CT	82 ST - 90 ST
D25	NW 74 ST	107 AVE - 117 AVE	D55	NW 114 AVE	34 ST - 41 ST
D26	NW 78 ST	107 AVE - 109 AVE	D56	NW 114 AVE	41 ST - 58 ST
D27	NW 78 ST	109 AVE - 114 AVE	D57	NW 114 AVE	58 ST - 74 ST
D28	NW 82 ST	107 AVE - 116 AVE	D58	NW 114 AVE	74 ST - 80 ST
D29	NW 86 ST	107 AVE - 116 AVE	D59	NW 117 AVE	25 ST - 33 ST
D30	NW 90 ST	107 AVE - 112 AVE	D60	NW 117 AVE	50 ST - 58 ST

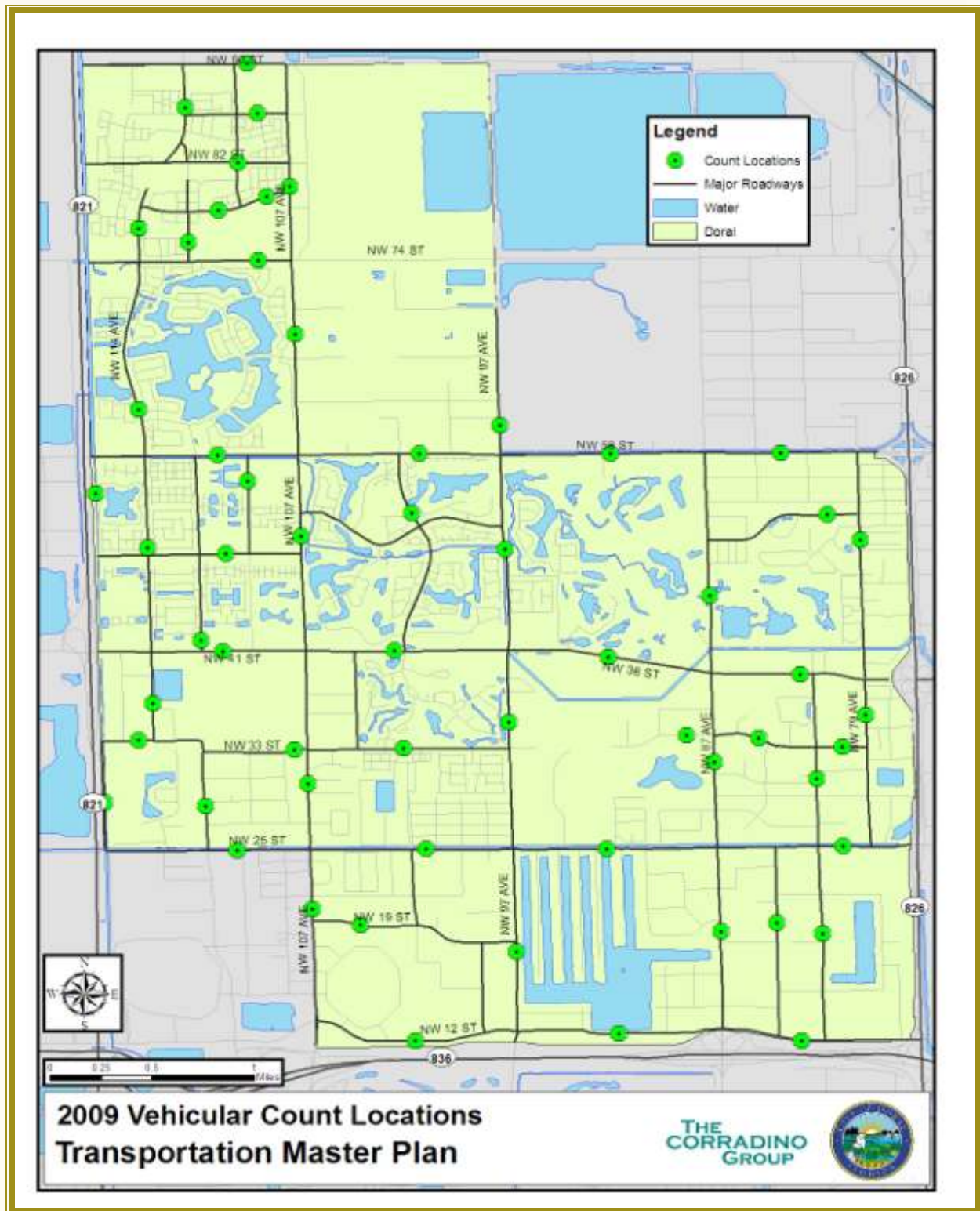


Figure 14 - 2009 Vehicular Traffic Count Locations



Trip Distribution

More than 100,000 people work and play within the City of Doral. To determine the travel patterns for the City in year 2005, the region of South Florida was divided into 15 planning districts as shown in Figure 15. Among the 15 planning districts, Palm Beach and Broward counties were considered as two separate districts and Miami-Dade County was split into 13 districts. The daily volumes were obtained from the Southeast Regional Planning Model Time of Day model (SERPMTODMDL). The total daily trips beginning or ending in the Doral study area have been tabulated in Table 11.

Table 11 - Trip Distribution

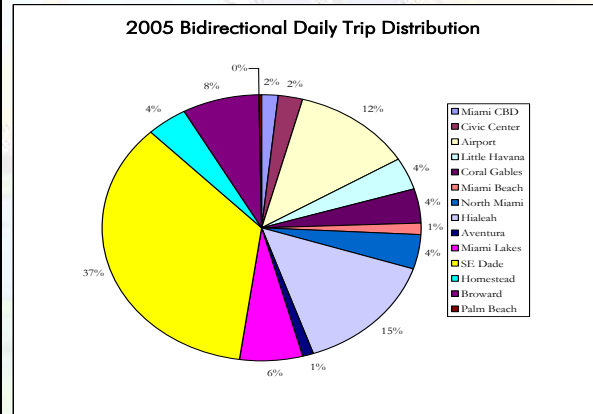
Review of Table 11 to the right shows that the majority of trips originate from the communities to the south and the east of Doral. Table 11 shows the number of trips made daily in Miami-Dade County as well as Broward and Palm Beach that start or end in the Doral study area.

The largest area generating trips that end or start within the Doral study area is to the south and is comprised of Coral Gables, Homestead and SE Dade.

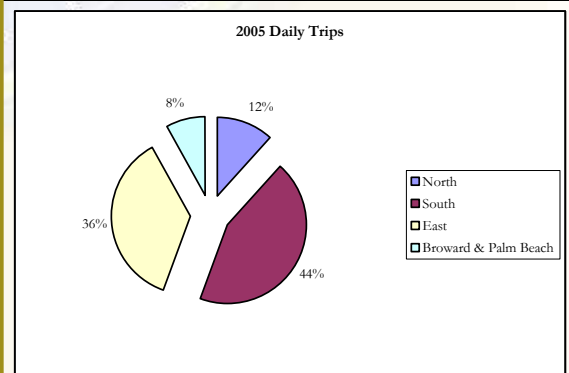
The second largest area that generates trips that end or start within the Doral study area is to the east and includes the following planning districts: Miami CBD, Civic Center, Airport, Little Havana, Miami Beach and Hialeah.

The planning districts to the north represent approximately 12 percent of the trips with an additional 8 percent being generated in Broward

South Florida Districts	2005 Daily Trips	
	VPD	Percent
Doral Study Area	307,885	Local
Subtotal	307,885	
Miami CBD	10,683	1.7%
Civic Center	15,060	2.4%
Airport	75,381	12.2%
Little Havana	25,028	4.0%
Coral Gables	25,098	4.0%
Miami Beach	8,774	1.4%
North Miami	26,450	4.3%
Hialeah	90,255	14.6%
Aventura	7,241	1.2%
Miami Lakes	39,293	6.3%
SE Dade	221,399	35.7%
Homestead	25,282	4.1%
Broward	48,364	7.8%
Palm Beach	1,497	0.2%
Subtotal	619,805	100.0%
Total Trips	927,690	



Direction	2005 Daily Trips	
	VPD	Percent
North	72,984	12%
South	271,779	44%
East	225,181	36%
Broward & Palm Beach	49,861	8%
Total	619,805	100%





and Palm Beach counties, totaling 20 percent of the trips to the rest of the planning districts.

The trips follow the expected commuting patterns of trips to Doral as it is a major employment center. The majority of these trips access the City via the principal arterials of Florida's Turnpike, Dolphin Expressway and the Palmetto Expressway. These roadways force the trips onto the roadways of NW 36th/41st Street, NW 58th Street, NW 25th Street, NW 12th Street, NW 107th Avenue, and NW 87th Avenue.

It is recommended that an updated trip distribution study to update the TAZ cardinal distribution. It is noted that the City is interested in how trip distribution has changed and how many people are currently working and playing within the City.



Transportation Master Plan

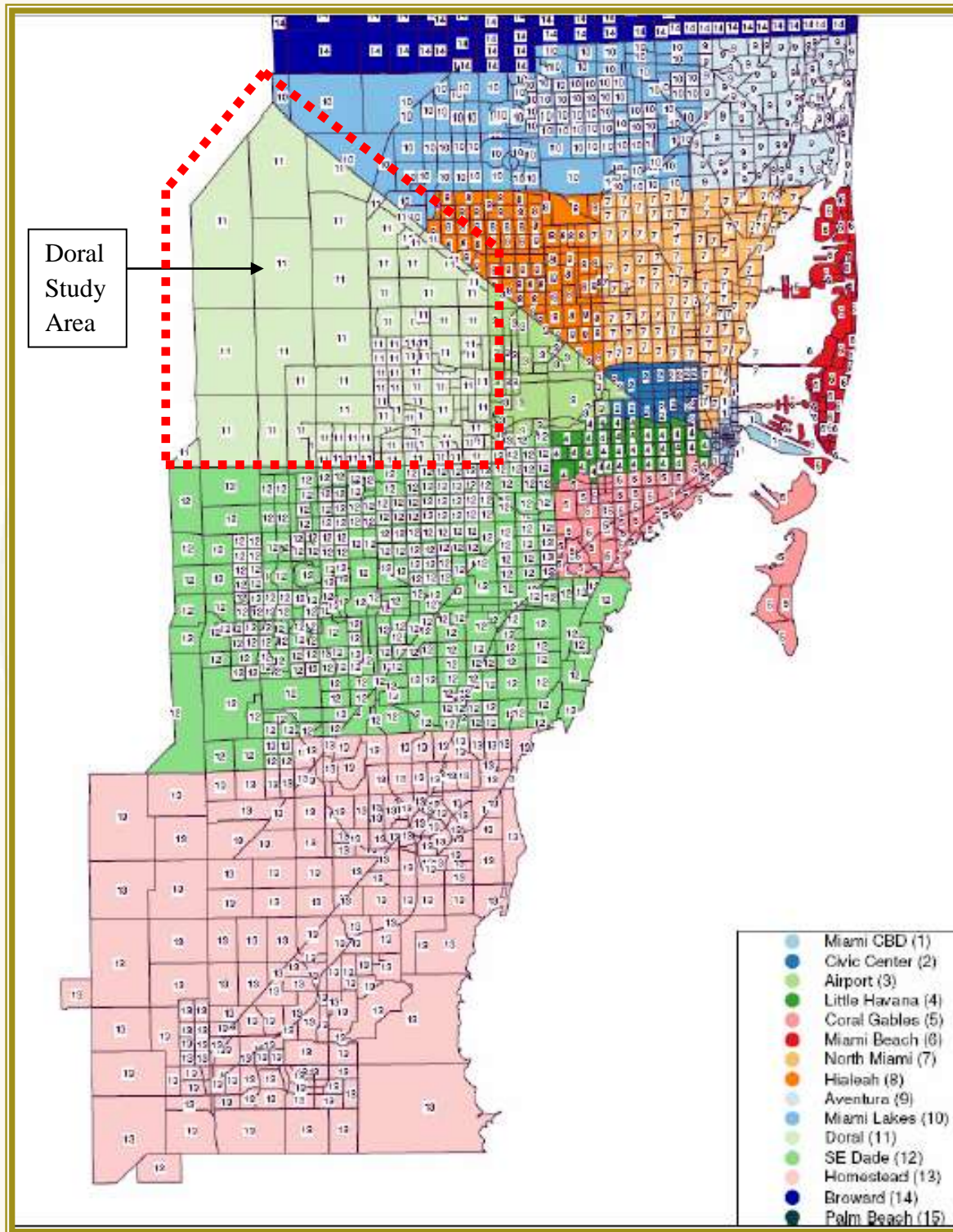


Figure 15 - Miami-Dade Planning Districts



Existing Plan Reviews

A method to address traffic congestion issues is to study alternative transportation modes. As population increases so does congestion; however, the physical space to accommodate traffic diverted from highways to local streets does not. With this comes increased delays and accidents on local streets. To address this issue Doral initiated its Doral Transit System with its Doral Trolley in February of 2008.

Table 12 - Miami-Dade 2010 TIP

MPO #	FACILITY	LIMITS	WORK PROGRAM	CONST. YR
FLORIDA DEPARTMENT OF TRANSPORTATION				
DT2495811	SR 826 & SR 836 INT	NW 87 AVE TO NW 57 AVE	INTERCHANGE (MODIFY)	2014
DT2496502	SR 826/PALMETTO EXPY	NW 31 ST TO NW 47 ST	LANDSCAPING	2013
DT2496512	SR 826/PALMETTO EXPY	NW 47 ST TO NW 62 ST	LANDSCAPING	2010
DT4056152	NW 87 AVE	NW 58 ST TO NW 74 ST	NEW ROAD CONSTRUCTION	2011
DT4056153	NW 87 AVE	NW 74 ST TO NW 103 ST	NEW ROAD CONSTRUCTION	2014
DT4147313	SR 934/NW 74 ST	NW 114 AVE TO NW 107 AVE	ADD LANES & REHABILITATE PVMNT	2013
DT4242071	SR 948/NW 36 ST	NW 79 AVE TO NW 74 AVE	SIDEWALK	2011
PRIVATE SECTOR				
PS000025	NW 90 ST	NW 114 AVE TO NW 112 AVE	NEW CONSTRUCTION: 2 LANES	N/A
PS0000119	NW 107 AVE	NW 58 ST TO NW 67 ST	2 LANES TO 4 LANE DIVIDED	N/A
PS0000118	NW 33 ST (SOUTH SIDE)	NW 102 AVE TO NW 104 AVE	MATCH EXISTING TO EAST AND WEST	N/A
PS0000102A	NW 112 AVE	NW 84 ST TO NW 86 ST	2 LANES, SIDEWALK AND DRAINAGE (EAST SIDE)	N/A
PS0000102B	NW 82 ST	NW 113 AVE TO NW 117 AVE	2 LANES, SIDEWALK AND DRAINAGE (SOUTH SIDE)	N/A
PS0000120	NW 66 ST	NW 102 AVE TO NW 107 AVE	FULL IMPROVEMENT	N/A
PS0000121	NW 102 AVE	NW 62 ST TO NW 67 ST	2 LANES & 1/2 OF TURN LANE	N/A
MIAMI-DADE COUNTY PUBLIC WORKS DEPARTMENT				
PW20040355	NW 74 ST	HEFT TO SR 826	NEW 6 LANES	2012
MIAMI-DADE TRANSIT				
TA4236141	CITY OF DORAL	TRANSIT CIRCULATOR	TRANSIT SERVICE DEMONSTRATION	2010
TA0000002	EAST WEST CORRIDOR	MIC TO FIU	METRORAIL EXTENSION	N/A
FLORIDA TURNPIKE				
TP417547-1	HEFT ALL ELECTRONIC TOLLING PH III	SR 836 TO FTPK MAINLINE	TOLL PLAZA	2011
MIAMI-DADE EXPRESSWAYS				
XA10017	SR 836/ DOLPHIN EXPY	NW 137 AVE TO I-95	TOLL SYSTEM CONVERSION	2013
XA83608	SR 826/SR 836	INTERCHANGE	NEW CONSTRUCTION: 4 LANE DIVIDED EXPRESS LANES	2014
XA83625	SR 836 EMERGENCY RAMP	NW 107 AVE	CONSTRUCTION OF ACCESS RAMP	2011
XA83627	SR 836 EXPRESS BUS SERVICE STUDY	NW 137 AVE TO I-95	EXPRESS BUS SERVICE STUDY	2010
XA83629	SR 836 INTERCHANGE MODIFICATIONS AT 87 AVE	SR 836 AND 87 AVE	RECONSTRUCTION OF SR 836 MAINLINE AND INTERCHANGE	2011
XA83617	SR 836	NW 137 AVE TO NW 87 AVE	LANDSCAPING	2010



NW 74th St Extension

The connection of NW 74 St from the Florida Turnpike to the Palmetto Expressway provides for a much needed access for the northern part of the City. Not only will the roadway connect two of the busiest highways in Miami-Dade County but it provides better access to the Palmetto Metrorail Station. The project is projected to finish during 2012 but looks to be ahead of schedule and may be concluded as early as 2010.

SR 836 & SR 826 Interchange Modifications

SR 836 known as the busiest east-west corridor in Miami-Dade County and SR 826 one of the busiest north-south corridor in the county, have both shared an interchange in need of improvement. Located southeast of Doral, the interchange modification would greatly improve access to the City from both highways including a NB (SR 826) to WB (SR 836) access which does not exist today. The interchange is projected to be completed in 2014.

Long Range Transportation Plan

As previously indicated, The Miami-Dade MPO 2035 LRTP was developed to establish a long term strategy for transportation improvements within the County. The LRTP consists of multi-modal projects such as for major roadways, airports and seaport surface access, transit, and intermodal facilities that function together as an integrated transportation system. The LRTP groups these projects in terms of priority based on relative need and funding availability:

- Priority I: The projects in most need of being completed in order to respond to the most pressing and current urban travel deficiencies. These projects are scheduled to be funded and completed by 2014.
- Priority II: Projects are planned to be funded between 2015 and 2020.
- Priority III: Projects are planned to be funded between 2021 and 2025.
- Priority IV: Projects are planned to be funded between 2026 and 2035.
- Priority IV: Unfunded: Projects that have been identified as needed but however, revenues are not available to fund these projects.

The projects listed in Tables 13 – 15 are projects from the LRTP within the City of Doral.



Table 13 - Miami-Dade LRTP Non-Motorized Improvements

<i>Congestion Management & Non-Motorized Projects</i>			
Project #	Project Roadway	Limits	Project Description
1	NW 12 St	NW 87 Ave	Signal Improvements
2	NW 36/41 St	NW 42 Ave to HEFT	Express Street (ITS, grade Separations, etc.)
3	NW 58 St	NW 107 Ave to SR 826	Congestion Management
4	NW 87 Ave	SR 836 to NW 58 St	Improve SR 836/NW 12 St/NW 87 Ave interconnections; improve intersection to accommodate truck movements
5	NW 112 Ave	NW 84 St to NW 86 St	Pedestrian Facility Improvements
6	NW 74 St	NW 107 Ave to NW 84 Ave	Bicycle Facility Improvements
7	NW 82 St	NW 113 Ave to NW 117 Ave	Pedestrian Facility Improvements
8	NW 87 Ave	NW 58 St to NW 74 St	Pedestrian Facility Improvements

Table 14 - Miami-Dade LRTP Roadway Improvements

Priority	Project #	Project Roadway	Limits	Project Description
1 (2010-2014)	1	NW 33 St	NW 97 Ave to NW 87 Ave	Widen to 4 Lanes
	2	NW 74 St	HEFT to SR 826 (Palmetto)	New 6 Lanes
	3	NW 87 Ave	NW 58 St to NW 74 St	New Road Construction
	4	SR 821/HEFT	US-1 to I-595	Toll plaza conversion to all electronic tolling
	5	SR 826/Palmetto EXPY & SR 836/Dolphin EXPY Interchange	NW 87 Ave to NW 57 Ave	Interchange Ramp Modification
	6	SR 836/Dolphin EXPY	NW 107 Ave	Construction of Emergency Access Ramp
	7	SR 836/Dolphin EXPY	NW 137 Ave to I-95	Toll System Conversion to Open Road Tolling
2 (2015-2020)	8	NW 25 St	NW 89 Ct to HEFT	Traffic Signal Improvements; Improve Intersections to accommodate truck movements.
	9	NW 25 St	NW 89 Ct to SR 826	Widen to 6 Lanes (4 to 6)
	10	NW 25 St Viaduct	SR 826 to NW 87 Ct	Phase 2- Construction of viaduct from SR 826 to NW 87 Ct
	11	NW 87 Ave	NW 36 St to NW 58 St	Widen to 6 Lanes (4 to 6)
	12	NW 87 Ave Extension	NW 58 St to NW 95 St	Extend to connect the freight hubs of Doral and Medley
	13	NW 107 Ave	NW 41 St to NW 25 St	Widen to 6 Lanes (4 to 6)
3 (2021-2025)	14	SR 826/Palmetto EXPY	SR 836 to NW 87 Ave on I-75	Special Use Lanes
4 (2026-2035)	15	NW 82 Ave	NW 8 St to NW 12 St	New 4 Lanes
	16	NW 97 Ave	NW 58 St to NW 74 St	New 4 Lanes/Widen to 4 Lanes
	17	SR 836/Dolphin EXPY	NW 87 Ave	Interchange Improvement



Table 15 - Miami-Dade LRTP Privately Funded Development Improvements

Project #	Project Roadway	Limits	Project Description
1	NW 33 St (South Side)	NW 102 Ave to NW 104 Ave	Matching existing to the east and west
2	NW 66 St	NW 102 Ave to NW 107 Ave	Full Improvement
3	NW 90 St (South Side)	NW 107 Ave to NW 97 Ave	New 2 Lane
4	NW 97 Ave (West Side)	NW 86 St to NW 90 St	New 2 Lane
5	NW 102 Ave (West Side)	NW 62 St to NW 67 St	2 lanes and 1/2 of turn lane
6	NW 107 Ave	NW 90 St to NW 106 St	Widen to 4 Lanes (2 to 4)
7	NW 107 Ave	NW 106 St to NW 41 St	New 4 Lanes
8	NW 25 St	NW 89 Ct to HEFT	Traffic Signal Improvements; Improve Intersections to accomidate truck movements.
9	NW 25 St	NW 89 Ct to SR 826	Widen to 6 Lanes (4 to 6)
10	NW 25 St Viaduct	SR 826 to NW 87 Ct	Phase 2- Construction of viaduct from SR 826 to NW 87 Ct
11	NW 87 Ave	NW 36 St to NW 58 St	Widen to 6 Lanes (4 to 6)
12	NW 87 Ave Extension	NW 58 St to NW 95 St	Extend to connect the freight hubs of Doral and Medley
13	NW 107 Ave	NW 41 St to NW 25 St	Widen to 6 Lanes (4 to 6)
14	SR 826/Palmetto EXPY	SR 836 to NW 87 Ave on I-75	Special Use Lanes
15	NW 82 Ave	NW 8 St to NW 12 St	New 4 Lanes
16	NW 97 Ave	NW 58 St to NW 74 St	New 4 Lanes/Widen to 4 Lanes
17	SR 836/Dolphin EXPY	NW 87 Ave	Interchange Improvement

People Transportation Plan

The Peoples Transportation Plan (PTP) was passed in 2002 by the constituents of Miami-Dade County which created a half penny sales surtax to fund major transportation improvements. The plan also created a 15-member Citizens' Independent Transportation Trust to oversee and administer the PTP and created a Municipal Transportation Plan. The Municipal Transportation Plan (MTP) calls for 20 percent of surtax proceeds be distributed directly to municipalities for transportation uses. Under the MTP the municipalities must apply at least 20 percent of their share of the surtax proceeds toward transit uses and must submit their transportation plans to the County according to established deadlines. Florida Statute 212, Title XIV defines the purposes for which surtax proceeds may be expanded.

Since the City of Doral was incorporated after the passage of the PTP, the City currently does not have access to the proceeds from the PTP and is in continuous negotiations with Miami-Dade County in order to access its share of the PTP.

Miami-Dade County Transit Development Plan (2010-2019)

The Transit Development Plan (TDP) is a strategic development and operational guide for public transportation used by Miami-Dade Transit (MDT) for the next 10 year planning horizon. The TDP includes an update of existing services, demographic and travel characteristics overview, a summary of local transit policies within the region, the development of proposed transit



enhancements and the preparation of a ten-year implementation plan that provides guidance for future MDT planning.

Doral/Dolphin Park & Ride

The proposed park & ride would be located within a two mile vicinity of NW 12 Street and NW 107 Ave. The park & ride is currently being proposed by MDT because of high transit usage. The specific site for the proposed facility has not yet been identified, but MDT is continuing to work to identify a specific location and acquire properties during the upcoming years. MDT considers this park & ride as a potential Transit Hub.

Committed Bus Service Improvements/Adjustments (2009)

In order for MDT to better meet the transportation needs of Miami-Dade County the existing bus route network needed to be restructured. The revised bus route system should reduce duplicate routes, improve service on major corridors, and increase ridership with new routes and greater market penetration while maintaining the departmental budget. The following table depicts the service changes impacting the City of Doral.

Table 16 – Committed Bus Service

Route	Description	Improvement / Adjustment
36	Dolphin Mall to Biscayne Blvd. via NW 36/41 St.	Restructure Route 36 and 41 into one route.
71	Dolphin Mall to MDC Kendall Campus via 107 Ave	Adjust midday & Saturday headways from 40 to 60
87	Okeechobee Station to Dadeland North Station via 87 Ave.	Adjust Sunday headway from 40 to 60 minutes.
87	Okeechobee Station to Dadeland North Station via 87 Ave.	Adjust weekday headway to 32 minutes.
137	Dolphin Mall to Cutler Ridge via SW 137 Ave	Adjust midday headway from 30 to 45 minutes.
137	Dolphin Mall to Cutler Ridge via SW 137 Ave	Discontinue low ridership trip.
238	Earlington Heights to Dolphin Mall via Miami International Airport, Blue Lagoon, Airport West and Miami International Mall	Adjust peak headway from 30 to 45 minutes.
238	Earlington Heights to Dolphin Mall via Miami International Airport, Blue Lagoon, Airport West and Miami International Mall	Discontinue low ridership trips.
95 Express	Downtown Miami, Golden Glades, Civic Center, Carol City, Aventura, West Dade	Discontinue 6 low ridership trips.
95 Express	Downtown Miami, Golden Glades, Civic Center, Carol City, Aventura, West Dade	Restructure feeder segments into separate routes.



2019 Recommended Service Plan for Existing Bus Routes

A service improvement is recommended for Route 238 (East-West Connection) extending the route westward to Beacon Lakes.

2019 Recommended Service Plan for New Bus Routes

SR 836 Express would provide limited-stop service between West Miami-Dade County and the MIC and/or downtown Miami via the Dolphin Expressway (SR 836) during the morning and the afternoon peak periods only every 15 minutes to be operated as one of the special use lanes project routes, possibly funded by FDOT and/or MDX.

Miami-Dade North and Miami-Dade South Express would provide limited-stop service between the area near I-75 and the turnpike all the way to Dadeland. These express routes would utilize limited access freeways until they reached the Doral area at which point they would connect between the turnpike and the Palmetto via NW 36th St and NW 41st St as seen in the Map below.

City of Doral Transportation Element & Existing Master Plan

The City's Transportation Element and existing master plan were both reviewed and no additional projects were found.

LAND USE

The existing land use in Doral is depicted in Figures 16 and 17. As illustrated in these figures, the primary land use types are single-family residential and multi-family residential land use. As characterized by the denser roadway grid network in Figures 16 and 17, the western portion of the City has a higher density of dwelling units than the eastern portion. Land designated for commercial use is concentrated along NW 41st St/36th St and NW 87th Ave, both heavily traveled arterials. Five public schools are located within Doral: John I Smith Elementary School, Eugenia B Thomas Elementary School, Rolando Espinosa K-8 Center, Doral Middle School, and Ronald Reagan/Doral Senior High School. All of these schools are located in close proximity to one another in the northwest section of the City. Few vacant parcels are scattered across the City. Doral Park is a municipal park and activity center in the heart of the residential portion of the City on NW 102 Ave. Several additional parks are scattered throughout the City. In general, Doral is primarily a trip attractor (characterized by a high proportion of destinations such as shopping centers or offices) rather than a trip generator (characterized by a high proportion of residential land use). As a result, many trips originating throughout the county are likely to have destinations inside of Doral.

Land Use can play a large role in the design of transit networks. Many networks simply try to connect the activity centers that are located throughout the area. Miami-Dade Transit is no different. The existing routes within Doral, as identified in Task 1, generally travel to major

activity centers such as the International and Dolphin Mall area, the 36th/41st St Corridor and the 87th Ave corridor

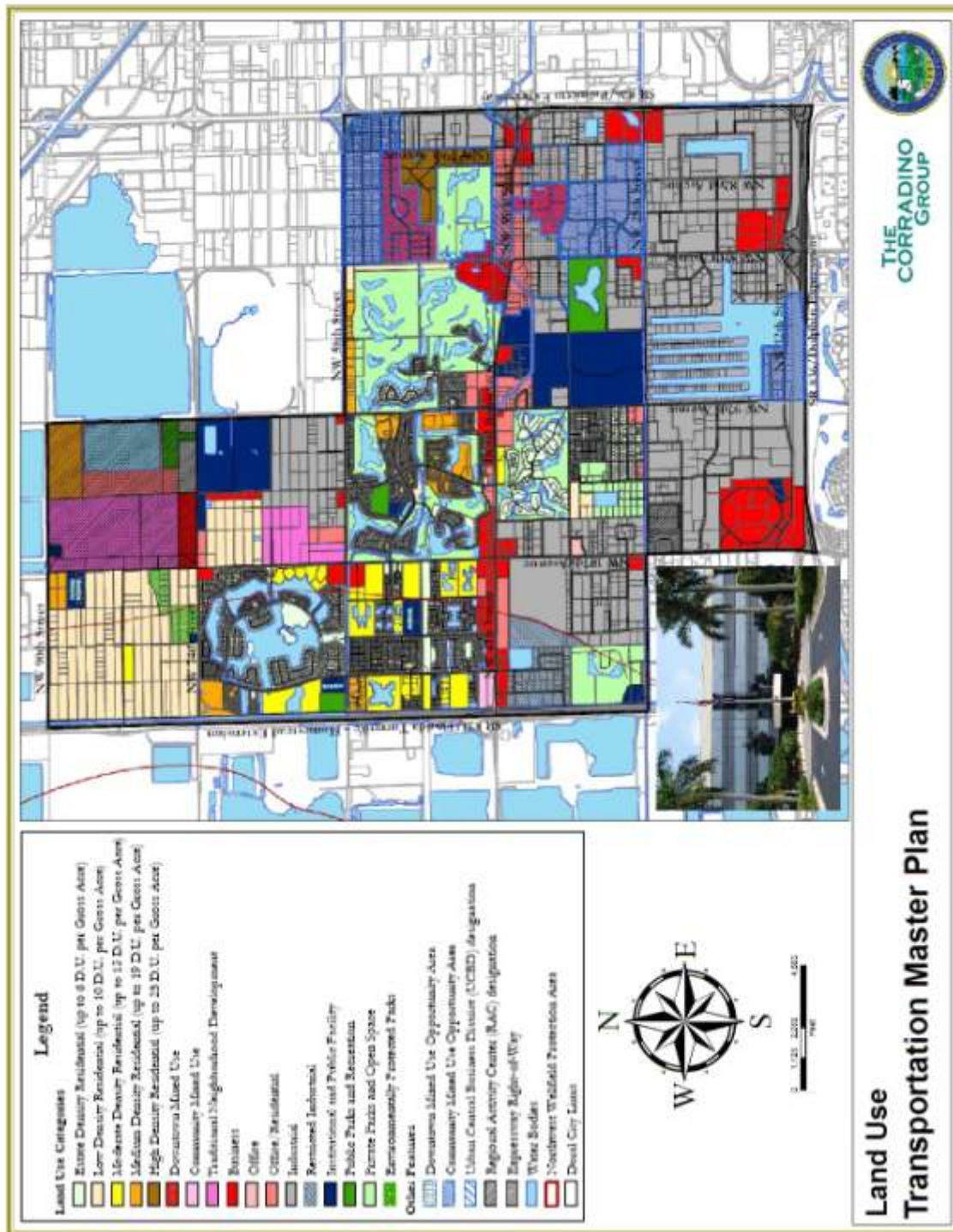


Figure 16 – Doral Future Land Use



Transportation Master Plan

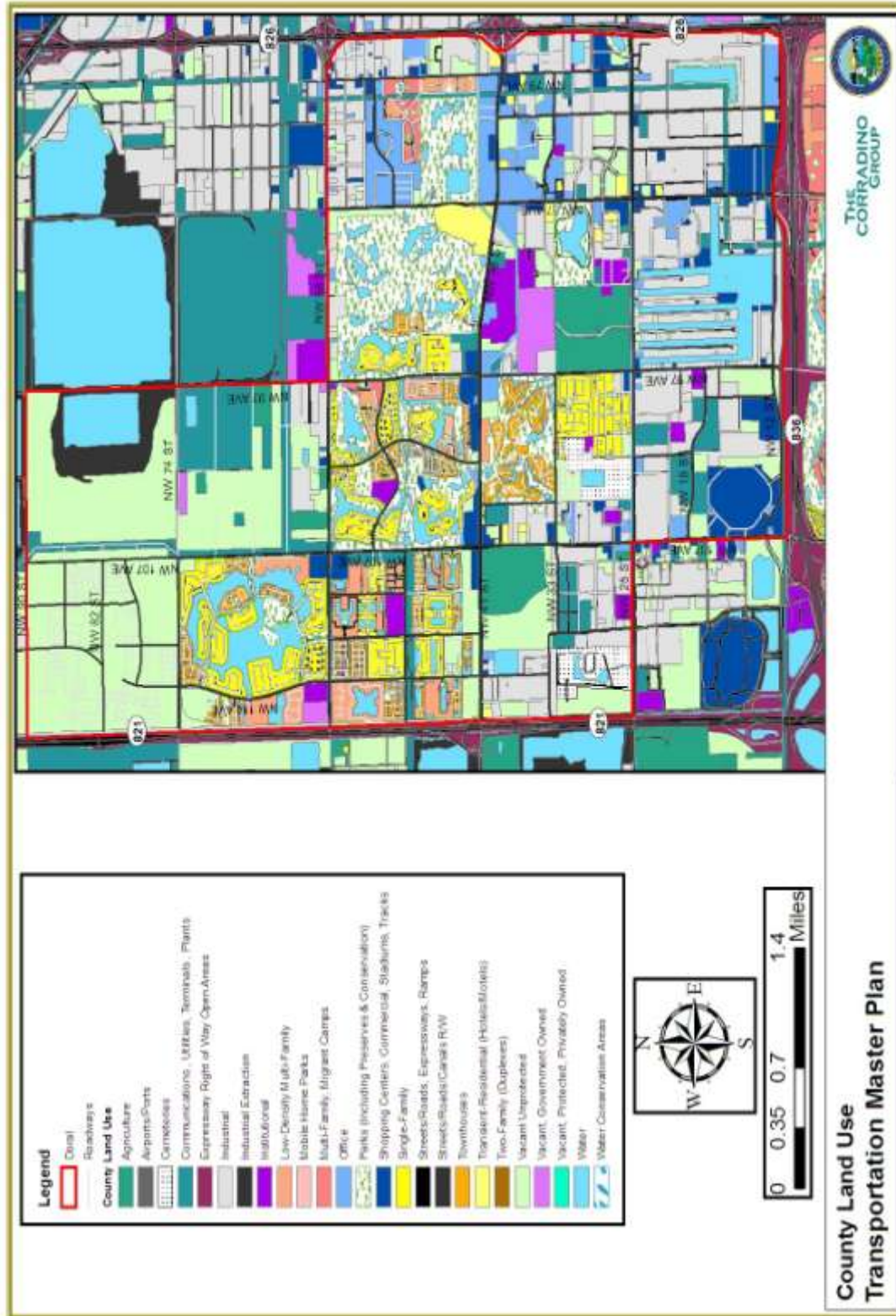


Figure 17 - Miami-Dade County Land Use



A summary of demographic data obtained from the 2008 U.S. Census projections for the City of Doral is presented in Table 18. The table also provides a comparison of Doral's demographic data with the characteristics of Miami-Dade County and Florida as a whole. As indicated in Table 17, Doral's population was approximately 39,000 in 2008.

The population density of Doral is approximately 2,955 per square mile.

General observations about the demographics of Doral include:

- High percentage of population under 18 years old (Doral - 33 percent vs. Miami-Dade County - 26 percent)
- Low percentage of elderly (over 65 years) population (Doral - 5 percent vs. Miami-Dade County - 15 percent)
- Low unemployment rate (Doral - 2 percent vs. Miami-Dade County - 4 percent)
- Low use of public transportation for travel to work (Doral - 0.5 percent vs. Miami-Dade County - 6 percent)
- High median household income (Doral - \$69,819 vs. Miami-Dade County - \$44,364)
- Comparable poverty rate (Doral - 10 percent vs. Miami-Dade County 13 percent)
- Low percentage of households without an automobile (Doral - 3 percent vs. Miami-Dade County - 11 percent)

The above factors, with the exception of use of public transportation comparable to the overall County, indicate a low propensity for transit use in Doral. Figures 15 and 16 illustrate population density, and employment by traffic analysis zone (TAZ), respectively. As shown in Figure 18, the majority of TAZs have a population density of roughly 5,000 to 14,000 per square mile. The TAZs in the northern portion of the City have a population density greater than 5,000 per square mile, all the way up to over 20,000 per square mile, indicating this part of the City is the densest. The highest employment concentration (Figure 19) is found along the NW 41st/36th St Corridor and the NW 87th Ave Corridor.



Table 17 – Census Data

Demographic Data	Doral	Miami-Dade County	Florida
Population			
Total Population	39,011	2,385,876	18,182,321
Median Age	32.4	38.7	40.1
Under 18 years	33%	26%	25%
65 years and over	5%	15%	17%
Race			
White	17%	18%	61%
Hispanic	76%	62%	21%
Black	2%	18%	15%
School Enrollment (3 years and over)			
Enrolled in school	12,168	617,964	4,283,650
Preschool or Kindergarten	18%	12%	12%
Elementary School (grades 1-8)	41%	37%	41%
High School (grades 9-12)	18%	22%	22%
College or Grad School	23%	29%	26%
Educational Attainment (25 years and over)			
Less than 9th grade	1%	13%	6%
Associate/Bachelors/Graduate	67%	35%	34%
Employment Status (16 years and over)			
In labor force	69%	62%	61%
Unemployment in labor force	2%	4%	4%
Commuting to work (workers 16 years and over)			
Drove alone	83%	77%	79%
Carpooled	9%	9%	11%
Public transportation	0.5%	6%	2%
Income (2008)			
Median household income	\$ 69,819	\$ 44,364	\$ 48,637
Per capita income	\$ 32,148	\$ 23,750	\$ 27,151
Poverty Status (2008)			
Families	10%	13%	9%
Individuals	12%	16%	13%
Vehicles per Household			
None	3%	11%	6%
One	33%	38%	40%
Two or more	64%	51%	54%

Source: U.S. Census Bureau, 2006-2008 American Community Survey

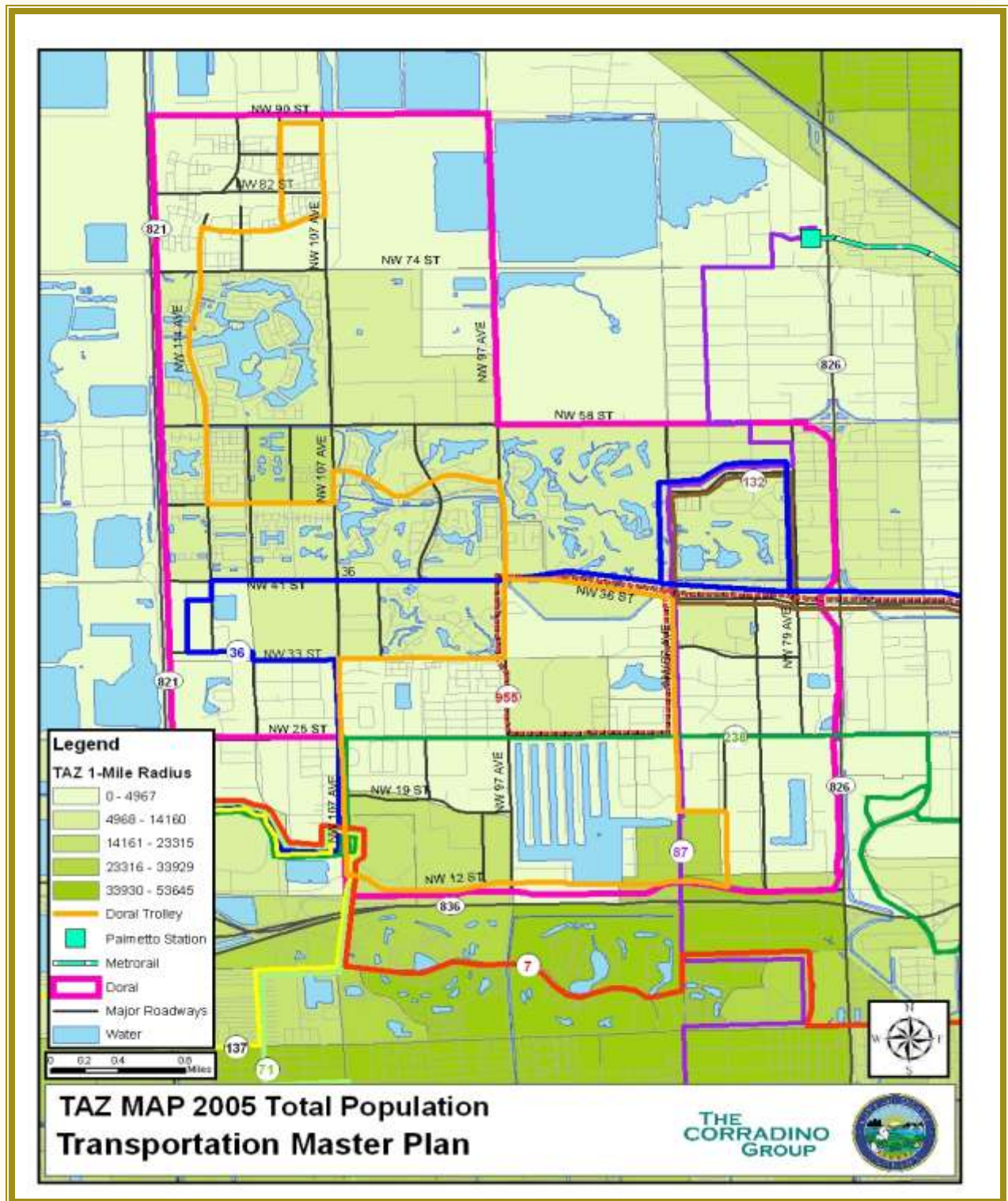


Figure 18 – Population Density



Transportation Master Plan

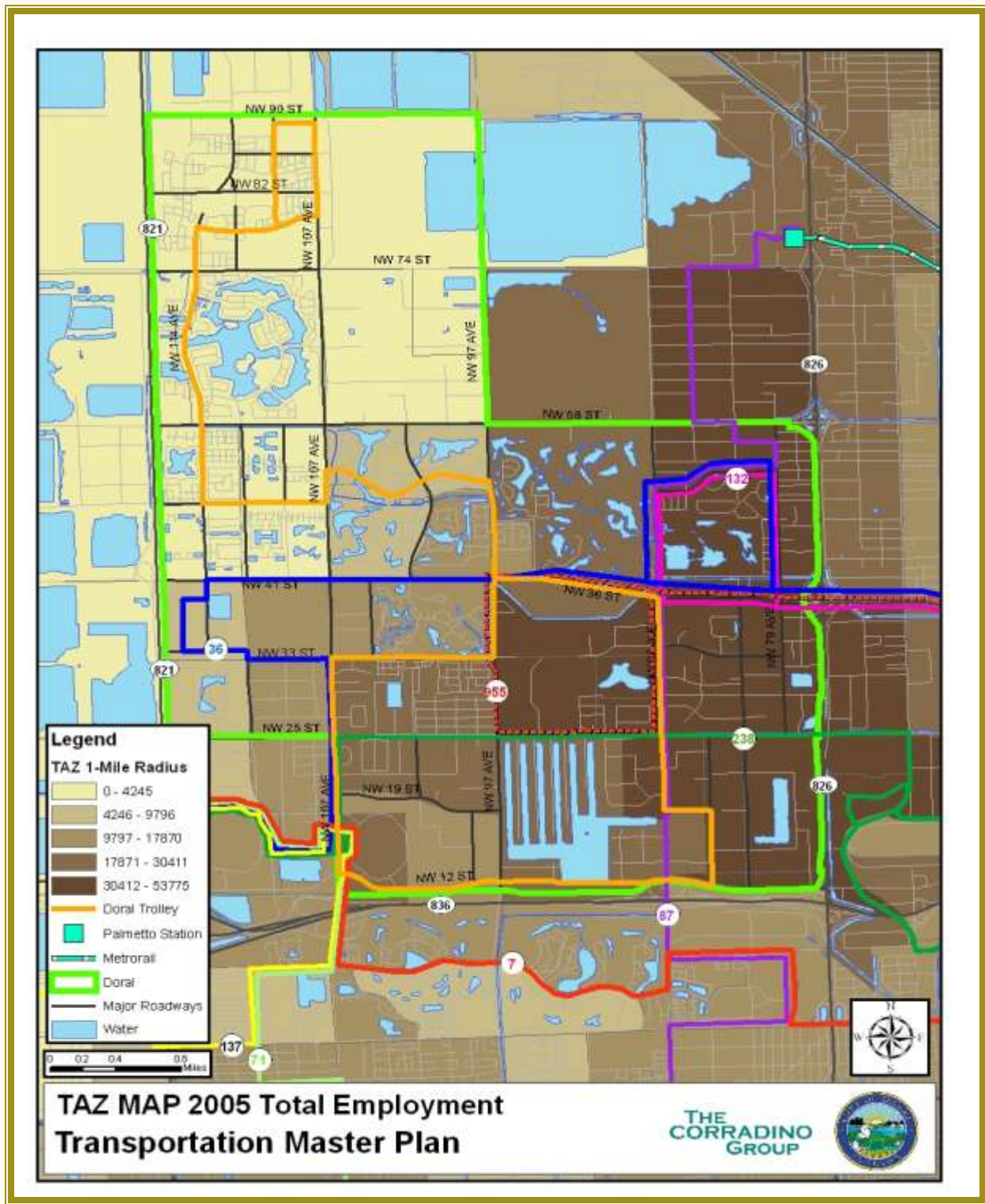


Figure 19 – Employment Density



Doral Trolley

The Doral Trolley is by all accounts successful. It provides one free route with a bus about every 40 minutes. The Doral Trolley operates about 75 hours per week at a cost of \$6,439 per week. The system carries about 3,000 passengers in this time period. This equals about 40 passengers each hour, exceeding the 10 passenger per hour goal. The service is provided at a cost of \$86/hr or \$2.14 per passenger. This is a relatively efficient service that is well received by the community.

Peer System Review

As part of this study, information was collected on several existing local transit circulators in Miami-Dade County. The objective of this effort was to learn system characteristics such as service frequency, vehicle type, and fare structure; capital and operating costs; funding sources; operational plans; best practices; and challenges. Information was collected on the existing transit systems in Palmetto Bay, Hialeah, North Miami, Doral, Aventura, North Miami Beach, and Coral Gables through interviews and web research. As presented in Table 21, all systems surveyed with the exception of Hialeah, provide fare free services. While Coral Gables provides 10-minute headways, other systems typically operate at 40- to 60- minute headways. Typical vehicle capacity ranges from 20 to 30 passengers. Most of these systems are operated by a third-party contractor and typical operating cost is about \$45 per hour. The cost for the Doral trolley can be seen in Tables 18, 19 & 20. Several municipalities have received FDOT's Service Development Grants while additional revenue sources include Miami-Dade County's Peoples' Transportation Plan (PIP), advertisements, and other local funding.

Table 18 – Overall Cost

<i>Item</i>	<i>Expenditure</i>	<i>FY 2008 - 2009 Amount</i>	<i>FY 2009 - 2010 Estimate</i>	<i>FY 2010 - 2011 Budget</i>
1	Vehicle Procurement	127,300.04	119,707.80	569,707.80
2	Operations and Maintenance	280,069.00	368,784.00	942,000.00
3	Facilities and Amenities	22,500.00	22,500.00	2,500.00
4	Technology	0.00	13,902.00	24,213.00
5	Other	19,700.69	5,000.00	7,400.00
6	Contingency	0.00	18,500.00	47,100.00
	Sum	449,569.73	548,393.80	1,592,920.80

FY 2008/2009 was for two trolleys



Transportation Master Plan

Table 19 – Yearly Trolley Costs

Yearly Cost (1-Trolley)				
Expenditure	Price (\$/Unit)	Quantity	Unit	Cost (\$)
Vehicle Procurement	6,000.00	12	months	72,000.00
Trolley Signs	300.00	90	signs	27,000.00
Operation & Maintenance (O&M)	52.50	3600	hrs	189,000.00
Administration (approx. 25% of O&M)				48,000.00
Total =				336,000.00

Table 20 – Cost per Trolley

Cost per Trolley			
A Weeks per year =		52.18	
B Target Ridership =		10 passengers per hour	
C Hours per Week =		63	
D Target Ridership =	B x C	630 passengers per week	
E Operating Cost per Year =		\$336,000.00	See Estimated Operating Cost per Year per Trolley
F Cost per week =	E / A	\$6,439.25	
G Target Cost Per Passenger =	F / D	\$10.22	





Table 21 - 2010 Peer System Review of Municipal Transit Systems in Miami-Dade County

	Palmetto Bay – I-Bus	Hialeah Transit System	North Miami - NOMI Express	Doral Trolley	Aventura Express	North Miami Beach - NMB LINE	Coral Gables Trolley
Goals/Objectives	Increase the number of destinations that can be reach via fixed public transit routes throughout Palmetto Bay and surrounding areas, as well as to connect with MDT transit routes and the South Miami-Dade Busway	Mission is to provide a safe, reliable, and quality transportation services with a smile	Increase the number of local destinations that can be reached by public transit	Provide public transportation for residents linking them to work, shopping, and school; complement MDT service; carry minimum of 10 passengers per hour on routes	Aventura Express serves your busy lifestyle with a convenient schedule to better serve the Aventura community	To help residents access different areas of City and connect with other transportation serving County	Relieve local traffic congestion; alleviate parking requirements; connect Downtown Coral Gables to surrounding areas via the Metrorail
Number of Routes	2	2	4	1	5	1	1
Do Routes Extend Beyond City Boundaries	No	Hialeah Gardens	Biscayne Park; North Miami Beach	No	No	No	No
Is There a Central Terminal/Transfer Point	Routes overlap along SW 168th Street	Hialeah Metrorail Station serves as hub; routes intersect at several locations	3 routes connect at Griffing Adult Center/Park at top of hour	No	Aventura Mall	No	Douglas Road Metrorail Station
Service Span	Route A: Mon. - Fri. 10 AM to 1:10 PM; Route B: Mon. - Fri. 7 AM - 5:30 PM (No Service between 9:30 AM to 1:10 PM)	Mon. - Fri. 6 AM to 7:30 PM; Saturday 9 AM - 3:30 PM; Sunday 11 AM - 2 PM	Mon. - Fri. 7 AM to 8 PM	Mon. - Fri. 7 AM to 7:30 PM; Saturday 7 AM - 7 PM	Mon. - Fri. 7:45 AM to 6:30 PM; Saturday - 8:45 AM to 6:30 PM	Mon. - Fri. 8:30 AM to 5:00 PM	Mon. - Thur. 6:30 AM to 8:00 PM; Friday - 6:30 AM to 10:00 PM
Headways	Route A: 50 minutes (AM) Route B: 60 minutes (PM)	40 minutes weekdays, 60 minutes weekends	60 minutes	40 minutes; 15-20 minutes for lunch route	60 minutes	60 minutes	10 minutes
Fare	Free	Full - \$1.50 or \$60.00 monthly pass; reduced - \$0.75 or \$30.00 monthly pass; transfer to MDT \$0.50	Free	Free	Free	Free	Free
Ridership	850 riders per month	1,800 - 2,200 riders per weekday; 400 - 500 riders per Saturday; 100 - 200 riders per Sunday; 42,400 per month	18,000 riders per month	480 boarding's per day, 11,520 per month	17,000 per month	25 per day; 400 per month	5,000 per day, 100,000 per month
Vehicle Type	El Dorado 20 passenger buses with handicap accessibility	26 passenger Blue Bird buses leased to own from First Transit	El Dorado 16 passenger buses with wheelchair lifts and bike racks; use 20% biodiesel	Biodiesel; vintage; Classic American Trolley; 24 seats with room for 10 standing; handicap accessible	Shuttle buses equipped with wheelchair lifts and bicycle racks - 22 person capacity (1 bus has 26 person capacity)	Handicap accessible shuttle bus with 23-seat capacity	Low-floor, low-emission trolley vehicles with vintage body and aesthetics; some vehicles are hybrid electric and some are low-emissions diesel
When Did the System Start Service	2006	January 2003	June 2005	February 2008	January 1999	April 2004	November 2003
Expansion/Changes to System since Inception	Routes have been modified to better serve riders	Routes eliminated and realigned	Seeking to double service - reduce headways to 30 minutes	Added bus to reduce headways, modified route	Expanded from 3 to 4 to 5 routes and added Saturday service	Route has been modified to better serve riders	Unknown
Funding of Service Development (Capital and Operating)	People's Transportation Plan	FDOT Public Transit Service Development Program grant	FOOT Public Transit Service Development Program grant	Locally funded; seeking FDOT Public Transit Service Development Program grant to expand service	City - general fund	People's Transportation Plan	PTP; FDOT Public Transit Service Development Program grant; advertising
Cost of System Development (Capital and Operating)	Contract out as turnkey service for \$33.25 per revenue hour (Village purchased buses)	\$2.2 million annually; contract with First Transit approximately \$1.2 million annually with remainder for fuel, maintenance, administration	Contract out as turnkey service for \$44.60 per revenue hour	\$361,000 for trolley start-up includes lease of vehicles, signage, administration, marketing, and 1-year of operations and maintenance	Turnkey - entire system contracted out	\$130,000	Vehicles approximately \$300,000 each; signs and amenities at stops approximately \$3,000 per; parts and maintenance about 10% of cost of vehicle annually
Additional Costs (eg. Advertising)	Negligible	Negligible	Negligible - advertise in City Parks magazine	Allocate 10% of costs for marketing	Negligible	Negligible	Unknown
Source of Funding for Operations/Maintenance	People's Transportation Plan	Fares, People's Transportation Plan	People's Transportation Plan	Pilot phase locally funded, FDOT	General fund; PTP for service added since inception of PTP; about 50/50 split	PTP and City's general fund	People's Transportation Plan
Who Operates Service	Contract with Limousines of South Florida	City - administration, maintenance, storage, fuel; First Transit - operations and owns buses	Contract with Limousines of South Florida for turnkey service for \$44.60 per revenue hour	City purchased vehicles, contract operations and maintenance with Limousines of South Florida	Contract with Limousines of South Florida; \$44.00 per hour	NMB City employees; operating costs depend on employees rate of pay, cost of fuel, maintenance of equipment, etc.	Unknown
Coordination with Other Municipalities/MDT	Designated transfer with MDT; interlocal agreement with Miami-Dade County	Designated transfer with MDT; interlocal agreement with Miami-Dade County; interlocal agreement with Hialeah Gardens	Interlocal agreement with Biscayne Park to provide service; interlocal agreement with Miami-Dade County, working with MDT to create hub to link systems; working with North Miami Beach to link systems	Connections available to MDT routes along NW 87th Avenue, NW 41st Street, and at International Mall, Interlocal agreement with MDT; FOOT JPA to access funds for trolley	Connections to MDT at Aventura Mall	Connections to MDT and Sunny Isles Beach Shuttle Service; Interlocal agreement with Miami-Dade County	Connects to MDT at Douglas Road Metrorail Station and intersects with several MDT bus routes; interlocal agreement with Miami-Dade County
Lessons Learned/Challenges	Challenges include adhering to on-time schedule, satisfying riders, increasing ridership	Difficult to maintain precise schedule with traffic congestion and rail crossings; FDOT System Safety and Security Program Plan; accident procedures, hurricane procedures	Elderly residents sometimes intimidated by students on buses; heavy demand when school is dismissed; tracking system on buses a useful feature to keep track of where buses are at (schedule compliance)	Have processes procedures in place before starting system (eg. System Safety and Security Program Plan)	Listen to customers/residents; make transfers easy; clock face schedule	Challenges include adhering to on-time schedule, upkeep of vehicles; satisfying riders	Unknown



Public Opinion Survey

In early 2010 the City of Doral conducted an onboard public opinion survey, as well as an on/off count at each stop. The main results of the survey were as follow:

- Over 50% of the respondents use the system on a daily basis, i.e., daily during the week or daily during the week plus Saturday.
- 75% of respondents walk to get to the trolley. Of those that don't walk to the trolley, most transfer from an MDT bus.
- Most respondents (88%) do not have an automobile available for the trip.
- Extending service beyond 7 p.m. (78%) and more frequent service on existing routes (77%) were cited by respondents as "Very Important" expansion options, with over 90% of the respondents identifying these options as "Important" or "Very Important".
- Most respondents (87%) stated their ethnicity was Hispanic/Latino.
- 37% of the respondents were under Age 18 (representing the school population for the most part) and 49% stated their age as being 19 to 55.
- 78% stated their native language was Spanish.
- 61% of the respondents were female.
- Almost 70% of the riders stated they live in Doral and 53% said they work in Doral,

The main results of the on/off survey were as follow:

- The peak period for travel generally extends from 7:30 a.m. to 9:30 a.m. on weekdays with people getting to work (many in the neighborhoods north of 41st Street) and youth getting to school. The same pattern is mirrored on weekday afternoons.
- There are times, particularly in the afternoon, when the trolleys have standing room only.
- The trolley stops are very visible and appear to be well understood by passengers. There were no observations of people trying to "wave down" the trolley (known as a flag stop) except along 12th Street where it is permitted.
- There are a number of stops where there are boarding's or alightings of more than 25 per day. These stops could be considered for shelters and/or enhanced passenger amenities such as Next Bus information arrival signs using the City's Trolley Tracker technology.

Additional Observations:

- Based on the patterns of use, it appears to get a broader perspective from residents of Doral and people working at businesses in Doral a broader outreach effort is needed.



This could include, but not be limited to, on-line surveys of employees at major employment centers, intercept surveys at employment centers, and mail back surveys for residents of Doral.

The study in its entirety can be viewed in Appendix A of this report.

MDT Transit Routes

There are eight transit routes operating within Doral. These generally run northeast to southwest from the Palmetto Metrorail Station to and from the Dolphin Mall area. Headways are typically 30 to 45 minutes in the peak hours but generally longer during non peak hours as seen in table 22. Buses are between 40' and 60' in length. The most successful route is the Route 7, which has about 5,763 passengers on the average weekday, and up to 160,867 riders per month. The least impactful route is the TriRail Shuttle, which has on average 2,000 riders per month. Full monthly ridership can be seen in Table 31. More detailed ridership numbers can be seen in Tables 24 through 30. Figures 20 through 27 show the routes of all the MDT routes which run thorough Doral.

Table 22 – Headways

Route	Peak Headway	Off-Peak
Doral Trolley	45	45
7	30	40
36	(20)60	60
71	30	60
87	30	45
95 Earl	60*	-
132	60	-
137	30	45
238	45	60

*Express service commits one bus in the AM peak hour and one in the PM
() 20 min headways at Doral Center. 60 at Dolphin Mall.

Table 23 – Hours of Operation

Route	Start	End
7	5:00 AM	10:30 PM
36	6:00 AM	8:30 PM
71	6:00 AM	7:45 PM
87	5:50 AM	9:30 PM
132*	6:40 AM	5:45 PM
137	5:20 AM	9:20 PM
238	6:20 AM	8:30 PM
Trolley	7:00 AM	7:30 PM

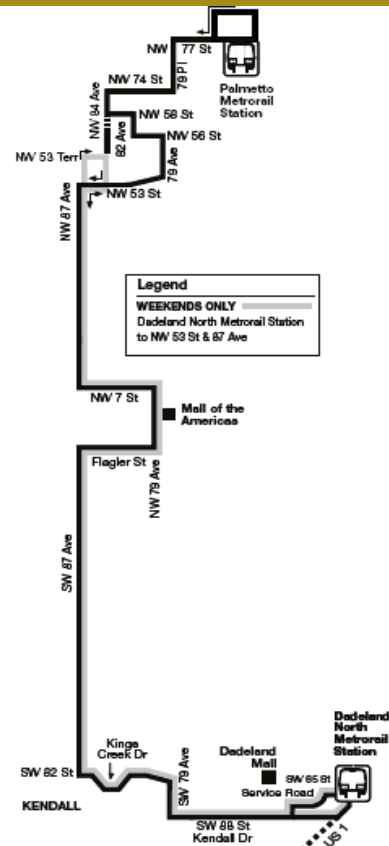


Transportation Master Plan

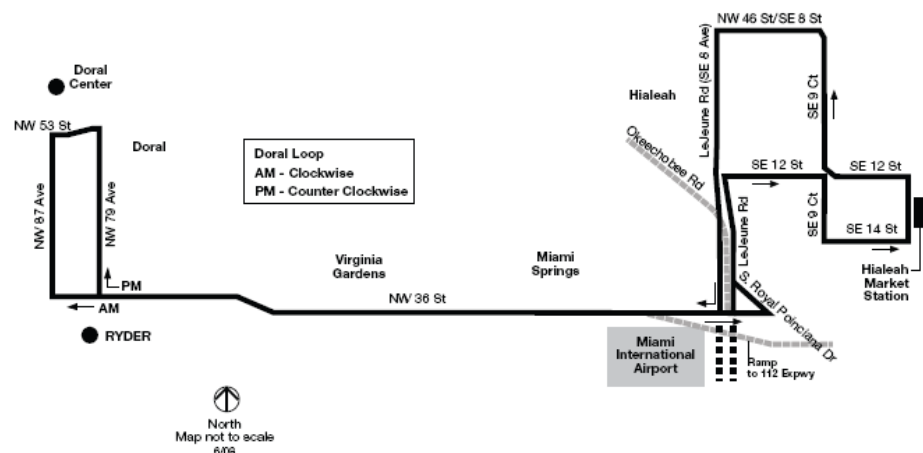
Route 71



Route 87



Route 132 Tri-Rail Doral Shuttle



Figures 22, 23 and 24 – Routes 71, 87 and 132



Table 24 – MDT Route 7 Stop Summary

Route	Direction				Stop #	Stop Location	On	Off	Total / Stop	Total /St	Total /Rt
	N	S	E	W							
7			X		1	Dolphin Mall NW 112 Ave	188	0	188	392	1352
7				X	89	Dolphin Mall NW 112 Ave	15	2	17		
7				X	89	Dolphin Mall NW 112 Ave - EOI	0	187	187		
7			X		2	NW 17 St & NW 112 Ave	7	0	7	23	
7				X	88	NW 17 St & NW 112 Ave	1	15	16	153	
7			X		3	NW 107 Ave & NW 14 St	80	5	85		
7				X	87	NW 107 Ave & NW 14 St	6	62	68		
7				X	86	NW 107 Ave & NW 12 St	0	26	26	26	
7			X		5	Fountb. Blvd & NW 107 Ave	45	11	57	98	
7				X	85	Fountb. Blvd & NW 107 Ave	4	25	29		
7				X	84	Fount. Blvd & NW 106 Ave	1	10	12		
7			X		6	Fountb. Blvd & NW 9 St	7	1	8	18	
7				X	83	Fountb. Blvd & NW 9 St	3	6	10		
7			X		7	Fountb. Blvd & NW 99 Ct	8	2	9		
7				X	82	Fountb. Blvd & NW 99 Ct	1	7	8	17	
7			X		8	Fountb. Blvd & #9740	1	1	3	7	
7				X	81	Fount. Blvd & #9725	1	3	4		
7			X		9	Fountb. Blvd & NW 97 Ave	19	6	26		
7				X	80	Fountb. Blvd & NW 97 Ave	11	25	36	62	
7			X		10	Fountb. Blvd & #9460	44	9	53	96	
7				X	79	Fountb. Blvd & #9410	10	33	43		
7			X		11	Fountb. Blvd & OP #93	11	10	21		
7				X	78	Fountb. Blvd & #9361	8	14	22	65	
7			X		12	Fountb. Blvd & #9350	17	5	22		
7				X	76	Fountb. Blvd & OP #91	2	12	14		
7			X		13	Fountb. Blvd & #9140	8	2	10	33	
7			X		14	Fountb. Blvd & #9110	7	2	9		
7			X		15	Fountb. Blvd & #8860	4	3	7		
7				X	75	Fountb. Blvd & #8801	4	8	12	19	
7			X		16	Park Blvd & Fountb. Blvd	16	16	32	36	
7				X	74	Park Blvd & Fountb. Blvd	3	2	4		
7			X		17	NW 87 Ave & Park Blvd	1	3	4		
7				X	73	NW 87 Ave & Park Blvd	5	8	13	17	
7			X		18	NW 87 Ave & NW 7 St	12	7	20		
7				X	72	NW 87 Ave & NW 7 St	3	9	12		
7			X		19	NW 7 St & OP #8533	21	15	36	64	
7				X	71	NW 7 St & #8531	13	15	28		
7			X		20	NW 7 St & OP #8370	15	4	19		
7				X	70	NW 7 St & #8341	4	8	12	31	
7			X		21	NW 7 St & NW 82 Ave	14	7	21	39	
7				X	69	NW 7 St & NW 82 Ave	6	12	18		
7				X	68	NW 7 St & #8125	2	7	10		
7				X	67	NW 7 St & #8045	7	8	15	63	
7			X		22	NW 7 St & #8000	13	6	20		
7			X		23	NW 79 Ave & #600	9	9	18		
7				X	66	Mall of Americas NW 79 Ave		10	25	61	
7			X		24	Mall of Americas NW 79 Ave - EOL	0	5	5		
7				X	66	Mall of Americas NW 79 Ave - EOL	0	1	1		
7			X		24	Mall of Americas NW 79 Ave	21	9	30		



Table 25 – MDT Route 36 Stop Summary

Route	Direction				Stop #	Stop Location	On	Off	Total / Stop	Total /St	Total /Rt
	N	S	E	W							
36				X	67	NW 79 Ave & NW 36 St	4	39	43	46	902
36			X		33	NW 79 Ave & NW 36 St	2	1	3		
36				X	68	NW 79 Ave & NW 41 St	2	1	3	38	
36			X		32	NW 79 Ave & NW 41 St	33	2	35		
36				X	69	NW 79 Ave & OP #4400	1	3	4	14	
36			X		31	NW 79 Ave & OP #4400	6	3	10		
36				X	70	NW 79 Ave & NW 48 St	7	3	10	22	
36			X		30	NW 79 Ave & NW 48 St	7	5	12		
36				X	71	NW 79 Ave & NW 50 St	0	3	4	18	
36			X		29	NW 79 Ave & NW 50 St	11	3	14		
36				X	72	NW 79 Ave & NW 52 St	0	6	6		
36			X		28	NW 53 St & NW 79 Ave	5	1	6	19	
36				X	73	NW 53 St & NW 79 Ave	2	5	7		
36			X		27	NW 53 St & #8070	2	1	3	4	
36				X	74	NW 53 St & #8125	0	1	1		
36			X		26	NW 53 St & OP #8325	2	1	3	6	
36				X	75	NW 53 St & OP #8325	1	2	3		
36			X		25	NW 53 St & NW 84 Ave	8	0	8	10	
36				X	76	NW 53 St & NW 84 Ave	0	2	2		
36			X		24	NW 36 St & NW 82 Ave	19	2	21	59	
36				X	77	NW 36 St & NW 82 Ave	7	31	38		
36			X		23	NW 87 Ave & NW 52 St	0	0	0	15	
36				X	78	NW 53 St & NW 87 Ave	2	12	15		
36				X	78	NW 53 St & NW 87 Ave - EOL	0	15	15	17	
36				X	79	NW 87 Ave & NW 53 St	1	1	2		
36			X		22	NW 87 Ave & NW 41 St	25	8	33	56	
36				X	80	NW 87 Ave & NW 41 St	3	19	23		
36			X		21	NW 36 St & NW 87 Ave	0	0	0	24	
36				X	81	NW 36 St & NW 87 Ave	8	16	24		
36			X		20	NW 36 St & #9100	1	0	1	6	
36				X	82	NW 36 St & OP #9100	1	0	1		
36			X		19	NW 36 St & #9250	3	0	4		
36				X	83	NW 36 St & NW 94 Ave	2	4	6	11	
36			X		18	NW 41 St & OP# 9405	3	2	5		
36				X	84	NW 41 St & NW 97 Ave	4	30	35		
36			X		17	NW 41 St & NW 97 Ave	20	10	30	72	
36				X	85	NW 41 St & #9915	2	4	7		
36			X		16	NW 41 St & NW 102 Ave	14	6	20	38	
36				X	86	NW 41 St & NW 102 Ave	4	14	18		
36			X		15	NW 41 St & NW 104 Ave	4	3	8	26	
36				X	87	NW 41 St & NW 104 Ave	7	11	18		
36			X		14	NW 41 St & NW 107 Ave	22	5	27	48	
36				X	88	NW 41 St & #10783	5	15	21		
36			X		13	NW 114 Ave & NW 41 St	15	9	24	47	
36				X	89	NW 114 Ave & NW 41 St	5	18	23		
36			X		12	NW 39 St & NW 115 Ave	3	2	5	7	
36				X	90	NW 39 St & NW 115 Ave	0	2	2		
36			X		11	NW 115 Ave & OP #3800	2	6	8	24	
36				X	91	NW 115 Ave & #3800	9	6	16		
36			X		10	NW 34 St & NW 115 Ave	3	2	5		
36				X	92	NW 33 St & NW 108 Ave	0	5	5	12	
36			X		9	NW 33 St & NW 112 Ave	2	0	2		
36				X	93	NW 107 Ave & NW 31 Tr	1	2	3	8	
36			X		8	NW 107 Ave & NW 31 Tr	2	3	5		
36				X	94	NW 107 Ave & NW 27 St	2	11	13	20	
36			X		7	NW 107 Ave & NW 27 St	5	2	7		
36				X	95	NW 107 Ave & NW 24 St	1	4	5	9	
36			X		5	NW 107 Ave & NW 25 St	3	1	4		
36				X	96	NW 107 Ave & NW 19 St	1	5	6	13	
36			X		4	NW 107 Ave & NW 19 St	6	1	7		



Table 26 – MDT Route 71 Stop Summary

Route	Direction				Stop #	Stop Location	On	Off	Total / Stop	Total /St	Total /Rt
	N	S	E	W							
71		X			1	Dolphin Mall NW 112 Ave	66	0	66		868
71	X				62	Dolphin Mall NW 112 Ave - EOL	0	76	76	142	
71	X				62	Dolphin Mall NW 112 Ave	0	0	0		
71		X			2	NW 17 St & NW 112 Ave	2	0	2	4	
71	X				61	NW 17 St & NW 112 Ave	0	2	2		
71		X			3	NW 14 St & NW 110 Ave	0	0	0	0	
71	X				60	NW 14 St & NW 110 Ave	0	0	0		
71	X				59	NW 14 St & NW 107 Ave	2	32	34		
71		X			4	NW 107 Ave & NW 15 St	12	5	17	62	
71	X				58	NW 107 Ave & NW 15 St	1	10	11		
71		X			5	NW 107 Ave & NW 12 St	30	2	32	42	
71	X				57	NW 107 Ave & NW 12 St	1	9	10		
71		X			6	NW 7 St & NW 107 Ave	5	3	8		
71		X			7	NW 7 St & NW 108 Blk	1	1	2	20	
71	X				56	NW 7 St & NW 108 Blk	1	9	10		
71		X			8	NW 7 St & NW 109 Ave	7	2	9	17	
71	X				55	NW 7 St & NW 109 Ave	4	4	8		
71		X			9	NW 7 St & NW 111 Pl	6	2	8	18	
71	X				54	NW 7 St & NW 111 Pl	4	6	10		
71		X			10	NW 112 Ave & NW 6 Te	10	5	15	28	
71	X				53	NW 112 Ave & NW 6 La	4	9	13		
71	X				52	NW 112 Ave & NW 5 Te	1	1	2		
71		X			11	NW 112 Ave & NW 5 St	8	4	12	24	
71	X				51	NW 112 Ave & NW 5 St	5	5	10		
71		X			12	NW 112 Ave & NW 3 Te	1	0	1		
71		X			13	NW 112 Ave & NW 3 St	6	2	8	16	
71	X				50	NW 112 Ave & NW 3 St	3	4	7		
71		X			14	NW 112 Ave & NW 1 St	14	13	27	41	
71	X				49	NW 112 Ave & NW 1 St	4	10	14		
71		X			15	SW 112 Ave & SW 2 St	4	5	9	12	
71	X				48	SW 112 Ave & SW 2 St	0	3	3		
71		X			16	SW 4 St & SW 112 Ave	1	1	2	5	
71	X				47	SW 4 St & SW 112 Ave	1	2	3		
71		X			17	SW 4 St & SW 110 Ave	1	2	3	4	
71	X				46	SW 4 St & SW 110 Ave	0	1	1		
71		X			18	SW 4 St & SW 109 Ave	0	1	1		
71	X				45	SW 4 St & SW 109 Ave	1	2	3	13	
71		X			19	SW 4 St & SW 108 Ave	2	7	9		
71		X			20	SW 4 St & SW 107 Ave	26	12	38	103	
71	X				44	SW 4 St & SW 107 Ave	11	54	65		
71		X			21	SW 107 Ave & SW 5 St	19	2	21	46	
71	X				43	SW 107 Ave & SW 6 St	2	13	15		
71		X			22	SW 107 Ave & SW 7 St	9	1	10		
71	X				42	SW 107 Ave & #917	4	6	10	36	
71		X			23	SW 107 Ave & SW 11 St	8	7	15		
71	X				41	SW 107 Ave & #1225	4	7	11		
71		X			24	SW 107 Ave & SW 14 St	11	11	22	46	
71	X				40	SW 107 Ave & #1431	11	13	24		
71		X			25	FIU University Campus SW 107 Ave	72	21	94	189	
71	X				39	FIU University Campus SW 107 Ave	23	72	95		



Table 27 – MDT Route 87 Stop Summary

Route	Direction				Stop #	Stop Location	On	Off	Total / Stop	Total /St	Total /Rt
	N	S	E	W							
87	X				48	W Flagler St & SW 87 Ave	21	61	83	149	
87		X			39	W Flagler St & SW 87 Ave	56	10	66		
87	X				49	W Flagler St & SW 84 Ave	10	12	22	38	
87		X			38	W Flagler St & SW 84 Ave	10	6	16		
87	X				50	W Flagler St & SW 82 Ave	5	9	14	32	
87		X			37	W Flagler St & SW 82 Ave	11	7	18		
87	X				51	NW 79 Ave & W Flagler St	40	25	66	122	
87		X			36	W Flagler St & NW 79 Ave	25	31	56		
87	X				52	NW 79 Ave & NW 2 St	5	6	11	31	
87		X			35	NW 79 Ave & NW 2 St	12	8	20		
87	X				53	Mall of Americas NW 79 Ave	6	10	16	45	
87		X			34	Mall of Americas NW 79 Ave	11	18	29		
87	X				54	NW 7 St & #8045	4	10	15	31	
87		X			33	NW 79 Ave & #600	11	5	16		
87	X				55	NW 7 St & #8125	6	6	12	25	
87		X			32	NW 7 St & #8000	6	6	13		
87	X				56	NW 7 St & NW 82 Ave	4	10	14	30	
87		X			31	NW 7 St & NW 82 Ave	13	3	16		
87	X				57	NW 7 St & #8341	9	11	20	36	
87		X			30	NW 7 St & OP #8370	13	3	16		
87	X				58	NW 7 St & #8531	12	12	25	51	
87		X			29	NW 7 St & OP #8533	11	14	26		
87	X				59	NW 87 Ave & NW 8 St	6	9	14	78	
87		X			28	NW 87 Ave & NW 8 St	7	2	9		
87		X			27	NW 87 Ave & NW 12 St	42	13	55	106	
87	X				60	NW 87 Ave & NW 17 St	25	61	86		
87		X			26	NW 87 Ave & NW 21 Te	14	6	21	90	
87	X				61	NW 87 Ave & NW 25 St	13	29	42		
87		X			24	NW 87 Ave & NW 25 St	32	16	48	12	
87	X				62	NW 87 Ave & 29 St	2	7	9		
87		X			23	NW 87 Ave & 29 St	2	1	3	7	
87	X				63	NW 87 Ave & #3271	1	3	4		
87		X			22	NW 87 Ave & NW 30 Te	2	1	3	19	
87	X				64	NW 87 Ave & NW 33 St	2	10	12		
87		X			21	NW 87 Ave & NW 33 St	6	1	7	55	
87		X			19	NW 87 Ave & NW 36 St	23	7	31		
87		X			20	NW 87 Ave & OP #3655	5	2	7	35	
87	X				65	NW 87 Ave & #3737	6	11	17		
87	X				66	NW 87 Ave & NW 41 St	15	12	27	5	
87		X			18	NW 87 Ave & NW 41 St	3	4	8		
87	X				67	NW 87 Ave & NW 52 St	0	3	4	14	
87		X			17	NW 87 Ave & NW 53 St	1	0	1		
87	X				69	NW 53 St & NW 87 Ave	3	3	6	11	
87		X			16	NW 53 St & NW 87 Ave	7	1	8		
87	X				70	NW 53 St & NW 84 Ave	2	4	6	10	
87		X			15	NW 53 St & NW 84 Ave	3	2	5		
87	X				71	NW 53 St & OP #8325	3	2	5	4	
87		X			14	NW 53 St & #8325	1	4	5		
87	X				72	NW 53 St & #8070	2	2	4	48	
87		X			13	NW 53 St & #8125	0	0	0		
87	X				73	NW 79 Ave & NW 53 St	11	13	24	4	
87		X			12	NW 79 Ave & NW 53 St	13	10	24		
87	X				74	NW 79 Ave & NW 55 St	0	0	0	2	
87		X			11	NW 79 Ave & NW 56 St	2	2	4		
87	X				75	NW 56 St & #8115	2	0	2	9	
87		X			10	NW 56 St & #7972	0	0	0		
87	X				76	NW 82 Ave & NW 56 St	2	3	5	5	
87		X			9	NW 82 Ave & NW 56 St	3	1	4		
87	X				77	NW 58 St & OP# 8260	1	0	1	9	
87		X			8	NW 58 St & #8260	3	1	4		
87	X				78	NW 84 Ave & NW 58 St	3	3	6	11	
87		X			7	NW 84 Ave & NW 58 St	0	3	3		
87	X				79	NW 84 Ave & NW 64 St	2	3	5	20	
87		X			6	NW 84 Ave & NW 64 St	2	4	6		
87	X				80	NW 84 Ave & NW 68 St	4	4	8	8	
87		X			5	NW 84 Ave & NW 68 St	7	5	12		
87	X				81	NW 84 Ave & NW 74 St	1	1	2	1	
87		X			4	NW 84 Ave & NW 74 St	5	1	6		
87	X				82	NW 74 St & NW 82 Pl	0	0	0	2	
87		X			3	NW 74 St & NW 82 Pl	0	1	1		
87	X				83	NW 79 Pl & NW 77 St	0	0	0	266	
87		X			2	NW 79 Pl & NW 77 St	1	1	2		
87	X				84	Palmetto Station NW 77 St - EOL	0	127	127		
87	X				84	Palmetto Station NW 77 St	0	1	1		
87		X			1	Palmetto Station NW 77 St	137	0	138		

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Table 28 – MDT Route 132 Stop Summary

Route	Direction				Stop #	Stop Location	On	Off	Total / Stop	Total /St	Total /Rt	
	N	S	E	W								
132			X		1	NW 53 St & NW 79 Ave	4	0	4	18	60	
132			X		1	NW 53 St & NW 79 Ave - EOL	9	0	9			
132				X	32	NW 53 St & NW 79 Ave - EOL	0	5	5			
132			X		2	NW 53 St #8125	0	0	0	0		
132				X	31	NW 53 St #8070	0	0	0			
132			X		3	NW 53 St & #8325	13	9	22	23		
132				X	30	NW 53 St & OP #8325	0	1	1			
132			X		4	NW 53 St & NW 84 Ave	0	0	0	0		
132				X	29	NW 53 St & NW 84 Ave	0	0	0			
132			X		5	NW 53 St & NW 87 Ave	0	0	0	0		
132				X	28	NW 53 St & NW 87 Ave	0	0	0			
132			X		6	NW 87 Ave & NW 53 St	0	0	0	0		
132				X	27	NW 87 Ave & NW 52 St	0	0	0			
132			X		7	NW 87 Ave & NW 41 St	1	0	1	1		
132				X	26	NW 87 Ave & NW 41 St	0	0	0			
132			X		8	NW 36 St & NW 87 Ave	9	0	9	11		
132				X	25	NW 36 St & NW 87 Ave	0	2	2			
132			X		9	NW 36 St & #8436	0	0	0	1		
132				X	24	NW 36 St & NW 84 Blk	0	1	1			
132			X		10	NW 36 St & OP #8365	0	0	0	1		
132				X	23	NW 36 St & #8365	0	1	1			
132			X		11	NW 36 St & NW 82 Ave	1	0	1	1		
132				X	22	NW 36 St & NW 82 Ave	0	0	0			
132			X		12	NW 36 St & East of #8050	1	0	1	1		
132				X	21	NW 36 St & West of 8001	0	0	0			
132			X		13	NW 36 St & NW 79 Ave	0	0	0	1		
132				X	20	NW 36 St & NW 79 Ave	0	1	1			
132			X		16	NW 79 Ave & NW 48 St	1	1	2	2		
132			X		17	NW 79 Ave & #4400	0	0	0			
132			X		18	NW 79 Ave & NW 41 St	0	0	0	0		
132			X		19	NW 79 Ave & NW 36 St	0	0	0			

Table 29 – MDT Route 137 Stop Summary

Route	Direction				Stop #	Stop Location	On	Off	Total / Stop	Total /St	Total /Rt
	N	S	E	W							
137		X			1	Dolphin Mall & NW 112 Ave	70	0	70	160	390
137	X				108	Dolphin Mall & NW 112 Ave - EOL	0	85	85		
137	X				108	Dolphin Mall & NW 112 Ave	0	5	5		
137		X			2	NW 17 St & NW 112 Ave	6	6	12	17	
137	X				107	NW 17 St & NW 112 Ave	1	4	5		
137		X			3	NW 14 St & NW 110 Ave	0	0	0	2	
137	X				106	NW 14 St & NW 110 Ave	0	2	2		
137		X			4	NW 107 Ave & NW 15 St	6	0	6	15	
137	X				104	NW 107 Ave & NW 15 St	1	8	9		
137	X				105	NW 14 St & NW 107 Ave	3	35	38	92	
137		X			5	NW 14 St & NW 107 Ave	53	1	54		
137	X				103	NW 107 Ave & NW 12 St	1	11	12	12	
137		X			7	NW 107 Ave & NW 7 St	8	2	10	21	
137	X				102	NW 107 Ave & Fount B. Blvd	1	10	11		
137		X			8	NW 107 Ave & #322	1	0	1	11	
137	X				101	NW 107 Ave & #461	1	3	4		
137		X			9	NW 107 Ave & #230	4	2	6		
137	X				100	NW 107 Ave & W Flagler St	1	1	2	60	
137		X			10	W Flagler St & NW 107 Ave	40	18	58		



Table 30 – MDT Route 238 Stop Summary

Route	Direction				Stop #	Stop Location	On	Off	Total / Stop	Total / St	Total / Rt
	N	S	E	W							
238			X		1	Dolphin Mall & NW 112 Ave	48	0	48	103	264
238				X	62	Dolphin Mall & NW 112 Ave - EOL	0	55	55		
238			X		2	NW 17 St & NW 112 Ave	2	0	2	4	
238				X	61	NW 17 St & NW 112 Ave	0	2	2		
238			X		3	NW 14 St & NW 110 Ave	0	0	0	1	
238				X	60	NW 14 St & NW 110 Ave	0	1	1		
238			X		4	NW 107 Ave & NW 14 St	16	1	17	31	
238				X	58	NW 107 Ave & NW 14 St	2	12	14		
238			X		5	NW 107 Ave & NW 15 St	2	0	2	7	
238				X	57	NW 107 Ave & NW 15 St	0	5	5		
238			X		6	NW 107 & NW 19 St	4	2	6	10	
238				X	56	NW 107 & NW 19 St	1	3	4		
238			X		7	NW 107 Ave & NW 25 St	1	2	3	8	
238				X	55	NW 107 Ave & NW 24 St	2	3	5		
238			X		8	NW 25 St & NW 102 Pl	2	2	4	6	
238				X	54	NW 25 St & NW 102 Pl	0	2	2		
238			X		11	NW 99 Ave & NW 25 St	2	3	5	9	
238				X	51	NW 99 Ave & NW 25 St	2	2	4		
238			X		12	NW 25 St & NW 97 Ave	4	4	8	10	
238				X	50	NW 25 St & NW 97 Ave	1	1	2		
238			X		13	NW 25 St & NW 92 Ave	5	1	6	13	
238				X	48	NW 25 St & NW 92 Ave	1	6	7		
238				X	49	NW 25 St & NW 96 Ave	0	1	1	1	
238			X		14	NW 25 St & NW 89 Pl	0	3	3	6	
238				X	47	NW 25 St & NW 89 Pl	1	2	3		
238			X		15	NW 25 St & #8870	2	0	2	2	
238				X	46	NW 25 St & OP#8870	0	0	0		
238			X		16	NW 25 St & NW 87 Ave	3	4	7	15	
238				X	45	NW 25 St & NW 87 Ave	4	4	8		
238			X		17	NW 25 St & NW 84 Ave	0	0	0	5	
238				X	44	NW 25 St & NW 84 Ave	3	2	5		
238			X		18		5	7	12	26	
238				X	43	NW 25 St & NW 82 Ave	3	11	14		
238			X		19	NW 25 St & NW 79 Ave	2	2	4	7	
238					42	NW 25 St & NW 79 Ave	1	2	3		

Table 31 – Total Monthly Boardings

Routes	Average Weekday	Boardings By Day of Week			Total Monthly Boardings
		Weekdays	Saturdays	Sundays	
7	5,763	132,550	16,810	11,507	160,867
36	2,813	64,703	6,023	3,898	74,624
71	1,090	25,074	2,123	1,239	28,436
87	1,623	37,338	1,950	1,557	40,845
132 -Tri-Rail Doral	88	2,033	-	-	2,033
137-West Dade	1,946	44,747	5,201	3,711	53,659
238-East/West Conn.	527	12,129	-	-	12,129
95 Express - Earlington Heights					



Table 32 – Potential Passenger Shelter/Bus Bay Locations

	Location	Route Direction	Routes	Boardings	Total Boardings	Currently Contains Shelter	Bus Bay
1	NW 14 St & NW 107 Ave	SB	137	53	192	No	Potential
		EB	7	80			
			238	16			
		NB	Doral Trolley	43			
2	NW 41 St & NW 97 Ave	EB	36	20	20	No	Potential
3	NW 41 St & NW 107 Ave	EB	36	22	22	No	Potential
4	NW 50 St & E of 112 Ave	NB	Doral Trolley	46	46	No	Present
5		SB	Doral Trolley	20	20	No	Potential
6	NW 79 Ave & NW 41 St	EB	36	33	33	No	Potential
7	NW 87 Ave & NW 12 St	SB	87	42	42	Yes	Potential
8	NW 87 Ave & NW 17 St	NB	87	25	25	No	Potential
9	NW 87 Ave & NW 25 St	SB	87	32	32	Yes	Potential
10	NW 87 Ave & NW 36 St	SB	87	23	33	Yes	Potential
			Doral Trolley	10			
11	NW 87 Ave & NW 41 St	EB	36	25	25	Yes	Potential
12	NW 97 Ave & N of 41 St	NB	Doral Trolley	36	36	No	Potential
13	NW 107 Ave & N of 12 St	NB	Doral Trolley	28	28	No	Potential
14	NW 107 Ave & NW 15 St	EB	36	26	38	No	Potential
		SB	71	12			

The above locations are the most used locations in terms of boarding's. This means that passengers are waiting at the stop for the bus to arrive. These being the highest used are good locations for further amenities such as shelters, real-time boards and possibly even bus bays. Figure 28 identifies the 14 high boarding locations.



Transportation Master Plan

There are about eight jitney services that operate in Miami-Dade County, and Doral. These are generally available for free, or a nominal fee of between \$1.25 and \$2.50 each way. Ambulatory services range from between \$32 and \$125. Generally these services transport elderly passengers, and require some notice prior to scheduling service.

Table 33 – Jitney Services

Jitney Services - Miami-Dade and Doral	Cost	Vehicle Type	Notification Time	Customers Served	Fixed Route
MDT Paratransit	\$2.50 each way	ambulatory van	24hrs notice	Elderly, Disabled	N/A
Transportation Program	Free	ambulatory van	N/A	Elderly, Disabled	N/A
Dade Jitney Service	\$1.25 each way	ambulatory van	N/A	Elderly, Disabled General Public	N/A
Dade County Community Action Agency	\$32.00	ambulatory van, Mini-Bus	3-days	Elderly, Disabled	N/A
Conchita/Metro Jitney	\$1.25 each way	Mini-Bus, Bus	N/A	Elderly, Disabled	N/A
Sallies Shuttle Service	Cost Variable	Car, Van	N/A	Elderly, Disabled	N/A
Able Transport	Cost Variable	ambulatory van, car	N/A	Elderly, General Public	N/A
Florida Senior Safety Resource Center	\$125.00	ambulatory van	N/A	Elderly, Disabled	N/A

Potential Doral Trolley Routes

The Doral Trolley currently operates only 1 route with separate weekend service. The ridership is high enough to warrant looking at further expansion of the current Trolley system. Table 34 depicts the ridership summary for the Doral Trolley. There are many potential riders that currently are either underserved or not served at all. This is caused by a variety of reasons such as the Trolley doesn't operate near a potential rider's home or possibly it doesn't go where a rider would want it to. A list of potential sites was developed and thus corresponding routes to connect the points of interest. The list below is a list of locations in or around the Doral area that is currently not served by the Trolley.

- 74th Street Metro-Rail Station
- Dolphin Mall
- Doral Academy
- Miami-Dade Community College West Campus
- Fontainebleau
- Florida International University
- Mall of the Americas
- Doral Park
- Future SOUTHCOM

The current trolley route gets the majority of its riders from the schools within Doral. Including Doral Academy and Florida International University on a route will likely produce high ridership as well. The current routes gives access to the International Mall, however, it does not serve the Mall of the Americas or the Dolphin Mall. Connecting with other forms of transit produced major ridership as viewed in the on/off survey. Creating a route to the 74th Street Metro-Rail Station will likely add ridership and remove cars and congestion from the Doral Streets. Serving



other residential areas can also cause a rise in ridership. Fontainebleau has a very dense population of which many work in Doral and many are transit dependant. A map of the potential routes can be viewed on Figures 29 through 32. It should be noted that in the current agreement that the City of Doral has with MDT, the trolley must operate with 70% or more of any specific route being within the City itself. It also may not compete directly with any MDT route.

The first proposed route, shown in Figure 29, keeps the original trolley route but now connects the plazas of the intersection of NW 107 Avenue and NW 58 Street. This gives residents more access to services such as supermarkets, banks, restaurants, etc. Also, there was a change to the northern end of the route in which the trolley will have access to Doral Senior High School solely through NW 109 Avenue and as a result the trolley would cover the northern areas of NW 112 Avenue connecting to Dr. Ronald Espinosa K-8 Center.

The second proposed route, shown in Figure 30, is called the Residential Loop which connects the Palmetto Metrorail Station with Western Doral which is predominantly residential in use. The route covers the new NW 74 Street corridor and connects to the residential corridor of NW 114 Avenue and NW 107 Avenue. This route would be used primarily for riders connecting to the Metrorail for jobs located within the Metrorail route and access to Miami International Airport.

The third proposed route, shown in Figure 31, is called the Commercial Loop which connects the Palmetto Metrorail Station with Eastern Doral which is predominantly commercial in use. This route would be used by workers trying to connect from the Metrorail station to their job sites. The loop runs through the most dense employment centers within Doral. The loop connects the heavily used NW 87 Avenue Corridor and connects to new employment centers such as the new SOUTHCOR development and other employment centers located on NW 33 Street. The loop then heads north on NW 79 Avenue through more industrial areas of Doral towards the Palmetto Metrorail Station.

The fourth proposed route, shown in Figure 32, is called the SOUTHCOR – MDC West Loop. This route would be more of an East-West route for the City connecting most of the NW 41 Street/NW 36 Street Corridor. The route runs through dense employment centers on NW 82 Ave and NW 33 Street and the new SOUTHCOR development on NW 33 Street. The route then connects through some of the residential area of Doral on NW 97 Avenue and to more warehousing areas of South-Western Doral including the Miami-Dade College West Campus.



Table 34 – Doral Trolley Stop Summary

Route	Direction				Stop #	Stop Location	On	Off	Total / Stop	Total /St	Total /Rt
	N	S	E	W							
Doral Trolley	X				1	NW 97 Ave & N of 41 St	36	15	51		
Doral Trolley	X				2	NW 97 Ave & N of 46 Ln	5	5	10		
Doral Trolley	X				3	NW 52 St & NW 99 Ct	3	3	6		
Doral Trolley	X				4	NW 52 St & W of 102 Ave	5	8	13		
Doral Trolley	X				5	NW 52 St & W of 104 Ave	1	6	7		
Doral Trolley	X				6	NW 52 St & W of 106 Ave	5	10	15		
Doral Trolley	X				7	NW 107 Ave & N of 50 St	0	0	0		
Doral Trolley	X				8	NW 50 St & E of Doral Tr	6	6	12		
Doral Trolley	X				9	NW 50 St & E of 112 Ave	46	9	55		
Doral Trolley	X				10	NW 114 Ave & NW 51 Tr	4	6	10		
Doral Trolley	X				11	NW 114 Ave & S of 55 St	2	3	5		
Doral Trolley	X				12	NW 114 Ave & N of 58 St	3	9	12		
Doral Trolley	X				13	NW 114 Ave & Doral Isles	8	7	15		
Doral Trolley	X				14	NW 114 Ave & N of 62 Tr	17	8	25		
Doral Trolley	X				15	NW 114 Ave & N of 72 St	3	29	32		
Doral Trolley	X				16	NW 114 Ave & N of 75 Ln	7	6	13		
Doral Trolley	X				17	NW 78 St & E of 113 Pl	7	14	21		
Doral Trolley	X				18	NW 78 St & E of 111 Ct	12	6	18		
Doral Trolley	X				19	NW 109 Ave & N of 79 St	6	16	22		
Doral Trolley	X				20	NW 109 Ave & S of 89 St	14	3	17		
Doral Trolley	X				21	NW 88 St & E of 109 Ave	10	14	24		
Doral Trolley	X				22	NW 88 St & W of 107 Ave	16	13	29		
Doral Trolley		X			23	NW 107 Ave & S of 86 St	22	4	26		
Doral Trolley		X			24	NW 107 Ave & S of 82 St	3	1	4		
Doral Trolley		X			25	NW 78 St & W of 109 Ave	6	1	7		
Doral Trolley		X			26	NW 114 Ave & S of 77 Ln	11	12	23		
Doral Trolley		X			27	NW 114 Ave & NW 72 St	11	2	13		
Doral Trolley		X			28	NW 114 Ave & S of 68 St	0	10	10		
Doral Trolley		X			29	NW 114 Ave & The Courts	5	3	8		
Doral Trolley		X			30	NW 114 Ave & N of 58 St	8	5	13		
Doral Trolley		X			31	NW 114 Ave & S of 57 St	8	6	14		
Doral Trolley		X			32	NW 114 Ave & S of 51 St	10	5	15		
Doral Trolley		X			33	NW 50 St & E of 112 Ave	20	29	49		
Doral Trolley		X			34	NW 50 St & Doral Terrace	5	10	15		
Doral Trolley		X			35	NW 52 St & E of 107 Ave	9	8	17		
Doral Trolley		X			36	NW 52 St & W of 104 Ct	2	2	4		
Doral Trolley		X			37	NW 52 St & W of 104 Ave	5	4	9		
Doral Trolley		X			38	NW 52 St & W of 102 Pl	3	10	13		
Doral Trolley		X			39	NW 52 St & E of 97 Ave	4	10	14		
Doral Trolley		X			40	NW 97 Ave & N of 41 St	1	11	12		
Doral Trolley		X			41	NW 41 St & W of 97 Ave	8	2	10		
Doral Trolley		X			42	NW 41 St & E of 94 Ave	11	2	13		
Doral Trolley		X			43	NW 41 St & Federal Reserve	0	0	0		
Doral Trolley		X			44	NW 41 St & W of 87 Ave	0	10	10		
Doral Trolley		X			45	NW 87 Ave & S of 36 St	10	28	38		
Doral Trolley		X			46	NW 87 Ave & S of 33 St	4	2	6		
Doral Trolley		X			47	NW 87 Ave & N of 29 St	1	1	2		
Doral Trolley		X			48	NW 87 Ave & N of 25 St	4	4	8		
Doral Trolley		X			49	NW 87 Ave & S of 25 St	4	6	10		
Doral Trolley		X			50	NW 17 St & E of 87 Ave	6	6	12		
Doral Trolley		X			51	NW 84 Ave & Sam's Club	9	5	14		
Doral Trolley		X			52	NW 84 Ave & Mcdonald's	5	1	6		
Doral Trolley		X			53	NW 12 St & W of 89 Ct	3	0	3		
Doral Trolley		X			54	NW 12 St & NW 93 Ct	3	0	3		
Doral Trolley		X			55	NW 12 St & MIM East Ent.	1	3	4		
Doral Trolley		X			56	NW 12 St & Mim West Ent.	0	2	2		
Doral Trolley	X				57	NW 107 Ave & N of 12 St	28	6	34		
Doral Trolley	X				58	NW 107 Ave & N of 14 St	43	36	79		
Doral Trolley	X				59	NW 107 Ave & N of 19 St	1	1	2		
Doral Trolley	X				60	NW 107 Ave & N of 25 St	4	5	9		
Doral Trolley	X				61	NW 107 Ave & N of 30 Tr	0	9	9		
Doral Trolley	X				62	NW 33 St & E of 103 Ave	0	2	2		
Doral Trolley	X				63	NW 33 St & E of 101 Ave	0	0	0		
Doral Trolley	X				64	NW 33 St & E of 98 Pl	1	2	3		
Doral Trolley	X				65	NW 97 Ave & N of 33 St	0	0	0		

957

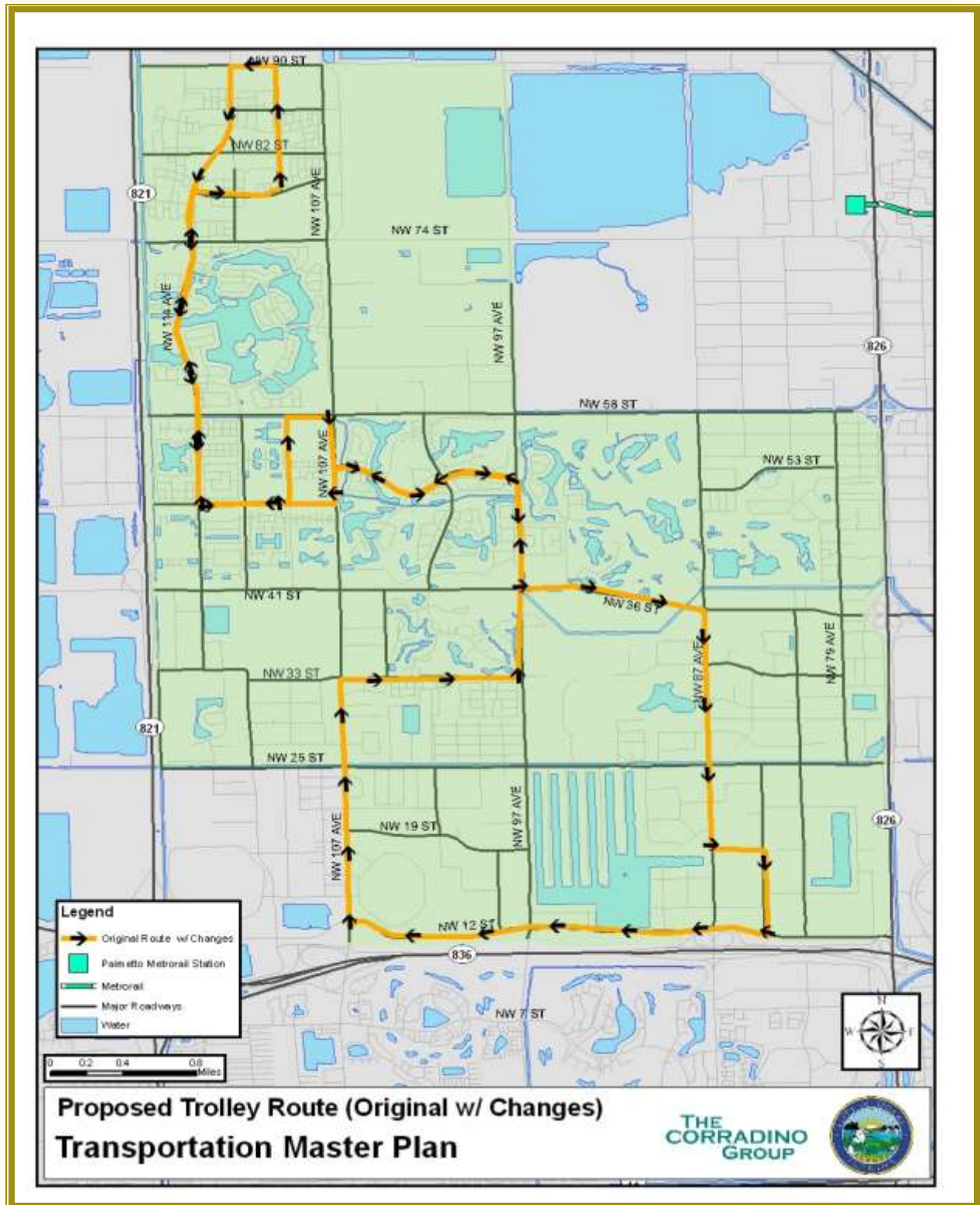


Figure 29 – Potential Changes to Existing Route



Transportation Master Plan

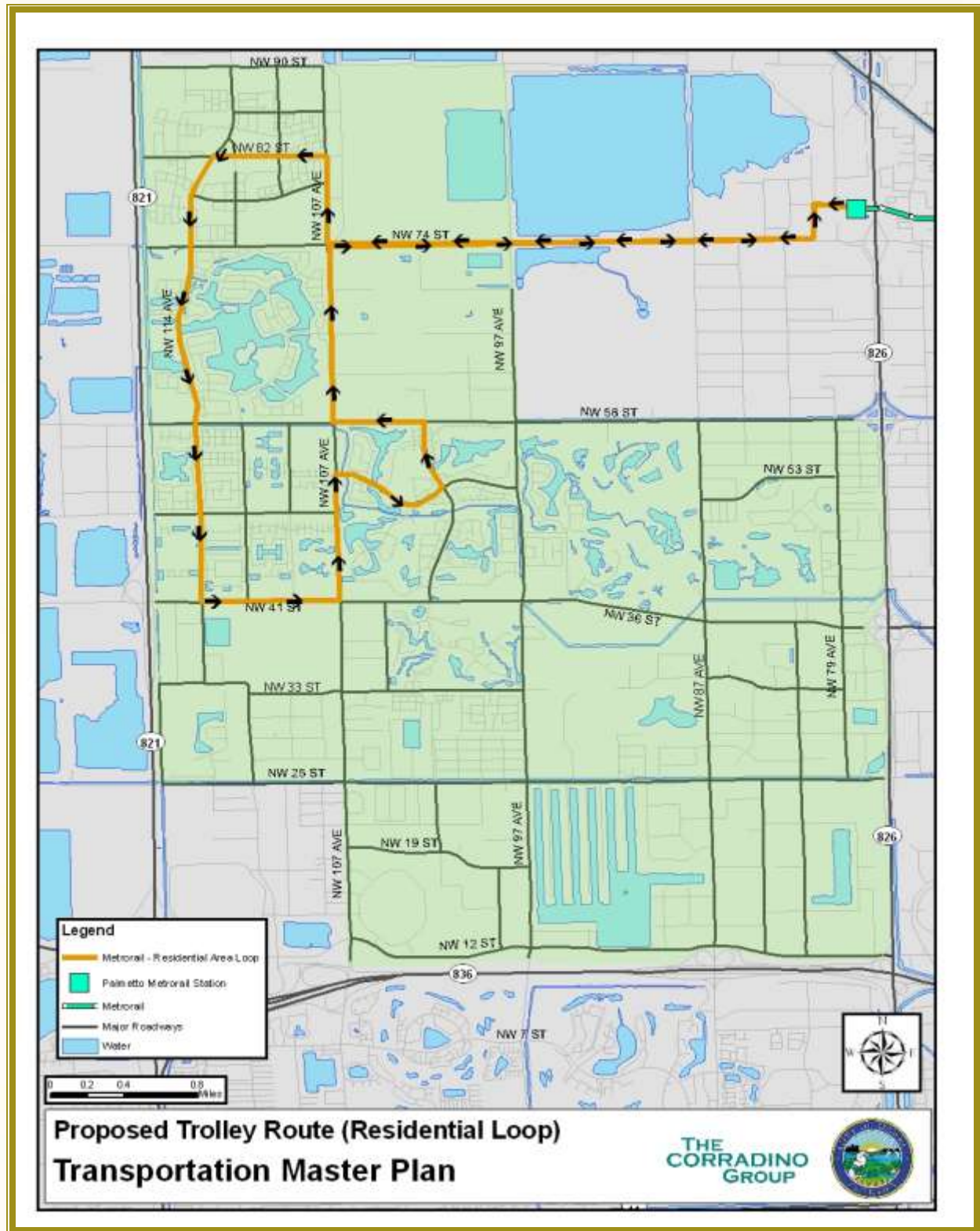


Figure 30 – Potential Route – Residential Loop







Potential Trolley Ridership Estimation

As part of the Doral TMP, several Trolley alternatives were considered for improving transit service within the City of Doral area. The alternatives were developed based on in-depth discussions with the City, and based on several technical aspects such as providing service to areas with high population and employment densities, schools, major attractions, businesses. Providing connectivity to existing fixed-guide way service (Metro Rail Station) is also a key aspect in defining the alternatives. After thorough review of the proposed new routes, and based on discussions with the City, the proposed alternatives were narrowed down to 3 primary alternatives. The definitions of these proposed alternatives are as follows:

Alt A: Existing Trolley Service + SouthCOM-MDC West Loop

Alt B: Existing Trolley Service + Metrorail-Residential

Alt C: Existing Trolley Service + Metrorail-Commercial

To determine which of the 3 alternatives described above provides best ridership, the South East Regional Planning Model (SERPM6.5) was used. SERPM6.5 is multi-modal regional planning model, equipped with state-of-the art mode choice modeling techniques. The analysis completed here should be considered as preliminary to provide reasonable assessment of the best alternative. The ridership numbers should only be used to judge the best alternative, not as final word to estimate revenues. Detailed transit alternatives analysis is recommended on Doral Trolley for such ridership-revenue forecasting estimates.

SERPM6.5 base year is 2005 and horizon year is 2035. To model existing conditions, the zonal data was interpolated to replicate 2010 conditions. The 2014 E+C network of the recent Regional LRTP was used. The network was modified to add few additional transit only links, local streets and appropriate centroid connectors within the study area, to replicate the 2010 conditions.

Doral Trolley service is a free transit service that operates in mixed-flow conditions. To model trolley service using SERPM6.5 model, it should be coded with an available mode number. SERPM has a rule based fare structure that uses mode numbers as basis. In other words, the mode of each transit service determines the fare and transfer fare to other services. These rules are coded in the fare file of the model. Ideally, Doral Trolley should be coded as a local bus service mode. However, the Miami-Dade Local Bus service mode has a fare associated with it, whereas, Doral Trolley is a free service. Fare in the model impacts ridership significantly and hence, using the Local Bus mode to Doral Trolley is not appropriate. A new mode can be defined for Doral Trolley, but the effort to prepare fare and transfer fare logics, and validate the ridership is a significant task, and does not permit the analysis within the allocated time and budget. The most appropriate method in this case is to code Doral Trolley with the same mode as Metro-



Mover service. Metro-Mover is also a free service in downtown Miami, and has same assumptions as Doral trolley in terms of transfer fares. The only difference is that Metro-Mover is a fixed guideway service, where as, Doral trolley is coded in mixed flow conditions.

First, as an effort to validate the Doral Trolley's existing service ridership, existing service is coded into the SERPM model with appropriate stop locations. Currently, there are two busses in operation. The effective headway of 40 minutes is assumed based on discussions with the City. The City has plans to close the lunch route and operate the existing service through out the day at 40 minute headway. The surveys performed in early 2010 on the trolley services estimated a ridership of 550. However, this has a lunch break for the service between 11AM and 3PM. With continuous operation of the service without lunch break, the ridership is expected to exceed 650. The SERPM model estimated ridership of 711 for the existing route.

Similarly, model runs of the 3 proposed alternatives were performed, to estimate the ridership. Headway of 45 minute is assumed on the new proposed loops, since only one bus is in operation. Reasonableness checks were made to verify if the route total travel time is within 45 minutes.

Following Table describes the ridership of all the alternatives.

Table 35: Alternatives Ridership Estimates using SERPM6.5 Model

Alternative	Ridership	
	Existing Route	New Loop
Existing	711	0
Alt A	605	235
Alt B	614	347
Alt C	688	722

One can observe from Table 35 that the existing route has a ridership of 711, if operated at 40 minute headway (2 busses). With the introduction of new loops in addition to the existing route, the ridership of the existing route slightly decreases. Only one bus is assumed to be operated on new loops at 45 minute headways. Alt C, Existing Trolley Service + Metrorail-Commercial, has least reduction in ridership of the existing route and maximum ridership on the new loop. It can be assumed based upon the findings of this model that with proper marketing Alt C will double the ridership of the entire system with just one trolley.



Trolley Conclusions

Upon reviewing the data available and the data collected for the Doral Trolley, the following conclusions can be made.

- Most of the ridership is from transit dependant people
- The vast majority of ridership takes place during peak hour travel for both AM peak and PM peak
- The existing route carries ridership far above initial goals
- A large number of riders use the Doral Trolley as a transfer to and from an MDT bus
- The most common complaints were to extend service in the evening and to make shorter headways
- Many of the riders come from only a few of the stops
- In the afternoons ridership is largely school related

After further review the following are suggestions that should help better serve the existing ridership, create new ridership and cut costs to a minimum in order to maximize the proficiency of the trolley.

- Discontinue the existing lunch route
- Saturday service should be cut to only 1 bus
- Create better amenities at the bus stops with high usage with such things as bus shelters, bus bays, real time information, etc.
- Continue service until 9pm with 1 trolley
- Implement at least 1 of the proposed loop routes shown previously
- Change the existing route slightly to capture ridership and Espinosa K-8 School
- Place a bike rack on the front of the trolley
- Place another trolley on existing route during peak hours to shorten headways
- Perform more marketing of the Doral Trolley
- Perform yearly onboard surveys
- Perform a more in-depth study on possible new trolley routes



Level-of-Service/Roadway Capacity/Service Volumes

Roadway level-of-service (LOS) is a qualitative measure of the efficiency of roadway operation. LOS is generally described through the assignment of highway segment or intersection operating “grades” ranging from LOS “A” (excellent) to LOS “F” (poor). A summary LOS grade is assigned through a quantitative comparison of traffic volume relative to roadway capacity.

Highway capacity constitutes, under controlled conditions, the maximum number of vehicles which could pass a given point within a given period (daily or peak hour directional or bidirectional). Service volume relates to the number of vehicles that could be anticipated to pass the same point with less driver duress -- that is, at a desired level-of-service.

In order to make a broad review of highway operation, analysts often rely upon generalized roadway capacity values using industry standard references or inputs. In this respect, the Florida Department of Transportation has referenced the Highway Capacity Manual (HCM) Update techniques; and statewide observations of traffic and roadway design characteristics, to establish daily and peak hour generalized roadway service volumes for various types of roadways. The HCM methodology relies upon the notion that roadway capacity which is a function of intersection delay; increasing frequency of signals, with an associated longer period of stop time per intersection, tends to increase travel time and thus reduce average travel speed and overall Level-of-Service.

The City of Doral’s Comprehensive Plan Transportation Element in its Goals, Objectives and Policies state:

Objective 2.2: Roadway Level of Service states that all roadways within the City shall operate at or above the roadway level of service standards contained herein. The City shall coordinate with Miami-Dade County, the Miami-Dade MPO, and the FDOT to ensure adopted roadway level of service standards in the City are maintained.

Policy 2.2.1: The minimum acceptable average daily and peak period operating level of service for all City streets within the City of Doral shall be Level of Service D.

Policy 2.2.2: All major county roadways must operate at LOS D or better, except where mass transit service having headways of 20 minutes or less is provided within one-half mile distance, then a roadway shall operate at or above LOS E at peak hour. When extraordinary transit service such as commuter rail or express bus service exists, parallel roads within one-half mile shall operate at no greater than 120 percent of their capacity at peak hour.



Note: An express bus service is a bus service that is intended to run faster than normal bus services between the same two commuter points. Express buses have services on a daily basis operating at almost all hours due to high passenger demand. Express buses operate on a faster schedule by not making as many stops as regular bus lines and often take quicker routes that buses usually do not, such as along freeways.

Policy 2.2.3: All Florida Department of Transportation Florida Intrastate Highway System (FIHS) roadways within the City, including State Road 836 and State Road 821 (NW 117th Avenue), must operate at LOS D or better (at peak hour), except where 1) exclusive through lanes exist, roadways may operate at LOS E (at peak hour), or 2) such roadways are parallel to exclusive transit facilities or are located inside designated transportation concurrency management areas (TCMA's), roadways may operate at LOS E (at peak hour). Constrained or backlogged limited and controlled access FIHS roadways operating below the foregoing minimums must be managed to not cause significant deterioration.

While generalized values are useful for broad analysis purposes, roadway capacity and level-of-service are actually complex, highly site-specific relationships of many factors including: highway and intersection design attributes, weather, time-of-day, traffic volume, vehicle mix, traffic signal characteristics, adjacent land use and related provisions for access. For this reason, it is important to note that roadway operating characteristics (levels of service) are dynamic and widely divergent based upon the level of detail afforded in a specific analysis. As previously noted, the FDOT service volume tables are based on traffic and roadway design characteristics as observed throughout many urban areas of the state. In this respect, intersection analysis and/or field surveys of actual drive time (speed and delay studies) can also provide valuable data to calibrate or augment the use of generalized analysis procedures.

Traffic volume is one of the key concerns of the City. The TMP recognizes that the City cannot reduce traffic volumes while implementing other modes. Therefore, the City is looking into multimodal levels of service.

This section of the TMP analyzes the existing modes to determine deficiencies and develop CIP projects and programs.

Existing Traffic Volumes

As stated, Doral conducts traffic counts on roadways within the City. Locations are counted bi-annually to estimate an average annual daily traffic (AADT) volume, peak hour directional volumes and peak hour directional volumes. K and D factors are then calculated. Seasonal factors were applied to the average daily counts (ADT) collected data to convert these to annual



average daily traffic (AADT) counts. Additionally, peak hour (K) and directional distribution (D) factors were also developed from the average daily counts (ADT) collected data to annual average daily traffic (AADT) counts.

The K factor is the bidirectional distribution of the traffic travelling in a selected hour. It is obtained by dividing the directional peak hour traffic by the AADT. The D factor is the directional distribution of traffic travelling in the peak direction during a selected hour. It is obtained by dividing the directional volume by the bi-directional volume (Tables 38 through 41) display daily, bi-directional and directional peak hour volumes for the year 2009. The 2009 bi-directional and directional peak hour volumes and associated levels of service are shown on Figure 33 and 34.

Future Traffic Volumes

Traffic volumes were projected on a link by link basis to arrive to future traffic volumes. Traffic growth trends were developed from the Miami-Dade Metropolitan Organization 1999 and 2025 Model. Tables 42 through 45 display daily, bi-directional and directional peak hour volumes for the year 2015. 2015 peak hour volumes and associated levels-of- service are shown on Figure 35 and 36. Tables 46 through 49 display daily, bi-directional and directional peak hour volumes for the year 2030. 2030 peak hour volumes and associated levels-of-service are shown on Figure 37 and 38. Tables 50 and 53 summarize existing and future traffic conditions.

For ease of analysis, figures and tables have been color coded to reflect the LOS of the roadway segment. Four colors are shown in these tables and figures. Light green indicates levels-of-service A through C; dark green indicates level-of-service D; yellow, levels-of-service E and red, level-of-service F.

The report analyzes the peak hour bi-directional LOS which is a reflection of vehicular traffic measured in both directions; as well as, peak hour peak direction LOS which is a reflection of vehicular traffic measured only in the peak-direction of flow.

Concurrency, generally measures the bi-directional vehicular traffic which gives better LOS as it takes into consideration traffic flow in the non-peak direction of flow as well as the peak

Table 36 – East/West Roads

East-West Roads			
Roadway	From	To	Growth Rate
NW 58 St	NW 117 Ave	NW 107 Ave	2.0%
	NW 107 Ave	NW 97 Ave	1.8%
	NW 97 Ave	NW 87 Ave	0.3%
	NW 87 Ave	SR 826	1.0%
NW 41 St	NW 117 Ave	NW 107 Ave	1.5%
	NW 107 Ave	NW 97 Ave	0.5%
	NW 97 Ave	NW 87 Ave	0.5%
	NW 87 Ave	SR 826	1.0%
NW 25 St	NW 117 Ave	NW 107 Ave	1.0%
	NW 107 Ave	NW 97 Ave	0.3%
	NW 97 Ave	NW 87 Ave	1.2%
	NW 87 Ave	SR 826	1.3%
NW 12 St	NW 107 Ave	NW 97 Ave	1.8%
	NW 97 Ave	NW 87 Ave	2.8%
	NW 87 Ave	SR 826	1.0%
Utilized Growth Rate =			1.2%

Table 37 – North/South Roads

North-South Roads			
Roadway	From	To	Growth Rate
NW 117 Ave	NW 58 St	NW 41 St	5.5%
	NW 41 St	NW 25 St	2.6%
	NW 25 St	NW 12 St	0.1%
NW 107 Ave	NW 58 St	NW 41 St	7.0%
	NW 41 St	NW 25 St	2.0%
	NW 25 St	NW 12 St	1.5%
NW 97 Ave	NW 58 St	NW 41 St	6.4%
	NW 41 St	NW 25 St	2.9%
	NW 25 St	NW 12 St	2.7%
NW 87 Ave	NW 58 St	NW 41 St	1.4%
	NW 41 St	NW 25 St	0.0%
	NW 25 St	NW 12 St	1.0%
NW 79 Ave	NW 58 St	NW 41 St	2.0%
	NW 41 St	NW 25 St	2.0%
Utilized Growth Rate =			2.7%



direction. Peak-hour peak-directional (one-way) traffic measurements are generally higher and tend to reflect poorer LOS for the as they reflect higher volumes.

Peak-hour peak-direction is a better tool when trying to define the most congested links for purposes of identifying potential transportation improvements; whereas peak-hour two-way is the one to use for concurrency determinations.

Although daily volumes are not analyzed in this task, the volumes are provided and will be used to determine roadway improvement priority needs. For instance, if a link is failing LOS in the peak-hour peak-direction, in the peak-hour bi-directional and is also failing on a daily basis; this roadway segment shall be given a higher priority than another link that is failing only in the peak-hour peak-direction but is meeting the LOS on a directional or daily basis. It also serves to identify which corridors are the most traveled during the whole day versus the peak hours of the typical commuters.

LOS reflected in the tables are the result of applying FDOT generalized LOS tables which are for planning purposes such as a transportation master plan (TMP) or a transportation element (TE). FDOT tables reflect general conditions at a statewide level and may not necessarily completely reflect local conditions. Both Florida Department of Transportation (FDOT) and Department of Community Affairs (DCA) accept using the FDOT generalized tables for planning applications such as a TMP.

The values of the FDOT generalized tables can be modified based on provisions of local goals, objectives and policies. Generally, if transit such as the MetroRail or the busway that are defined as corridors having extraordinary transit is parallel to a roadway segment or transit headways are less than 20 minutes such as in the case of an express bus, the adopted level-of- service volume may be increased to a higher volume by a multiplier or LOS to account for improve transit, but it could be less volume in cases where the FDOT generalized tables indicated adjustments are recommended to account for the fact that a particular roadway segment did not have exclusive turn lanes or median.

The purpose of a TMP is general in nature and that subsequent detailed study such as a Corridor Analysis or any other specific traffic engineering analysis may give more accurate results.

Advanced and detailed capacity/level-of-service analysis software such as Synchro or CORSIM which are based on the methodology of the Highway Capacity Manual, may more accurately reflect existing conditions due to the fact that the analysis software aims to duplicate local specific conditions such as driver behavior, degree of driver aggressiveness, local geometric, etc.



through field observations, and calibration that include as travel-time/delay studies, queue analysis, etc.

Table 38 – East/West Roadway Segment 2009 Bi-directional Conditions

ROAD	LIMITS	JURISDICTION	FUNCTION CLASSIFICATION	No. of LANES	2009 AADT	2-WAY VOLUME					
						"K"	STANDARD	2009 EXISTING		AVAILABLE	
							LOS	VPH	VPH	LOS	VPH
NW 12 ST	SR 826 - 87 AVE	COUNTY	MINOR ARTERIAL	4D	41600	0.080	D	2950	3320	F	-370
NW 12 ST	87 AVE - 97 AVE	COUNTY	MINOR ARTERIAL	4	41050	0.074	D	2950	3055	E	-105
NW 12 ST	97 AVE - 107 AVE	COUNTY	MINOR ARTERIAL	4D	52050	0.079	D	2950	4125	F	-1175
NW 17-19 ST	97 AVE - 107 AVE	CITY	LOCAL ROAD	4D	9550	0.096	D	2950	915	C	2035
NW 25 ST	SR 826 - 87 AVE	COUNTY	MINOR ARTERIAL	4	41700	0.074	D	2950	3105	E	-155
NW 25 ST	87 AVE - 97 AVE	COUNTY	MINOR ARTERIAL	4	56300	0.074	D	2950	4175	F	-1225
NW 25 ST	97 AVE - 107 AVE	COUNTY	MINOR ARTERIAL	4	31200	0.080	D	2950	2510	D	440
NW 25 ST	107 AVE - 117 AVE	COUNTY	COLLECTOR	4	12100	0.113	D	2950	1370	C	1580
NW 33 ST	79 AVE - 82 AVE	CITY	LOCAL ROAD	2	5100	0.100	D	950	510	D	440
NW 33 ST	82 AVE - 87 AVE	CITY	LOCAL ROAD	4D	7850	0.132	D	2070	1040	C	1030
NW 33 ST	87 AVE - 92 AVE	CITY	LOCAL ROAD	2	2400	0.140	D	950	335	C	615
NW 33 ST	97 AVE - 107 AVE	CITY	COLLECTOR	4D	6600	0.105	D	2950	690	C	2260
NW 33 ST	107 AVE - 112 AVE	CITY	LOCAL ROAD	2	3650	0.156	D	950	570	D	380
NW 34 ST	112 AVE - 117 AVE	CITY	LOCAL ROAD	2	6750	0.110	D	2950	740	C	2210
NW 36 ST	SR 826 - 87 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	58700	0.077	D	4680	4540	D	140
NW 36/41 ST	87 AVE - 97 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	66950	0.080	D	4680	5335	F	-655
NW 41 ST	97 AVE - 107 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	78200	0.085	D	4680	6675	F	-1995
NW 41 ST	107 AVE - 117 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	40900	0.083	D	4680	3405	C	1275
NW 50 ST	107 AVE - 117 AVE	CITY	LOCAL ROAD	2	2950	0.156	D	950	460	D	490
NW 53 ST	79 AVE - 87 AVE	CITY	LOCAL ROAD	4D	6250	0.107	D	2070	670	C	1400
NW 58 ST	SR 826 - 87 AVE	COUNTY	MINOR ARTERIAL	4D	35350	0.084	D	2950	2985	E	-35
NW 58 ST	87 AVE - 97 AVE	COUNTY	MINOR ARTERIAL	4D	68350	0.097	D	2950	6635	F	-3685
NW 58 ST	97 AVE - 107 AVE	COUNTY	MINOR ARTERIAL	4D	35800	0.093	D	2950	3320	F	-370
NW 58 ST	107 AVE - 117 AVE	COUNTY	LOCAL ROAD	4D	20900	0.089	D	2950	1870	C	1080
NW 74 ST	107 AVE - 117 AVE	STATE	MINOR ARTERIAL	4D	7100	0.077	D	3390	550	C	2840
NW 78 ST	107 AVE - 109 AVE	CITY	LOCAL ROAD	2	2850	0.084	D	2070	240	C	1830
NW 78 ST	109 AVE - 114 AVE	CITY	LOCAL ROAD	2	1800	0.125	D	950	225	C	725
NW 82 ST	107 AVE - 116 AVE	CITY	LOCAL ROAD	2	3800	0.101	D	950	385	C	565
NW 86 ST	107 AVE - 116 AVE	CITY	LOCAL ROAD	2	2750	0.129	D	950	355	C	595
NW 90 ST	107 AVE - 112 AVE	CITY	LOCAL ROAD	2	1650	0.121	D	950	200	C	750

Review of the above table shows that currently 10 east/west roadway segments are operating above adopted levels of service with seven roadways at level-of-service F. Specifically:

- NW 12th St. from SR 826 to NW 87th Ave.
- NW 12th St. from NW 97th Ave. to NW 107th Ave.
- NW 25th St. from NW 87th Ave. to NW 97th Ave.
- NW 36th/41st St. from NW 87th Ave. to NW 97th Ave.
- NW 41st St. from NW 97th Ave. to NW 107th Ave.
- NW 58th St. from NW 87th Ave. to NW 97th Ave.
- NW 58th St. from NW 97th Ave. to NW 107th Ave.



Table 39 - North/South Roadway Segments 2009 Bi-directional Conditions

ROAD	LIMITS		JURISDICTION	FUNCTION CLASSIFICATION	No. of LANES	2009 AADT	"K"	2-WAY VOLUME				
								STANDARD LOS	STANDARD VPH	2009 EXISTING VPH	2009 EXISTING LOS	AVAILABLE VPH
NW 79 AVE	25 ST	36 ST	CITY	COLLECTOR	4D	17600	0.091	D	2950	1610	C	1340
NW 79 AVE	36 ST	56 ST	CITY	COLLECTOR	4D	23200	0.086	D	2950	1985	C	965
NW 82 AVE	12 ST	25 ST	CITY	COLLECTOR	4D	18350	0.093	D	2070	1705	D	365
NW 82 AVE	25 ST	41 ST	CITY	LOCAL ROAD	2	13550	0.104	D	950	1410	F	-460
NW 84 AVE	12 ST	25 ST	CITY	LOCAL ROAD	4D	9600	0.092	D	2950	880	C	2070
NW 87 AVE	12 ST	25 ST	COUNTY	MINOR ARTERIAL	6D	37850	0.076	D	4450	2850	C	1600
NW 87 AVE	25 ST	36 ST	COUNTY	MINOR ARTERIAL	6D	39550	0.081	D	4450	3200	D	1250
NW 87 AVE	36 ST	58 ST	COUNTY	MINOR ARTERIAL	4D	18650	0.099	D	2950	1845	C	1105
NW 97 AVE	12 ST	25 ST	COUNTY	COLLECTOR	4D	23100	0.092	D	2950	2120	D	830
NW 97 AVE	25 ST	33 ST	COUNTY	COLLECTOR	4D	21900	0.090	D	2950	1980	C	970
NW 97 AVE	33 ST	41 ST	COUNTY	COLLECTOR	4D	21950	0.090	D	2950	1985	C	985
NW 97 AVE	41 ST	56 ST	COUNTY	COLLECTOR	4D	17450	0.094	D	2950	1645	C	1305
NW 97 AVE	58 ST	66 ST	COUNTY	COLLECTOR	2	9300	0.104	D	1390	965	D	425
NW 102 AVE	41 ST	58 ST	CITY	LOCAL ROAD	4D	7450	0.127	D	2070	945	C	1125
NW 107 AVE	12 ST	25 ST	COUNTY	MINOR ARTERIAL	6D	42450	0.078	D	4450	3310	D	1140
NW 107 AVE	25 ST	41 ST	COUNTY	MINOR ARTERIAL	4D	35100	0.079	D	2950	2770	D	180
NW 107 AVE	41 ST	56 ST	COUNTY	MINOR ARTERIAL	4D	40100	0.080	D	2950	3215	F	-265
NW 107 AVE	58 ST	74 ST	COUNTY	COLLECTOR	4D	32000	0.085	D	2950	2720	D	230
NW 107 AVE	74 ST	90 ST	COUNTY	COLLECTOR	4D	11350	0.091	D	2950	1035	C	1915
NW 109 AVE	50 ST	58 ST	CITY	LOCAL ROAD	2	2550	0.155	D	950	395	C	555
NW 112 AVE	25 ST	33 ST	CITY	LOCAL ROAD	2D	10300	0.103	D	950	1065	E	-115
NW 112 AVE	41 ST	56 ST	CITY	LOCAL ROAD	2D	7800	0.108	D	950	845	D	105
NW 112 AVE	74 ST	79 LN	CITY	LOCAL ROAD	4	2600	0.146	D	2070	380	C	1690
NW 112 AVE	82 ST	90 ST	CITY	LOCAL ROAD	4D	2750	0.127	D	2070	350	C	1720
NW 114 AVE	34 ST	41 ST	CITY	LOCAL ROAD	2D	10850	0.097	D	950	1050	E	-100
NW 114 AVE	41 ST	58 ST	CITY	LOCAL ROAD	2	30400	0.089	D	950	2715	F	-1765
NW 114 AVE	58 ST	74 ST	CITY	LOCAL ROAD	4D	18200	0.096	D	2070	1740	D	330
NW 114 AVE	74 ST	80 ST	CITY	LOCAL ROAD	4D	6950	0.142	D	2070	985	C	1085
NW 117 AVE	25 ST	33 ST	CITY	LOCAL ROAD	2	6300	0.115	D	950	725	D	225
NW 117 AVE	50 ST	58 ST	CITY	LOCAL ROAD	2	500	0.420	D	950	210	C	740

Review of the above table shows that currently five north/south roadway segments are operating above adopted levels of service with three roadways at level-of-service F. Specifically:

- NW 87th Ave. from NW 12th St. to NW 25th St.
- NW 107th Ave. from NW 41st St. to NW 58th St.
- NW 114th Ave. from NW 41st St. to NW 58th St.



Transportation Master Plan

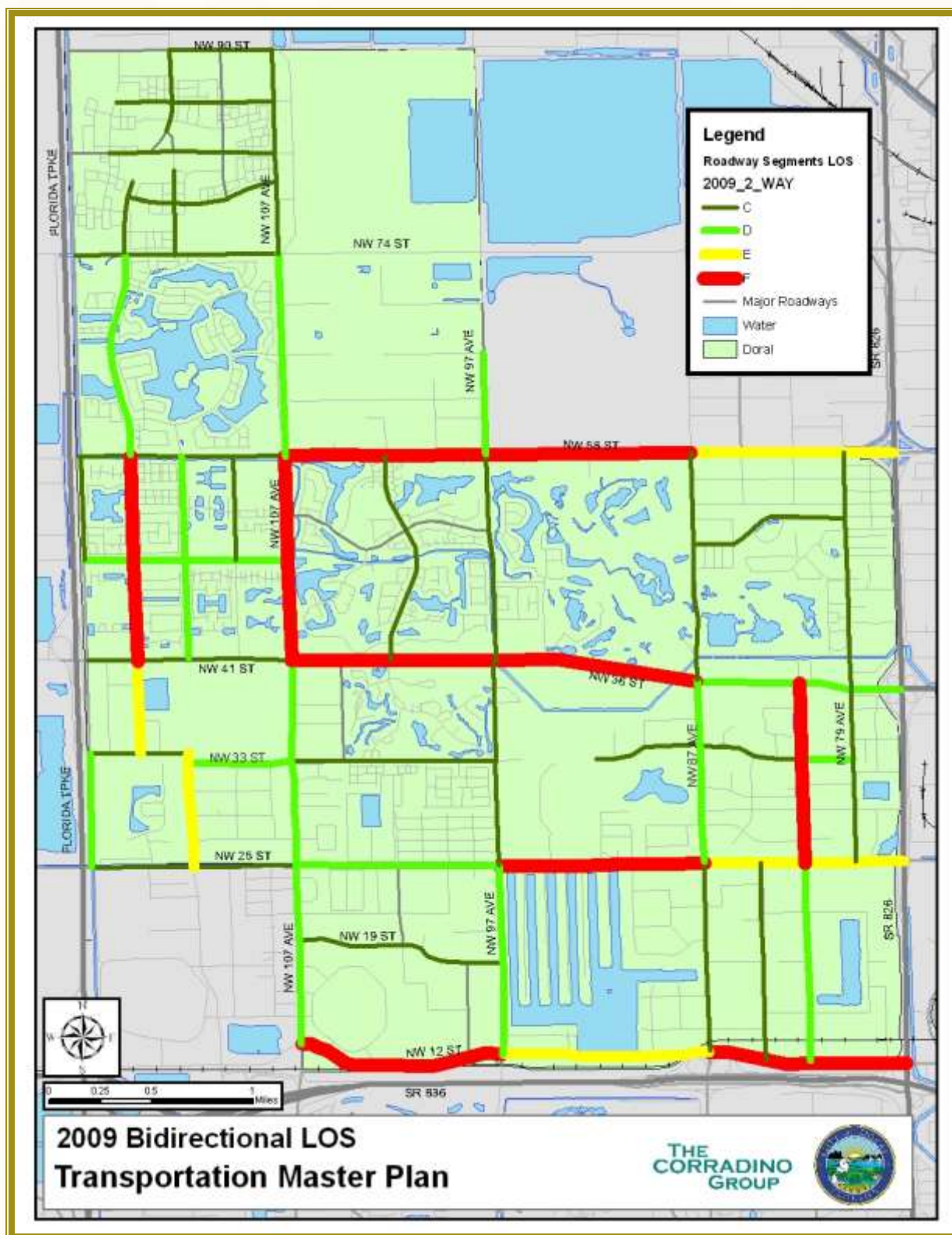


Figure 33 – 2009 Bi-directional Level-of-Service



Table 40 - East/West Roadway Segment 2009 Directional Conditions

ROAD	LIMITS	JURISDICTION	FUNCTION CLASSIFICATION	No. of LANES	2009 AADT	1-WAY VOLUME				
						"D"	STANDARD LOS	2009 EXISTING VPH	AVAILABLE LOS	AVAILABLE VPH
NW 12 ST	SR 826 - 87 AVE	COUNTY	MINOR ARTERIAL	4D	41600	0.708	D	1620	F	-730
NW 12 ST	87 AVE - 97 AVE	COUNTY	MINOR ARTERIAL	4	41050	0.610	D	1620	F	-245
NW 12 ST	97 AVE - 107 AVE	COUNTY	MINOR ARTERIAL	4D	52050	0.725	D	1620	F	-1370
NW 17-19 ST	97 AVE - 107 AVE	CITY	LOCAL ROAD	4D	9550	0.563	D	1620	C	1105
NW 25 ST	SR 826 - 87 AVE	COUNTY	MINOR ARTERIAL	4	41700	0.596	D	1620	F	-230
NW 25 ST	87 AVE - 97 AVE	COUNTY	MINOR ARTERIAL	4	56300	0.704	D	1620	F	-1320
NW 25 ST	97 AVE - 107 AVE	COUNTY	MINOR ARTERIAL	4	31200	0.651	D	1620	E	-15
NW 25 ST	107 AVE - 117 AVE	COUNTY	COLLECTOR	4	12100	0.785	D	1620	C	545
NW 33 ST	79 AVE - 82 AVE	CITY	LOCAL ROAD	2	5100	0.686	D	530	D	180
NW 33 ST	82 AVE - 87 AVE	CITY	LOCAL ROAD	4D	7850	0.596	D	1140	D	520
NW 33 ST	87 AVE - 92 AVE	CITY	LOCAL ROAD	2	2400	0.940	D	530	D	215
NW 33 ST	97 AVE - 107 AVE	CITY	COLLECTOR	4D	6600	0.616	D	1620	C	1195
NW 33 ST	107 AVE - 112 AVE	CITY	LOCAL ROAD	2	3650	0.711	D	530	D	125
NW 34 ST	112 AVE - 117 AVE	CITY	LOCAL ROAD	2	6750	0.730	D	1620	C	1080
NW 36 ST	SR 826 - 87 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	58700	0.558	D	2570	D	35
NW 36/41 ST	87 AVE - 97 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	66950	0.695	D	2570	F	-1140
NW 41 ST	97 AVE - 107 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	78200	0.727	D	2570	F	-2285
NW 41 ST	107 AVE - 117 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	40900	0.730	D	2570	D	85
NW 50 ST	107 AVE - 117 AVE	CITY	LOCAL ROAD	2	2950	0.772	D	530	D	175
NW 53 ST	79 AVE - 87 AVE	CITY	LOCAL ROAD	4D	6250	0.731	D	1140	C	650
NW 58 ST	SR 826 - 87 AVE	COUNTY	MINOR ARTERIAL	4D	35350	0.662	D	1620	F	-355
NW 58 ST	87 AVE - 97 AVE	COUNTY	MINOR ARTERIAL	4D	68350	0.819	D	1620	F	-3815
NW 58 ST	97 AVE - 107 AVE	COUNTY	MINOR ARTERIAL	4D	35800	0.801	D	1620	F	-1040
NW 58 ST	107 AVE - 117 AVE	COUNTY	LOCAL ROAD	4D	20900	0.717	D	1620	D	280
NW 74 ST	107 AVE - 117 AVE	STATE	MINOR ARTERIAL	4D	7100	0.645	D	1860	C	1505
NW 78 ST	107 AVE - 109 AVE	CITY	LOCAL ROAD	2	2850	0.688	D	1140	C	975
NW 78 ST	109 AVE - 114 AVE	CITY	LOCAL ROAD	2	1800	0.622	D	530	C	390
NW 82 ST	107 AVE - 116 AVE	CITY	LOCAL ROAD	2	3800	0.727	D	530	D	250
NW 86 ST	107 AVE - 116 AVE	CITY	LOCAL ROAD	2	2750	0.592	D	530	C	320
NW 90 ST	107 AVE - 112 AVE	CITY	LOCAL ROAD	2	1650	0.575	D	530	C	415

Review of the above table shows that currently 11 east/west roadway segments are operating above adopted levels-of-service with seven roadways at level-of-service F. Specifically:

- NW 12th St. from SR 826 to 87th Ave.
- NW 12th St. from 87th Ave. to 97th Ave.
- NW 12th St. from 97th Ave. to 107th Ave.
- NW 25th St. from SR 826 to 87th Ave.
- NW 25th St. from 87th Ave. to 97th Ave.
- NW 36th/41st St. from 87th Ave. to 97th Ave.
- NW 41st St. from 97th Ave. to 107th Ave.
- NW 58th St. from SR 826 to 87th Ave.
- NW 58th St. from 87th Ave. to 97th Ave.
- NW 58th St. from 97th Ave. to 107th Ave.



Table 41 – North/South Roadway Segments 2009 Directional Conditions

ROAD	LIMITS	JURISDICTION	FUNCTION CLASSIFICATION	No. of LANES	2009 AADT	1-WAY VOLUME					
						"D"	STANDARD		2009 EXISTING		AVAILABLE VPH
							LOS	VPH	VPH	LOS	
NW 79 AVE	25 ST - 36 ST	CITY	COLLECTOR	4D	17600	0.550	D	1620	885	C	735
NW 79 AVE	36 ST - 58 ST	CITY	COLLECTOR	4D	23200	0.549	D	1620	1090	C	530
NW 82 AVE	12 ST - 25 ST	CITY	COLLECTOR	4D	18350	0.522	D	1140	890	D	250
NW 82 AVE	25 ST - 41 ST	CITY	LOCAL ROAD	2	13550	0.560	D	530	790	F	-260
NW 84 AVE	12 ST - 25 ST	CITY	LOCAL ROAD	4D	9600	0.653	D	1620	575	C	1045
NW 87 AVE	12 ST - 25 ST	COUNTY	MINOR ARTERIAL	6D	37650	0.707	D	2450	2015	D	435
NW 87 AVE	25 St - 36 St	COUNTY	MINOR ARTERIAL	6D	39550	0.588	D	2450	1880	D	570
NW 87 AVE	36 St - 58 St	COUNTY	MINOR ARTERIAL	4D	18650	0.542	D	1620	1000	C	620
NW 97 AVE	12 ST - 25 ST	COUNTY	COLLECTOR	4D	23100	0.696	D	1620	1475	D	145
NW 97 AVE	25 ST - 33 ST	COUNTY	COLLECTOR	4D	21900	0.540	D	1620	1070	C	550
NW 97 AVE	33 ST - 41 ST	COUNTY	COLLECTOR	4D	21950	0.570	D	1620	1120	C	500
NW 97 AVE	41 ST - 58 ST	COUNTY	COLLECTOR	4D	17450	0.565	D	1620	930	C	690
NW 97 AVE	58 ST - 68 ST	COUNTY	COLLECTOR	2	9300	0.596	D	760	575	D	185
NW 102 AVE	41 ST - 58 ST	CITY	LOCAL ROAD	4D	7450	0.550	D	1140	520	C	620
NW 107 AVE	12 ST - 25 ST	COUNTY	MINOR ARTERIAL	6D	42450	0.592	D	2450	1960	D	490
NW 107 AVE	25 ST - 41 ST	COUNTY	MINOR ARTERIAL	4D	35100	0.513	D	1620	1420	D	200
NW 107 AVE	41 ST - 58 ST	COUNTY	MINOR ARTERIAL	4D	40100	0.533	D	1620	1715	E	-95
NW 107 AVE	58 ST - 74 ST	COUNTY	COLLECTOR	4D	32000	0.726	D	1620	1975	F	-355
NW 107 AVE	74 ST - 90 ST	COUNTY	COLLECTOR	4D	11350	0.546	D	1620	565	C	1055
NW 109 AVE	50 ST - 58 ST	CITY	LOCAL ROAD	2	2550	0.658	D	530	260	D	270
NW 112 AVE	25 ST - 33 ST	CITY	LOCAL ROAD	2D	10300	0.521	D	530	555	E	-25
NW 112 AVE	41 ST - 58 ST	CITY	LOCAL ROAD	2D	7800	0.651	D	530	550	E	-20
NW 112 AVE	74 ST - 79 LN	CITY	LOCAL ROAD	4	2600	0.724	D	1140	275	C	865
NW 112 AV-C	82 ST - 90 ST	CITY	LOCAL ROAD	4D	2750	0.571	D	1140	200	C	940
NW 114 AVE	34 ST - 41 ST	CITY	LOCAL ROAD	2D	10850	0.667	D	530	700	F	-170
NW 114 AVE	41 ST - 58 ST	CITY	LOCAL ROAD	2	30400	0.720	D	530	1955	F	-1425
NW 114 AVE	58 ST - 74 ST	CITY	LOCAL ROAD	4D	18200	0.655	D	1140	1140	D	0
NW 114 AVE	74 ST - 80 ST	CITY	LOCAL ROAD	4D	6950	0.538	D	1140	530	C	610
NW 117 AVE	25 ST - 33 ST	CITY	LOCAL ROAD	2	6300	0.593	D	530	430	D	100
NW 117 AVE	50 ST - 58 ST	CITY	LOCAL ROAD	2	500	0.595	D	530	125	C	405

Review of the above table shows that currently seven north/south roadway segments are operating above adopted levels-of-service with four roadways at level-of-service F. Specifically:

- NW 82nd Ave. from 12th St. to 25th St.
- NW 107th Ave. from 58th St. to 74th St.
- NW 114th Ave. from 34th St. to 41st St.
- NW 114th Ave. from 41st St. to 58th St.





Table 42 - East/West Roadway Segments 2015 Bi-directional Conditions

ROAD	LIMITS		JURISDICTION	FUNCTION CLASSIFICATION	No. of LANES	2015	2-WAY VOLUME					
							"K"	STANDARD		2015 FUTURE		AVAILABLE
								LOS	VPH	VPH	LOS	VPH
NW 12 ST	SR 826 -	87 AVE	COUNTY	MINOR ARTERIAL	4D	45000	0.080	D	2950	3600	F	-650
NW 12 ST	87 AVE -	97 AVE	COUNTY	MINOR ARTERIAL	4	44500	0.074	D	2950	3300	F	-350
NW 12 ST	97 AVE -	107 AVE	COUNTY	MINOR ARTERIAL	4D	56000	0.080	D	2950	4500	F	-1550
NW 17-19 ST	97 AVE -	107 AVE	CITY	LOCAL ROAD	4D	10500	0.095	D	2950	1000	C	1950
NW 25 ST	SR 826 -	87 AVE	COUNTY	MINOR ARTERIAL	6	45000	0.076	D	4450	3400	D	1050
NW 25 ST	87 AVE -	97 AVE	COUNTY	MINOR ARTERIAL	4	60500	0.074	D	2950	4500	F	-1550
NW 25 ST	97 AVE -	107 AVE	COUNTY	MINOR ARTERIAL	4	34000	0.079	D	2950	2700	D	250
NW 25 ST	107 AVE -	117 AVE	COUNTY	COLLECTOR	4	13000	0.115	D	2950	1500	C	1450
NW 33 ST	79 AVE -	82 AVE	CITY	LOCAL ROAD	2	5500	0.109	D	950	600	D	350
NW 33 ST	82 AVE -	87 AVE	CITY	LOCAL ROAD	4D	8500	0.141	D	2070	1200	D	870
NW 33 ST	87 AVE -	92 AVE	CITY	LOCAL ROAD	4	3000	0.133	D	2070	400	C	1670
NW 33 ST	97 AVE -	107 AVE	CITY	COLLECTOR	4D	7500	0.107	D	2950	800	C	2150
NW 33 ST	107 AVE -	112 AVE	CITY	LOCAL ROAD	2	4000	0.175	D	950	700	D	250
NW 34 ST	112 AVE -	117 AVE	CITY	LOCAL ROAD	2	7500	0.107	D	2950	800	C	2150
NW 36 ST	SR 826 -	87 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	63500	0.077	D	4680	4900	E	-220
NW 36/41 ST	87 AVE -	97 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	72000	0.081	D	4680	5800	F	-1120
NW 41 ST	97 AVE -	107 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	84000	0.086	D	4680	7200	F	-2520
NW 41 ST	107 AVE -	117 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	44000	0.084	D	4680	3700	C	980
NW 50 ST	107 AVE -	117 AVE	CITY	LOCAL ROAD	2	3500	0.143	D	950	500	D	450
NW 53 ST	79 AVE -	87 AVE	CITY	LOCAL ROAD	4D	7000	0.114	D	2070	800	C	1270
NW 58 ST	SR 826 -	87 AVE	COUNTY	MINOR ARTERIAL	4D	38000	0.087	D	2950	3300	F	-350
NW 58 ST	87 AVE -	97 AVE	COUNTY	MINOR ARTERIAL	4D	73500	0.098	D	2950	7200	F	-4250
NW 58 ST	97 AVE -	107 AVE	COUNTY	MINOR ARTERIAL	4D	38500	0.094	D	2950	3600	F	-650
NW 58 ST	107 AVE -	117 AVE	COUNTY	LOCAL ROAD	4D	22500	0.093	D	2950	2100	D	850
NW 74 ST	107 AVE -	117 AVE	STATE	MINOR ARTERIAL	6D	8000	0.075	D	4680	600	C	4080
NW 78 ST	107 AVE -	109 AVE	CITY	LOCAL ROAD	2	3500	0.086	D	2070	300	C	1770
NW 78 ST	109 AVE -	114 AVE	CITY	LOCAL ROAD	2	2000	0.150	D	950	300	C	650
NW 82 ST	107 AVE -	116 AVE	CITY	LOCAL ROAD	2	4500	0.111	D	950	500	D	450
NW 86 ST	107 AVE -	116 AVE	CITY	LOCAL ROAD	2	3000	0.133	D	950	400	C	550
NW 90 ST	107 AVE -	112 AVE	CITY	LOCAL ROAD	2	2000	0.150	D	950	300	C	650

Review of the above table shows that currently 11 east/west roadway segments are operating above adopted levels-of-service with 10 roadways at Level-of-Service F. Specifically:

- NW 12th St. from SR 826 to NW 87th Ave.
- NW 12th St. from NW 87th Ave. to NW 97th Ave.
- NW 12th St. from NW 97th Ave. to NW 107th Ave.
- NW 25th St. from SR 826 to NW 87th Ave.
- NW 25th St. from NW 87th Ave. to NW 97th Ave.
- NW 36th/41st St. from NW 87th Ave. to NW 97th Ave.
- NW 41st St. from NW 97th Ave. to NW 107th Ave.
- NW 58th St. from SR 826 to NW 87th Ave.
- NW 58th St. from NW 87th Ave. to NW 97th Ave.
- NW 58th St. from NW 97th Ave. to NW 107th Ave.



Table 43 - North/South Roadway Segments 2015 Bi-directional Conditions

ROAD	LIMITS	JURISDICTION	FUNCTION CLASSIFICATION	No. of LANES	2015 AADT	2-WAY VOLUME				
						"K"	STANDARD LOS	2015 FUTURE VPH	AVAILABLE LOS	VPH
NW 79 AVE	25 ST - 36 ST	CITY	COLLECTOR	4D	21000	0.090	D	2950 1900	C	1050
NW 79 AVE	36 ST - 58 ST	CITY	COLLECTOR	4D	27500	0.087	D	2950 2400	D	550
NW 82 AVE	12 ST - 25 ST	CITY	COLLECTOR	4D	21500	0.093	D	2070 2000	D	70
NW 82 AVE	25 ST - 41 ST	CITY	LOCAL ROAD	2	16000	0.106	D	950 1700	F	-750
NW 84 AVE	12 ST - 25 ST	CITY	LOCAL ROAD	4D	11500	0.096	D	2950 1100	C	1850
NW 87 AVE	12 ST - 25 ST	COUNTY	MINOR ARTERIAL	6D	44500	0.076	D	4450 3400	D	1050
NW 87 AVE	25 ST - 36 ST	COUNTY	MINOR ARTERIAL	6D	46500	0.082	D	4450 3800	D	650
NW 87 AVE	36 ST - 58 ST	COUNTY	MINOR ARTERIAL	4D	22000	0.100	D	2950 2200	D	750
NW 97 AVE	12 ST - 25 ST	COUNTY	COLLECTOR	4D	27500	0.091	D	2950 2500	D	450
NW 97 AVE	25 ST - 33 ST	COUNTY	COLLECTOR	4D	26000	0.092	D	2950 2400	D	550
NW 97 AVE	33 ST - 41 ST	COUNTY	COLLECTOR	4D	26000	0.092	D	2950 2400	D	550
NW 97 AVE	41 ST - 58 ST	COUNTY	COLLECTOR	4D	20500	0.098	D	2950 2000	C	950
NW 97 AVE	58 ST - 66 ST	COUNTY	COLLECTOR	2	11000	0.109	D	1390 1200	D	190
NW 102 AVE	41 ST - 58 ST	CITY	LOCAL ROAD	4D	9000	0.133	D	2070 1200	D	870
NW 107 AVE	12 ST - 25 ST	COUNTY	MINOR ARTERIAL	6D	50000	0.078	D	4450 3900	D	550
NW 107 AVE	25 ST - 41 ST	COUNTY	MINOR ARTERIAL	4D	41500	0.080	D	2950 3300	F	-350
NW 107 AVE	41 ST - 58 ST	COUNTY	MINOR ARTERIAL	4D	47000	0.081	D	2950 3800	F	-850
NW 107 AVE	58 ST - 74 ST	COUNTY	COLLECTOR	4D	37500	0.085	D	2950 3200	F	-250
NW 107 AVE	74 ST - 90 ST	COUNTY	COLLECTOR	4D	13500	0.096	D	2950 1300	C	1650
NW 109 AVE	50 ST - 58 ST	CITY	LOCAL ROAD	2	3000	0.167	D	950 500	D	450
NW 112 AVE	25 ST - 33 ST	CITY	LOCAL ROAD	2D	12500	0.104	D	950 1300	F	-350
NW 112 AVE	41 ST - 58 ST	CITY	LOCAL ROAD	2D	9500	0.105	D	950 1000	E	-50
NW 112 AVE	74 ST - 79 LN	CITY	LOCAL ROAD	4	3500	0.143	D	2070 500	C	1570
NW 112 AV-CT	82 ST - 90 ST	CITY	LOCAL ROAD	4D	3500	0.143	D	2070 500	C	1570
NW 114 AVE	34 ST - 41 ST	CITY	LOCAL ROAD	2D	13000	0.100	D	950 1300	F	-350
NW 114 AVE	41 ST - 58 ST	CITY	LOCAL ROAD	2	36000	0.089	D	950 3200	F	-2250
NW 114 AVE	58 ST - 74 ST	CITY	LOCAL ROAD	4D	21500	0.098	D	2070 2100	E	-30
NW 114 AVE	74 ST - 80 ST	CITY	LOCAL ROAD	4D	8500	0.141	D	2070 1200	D	870
NW 117 AVE	25 ST - 33 ST	CITY	LOCAL ROAD	2	7500	0.120	D	950 900	D	50
NW 117 AVE	50 ST - 58 ST	CITY	LOCAL ROAD	2	1000	0.300	D	950 300	C	650

Review of the above table shows that by the year 2015 nine north/south roadway segments shall be operating above adopted levels of service with seven roadways at level-of-service F. Specifically:

- NW 82nd Ave. from NW 12th St. to NW 25th St.
- NW 107th Ave. from NW 25th St. to NW 41st St.
- NW 107th Ave. from NW 41st St. to NW 58th St.
- NW 107th Ave. from NW 58th St. to NW 74th St.
- NW 112th Ave. from NW 25th St. to NW 33rd St.
- NW 114th Ave. from NW 34th St. to NW 41st St.
- NW 114th Ave. from NW 41st St. to NW 58th St.



Table 44 - East/West Roadway Segments 2015 Directional Conditions

ROAD	LIMITS		JURISDICTION	FUNCTION CLASSIFICATION	No. of LANES	2015 AADT	1-WAY VOLUME					
							"D"	STANDARD LOS	2015 FUTURE VPH	2015 FUTURE LOS	AVAILABLE VPH	
NW 12 ST	SR 826	87 AVE	COUNTY	MINOR ARTERIAL	4D	45000	0.708	D	1620	2550	F	-930
NW 12 ST	87 AVE	97 AVE	COUNTY	MINOR ARTERIAL	4	44500	0.621	D	1620	2050	F	-430
NW 12 ST	97 AVE	107 AVE	COUNTY	MINOR ARTERIAL	4D	56000	0.722	D	1620	3250	F	-1630
NW 17-19 ST	97 AVE	107 AVE	CITY	LOCAL ROAD	4D	10500	0.600	D	1620	800	C	1020
NW 25 ST	SR 826	87 AVE	COUNTY	MINOR ARTERIAL	6	45000	0.588	D	2450	2000	D	450
NW 25 ST	87 AVE	97 AVE	COUNTY	MINOR ARTERIAL	4	60500	0.711	D	1620	3200	F	-1580
NW 25 ST	97 AVE	107 AVE	COUNTY	MINOR ARTERIAL	4	34000	0.667	D	1620	1800	F	-180
NW 25 ST	107 AVE	117 AVE	COUNTY	COLLECTOR	4	13000	0.800	D	1620	1200	D	420
NW 33 ST	79 AVE	82 AVE	CITY	LOCAL ROAD	2	5500	0.667	D	530	400	D	130
NW 33 ST	82 AVE	87 AVE	CITY	LOCAL ROAD	4D	8500	0.583	D	1140	700	D	440
NW 33 ST	87 AVE	92 AVE	CITY	LOCAL ROAD	4	3000	0.875	D	1140	350	C	790
NW 33 ST	97 AVE	107 AVE	CITY	COLLECTOR	4D	7500	0.625	D	1620	500	C	1120
NW 33 ST	107 AVE	112 AVE	CITY	LOCAL ROAD	2	4000	0.643	D	530	450	D	80
NW 34 ST	112 AVE	117 AVE	CITY	LOCAL ROAD	2	7500	0.750	D	1620	800	C	1020
NW 36 ST	SR 826	87 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	63500	0.561	D	2570	2750	F	-180
NW 36/41 ST	87 AVE	97 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	72000	0.690	D	2570	4000	F	-1430
NW 41 ST	97 AVE	107 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	84000	0.729	D	2570	5250	F	-2680
NW 41 ST	107 AVE	117 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	44000	0.730	D	2570	2700	E	-130
NW 50 ST	107 AVE	117 AVE	CITY	LOCAL ROAD	2	3500	0.800	D	530	400	D	130
NW 53 ST	79 AVE	87 AVE	CITY	LOCAL ROAD	4D	7000	0.688	D	1140	550	C	590
NW 58 ST	SR 826	87 AVE	COUNTY	MINOR ARTERIAL	4D	38000	0.652	D	1620	2150	F	-530
NW 58 ST	87 AVE	97 AVE	COUNTY	MINOR ARTERIAL	4D	73500	0.813	D	1620	5850	F	-4230
NW 58 ST	97 AVE	107 AVE	COUNTY	MINOR ARTERIAL	4D	38500	0.806	D	1620	2900	F	-1280
NW 58 ST	107 AVE	117 AVE	COUNTY	LOCAL ROAD	4D	22500	0.690	D	1620	1450	D	170
NW 74 ST	107 AVE	117 AVE	STATE	MINOR ARTERIAL	6D	8000	0.667	D	2570	400	C	2170
NW 78 ST	107 AVE	109 AVE	CITY	LOCAL ROAD	2	3500	0.667	D	1140	200	C	940
NW 78 ST	109 AVE	114 AVE	CITY	LOCAL ROAD	2	2000	0.687	D	530	200	C	330
NW 82 ST	107 AVE	116 AVE	CITY	LOCAL ROAD	2	4500	0.700	D	530	350	D	180
NW 86 ST	107 AVE	116 AVE	CITY	LOCAL ROAD	2	3000	0.625	D	530	250	C	280
NW 90 ST	107 AVE	112 AVE	CITY	LOCAL ROAD	2	2000	0.500	D	530	150	C	380

Review of the above table shows that by the year 2015 13 east/west roadway segments shall be operating above adopted levels of service with 12 roadways at level-of-service F. Specifically:

- NW 12th St. from SR 826 to NW 87th Ave.
- NW 12th St. from NW 87th Ave. to NW 97th Ave.
- NW 12th St. from NW 97th Ave. to NW 107th Ave.
- NW 25th St. from SR 826 to NW 87th Ave.
- NW 25th St. from NW 87th Ave. to NW 97th Ave.
- NW 25th St. from NW 97th Ave. to NW 107th Ave.
- NW 36th St. from SR 826 to NW 87th Ave.
- NW 36th/41st St. from NW 87th Ave. to NW 97th Ave.
- NW 41st St. from NW 97th Ave. to NW 107th Ave.
- NW 58th St. from SR 826 Ave. to NW 87th Ave.
- NW 58th St. from NW 87th Ave. to NW 97th Ave.
- NW 58th St. from NW 97th Ave. to NW 107th Ave.



Table 45 – North/South Roadway Segments 2015 Directional Conditions

ROAD	LIMITS		JURISDICTION	FUNCTION CLASSIFICATION	No. of LANES	2015 AADT	1-WAY VOLUME					
							"D"	STANDARD LOS	STANDARD VPH	2015 FUTURE VPH	2015 FUTURE LOS	AVAILABLE VPH
NW 79 AVE	25 ST	36 ST	CITY	COLLECTOR	4D	21000	0.553	D	1620	1050	C	570
NW 79 AVE	36 ST	58 ST	CITY	COLLECTOR	4D	27500	0.542	D	1620	1300	D	320
NW 82 AVE	12 ST	25 ST	CITY	COLLECTOR	4D	21500	0.525	D	1140	1050	D	90
NW 82 AVE	25 ST	41 ST	CITY	LOCAL ROAD	2	16000	0.559	D	530	950	F	-420
NW 84 AVE	12 ST	25 ST	CITY	LOCAL ROAD	4D	11500	0.636	D	1620	700	C	920
NW 87 AVE	12 ST	25 ST	COUNTY	MINOR ARTERIAL	6D	44500	0.706	D	2450	2400	D	50
NW 87 AVE	25 ST	36 ST	COUNTY	MINOR ARTERIAL	6D	46500	0.592	D	2450	2250	D	200
NW 87 AVE	36 ST	58 ST	COUNTY	MINOR ARTERIAL	4D	22000	0.545	D	1620	1200	D	420
NW 97 AVE	12 ST	25 ST	COUNTY	COLLECTOR	4D	27500	0.700	D	1620	1750	F	-130
NW 97 AVE	25 ST	33 ST	COUNTY	COLLECTOR	4D	26000	0.542	D	1620	1300	D	320
NW 97 AVE	33 ST	41 ST	COUNTY	COLLECTOR	4D	26000	0.563	D	1620	1350	D	270
NW 97 AVE	41 ST	58 ST	COUNTY	COLLECTOR	4D	20500	0.550	D	1620	1100	C	520
NW 97 AVE	58 ST	66 ST	COUNTY	COLLECTOR	2	11000	0.583	D	760	700	D	60
NW 102 AVE	41 ST	58 ST	CITY	LOCAL ROAD	4D	9000	0.542	D	1140	650	D	490
NW 107 AVE	12 ST	25 ST	COUNTY	MINOR ARTERIAL	6D	50000	0.590	D	2450	2300	D	150
NW 107 AVE	25 ST	41 ST	COUNTY	MINOR ARTERIAL	4D	41500	0.515	D	1620	1700	E	-80
NW 107 AVE	41 ST	58 ST	COUNTY	MINOR ARTERIAL	4D	47000	0.539	D	1620	2050	F	-430
NW 107 AVE	58 ST	74 ST	COUNTY	COLLECTOR	4D	37500	0.734	D	1620	2350	F	-730
NW 107 AVE	74 ST	90 ST	COUNTY	COLLECTOR	4D	13500	0.538	D	1620	700	C	920
NW 109 AVE	50 ST	58 ST	CITY	LOCAL ROAD	2	3000	0.700	D	530	350	D	180
NW 112 AVE	25 ST	33 ST	CITY	LOCAL ROAD	2D	12500	0.500	D	530	650	E	-120
NW 112 AVE	41 ST	58 ST	CITY	LOCAL ROAD	2D	9500	0.650	D	530	650	E	-120
NW 112 AVE	74 ST	79 LN	CITY	LOCAL ROAD	4	3500	0.700	D	1140	350	C	790
NW 112 AV-CT	82 ST	90 ST	CITY	LOCAL ROAD	4D	3500	0.500	D	1140	250	C	890
NW 114 AVE	34 ST	41 ST	CITY	LOCAL ROAD	2D	13000	0.654	D	530	850	F	-320
NW 114 AVE	41 ST	58 ST	CITY	LOCAL ROAD	2	36000	0.719	D	530	2300	F	-1770
NW 114 AVE	58 ST	74 ST	CITY	LOCAL ROAD	4D	21500	0.643	D	1140	1350	F	-210
NW 114 AVE	74 ST	80 ST	CITY	LOCAL ROAD	4D	8500	0.542	D	1140	650	D	490
NW 117 AVE	25 ST	33 ST	CITY	LOCAL ROAD	2	7500	0.611	D	530	550	E	-20
NW 117 AVE	50 ST	58 ST	CITY	LOCAL ROAD	2	1000	0.500	D	530	150	C	380

Review of the above table shows that by the year 2030 11 north/south roadway segments shall be operating above adopted levels-of-service with seven roadways at level-of-service F. Specifically:

- NW 82nd Ave. from NW 12th St. to NW 25th St.
- NW 97th Ave. from NW 58th St. to NW 66th St.
- NW 107th Ave. from NW 41st St. to NW 58th St.
- NW 107th Ave. from NW 58th St. to NW 74th St.
- NW 114th Ave. from NW 34th St. to NW 41st St.
- NW 114th Ave. from NW 41st St. to NW 58th St.
- NW 114th Ave. from NW 58th St. to NW 74th St.

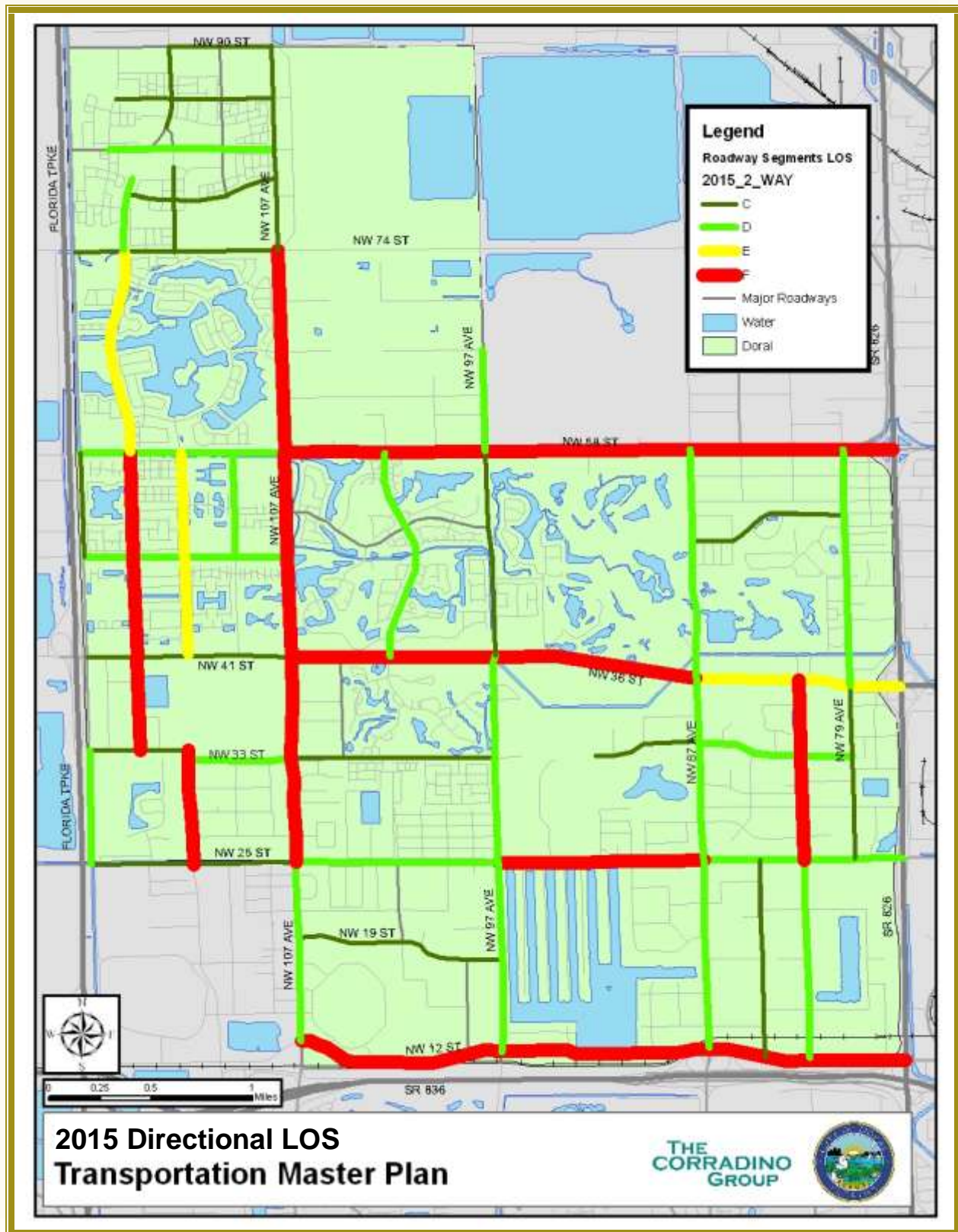


Figure 36 – 2015 Directional Level-of-Service



Table 46 - East/West Roadway Segments 2030 Bi-directional Conditions

ROAD	LIMITS	JURISDICTION	FUNCTION CLASSIFICATION	No. of LANES	2030 AADT	2-WAY VOLUME					
						"K"	STANDARD LOS	2030 FUTURE VPH	2030 FUTURE LOS	AVAILABLE VPH	
NW 12 ST	SR 826 - 87 AVE	COUNTY	MINOR ARTERIAL	4D	48500	0.080	D	2950	3900	F	-950
NW 12 ST	87 AVE - 97 AVE	COUNTY	MINOR ARTERIAL	4	48000	0.075	D	2950	3600	F	-650
NW 12 ST	97 AVE - 107 AVE	COUNTY	MINOR ARTERIAL	4D	60500	0.081	D	2950	4900	F	-1950
NW 17-19 ST	97 AVE - 107 AVE	CITY	LOCAL ROAD	4D	11500	0.096	D	2950	1100	C	1850
NW 25 ST	SR 826 - 87 AVE	COUNTY	MINOR ARTERIAL	6	48500	0.076	D	4450	3700	D	750
NW 25 ST	87 AVE - 97 AVE	COUNTY	MINOR ARTERIAL	4	65000	0.075	D	2950	4900	F	-1950
NW 25 ST	97 AVE - 107 AVE	COUNTY	MINOR ARTERIAL	4	37000	0.081	D	2950	3000	E	-50
NW 25 ST	107 AVE - 117 AVE	COUNTY	COLLECTOR	4	14000	0.121	D	2950	1700	C	1250
NW 33 ST	79 AVE - 82 AVE	CITY	LOCAL ROAD	2	6000	0.117	D	950	700	D	250
NW 33 ST	82 AVE - 87 AVE	CITY	LOCAL ROAD	4D	9500	0.137	D	2070	1300	D	770
NW 33 ST	87 AVE - 92 AVE	CITY	LOCAL ROAD	4	3500	0.143	D	2070	500	C	1570
NW 33 ST	97 AVE - 107 AVE	CITY	COLLECTOR	4D	8500	0.106	D	2950	900	C	2050
NW 33 ST	107 AVE - 112 AVE	CITY	LOCAL ROAD	2	4500	0.178	D	950	800	D	150
NW 34 ST	112 AVE - 117 AVE	CITY	LOCAL ROAD	2	8500	0.106	D	2950	900	C	2050
NW 36 ST	SR 826 - 87 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	68500	0.077	D	4680	5300	F	-620
NW 36/41 ST	87 AVE - 97 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	77500	0.081	D	4680	6300	F	-1620
NW 41 ST	97 AVE - 107 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	90500	0.086	D	4680	7800	F	-3120
NW 41 ST	107 AVE - 117 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	47500	0.084	D	4680	4000	D	680
NW 50 ST	107 AVE - 117 AVE	CITY	LOCAL ROAD	2	4000	0.150	D	950	600	D	350
NW 53 ST	79 AVE - 87 AVE	CITY	LOCAL ROAD	4D	8000	0.113	D	2070	900	C	1170
NW 58 ST	SR 826 - 87 AVE	COUNTY	MINOR ARTERIAL	4D	41000	0.088	D	2950	3600	F	-650
NW 58 ST	87 AVE - 97 AVE	COUNTY	MINOR ARTERIAL	4D	79000	0.099	D	2950	7800	F	-4850
NW 58 ST	97 AVE - 107 AVE	COUNTY	MINOR ARTERIAL	4D	41500	0.094	D	2950	3900	F	-950
NW 58 ST	107 AVE - 117 AVE	COUNTY	LOCAL ROAD	4D	24500	0.094	D	2950	2300	D	650
NW 74 ST	107 AVE - 117 AVE	STATE	MINOR ARTERIAL	6D	9000	0.078	D	4680	700	C	3980
NW 78 ST	107 AVE - 109 AVE	CITY	LOCAL ROAD	2	4000	0.100	D	2070	400	C	1670
NW 78 ST	109 AVE - 114 AVE	CITY	LOCAL ROAD	2	2500	0.160	D	950	400	C	550
NW 82 ST	107 AVE - 116 AVE	CITY	LOCAL ROAD	2	5000	0.120	D	950	600	D	350
NW 86 ST	107 AVE - 116 AVE	CITY	LOCAL ROAD	2	3500	0.143	D	950	500	D	450
NW 90 ST	107 AVE - 112 AVE	CITY	LOCAL ROAD	2	2500	0.160	D	950	400	C	550

Review of the above table shows that by the year 2030 12 east/west roadway segments shall be operating above adopted levels-of-service, with all of the following roadways at level-of-service F. Specifically:

- NW 12th St. from SR 826 to NW 87th Ave.
- NW 12th St. from NW 87th Ave. to NW 97th Ave.
- NW 12th St. from NW 97th Ave. to NW 107th Ave.
- NW 25th St. from SR 826 to NW 87th Ave.
- NW 25th St. from NW 87th Ave. to NW 97th Ave.
- NW 36th St. from SR 826 to NW 87th Ave.
- NW 36th/41st St. from NW 87th Ave. to NW 97th Ave.
- NW 41st St. from NW 97th Ave. to NW 107th Ave.
- NW 58th St. from SR 826 Ave. to NW 87th Ave.
- NW 58th St. from NW 87th Ave. to NW 97th Ave.
- NW 58th St. from NW 97th Ave. to NW 107th Ave.



Table 47 – North/South Roadway Segment 2030 Bi-directional Conditions

ROAD	LIMITS		JURISDICTION	FUNCTION CLASSIFICATION	No. of LANES	2030	2-WAY VOLUME					
							"K"	STANDARD		2030 FUTURE		AVAILABLE
								LOS	VPH	VPH	LOS	
NW 79 AVE	25 ST	36 ST	CITY	COLLECTOR	4D	25000	0.092	D	2950	2300	D	650
NW 79 AVE	36 ST	58 ST	CITY	COLLECTOR	4D	32500	0.089	D	2950	2900	D	50
NW 82 AVE	12 ST	25 ST	CITY	COLLECTOR	4D	25500	0.094	D	2070	2400	E	-330
NW 82 AVE	25 ST	41 ST	CITY	LOCAL ROAD	2	19000	0.105	D	950	2000	F	-1050
NW 84 AVE	12 ST	25 ST	CITY	LOCAL ROAD	4D	13500	0.096	D	2950	1300	C	1650
NW 87 AVE	12 ST	25 ST	COUNTY	MINOR ARTERIAL	6D	52500	0.076	D	4450	4000	D	450
NW 87 AVE	25 St	36 St	COUNTY	MINOR ARTERIAL	6D	54500	0.083	D	4450	4500	E	-50
NW 87 AVE	36 St	58 St	COUNTY	MINOR ARTERIAL	4D	26000	0.100	D	2950	2600	D	350
NW 97 AVE	12 ST	25 ST	COUNTY	COLLECTOR	4D	32500	0.092	D	2950	3000	E	-50
NW 97 AVE	25 ST	33 ST	COUNTY	COLLECTOR	4D	30500	0.095	D	2950	2900	D	50
NW 97 AVE	33 ST	41 ST	COUNTY	COLLECTOR	4D	30500	0.095	D	2950	2900	D	50
NW 97 AVE	41 ST	58 ST	COUNTY	COLLECTOR	4D	24000	0.100	D	2950	2400	D	550
NW 97 AVE	58 ST	66 ST	COUNTY	COLLECTOR	2	13000	0.115	D	1390	1500	F	-110
NW 102 AVE	41 ST	58 ST	CITY	LOCAL ROAD	4D	11000	0.136	D	2070	1500	D	570
NW 107 AVE	12 ST	25 ST	COUNTY	MINOR ARTERIAL	6D	59000	0.076	D	4450	4600	E	-150
NW 107 AVE	25 ST	41 ST	COUNTY	MINOR ARTERIAL	4D	49000	0.080	D	2950	3900	F	-950
NW 107 AVE	41 ST	58 ST	COUNTY	MINOR ARTERIAL	4D	55500	0.081	D	2950	4500	F	-1550
NW 107 AVE	58 ST	74 ST	COUNTY	COLLECTOR	4D	44000	0.086	D	2950	3800	F	-850
NW 107 AVE	74 ST	90 ST	COUNTY	COLLECTOR	4D	16000	0.100	D	2950	1600	C	1350
NW 109 AVE	50 ST	58 ST	CITY	LOCAL ROAD	2	4000	0.150	D	950	800	D	350
NW 112 AVE	25 ST	33 ST	CITY	LOCAL ROAD	2D	15000	0.107	D	950	1600	F	-650
NW 112 AVE	41 ST	58 ST	CITY	LOCAL ROAD	2D	11500	0.104	D	950	1200	E	-250
NW 112 AVE	74 ST	79 LN	CITY	LOCAL ROAD	4	4500	0.133	D	2070	600	C	1470
NW 112 AV-CT	82 ST	90 ST	CITY	LOCAL ROAD	4D	4500	0.133	D	2070	600	C	1470
NW 114 AVE	34 ST	41 ST	CITY	LOCAL ROAD	2D	15500	0.103	D	950	1600	F	-650
NW 114 AVE	41 ST	58 ST	CITY	LOCAL ROAD	2	42500	0.089	D	950	3800	F	-2850
NW 114 AVE	58 ST	74 ST	CITY	LOCAL ROAD	4D	25500	0.098	D	2070	2500	F	-430
NW 114 AVE	74 ST	80 ST	CITY	LOCAL ROAD	4D	10000	0.150	D	2070	1500	D	570
NW 117 AVE	25 ST	33 ST	CITY	LOCAL ROAD	2	9000	0.122	D	950	1100	E	-150
NW 117 AVE	50 ST	58 ST	CITY	LOCAL ROAD	2	1500	0.267	D	950	400	C	550

Review of the above table shows that by the year 2030 14 north/south roadway segments shall be operating above adopted levels-of-service with nine roadways at level-of-service F. Specifically:

- NW 82nd Ave. from NW 12th St. to NW 25th St.
- NW 97th Ave. from NW 58th St. to NW 66th St.
- NW 107th Ave. from NW 25th St. to NW 41st St.
- NW 107th Ave. from NW 41st St. to NW 58th St.
- NW 107th Ave. from NW 58th St. to NW 74th St.
- NW 112th Ave. from NW 25th St. to NW 33rd St.
- NW 114th Ave. from NW 34th St. to NW 41st St.
- NW 114th Ave. from NW 41st St. to NW 58th St.
- NW 114th Ave. from NW 58th St. to NW 74th St.



Transportation Master Plan

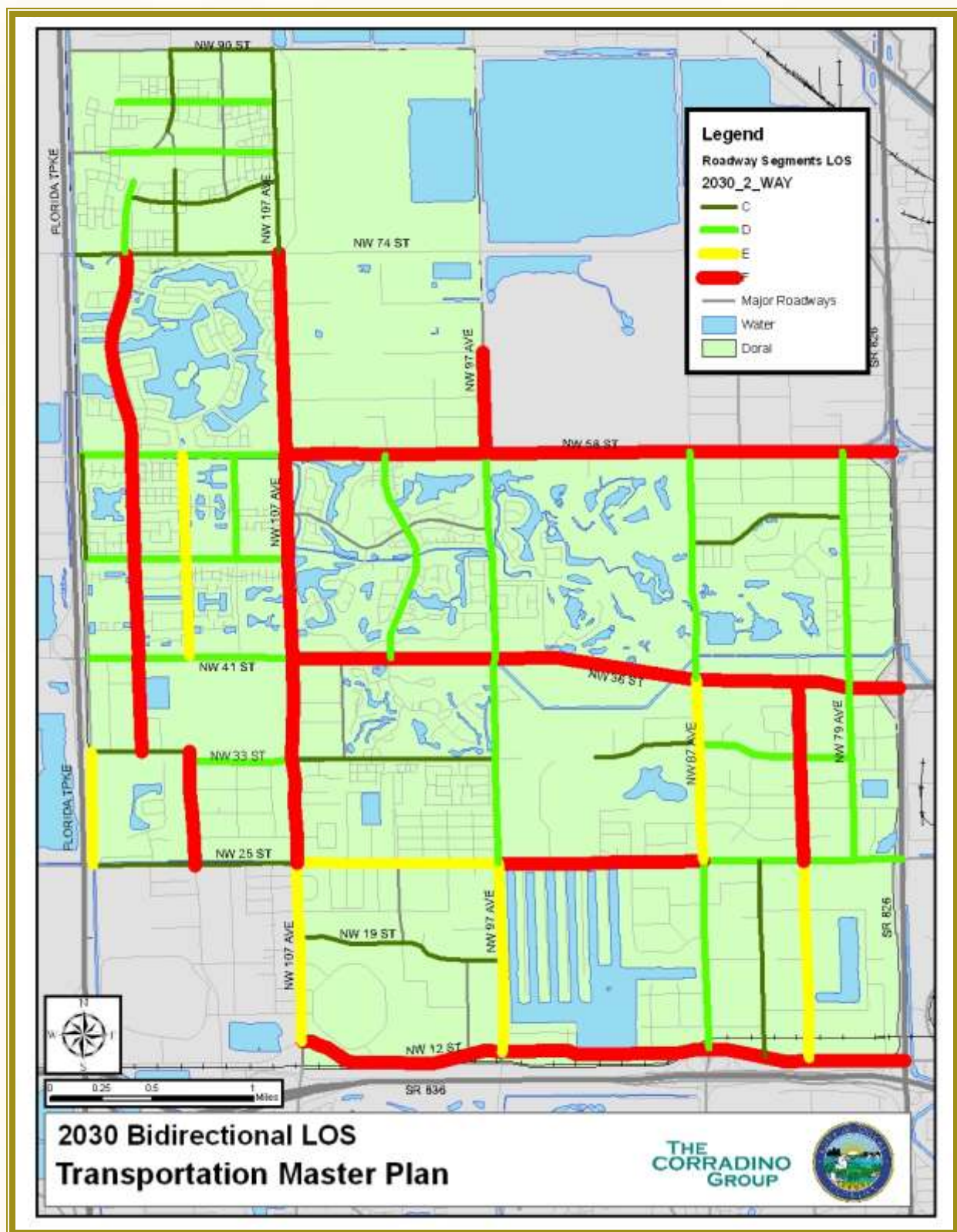


Figure 37 – 2030 Bi-directional Level-of-Service



Table 48 - East/West Roadway Segments 2030 Directional Conditions

ROAD	LIMITS		JURISDICTION	FUNCTION CLASSIFICATION	No. of LANES	2030 AADT	"D"	1-WAY VOLUME				
								STANDARD		2030 FUTURE		AVAILABLE
								LOS	VPH	VPH	LOS	
NW 12 ST	SR 826	87 AVE	COUNTY	MINOR ARTERIAL	4D	48500	0.705	D	1620	2750	F	-1130
NW 12 ST	87 AVE	97 AVE	COUNTY	MINOR ARTERIAL	4	48000	0.625	D	1620	2250	F	-630
NW 12 ST	97 AVE	107 AVE	COUNTY	MINOR ARTERIAL	4D	60500	0.714	D	1620	3500	F	-1660
NW 17-19 ST	97 AVE	107 AVE	CITY	LOCAL ROAD	4D	11500	0.591	D	1620	650	C	970
NW 25 ST	SR 826	87 AVE	COUNTY	MINOR ARTERIAL	6	48500	0.581	D	2450	2150	D	300
NW 25 ST	87 AVE	97 AVE	COUNTY	MINOR ARTERIAL	4	65000	0.704	D	1620	3450	F	-1830
NW 25 ST	97 AVE	107 AVE	COUNTY	MINOR ARTERIAL	4	37000	0.650	D	1620	1950	F	-330
NW 25 ST	107 AVE	117 AVE	COUNTY	COLLECTOR	4	14000	0.765	D	1620	1300	D	320
NW 33 ST	79 AVE	82 AVE	CITY	LOCAL ROAD	2	6000	0.643	D	530	450	D	80
NW 33 ST	82 AVE	87 AVE	CITY	LOCAL ROAD	4D	9500	0.615	D	1140	800	D	340
NW 33 ST	87 AVE	92 AVE	CITY	LOCAL ROAD	4	3500	0.800	D	1140	400	C	740
NW 33 ST	97 AVE	107 AVE	CITY	COLLECTOR	4D	8500	0.611	D	1620	550	C	1070
NW 33 ST	107 AVE	112 AVE	CITY	LOCAL ROAD	2	4500	0.625	D	530	500	D	30
NW 34 ST	112 AVE	117 AVE	CITY	LOCAL ROAD	2	8500	0.722	D	1620	650	C	970
NW 36 ST	SR 826	87 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	68500	0.566	D	2570	3000	F	-430
NW 36/41 ST	87 AVE	97 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	77500	0.683	D	2570	4300	F	-1730
NW 41 ST	97 AVE	107 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	90500	0.724	D	2570	5650	F	-3080
NW 41 ST	107 AVE	117 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	47500	0.738	D	2570	2950	F	-580
NW 50 ST	107 AVE	117 AVE	CITY	LOCAL ROAD	2	4000	0.750	D	530	450	D	80
NW 53 ST	79 AVE	87 AVE	CITY	LOCAL ROAD	4D	8000	0.667	D	1140	600	D	540
NW 58 ST	SR 826	87 AVE	COUNTY	MINOR ARTERIAL	4D	41000	0.653	D	1620	2350	F	-730
NW 58 ST	87 AVE	97 AVE	COUNTY	MINOR ARTERIAL	4D	79000	0.808	D	1620	6300	F	-4680
NW 58 ST	97 AVE	107 AVE	COUNTY	MINOR ARTERIAL	4D	41500	0.808	D	1620	3150	F	-1530
NW 58 ST	107 AVE	117 AVE	COUNTY	LOCAL ROAD	4D	24500	0.696	D	1620	1600	D	20
NW 74 ST	107 AVE	117 AVE	STATE	MINOR ARTERIAL	6D	9000	0.643	D	2570	450	C	2120
NW 78 ST	107 AVE	109 AVE	CITY	LOCAL ROAD	2	4000	0.625	D	1140	250	C	890
NW 78 ST	109 AVE	114 AVE	CITY	LOCAL ROAD	2	2500	0.625	D	530	250	C	280
NW 82 ST	107 AVE	116 AVE	CITY	LOCAL ROAD	2	5000	0.667	D	530	400	D	130
NW 86 ST	107 AVE	116 AVE	CITY	LOCAL ROAD	2	3500	0.600	D	530	300	D	230
NW 90 ST	107 AVE	112 AVE	CITY	LOCAL ROAD	2	2500	0.500	D	530	200	C	330

Review of the above table shows that by the year 2030 13 east/west roadway segments shall be operating above adopted levels of service and at level-of-service F. Specifically:

- NW 12th St. from SR 826 to NW 87th Ave.
- NW 12th St. from NW 87th Ave. to NW 97th Ave.
- NW 12th St. from NW 97th Ave. to NW 107th Ave.
- NW 25th St. from SR 826 to NW 87th Ave.
- NW 25th St. from NW 87th Ave. to NW 97th Ave.
- NW 25th St. from NW 97th Ave. to NW 107th Ave.
- NW 36th St. from SR 826 to NW 87th Ave.
- NW 36th/41st St. from NW 87th Ave. to NW 97th Ave.
- NW 41st St. from NW 97th Ave. to NW 107th Ave.
- NW 41st St. from NW 107th Ave to NW 117th Ave.
- NW 58th St. from SR 826 Ave. to NW 87th Ave.
- NW 58th St. from NW 87th Ave. to NW 97th Ave.
- NW 58th St. from NW 97th Ave. to NW 107th Ave.



Table 49 - North/South Roadway Segments 2030 Directional Conditions

ROAD	LIMITS	JURISDICTION	FUNCTION CLASSIFICATION	No. of LANES	2030 AADT	1-WAY VOLUME					
						"D"	STANDARD LOS	STANDARD VPH	2030 FUTURE VPH	2030 FUTURE LOS	AVAILABLE VPH
NW 79 AVE	25 ST - 36 ST	CITY	COLLECTOR	4D	25000	0.543	D	1620	1250	D	370
NW 79 AVE	36 ST - 58 ST	CITY	COLLECTOR	4D	32500	0.534	D	1620	1550	D	70
NW 82 AVE	12 ST - 25 ST	CITY	COLLECTOR	4D	25500	0.521	D	1140	1250	E	-110
NW 82 AVE	25 ST - 41 ST	CITY	LOCAL ROAD	2	19000	0.575	D	530	1150	F	-620
NW 84 AVE	12 ST - 25 ST	CITY	LOCAL ROAD	4D	13500	0.654	D	1620	850	C	770
NW 87 AVE	12 ST - 25 ST	COUNTY	MINOR ARTERIAL	6D	52500	0.713	D	2450	2850	F	-400
NW 87 AVE	25 ST - 36 ST	COUNTY	MINOR ARTERIAL	6D	54500	0.589	D	2450	2650	F	-200
NW 87 AVE	36 ST - 58 ST	COUNTY	MINOR ARTERIAL	4D	26000	0.558	D	1620	1450	D	170
NW 97 AVE	12 ST - 25 ST	COUNTY	COLLECTOR	4D	32500	0.683	D	1620	2050	F	-430
NW 97 AVE	25 ST - 33 ST	COUNTY	COLLECTOR	4D	30500	0.534	D	1620	1550	D	70
NW 97 AVE	33 ST - 41 ST	COUNTY	COLLECTOR	4D	30500	0.552	D	1620	1600	D	20
NW 97 AVE	41 ST - 58 ST	COUNTY	COLLECTOR	4D	24000	0.542	D	1620	1300	D	320
NW 97 AVE	58 ST - 66 ST	COUNTY	COLLECTOR	2	13000	0.567	D	760	850	F	-90
NW 102 AVE	41 ST - 58 ST	CITY	LOCAL ROAD	4D	11000	0.533	D	1140	800	D	340
NW 107 AVE	12 ST - 25 ST	COUNTY	MINOR ARTERIAL	6D	59000	0.587	D	2450	2700	F	-250
NW 107 AVE	25 ST - 41 ST	COUNTY	MINOR ARTERIAL	4D	49000	0.513	D	1620	2000	F	-380
NW 107 AVE	41 ST - 58 ST	COUNTY	MINOR ARTERIAL	4D	55500	0.533	D	1620	2400	F	-780
NW 107 AVE	58 ST - 74 ST	COUNTY	COLLECTOR	4D	44000	0.737	D	1620	2800	F	-1180
NW 107 AVE	74 ST - 90 ST	COUNTY	COLLECTOR	4D	16000	0.531	D	1620	850	C	770
NW 109 AVE	50 ST - 58 ST	CITY	LOCAL ROAD	2	4000	0.750	D	530	450	D	80
NW 112 AVE	25 ST - 33 ST	CITY	LOCAL ROAD	2D	15000	0.500	D	530	800	F	-270
NW 112 AVE	41 ST - 58 ST	CITY	LOCAL ROAD	2D	11500	0.667	D	530	800	F	-270
NW 112 AVE	74 ST - 79 LN	CITY	LOCAL ROAD	4	4500	0.750	D	1140	450	C	690
NW 112 AV-CT	82 ST - 90 ST	CITY	LOCAL ROAD	4D	4500	0.500	D	1140	300	C	840
NW 114 AVE	34 ST - 41 ST	CITY	LOCAL ROAD	2D	15500	0.625	D	530	1000	F	-470
NW 114 AVE	41 ST - 58 ST	CITY	LOCAL ROAD	2	42500	0.711	D	530	2700	F	-2170
NW 114 AVE	58 ST - 74 ST	CITY	LOCAL ROAD	4D	25500	0.640	D	1140	1600	F	-460
NW 114 AVE	74 ST - 80 ST	CITY	LOCAL ROAD	4D	10000	0.533	D	1140	800	D	340
NW 117 AVE	25 ST - 33 ST	CITY	LOCAL ROAD	2	9000	0.591	D	530	650	E	-120
NW 117 AVE	50 ST - 58 ST	CITY	LOCAL ROAD	2	1500	0.500	D	530	200	C	330

Review of the above table shows that by the year 2030 16 north/south roadway segments shall be operating above adopted levels-of-service with 14 roadways failing. Specifically:

- NW 82nd Ave. from NW 12th St. to NW 25th St.
- NW 87th Ave. from NW 12th St. to NW 25th St.
- NW 87th Ave. from NW 25th St. to NW 36th St.
- NW 97th Ave. from NW 12th St. to NW 25th St.
- NW 97th Ave. from NW 58th St. to NW 66th St.
- NW 107th Ave. from NW 12th St. to NW 25th St.
- NW 107th Ave. from NW 25th St. to NW 41st St.
- NW 107th Ave. from NW 41st St. to NW 58th St.
- NW 107th Ave. from NW 58th St. to NW 74th St.
- NW 112th Ave. from NW 25th St. to NW 33rd St.
- NW 112th Ave. from NW 41st St. to NW 58th St.
- NW 114th Ave. from NW 34th St. to NW 41st St.
- NW 114th Ave. from NW 41st St. to NW 58th St.
- NW 114th Ave. from NW 58th St. to NW 74th St.

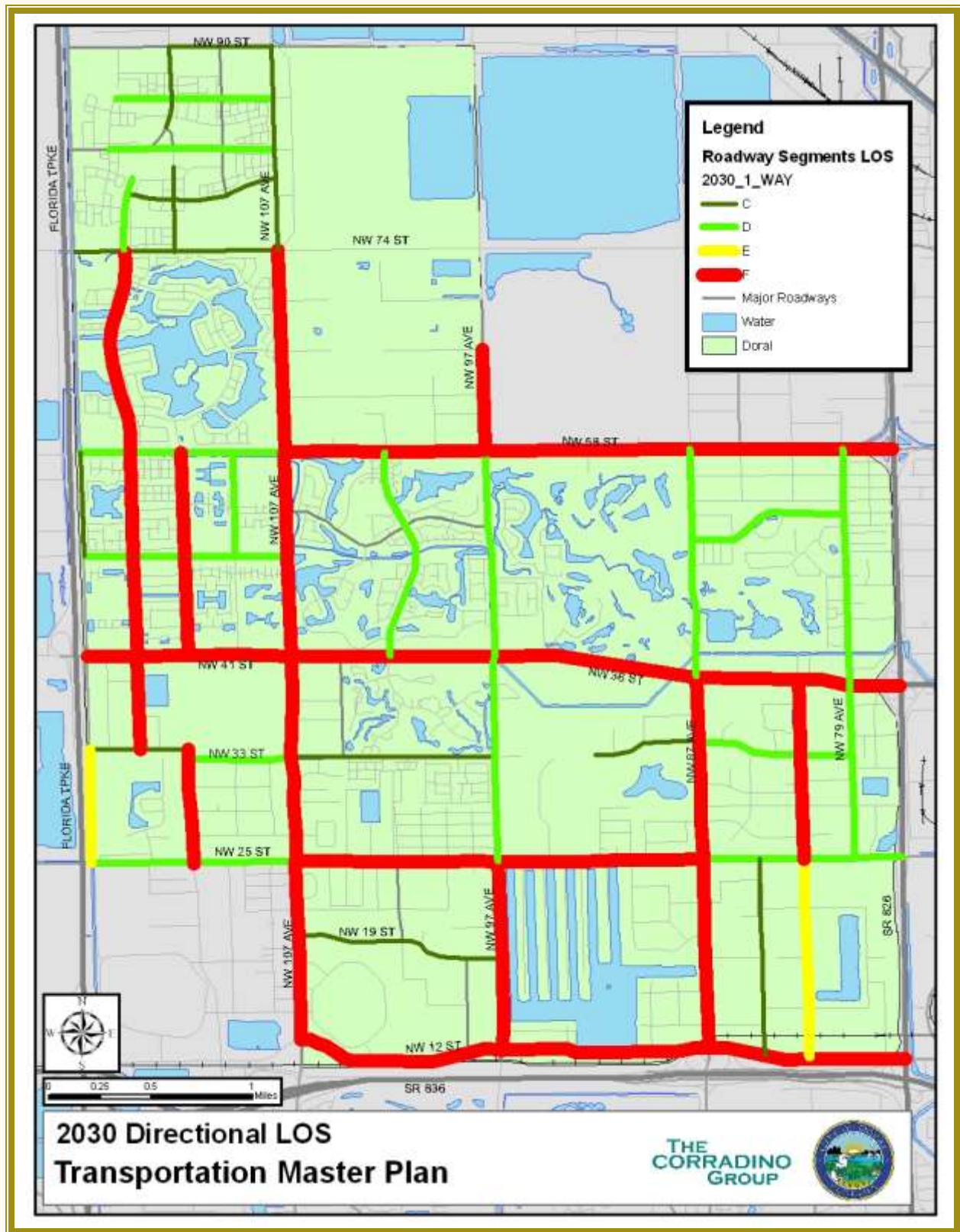


Figure 38 – 2030 Directional Level-of-Service



Table 50 - East/West Bidirectional Roadway Segments Summary

ROADWAY	LIMITS	JURISDICTION	FUNCTION CLASSIFICATION	No. of LANES	1-WAY VOLUME							
					2009 FUTURE		2015 LANES	2015 FUTURE		2030 FUTURE		
					VPH	LOS		VPH	LOS	VPH	LOS	
NW 12 ST	SR 826 - 87 AVE	COUNTY	MINOR ARTERIAL	4D	2350	F	4D	2550	F	2750	F	
NW 12 ST	87 AVE - 97 AVE	COUNTY	MINOR ARTERIAL	4	1865	F	4	2050	F	2250	F	
NW 12 ST	97 AVE - 107 AVE	COUNTY	MINOR ARTERIAL	4D	2990	F	4D	3250	F	3500	F	
NW 17-19 ST	97 AVE - 107 AVE	CITY	LOCAL ROAD	4D	515	C	4D	600	C	650	C	
NW 25 ST	SR 826 - 87 AVE	COUNTY	MINOR ARTERIAL	4	1850	F	6	2000	D	2150	D	
NW 25 ST	87 AVE - 97 AVE	COUNTY	MINOR ARTERIAL	4	2940	F	4	3200	F	3450	F	
NW 25 ST	97 AVE - 107 AVE	COUNTY	MINOR ARTERIAL	4	1635	E	4	1800	F	1950	F	
NW 25 ST	107 AVE - 117 AVE	COUNTY	COLLECTOR	4	1075	C	4	1200	D	1300	D	
NW 33 ST	79 AVE - 82 AVE	CITY	LOCAL ROAD	2	350	D	2	400	D	450	D	
NW 33 ST	82 AVE - 87 AVE	CITY	LOCAL ROAD	4D	620	D	4D	700	D	800	D	
NW 33 ST	87 AVE - 92 AVE	CITY	LOCAL ROAD	2	315	D	4	350	C	400	C	
NW 33 ST	97 AVE - 107 AVE	CITY	COLLECTOR	4D	425	C	4D	500	C	550	C	
NW 33 ST	107 AVE - 112 AVE	CITY	LOCAL ROAD	2	405	D	2	450	D	500	D	
NW 34 ST	112 AVE - 117 AVE	CITY	LOCAL ROAD	2	540	C	2	600	C	650	C	
NW 36 ST	SR 826 - 87 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	2535	D	6D	2750	F	3000	F	
NW 36/41 ST	87 AVE - 97 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	3710	F	6D	4000	F	4300	F	
NW 41 ST	97 AVE - 107 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	4855	F	6D	5250	F	5650	F	
NW 41 ST	107 AVE - 117 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	2485	D	6D	2700	E	2950	F	
NW 50 ST	107 AVE - 117 AVE	CITY	LOCAL ROAD	2	355	D	2	400	D	450	D	
NW 53 ST	79 AVE - 87 AVE	CITY	LOCAL ROAD	4D	490	C	4D	550	C	600	D	
NW 58 ST	SR 826 - 87 AVE	COUNTY	MINOR ARTERIAL	4	1975	F	4	2150	F	2350	F	
NW 58 ST	87 AVE - 97 AVE	COUNTY	MINOR ARTERIAL	4	5435	F	4	5850	F	6300	F	
NW 58 ST	97 AVE - 107 AVE	COUNTY	MINOR ARTERIAL	4D	2660	F	4D	2900	F	3150	F	
NW 58 ST	107 AVE - 117 AVE	COUNTY	LOCAL ROAD	4D	1340	D	4D	1450	D	1600	D	
NW 74 ST	107 AVE - 117 AVE	STATE	MINOR ARTERIAL	4D	355	C	6D	400	C	450	C	
NW 78 ST	107 AVE - 109 AVE	CITY	LOCAL ROAD	2	165	C	2	200	C	250	C	
NW 78 ST	109 AVE - 114 AVE	CITY	LOCAL ROAD	2	140	C	2	200	C	250	C	
NW 82 ST	107 AVE - 116 AVE	CITY	LOCAL ROAD	2	280	D	2	350	D	400	D	
NW 86 ST	107 AVE - 116 AVE	CITY	LOCAL ROAD	2	210	C	2	250	C	300	D	
NW 90 ST	107 AVE - 112 AVE	CITY	LOCAL ROAD	2	115	C	2	150	C	200	C	

The above failing roadways may need to be improved by Traffic and Transportation Policies and Strategies to improve the roadway level-of-service with such things as:

- Transportation Demand Management Strategies
 - Traffic Calming
 - Flextime
 - Transit Improvement
 - Car Sharing
 - Ridesharing
 - Pedestrian and Bicycle Improvements
 - Smart Growth
- Widening of Roadways



Table 51 - East/West Roadway Directional Segments Summary

ROADWAY	LIMITS	JURISDICTION	FUNCTION CLASSIFICATION	No. of LANES	1-WAY VOLUME							
					2009 FUTURE		2015 LANES	2015 FUTURE		2030 FUTURE		
					VPH	LOS		VPH	LOS	VPH	LOS	
NW 12 ST	SR 826 - 87 AVE	COUNTY	MINOR ARTERIAL	4D	2350	F	4D	2550	F	2750	F	
NW 12 ST	87 AVE - 97 AVE	COUNTY	MINOR ARTERIAL	4	1865	F	4	2050	F	2250	F	
NW 12 ST	97 AVE - 107 AVE	COUNTY	MINOR ARTERIAL	4D	2990	F	4D	3250	F	3500	F	
NW 17-19 ST	97 AVE - 107 AVE	CITY	LOCAL ROAD	4D	515	C	4D	600	C	650	C	
NW 25 ST	SR 826 - 87 AVE	COUNTY	MINOR ARTERIAL	4	1850	F	6	2000	D	2150	D	
NW 25 ST	87 AVE - 97 AVE	COUNTY	MINOR ARTERIAL	4	2940	F	4	3200	F	3450	F	
NW 25 ST	97 AVE - 107 AVE	COUNTY	MINOR ARTERIAL	4	1635	E	4	1800	F	1950	F	
NW 25 ST	107 AVE - 117 AVE	COUNTY	COLLECTOR	4	1075	C	4	1200	D	1300	D	
NW 33 ST	79 AVE - 82 AVE	CITY	LOCAL ROAD	2	350	D	2	400	D	450	D	
NW 33 ST	82 AVE - 87 AVE	CITY	LOCAL ROAD	4D	620	D	4D	700	D	800	D	
NW 33 ST	87 AVE - 92 AVE	CITY	LOCAL ROAD	2	315	D	4	350	C	400	C	
NW 33 ST	97 AVE - 107 AVE	CITY	COLLECTOR	4D	425	C	4D	500	C	550	C	
NW 33 ST	107 AVE - 112 AVE	CITY	LOCAL ROAD	2	405	D	2	450	D	500	D	
NW 34 ST	112 AVE - 117 AVE	CITY	LOCAL ROAD	2	540	C	2	600	C	650	C	
NW 36 ST	SR 826 - 87 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	2535	D	6D	2750	F	3000	F	
NW 36/41 ST	87 AVE - 97 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	3710	F	6D	4000	F	4300	F	
NW 41 ST	97 AVE - 107 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	4855	F	6D	5250	F	5650	F	
NW 41 ST	107 AVE - 117 AVE	COUNTY	PRINCIPAL ARTERIAL	6D	2485	D	6D	2700	E	2950	F	
NW 50 ST	107 AVE - 117 AVE	CITY	LOCAL ROAD	2	355	D	2	400	D	450	D	
NW 53 ST	79 AVE - 87 AVE	CITY	LOCAL ROAD	4D	490	C	4D	550	C	600	D	
NW 58 ST	SR 826 - 87 AVE	COUNTY	MINOR ARTERIAL	4	1975	F	4	2150	F	2350	F	
NW 58 ST	87 AVE - 97 AVE	COUNTY	MINOR ARTERIAL	4	5435	F	4	5850	F	6300	F	
NW 58 ST	97 AVE - 107 AVE	COUNTY	MINOR ARTERIAL	4D	2660	F	4D	2900	F	3150	F	
NW 58 ST	107 AVE - 117 AVE	COUNTY	LOCAL ROAD	4D	1340	D	4D	1450	D	1600	D	
NW 74 ST	107 AVE - 117 AVE	STATE	MINOR ARTERIAL	4D	355	C	6D	400	C	450	C	
NW 78 ST	107 AVE - 109 AVE	CITY	LOCAL ROAD	2	165	C	2	200	C	250	C	
NW 78 ST	109 AVE - 114 AVE	CITY	LOCAL ROAD	2	140	C	2	200	C	250	C	
NW 82 ST	107 AVE - 116 AVE	CITY	LOCAL ROAD	2	280	D	2	350	D	400	D	
NW 86 ST	107 AVE - 116 AVE	CITY	LOCAL ROAD	2	210	C	2	250	C	300	D	
NW 90 ST	107 AVE - 112 AVE	CITY	LOCAL ROAD	2	115	C	2	150	C	200	C	

The above failing roadways may need to be improved by Traffic and Transportation Policies and Strategies to improve the roadway level-of-service with such things as:

- Transportation Demand Management Strategies
 - Traffic Calming
 - Flextime
 - Transit Improvement
 - Car Sharing
 - Ridesharing
 - Pedestrian and Bicycle Improvements
 - Smart Growth
- Widening of Roadways



Table 52 - North/South Bi-directional Roadway Segments Conditions Summary

ROADWAY	LIMITS	JURISDICTION	FUNCTION CLASSIFICATION	No. of LANES	2-WAY VOLUME							
					2009 FUTURE		2015 LANES	2015 FUTURE		2030 FUTURE		
					VPH	LOS		VPH	LOS	VPH	LOS	
NW 79 AVE	25 ST - 36 ST	CITY	COLLECTOR	4	1610	C	4	1900	C	2300	D	
NW 79 AVE	36 ST - 58 ST	CITY	COLLECTOR	4	1985	C	4	2400	D	2900	D	
NW 82 AVE	12 ST - 25 ST	CITY	COLLECTOR	4D	1705	D	4D	2000	D	2400	E	
NW 82 AVE	25 ST - 41 ST	CITY	LOCAL ROAD	2	1410	F	2	1700	F	2000	F	
NW 84 AVE	12 ST - 25 ST	CITY	LOCAL ROAD	4D	880	C	4D	1100	C	1300	C	
NW 87 AVE	12 ST - 25 ST	COUNTY	MINOR ARTERIAL	6D	2850	C	6D	3400	D	4000	D	
NW 87 AVE	25 St - 36 St	COUNTY	MINOR ARTERIAL	6D	3200	D	6D	3800	D	4500	E	
NW 87 AVE	36 St - 58 St	COUNTY	MINOR ARTERIAL	4D	1845	C	4D	2200	D	2600	D	
NW 97 AVE	12 ST - 25 ST	COUNTY	COLLECTOR	4D	2120	D	4D	2500	D	3000	E	
NW 97 AVE	25 ST - 33 ST	COUNTY	COLLECTOR	4D	1980	C	4D	2400	D	2900	D	
NW 97 AVE	33 ST - 41 ST	COUNTY	COLLECTOR	4D	1965	C	4D	2400	D	2900	D	
NW 97 AVE	41 ST - 58 ST	COUNTY	COLLECTOR	4D	1645	C	4D	2000	C	2400	D	
NW 97 AVE	58 ST - 66 ST	COUNTY	COLLECTOR	2	965	D	2	1200	D	1500	F	
NW 102 AVE	41 ST - 58 ST	CITY	LOCAL ROAD	4D	945	C	4D	1200	D	1500	D	
NW 107 AVE	12 ST - 25 ST	COUNTY	MINOR ARTERIAL	6D	3310	D	6D	3900	D	4600	E	
NW 107 AVE	25 ST - 41 ST	COUNTY	MINOR ARTERIAL	4D	2770	D	4D	3300	F	3900	F	
NW 107 AVE	41 ST - 58 ST	COUNTY	MINOR ARTERIAL	4D	3215	F	4D	3800	F	4500	F	
NW 107 AVE	58 ST - 74 ST	COUNTY	COLLECTOR	4D	2720	D	4D	3200	F	3800	F	
NW 107 AVE	74 ST - 90 ST	COUNTY	COLLECTOR	4D	1035	C	4D	1300	C	1600	C	
NW 109 AVE	50 ST - 58 ST	CITY	LOCAL ROAD	2	395	C	2	500	D	600	D	
NW 112 AVE	25 ST - 33 ST	CITY	LOCAL ROAD	2	1065	E	2	1300	F	1600	F	
NW 112 AVE	41 ST - 58 ST	CITY	LOCAL ROAD	2	845	D	2	1000	E	1200	E	
NW 112 AVE	74 ST - 79 LN	CITY	LOCAL ROAD	4	380	C	4	500	C	600	C	
NW 112 AV-G	82 ST - 90 ST	CITY	LOCAL ROAD	4D	350	C	4D	500	C	600	C	
NW 114 AVE	34 ST - 41 ST	CITY	LOCAL ROAD	2	1050	E	2	1300	F	1600	F	
NW 114 AVE	41 ST - 58 ST	CITY	LOCAL ROAD	2	2715	F	2	3200	F	3800	F	
NW 114 AVE	58 ST - 74 ST	CITY	LOCAL ROAD	4D	1740	D	4D	2100	E	2500	F	
NW 114 AVE	74 ST - 80 ST	CITY	LOCAL ROAD	4D	985	C	4D	1200	D	1500	D	
NW 117 AVE	25 ST - 33 ST	CITY	LOCAL ROAD	2	725	D	2	900	D	1100	E	
NW 117 AVE	50 ST - 58 ST	CITY	LOCAL ROAD	2	210	C	2	300	C	400	C	

The above failing roadways may need to be improved by Traffic and Transportation Policies and Strategies to improve the roadway level-of-service with such things as:

- Transportation Demand Management Strategies
 - Traffic Calming
 - Flextime
 - Transit Improvement
 - Car Sharing
 - Ridesharing
 - Pedestrian and Bicycle Improvements
 - Smart Growth
- Widening of Roadways



Table 53 - North/South Roadway Directional Segments Conditions Summary

ROADWAY	LIMITS		JURISDICTION	FUNCTION CLASSIFICATION	No. of LANES	1-WAY VOLUME						
						2009 FUTURE		2015 LANES	2015 FUTURE		2030 FUTURE	
						VPH	LOS	LANES	VPH	LOS	VPH	LOS
NW 79 AVE	25 ST	36 ST	CITY	COLLECTOR	4	885	C	4	1050	C	1250	D
NW 79 AVE	36 ST	58 ST	CITY	COLLECTOR	4	1090	C	4	1300	D	1550	D
NW 82 AVE	12 ST	25 ST	CITY	COLLECTOR	4D	890	D	4D	1050	D	1250	E
NW 82 AVE	25 ST	41 ST	CITY	LOCAL ROAD	2	790	F	2	950	F	1150	F
NW 84 AVE	12 ST	25 ST	CITY	LOCAL ROAD	4D	575	C	4D	700	C	850	C
NW 87 AVE	12 ST	25 ST	COUNTY	MINOR ARTERIAL	6D	2015	D	6D	2400	D	2850	F
NW 87 AVE	25 ST	36 ST	COUNTY	MINOR ARTERIAL	6D	1880	D	6D	2250	D	2650	F
NW 87 AVE	36 ST	58 ST	COUNTY	MINOR ARTERIAL	4D	1000	C	4D	1200	D	1450	D
NW 97 AVE	12 ST	25 ST	COUNTY	COLLECTOR	4D	1475	D	4D	1750	F	2050	F
NW 97 AVE	25 ST	33 ST	COUNTY	COLLECTOR	4D	1070	C	4D	1300	D	1550	D
NW 97 AVE	33 ST	41 ST	COUNTY	COLLECTOR	4D	1120	C	4D	1350	D	1600	D
NW 97 AVE	41 ST	58 ST	COUNTY	COLLECTOR	4D	930	C	4D	1100	C	1300	D
NW 97 AVE	58 ST	66 ST	COUNTY	COLLECTOR	2	575	D	2	700	D	850	F
NW 102 AVE	41 ST	58 ST	CITY	LOCAL ROAD	4D	520	C	4D	650	D	800	D
NW 107 AVE	12 ST	25 ST	COUNTY	MINOR ARTERIAL	6D	1960	D	6D	2300	D	2700	F
NW 107 AVE	25 ST	41 ST	COUNTY	MINOR ARTERIAL	4D	1420	D	4D	1700	E	2000	F
NW 107 AVE	41 ST	58 ST	COUNTY	MINOR ARTERIAL	4D	1715	E	4D	2050	F	2400	F
NW 107 AVE	58 ST	74 ST	COUNTY	COLLECTOR	4D	1975	F	4D	2350	F	2800	F
NW 107 AVE	74 ST	90 ST	COUNTY	COLLECTOR	4D	565	C	4D	700	C	850	C
NW 109 AVE	50 ST	58 ST	CITY	LOCAL ROAD	2	260	D	2	350	D	450	D
NW 112 AVE	25 ST	33 ST	CITY	LOCAL ROAD	2	555	E	2	650	E	800	F
NW 112 AVE	41 ST	58 ST	CITY	LOCAL ROAD	2	550	E	2	650	E	800	F
NW 112 AVE	74 ST	79 LN	CITY	LOCAL ROAD	4	275	C	4	350	C	450	C
NW 112 AVE	82 ST	90 ST	CITY	LOCAL ROAD	4D	200	C	4D	250	C	300	C
NW 114 AVE	34 ST	41 ST	CITY	LOCAL ROAD	2	700	F	2	850	F	1000	F
NW 114 AVE	41 ST	58 ST	CITY	LOCAL ROAD	2	1955	F	2	2300	F	2700	F
NW 114 AVE	58 ST	74 ST	CITY	LOCAL ROAD	4D	1140	D	4D	1350	F	1600	F
NW 114 AVE	74 ST	80 ST	CITY	LOCAL ROAD	4D	530	C	4D	650	D	800	D
NW 117 AVE	25 ST	33 ST	CITY	LOCAL ROAD	2	430	D	2	550	E	650	E
NW 117 AVE	50 ST	58 ST	CITY	LOCAL ROAD	2	125	C	2	150	C	200	C

The above failing roadways may need to be improved by Traffic and Transportation Policies and Strategies to improve the roadway level-of-service with such things as:

- Transportation Demand Management Strategies
 - Traffic Calming
 - Flextime
 - Transit Improvement
 - Car Sharing
 - Ridesharing
 - Pedestrian and Bicycle Improvements
 - Smart Growth
- Widening of Roadways



Roadway Summary

The City of Doral has a population of more than 30,000 with more than 100,000 visitors daily who work and play in Doral. According to the peak hour bi-directional data collected in 2009, 15 roadway segments are operating above level-of-service D with 47 operating at/or below level-of-service D. By the year 2015, 19 roadway segments will be operating above level of service D with 41 operating at or below level of service D. By the year 2030, a total of 26 roadway segments will be operating below level-of-service D.

Today, more than 70 percent of the studied segments within City of Doral roadway network function at or above LOS D. Roadway traffic volume counts were taken at 60 locations throughout Doral. Level-of-service D is the standard in Doral, so anything worse than D is unacceptable. Figure 39 below shows that approximately 30 percent of the links/roadway segments are operating as unacceptable LOS, by the year 2030 this condition will continue to deteriorate by approximately 15 percent.

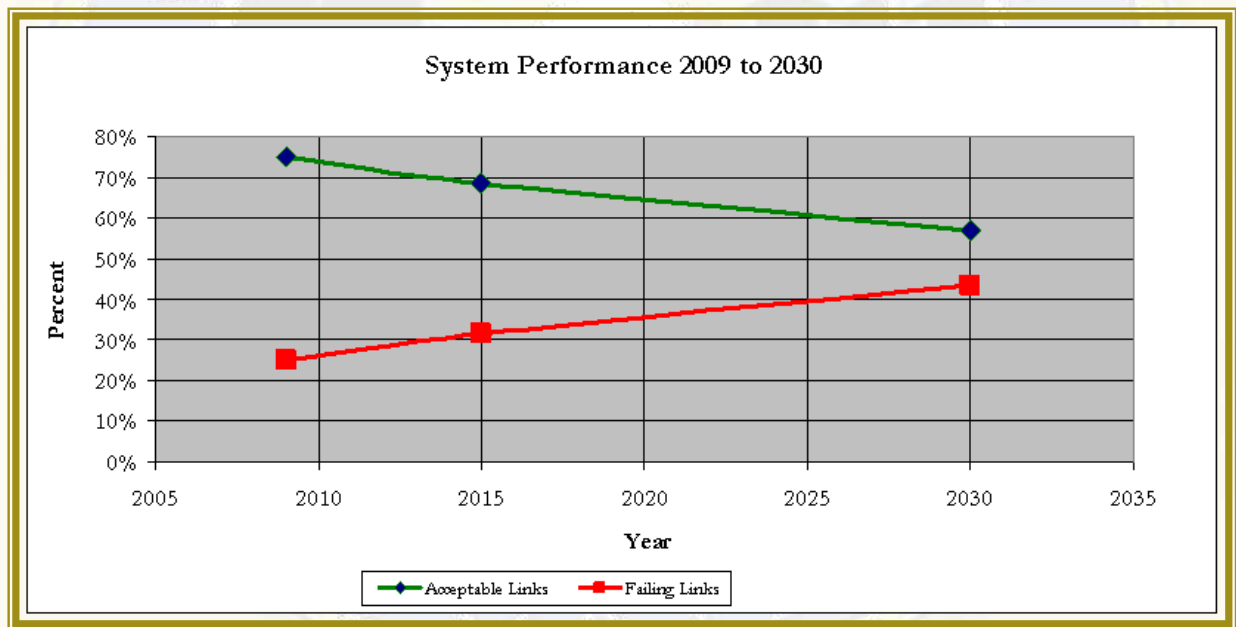


Figure 39 - System Performance through Time

Currently, the Doral roadway network is overall operating at adequate levels-of-service. However, due to the interrupted grid system in conjunction with the physical constraints bordering the City, the roadway network will deteriorate. This situation not only creates congestion on roadways within Doral but may also contribute to the high accident rates along these segments.



The major issue facing the City of Doral is a connectivity issue. Traffic is forced on a few major roadways as it moves east and west. The City is constrained by the roadways of US25/Okeechobee Road to the north with only NW 107th Avenue connecting Doral to the cities to its north; SR 826/Palmetto Expressway to the east with only the section lines of NW 58th Street, NW 36th Street/Doral Boulevard, NW 25th Street and NW 12th Street connecting Doral to the cities and the airport to its east; SR 836/Dolphin Expressway to the south with only NW 87th Avenue, NW 97th Avenue and NW 107th Avenue connecting with the cities to its south; and with SR 821/Florida's Turnpike to the west with only NW 41st Street/Doral Boulevard as an outlet.

The City of Doral's Comprehensive Plan Transportation Element in its Goals, Objectives and Policies state:

Objective 2.2: Roadway level-of-service states that all roadways within the City shall operate at or above the roadway level-of-service standards contained herein. The City shall coordinate with Miami-Dade County, the Miami-Dade MPO, and the FDOT to ensure adopted roadway level-of-service standards in the City are maintained.

And its Policy 2.2.4: Complete the system of section, half-section, and quarter-section line public roadways to the fullest extent possible.

Therefore, this TMP will include projects within the CIP to meet these objectives and policies.



Task 3: Project Bank

Introduction

This phase describes multimodal projects and estimate costs in three categories:

- Roadway
- Alternative modes
- Policy

This master plan strives to develop internal and external projects to truly impact mobility not only in Doral but regionally, since Doral is a regional City, and a significant economic generator. It has based the recommendations on the needs analysis and the desire to create an area of significant urban intensity in what is to be called Downtown Doral. This urban center will need to have transit connections to all area of the region. To implement this, the land use of the community will need to be reexamined, and to assist in providing incentive to the potential mode shift, growth management initiatives such as Transportation Concurrency Management Areas, (TCMA's), Transportation Concurrency Exception Areas, (TCEA's) or mobility fees will need to be evaluated. In recommending projects the plan has strived to make the relatively simple improvements to the roadway network and then introduce creative potential regional concepts that, if seriously evaluated, could represent a paradigm shift in our county's transportation system. Aside from this the plan strives to make the City more walkable. Now it's wide spread low intensity land uses, almost force the use of the automobile. In a society which is more receptive than ever to walking or biking, those that attempt to now are at serious risk, being forced to cross six or eight travel lanes at signals that are timed predominantly to facilitate automobile travel. Transit amenities such as signs, shelters and mapping are all planned to enhance the experience for the choice riders.

Roadway

This includes the physical capacity of the transportation network, which is the actual roadway itself, available for carrying vehicles. This is typically the road segments and intersections in the public right of way. It consists of about 60 improvement and maintenance projects such as resurfacing, widening, pavement markings, access management, signage, intersection



improvements, traffic calming, and other operational issues. Table 54 depicts the Roadway Project recommended for the City. Projects include:

- **Access management along major corridors**
 - Implement the recommendations from the Doral Blvd. Master Plan.
- **Signal retiming along major corridors**
 - Develop access management plan for signalized intersection/Citywide
 - Pursue inter-local agreement to reconfigure signal timing of all section line roads within the City every 5 years.
- **Safety Studies at highest five accident locations**
 - NW 79th Avenue and 25th Street
 - NW 87th Avenue and 12th Street
 - NW 36th Street and 79th Avenue
 - NW 87th Avenue and 13th Terrace
 - NW 41st Street and 97th Avenue
- **Signal Warrant Studies at:**
 - NW 117th Avenue and 25th Street
 - NW 112th Avenue and 27th Street
 - NW 107th Avenue and 66th Street
 - NW 97th Avenue and 17th Street
- **Installation of red light cameras at high accident locations**
 - NW 107th Avenue and 58th Street
 - NW 41st Street and 107th Avenue
 - NW 41st Street and 97th Avenue
 - NW 36th Street and 87th Avenue
 - NW 36th Street and 79th Avenue
 - NW 107th Avenue and 25th Street
 - NW 25th Street and 97th Avenue
 - NW 87th Avenue and 25th Street
 - NW 107th Avenue and 12th Street
 - NW 87th Avenue and 12th Street
- **Review of turning radii at intersections along truck routes**
- **Complete missing roadway links Citywide.**
- **Widening from 2 lanes to 4**
 - NW 97th Avenue from NW 52nd Street to NW 58th Street
 - NW 97th Avenue from NW 58th Street to NW 74th Street
- **Others**



Table 54 – Roadway Projects

Project #	Facility / Corridor	From	To	Description	PROBABLE COST			
					PLANNING	DESIGN	CONSTRUCTION	TOTAL
1	NW 12 Street	SR 826/Palmetto EXPY	SR 821/Florida's Turnpike	Improve signal coordination along corridor to improve efficiency and safety.	\$75,000	\$15,000	TBD	\$90,000
2	NW 12 Street	SR 826/Palmetto EXPY	NW 87 Avenue	Widen from 4 lanes to 6 lanes in order to address future deficiencies within the corridor.	\$196,908	\$984,539	\$3,938,157	\$5,119,605
3	NW 12 Street	NW 87 Avenue	NW 97 Avenue	Widen from 4 lanes to 6 lanes in order to address future deficiencies within the corridor.	\$200,846	\$1,004,230	\$4,016,921	\$5,221,997
4	NW 12 Street	NW 97 Avenue	NW 107 Avenue	Widen from 4 lanes to 6 lanes in order to address future deficiencies within the corridor.	\$198,877	\$994,385	\$3,977,539	\$5,170,801
5	NW 25 Street	SR 826/Palmetto EXPY	SR 821/Florida's Turnpike	Improve signal coordination along corridor to improve efficiency and safety.	\$75,000	\$15,000	TBD	\$90,000
6	NW 25 Street	NW 87 Avenue	NW 97 Avenue	Widen from 4 lanes to 6 lanes in order to address future deficiencies within the corridor.	\$196,908	\$984,539	\$3,938,157	\$5,119,605
7	NW 25 Street	NW 97 Avenue		Intersection has been designated as a high accident location. Installation of red light cameras is recommended to reduce the amount of red light abuses resulting in less harmful accidents. Recommend providing adequate left-turn bay lengths, study the possibility of median opening dosures within 1,000 feet of the intersection and provide adequate turning radii along trucks route.	\$10,000	\$25,000	\$250,000	\$285,000
8	NW 25 Street	NW 97 Avenue	NW 107 Avenue	Widen from 4 lanes to 6 lanes in order to address future deficiencies within the corridor.	\$196,908	\$984,539	\$3,938,157	\$5,119,605
9	NW 36/41 Street	SR 826/Palmetto EXPY	SR 821/Florida's Turnpike	Implement recommendations from Doral Blvd. Master plan. Improve signal coordination along corridor to improve efficiency and safety.	NA	NA	\$5,000,000	\$5,000,000
10	NW 36 Street	NW 79 Avenue		Intersection is classified as one of the top 5 accident locations within Doral. Safety study at intersection is recommended. Installation of red light cameras is recommended to reduce the amount of red light abuses resulting in less harmful accidents.	\$10,000	\$25,000	\$250,000	\$285,000
11	NW 36 Street	NW 87 Avenue		Intersection has been designated as a high accident location. Installation of red light cameras is recommended to reduce the amount of red light abuses resulting in less harmful accidents. Recommend providing adequate left-turn bay lengths and study the possibility of median opening dosures within 1,000 feet of the intersection.	\$10,000	\$25,000	\$250,000	\$285,000
12	NW 41 Street	NW 97 Avenue		Intersection is classified as one of the top 5 accident locations within Doral. Safety study at intersection is recommended. Installation of red light cameras is recommended to reduce the amount of red light abuses resulting in less harmful accidents. Provide adequate left-turn storage lengths.	\$10,000	\$25,000	\$250,000	\$285,000
13	NW 41 Street	NW 107 Avenue		Intersection has been designated as a high accident location. Installation of red light cameras is recommended to reduce the amount of red light abuses resulting in less harmful accidents. Recommend providing adequate left-turn bay lengths and study the possibility of median opening dosures within 1,000 feet of the intersection.	\$10,000	\$25,000	\$250,000	\$285,000
14	NW 58 Street	SR 826/Palmetto EXPY	NW 87 Avenue	Widen from 4 lanes to 6 lanes in order to address future deficiencies within the corridor.	\$196,908	\$984,539	\$3,938,157	\$5,119,605
15	NW 58 Street	NW 87 Avenue	NW 97 Avenue	Widen from 4 lanes to 6 lanes in order to address future deficiencies within the corridor.	\$196,908	\$984,539	\$3,938,157	\$5,119,605
16	NW 58 Street	NW 97 Avenue	NW 107 Avenue	Widen from 4 lanes to 6 lanes in order to address future deficiencies within the corridor.	\$196,908	\$984,539	\$3,938,157	\$5,119,605
17	NW 58 Street	SR 826/Palmetto EXPY	NW 114 Avenue	Improve signal coordination along corridor to improve efficiency and safety.	\$75,000	\$15,000	NA	\$90,000
18	NW 66 Street	NW 97 Avenue	NW 102 Avenue	New 2 lane roadway in order to provide better connectivity within Sec 17.	\$95,472	\$477,361	\$1,909,443	\$2,482,276
19	NW 70 Street	NW 102 Avenue	NW 107 Avenue	New 2 lane roadway in order to provide better connectivity within Sec 17.	\$95,472	\$477,361	\$1,909,443	\$2,482,276
20	NW 78 Street	NW 102 Avenue	NW 107 Avenue	New 2 lane roadway in order to provide better connectivity.	\$95,472	\$477,361	\$1,909,443	\$2,482,276
21	NW 82 Street	NW 102 Avenue	NW 107 Avenue	New 2 lane roadway in order to provide better connectivity.	\$95,472	\$477,361	\$1,909,443	\$2,482,276
22	NW 86 Street	NW 97 Avenue	NW 107 Avenue	New 2 lane roadway in order to provide better connectivity.	\$190,944	\$954,722	\$3,818,886	\$4,964,552
23	NW 90 Street	NW 97 Avenue	NW 107 Avenue	New 2 lane roadway in order to provide better connectivity.	\$190,944	\$954,722	\$3,818,886	\$4,964,552
24	NW 79 Avenue	NW 25 Street		Intersection is classified as one of the top 5 accident locations within Doral. Safety study at intersection is recommended.	\$10,000			\$10,000
25	NW 82 Avenue	NW 25 Street	NW 41 Street	Widen from 2 lanes to 4 lanes in order to address future deficiencies within the corridor.	\$217,868	\$1,089,338	\$4,357,351	\$5,664,556
26	NW 87 Avenue	NW 12 Street		Intersection is classified as one of the top 5 accident locations within Doral. Safety study at intersection is recommended. Installation of red light cameras is recommended to reduce the amount of red light abuses resulting in less harmful accidents. Recommend providing adequate left-turn bay lengths and study the possibility of median opening dosures within 1,000 feet of the intersection.	\$10,000	\$25,000	\$250,000	\$285,000
27	NW 87 Avenue	NW 13 Terrace		Intersection is classified as one of the top 5 accident locations within Doral. Safety study at intersection is recommended.	\$10,000	TBD	TBD	\$10,000
28	NW 87 Avenue	NW 25 Street		Intersection has been designated as a high accident location. Installation of red light cameras is recommended to reduce the amount of red light abuses resulting in less harmful accidents. Recommend providing adequate left-turn bay lengths and study the possibility of median opening dosures within 1,000 feet of the intersection.	\$10,000	\$25,000	\$250,000	\$285,000
29	NW 87 Avenue	NW 58 Street		Left-turn bay lengths are currently not meeting the existing demand. Left-turn bay lengths are recommended to be lengthened.	\$10,000	\$25,000	\$250,000	\$285,000
30	NW 92 Avenue	NW 25 Street	NW 33 Street	New 2 lane roadway in order to provide better connectivity.	\$95,472	\$477,361	\$1,909,443	\$2,482,276
30	NW 97 Avenue	NW 17 Street		Intersection usage has increased to such an extent where current traffic controlling devices are deemed as less effective. Signal warrant study is recommended to increase the safety and efficiency of the intersection.	\$15,000	\$50,000	\$300,000	\$365,000



Transportation Master Plan

Table 54 – Roadway Projects Continued

Project #	Facility / Corridor	From	To	Description	PROBABLE COST			
					PLANNING	DESIGN	CONSTRUCTION	TOTAL
31	NW 97 Avenue	NW 52 Street	NW 58 Street	Widen from 2 lanes to 4 lanes in order to transform the North-South section line road into an effective artery.	\$78,263	\$391,316	\$1,565,262	\$2,034,841
32	NW 97 Avenue	NW 58 Street	NW 74 Street	Widen from 2 lanes to 4 lanes in order to transform the North-South section line road into an effective artery.	\$211,522	\$1,057,609	\$4,230,438	\$5,499,569
33	NW 97 Avenue	NW 74 Street	NW 90 Street	New 2 lane roadway in order to provide better connectivity.	\$190,944	\$954,722	\$3,818,886	\$4,964,552
34	NW 99 Avenue	NW 58 Street	NW 66 Street	New 2 lane roadway in order to provide better connectivity within Sec. 17.	\$95,472	\$477,361	\$1,909,443	\$2,482,276
35	NW 102 Avenue	NW 58 Street	NW 74 Street	New 2 lane roadway in order to provide better connectivity within Sec. 17.	\$190,944	\$954,722	\$3,818,886	\$4,964,552
36	NW 102 Avenue	NW 74 Street	NW 90 Street	New 2 lane roadway in order to provide better connectivity.	\$190,944	\$954,722	\$3,818,886	\$4,964,552
37	NW 104 Avenue	NW 58 Street	NW 62 Street	New 2 lane roadway in order to provide better connectivity within Sec. 17.	\$51,555	\$257,775	\$1,031,099	\$1,340,429
38	NW 104 Avenue	NW 66 Street	NW 74 Street	New 2 lane roadway in order to provide better connectivity within Sec. 17.	\$95,472	\$477,361	\$1,909,443	\$2,482,276
39	NW 104 Avenue	NW 74 Street	NW 90 Street	New 2 lane roadway in order to provide better connectivity.	\$190,944	\$954,722	\$3,818,886	\$4,964,552
40	NW 107 Avenue	NW 12 Street		Intersection has been designated as a high accident location. Installation of red light cameras is recommended to reduce the amount of red light abuses resulting in less harmful accidents. Recommend providing adequate left-turn bay lengths and study the possibility of median opening dosures within 1,000 feet of the intersection.	\$10,000	\$25,000	\$250,000	\$285,000
41	NW 107 Avenue	NW 25 Street		Intersection has been designated as a high accident location. Installation of red light cameras is recommended to reduce the amount of red light abuses resulting in less harmful accidents. Recommend providing adequate left-turn bay lengths and study the possibility of median opening dosures within 1,000 feet of the intersection.	\$10,000	\$25,000	\$250,000	\$285,000
42	NW 107 Avenue	NW 41 Street	NW 58 Street	Improve signal coordination along corridor to improve efficiency and safety.	\$75,000	\$15,000	NA	\$90,000
43	NW 107 Avenue	NW 52 Street		Intersection usage has increased to such an extent where current traffic controlling devices are deemed as less effective. Signal warrant study is recommended to increase the safety and efficiency of the intersection.	\$15,000	\$50,000	\$300,000	\$365,000
44	NW 107 Avenue	NW 58 Street		Intersection has been designated as a high accident location. Installation of red light cameras is recommended to reduce the amount of red light abuses resulting in less harmful accidents. Recommend providing adequate left-turn bay lengths and study the possibility of median opening dosures within 1,000 feet of the intersection.	\$10,000	\$25,000	\$250,000	\$285,000
45	NW 107 Avenue	NW 58 Street	NW 74 Street	Widen from 4 lanes to 6 lanes in order to address future deficiencies within the corridor.	\$196,908	\$984,539	\$3,938,157	\$5,119,605
46	NW 107 Avenue	NW 66 Street		Intersection usage has increased to such an extent where current traffic controlling devices are deemed as less effective. Signal warrant study is recommended to increase the safety and efficiency of the intersection.	\$15,000	\$50,000	\$300,000	\$365,000
47	NW 109 Avenue	NW 41 Street	NW 43 Lane	New 2 lane roadway in order to increase connectivity.	\$13,366	\$66,831	\$267,322	\$347,519
48	NW 112 Avenue	NW 27 Street		Intersection usage has increased to such an extent where current traffic controlling devices are deemed as less effective. A study to determine whether installation of a new traffic signal or roundabout is recommended to increase the safety and efficiency of the intersection.	\$15,000	\$50,000	\$300,000	\$365,000
49	NW 112 Avenue	NW 25 Street	NW 33 Street	Widen from 2 lanes to 4 lanes in order to address future deficiencies within the corridor.	\$107,876	\$539,381	\$2,157,523	\$2,804,780
50	NW 112 Avenue	NW 41 Street	NW 58 Street	Widen from 2 lanes to 4 lanes in order to address future deficiencies within the corridor.	\$211,522	\$1,057,609	\$4,230,438	\$5,499,569
51	NW 114 Avenue	NW 34 Street	NW 41 Street	Widen from 2 lanes to 4 lanes in order to address future deficiencies within the corridor.	\$105,761	\$528,805	\$2,115,219	\$2,749,785
52	NW 114 Avenue	NW 41 Street	NW 58 Street	Widen from 2 lanes to 4 lanes in order to address future deficiencies within the corridor.	\$211,522	\$1,057,609	\$4,230,438	\$5,499,569
53	NW 115 Avenue	NW 41 Street		Provide directional median opening to limit the number of conflicts.	\$10,000	\$25,000	\$250,000	\$285,000
54	NW 117 Avenue	NW 25 Street		Intersection usage has increased to such an extent where current traffic controlling devices are deemed as less effective. Signal warrant study is recommended to increase the safety and efficiency of the intersection.	\$15,000	\$50,000	\$300,000	\$365,000
55	Truck Route	Citywide		Provide adequate turning radii along truck routes.	\$15,000	\$75,000	\$1,500,000	\$1,590,000
56	Roadway Condition	Citywide		Update roadway condition/pavement roughness for 5 year work program	\$500,000	\$1,000,000	\$10,000,000	\$11,500,000
57	Right of Way Needs	Citywide		Convert unlined canals to lined canals to accommodate roadway widening.	TBD	TBD	TBD	TBD
58	Red-light Cameras	Citywide		Red-light camera installation at high accident locations.	\$15,000/ Intersection	\$10,000/Intersection	\$100,000/Intersection	\$125,000/Intersection
59	Roundabouts	Citywide		A study that proposes locations where a stop sign controlled intersection can be converted to a roundabout.	TBD	TBD	TBD	TBD



Alternative Modes

This consists of about 30 projects that will include features to assist transit and to serve pedestrian and bicycle traffic. These will provide options for inter- and intra-city mobility by encouraging community access and promoting healthy lifestyles. Since Doral is both a major origin and a major destination, its transportation issues are regional in nature as well as local. In order to have an impact on the local system the ability to shift automobile trips to alternative modes as the traveler begins their journey to Doral will play a significant role in alleviating automobile congestion in Doral. New connections with the Miami Dade County Transit system are suggested, as well as the concept of creative regional circulators, using BRT on special use lanes on the existing highway network.

Doral has been frustrated with the regional lack of progress in the implementation of effective mass transit. For nearly 30 years we have been chasing the unfulfillable promise of Metrorail, a mode which over the period has proven unwinnable for a community of our spatial, demographic and land use characteristics. The unwavering desire to shoehorn a northeastern transit mode into a new Florida city has not worked. Many believe that it is time to think of South Florida as a unique region with its own characteristics and not try to replicate solutions that best work in differently developed areas. This will entail the concept, design and implementation of a right sized transit system that works here. This system is one that can be competitive with the automobile in cost and travel time, and one that strives to attract choice riders, not only the transit dependant. This concept of a system recognizes that Miami Dade County is a relatively moderate density community, spread over a huge geographic area, with several existing and emerging centralized nodes of intensity. It has looked toward a combination of the two most innovative and successful transit initiatives since Metrorail as a way of proceeding. Combining the concept of Bus Rapid Transit (BRT) as used on the Busway as the mode, with the concept of managed lanes, as used on the I-95 Express project as the guide way, Doral an efficient and effective transit system can be build using the existing expressway system as the routes that connect urban centers. This system is used now to facilitate automobile travel, and it is highly connective in the automobile oriented post WWII landscape of South Florida, where new right of way is difficult and expensive to attain. Figure 40 shows what a BRT Circulator would look like.



Figure 40 – BRT Regional Circulators

For years Doral has worked with the idea of developing park and ride lots at its borders to intercept cars at the City's edges, then circulate them through the City on transit. It retrospectively seems impractical. Drivers would likely not drive to Doral, to then get on a bus and wait in traffic for the last 10% of the trip. Planners believe that the concept of a regional circulator would do more to attract riders. The route would counter circulate between South Dade and Doral in a loop at Metrorail headways. It would begin at the Southland Mall in Cutler Bay, travel north on the Busway to Dadeland, where it would then use a managed lane on the Palmetto Expressway north to Doral, to 36th/41st Street where it would then travel west on an exclusive lane, through the future Downtown Doral, to the Turnpike and south on a managed lane on the Turnpike to Southland Mall. The managed lane would be for buses but open to



automobiles for a fee. This would like the emerging centers of Cutler Bay, Dadeland, and Doral, three of the regions economic nodes with the most potential. South Dade is projected to absorb the bulk of the population growth in the next 30 years. Already, the largest number of trips coming to Doral each day is from the area in question. Undoubtedly this concept needs further study, but tentative ridership numbers show that it could have a substantial impact on mobility. The right of way currently exists, and whether an existing lane or new lanes are implemented to facilitate the mode, this is responsive to the future of Miami Dade County.

Further Doral is undergoing a process of re-landusing its urban core. The area between 58th Street, 12th Street, 87th Avenue and the Palmetto Expressway is slated to be a high density urban center, comparable in intensity to the regional centers already re-land used along the Busway. Doral hopes to further connect to the regional system by linking with the Palmetto Metrorail Station. This connection is going to be made in the near term with the Doral Trolley. Ridership projections show that this route can carry up to 1000 passengers per day, and be comparable with the most productive urban circulators in the County, like Route W, Hialeah Transit, and the Coral Gables Trolley. The concept follows the highly successful Coral Gables trolley, which links that downtown with Metrorail. Other efforts include:

Transit

1. Existing Trolley Route Improvements
2. Improved Trolley Headways
3. New Trolley Route Connection to Palmetto Metrorail Station
4. Other New Routes
5. Shelters at stops
6. Signage
7. South Dade/Doral BRT Circulator (Downtown-Palmetto-Dadeland-Busway-Southland-Turnpike-41st St-Downtown) Using managed lanes concept.
8. North Dade/Doral BRT Circulator (Downtown-Palmetto-Palmetto Metrorail- I-75-Turnpike-41st Street – Downtown) Using managed lanes concept
9. Timing of Trolley Routes to better serve MDT traffic
10. Bus Fleet Replacement
11. Park and Ride lots

Pedestrian

1. Fill in sidewalk gaps on section line, and half-section line roads
2. Adequate sidewalks ½ mile from all trolley stops
3. High Visibility crosswalks at major intersections
4. Pedestrian count down signals at all major intersections
5. Mid block crossings at various locations



Transportation Master Plan

6. Pedestrian favorable signal timings during mid day peak hours at intersections between major origins and destinations
7. Safe Routes to School Applications

Bicycle

1. Implement Bicycle/Pedestrian Master Plan
2. Bicycle lanes on major thoroughfares
3. Bike amenities at shopping centers, office buildings (bike racks, showers, lockers, etc)
4. Bike racks on Trolley

Table 55 shows the recommended alternative mode projects.

Table 55 – Alternative Mode Projects

Project #	PROJECT NAME	TYPE OF WORK	PURPOSE AND NEED	PROBABLE COST			
				PLANNING	DESIGN	CONSTRUCTION	TOTAL
1	Procure 3 additional trolleys	Transit	Expand trolley services to connect the southwest portion of the City with the MDT Palmetto Metrorail Station as well as to increase trolley headways during peak hours on existing route.	\$10,000	NA	\$450,000	\$460,000
2	Trolley Synchronization with MDT Bus Service	Transit	Improve the timing of the Trolley in order to facilitate better transfers with MDT buses.	TBD	TBD	TBD	TBD
3	Operate & Maintain 5 trolleys	Transit	To operate and maintain a total of 5 trolleys.	NA	NA	\$900,000	\$900,000
4	New Trolley Route Signage	Transit	Install trolley signs along new and existing trolley routes.	NA	NA	\$67,500	\$67,500
5	South Dade/Doral BRT Circulator	Transit	Connect South Dade to Doral via a regional circulator along US-1 between Dadeland and Southland Mall, SR 826, Turnpike and NW 36th/41st Street using the managed lanes concept.	\$300,000	TBD	TBD	\$300,000
6	North Dade/Doral BRT Circulator	Transit	Connect North Dade to Doral via a regional circulator along I-75, SR 826, the Turnpike and NW 36th/41st Street using the managed lanes concept. It would stop at Palmetto Metrorail Station.	\$300,000	TBD	TBD	\$300,000
7	Bus Passenger Shelter Program	Transit	Install bus shelters where boarding exceed 20 or more boarding per day.	\$8,400	\$35,000	\$140,000	\$183,400
8	Bus Bays	Transit	Install bus bays where bus shelters are present and where boarding exceed 20 or more boardings per day.	\$4,200	\$21,000	\$84,000	\$109,200
9	Park & Ride Facilities	Transit	Establish Park & Ride facilities throughout the city.	\$25,000	TBD	TBD	TBD
10	Bus Passenger Bench Program	Transit	Install bus benches where boarding exceed 5 or more boarding per day and where headways are 30 min or more.	\$17,880	\$29,800	\$250,320	\$298,000
11	Sidewalk Construction	Pedestrian	Fill in sidewalk gaps on section and half section line roads.	NA	\$128,142	\$4,271,406	\$4,399,548
12	Sidewalk Construction	Pedestrian	Provide adequate sidewalks within 1/2 mile of all trolley stops.	TBD	TBD	TBD	TBD
13	Pedestrian Countdown Signals / High Visibility Crosswalks	Pedestrian	Evaluate major intersections throughout city to evaluate the need to safely cross pedestrians.			\$8,000/ Intersection	\$0
14	Safe Route to School Program	Pedestrian	This program is federally incentivized to encourage children to walk to school.	\$10,000/School	TBD	TBD	\$0
15	Mid-day Signal Timings	Pedestrian	Provide favorable signal timings during mid-day peak hours at major intersections between major origins and destinations.	\$8,000/Intersection	NA	NA	\$0
16	Mid-block Crossings	Pedestrian	Provide mid-block crossings at various locations.	\$5,000	\$5,000	\$101,500	\$111,500
17	Bicycle/Pedestrian Master Plan	Bicycle	This plan would provide specific locations where it is feasible to place bike lanes, multi-purpose paths, sidewalks, crossing aids and signage. This would place emphasis on connecting the Doral system with the county system of trails, paths and greenways.	\$63,000	\$105,000	\$882,000	\$1,050,000
18	Bicycle amenities at various locations	Bicycle	Provide bike amenities (such as bike racks, showers, lockers, etc) at shopping centers, office buildings, schools, and parks.	TBD	TBD	TBD	TBD
19	Downtown Light Rail	Transit	Once the Downtown CBD is established it would be connected north and south via a light rail route running through its center making multiple stops and connecting with the Palmetto Metrorail Station and any transit station associated with planned east/west transit line.	\$300,000	TBD	TBD	\$300,000



Table 55 – Alternative Mode Projects Continued

Project #	PROJECT NAME	TYPE OF WORK	PURPOSE AND NEED	PROBABLE COST			
				PLANNING	DESIGN	CONSTRUCTION	TOTAL
20	Doral Intermodal Center	Transit	As higher level transit becomes an increasing reality, an intermodal station should be developed in the Central Business District. This should accommodate all modes offered, as well as ample parking as well as station amenities. If centrally located it would serve as the main stop in The Central Business District.	\$120,000	TBD	TBD	\$120,000
21	Transit Bus Priority	Transit	Queue Jumpers are an operational technique, where the bus is given priority over automobile traffic at red lights. The bus is able to bypass the queued traffic, move to the front of the line and get a head start. This speeds the flow of transit, making it more attractive to riders. Would be applicable in heavily traveled transit corridors, where high ridership is experienced. Provide transit buses the space to load and unload passengers outside of the travel lanes	\$55,000	TBD	TBD	\$55,000
22	Bike Racks on Trolley	Transit	To encourage bicycle and transit use, the implementation of Bike Racks on the trolley would be helpful.	TBD	TBD	TBD	TBD
23	Improved Safety and Security of Existing Trolley	Transit	Potential of having cameras on each bus.	\$5,000	NA	\$100,000	\$105,000
24	Tree Planting	Pedestrian	Assess locations to plant new trees in order to provide shade for pedestrians and for aesthetic purposes.	\$25,000	\$25,000	\$300,000	\$350,000
25	End Lunch Hour Route	Transit	Since the Lunch Hour Trolley route has not been as successful as anticipated the route shall be eliminated. Original route should run continuously through out the day.	NA	NA	NA	NA
26	Trolley Wi-Fi	Transit	Trolley should consider installing a Wi-Fi system in order to improve ridership.	TBD	TBD	TBD	TBD
27	Headway Electrical Screens	Transit	Installation of headway electrical screens at select trolley shelters in order to provide riders with up-to-date information on the trolleys progress.	TBD	TBD	TBD	TBD
28	Develop a Trolley Student Guardian Program	Transit	A program where volunteers (such as teachers, coaches, parents, etc) from the public schools the trolley serve guide group of students who ride the trolley around the city. This program should be run during school morning and afternoon hours during peak use. The program should provide for a more comfortable atmosphere on the trolley and provide safety for the students whom ride the trolley.	NA	NA	NA	NA
29	Electronic Counter	Transit	Install an electronic counter to every trolley in order to keep record of ridership on the trolleys.	TBD	TBD	TBD	TBD
30	Run Trolley till 9 PM	Transit	According to the Trolley Survey and in order to be insync with MDT the trolley should operate till 9 PM during weekdays.	TBD	TBD	TBD	TBD



Policy

This will consist of procedures to support projects described. These will examine current policies on growth management; review the classification of the roadway system, concurrency measurement techniques, transportation demand techniques, transportation systems management techniques, and intelligent transportation systems techniques. For years planners have recognized the unintended consequences of Concurrency have had a negative impact on urban development, particularly in Miami Dade County, which strives to manage growth through use of an urban development boundary, and roadway level of service incentives. Cities like Miami Beach, Hialeah, and Sarasota have worked ahead of the most recent state growth management legislation to more adequately impact spatial development patterns and intensities. Resulting from 2009's SB 360, Cities classified as Dense Urban Land Areas, (DULA's) have until mid 2011 to develop individual mobility fees by which to manage growth. Multiple options for how to proceed will be evaluated including:

1. Transportation Concurrency Exception Area
 - a. Multi-modal Transportation Plan to:
 - i. Define mobility
 - ii. Detail acceptable Multi-Modal LOS
 - iii. Detail funding mechanisms
2. Support County-Wide transportation policy leading to incremental expansion of mass transit through BRT.
3. Development Credits for multi-modal enhancements:
 - a. Bike racks, lockers, showers, wider sidewalks
4. Reexamine Comprehensive Plan Transportation and Land Use Elements to add multi-modal policies by 2012.

Table 56 shows the recommended policy projects.



Table 56 – Policy Projects

PROJECT NAME	TYPE OF WORK	PURPOSE AND NEED
Comprehensive Plan	Policy	Review Comp Plan to add multi-modal policies. As the main policy document the comprehensive plan should suggest multi-modal objectives and policies. This is best handled through the next Evaluation and Appraisal Report Process. Or the transportation and land use elements should be reexamined specifically for this purpose.
Allow cross access easements	Policy	Allow vehicles and pedestrians to cross property lines to improve safety and flow.
Adopt a Street Program	Policy	Provide roadway maintenance through private companies.
Support Managed Lanes	Policy	Managed lanes are travel lanes which are often used for transit, yet automobiles are allowed to use them for a fee. Often these tolls are priced so to maintain a targeted level of service. MDX is highly interested in the concept and is exploring their implementation along the Busway. They are in place on I-95. National funding has provided incentive for this type of transportation.
TCEA/TCMA	Policy	Consider a multi-modal transportation plan that defines mobility, the acceptable multi-modal level-of-service and the funding mechanism. TCEA or TCMA should be implemented for areas of high intensity mixed use. It should be an incentive for the CBD.
Support Bus Rapid transit (BRT)	Policy	New federal legislation has highly incentivized Bus Rapid Transit. This has been done primary for communities like ours where density precludes ridership to the numbers which makes our projects competitive relative to the federal investment of dollars. Metrorail, as shown on the county LRTP maps for the past several decades, is unrealistic under the current land use and funding scenarios. In addition the mismanagement at the county level of the transit agency has left sever questions on our County's ability to seriously commit the necessary funds to support a more high intense system.
Development Credits for multi-modal enhancements	Policy	As a method of incentivizing transit oriented development, credits, such as density bonuses, tax breaks ect, should be developed to focus and attract such development in the Central Business District.
Central Business District	Land Use	Develop a new land development code relative to a Central Business District. This would be the area bound by 58th Street, 25th Street, 87th Ave and 79th Ave. It should have moderate to high densities, mixed use, compact parallel roads. It should be designed to accommodate transit.
Transportation Demand Management (TDM)	Policy	TDM consists of alternative ways of using the roadways system. This can include flexible hours a work, work from home days, congestion pricing, etc. Employers should be encouraged to utilize these techniques and coordinate with South Florida Commuter Services to do so. Doral should facilitate this coordination.
Corridor Management Plans	Capacity/Policy	All the major connecting corridors in Doral should be evaluated. These corridor management plans will uncover opportunities to access management to the roadway facility, through cross access easements, driveway consolidation, other management techniques. The potential for parallel facilities, or reversible or shared use lanes may exist. From a land use perspective, land development codes can be rewritten to cluster development in activate centers at particular intersections. This will still accommodate drivers, but enable them to use the area in one stop, instead of having to get into their car and reenter the roadway for other items. They will also be more attractive for transit.
Major Corridor Signal Synchronization	Citywide Inter-Local	Pursue an inter-local agreement to provide a program for which all section line roadway signals will be synchronized every 5 years.
Mobility Fee	Policy	Purpose and Need: 2009, SB 360 give DULA's 2 years to develop multi-modal mobility fees to manage growth. The state deadline is June of 2011.



Task 4: Financing

Federal Funding

This section describes the federal revenue sources and federal funding programs whose revenues flow to Miami-Dade County, either directly or through FDOT. Federal revenues include both Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) funds, and these federal revenues may be either formula-based or discretionary depending on the program. Simply put highway projects are funded through FDOT and transit projects generally go through the Federal Transit Agency's Section 5309, New Starts program, which focuses on Fixed guideway transit projects. The New Starts process is the country's primary mechanism for funding major new transit capacity projects. New Starts is a highly competitive and time-intensive process where projects must meet stringent requirements for both cost-effectiveness and implementing agencies must show that they have the long-term financial capacity to successfully build, operate, and maintain the proposed project. Projects generally receive much less than the statutory maximum Federal participation of 80%. In our county we have failed to be competitive for a variety of reasons, including low ridership and lack of financial capabilities. Planners believe that the mode of transit we have been applying for (heavy rail) is too intensive for our size community, therefore ridership numbers generated from or low intensity land use would not be competitive with those generated from more dense communities. Additionally the cost to develop such a high capacity system for so few riders could not be sustained. For those reasons and others Doral's concept of scaling down the transit mode to more adequately match the size and characteristics of the community is a good idea. New Starts selection criteria is changing and moving toward a process which focuses more on land use. Miami Dade County has done much work in the development of intensive nodes, which will further aid in system development. Prior to any formal application Doral's concepts should be studied through a more intensive examination to define the potential projects parameters, facility needs, estimated ridership, potential station locations, as well as funding requirements. This type of study is generally taken on by the MPO or FDOT's Planning division, and is relatively inexpensive, but Doral can undertake it on their own, yet coordination with all agencies would be imperative.

Additional relevant funding sources for Doral can come from the mobility fee, which will be further developed in accordance with growth management laws, and will allow the City to provide incentives and disincentives for development, as well as collect a fee for a projects proportionate impact to the transportation network. Miami-Dade Expressway Authority collects tolls to fund its operations. Recently they have begun exploring the Managed Lanes concept,



where lanes are kept flowing at a set level of service, and drivers are charged a flexible toll if they want to use the lanes.

Federal Trust Fund Revenues and SAFETEA-LU Programs

The Highway Trust Fund (HTF) was created by the Highway Revenue Act of 1956 (Pub. L. 84-627) to ensure a dependable source of funding for the National System of Interstate and Defense Highways and to serve as the source of funding for the remainder of the Federal-aid Highway Program. Like other Federal trust funds, the HTF is a financing mechanism established by law to account for tax receipts that are collected by the Federal Government and are dedicated or "earmarked" for expenditure on special purposes. Originally, the HTF focused solely on highways, but later Congress determined that some revenues from the highway-user taxes dedicated to the HTF should be used to fund transit needs. As a result, the Mass Transit Account was created within the HTF effective April 1, 1983. Since that time, a portion of the revenues earmarked for the HTF has been credited specifically to the Mass Transit Account.

Tax revenues directed to the HTF are derived from excise taxes on highway motor fuel and truck related taxes on truck tires, sales of trucks and trailers, and heavy vehicle use. The Mass Transit Account receives a portion of the motor fuel taxes (2.86 cents per gallon), as does the Leaking Underground Storage Tank Trust Fund (0.1 cent per gallon). The General Fund receives 2.5 cents per gallon of the tax on gasoline and some other alcohol fuels plus an additional 0.6 cent per gallon for fuels that are at least 10 percent ethanol. The Highway Account receives the remaining portion of the fuel tax proceeds. For example, as of October 1, 1997, the 18.4 cents per gallon gasoline tax was split as follows: 2.86 cents per gallon to the Mass Transit Account, 0.1 cent per gallon to the Leaking Underground Storage Tank Trust Fund, and 15.44 cents to the Highway Account. All of the receipts from the non-fuel taxes are deposited in the Highway Account. SAFETEA-LU established funding authorization levels (i.e., funding levels which may be used for the respective programs) and obligation limitations (i.e., a restriction on the amount of federal assistance that may be promised or obligated during a specific period—a given year, for example) for highway and transit programs for fiscal years 2005 through 2009. SAFETEA-LU extended the practice of establishing separate budget categories for highway and mass transit discretionary spending, thus establishing a budgetary "firewall" between each of those programs and all other discretionary programs. The firewall ensures that the protected highway and transit programs no longer have to compete with other domestic discretionary programs (e.g. housing or education) for a place in the annual federal budget. The budgetary firewall was instrumental in establishing "guaranteed" annual funding levels (or more accurately, obligation limitations) for both highway and transit programs. Any authorizations in excess of the guaranteed levels are in the budgetary "red zone" and remain part of the general discretionary budget category. Red zone funds may be made available through the annual budget and appropriations process and must



compete with other budget priorities for their place in the budget each year. Presented below are the guaranteed funding levels available for obligation as authorized in SAFETEA-LU.

Federal Highway Administration (FHWA) Programs

The Florida Department of Transportation (FDOT) receives federal revenues from five major programs (along with a number of smaller programs) and allocates the applicable funds to the regional MPOs through specific FDOT funding programs. FDOT's major programs can be divided into two general categories: Capacity Programs and Non-Capacity Programs. Capacity Programs include each major FDOT program that expands the capacity of existing transportation systems, while Non-Capacity Programs include the remaining FDOT programs that are designed to support, operate, and maintain the state transportation system. MPOs are responsible for planning, and receive revenue estimates, only for those FDOT programs that are part of the Capacity Program. Thus, only those federal funding programs that are part of the FDOT Capacity Program are described in this review. The major FHWA federal funding programs, whose funds flow through the FDOT Capacity Program are: National Highway System Program (NHS), Surface Transportation Program (STP), and Congestion Mitigation and Air Quality Improvement Program (CMAQ). Miami-Dade County is no longer a non-attainment area for air quality, and thus is no longer allocated any federal CMAQ funds. The other two major FHWA funding programs, Interstate Maintenance Program (IM) and the Highway Bridge Replacement and Rehabilitation Program (HBRRP), provide funds that largely flow through the FDOT's Non-Capacity Program.

- **National Highway System Program (NHS):** The NHS Program provides funding for improvements to rural and urban roads that are part of the National Highway System, including the Interstate System and designated connections to major intermodal terminals. Under certain circumstances, NHS funds may also be used to fund transit improvements in NHS corridors. The federal share of project costs, under the NHS program, is 80 percent. If the funds are used for projects on the Interstate System, the federal share of project costs will be 90 percent (unless the project adds lanes that are not high occupancy vehicle or auxiliary lanes, in which case the federal share will revert to the 80 percent level).

- **Surface Transportation Program (STP):** The STP provides flexible funding that may be used by states and localities for projects on any Federal-aid highway, including the NHS, bridge projects on any public road, transit capital projects, and intercity and intercity bus terminals and facilities. A portion of funds reserved for rural areas may be spent on rural minor collectors. Within the STP program there exists a 10 percent set-aside of STP funds for safety improvement projects including railway/highway crossings and a 10 percent set-aside for transportation enhancements. The federal share of project costs, under STP, is 80 percent. If the funds are used for projects on the Interstate System, the federal share of project costs will be 90 percent (unless



the project adds lanes that are not high-occupancy-vehicle or auxiliary lanes, in which case the federal share will revert to the 80 percent level).

Federal Transit Administration (FTA) Programs

There are four primary FTA funding programs that flow directly to the direct recipients. In Miami-Dade County MDT is a direct recipient. Two of the programs (Section 5307 Urbanized Area funds and Section 5309 Fixed Guideway Modernization funds) are formula-based, while Section 5309 Bus and Bus-Related funds are generally earmarked and Section 5309 “New Starts” funds are allocated on a competitive basis through a multi-year application process. This section briefly describes each program and the pertinent project eligibility requirements.

- **Section 5307 Urbanized Area:** The 5307 formula grants program provides transit capital and operating assistance to urbanized areas with populations of more than 50,000. Annual grant funds are based on various demographic, level of service, and ridership variables. SAFETEA-LU limits the application of these grants to capital purposes (e.g., bus and rail vehicle replacement and facility rehabilitation and replacement), but preventative maintenance expenses in the operating budget may be considered as “capital” for this purpose. This broad definition of “capital” expense effectively allows transit agencies the option of funding operations from Section 5307 funds, thereby providing great flexibility from this funding source. Also, SAFETEA-LU continued the transit enhancement program established in TEA-21 under the Section 5307 program where, in urbanized areas with populations of 200,000 or more, at least one percent of the Section 5307 funds apportioned each fiscal year shall be used for activities defined as transit enhancements. Miami-Dade Transit (MDT) receives Section 5307 funds directly from the FTA and applies them to their capital and operating programs. MDT has forecasted the amount of Section 5307 funds that they plan to receive through 2035 in the current PTP Pro Forma.

- **Section 5309 Fixed Guideway Modernization:** This program provides capital funds for existing fixed guideway systems, based on revenue miles and route miles of service that have been in operation for seven years. MDT is eligible for this funding and has forecasted these funds through 2035 in the Pro Forma.

- **Section 5309 Bus and Bus-Related:** This discretionary program provides project-specific capital grants for the purchase of bus vehicles and other bus-related assets. MDT has projected its expected 5309 Bus funding through 2035 as part of the Pro Forma.

- **Section 5309 New Starts:** Fixed guideway transit projects from across the country compete for capital assistance grants from FTA through the New Starts process, which is the country’s primary mechanism for funding major new transit capacity projects. New Starts is a highly



competitive and time-intensive process where projects must meet stringent requirements for both cost-effectiveness and implementing agencies must show that they have the long-term financial capacity to successfully build, operate, and maintain the proposed project. Projects generally receive much less than the statutory maximum Federal participation of 80%. MDT is currently applying for New Starts funding for the North Corridor Metrorail Extension and has plans to apply for New Starts funding for other major fixed guideway transit projects. If the New Starts application is successful, the estimated federal share of capital costs for the North Corridor will be approximately 50%. This funding is included, along with additional New Starts funding for the East-West Corridor Metrorail Extension, in the current version of the PTP Pro Forma.

State of Florida Department of Transportation (FDOT) Funding

State Program Revenue Estimates

Beginning in 2008, FDOT prepared long-range revenue projections for the state's major funding categories based upon the state's Adopted Work Program, current federal and state legislation, forecasts of federal funding, and internal FDOT policies. Due to the severe economic downturn nationally and in Florida, these projections continue to change and have been revised downward from their initial estimates. As the recession continues, the state's revenue estimates may continue to decline, but this review presents the most current available estimates from FDOT.

FDOT combines the Department's major programs into two general categories: Capacity Programs and Non-Capacity Programs.

- Capacity Programs include each major FDOT program that expands the capacity of existing transportation systems.
- Non-Capacity Programs include the remaining FDOT programs that are designed to support, operate and maintain the state transportation system. FDOT, based upon input from local MPOs, takes the lead in developing and administering a statewide Non-Capacity Program. According to FDOT, the Department has estimated sufficient revenues to meet safety, preservation and support objectives through 2035 throughout the state, including each metropolitan area. It is not necessary for MPOs to identify projects for these programs, so revenue estimates for these activities have not been developed for metropolitan areas.

State Program Descriptions and Project Eligibility

FDOT subdivides the state Capacity Programs into two additional areas of focus: Economic Competitiveness and Quality of Life goals. Planning and project identification responsibilities are divided between the State and the MPO across the two programs. The Economic Competitiveness program includes projects that help strengthen the State's comparative economic position and include the following major programs: FIHS Construction/ROW, Aviation, Rail, and Intermodal Access. FDOT has "taken the lead" in identification of planned



projects and programs that support the Economic Competitiveness Goal and provides detailed information to MPOs. As a result, metropolitan plans and programs that include state and federal funds for these major programs should be coordinated and consistent with state long range plans and programs. MPOs have been requested to “take the lead” in identification of planned projects and programs for the major programs that support the Quality of Life Goal. These programs include: Other Arterial Construction and Right of Way (ROW), and Transit.

The programs described below are presented under the subcategories of Economic Competitiveness, and Quality of Life goals.

Economic Competitiveness Goals

• **FIHS Construction and Right-of-Way:** As a statewide Economic Competitiveness Goal, FDOT “takes the lead” in identifying projects that are consistent with the FIHS Construction and ROW Program. The Florida Intrastate Highway System (FIHS) is a component of the State Highway System. Its primary purpose is to serve interstate and regional commerce and long distance trips. Metropolitan plans and programs for the FIHS should be consistent with the current FIHS Cost Feasible Plan, as provided to each MPO. Public transportation, intermodal access, and seaport development projects may be funded under this program, provided that they are included in the current FIHS Cost Feasible Plan. Capacity improvement projects eligible for funding in the current plan include:

- o Construction of additional lanes;
- o The capacity improvement component of interchange modifications;
- o New interchanges;
- o Exclusive lanes for through traffic, public transportation vehicles, and other high occupancy vehicles;
- o Bridge replacement for which the essential purpose is to provide increased capacity;
- o Other construction to improve traffic flow, such as intelligent transportation system (ITS), incident management systems, and vehicle control and surveillance systems;
- o The preferred alternative defined by an approved multimodal Interstate Master Plan; and
- o New weight and weigh-in-motion stations and rest areas.

• **Rail:** The state provides funding for acquisition of rail corridors and assistance in developing intercity passenger and commuter rail service, fixed guideway system development, rehabilitation of rail facilities and high speed transportation. Projects and programs eligible for funding include:

- o Assistance with acquisition of rail corridors;
- o Assistance with development of fixed guideway systems;



- o Assistance with rail passenger services including all aspects of intercity, and commuter rail development;
- o Rehabilitation of rail branch lines where economically justified; and
- o Improvement of warning devices at public rail-highway grade crossings.

• **Intermodal Access:** The state provides assistance in improving access to intermodal facilities and the acquiring of associated rights of way. Projects and programs eligible for funding include:

- o Assistance with improving access to seaports and airports, particularly through highway and rail improvements; and
- o Assistance with development of intermodal terminals and facilities.

• **Strategic Intermodal System:** The 2003 Florida Legislature enacted Sections 339.61-64, Florida Statutes that created the Florida Strategic Intermodal System, and adopted by reference the SIS Steering Committee's recommendations for designation criteria that established the initial statewide system of SIS hubs and corridors. The statutes also directed FDOT to develop a strategic plan for funding and managing the SIS, with input from external transportation partners. The need for a Strategic Intermodal System was identified by various entities with an interest in the funding of key transportation systems throughout the state. Among these entities were the Stakeholders Task Force, the Florida Chamber Foundation and the Transportation and Land Use Committee. The Strategic Intermodal System calls for a transportation system that is made up of statewide and regionally significant facilities and services (strategic); contains all forms of transportation for moving both people and goods, including linkages that provide for smooth and efficient transfers between modes and major facilities (intermodal); and integrates individual facilities, services, forms of transportation (modes) and linkages into a single, integrated transportation network (system).

Quality of Life Goals

• **Other Arterial Construction and Right of Way:** The primary purpose of this major program is to fund improvements on the part of the State Highway System, or SHS, that is not designated as the FIHS. The approximately 8,000 miles (statewide) of non-FIHS highways represent about 68% of the current SHS. Projects and programs eligible for funding include:

- o Construction and traffic operations improvements on the SHS that add capacity, reconstruct existing facilities, improve highway geometrics (e.g., curvature), provide grade separations, and improve turning movements through signalization improvements and adding storage capacity within turn lanes;
- o Acquisition of land necessary to support the SHS construction and bridge programs;
- o Acquisition of land in SHS corridors on an advanced basis (before construction is funded in the 5-year Work Program);



- Construction and traffic operations improvements on certain local government roads that add capacity, reconstruct existing facilities, improve highway geometrics (e.g. curvature), provide grade separations, and improve turning movements through signalization improvements and adding storage capacity within turn lanes;
- Acquisition of land necessary to support the construction program for certain local government roads, as discussed immediately above.

There exists a great deal of local discretion and flexibility in how funds from the Other Arterial Construction and Right-of-Way program are applied. For example, all of the funds may be applied to transit improvements (either capital improvements or operations). If a District decided to use all Other Arterial Construction and Right-of-Way program funds on transit, they would effectively be transferring those funds to the Transit program and the funds would then be subject to the eligibility requirements under the Transit program. Conversely, all funds may be applied to roadway improvements. Use of these funds for road projects not on the SHS will effectively reduce the amount of funds planned for the SHS and public transportation in the metropolitan area, the District and the State.

• **Transit:** The state provides technical and operating/capital assistance to transit, paratransit and ridesharing systems. Projects and programs eligible for funding include:

- Capital and operating assistance to public transit systems and Community Transportation
- Coordinators, through the Public Transit Block Grant Program;
- Service Development projects, which are special projects that can receive initial funding from
- the state;
- Transit corridor projects that are shown to be the most cost effective method of relieving congesting and improving congestion in the corridor;
- Commuter assistance programs that encourage transportation demand management strategies, ridesharing and public/private partnerships to provide services and systems designed to increase vehicle occupancy; and
- Assistance with acquisition, construction, promotion and monitoring of park-and-ride lots.

Florida's Turnpike Enterprise Program

Florida's Turnpike has played a major role in meeting the transportation needs of South Florida since its opening in 1957. Today, the Turnpike annually serves over 400 million patrons, or more than one million users per day, and about half of these are in South Florida. In order to provide quality service in this important travel market, the Turnpike continues to fund major projects in South Florida. The Turnpike's "net revenues" are defined as gross revenues (i.e., tolls and concessions) less operating and maintenance expenses. Net revenues are used for a number of projects such as capacity improvements (widening and interchange improvements), safety,



SunPass improvements, ITS development, preservation activities such as resurfacing and rehabilitation, and annual debt service. The Turnpike has a coordinated process in place to appropriate the revenues to needed transportation projects in Miami-Dade County. However, as with other state and local revenue sources, the recession has had a negative impact on Turnpike traffic and revenues. As of the writing of this plan, given the economic difficulties facing the state, Turnpike officials are facing great uncertainty over long-term projections of future revenues that will be available for capital projects. Therefore, the constrained plan shows only the revenues and expenses associated with those projects that are already included the Turnpike's current ten-year finance plan, and there are no major capital improvements currently projected for the system beyond 2018.

In addition, the MPO has estimated the amount of revenue that will be available for capital projects that derives from Turnpike operations in Miami-Dade County. (It should be noted again that this estimate was not provided by Turnpike, although it is based on publicly available Turnpike financial data.) This analysis includes only a single facility – the Homestead Extension of Florida's Turnpike, or HEFT. The Turnpike has forecasted toll revenues for the next ten years for each facility and has projected its annual system-wide O&M costs through 2019. These operating costs depend on both the number of miles of roadway being maintained and the number of transactions that occur (i.e., the number of travelers). By weighting the number of miles in each facility or section of the Turnpike by the number of transactions that occur on that facility/section, the MPO is able to create a reasonable allocation factor that can be used to attribute O&M costs to the HEFT. In addition, the MPO has estimated the Miami-Dade County share of Turnpike debt payments by assuming net revenues (i.e., gross revenues less operating costs) will provide 1.6x coverage on debt. Any funds remaining after those debt payments are available for capital projects. However, this analysis does not account for expenditures on mandatory resurfacing and rehabilitation ("3R") projects, and those investments would occur before any expansion projects and would utilize that available funding. Figure 5 below shows the projected Turnpike revenues available for capital in Miami-Dade County.

Finally, it should be noted that Turnpike may choose to allocate system-wide revenues collected outside of Miami-Dade County to projects on the HEFT. If Turnpike chooses to allocate these system-wide revenues within the County, then additional widening or improvement projects would be possible.

Fuel Taxes and Road Impact Fees

There are a number of separate fuel taxes in the State of Florida which can provide revenue for transportation improvements to Florida cities and counties. These fuel taxes are:

- Constitutional Gas Tax (also known as the "Secondary Gas Tax")
- County Gas Tax



Transportation Master Plan

- Local Option Six-Cent Gas Tax (the “6-Cent LOGT”)
- Capital Improvement Local Option Gas Tax (the “5-Cent LOGT”)
- Ninth-Cent Gas Tax

The first two taxes are imposed by the State and distributed to the Counties, while the last three taxes are local option gas taxes which can be imposed by each county, respectively, according to its discretion. This section describes the uses of each gas tax by county governments and the projected revenues within Miami-Dade County.

State Motor Fuel Taxes Distributed to the County

- **Constitutional Gas Tax (Secondary Gas Tax):** Florida levies a two-cent tax per gallon on motor fuels sold known as the Constitutional Gas Tax (also referred to as the Secondary Gas Tax). Twenty percent of the Constitutional Gas Tax is directly returned to the county in which it was collected, while the remaining eighty percent is pledged to the State’s road and bridge bonds, which are administered by the State Board of Administration. If no such State bonds exist within a given county, then the eighty percent of the Constitutional Gas Tax revenues are remitted to the county in which it was collected. Any excess of the eighty percent portion not needed for State bonds is also remitted. In Miami-Dade County, the eighty percent portion is administered by the Public Works Department (the “PWD”) while the initial twenty percent portion flows to the County’s General Fund. Both portions are bondable sources of revenue for the County. By statute, the Constitutional Gas Tax must be used for the acquisition, construction and maintenance of roads.

- **County Gas Tax:** The County Gas Tax, formerly the Seventh-Cent Gas Tax, is a tax of one cent on every gallon of motor fuel sold in a county at the wholesale level. The State Department of Revenue administers the tax and redistributes net proceeds to the counties. County Gas Tax proceeds are to be used for transportation related capital and operating expenditures, and may be used as security for revenue bond financing. Revenue from the County Gas Tax currently flows to support both MDT and PWD countywide operations.

Locally Imposed Gas Taxes

There are three local option gas taxes imposed in Miami-Dade County; (i) the up to six cents Local Option Gas Tax (the “6-Cent LOGT”), (ii) the Ninth-Cent Gas Tax, and (iii) the Capital Improvement Local Option Gas Tax (the “5-Cent LOGT”). All three local option gas taxes are authorized by the State Legislature and are imposed, with local discretion, by Miami-Dade County.

- **6-Cent Local Option Gas Tax:** The 6-Cent LOGT is a tax of 1 to 6 cents on every gallon of motor fuel and special fuel sold at retail in a county. It may be levied by a majority vote of the



governing body or by referendum. The proceeds may be used for transportation expenditures, both capital and operating, including public transportation. The 6-Cent LOGT may be used as security for revenue bond financing. Municipalities within each county receive a portion of the total tax proceeds. Miami-Dade County currently levies the full 6 cents, and revenue from the 6-cent LOGT currently supports countywide operations for both the PWD and MDT. This distribution to the County has been reduced in recent years because the inter-local agreement between the County and the County's 34 municipalities adjusts for new incorporations.

- **Ninth-Cent Gas Tax:** The Ninth-Cent Gas Tax, formerly the Voted Gas Tax, is a tax of one cent on every dollar be levied on special fuels in every county beginning January 1, 1994. The proceeds are to be used for establishing, operating and maintaining a transportation system, including both capital and operating expenditures. Counties are authorized to expend funds in conjunction with the state or federal government for joint transportation projects. The Ninth-Cent Gas Tax may be used as security for revenue bond financing. Revenue from the Ninth-Cent Gas Tax currently supports countywide operations for PWD and MDT.

- **5-Cent Capital Improvement Local Option Gas Tax:** Passed during the 1993 legislative session, the 5- Cent LOGT is a tax of 1 to 5 cents on every gallon of motor fuel, but not special fuel, sold at retail in a county. It may be levied by a majority plus one vote of the governing body or by referendum. The proceeds may be used for transportation expenditures needed to meet the requirements of the capital improvements element of an adopted comprehensive plan, including public transportation. The proceeds may not, however, be used for operations. The 5-Cent LOGT may be used as security for revenue bond financing. Miami Dade County began levying 5-cents per gallon in 1994. The levy was reduced to 3 cents per gallon in 1996, and revenue from the 5-Cent LOGT flows to the Local Option Gas Tax Program, which is administered by the PWD.

Fuel Tax Revenues

Projecting gasoline tax revenues in the current environment of volatile petroleum prices and unprecedented drops in vehicle miles traveled (VMT) is very difficult. According to the 2009 Transportation Improvement Program (TIP), Miami-Dade County will receive approximately \$16.8 million in funding from the Secondary Gas Tax (SGT) in FY 2009, and this amount will grow modestly over the near term. These SGT revenues will be used for a range of highway and bridge improvement projects in the County. At the same time, the estimated net revenue for the 5-cent LOGT in FY 2009 is \$28.4 million. Of that figure, 26% (\$7.4 million) will go to the individual municipalities, while the remaining \$21 million will flow to the County. Of that \$21 million, approximately \$2.3 million will be used for roadways and traffic safety and \$1.8 million for debt service on Public Improvement Bonds. The remaining funding will flow to Miami-Dade Transit.



The most recent PTP Pro Forma also includes long-term projections of growth in gasoline tax revenues as one of the many sources of funding for MDT. Based on the economic concerns cited above, as well as a projected long-term shift towards more fuel-efficient cars, the projected growth in gasoline tax revenues is well below the rate of inflation, at only 1.5% per year. The final summary of expected revenues in Section 6 will also show the portion of these fuel taxes that will be allocated to the County's Department of Public Works (DPW).

Road Impact Fees

Road impact fees are assessed in Miami-Dade County by the Department of Planning and Zoning and transferred to the Department of Public Works (DPW). These fees are imposed at the district level against developers and new development for the purposes of financing required infrastructure, such as roads, that are necessary to support the new development. All road impact fees flow to the Road Impact Fee Program and are applied to a variety of projects including road and bridge capacity improvements, road widening and resurfacing, traffic control device installation and intersection and safety improvements. Based on the 2009 TIP, at this time, a significant reduction from the current level is expected in road impact fees in the County. (See Figure 7 below for the proposed expenditure of road impact fees by County district.) These fees will fund over \$31 million in projects in FY 2009, but this figure is projected to fall to under \$13 million in the coming years, and the long-term growth prospects for this funding source are currently poor. This review will project the road impact fees to have zero nominal growth over the Plan period, thus declining in real terms.

Local and Regional Agencies

Miami-Dade Transit (MDT)

Miami-Dade Transit is the 12th largest public transit system in the United States, the largest transit agency in the state of Florida, and one of the largest departments of the Miami-Dade County government. MDT is responsible for planning for and providing all public transit services in the County. MDT's integrated transportation system consists of four major components: Metrobus, which provides the broadest and most basic service coverage for most areas of Miami-Dade County; Metrorail, an elevated rapid-transit system stretching 22 miles from Kendall to Medley; Metromover, a 4.4-mile elevated people mover serving the downtown central business district of Miami, including Omni and Brickell; and Special Transportation Service (STS), designed to meet the needs of people with disabilities unable to use regular transit services. Currently, MDT records over 326,000 daily (weekday) boardings on this unified system, and STS has a daily average of over 4,000 trips. MDT's capital and operating expenses are funded by a wide range of local, state, and federal sources. The projected future levels of these funding sources are summarized regularly by the County in the *People's Transportation Plan Pro Forma*, which serves as the basis for MDT's revenue projections in the long range plan. The People's Transportation Plan (PTP) is the package of transit improvements that was



approved by County voters in 2002 and funded by a new half-cent dedicated sales tax (the Charter County Transit Surtax). The *Pro Forma* undergoes regular revisions as revenue forecasts are updated, modifications to services are considered, and operating costs change, but the projections included here are based on the most current *Pro Forma* available to the MPO. The two biggest service changes included in the current *Pro Forma* are the completion and opening of the MIC Earlington Heights Metrorail Connector in 2012, and the ongoing Metrobus route restructuring, which is expected to save over \$15 million annually as compared to the current structure. On the revenue side, the *Pro Forma* reflects the significant reduction in PTP surtax growth that has occurred over the past three years and that is expected to continue for the immediate future. To support the future transit service needs of the County in the face of insufficient revenue growth, the *Pro Forma* envisions increases to two important existing funding sources. First, it assumes that the remaining 2 cents of the 1-to-5 cents LOGT that are not currently being imposed in Miami-Dade County will be imposed beginning in 2014. Second, it assumes that the current County maintenance-of-effort funding will be supplemented by an additional dedicated millage, also beginning in 2014.

MDT's projected revenues are summarized in Figure 9 below. The current *Pro Forma* does not include the proposed North Corridor or East-West Corridor Metrorail projects, and so the federal and state New Starts money that had previously been projected for those projects is also not included.

Miami-Dade Expressway Authority (MDX)

The Miami-Dade Expressway Authority (MDX) is a State-sanctioned, locally administered, independent agency responsible for the operation and maintenance of five major expressway facilities in Miami-Dade County. MDX's purposes and powers include, among others, the power to (1) acquire, hold, construct, improve, maintain, operate, own and lease an expressway system; (2) fix, alter, change, establish, and collect tolls, rates fees rentals, and other charges for the services and facilities of its expressway system; and (3) borrow funds to finance the expressway system. More than 95 percent of MDX revenues are estimated to come from tolls collected on MDX expressways, with the remaining revenues deriving from violations and other miscellaneous sources.

Toll revenues projected in the financing plan are based on a traffic and revenue analysis that considered future toll increases, elasticity impacts, system expansions, new regional roadway facilities, network improvements and increased traffic volumes. For the purposes of the LRTP update, the capital cost of the MDX projects will be fully funded by the Authority based on its financing plan. In addition, the financing plan generally assumes that the system toll revenues during this period are fully spent in the implementation of MDX capital improvement projects, debt service and operation and maintenance of the MDX facilities. However, MDX does have



the statutory authority, but not the responsibility, to use any ‘excess revenues’ it collects from tolls to support other transportation investments within the County. (That is, any revenue left over after all bond payments and all expressway operating and maintenance expenses.) MDX is currently supporting a study of express bus service on the Dolphin Expressway (SR ⁸³⁶) MDX gave the MPO a financial projection covering the years FY09 to FY22. Using basic assumptions, the MPO extended this projection out to the plan horizon of 2035. The key indicator of interest to the MPO is net revenues – that is, funds remaining after all operating expenses are covered. These are the funds that will be available to make capital investments in MDX. MDX also included transfers from the Rate Stabilization Fund in their forecast. However, the MPO is interested in net revenues absent these transfers – that is, funds generated by the expressway facilities on an ongoing basis.

MDX is anticipating that operating costs will grow faster than toll revenues in the later years of its projection. As a result, during the later years of the projection, the funding available for capital essentially stays flat. During the final five years of the projection, Net Revenues (without rate stabilization fund transfers) are flat at approximately \$122 million. The MPO has simply continued this \$122 million estimate out through 2035. This means that funding available for MDX capital projects is flat in nominal terms and declining substantially in real terms.

Note that MDX revenue estimates in Figure 10 do not account for increased revenue anticipated from the Open Road Tolling (ORT) improvements on SR 836 and SR 112. As a result, MDX projects’ priorities in the 2035 cost feasible plan can potentially be advanced based on anticipated additional funds from the system wide ORT conversion and other sources.

South Florida Regional Transportation Authority (SFRTA)

SFRTA provides the Tri-Rail commuter rail service along a 70-mile rail corridor connecting Palm Beach, Broward, and Miami-Dade Counties. Tri-Rail serves 18 stations along the corridor and connects with the Metrorail in Miami to provide access to downtown Miami. Tri-Rail was initially created by FDOT in 1987 to provide supplementary commuter access during the widenings of I-95 and the Turnpike, and it was intended to be temporary. However, the service proved popular and has been retained ever since, and line extensions and additional fleet purchases have extended Tri-Rail’s reach and service quality. Most recently, Tri-Rail completed a major double-tracking project (supported by federal New Starts funds), which included construction of a high-level fixed bridge over the New River near Ft. Lauderdale.

SFRTA is supported by annual capital and operating contributions from each of the three counties, in addition to state and federal grant support and fare revenues. SFRTA has been seeking a dedicated stream of funding, with a rental car surcharge as the most likely funding source, but it has not yet achieved that goal. Due to the recession and the lack of available local



funding, all three counties are currently contributing the statutory minimum amount (\$4.2 million per year) to SFRTA, and the Plan projects that this funding level will continue unchanged into the future. If the legislation governing SFRTA contributions by the counties is changed or if a dedicated funding source for SFRTA is created, then the Plan can be updated accordingly.

Funding from Miami-Dade County to SFRTA passes through Miami-Dade Transit and is included as an expense item in MDT's budget. Therefore, the revenues that go to SFRTA are not shown as a separate line item in this revenue forecast, but are included in the MDT figures.

Summary of Forecasted Revenues

A summary of the forecasted revenues described above is presented in Table 57. While the MPO does not have direct decision-making influence over all the revenues shown here (in particular, Turnpike and MDX have their own long-range capital planning process and controls their funds), it is important to show the full range of highway and transit funds that will be available for use within the County over the coming years.

Of the \$35.5 billion in total projected revenues identified in the table, approximately \$25.5 billion, or 72 percent, is generated locally. This figure includes transit fares, PTP surtax revenues, County general funds, fuel taxes (both the local option taxes and the County's share of the state taxes), road impact fees, MDX revenues, and the County's estimated share of Turnpike revenues. The remaining \$10.0 billion in revenues, or 28 percent of the total, comes from either federal or state funding sources, including FDOT programs and FTA and FHWA grant programs.



Table 57 – Revenue Forecast FY 2015-2035

	Revenue Forecast FY 2015 - 2035 Estimates for Miami-Dade County (Millions of YOE Dollars)					
	FY 2015 Subtotal	FY 2016-20 Subtotal	FY 2021-25 Subtotal	FY 2026-30 Subtotal	FY 2031-35 Subtotal	21-Year Total
CAPITAL REVENUES						
FDOT						
SIS/FIHS Construction/ROW	\$117	\$259	\$277	\$317	\$287	\$1,257
Other Arterial Construction/ROW	\$58	\$355	\$398	\$427	\$465	\$1,702
TMA Funds	\$46	\$243	\$257	\$265	\$266	\$1,077
Districtwide TRIP Funds	\$17	\$77	\$74	\$74	\$74	\$317
Port of Miami Tunnel & SR-836/I-95	\$0	\$325	\$798	\$798	\$798	\$2,720
Turnpike						
Revenues for Capital	\$15	\$76	\$77	\$77	\$75	\$320
MDX						
Net Revenues	\$118	\$604	\$611	\$611	\$611	\$2,553
Dept. of Public Works (DPW)						
Secondary Gas Tax	\$16	\$82	\$89	\$95	\$102	\$384
5-cent LOGT	\$2	\$7	\$8	\$9	\$9	\$35
Road Impact Fees	\$13	\$64	\$64	\$64	\$64	\$269
MDT						
PTP Surtax (debt service for capital)	\$101	\$1,009	\$1,270	\$1,341	\$1,470	\$5,192
Federal Grants	\$3	\$0	\$0	\$0	\$0	\$3
OPERATING REVENUES						
Dept. of Public Works (DPW)						
6-cent LOGT	\$22	\$115	\$124	\$134	\$144	\$539
County Fuel Tax	\$9	\$47	\$50	\$54	\$59	\$219
9th Cent Gas Tax	\$11	\$58	\$62	\$67	\$72	\$270
MDT						
Direct Operating Revenues	\$166	\$924	\$1,083	\$1,269	\$1,457	\$4,898
Federal/State Grants (incl. FDOT Transit)	\$111	\$594	\$667	\$749	\$842	\$2,962
PTP Surtax (for operations)	\$109	\$212	\$288	\$648	\$1,069	\$2,325
All Other Existing (incl GF and LOGT)	\$214	\$1,184	\$1,400	\$1,662	\$1,829	\$6,287
Proposed New GF and LOGT	\$61	\$347	\$429	\$531	\$661	\$2,029
TOTAL REVENUES	\$1,210	\$6,582	\$8,025	\$9,191	\$10,352	\$35,359

Potential New Local Funding Sources Introduction

The Miami-Dade MPO is facing a difficult set of choices as it attempts to prioritize important highway and transit projects across the County in the face of major reductions in projected future revenues. These revenue reductions are a direct result of the deep recession being experienced in the state and particularly in South Florida, which is now bearing a triple burden of significantly reduced funding support from FDOT; major losses in property tax revenue that support transit and roadway operating expenses; and significant drops in sales tax and local option gasoline tax revenues that support both capital and operating expenses for a range of transportation projects. These revenue declines will result in a “cost feasible” long range transportation plan with fewer committed projects than previous plans, and many important and popular projects will likely end up being deferred.

In order to revive some of these deferred projects, Miami-Dade County will need to examine new or alternative funding sources. There are many funding sources which possess



considerable potential to contribute to the County's capital or operating expenses for transportation. This memorandum will examine and assess a range of these funding options, considering such dimensions as future revenue potential, legal and political viability, equity and local acceptance, and administrative burdens.

Evaluation of Potential Funding Sources

When evaluating new revenue sources or augmenting existing sources, a number of important criteria should be considered. These can be generally organized into four major factors:

- **Financial:** This factor addresses the fundamental question of the expected yield from the revenue source. Generally, this is judged on the basis of a "reasonable" rate of taxation given the size of the tax base. For example, if a sales tax is under consideration, a tax rate of 0.1 percent or 1.0 percent would be judged in the "reasonable" range, while a tax rate of 10.0 percent would be well outside the reasonable range. However, for narrower taxes such as a hotel/motel or rental car tax, the reasonable range might be higher. A related factor is stability – a source that could experience significant annual fluctuations would be judged less suitable than a source with less likelihood of year-to-year variance. For example, the employer-paid tax on total payroll (or "head tax") in Portland, Oregon, has resulted in a much more stable source of funding than a retail sales tax, which would have been more subject to economic cycles. Finally, this factor addresses the extent to which the revenue stream can be indexed to inflation. This is important because many elements of transportation expenses to be funded are closely tied to inflation.
- **Political:** This factor addresses equity, or the extent to which the incidence (or burden) of a funding source matches the provision (or benefit) of the services that the source funds. For example, if a jurisdiction or geographic area funds 10 percent of a project's revenues, it should (over a reasonable time horizon) receive approximately 10 percent of service provision. This factor also addresses differential impacts among demographic groups. Retail sales taxes, for example, have been criticized as inequitable because they are regressive, burdening lower income households more than upper income households. Finally, the source should ideally have a tie to a transportation purpose. Taxes on motor vehicle sales, motor vehicle registration, driver licensing, parking, rental cars, and motor fuels and highway tolls all have a direct connection to transportation, which is often viewed more favorably by the public than a general tax with no link to the region's transportation network.
- **Legal:** Any dedicated source of funding must of course adhere to various State constitutional, statutory, and regulatory limitations. In Florida, there are strict limitations on both local option motor fuels taxes and local option sales taxes, two of the more popular transportation funding mechanisms, and the state has no income tax from which to draw any additional funds for transportation. Thus, when existing funding sources are fully



utilized, major state legislative action may be required to effect any further change.

- **Administrative:** This factor addresses the actual methodology of revenue collection and the ease and cost of administration. Revenue sources that rely on existing collection mechanisms are generally preferred. For example, in most states with a pre-existing state sales tax, the state will act as the collection agent for a local sales tax. Unique new taxes may require that the benefiting agency directly collect the revenues and conduct enforcement. One example of the latter is the Triangle Transit Authority in North Carolina, which collects its own rental car tax and performs its own enforcement, including audits of taxpayers (i.e., rental car companies). Unless the proposed new source performs very strongly on the other evaluation dimensions, the creation of an entirely new collection mechanism is usually to be avoided.

Revenue Sources under Consideration in Miami-Dade County

As part of the 2035 LRTP planning process, the MPO has reviewed a range of potential revenue sources for the County. The potential public sector funding sources (that is, government-imposed taxes or fees) can be usefully divided into existing sources and new sources. The existing sources can generally be increased either by Board action (such as the Board of County Commissioners or the MDX Board of Directors) or by countywide referendum, with no approval or new legislation required from the State legislature. The new funding sources, by contrast, would generally require that the legislature grant significant new authority to the County, and in some cases, a state constitutional amendment might be required.

Conclusions

Miami-Dade County faces far-reaching decisions in the coming months and years about the funding of its transportation needs. Many potential funding options exist that could supplement existing transportation revenues and prevent the deferral of important investments, but each of these options presents challenges for the County that must be overcome. In light of its revenue potential and the existing regulatory and administrative structure surrounding it, the additional half-cent of the Charter County Transit Surtax may be the most feasible new funding source for the County in the near- and medium-term. However, given the recession and the fact that the County is behind schedule on delivering the promised projects from the original half-cent surtax (as part of the People's Transportation Plan), a referendum on an additional half-cent seems unlikely in the immediate future. In the long-term, the VMT tax holds promise as a robust, stable funding source, but it seems likely that other states and/or the federal government will have to join in this approach before Florida will consider its use at the state or local level.



Funding Sources for Local Projects

There are several sources of funding for local projects. Most of this money stems from the SAFETEA-LU federal transportation authorization of nearly \$300 billion. These include Federal Highway Priority Projects, Transportation Enhancement Program Grants, the People's Transportation Plan, the Florida Department of Environmental Protections Office of Greenways and Trails programs, FDOT's Highway Safety Grant Program, Concurrency Mitigation Funds and Road Impact Fees. A bulleted description of each is provided below.

1. Federal Highway Priority Projects (FHPP): The High Priority Projects Program provides designated funding for specific projects identified in SAFETEA-LU. Over 5,000 projects are identified, each with a specified amount of funding over the 5 years of SAFETEA-LU.

- These projects are funded by contract authority, and funds are available until expended.
- These funds are obtained via the Congressional Appropriations process.
- FHPP funds require a 20% local match.
- Once earmarks are made, FDOT will manage the funds and project.
- A LAP Agreement between City and FDOT has to be executed for project.
- Contact: Kevin Crowder, Ext. 6186, no later than December/early January.

2. Transportation Enhancement Program (TEP) Grant: Transportation Enhancement (TE) activities offer funding opportunities to help expand transportation choices and enhance the transportation experience through 12 eligible TE activities related to surface transportation, including pedestrian and bicycle infrastructure and safety programs, scenic and historic highway programs, landscaping and scenic beautification, historic preservation, and environmental mitigation. TE projects must relate to surface transportation and must qualify under one or more of the 12 eligible categories.

- TEP is a small percentage of FHA's Surface Transportation Program Fund
- MPO receives grant applications by the spring of each year.
- TEP may grant up to \$1 million/year for a specific project, but no more than a combined \$3 million in one year increments for the same project.
- TEP funds require a minimum 10 percent local match.
- Grant Contact: David Henderson, MPO Bicycle/Pedestrian Specialist, at (305) 375-1735, or davidh@miamidade.gov
- After grant is awarded, FDOT manages the funds. LAP Agreement required.



FDEP's Office of Greenways and Trails (OGT): RTP is a competitive program which provides grants for projects that provide, renovate or maintain recreational trails, trailhead and trailside facilities.

- The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 included the National Recreational Trails Fund Act (NRTFA) and established the National Recreational Trails Funding Program (NRTFP).
 - The National Highway System Designation Act (NHS Act) of 1995 amended and revived the NRTFA. The Transportation Equity Act for the 21st Century (TEA-21) amended the previous legislation and provided for six years of funding. The Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) replaced TEA-21.
 - Project proposals may address the following recreational trail interests:
 1. Motorized Trails
 2. Nonmotorized Trails
 3. Mixed-Use projects (either motorized, nonmotorized or a combination of both)
 - Applicants must submit a completed RTP Grant Application, during the submission cycle of March 17 – 31, 2008. Applications must be postmarked no later than March 31, 2008. Applicants may submit only one application during the submission period.
 - Applications must involve only one project site.
 - Contact: Alexandra Weiss, (850) 245-2052, alexandra.weiss@dep.state.fl.us
 - Florida's Department of Environmental Protection (DEP) administers the program in coordination with the U.S. Department of Transportation, Federal Highway Administration (FHWA).
 - The current maximum grant amount for mixed-use projects and non-motorized projects is \$250,000. The maximum grant award amount for motorized projects it is \$592,000.
 - Matching must be provided, either 50:50, 60:40, 80:20. The more match provide, the more points the project will receive.
- 3. FDOT Safety Office's Highway Safety Grant Program** (bicycle/pedestrian safety): The objective of the Pedestrian and Bicycle Program is to promote conditions for safe and effective travel by foot and bicycle in Florida. The Florida Department of Transportation (FDOT) Safety Office provides policy, planning, technical, and funding expertise in consultation with other FDOT offices and federal and local agencies. Safety Office staff coordinate development and dissemination of information about walking and cycling safety. The Pedestrian-Bicycle Program oversees the Florida School Crossing Guard Training Program, the Florida Traffic Safety Education Program, and the Safe Routes to School Program. District Pedestrian and Bicycle Coordinators and other District personnel assist



with the pedestrian and bicycle aspects of FDOT projects and activities in the seven FDOT Districts.

- Requests for funding are accepted between January - March 31.
- A request for funding must be submitted on the Highway Safety Concept Paper form provided by the FDOT/Tallahassee.
- Link to directions and form:
<http://www.dot.state.fl.us/safety/HighwaySafetyGrantProgram>

4. River, Trails & Conservation Assistance, Florida Field Office: It is the community assistance arm of the National Park Service. RTCA staff provides technical assistance to community groups and nonprofit organizations, community groups, tribes or tribal governments, and local, State, or federal government agencies so they can conserve rivers, preserve open space, and develop trails and greenways.

- Contact: Jaime Doubek-Racine, (941) 330-8047 or www.ncrc.nps.gov/rtca/nri
- Applications are due by August 1st for assistance beginning the following fiscal year (October 1st through September 30th). Assistance is for one year, and may be renewed for a second year upon request. Project selection is generally announced in early November after passage of the federal budget.
- Projects should include significant community involvement and outreach, and should also include the commitment, cooperation, and cost-sharing of all partners.
- RTCA does not provide financial assistance to support project implementation.

5. Concurrency Mitigation Funds

- These funds can be used only for projects that increase capacity or mobility in the City.
- Funds are divided into Transportation Concurrency Management Areas (TCMAs) . The City of Doral currently does not have any TCMA's.
- Funds are appropriated and approved by resolution of the City Commission for the implementation of specific projects.

6. Road Impact Fees

- The County collects Road Impact Fee (RIF) funds from developers. These funds are utilized by the County on the RIF Districts where they have been collected.
- All collected RIF funds are sent to the County which controls them.
- The original purpose of the RIF program was to fund roadway and traffic projects on roads under County jurisdiction, and traffic signal installation/maintenance everywhere. County is also responsible for the span wire signals. Now all roads in Doral qualify for RIF funds.



7. Transportation Investment Generating Economic Recovery (TIGER)

The Florida Department of Transportation (FDOT) has been working with cities, counties, Metropolitan Planning Organizations (MPOs) and other transportation partners throughout the state to develop the list of selected projects. This effort is based on the established transportation planning processes. Thirty percent of the highway and bridge funds were allocated for locally-prioritized projects. For areas with a population greater than 200,000, Metropolitan Planning Organizations selected projects with input from local governments in their area and technical support from the FDOT to ensure project eligibility.

Federal Requirements for Transportation Stimulus Projects - All candidate projects must meet federal requirements for federal transportation aid and have been assessed to ensure these requirements can be met within the approval timelines. The following are examples of requirements applicable to transportation projects funded under the Act:

- All projects in a metropolitan area must be included in an approved Transportation Improvement Program (TIP) and Statewide Transportation Improvement Program (STIP). All projects located in a non-metropolitan area must be included in the STIP. The STIP will be updated periodically to be consistent with the approved projects. See <http://www.dot.state.fl.us/programdevelopmentoffice/federal/stip.shtm> for the current STIP.
- Transit projects must be coordinated with the relevant transit operating agency, MPO or FDOT.
- Rail and airport projects should be coordinated with the relevant MPO and FDOT.
- Pursuant to the National Environmental Policy Act (NEPA), all projects must have completed the required assessments of environmental impacts.
- Right of way on projects must have been acquired pursuant to the Uniform Relocation Assistance and Real Property Acquisition Policies.
- American iron, steel and manufactured goods are to be used in projects, except in certain instances.

8. FDOT Service Development Program (SDP)

The SDP program is managed in District 6 by Ed Carson. Typically applications are due in May or June. Funding is a 50% match for a three year period. Operating, some administration, and some marketing expenses are eligible. SDP is not intended as a funding source for capital (vehicles, facilities, etc.) although there have been examples of this in the past. The grant process is competitive. The evaluation criteria include potential for ridership, the ability to help with traffic problems, consistency with local plans, etc. Ed Carson can be reached at the FDOT District six office at 305-470-5255.



9. Peoples' Transportation Plan (PTP): The Ordinance creating the half-percent transportation surtax calls for 20 percent of surtax proceeds to be distributed directly to municipalities on a pro rata basis for use on local transportation and transit projects. Municipalities must apply at least 20 percent of their share of surtax proceeds toward transit uses and must submit their transportation plans to the County according to established deadlines.

- The City would be required to put at least 20% for transit and 80% for Transportation projects Citywide.
- Out of the 80% funds, a portion can be utilized for bicycle/pedestrian projects on, or immediately adjacent to a roadway. Beach corridor bikeways do not qualify.
- PTP funds are appropriated by City Commission for a specific project.
- PTP funds require a 20 percent local match.

Since the City of Doral was incorporated after the passage of the PTP, the City currently does not have access to the proceeds from the PTP and is in continuous negotiations with Miami-Dade County in order to access its share of the PTP as are many of new municipalities. Until a final decision is made it is uncertain just how much Doral can and will be getting from these funds.

Funding Sources from Taxes

Federal

Motor Fuel Tax – primary source of funding for both highway and transit

- Municipal Fuel / 1¢ Gal
- County Fuel Tax / 1¢ Gal
- Ninth-Cent / 1¢ Gal
- Constitutional Fuel 2¢ / Gal
- Additional Local Option / 5¢ Gal (Gasoline/Gasohol Only)
- Local Option Fuel Tax / 6¢ Gal
- State Comprehensive Enhanced Transportation Tax / 6.4¢ Gal
- Fuel Sales Tax / 11.6¢ Gal
- Additional Diesel Fuel/6¢ Gal
- Gas Tax / 18.4¢ Gal



Local Option Fuel Tax

- 1-6 cents approved by simple majority of County Commission or vote of citizens
- 1-5 cents approved by super majority of County Commission or vote of citizens
- “Ninth Cent” approved by super majority of County Commission or vote of citizens
- Local Option Fuel Tax for each county

Local Option Sales Tax

- Charter County Transit System Surtax – approved by vote of citizens
- The seven counties eligible to levy this surtax are: Broward, Duval, Hillsborough, Miami-Dade, Pinellas, Sarasota, and Volusia (Duval and Miami-Dade have enacted Local Option Infrastructure Sales Tax – approved by vote of citizens)

Conclusion

There are many transportation funding sources available for the City to implement. The City must match the applicable source to the type of project and also review the currently projects that are already completed and the amount of funding available to fund the future needs. We are aware that the City will have a backlog of projects and may require a 10-year CIP to address all projects included in the City’s Transportation Plans. The City shall continue to review its CIP on an annual basis to ensure it is meeting its goals and objective and to review its funding needs in the City’s Transportation Plans.

