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# City of Doral TRANSPORTATION MASTER PLAN



PREPARED BY: THE CORRADINO GROUP





# City of Doral TRANSPORTATION MASTER PLAN



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## 1. Introduction

The City of Doral was incorporated June 24, 2003, and is one of 34 municipalities in Miami-Dade County, FL. It is conveniently located one mile from Miami International Airport and is 12 miles from downtown Miami. Home to 56,035 residents (2015, US Census), Doral has seen exponential growth since incorporation when the population was 20,000. More importantly, since the Transportation Master Plan was last updated in 2010 the population was closer to 36,000.

More recent growth trends show that the local workforce has grown at a rate of 2%, while the job growth rate was at 6.6%. In 2014, over 70,000 workers who live outside of Doral commute into the City on a daily basis. At the same time, approximately 15,000 Doral residents commute to jobs outside of the City. Just under 5,000 Doral residents work within the city limits. The majority of the jobs created here have resulted in more external traffic coming into and out of the City.

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 commerce. The goal of the Transportation Master Plan is to take a comprehensive look in a holistic manner at the City's entire transportation system. The Plan works with the goals of identifying specific projects and programs to address transportation needs and objectives. The City updates its Transportation Master Plan periodically. The Master Plan includes:

- Review of the City's Comprehensive Plan's Transportation Element.
- Update new plans for roadways, transit, pedestrian, bicycles and how to coordinate and connect these modes.
- Recommendations to participate in regional projects and studies of high transit capacity.

Through public involvement and analyses, this effort recommended projects based on the needs of three components of the transportation system. These include:

- Roadway Network (capacity)
- Multimodal Capacity (Transit, Bicycling, Pedestrian)
- Transportation Management (traffic management, policies)

Review of the City's current roadway network evaluated the City's current system as seen through its adopted Level of Service Standards. While the City has significantly reduced its percentage of failing roadways in recent years, additional projected growth will, without countermeasures, result in approximately 20% of the network failing to meet standards by 2025, and over 35% failing by 2040. For the average citizen, what this translate to is more time in traffic as congestion becomes increasingly worse in the City over time.

Doral's rapid growth has not come without its challenges. Doral's roadway network, based on the mile-grid system, is not complete, and the lack of grid "maturity" forces traffic onto key section line roadways, further exacerbating local congestion issues. Moving the City towards the future will require infilling roadway gaps that hinder mobility and accessibility, and provide alternatives for drivers that currently do not exist.



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There are multiple means of addressing failing roadway links. Some cities choose to build their way out, by expanding the right-of-way with new travel lanes. Others, like Doral, have recognized that an endlessly widening roadway takes away valuable land, and that over time, congestion must be managed through sound policies, ranging from incentives for staged work schedules to encouraging transit ridership. This plan incorporates these ideals, including consideration of a “Doral Passport Program” as a tool to encourage people to ride Metrorail or the bus in traveling to/from Doral. The City has strived to continue to improve its local Trolley service with route expansion and headway reductions. Continued effort to expand and improve the system will help the City create stronger access for its residents and visitors.

In recent years, the City has also greatly expanded its bicycle network by implementing the recommendations of its Bicycle Network Plan, and has made great strides in increasing sidewalk coverage in the City. As the City continues to grow, the City must continue to work to mature these networks by studying and implementing a phase II for its bicycle network and ensuring additional improvements that enhance the pedestrian environment.

Increasing multimodal capacity has been the goal of the City to achieve a balance in the community. Notably, a 5% modal shift towards alternative modes will reduce most of the need for roadway widening on all but one roadway segment in 2025 projects, and a 30% modal shift will reduce the need to widen 80% of the projected roadways requiring additional capacity.

By providing additional, viable options for different modes of transportation, the City hopes to create this increased modal shift away from the automobile towards walking, bicycling, and transit. From a holistic standpoint, not only is this sound policy that will create opportunities for health and quality of life improvements, but is fiscally superior than the traditionally expensive roadway widening used to address failing roadway Level of Service.

This Master Plan, as an update to the City’s existing 2010 Transportation Master Plan, provides a way forward for the City, and proposes 22 multimodal, 45 roadway, and 13 transit projects in a prioritized program to build local multimodal capacity and keep enhancing the high quality of life enjoyed by the City.



## 2. Public Engagement

### 2.1 Introduction

The public was engaged in updating the Doral Transportation Master Plan that included discussing and receiving input on key, local planning issues. The input, when combined with the needs of the area, allowed a vision of the path forward. To do so, Task 1 included a kickoff meeting with the project management team; stakeholder interviews; and workshops



### 2.2 Workshops

The first workshop was held in the Doral Government Center, on Thursday, April 21, 2016. Outreach for the workshops was effected through email blasts from the City, as well as posting ads on the City's website and in City Hall. During this workshop, the audience was presented with the goals and tasks of the study, and initial findings based on background review. Ideas such as economic development and combining of residential and commercial uses to better match jobs to residences were an early focus. Those in attendance were invited to provide feedback on the City's transportation issues. Feedback from the attendees included concerns regarding new development and traffic mitigation for new development. There was emphasis from multiple attendees that the transportation plan must be tied into the land use and new approvals for construction. Participants also stressed that as viable

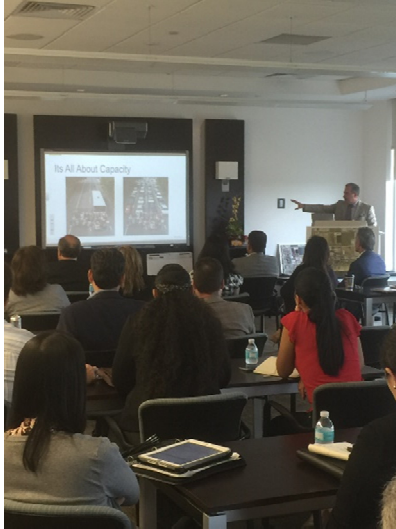
transit is something they would support, but that it must be able to take them to where they need to go, when they need to.

During the first workshop, bicycling routes also were noted, with comments that that children cannot ride on very high traffic roads, and roadways serving many trucks. Gaps in sidewalks were noted. The presentation is attached to this report as Appendix A.





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The second workshop was the Doral Transportation Summit, held on Thursday, September 15, 2016. In attendance were City of Doral Staff, consultants, as well as transportation partners including the Florida Department of Transportation, Florida's Turnpike Enterprise, South Florida Regional Transit Authority, Miami-Dade County Department of Transportation and Public Works, the Citizens Independent Transportation Trust, the Miami-Dade Expressway Authority, Florida International University, the Town of Medley, the City of Sweetwater, and South Florida Commuter Services. After a brief presentation summarizing the past and present efforts to plan transportation and land use in the City of Doral, the larger group broke into smaller groups, each with a facilitator. The purpose of this effort was to continue to build relationships between the City of Doral and the regional transportation stakeholders, as well as to enhance the coordination of the City's efforts with those of the various agencies in

an effort to gain synergy. Attached as Appendix B is a summary memorandum of the comments made at the summit.

A final workshop was held on May 16, 2017, to present the findings of the plan. Many residents were in attendance. After a brief presentation summarizing the analysis and potential projects the workshop was opened-up for comments. Some members of the community voiced concerns about the indirect trolley routes, especially for Miami-Dade College students. The college area could also benefit from additional bike facilities, including shared use pathways where bike paths would conflict with existing truck routing. Some had questions regarding missing links in the roadways and bike networks (the missing link next to City Hall was mentioned as an example and is addressed in this plan). There was a general consensus that transit improvements to address convenience and routes are needed and welcomed.

One engaged citizen, not able to attend the final workshop took the time to submit a comment by email. The resident noted that the City has done a great job at building trails and bike lanes which he enjoys using. He would like to see better connectivity from the west side of Doral to the Downtown Doral. Specifically he would like a protected bike trail or a two-lane cycle track along NW 58<sup>th</sup> Street, either next to the canal or on the south side. While the north side of NW 58<sup>th</sup> Street is not within the City current limits, this potential project will be provided to the County for future programming.

The plan was reviewed and presented in a public hearing on August 9, 2017, where it was formally accepted by the City. It is anticipated that this plan will be used to populate the City's Capital Improvement Element with bicycle, pedestrian, roadway, policy, and transportation projects.



## 3. Data Collection and Analysis

### 3.1 Data Collection and Analysis

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

#### 3.1.1 Roadway System Introduction

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.

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.

The Federal Highway Administration (FHWA) defines functionally classifying roads 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:

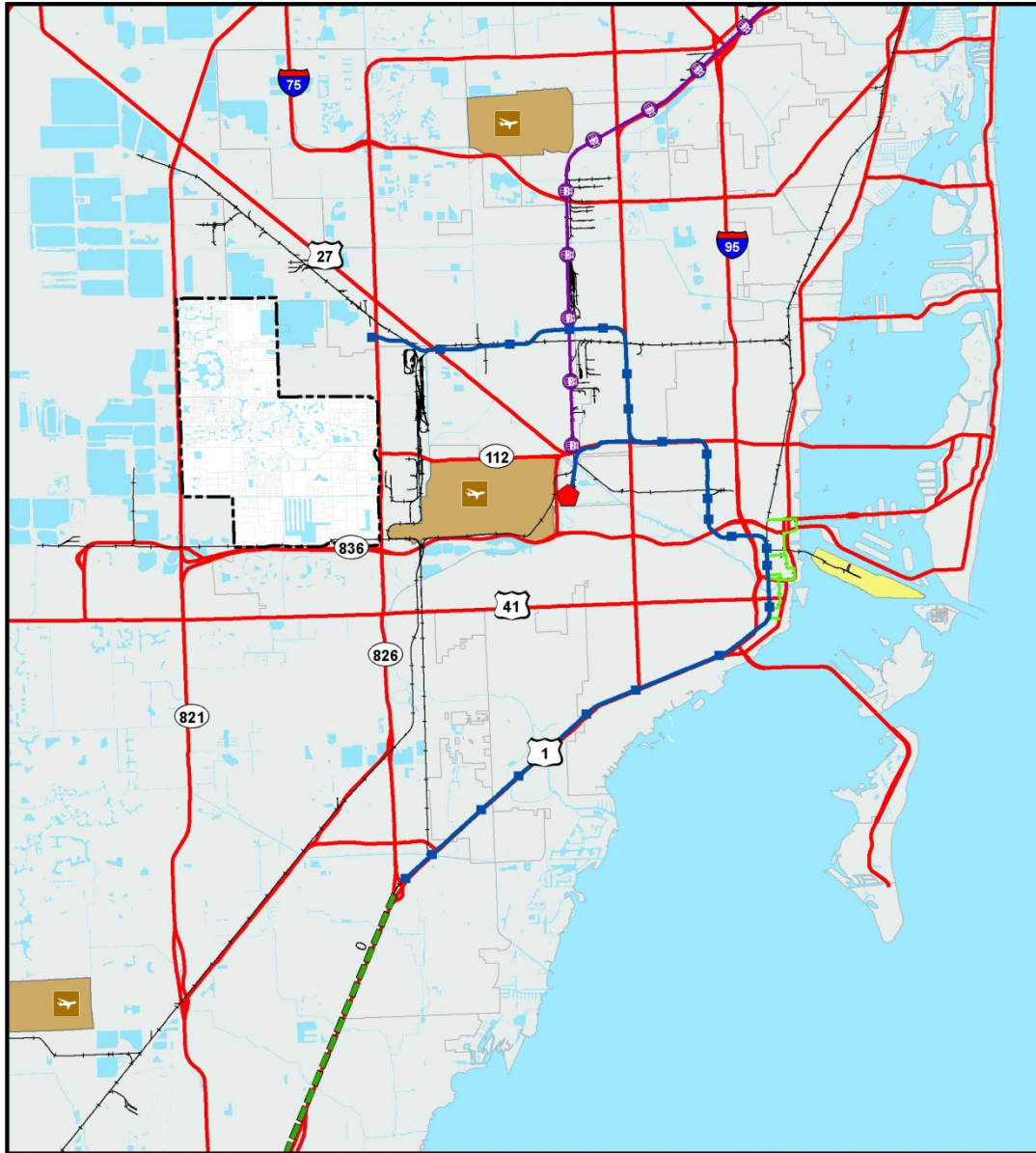
- Arterials
  - Principal arterials such as interstates, freeways, and turnpikes
  - Minor arterials
- Collector
- Local

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

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

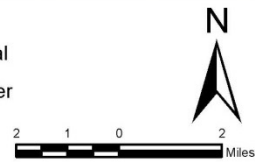


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### Legend

-  MIC
-  MetroRail
-  MetroRail Stations
-  MetroMover
-  TriRail
-  Rail
-  Busway
-  Highway
-  Airport
-  Airport
-  Port of Miami
-  Doral
-  Water



## Existing Regional Facilities

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GENERAL PLANNING PROGRAMS AND DESIGN SERVICES



**Principal Arterials** – 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, the longest trips; 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, 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 travel, such as between central business districts and outlying residential areas, between major inner city communities, or between major suburban centers is served by this system. Frequently, the principal arterial system will carry important intra-urban as well as intercity bus routes.

**Minor Arterials** – 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, but offers 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.

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 level system.

**Collectors** – This facility type serves the internal traffic movement within a given geographic sub-area and connects the sub-area to the arterial system. This type facility is not intended to serve long trips, but mainly trips of short to moderate length. 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, and 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 to the ultimate destination. Conversely, collectors also funnel traffic from local streets in residential neighborhoods and channel it into the arterial system.

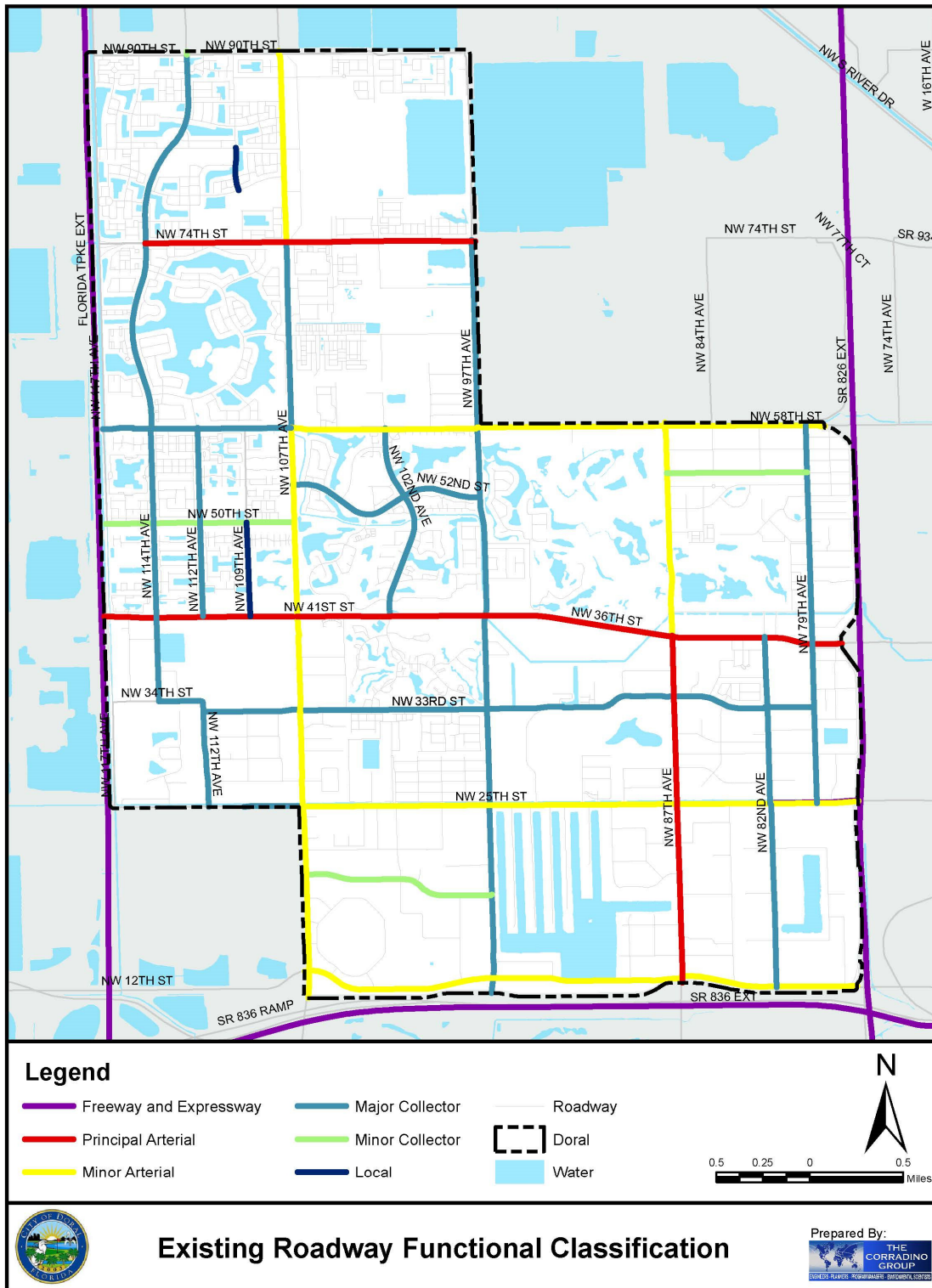
**Local Roads** – The primary purpose of local roads is to provide access to adjacent property. Average speeds and volumes are low; trips are usually of short duration with the purpose of connecting to a higher level facility. A local road should not carry through traffic. The trip being served should originate or be destined for the immediate surrounding area. The local street system comprises all facilities not on one of the above described higher order systems. Local roads primarily provide direct access to residential neighborhoods. They offer the lowest level of mobility and usually contain no bus routes.



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Figure 2 depicts the functional classification of the roadways within Doral city limits.





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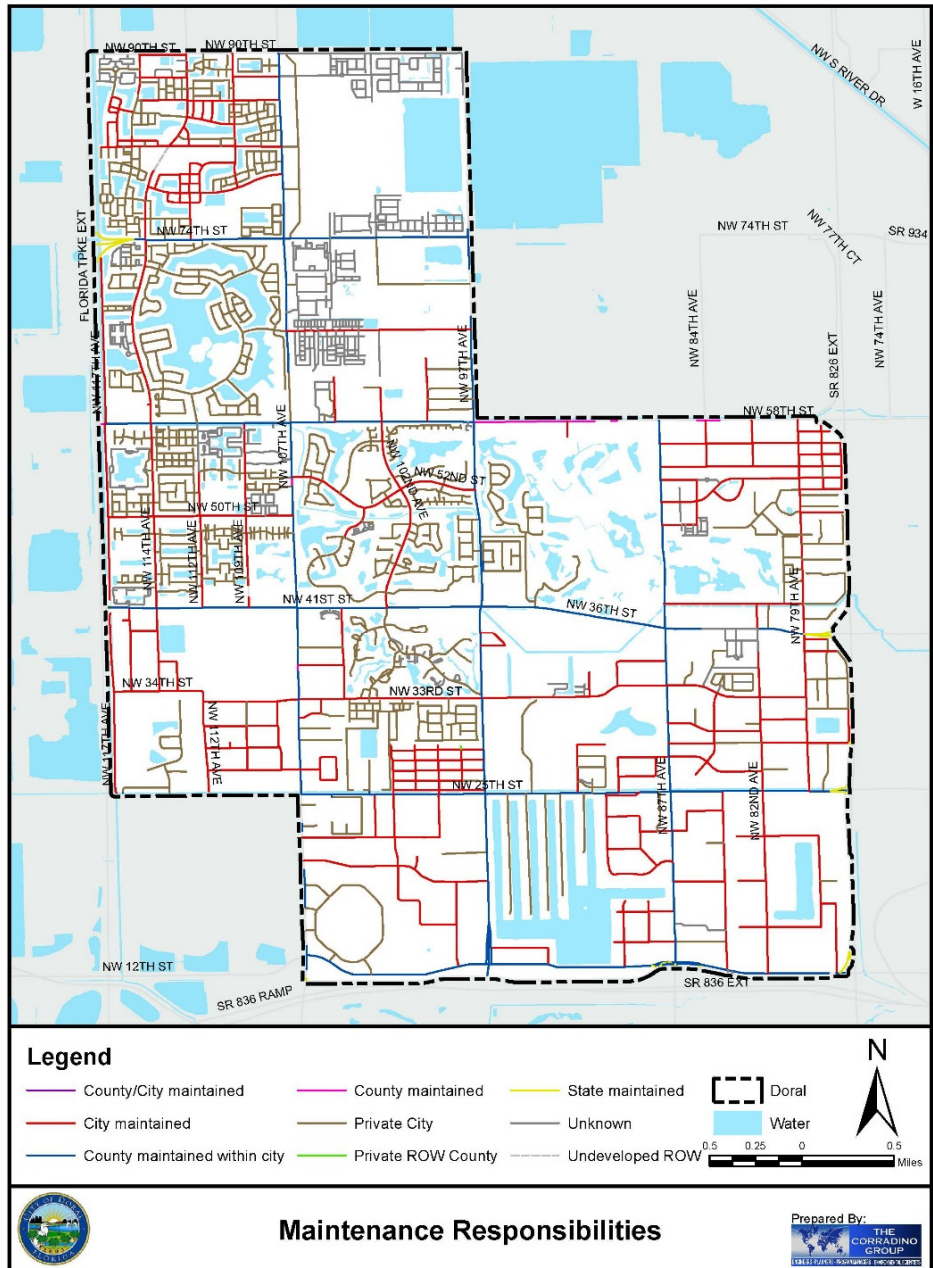


## 3.1.2 Maintenance Responsibilities/ Jurisdiction

Roads fall into one of the four categories of maintenance responsibilities:

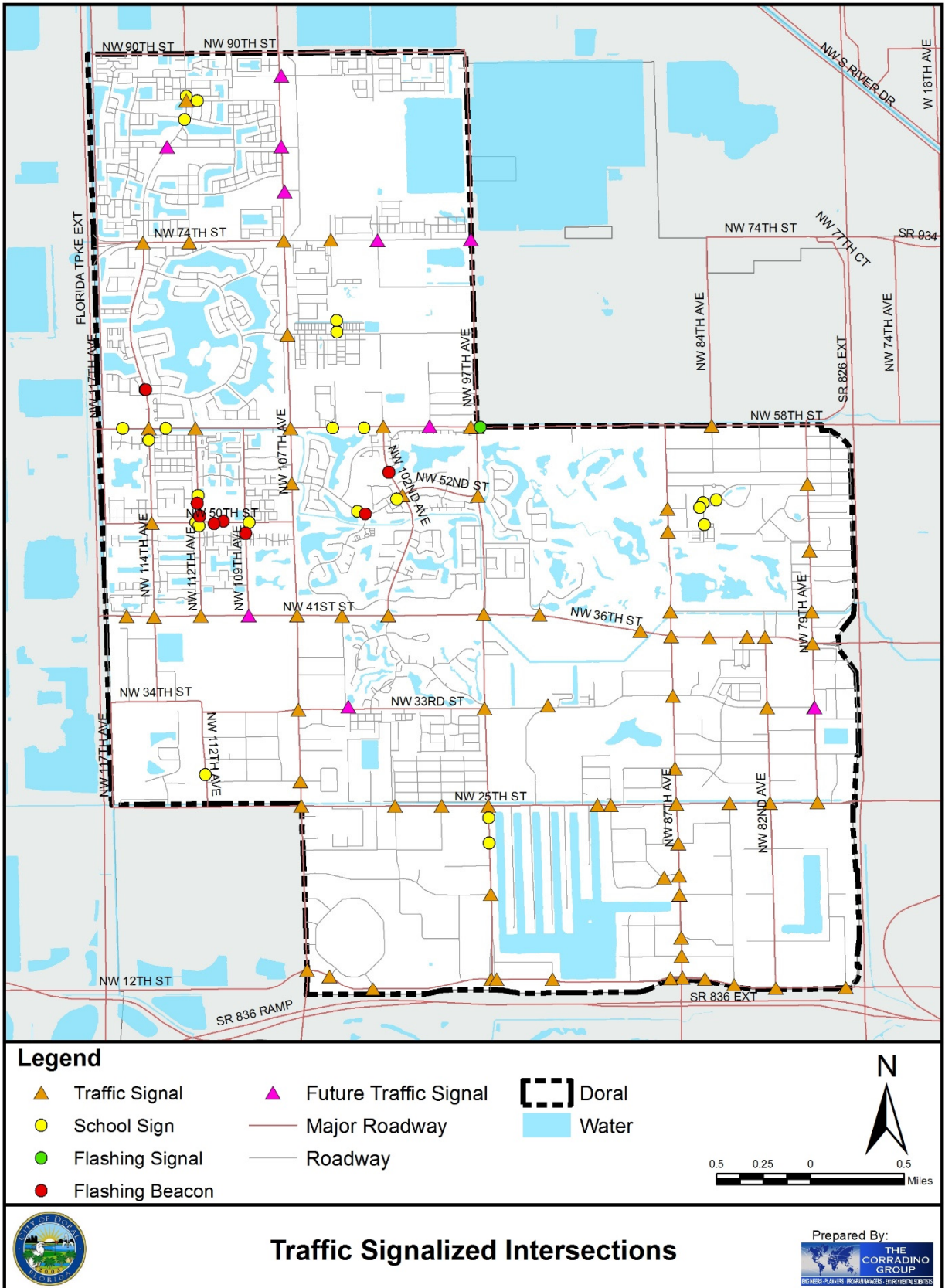
1. State
2. County
3. City
4. Private

There are approximately 204 miles of roads within the City of Doral. Each jurisdiction provides routine maintenance on its roadways. However, all roadway traffic control devices 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 60 miles of roadway. Over the years, the City has taken jurisdiction over most of the neighborhood streets through inter-local agreements with the county. Figure 3 depicts the roadway maintenance responsibilities. Traffic signals, as depicted in Figure 4, as traffic control devices fall under County jurisdiction.





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## 3.1.3 Number of Lanes and Median Types

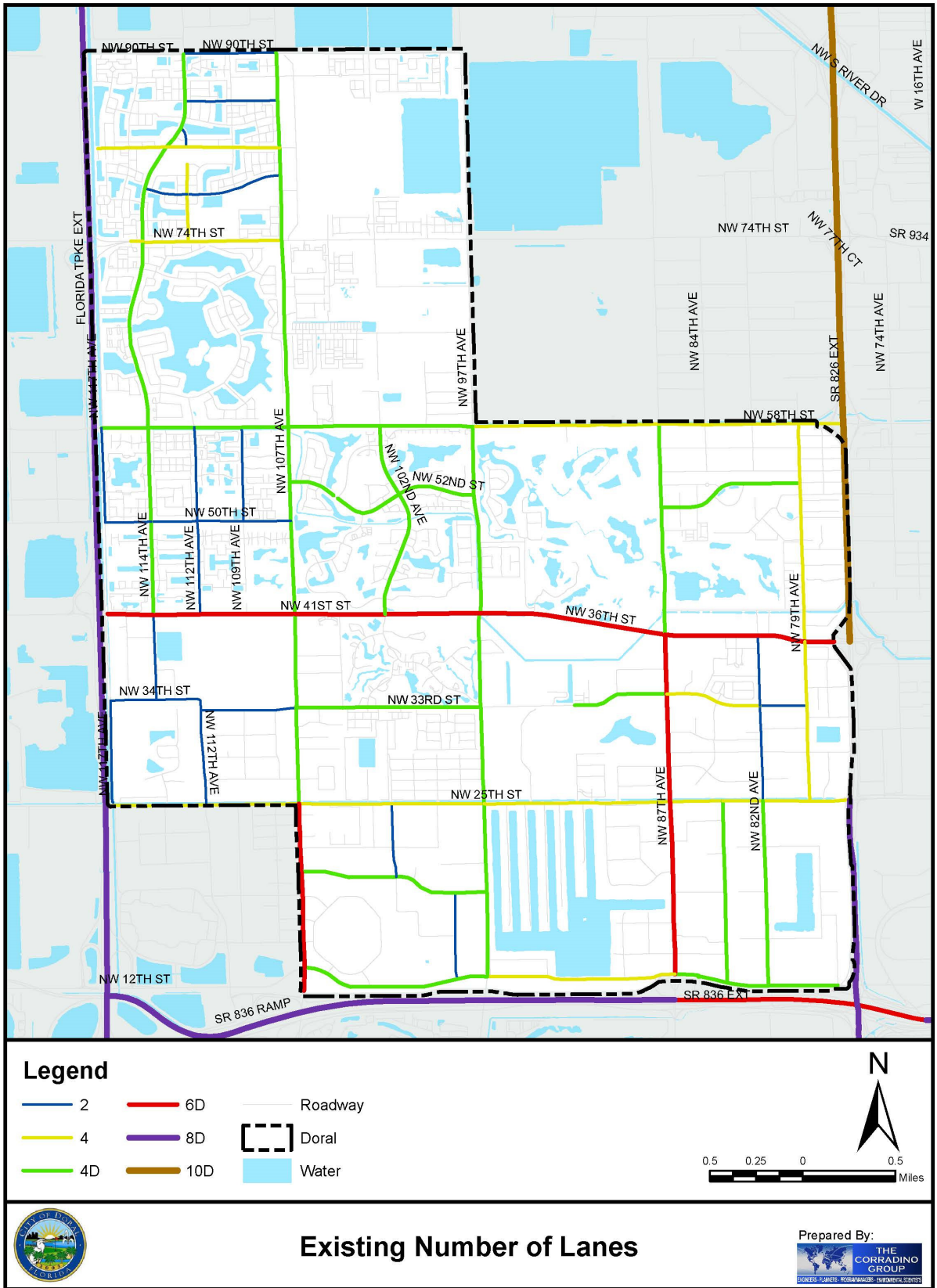
The number of through-lanes that exist within the City of Doral are depicted in Figure 5. Roadways fall under two directional classifications: 1) two-way, and 2) one-way. Additionally roadways are either divided (through lanes in the opposite direction are separated by a median) or undivided (there is 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.



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**Table 1 East/West Roadways Lane Information**

| Station ID | ROAD        | LOCATION |           | JURISDICTION | FUNCTION CLASSIFICATION <sup>1</sup> | No. of LANES | Median Type |
|------------|-------------|----------|-----------|--------------|--------------------------------------|--------------|-------------|
| D01        | NW 12 ST    | EAST OF  | NW 84 AV  | COUNTY       | MINOR ARTERIAL                       | 4LD          | RAISED      |
| D02        | NW 12 ST    | EAST OF  | NW 93 CT  | COUNTY       | MINOR ARTERIAL                       | 4LD          | TWLTL       |
| D03        | NW 12 ST    | EAST OF  | NW 107 AV | COUNTY       | MINOR ARTERIAL                       | 4LD          | RAISED      |
| D04        | NW 17/19 ST | EAST OF  | NW 107 AV | CITY         | LOCAL ROAD                           | 4LD          | RAISED      |
| D05        | NW 25 ST    | WEST OF  | NW 79 AV  | COUNTY       | MINOR ARTERIAL                       | 4LD          | TWLTL       |
| D06        | NW 25 ST    | WEST OF  | NW 92 AV  | COUNTY       | MINOR ARTERIAL                       | 4LD          | TWLTL       |
| D07        | NW 25 ST    | WEST OF  | NW 102 AV | COUNTY       | MINOR ARTERIAL                       | 4LD          | TWLTL       |
| D08        | NW 25 ST    | EAST OF  | NW 112 AV | COUNTY       | MINOR ARTERIAL                       | 4LD          | TWLTL       |
| D09        | NW 33 ST    | WEST OF  | NW 79 AV  | CITY         | LOCAL ROAD                           | 2LU          | TWLTL       |
| D10        | NW 33 ST    | WEST OF  | NW 84 AV  | CITY         | LOCAL ROAD                           | 4LD          | RAISED      |
| D11        | NW 33 ST    | WEST OF  | NW 87 AV  | CITY         | COLLECTOR                            | 4LD          | RAISED      |
| D12        | NW 33 ST    | EAST OF  | NW 104 AV | CITY         | COLLECTOR                            | 4LD          | RAISED      |
| D13        | NW 33 ST    | WEST OF  | NW 107 AV | CITY         | LOCAL ROAD                           | 2LU          | TWLTL       |
| D14        | NW 34 ST    | WEST OF  | NW 114 AV | CITY         | LOCAL ROAD                           | 2LU          | TWLTL       |
| D15        | NW 36 ST    | WEST OF  | NW 82 AV  | COUNTY       | PRINCIPAL ARTERIAL                   | 6LD          | RAISED      |
| D16        | NW 36/41 ST | EAST OF  | NW 94 AV  | COUNTY       | PRINCIPAL ARTERIAL                   | 6LD          | RAISED      |
| D17        | NW 41 ST    | WEST OF  | NW 102 AV | COUNTY       | PRINCIPAL ARTERIAL                   | 6LD          | RAISED      |
| D18        | NW 41 ST    | EAST OF  | NW 112 AV | COUNTY       | PRINCIPAL ARTERIAL                   | 6LD          | RAISED      |
| D19        | NW 50 ST    | WEST OF  | NW 109 AV | CITY         | LOCAL ROAD                           | 2LU          | NONE        |
| D62        | NW 52 ST    | EAST OF  | NW 107 AV | CITY         | LOCAL ROAD                           | 4LD          | RAISED      |
| D20        | NW 53 ST    | WEST OF  | NW 79 AV  | CITY         | LOCAL ROAD                           | 4LD          | RAISED      |
| D21        | NW 58 ST    | EAST OF  | NW 84 AV  | COUNTY       | MINOR ARTERIAL                       | 4LD          | TWLTL       |
| D22        | NW 58 ST    | WEST OF  | NW 92 AV  | COUNTY       | MINOR ARTERIAL                       | 4LD          | TWLTL       |
| D23        | NW 58 ST    | EAST OF  | NW 102 AV | COUNTY       | MINOR ARTERIAL                       | 4LD          | RAISED      |
| D24        | NW 58 ST    | WEST OF  | NW 109 AV | COUNTY       | MINOR ARTERIAL                       | 4LD          | RAISED      |
| D61        | NW 74 ST    | WEST OF  | NW 97 AV  | COUNTY       | MINOR ARTERIAL                       | 6LD          | RAISED      |
| D25        | NW 74 ST    | WEST OF  | NW 107 AV | COUNTY       | MINOR ARTERIAL                       | 4LD          | RAISED      |
| D26        | NW 78 ST    | WEST OF  | NW 107 AV | CITY         | LOCAL ROAD                           | 2LU          | NONE        |
| D27        | NW 78 ST    | WEST OF  | NW 109 AV | CITY         | LOCAL ROAD                           | 2LU          | NONE        |
| D28        | NW 82 ST    | WEST OF  | NW 109 AV | CITY         | LOCAL ROAD                           | 2LU          | NONE        |
| D29        | NW 86 ST    | WEST OF  | NW 107 AV | CITY         | LOCAL ROAD                           | 2LU          | NONE        |
| D30        | NW 90 ST    | WEST OF  | NW 107 AV | CITY         | LOCAL ROAD                           | 2LU          | NONE        |



## Table 1 North/South Roadways Lane Information (Cont.)

| Station ID | ROAD          | LOCATION |          | JURISDICTION | FUNCTION CLASSIFICATION <sup>1</sup> | No. of LANES | Median Type |
|------------|---------------|----------|----------|--------------|--------------------------------------|--------------|-------------|
| D31        | NW 79 AV      | SOUTH OF | NW 37 ST | CITY         | COLLECTOR                            | 4LD          | TWLTL       |
| D32        | NW 79 AV      | SOUTH OF | NW 53 ST | CITY         | COLLECTOR                            | 4LD          | TWLTL       |
| D33        | NW 82 AV      | SOUTH OF | NW 21 ST | CITY         | COLLECTOR                            | 4LD          | RAISED      |
| D34        | NW 82 AV      | SOUTH OF | NW 31 ST | CITY         | COLLECTOR                            | 2LU          | TWLTL       |
| D35        | NW 84 AV      | NORTH OF | NW 17 ST | CITY         | LOCAL ROAD                           | 4LD          | RAISED      |
| D36        | NW 87 AV      | NORTH OF | NW 17 ST | COUNTY       | MINOR ARTERIAL                       | 6LD          | RAISED      |
| D37        | NW 87 AV      | SOUTH OF | NW 33 ST | COUNTY       | MINOR ARTERIAL                       | 6LD          | RAISED      |
| D38        | NW 87 AV      | SOUTH OF | NW 52 ST | COUNTY       | MINOR ARTERIAL                       | 4LD          | RAISED      |
| D39        | NW 97 AV      | SOUTH OF | NW 17 ST | COUNTY       | COLLECTOR                            | 4LD          | TWLTL       |
| D40        | NW 97 AV      | SOUTH OF | NW 33 ST | COUNTY       | COLLECTOR                            | 4LD          | RAISED      |
| D41        | NW 97 AV      | NORTH OF | NW 33 ST | COUNTY       | COLLECTOR                            | 4LD          | RAISED      |
| D42        | NW 97 AV      | SOUTH OF | NW 52 ST | COUNTY       | COLLECTOR                            | 4LD          | RAISED      |
| D43        | NW 97 AV      | NORTH OF | NW 58 ST | COUNTY       | COLLECTOR                            | 2LU          | NONE        |
| D44        | NW 102 AV     | NORTH OF | NW 52 ST | CITY         | LOCAL ROAD                           | 4LD          | RAISED      |
| D45        | NW 107 AV     | NORTH OF | NW 19 ST | COUNTY       | MINOR ARTERIAL                       | 6LD          | RAISED      |
| D46        | NW 107 AV     | SOUTH OF | NW 29 TR | COUNTY       | MINOR ARTERIAL                       | 4LD          | RAISED      |
| D47        | NW 107 AV     | SOUTH OF | NW 52 ST | COUNTY       | MINOR ARTERIAL                       | 4LD          | RAISED      |
| D48        | NW 107 AV     | NORTH OF | NW 66 ST | COUNTY       | COLLECTOR                            | 4LD          | RAISED      |
| D49        | NW 107 AV     | NORTH OF | NW 78 ST | COUNTY       | COLLECTOR                            | 4LD          | RAISED      |
| D50        | NW 109 AV     | SOUTH OF | NW 82 ST | CITY         | LOCAL ROAD                           | 2LU          | NONE        |
| D51        | NW 112 AV     | SOUTH OF | NW 30 ST | CITY         | LOCAL ROAD                           | 2LD          | TWLTL       |
| D52        | NW 112 AV     | NORTH OF | NW 41 ST | CITY         | LOCAL ROAD                           | 2LD          | TWLTL       |
| D53        | NW 112 AV     | NORTH OF | NW 74 ST | CITY         | LOCAL ROAD                           | 2LD          | RAISED      |
| D54        | NW 112/114 AV | NORTH OF | NW 86 ST | CITY         | LOCAL ROAD                           | 4LD          | RAISED      |
| D55        | NW 114 AV     | NORTH OF | NW 36 TR | CITY         | LOCAL ROAD                           | 2LD          | TWLTL       |
| D56        | NW 114 AV     | NORTH OF | NW 50 ST | CITY         | LOCAL ROAD                           | 2LD          | TWLTL       |
| D57        | NW 114 AV     | NORTH OF | NW 60 ST | CITY         | LOCAL ROAD                           | 4LD          | RAISED      |
| D58        | NW 114 AV     | SOUTH OF | NW 78 ST | CITY         | LOCAL ROAD                           | 4LD          | RAISED      |
| D59        | NW 117 AV     | SOUTH OF | NW 34 ST | CITY         | LOCAL ROAD                           | 2LU          | NONE        |
| D60        | NW 117 AV     | SOUTH OF | NW 58 ST | CITY         | LOCAL ROAD                           | 2LU          | NONE        |

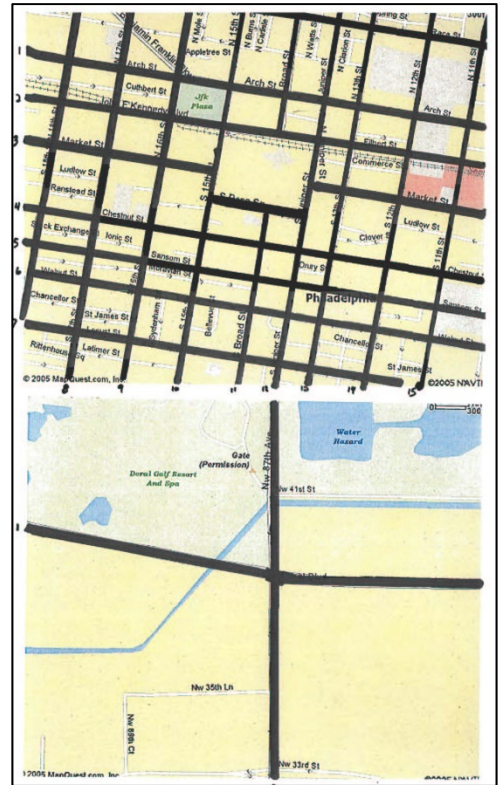


# City of Doral TRANSPORTATION MASTER PLAN



## 3.1.4 Doral Existing Grid Network

The City of Doral’s grid is constrained by the lack of connectivity, as the primary roadways are section line roadways, with a shortage of completeness in some areas and in a lack of alternative connections to various locations within the City. This lack of a complete network naturally forces traffic onto the main arterials, contributing to the congestion seen today, and is not just constrained to vehicular traffic, but also bicycling and pedestrian forms of travel as well. Mature roadway grids have a higher density, and the resulting shorter blocks provides additional options for movement to and from destinations. While the City can build these missing links within the network in some places easily, in other areas around the City, the challenge is that the missing linkages are in areas that have been completely built up. Few options exist until those areas are redeveloped. In considering the future, the City must take a closer look at these areas as the opportunities arise to address vehicular grid connectivity. Walking and bicycling networks, however, are a different matter. Requiring less space, the creation of promenades and small bikeways as needed within the City is something the City can consider to increase mobility and accessibility, and can be incorporated easily into local policy and design reviews for site plans.



*Above: A mature grid system in a major US city.*

*Below: In the same geographically sized area, Doral’s existing grid at NW 41<sup>st</sup> Street and NW 87<sup>th</sup> Avenue*

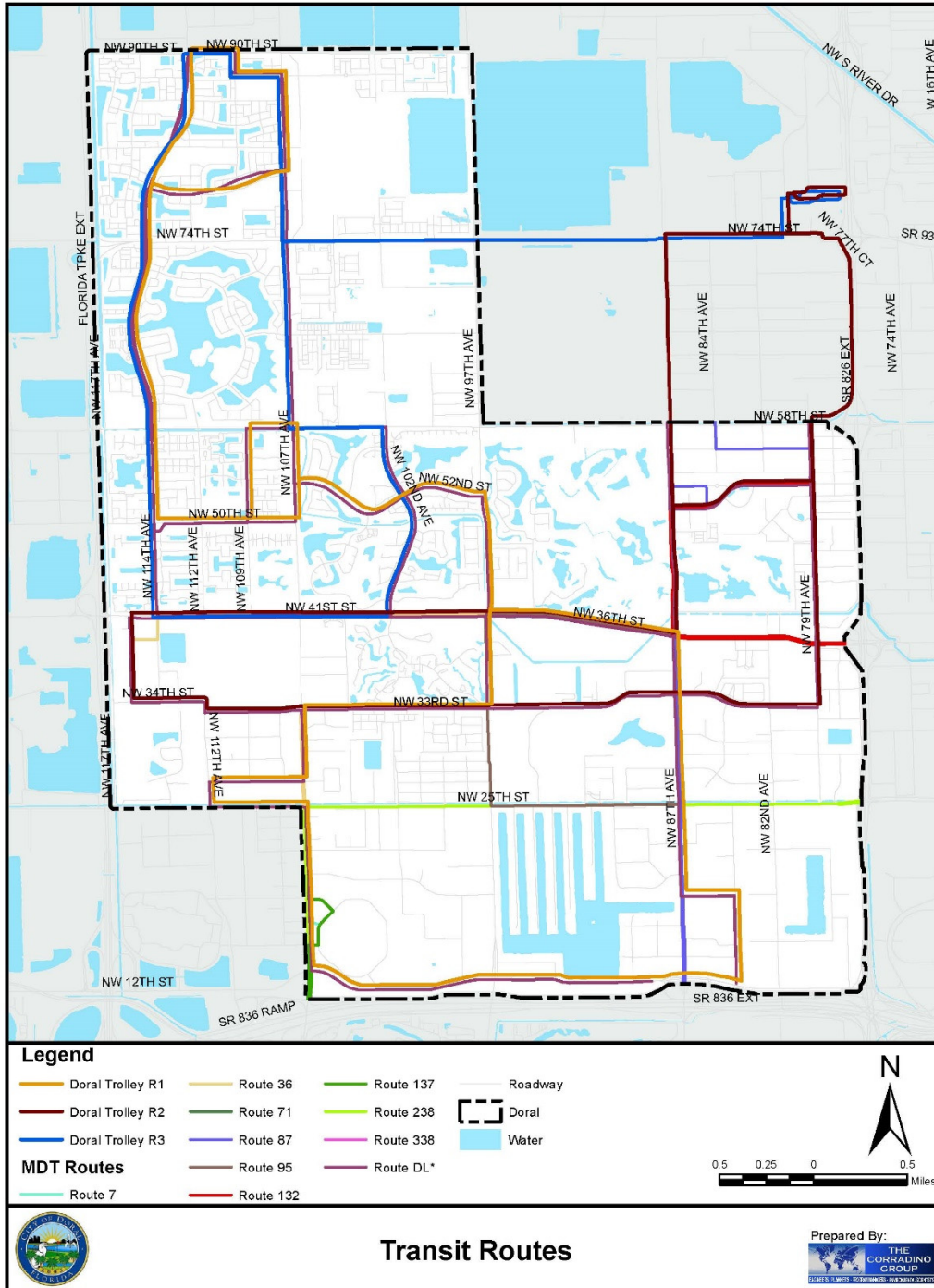


# City of Doral TRANSPORTATION MASTER PLAN



## 3.1.5 Transit

The City of Doral is served by Miami-Dade Transit (MDT) routes 7, 36, 71, 87, 132, 137, 238, the 95-Express Earlington Heights Route (952) as well as by its local circulator, the Doral Trolley. Figure 6 shows the routes of Miami-Dade Transit within the City of Doral and the Doral Transit System's Trolley Route.





# City of Doral TRANSPORTATION MASTER PLAN



The free-fare Doral Trolley System launched on February 1, 2008. It is a local circulator which serves the city through three routes (R1, R2, and R3), with route R1 providing connector service to MDT Metrobus routes at Miami International Mall and routes R2 and R3 providing connector service to the Miami-Dade Transit Metrorail via the Palmetto Metrorail Station in Medley. While these routes are intended to serve separate areas of the City, there is significant overlap between them. Because there are no dedicated trolley lanes, trolleys operate on the same roadways used by individual vehicles. The City conducts regular trolley ridership surveys which reveal that ridership is varied both in user numbers and trip purpose for all three routes. Ridership details provide insight into the route alignment and stops and Trolley frequency.

- Route 1 is the longest and has the highest ridership. It serves the City's core which also has the highest vehicular traffic. Route 1 has lower on-time performance as indicated by boarding and alighting data.
- Route 2 serves Downtown Doral and City Hall and the lowest ridership compared to Routes 1 and 3.
- Route 3 primarily serves the City's northwestern quadrant and provides a highly utilized connection to Palmetto Metrorail Station.

Route 1 has the highest ridership, followed by Route 3 and 2. Route 2 has a comparatively low overall ridership. Consideration should be given to adjusting Route 2 to generate more ridership, such as changing the route pathways to include more residential coverage.

High ridership boarding locations not only show the locations of high activity and indication of the demographics of route ridership, but where the routes intersect, provide insight into potential hub or corridor development areas.

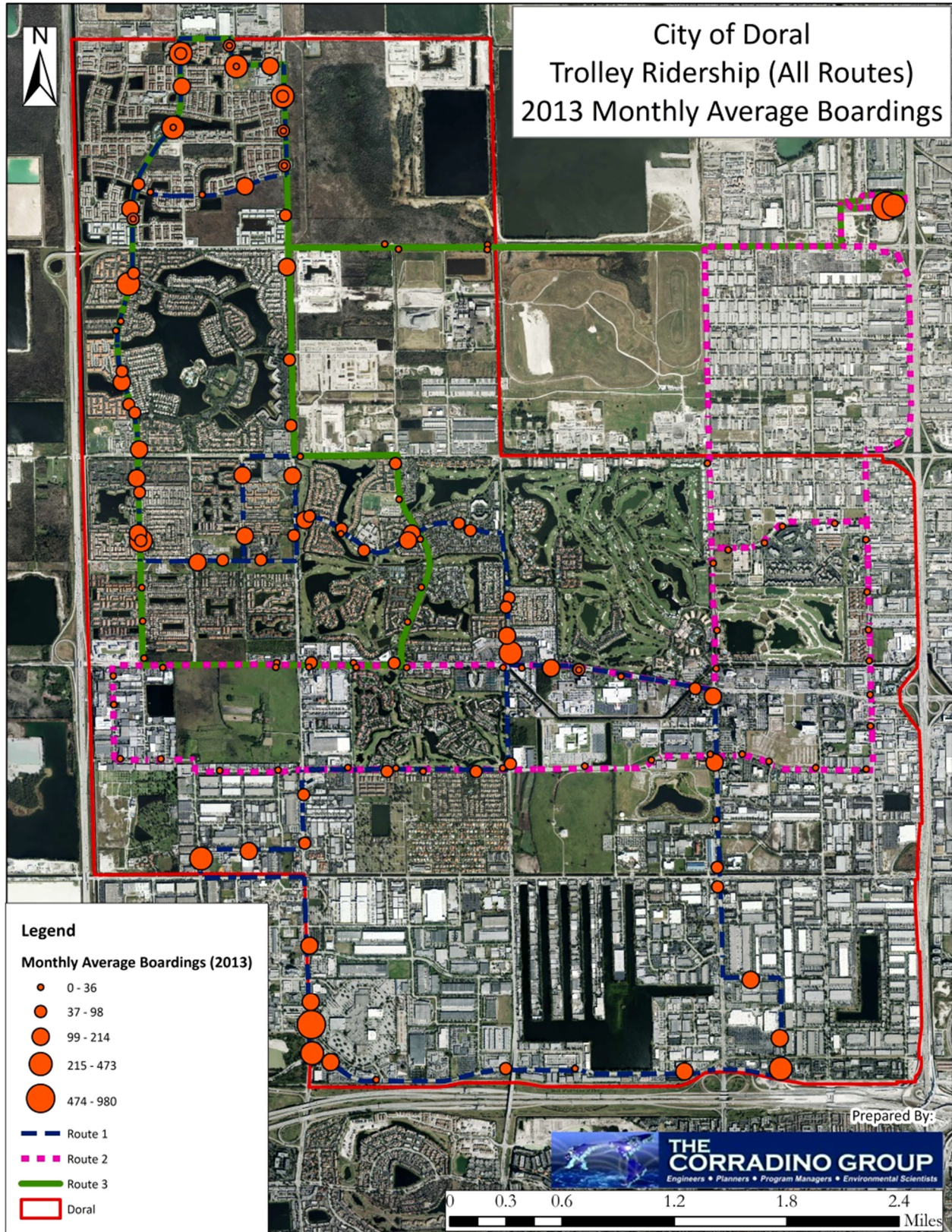
Conversely, low ridership indicates a need to consolidate stops. There are also lower performing stops on all three Routes. Stops falling into these categories should be specifically examined for elimination in a Route revision.

Factors that affect both the level of ridership and the quality of trips include access to and amenities at Trolley stops. Trolley stop accessibility includes a sidewalk to the stop that meets ADA requirements including curb cuts, a lift area, and minimum unobstructed sidewalk widths. Amenities may include the Trolley guide and associate signage, benches, shelters, and trash cans.

Key locations within for transit ridership within the City of Doral include the Palmetto Metrorail Station, the residential areas in northwest Doral, Miami International Mall, and NW 41<sup>st</sup> Street/NW 97<sup>th</sup> Avenue.



# City of Doral TRANSPORTATION MASTER PLAN





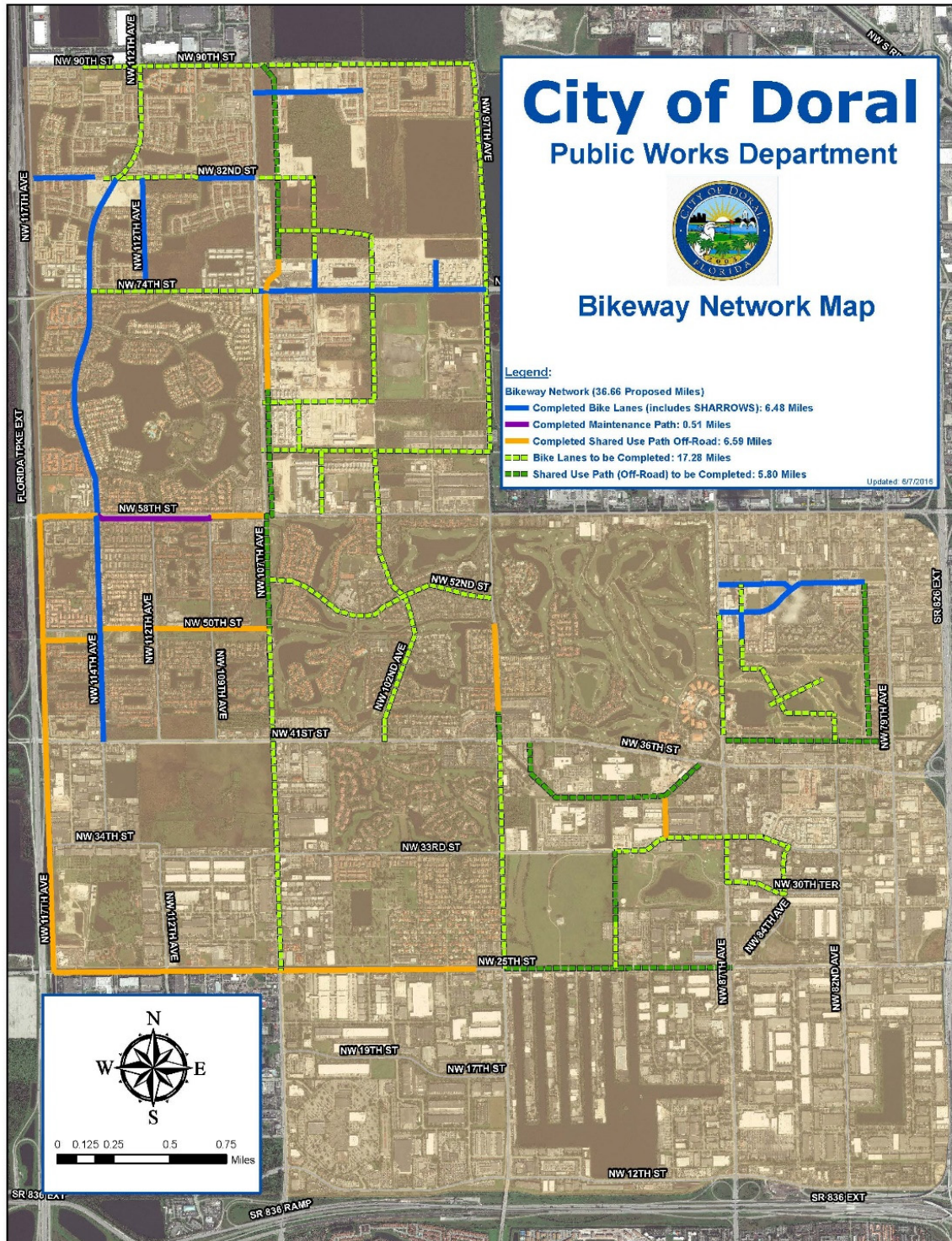


# City of Doral TRANSPORTATION MASTER PLAN



## 3.1.6 Pedestrian/Bicycle Facilities

The City's goal is to encourage intra-city trips by bicycle and walking. 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 Plan that proposes a series of bike lanes and multi-use paths. (Figure 7)





A pedestrian network typically consists of the basic elements of sidewalks, crosswalks, building connections, and adjacent conditions and amenities, defined as:

- **Sidewalks:** Hardscape paths of a sufficient width, unobstructed by obstacles, and well maintained to be free of cracks and weeds for use only by pedestrians.
- **Intersection Crosswalks:** Properly marked, signalized, safe pedestrian crossings of roadways.
- **Building Connections:** Designated, safe, marked pedestrian paths connecting sidewalks at the street edge through parking lots or landscaped areas to building entrances.
- **Adjacent Conditions and Amenities:** Setbacks of sidewalks from roadways (4 to 6 feet on high-speed roads, up to curb on lower-speed urban roads) shade trees, active building edges, miscellaneous sidewalk amenities like signage, trash cans, plazas, and public art.

For walking to truly be a viable alternative to driving, the experience must go beyond being possible to being appealing, which requires wider, unobstructed shaded sidewalks set back from streets and lined with active building edges rather than parking lots. Plazas, pocket parks, public art and similar elements can also encourage walking when it might not otherwise take place.

As would be expected in a historically car-oriented community, Doral’s pedestrian network is somewhat limited although major improvements have been made in recent years. Pedestrian traffic within Doral varies widely by area and is related to residential, commercial and recreational land uses.

Overall, the pedestrian network is very limited and exhibits the following issues and deficiencies:

- **Sidewalks:** Missing segments; cracked and in need of maintenance in some locations; not ADA-compliant; too narrow; and, obstructed in many locations.
- **Intersection Crosswalks:** Not properly marked; lacking signalization; and, inadequately spaced.
- **Building Connections:** Lacking in most locations or only partially complete.
- **Adjacent Conditions and Amenities:** Sidewalks are not set back from the curb; there are few areas where trees provide shade; and, there are almost no areas where buildings are built to a build-to line to create an inviting edge for pedestrians; and, amenities are very lacking.
- 

### 3.1.7 Waterways

The waterway system in Doral includes culverts which are interconnected with the many canals throughout the City. This system is not part of the transportation network, its primary purpose is to serve as the City’s surface drainage system. The system is maintained by Doral and is under the jurisdiction of the Department of Environmental Resources Management (DERM). 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.

### 3.1.8 Railways

The CSX Rail tracks run along the southern portion of the City. There are no rail yards or rail stations within the City of Doral. This rail line is used to move freight throughout the region.

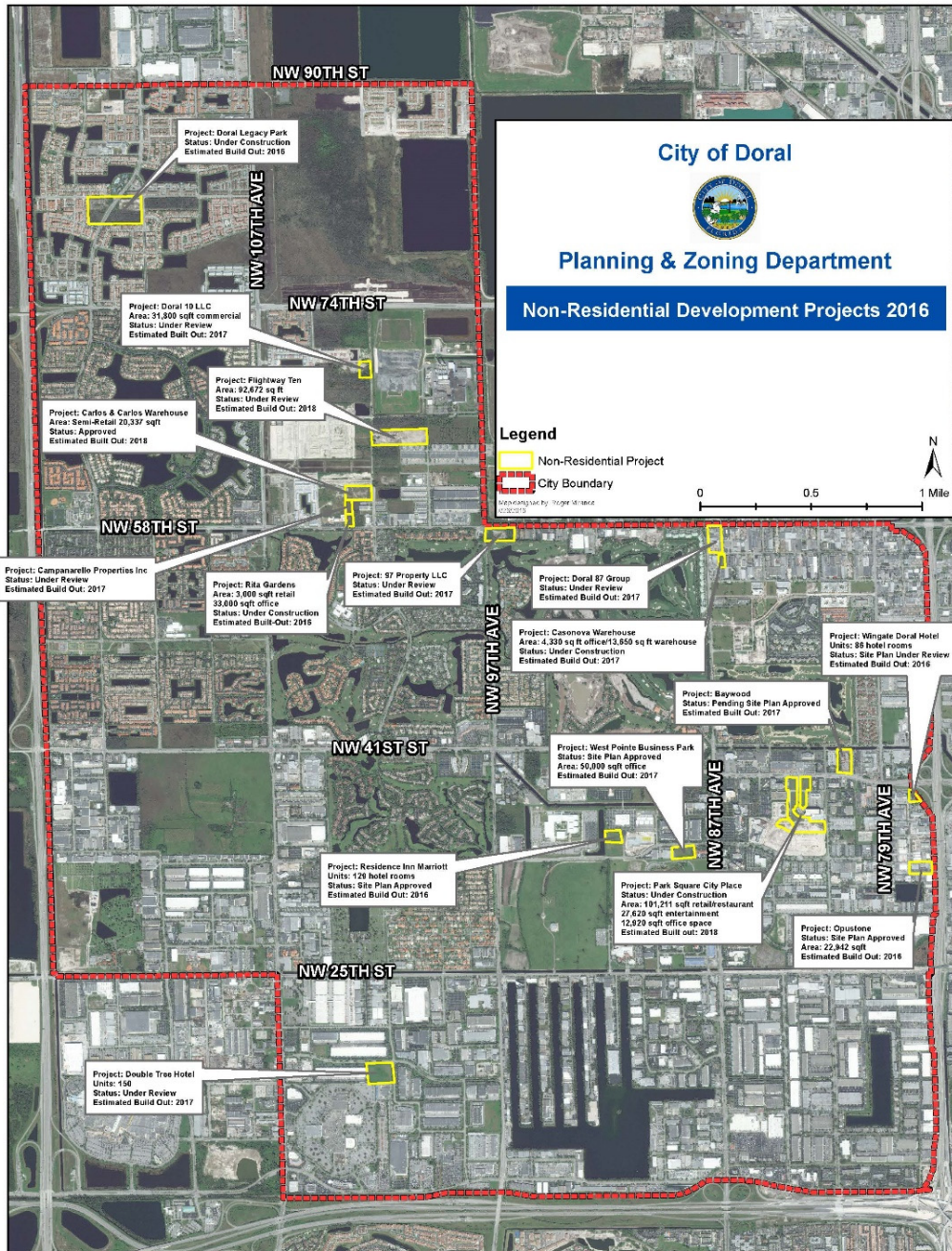


# City of Doral TRANSPORTATION MASTER PLAN



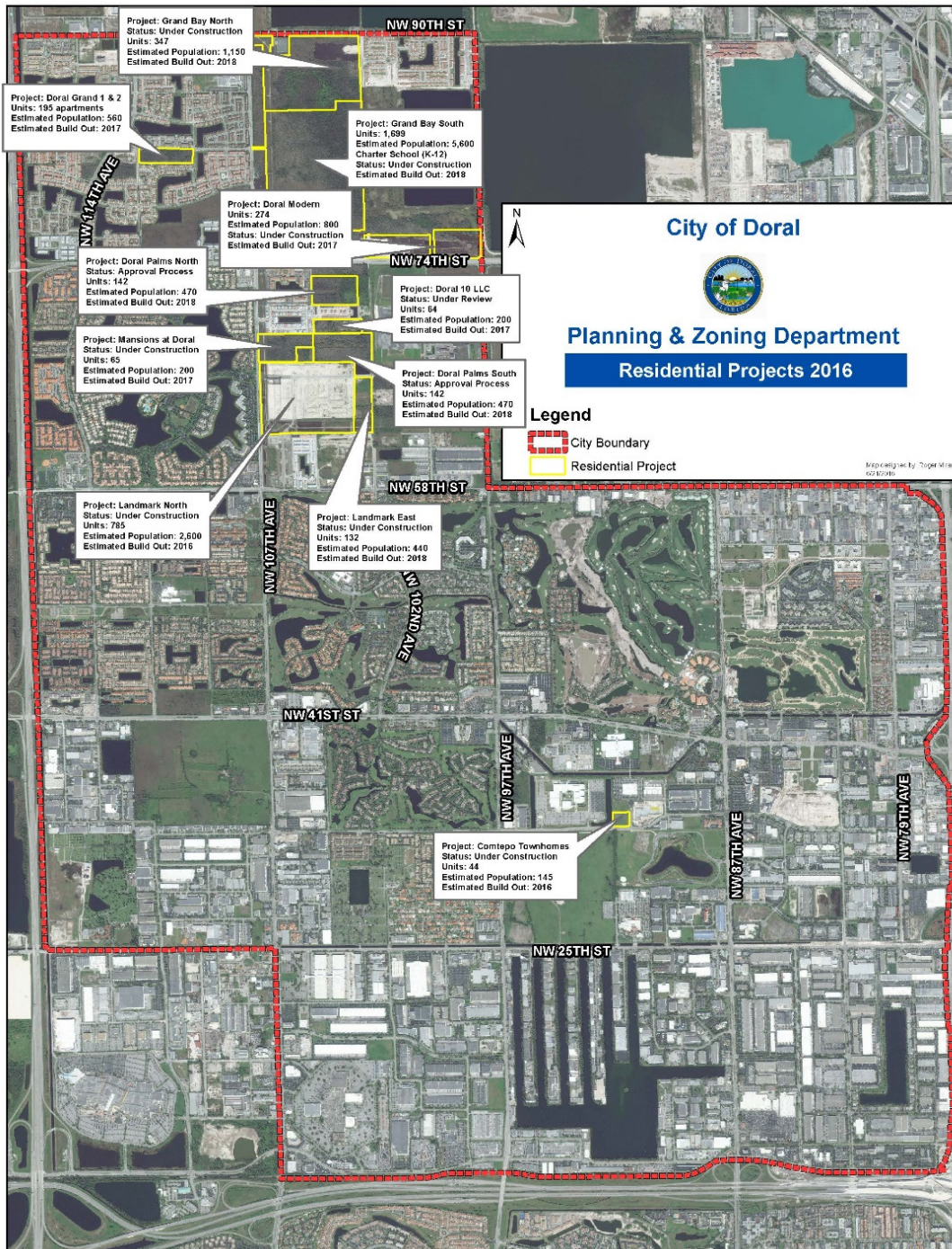
## 3.1.9 Future Development

The figures below depict projects that are currently under construction or under review by Planning.





# City of Doral TRANSPORTATION MASTER PLAN





## 4. On-going and Future Projects Impacting Doral

### 4.1 City of Doral – Capital Improvement Plan

A Capital Improvement Plan (CIP) 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 CIP is composed of two parts: Capital Budget and Capital Program.

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



## 4.2 Miami-Dade Transportation Planning Organization

### 4.2.1 Plans Review

The Miami-Dade Long Range Transportation Plan (LRTP) update to the year 2040 has been developed by the Transportation Planning Organization (TPO), formally known as the Metropolitan Planning Organization (MPO), to guide transportation investments in Miami-Dade County through the next 20 years to achieve 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 TPO. 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 its municipalities develop comprehensive plans that set goals, objectives and policies for land use and transportation. These are then further implemented through the detailed master planning, leading to the design and construction of individual projects.

### 4.2.2 Transportation Improvement Program

The Transportation Improvement Program (TIP) is split into six different improvement characteristics: intermodal, highway, transit, aviation, seaport and non-motorized improvements. The following table shows the projects listed in the 2017 TIP that are within and adjacent to the City of Doral.

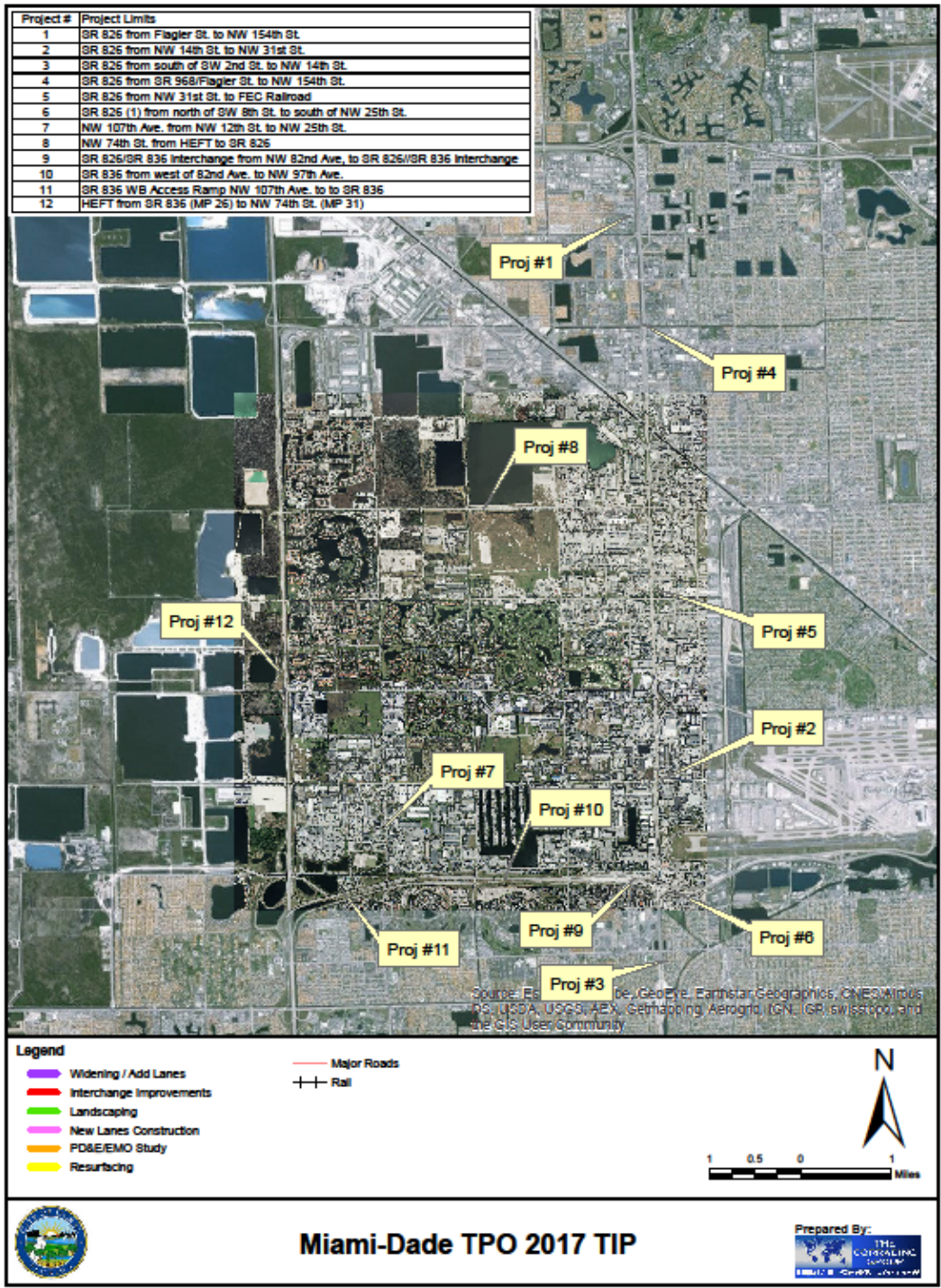
*Miami-Dade TPO 2017 TIP*

| Project #   | MPO #       | FACILITY                                   | LIMITS   | TYPE OF WORK                | CONST. YR |
|---|-------------|--|--|-----------------------------|-----------|
| <b>FLORIDA DEPARTMENT OF TRANSPORTATION</b>                                   |             |  |  |                             |           |
| 1   | DT4326871   | SR 826 (Palmetto Expy)                     | Flagler St to NW 154 St                                    | Add special use lane        | N/A       |
| 2   | DT2491122   | SR 826 (Palmetto Expy)                     | NW 14 St to NW 31 St                                       | Landscaping                 | 2016/2017 |
| 3   | DT2495812   | SR 826 (Palmetto Expy)                     | South of SW 2 St to NW 14 St                               | Landscaping                 | 2017/2018 |
| 4   | DT4184236   | SR 826 (Palmetto Expy)                     | SR 968/W Flagler St to NW 154 St                           | PD&E/EMO Study              | N/A       |
| 5   | DT4326873   | SR 826 (Palmetto Expy)                     | NW 31 St to FEC Railroad                                   | Landscaping                 | 2017/2018 |
| 6   | DT2495811   | SR 826 (Palmetto Expy)/<br>SR 836          | North of SW 8 St to South of NW 25 St & FM NW 87 to 57 Ave | Intechange - Add lanes      | N/A       |
| <b>MIAMI-DADE COUNTY PUBLIC WORKS &amp; SOLID WASTE MANAGEMENT DEPARTMENT</b> |             |  |  |                             |           |
| 7   | PW000851    | NW 107 Ave                                 | NW 12 St to NW 25 St                                       | Resurfacing                 | N/A       |
| 8   | PW200440355 | NW 74 St                                   | HEFT to SR 826 (Palmetto Expy)                             | New 6 lanes                 | 2016/2017 |
| <b>MIAMI-DADE EXPRESSWAY AUTHORITY</b>  |             |  |  |                             |           |
| 9   | XA83608     | SR 826/SR 836 Interchange                  | NW 82 Ave to SR 826/SR 836 Interchange                     | Interchange Improvements    | 2016/2017 |
| 10  | XA83629     | SR 836 Interchange Modifications at 87 Ave | SR 836 West of 82 Ave to NW 97 Ave                         | Interchange Improvements    | 2016/2017 |
| 11  | XA83625     | SR 836 WB Acces Ramp                       | NW 107 Ave to SR 836                                       | Construction of access ramp | N/A       |

Source: Miami-Dade County TPO



# City of Doral TRANSPORTATION MASTER PLAN





## 4.2.3 Long Range Transportation Plan

As previously indicated, The Miami-Dade TPO 2040 Long Range Transportation Plan (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: Projects to be completed to respond to the most pressing and current urban travel deficiencies. These projects were scheduled to be funded in 2016 and were programmed in the Miami-Dade TIP 2015-2020, and carried forward in future years of the TIP.
- Priority II: Projects planned to be funded between 2021 and 2025.
- Priority III: Projects planned to be funded between 2026 and 2030.
- Priority IV: Projects planned to be funded between 2031 and 2040.
- Priority IV: Unfunded: Projects that have been identified as needed. However, revenues are not available to fund these projects.

The following projects listed are from the LRTP and within the City of Doral.





# City of Doral TRANSPORTATION MASTER PLAN



## Miami-Dade County 2040 Long Range Transportation Plan

| Priority         | Project # | Project Roadway                                  | Limits  | Project Description   |
|------------------|-----------|--|---|---|
| 1<br>(2015-2020) | 1         | NW 74 St   | HEFT to SR 826 (Palmetto)   | Add 2 lanes and reconstruct   |
|                  | 2         | NW 97 Ave  | NW 70 St to NW 74 St  | New 4 lane road reconstruction  |
|                  | 3         | NW 97 Ave  | NW 58 St to NW 70 St  | Add 2 lanes and reconstruct   |
|                  | 4         | SR 821/HEFT                                      | SR 826 to NW 106 St   | Add lanes and reconstruct   |
|                  | 5         | SR 826 (Palmetto) & SR 836 (Dolphin) Interchange | North of SW 8 St (Tamiami)/NW 87 Ave to South of 25 St/ NW 57 Ave | Interchange Improvements  |
|                  | 6         | SR 836/Dolphin EXPY                              | NW 107 Ave  | Construction of Access Ramp   |
|                  | 7         | SR 836 (Dolphin) Interchange at 87 Ave           | SR 836 (Dolphin) West of 82 Ave to NW 97 Ave                      | Interchange Improvements  |
| 2<br>(2021-2025) | 8         | NW 107 Ave                                       | NW 41 St to NW 25 St  | Add 2 lanes and reconstruct   |
|                  | 9         | NW 107 Ave                                       | NW 12 St to NW 74 St  | Operational and capacity improvements where feasible                  |
|                  | 10        | NW 117 Ave                                       | NW 25 St to NW 41 St  | New 2 lane road to support the flow of truck traffic to SR-821 (HEFT) |
|                  | 11        | NW 12 St   | NW 107 Ave to SR 826  | Widening  |
|                  | 12        | NW 25 St   | NW 89 Ct to SR 821 (HEFT)   | Capacity and operational improvements                                 |
| 3<br>(2026-2030) | 13        | NW 79 Ave  | NW 48 Way to NW 36 St   | Merge and reduce access points if possible                            |
|                  | 14        | NW 36 St/NW 41 St                                | NW 42 Ave (Le June) to SR 821 (HEFT)                              | Operational improvements  |
|                  | 15        | NW 58 St   | NW 107 Ave to NW 82 Ave   | Corridor traffic operational improvements                             |
| 4<br>(2031-2040) | 16        | SR 836 (Dolphin) Managed Lanes                   | SR 821 (HEFT) to SR 826 (Palmetto)/SR 836 (Dolphin) Interchange   | 2 New managed lanes within the ROW of SR 836 (Dolphin)                |
|                  | 17        | NW 97 Ave  | NW 58 St to NW 52 St  | Add 2 lanes and reconstruct   |
|                  | 18        | SR 821 (HEFT)                                    | NW 12 St to NW 74 St  | Transportation systems management and operations (TSM&O)              |
|                  | 19        | SR 826 (Palmetto)                                | SR 836 (Dolphin) to NW 103 St                                     | Add 4 special use lanes   |

### Freight Management & Non-Motorized Projects

| Project # | Project Roadway | Limits                    | Project Description  |
|-----------|-----------------|---------------------------|--|
| 1         | NW 97 Ave       | NW 74 St to NW 58 St      | Bicycle Facility Improvements  |
| 2         | NW 82 St        | NW 114 Path to NW 109 Ave | Pedestrian Facility Improvements   |
| 3         | NW 58 St        | NW 82 Ave to NW 74 Ave    | Freight Management - High number of access points on the south side of NW 58th Street. Merge and reduce access points close to busy intersections if possible. |
| 4         | NW 82 Ave       | NW 41 St to NW 25 St      | Freight Management - Widen from 2 to 4 lanes   |

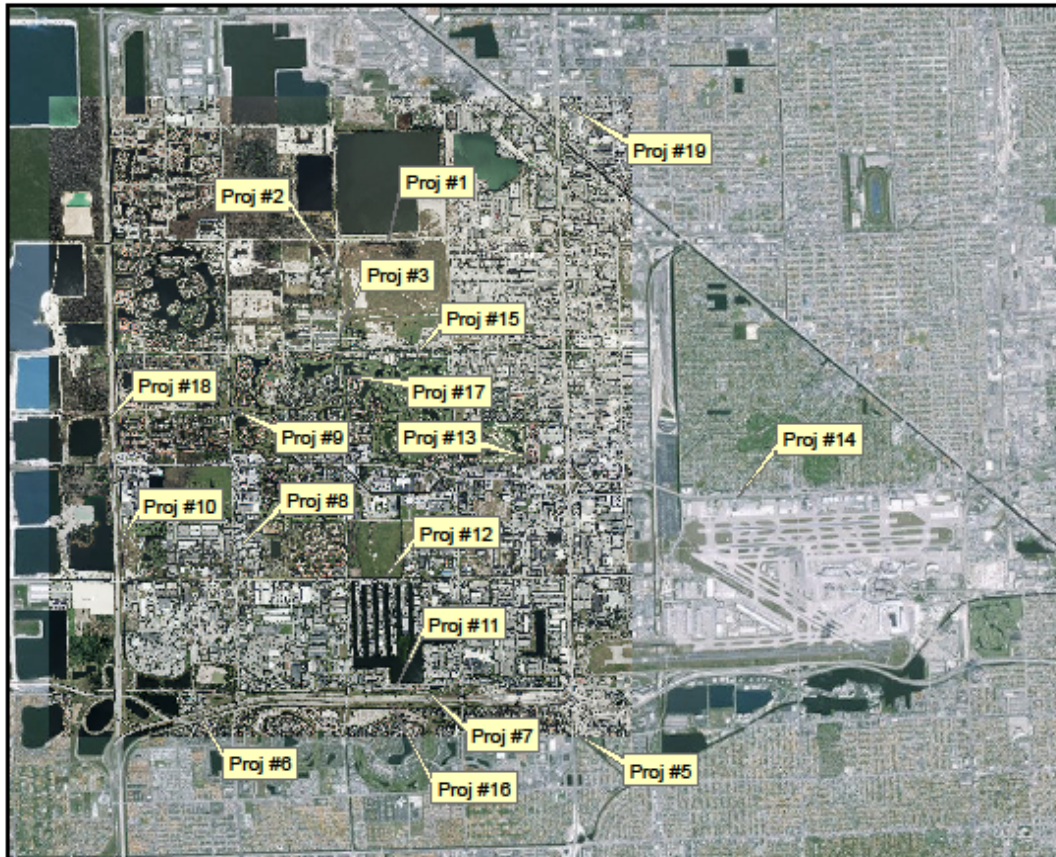
### Private Sector Projects

| Project # | Project Roadway | Limits                  | Project Description          |
|-----------|-----------------|-------------------------|------------------------------|
| 1         | NW 90 St        | NW 107 Ave to NW 87 Ave | New 4 lane road construction |
| 2         | NW 97 Ave       | NW 74 St to NW 90 St    | New 4 lane road construction |

Source: Miami-Dade County TPO





# City of Doral TRANSPORTATION MASTER PLAN



| Project # | Project Limits   |
|-----------|--|
| 1         | NW 74th St. from HEFT to SR 826 (Add 2 lanes and reconstruct)  |
| 2         | NW 97th Ave. from NW 70th St. to NW 74th St. (New 4-lane road reconstruction)  |
| 3         | NW 97th Ave. from NW 58th St. to NW 70th St. (Add 2 lanes and reconstruct)   |
| 5         | SR 826 (Palmetto) SR 836 (Dolphin) Interchange from north of SW 8th St. (Tamiami) / NW 87th Ave. to south of NW 25th St. / NW 57th Ave. (Interchange Improvements) |
| 6         | SR 836 (Dolphin Expy) at NW 107th Ave. (Construction of access ramp)   |
| 7         | SR 836 (Dolphin) Interchange at NW 57th Ave. from west of 82nd Ave. to NW 57th Ave. (Interchange Improvements)   |
| 8         | NW 107th Ave. from NW 41st St. to NW 25th St. (Add 2 lanes and reconstruct)  |
| 9         | NW 107th Ave. from NW 12th St. to NW 74th St. (Operational and capacity improvements where feasible)   |
| 10        | NW 117th Ave. from NW 25th St. to NW 41st St. (New 2-lane road to support the flow of truck traffic to SR 821 (HEFT))  |
| 11        | NW 12th St. from NW 107th Ave. to SR 826 (Widening)  |
| 12        | NW 25th St. from NW 89th Ct. to SR 821 (HEFT) (Capacity and operational improvements)  |
| 13        | NW 79th Ave. from NW 48th Way to NW 38th St. (Merge and reduce access points if possible)  |
| 14        | NW 36th St/NW 41st St from NW 42nd Ave. (Le June) to SR 821 (HEFT) (Operational Improvements)  |
| 15        | NW 58th St. from NW 107th Ave. to NW 82nd Ave. (Corridor traffic operational improvements)   |
| 16        | SR 836 (Dolphin) Managed Lanes - from SR 821 (HEFT) to SR 826 (Palmetto)/SR 836 (Dolphin) Interchange (2 new managed lanes within the ROW of SR 836 (Dolphin))     |
| 17        | NW 97th Ave. from NW 58th St. to NW 52nd St. (Add 2 lanes and reconstruct)   |
| 18        | SR 821 (HEFT) from NW 12th St. to NW 74th St. (Transportation systems management and operations (TSM&O))   |
| 19        | SR 826 (Palmetto) - from SR 836 (Dolphin) to NW 103rd St. (Add 4 special use lanes)  |

**Legend**

- Widening / Add Lanes
- Interchange Improvements
- Landscaping
- New Lanes Construction
- Major Roads
- ++ Rail

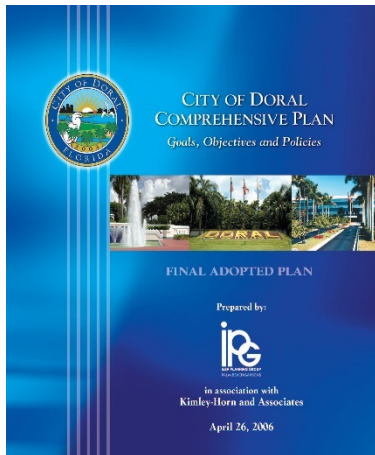

  




## 4.3 Evaluation of Local Policy

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 were made.

Doral’s Comprehensive Plan is the official long-range regulatory policy adopted on April 26, 2006, guiding current and future land development in the City. Updated on August 2, 2013, the Transportation, Land-Use, Green, and Capital Improvements Elements of the comprehensive plan define policy and goals related to various aspects of future growth affecting the development of multimodal transportation in Doral. Each of these elements consists of a singular broad goal, with specific corresponding objectives. Doral’s Comprehensive Plan is formally re-evaluated and appraised every 5-7 years.



### 4.3.1 Transportation Element

The Transportation Element consists of eight objectives designed to guide the development of the Doral towards the goal providing a “safe, convenient, effective, and energy efficient multimodal transportation system”. It is developed in coordination with the Future Land Use Element to aid in planning for impacts on the transportation systems as the City develops.

Relevant Objectives and Policies from the Transportation Element affecting Mobility Planning include:

#### **Objective 3.1: Coordination with Future Land Use Element**

The Transportation Element of Doral’s Comprehensive Plan is coordinated with the Future Land Use Element, including population densities, housing and employment patterns, and the dispersal of trip generators and attractors, which impact transportation development.

Doral will implement recommended improvements and strategies from the Transportation Master Plan on an annual basis in order to address current and future roadway deficiencies, and enhance transit and mobility (3.1.1.).

Parking and on-site traffic flow in Doral are addressed by Policies 3.1.3 and 3.1.8 of the Plan. Doral will, through amendment of Land Development Regulations (LDRs) and the development review process, ensure safe and convenient on-site traffic flow, which considers needed motorized and non-motorized vehicle parking (3.1.3), and provides parking strategies for development, including: reduced parking requirements between mixed-use developments or proximal comparable uses; preferential parking for carpooling; customized parking ratio requirements to reflect local conditions; and utilization of payment-in-lieu of required parking programs, with funds going towards a municipal public parking program or transit fund (3.1.8).



Policies 3.1.4 and 3.1.6 addresses the development of rights-of-way. Doral will ensure that development will not encroach on dedicated or planned rights-of-way, and require new rights-of-way to be dedicated in perpetuity with future developments, in order to meet the City's minimum LOS.

Doral will work to increase the vehicle occupancy rate from 1.34 to 1.41 per vehicle through amendments to the Land Development Code. This will require development orders to have provisions to implement Transit Demand Management strategies, such as carpooling, vanpooling, and education on commuter tax benefit programs, flex times, staggered work hours, and compressed work weeks (3.1.5, 3.1.7).

### **Objective 3.2: Roadway Level of Service**

Objective 3.2 provides Doral with the Level of Service (LOS) standards which the city must operate at or above. As roads within Doral are split across State, County, and Local jurisdictions, Doral must coordinate across multiple agencies (Miami-Dade County, the Miami-Dade MPO, and the FDOT) to ensure adopted roadway level of service standards in the City are maintained. Success in achieving this objective is measured by the level of maintenance of roadway LOS.

Policies 3.2.1, 3.2.2, 3.2.3, 3.2.10, and 3.2.11 provide the specific LOS standards and courses of action related to the maintenance of the LOS for Doral. This element mandates that all LOS for roads in Doral operate at LOS D or greater (3.2.1). Exceptions exist for FIHS roads which are exclusive through lanes, located within a designated transportation concurrency management area, or parallel to exclusive transit facilities, and county roads which are within the Urban Development Boundary but outside the Urban Infill Area, and which have mass-transit service with headways of 20 minutes or less within a ½-mile distance (3.2.2, 3.2.3). In areas where commuter rail or express bus service exists, parallel roads within ½ mile shall operate at no greater than 120% of their capacity at peak hour (3.2.2).

In addition, access FIHS roadways that are constrained, backlogged limited, and controlled which are operating below the foregoing minimums, must be managed to avoid significant deterioration (3.2.3).

Doral will regularly monitor and ensure adherence to the LOS standards, and will base their decision on development and redevelopment orders on the ability of public facilities to provide accepted LOS, pursuant to the Concurrency Management System (3.2.10). Doral will monitor LOS on segments that are expected to operate lower than their LOS in 2030, and by 2025 will program recommended improvements into the Five-Year Capital Improvements Program through coordination with FDOT and Miami-Dade MPO (3.2.11).

As a general policy, Doral will work to complete the system of section, half-section, and quarter-section line public roadways to the fullest extent possible (3.2.4). The city will also encourage the development of frontage and rear-cut access roads to reduce the number of drive cuts on arterial roadways (3.2.8).

Policies 3.2.5, 3.2.6, and 3.2.12 of the Transportation Element provide specific projects which the city will pursue:

- Expansion of 97th to a minimum of 4 lanes on an expedited basis (3.2.5)
- Addressing long-range transportation deficiencies on:
  - NW 58th Street between NW 97th Avenue and SR 826 (3.2.12)
  - NW 41st Street/36th Street between NW 97th Avenue and NW 87th Avenue (3.2.12)



# City of Doral TRANSPORTATION MASTER PLAN



- NW 25th Street between NW 97th Avenue and SR 826 (3.2.12)
- NW 107th Avenue between NW 41st Street and NW 58th Street (3.2.12)
- Coordinate with Miami-Dade MPO and FDOT on widening of NW 107th Avenue from NW 25th Street to NW 41st Street (3.2.6)
- Implement improvements on NW 25th Street between NW 97th Avenue and NW 87th Avenue as part of the widening project for NW 25th Street between NW 87th and SR 826 (3.2.6)
- Corridor Study of NW 25th Street between the HEFT and SR 826 to improve operation efficiencies (3.2.6)

Policies 3.2.7 and 3.2.9 direct efforts to protecting the interregional and intrastate functions of the Florida Intrastate Highway System (FIHS) to the fullest extent possible by encouraging local traffic to utilize local roadways, and through coordination with the FDOT to encourage alternative routes.

### **Objective 3.3: Intergovernmental Coordination**

Doral will work with South Florida Regional Transportation Authority (SFRTA), the Miami-Dade Metropolitan Planning Organization (MPO), Miami-Dade County, and the Florida Department of Transportation's (FDOT) Adopted Work Program to coordinate transportation systems. To achieve this objective, Doral is participate in the MPO (3.3.1), coordinate with MDT and the MPO to address multi-modal connections, particularly to the Metrorail (3.3.2), and ensure that the future right of way are consistent with the City's Comprehensive Plan, Miami-Dade County, the MPO, and FDOT needs (3.3.4). In addition, Doral will work with the FDOT and MPO to decrease truck traffic through residential areas with the development of a truck plan route, which may shift some portions of the current traffic pattern (3.3.3).

### **Objective 3.4: Safe Pedestrian Environment**

Objective 4 guides Doral towards the provision of a safe, continuous, and comfortable pedestrian environment. Success in achieving this objective will be measured by the increase in sidewalk miles, as well as the construction projects affecting the pedestrian environment by 2012.

Policies 3.4.1, 3.4.2, 3.4.4, and 3.4.7 address the location of sidewalks and any need for expansion of these particular portions of the transit infrastructure. Doral will make a plan and regularly maintain an inventory which specifies the needs for pedestrian enhancements (3.4.1), which will include sidewalks on both sides of all streets of the City (3.4.2). Doral will also develop safe routes to schools for children, which will include sidewalks, pedestrian activated signal crossings, school zone signage and other pedestrian safety measures (3.4.7).

In addition, Doral will work with FDOT and Miami-Dade County to enhance pedestrian safety and comfort through traffic control and design features along state and county facilities (3.4.5) and will request sidewalk installation and repairs as part of any state or county roadway widening or improvement project (3.4.4).

Sidewalks will also be clear of items which will impede usability and mobility by reducing the width of the right-of-way, such as signs, furniture, and other pedestrian obstacles.

Policy 3.4.6 addresses the currently low trend of pedestrian activity in Doral, by setting a goal of an increase of 5 percent, to 6.86% of all work trips, by 2015.



### **Objective 3.5: Enhance Bicycle Environment**

Objective 3.5 for Doral is to provide a safe, convenient, continuous and comfortable bicycle environment as part of the transportation system that is conducive to all skill levels of bicycling. To achieve this objective, Doral will complete a city-wide bicycle facilities study to determine: the feasibility of providing an interconnected bicycle system (3.5.1) as well as identify all street segments without bicycle trail or on-street facilities (3.5.2), encourage private development to include trails into residential subdivision plans (3.5.2), and provide bike lanes which are grade-separated when possible from adjacent roadways.

Success in implementing this objective is measured by the development of a bicycle facilities-network plan, and the increase in bicycle lanes, routes, and paths. In addition, Doral currently has a low trend of bicycle usage, and will work to increase bicycle trips by 1%, to 1.07%, of all work trips (3.5.4).

### **Objective 3.6: Public Transit**

Objective 3.6 sets the goal of ensuring safe, accessible, convenient, and efficient public transit, with an additional emphasis for locally based "transportation disadvantaged" individuals in Doral. Success in achieving the goals of this objective will be determined by the level of increase in the transit level of service and the service area coverage.

Doral's transportation master plan investigates community bus or trolley service between downtown, neighborhoods, and public facilities (3.6.1).

Policies 3.6.2, 3.6.3, 3.6.4, 3.6.5, 3.6.7, 3.6.8, and 3.6.9 address coordination and working with Miami-Dade Transit (MDT) to improve public transit in Doral. Doral will coordinate regularly with MDT to study existing transit routes, feasibility of potential new routes, and existing and major trip generators and attractors in order to ensure efficient public transit services within the city (3.6.2, 3.6.9). This coordination includes any requests for increased routes and increased routes, as well as scheduling to ensure timely transfers within the city (3.6.5). Specifically, Doral will work with MDT to develop NW 87th Avenue as an exclusive transit feeder route to the NW 74th Street Metrorail station (3.6.4).

Doral has the goal of increasing to 2% public transit as a percentage of all commuters, and recognizes that the viability of public transit will affect the transit modal split and annual transit trips per capita (3.6.8). This viability will be affected by coordination efforts with MDT and Miami-Dade MPO to establish measures for the acquisition and preservation of existing and future public transit rights-of-way and any appropriate exclusive public transit corridors in Doral (3.6.7).

Policies 3.6.3 and 3.6.6 address land use and densities related to public transit. Specifically, Doral will encourage land use and densities which promote public transportation in designated public transit corridors, and will establish land use, site, and building guidelines for public transit-adjacent development to increase accessibility to public transit.

### **Objective 3.7: Transportation Coordination with Airport**

Transportation coordination with Miami-Dade County and the Miami International Airport to integrate the airport with other modes of surface transportation (3.7.2) is necessary to ensure consistency with Doral's Land Use and Conservation elements (3.7.1).



# 5. Previous Studies

## 5.1 Miami-Dade Transit: Transit Development Plan 2017-2026

Miami-Dade Transit’s Transit Development Plan is a 10-year strategic vision designed to “promote the operation of an efficient, responsive and financially sustainable transit system”. Major components of the Transit Development Plan include:

- Annual Performance
- Service Operations
- Capital Program
- Funding

**Specific projects being considered and funded by Miami-Dade Transit include the following:**

**Dolphin Station (HEFT and NW 12th Street):** Property owned by FDOT located adjacent to the intersection of the Homestead Extension of the Florida Turnpike (HEFT), SR 836 and NW 12th Street has been identified as a strategic location for a Transit Hub with a park-and-ride facility. This transit hub will support the SR 836 Express Bus Service project and provide a potential terminus or stop for several local bus routes serving the Dolphin Mall and nearby cities of Sweetwater and Doral. This transit hub also provides potential for a future commuter rail station serving future passenger rail service along the CSX line. DTPW has partnered with the Miami-Dade Expressway Authority (MDX) to advance the completion date of this project. This project is estimated to be complete late 2017.

**Palmetto Intermodal Terminal (Palmetto Expressway at NW 74th Street):** DTPW recommends that the FDOT SR 826/Palmetto Expressway Express Lanes PD&E Study address the feasibility of acquiring an 11.88-acre semi-vacant parcel of land located immediately south of the Palmetto Metrorail Station for the purpose of constructing the Palmetto Station Intermodal Terminal that will include but not be limited to: long-term parking, short-

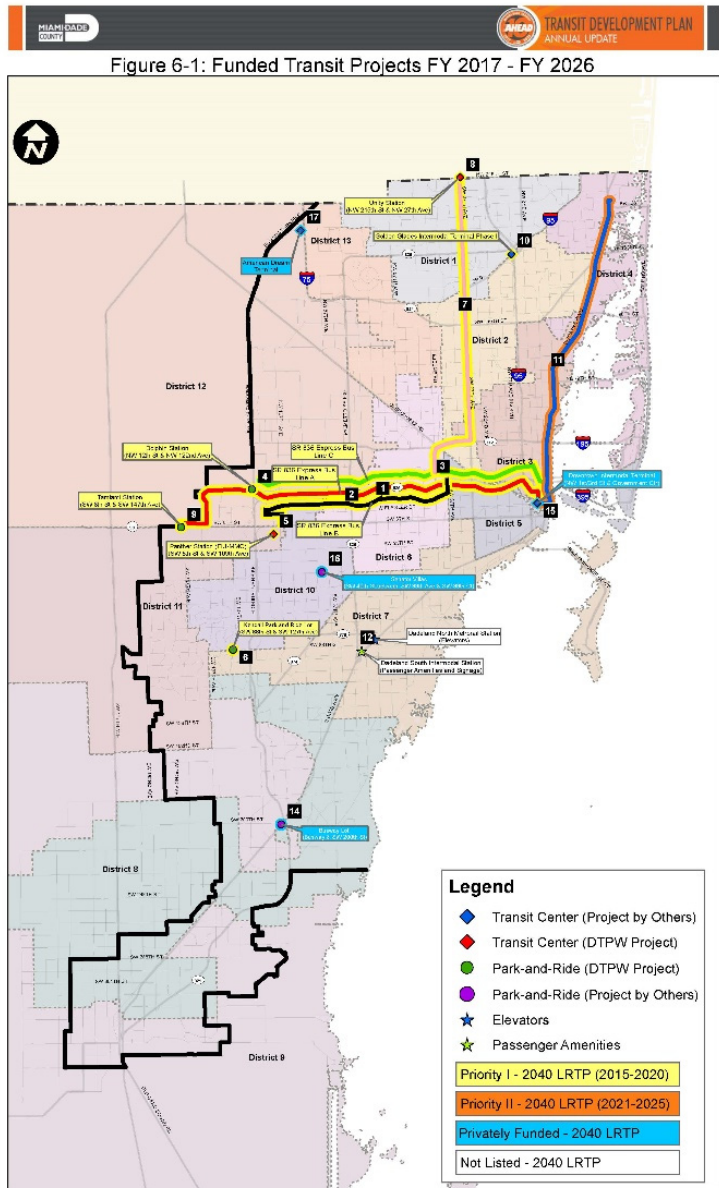


Figure 6-1: Funded Transit Projects FY 2017 - FY 2026

Transit Development Plan FY 2017 - 2026 | April 2016

6-7



term parking, kiss-and-ride, pool-and-ride and a minimum of 6 bus bays and 2 layover bays. This park-and-ride lot also provides strategic TOD opportunities.

### SR 836 Express Bus C Line

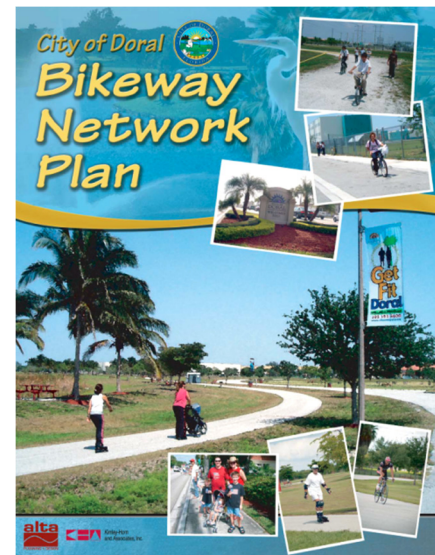
Dolphin Station to Downtown Miami Intermodal Terminal

C Line Express would provide premium express transit service along SR 836 from the proposed park-and-ride/transit center Dolphin Station (NW 12th Street and HEFT) to the proposed Downtown Miami Intermodal Terminal (NW 1st Street and NW 1st Avenue). This route will operate during peak periods only. Service headways will be 10 minutes during the AM/PM peak-hour

## 5.2 Doral Bikeway Network Plan

Doral commissioned a Bikeway Network Plan in 2006 to study and develop different trails for transportation and recreational purposes. The plan presented and evaluated seven potential trails, and differentiated between off-street and on-street trails and facilities which the City could pursue. The plan also provided detailed examples of supplemental infrastructure, such as benches and shelters, in addition to regular bicycle infrastructure, such as workplace showers, lockers, and racks.

The plan notes that mobility is affected by the connectivity of bicycle-transit routes, which provide bicycle racks. While the creation of a system was noted to be beneficial and desirable, the plan also identified several challenges to Doral's implementation of a bicycle trail system. These challenges include concerns regarding safety, lack of connectivity between certain neighborhoods, and inconsistencies in land use and ownership posing issues for delivering bikeway trails. However, the report also noted that bikeway development has opportunities presented by potential strong public support; the existence of easements which could support bikeway development; consistencies with the goals noted in the Comprehensive Plan; the need to develop alternative modes of transportation to alleviate demand on the City's arterials with failing LOS; and, the potential benefit to disadvantaged communities.



## 5.3 Transit Mobility Plan

The City of Doral completed its Transit Mobility Plan in 2014. In this plan, the City focused on providing alternatives to single occupancy vehicular transit as a form of travel to maximize capacity on its roadway network. By looking to increasing the capacity of transit, pedestrian, and bicycling infrastructure in its corridors and nodes of development, the City planned on enhancing local quality of life. The projects from this recent report have been incorporated into this Master Plan. Focuses of this plan involved identification of missing sidewalk links, potential bicycle facilities, and recommendations on transit and development policies.

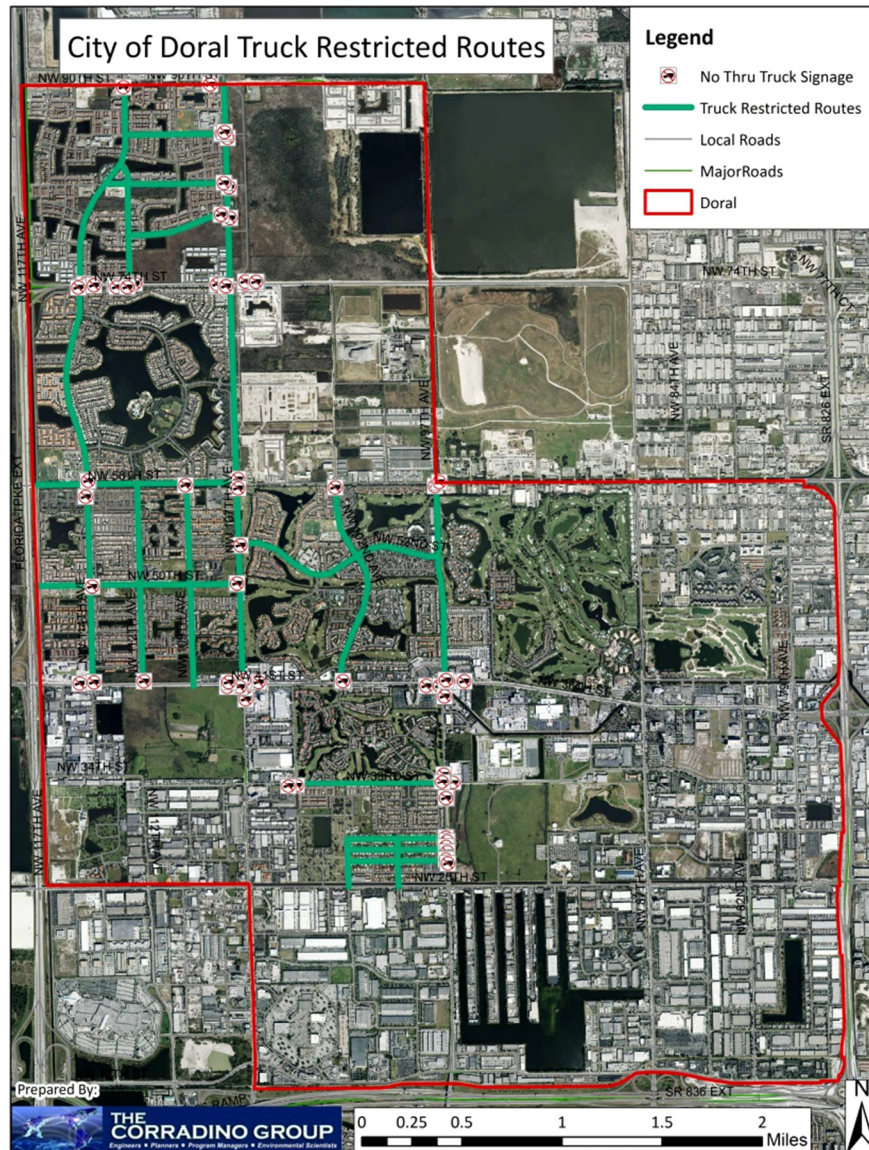




## 5.4 Truck Routing

Existing truck restricted routes were reviewed to assess whether the truck routes are appropriate for Doral and to assist moving trucks onto routes to promote overall mobility and enhance pedestrian and bicycling environments. Locations reviewed include NW 74<sup>th</sup> Street and NW 97<sup>th</sup> Avenue, once the intersection is constructed; the intersection of NW 25<sup>th</sup> Street and NW 87<sup>th</sup> Avenue; NW 25<sup>th</sup> Street; and, the intersection of NW 58<sup>th</sup> Street and NW 97<sup>th</sup> Avenue.

Levels of service on roadways have deteriorated due to volumes of truck traffic. In addition, truck travel requires specific design aspects to be incorporated at intersections, where turning radii will affect the width of the intersection, and pose additional design considerations for the pedestrian and bicycling aspects of intersection design and development. Heavy truck activity is also not conducive for bicyclists where they share the road in bicycle lanes, and provision of predictable routes will allow for better bicycle route and facilities planning for example:





## 5.5 Additional Studies Currently in Progress

### 5.5.1. One-way Street Pair Conversion Study

The City of Doral began a Miami-Dade TPO grant funded study in 2016 to evaluate the feasibility of converting NW 112<sup>th</sup> Avenue and NW 114<sup>th</sup> Avenue between NW 41<sup>st</sup> Street and NW 58<sup>th</sup> Street to one-way pair roads to increase capacity while incorporating complete street elements. Prior to this, the 2010 Transportation Master Plan projected these roadways as operating a poor level-of-service. Pending the results of this study, the City should revisit the Transportation Master Plan to incorporate the findings and any associated capital improvements.

### 5.5.2. FIU Shuttle Expansion Study

The City of Doral is currently conducting a trolley route expansion study to FIU as identified through the 2014 Transit Mobility Plan. Currently, over 4,500 students and 600 faculty live in Doral; a new service is expected to help alleviate local traffic and provide an alternative mode of travel between Doral and the FIU campus. Pending the results of this study, the City should revisit the Transportation Master Plan to incorporate the findings and any associated capital improvements.



## 6. Assessment of Levels of Service

This section of the report addresses the performance of Doral's transportation system.

### 6.1 Roadway Analysis

Roadway vehicular counts were undertaken at various locations within the City. Using this data, level of service were calculated for each associated roadway segment on an AADT, Peak Hour Peak Directional, and Peak Hour Bi-directional basis. Traffic conditions have been projected to 2025 and 2040 using a combination of TPO and local growth factors, derived from an understanding of existing and planned future development. This provides an assessment of future conditions 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 (AADT)
- Peak Hour Volume
- Remaining Capacity

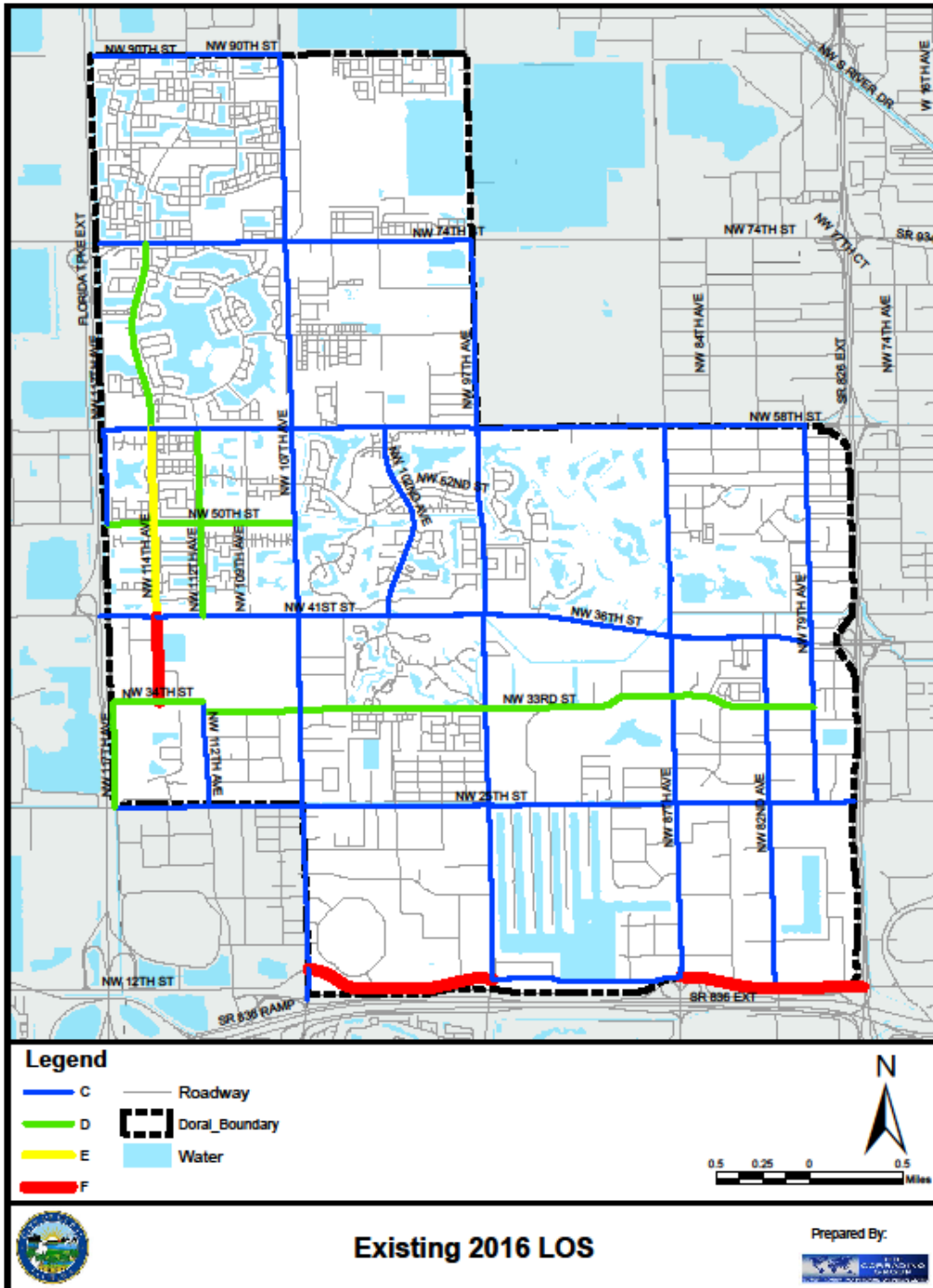
The following lists the roadway segments failing to meet acceptable levels of service by year and LOS measure.

Roadways failing to meet LOS standards in 2016:

- NW 12<sup>th</sup> Street between NW 79<sup>th</sup> Avenue and NW 87<sup>th</sup> Avenue (Pk Hr Pk Dir.)
- NW 12<sup>th</sup> Street between NW 97<sup>th</sup> Avenue and NW 107<sup>th</sup> Avenue (Pk Hr Pk Dir.)
- NW 114<sup>th</sup> Avenue between NW 34<sup>th</sup> Street and NW 58<sup>th</sup> Street (AADT, Pk Hr Bidir., Pk Hr Pk Dir.)



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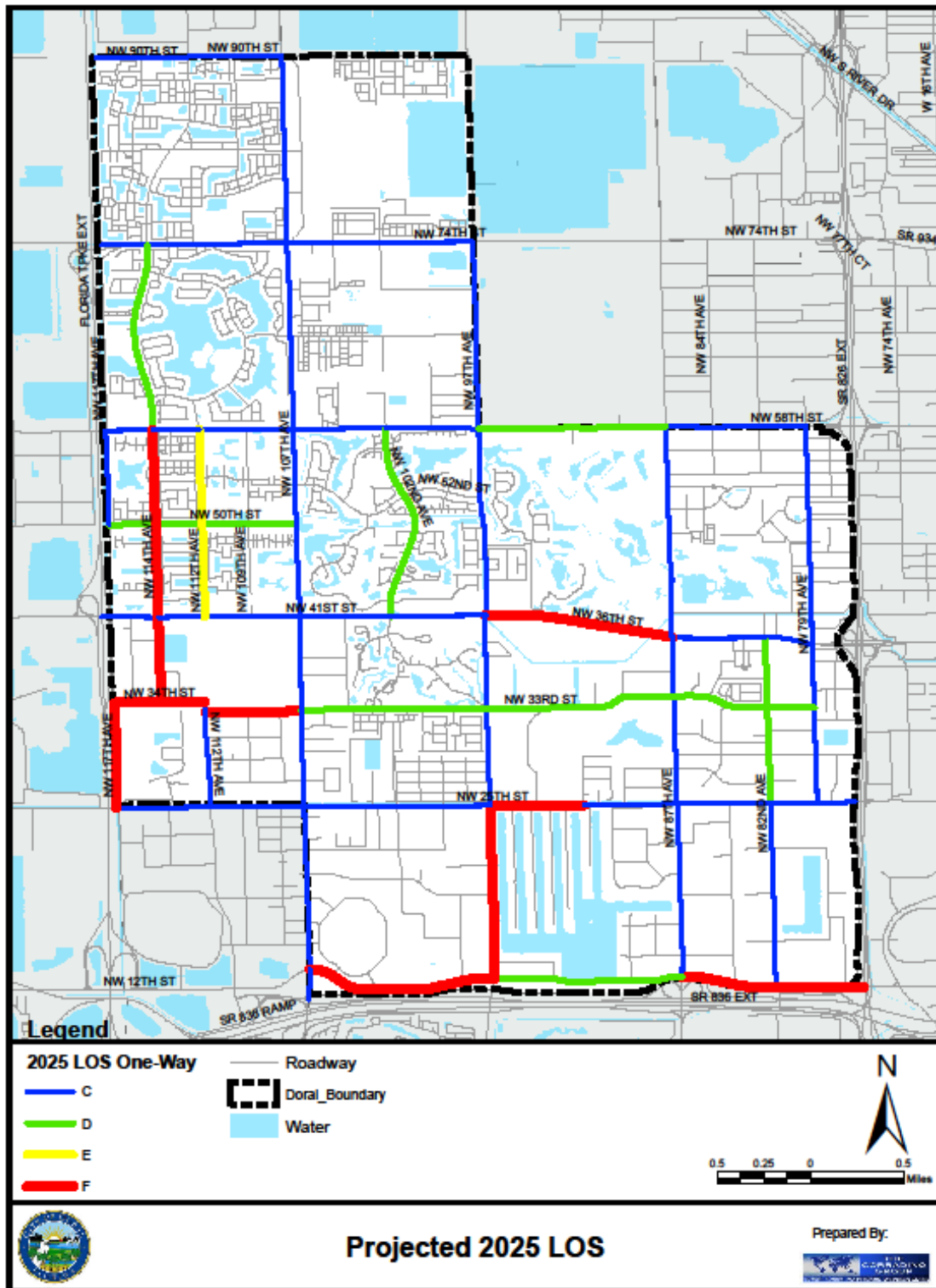


Roadways failing to meet LOS standards in 2025:

- NW 12<sup>th</sup> Street between NW 79<sup>th</sup> Avenue and NW 87<sup>th</sup> Avenue (Pk Hr Pk Dir.)
- NW 12<sup>th</sup> Street between NW 97<sup>th</sup> Avenue and NW 107<sup>th</sup> Avenue (Pk Hr Pk Dir.)
- NW 25<sup>th</sup> Street between NW 79<sup>th</sup> Avenue and NW 87<sup>th</sup> Avenue (AADT)
- NW 33<sup>rd</sup> Street between NW 107<sup>th</sup> Avenue and NW 114<sup>th</sup> Avenue (Pk Hr Pk Dir.)
- NW 34<sup>th</sup> Street between NW 114<sup>th</sup> Avenue and NW 117<sup>th</sup> Avenue (Pk Hr Pk Dir.)
- NW 36<sup>th</sup> Street between NW 79<sup>th</sup> Avenue and NW 87<sup>th</sup> Avenue (AADT)
- NW 36<sup>th</sup> Street/NW 41<sup>st</sup> Street between NW 87<sup>th</sup> Avenue and NW 97<sup>th</sup> Avenue (AADT, Pk Hr Pk Dir.)
- NW 97<sup>th</sup> Avenue from NW 12<sup>th</sup> Street to NW 25<sup>th</sup> Street (Pk Hr Pk Dir.)
- NW 107<sup>th</sup> Avenue from NW 25<sup>th</sup> Street to NW 41<sup>st</sup> Street (AADT)
- NW 112<sup>th</sup> Street between NW 41<sup>st</sup> Street to NW 58<sup>th</sup> Street (Pk Hr Pk Dir.)
- NW 114<sup>th</sup> Avenue between NW 34<sup>th</sup> Street and NW 58<sup>th</sup> Street (AADT, Pk Hr Bidir., Pk Hr Pk Dir.)
- NW 117<sup>th</sup> Avenue between NW 25<sup>th</sup> Street and NW 41<sup>st</sup> Street (Pk Hr Pk Dir.)



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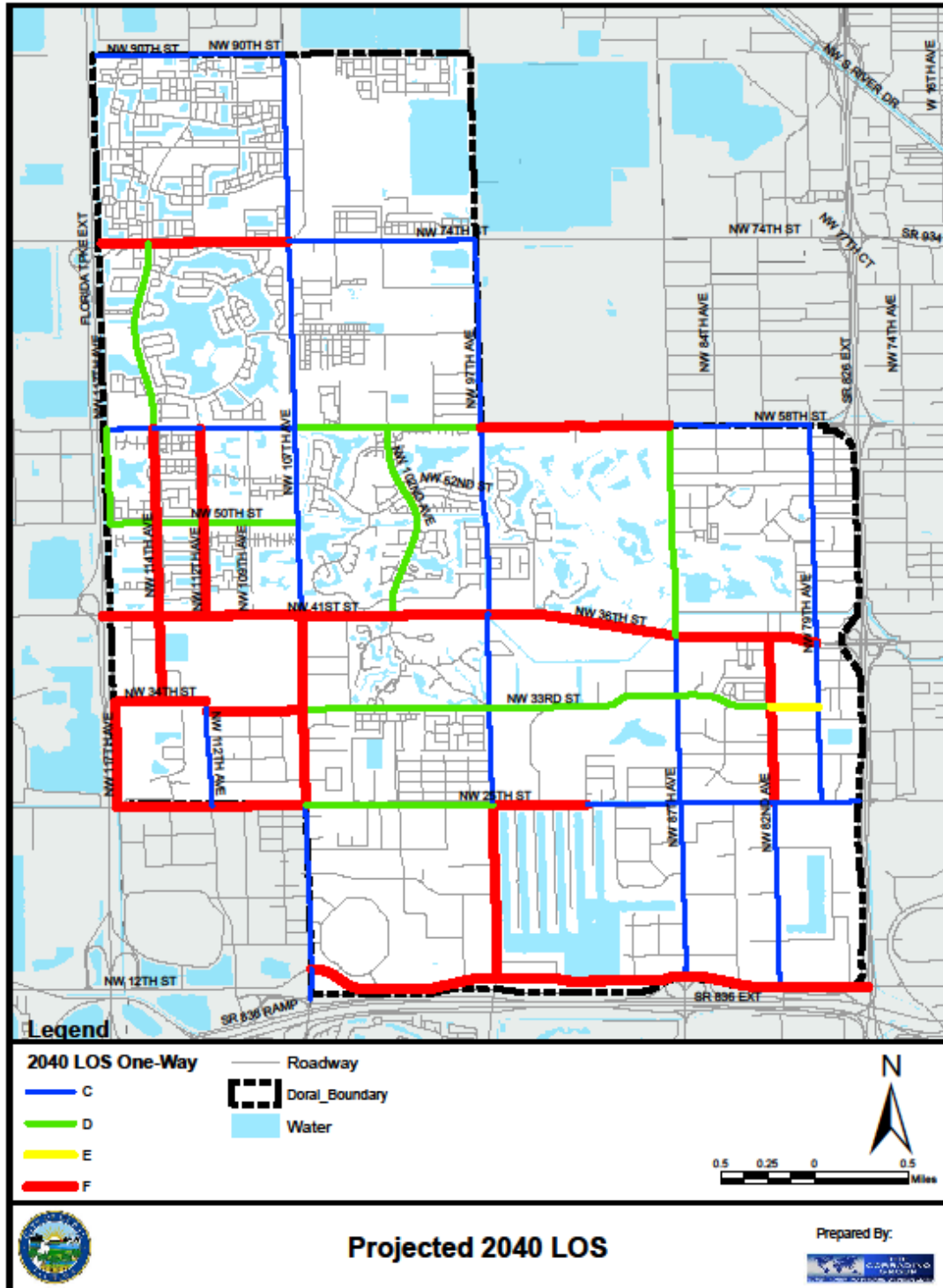


Roadways failing to meet LOS standards in 2040:

- NW 12<sup>th</sup> Street between NW 79<sup>th</sup> Avenue and NW 87<sup>th</sup> Avenue (Pk Hr Pk Dir.)
- NW 12<sup>th</sup> Street between NW 87<sup>th</sup> Avenue and NW 107<sup>th</sup> Avenue (AADT, Pk Hr Pk Dir.)
- NW 25<sup>th</sup> Street between NW 79<sup>th</sup> Avenue and NW 87<sup>th</sup> Avenue (AADT)
- NW 25<sup>th</sup> Street between NW 87<sup>th</sup> Avenue and NW 97<sup>th</sup> Avenue (AADT, Pk Hr Pk Dir.)
- NW 25<sup>th</sup> Street between NW 114<sup>th</sup> Avenue and NW 117<sup>th</sup> Avenue (AADT, Pk Hr Pk Dir.)
- NW 33<sup>rd</sup> Street between NW 79<sup>th</sup> Avenue and NW 87<sup>th</sup> Avenue (Pk Hr. Pk Dir.)
- NW 33<sup>rd</sup> Street between NW 107<sup>th</sup> Avenue and NW 114<sup>th</sup> Avenue (AADT, Pk Hr Bidir., Pk Hr Pk Dir.)
- NW 34<sup>th</sup> Street between NW 114<sup>th</sup> Avenue and NW 117<sup>th</sup> Avenue (AADT, Pk Hr Bidir., Pk Hr Pk Dir.)
- NW 36<sup>th</sup> Street/NW 41<sup>st</sup> Street between NW 79<sup>th</sup> Avenue and NW 97<sup>th</sup> Avenue (AADT, Pk Hr Bidir., Pk Hr Pk Dir.)
- NW 41<sup>st</sup> Street between NW 97<sup>th</sup> Avenue and NW 107<sup>th</sup> Avenue (AADT, Pk Hr. Pk Dir.)
- NW 58<sup>th</sup> Street between NW 87<sup>th</sup> Avenue and NW 97<sup>th</sup> Avenue (AADT, Pk Hr. Pk Dir.)
- NW 74<sup>th</sup> Street between NW 107<sup>th</sup> Avenue and NW 114<sup>th</sup> Avenue (Pk Hr Pk Dir.)
- NW 87<sup>th</sup> Avenue between NW 25<sup>th</sup> Street and NW 41<sup>st</sup> Street (Pk Hr Bidir., Pk Hr. Pk Dir.)
- NW 97<sup>th</sup> Avenue from NW 12<sup>th</sup> Street to NW 25<sup>th</sup> Street (AADT, Pk Hr Bidir., Pk Hr Pk Dir.)
- NW 107<sup>th</sup> Avenue from NW 25<sup>th</sup> Street to NW 41<sup>st</sup> Street (AADT, Pk Hr Pk Dir.)
- NW 112<sup>th</sup> Street between NW 41<sup>st</sup> Street to NW 58<sup>th</sup> Street (Pk Hr Bidir., Pk Hr Pk Dir.)
- NW 114<sup>th</sup> Avenue between NW 34<sup>th</sup> Street and NW 58<sup>th</sup> Street (AADT, Pk Hr Bidir., Pk Hr Pk Dir.)
- NW 117<sup>th</sup> Avenue between NW 25<sup>th</sup> Street and NW 41<sup>st</sup> Street (AADT, Pk Hr Bidir., Pk Hr Pk Dir.)



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In determining potential way to address the failing level of service, each road was evaluated first on potential reclassification, which allowed for a solution to some failing LOS. Additional needs were then evaluated on how many lanes would resolve the congestion issues. It should be noted that for the 2025 timeframe, under current projections, an alternative method would be to encourage a 5% modal shift away from vehicular traffic towards alternative modes (bicycling, walking, and transit); achieving this threshold eliminates the need for 2 additional lanes in 2025 for all but one roadway segment (NW 114<sup>th</sup> Avenue between NW 34<sup>th</sup> Street and NW 58<sup>th</sup> Street). Analysis indicates that for the 2040 timeframe, a modest modal shift of 25-30% from vehicles to alternative transit modes will eliminate the need for expensive, new lanes on 80% of failing roadways.

## 6.1 Intersections

### 6.1.1 Data Collection

In consultation with the City staff, intersection turning-movement counts were collected during a typical weekday (Tuesday through Thursday) on September 1, 7, 13, 14 and 21, 2016, from 7:30 – 9:30 AM and 4:00 – 6:00 PM. This will contribute to a city-wide operations analysis, where key intersections are examined and operational improvements are suggested to improve flow and function. When available, turning-movement counts obtained for previous data collection efforts. Intersection turning movement counts collected in 2013, 2014 and 2015 were adjusted to represent 2016 traffic by applying an annual growth factor of 1%. The following 30 intersections were analyzed:



| No | Street       | Avenue        | Traffic Control | Date Collected |
|----|--------------|---------------|-----------------|----------------|
| 1  | NW 12 Street | NW 107 Avenue | Signal          | 9.1.16         |
| 2  | NW 12 Street | NW 97 Avenue  | Signal          | 9.13.16        |
| 3  | NW 12 Street | NW 87 Avenue  | Signal          | 9.1.16         |
| 4  | NW 12 Street | NW 82 Avenue  | Signal          | 9.14.16        |
| 5  | NW 25 Street | NW 117 Avenue | Signal          | 9.21.16        |
| 6  | NW 25 Street | NW 107 Avenue | Signal          | 3.1.16         |
| 7  | NW 25 Street | NW 97 Avenue  | Signal          | 9.1.16         |
| 9  | NW 25 Street | NW 82 Avenue  | Signal          | 9.1.16         |
| 10 | NW 25 Street | NW 79 Avenue  | Signal          | 9.21.16        |
| 11 | NW 33 Street | NW 107 Avenue | Signal          | 3.1.16         |
| 12 | NW 33 Street | NW 97 Avenue  | Signal          | 11.17.15       |
| 13 | NW 33 Street | NW 87 Avenue  | Signal          | 9.15.16        |
| 16 | NW 41 Street | NW 115 Avenue | Signal          | 9.7.16         |
| 17 | NW 41 Street | NW 114 Avenue | Signal          | 9.7.16         |
| 18 | NW 41 Street | NW 107 Avenue | Signal          | 9.13.16        |
| 19 | NW 41 Street | NW 102 Avenue | Signal          | 4.5.16         |
| 20 | NW 36 Street | NW 87 Avenue  | Signal          | 10.1.14        |
| 21 | NW 36 Street | NW 82 Avenue  | Signal          | 10.1.14        |
| 22 | NW 36 Street | NW 79 Avenue  | Signal          | 10.1.14        |
| 23 | NW 58 Street | NW 114 Avenue | Signal          | 9.14.16        |
| 24 | NW 58 Street | NW 107 Avenue | Signal          | 9.13.16        |
| 25 | NW 58 Street | NW 97 Avenue  | Signal          | 9.14.16        |
| 26 | NW 58 Street | NW 87 Avenue  | Signal          | 5.28.15        |
| 28 | NW 74 Street | NW 114 Avenue | Signal          | 9.14.16        |
| 29 | NW 74 Street | NW 107 Avenue | Signal          | 10.22.13       |
| 30 | NW 74 Street | NW 97 Avenue  | Future Signal   | 9.21.16        |

## 6.1.2 2016 Existing Conditions

The 2016 Existing Conditions LOS analyses included a total of 30 intersections with 29 signalized and 1 unsignalized intersection. The traffic volumes collected in the field were checked for accuracy. Pedestrian volumes were also input and analyzed in the Synchro software. For signalized intersections, the existing signal timings were obtained from Miami-Dade County. The of the Levels-of-Service (LOS) analyses for the study intersections follow the procedures outlined in the 2010 Highway Capacity Manual (HCM), Transportation Research Board, Special Report 209, and the latest Synchro software. The LOS findings have been summarized for 2016 Existing Conditions and 2016 Existing Conditions with Proposed Mitigation. It should be noted that only for unsignalized intersection, HCM does not compute a LOS value for “Yield” and “Free Flow” traffic movements. Consequently, HCM does not determine an overall LOS for those particular unsignalized intersections. The following intersections resulted in an overall LOS E or F during morning and afternoon peaks (Table 4):



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**Table 4: 2016 Existing Conditions Levels-of-Service (LOS) Summary**

| No. | Intersection Name                          | Traffic Control | Overall LOS/Delay <sup>[1]</sup> | Approach LOS <sup>[2]</sup> |       |       |       |
|-----|--|-----------------|----------------------------------|-----------------------------|-------|-------|-------|
|     |  |                 |                                  | NB                          | SB    | EB    | WB    |
| 1   | NW 12th Street & NW 107th Avenue           | Signalized      | E/55.9 sec (E/64.9 sec)          | D (D)                       | D (D) | E (F) | E (F) |
| 2A  | NW 12th Street & NW 97th Avenue (Off Ramp) | Signalized      | C/20.3 sec (A/8.5 sec)           | N/A                         | C (C) | C (B) | A (A) |
| 2B  | NW 12th Street & NW 97th Avenue (On Ramp)  | Signalized      | A/9.8 sec (B/10.5 sec)           | C (B)                       | N/A   | A (A) | B (B) |
| 3   | NW 12th Street & NW 87th Avenue            | Signalized      | D/52.6 sec (D/54.6 sec)          | C (D)                       | D (D) | F (F) | D (E) |
| 4   | NW 12th Street & NW 82nd Avenue            | Signalized      | C/26.1 sec (B/19.1 sec)          | N/A                         | C (B) | C (B) | C (C) |
| 5   | NW 25th Street & NW 117th Avenue           | Signalized      | D/52.3 sec (E/72.6 sec)          | E (F)                       | F (F) | D (D) | B (D) |
| 6   | NW 25th Street & NW 107th Avenue           | Signalized      | E/63.7 sec (E/65.0 sec)          | E (E)                       | D (E) | E (E) | D (E) |
| 7   | NW 25th Street & NW 97th Avenue            | Signalized      | D/43.9 sec (E/55.3 sec)          | D (D)                       | D (E) | D (E) | D (D) |
| 8   | NW 25th Street & NW 87th Avenue            | Signalized      | E/57.5 sec (E/61.1 sec)          | D (D)                       | D (D) | E (F) | E (E) |
| 9   | NW 25th Street & NW 82nd Avenue            | Signalized      | E/56.4 sec (D/53.1 sec)          | E (E)                       | F (E) | C (D) | E (D) |
| 10  | NW 25th Street & NW 79th Avenue            | Signalized      | D/37.7 sec (E/65.8 sec)          | E (D)                       | E (F) | C (D) | C (C) |
| 11  | NW 33rd Street & NW 107th Avenue           | Signalized      | F/85.2 sec (D/54.6 sec)          | E (D)                       | F (C) | F (F) | D (E) |
| 12  | NW 33rd Street & NW 97th Avenue            | Signalized      | E/69.0 sec (E/62.3 sec)          | D (D)                       | E (D) | F (D) | E (F) |
| 13  | NW 33rd Street & NW 87th Avenue            | Signalized      | E/55.4 sec (E/67.5 sec)          | D (E)                       | D (D) | F (E) | E (F) |
| 15  | NW 41st Street & HEFT NB Off -Ramp         | Signalized      | B/11.5 sec (A/7.9 sec)           | A (B)                       | N/A   | B (B) | A (A) |
| 16  | NW 41st Street & NW 115th Avenue           | Signalized      | D/35.2 sec (D/36.3 sec)          | C (E)                       | E (D) | C (C) | D (D) |
| 17  | NW 41st Street & NW 114th Avenue           | Signalized      | E/72.4 sec (E/60.7 sec)          | E (F)                       | F (F) | E (D) | D (D) |
| 18  | NW 41st Street & NW 107th Avenue           | Signalized      | F/80.8 sec (E/77.8 sec)          | F (E)                       | F (F) | E (E) | F (F) |
| 19  | NW 41st Street & NW 102nd Avenue           | Signalized      | D/40.7 sec (D/36.1 sec)          | F (E)                       | E (E) | C (C) | C (C) |
| 20  | NW 36th Street & NW 87th Avenue            | Signalized      | E/69.7 sec (E/70.2 sec)          | D (E)                       | E (F) | F (E) | E (E) |
| 21  | NW 36th Street & NW 82nd Avenue            | Signalized      | C/32.1 sec (D/45.6 sec)          | F (F)                       | F (F) | C (C) | B (B) |
| 22  | NW 36th Street & NW 79th Avenue            | Signalized      | E/68.4 sec (F/124.8 sec)         | F (F)                       | F (F) | D (E) | E (E) |
| 23  | NW 58th Street & NW 114th Avenue           | Signalized      | D/53.7 sec (D/42.8 sec)          | D (C)                       | C (D) | E (D) | F (D) |
| 24  | NW 58th Street & NW 107th Avenue           | Signalized      | E/62.9 sec (E/69.3 sec)          | F (F)                       | D (E) | E (D) | E (E) |
| 25  | NW 58th Street & NW 97th Avenue            | Signalized      | E/69.1 sec (E/73.1 sec)          | F (F)                       | F (F) | D (D) | D (E) |
| 26  | NW 58th Street & NW 87th Avenue            | Signalized      | E/60.1 sec (F/91.1 sec)          | F (F)                       | F (F) | C (C) | D (D) |
| 27  | NW 58th Street & NW 79th Avenue            | Signalized      | E/64.2 sec (F/95.4 sec)          | F (F)                       | F (E) | E (E) | D (D) |
| 28  | NW 74th Street & NW 114th Avenue           | Signalized      | E/73.9 sec (F/143.9 sec)         | F (F)                       | F (F) | D (D) | D (E) |
| 29  | NW 74th Street & NW 107th Avenue           | Signalized      | F/140.8 sec (F/91.3 sec)         | C (C)                       | F (D) | F (B) | B (F) |
| 30  | NW 74th Street & NW 97th Avenue            | Unsignalized    | F/62.0 sec (F/67.7 sec)          | F (F)                       | A (A) | B (C) | F (B) |

[1] - AM LOS without parenthesis; PM LOS with parenthesis; Delay in seconds per vehicle  
 [2] - AM LOS without parenthesis; PM LOS with parenthesis



## Proposed Mitigation

Following review with the City staff of the information in Table 4, a mitigation strategy for each intersection with LOS E was developed. Mitigation includes adding lane capacity, removal of split phasing and signal timing optimization (Table 5).

**Table 5: Proposed Improvements Summary**

| Intersection |  | Proposed Improvements  |
|--------------|--|--|
| No.          | Name   |  |
| 1            | NW 12th Street & NW 107th Avenue               | ADD WBR TURN LANE, SIGNAL OPTIMIZATION   |
| 2            | NW 12th Street & NW 97th Avenue (Off/On Ramps) | ADD WBR / NBR TURN LANES. ALSO PROVIDE ACCESS TO SB 97 AVENUE FROM 12 ST.  |
| 3            | NW 12th Street & NW 87th Avenue                | ADD NBL TURN LANE, ADD SBR TURN LANE, SIGNAL OPTIMIZATION  |
| 4            | NW 12th Street & NW 82nd Avenue                | CONNECT TO SB 82ND AVENUE  |
| 5            | NW 25th Street & NW 117th Avenue               | SPLIT PHASE REMOVAL / REALIGNMENT, SIGNAL OPTIMIZATION   |
| 6            | NW 25th Street & NW 107th Avenue               | ADD SBR TURN LANE, SIGNAL OPTIMIZATION   |
| 7            | NW 25th Street & NW 97th Avenue                | ADD NBR / SBR / EBR / WBR TURN LANES   |
| 9            | NW 25th Street & NW 82nd Avenue                | ADD SBR / EBR / WBR TURN LANES, SIGNAL OPTIMIZATION  |
| 10           | NW 25th Street & NW 79th Avenue                | REMOVE SPLIT PHASE BY CHANGING THE SB APPROACH TO TWO LEFTS, ONE THRU, AND ONE RIGHT TURN LANE, ADD EBR TURN LANE, SIGNAL OPTIMIZATION |
| 11           | NW 33rd Street & NW 107th Avenue               | REMOVE SPLIT PHASE EB/WB, SIGNAL OPTIMIZATION  |
| 12           | NW 33rd Street & NW 97th Avenue                | ADD NBR TURN LANE, SIGNAL OPTIMIZATION   |
| 13           | NW 33rd Street & NW 87th Avenue                | ADD EBR AND WBR TURN LANES, SIGNAL OPTIMIZATION  |
| 16           | NW 41st Street & NW 115th Avenue               | ADD DUAL LEFT NB TURN LANES, SIGNAL OPTIMIZATION   |
| 17           | NW 41st Street & NW 114th Avenue               | ADD EBR AND WBR TURN LANES, SIGNAL OPTIMIZATION  |
| 18           | NW 41st Street & NW 107th Avenue               | REMOVE SPLIT PHASE, SIGNAL OPTIMIZATION  |
| 19           | NW 41st Street & NW 102nd Avenue               | REMOVE SPLIT PHASE, SIGNAL OPTIMIZATION  |
| 20           | NW 36th Street & NW 87th Avenue                | ADD SBR AND WBR TURN LANES, SIGNAL OPTIMIZATION  |
| 21           | NW 36th Street & NW 82nd Avenue                | ADD SBR / NBR / EBR / WBR TURN LANES, SIGNAL OPTIMIZATION  |
| 22           | NW 36th Street & NW 79th Avenue                | SPLIT PHASE REMOVAL, ADD EB THRU LANE, ADD SBR / WBR TURN LANES, SIGNAL OPTIMIZATION   |
| 23           | NW 58th Street & NW 114th Avenue               | ADD EBR / WBR TURN LANES   |
| 24           | NW 58th Street & NW 107th Avenue               | ADD SBR / NBR / EBR / WBR TURN LANES, SIGNAL OPTIMIZATION  |
| 25           | NW 58th Street & NW 97th Avenue                | REMOVE SPLIT PHASE. ADD NBR / SBR / WBR / EBR TURN LANES, SIGNAL OPTIMIZATION  |
| 26           | NW 58th Street & NW 87th Avenue                | ADD NBR / WBR / EBR TURN LANES, SIGNAL OPTIMIZATION  |
| 28           | NW 74th Street & NW 114th Avenue               | ADD NBR TURN LANE, ADD SBR TURN LANE, ADD EBR TURN LANE, AND ADD WBR TURN LANE.  |
| 29           | NW 74th Street & NW 107th Avenue               | ADD SBR / EBR / WBR TURN LANES, SIGNAL OPTIMIZATION  |
| 30           | NW 74th Street & NW 97th Avenue                | SIGNALIZE  |

## 6.1.4 2016 Existing Conditions with Proposed Mitigation

Proposed improvements as shown in Table 5 were analyzed with results included in Table 6. With the inclusion of proposed mitigation measures, the overall level of service for all the intersections improves, yet there are intersections that remain at LOS E or F.



**Table 6: 2016 Existing Traffic with Mitigation Levels-of-Service (LOS) Summary**

**Proposed Improvements Summary**

| Intersection |  | Traffic Control | Overall LOS/Delay <sup>[1]</sup> | Approach LOS <sup>[2]</sup> |       |       |       |
|--------------|--|-----------------|----------------------------------|-----------------------------|-------|-------|-------|
| No.          | Name                                       |                 |                                  | NB                          | SB    | EB    | WB    |
| 1            | NW 12th Street & NW 107th Avenue           | Signalized      | D/53.1 sec (E/58.1 sec)          | D (D)                       | D (D) | E (E) | D (E) |
| 2A           | NW 12th Street & NW 97th Avenue (Off Ramp) | Signalized      | C/20.1 sec (A/8.4 sec)           | N/A                         | C (C) | C (B) | A (A) |
| 2B           | NW 12th Street & NW 97th Avenue (On Ramp)  | Signalized      | A/7.4 sec (B/8.5 sec)            | B (A)                       | N/A   | A (A) | B (B) |
| 3            | NW 12th Street & NW 87th Avenue            | Signalized      | D/47.6 sec (D/46.1 sec)          | D (C)                       | D (D) | F (F) | D (E) |
| 4            | NW 12th Street & NW 82nd Avenue            | Signalized      | C/26.1 sec (B/19.1 sec)          | N/A                         | C (B) | C (B) | C (C) |
| 5            | NW 25th Street & NW 117th Avenue           | Signalized      | C/29.2 sec (D/43.1 sec)          | D (D)                       | D (C) | C (C) | B (D) |
| 6            | NW 25th Street & NW 107th Avenue           | Signalized      | E/59.9 sec (E/61.4 sec)          | D (D)                       | D (D) | E (E) | E (F) |
| 7            | NW 25th Street & NW 97th Avenue            | Signalized      | C/31.8 sec (D/40.6 sec)          | C (C)                       | C (D) | C (D) | C (D) |
| 9            | NW 25th Street & NW 82nd Avenue            | Signalized      | D/50.2 sec (D/51.9 sec)          | E (E)                       | E (E) | D (D) | D (D) |
| 10           | NW 25th Street & NW 79th Avenue            | Signalized      | D/38.9 sec (D/46.2 sec)          | D (D)                       | E (D) | C (D) | D (C) |
| 11           | NW 33rd Street & NW 107th Avenue           | Signalized      | E/55.5 sec (D/44.5 sec)          | E (D)                       | D (C) | E (E) | D (E) |
| 12           | NW 33rd Street & NW 97th Avenue            | Signalized      | E/56.4 sec (D/46.9 sec)          | D (D)                       | D (D) | D (D) | E (D) |
| 13           | NW 33rd Street & NW 87th Avenue            | Signalized      | D/54.7 sec (D/50.8 sec)          | D (D)                       | E (D) | D (D) | D (E) |
| 16           | NW 41st Street & NW 115th Avenue           | Signalized      | D/36.6 sec (D/39.1 sec)          | D (D)                       | E (D) | D (C) | C (D) |
| 17           | NW 41st Street & NW 114th Avenue           | Signalized      | E/58.1sec (D/51.8 sec)           | D (E)                       | E (D) | E (D) | D (D) |
| 18           | NW 41st Street & NW 107th Avenue           | Signalized      | E/69.5 sec (E/73.1 sec)          | E (E)                       | F (E) | E (E) | D (F) |
| 19           | NW 41st Street & NW 102nd Avenue           | Signalized      | C/30.5 sec (C/31.0 sec)          | D (D)                       | D (D) | C (C) | C (C) |
| 20           | NW 36th Street & NW 87th Avenue            | Signalized      | E/62.1 sec (E/62.2 sec)          | E (E)                       | E (E) | E (E) | D (E) |
| 21           | NW 36th Street & NW 82nd Avenue            | Signalized      | C/22.9 sec (C/23.4 sec)          | E (E)                       | E (E) | B (B) | B (B) |
| 22           | NW 36th Street & NW 79th Avenue            | Signalized      | D/47.0 sec (F/103.9 sec)         | D (F)                       | E (F) | D (F) | D (E) |
| 23           | NW 58th Street & NW 114th Avenue           | Signalized      | D/38.0 sec (D/47.6 sec)          | C (D)                       | C (D) | E (D) | D (D) |
| 24           | NW 58th Street & NW 107th Avenue           | Signalized      | D/47.9 sec (D/46.7 sec)          | D (D)                       | D (D) | E (D) | D (D) |
| 25           | NW 58th Street & NW 97th Avenue            | Signalized      | D/42.4 sec (D/37.6 sec)          | D (C)                       | D (C) | D (D) | C (D) |
| 26           | NW 58th Street & NW 87th Avenue            | Signalized      | D/41.8 sec (D/45.9 sec)          | D (E)                       | E (D) | D (D) | C (D) |
| 28           | NW 74th Street & NW 114th Avenue           | Signalized      | D/40.8 sec (D/40.2 sec)          | C (C)                       | C (C) | D (D) | D (E) |
| 29           | NW 74th Street & NW 107th Avenue           | Signalized      | D/53.8 sec (D/46.3 sec)          | D (E)                       | E (E) | E (B) | C (D) |
| 30           | NW 74th Street & NW 97th Avenue            | Signalized      | B/10.0 sec (C/20.7 sec)          | D (B)                       | A (A) | A (B) | B (C) |

[1] - AM LOS without parenthesis; PM LOS with parenthesis; Delay in seconds per vehicle  
 [2] - AM LOS without parenthesis; PM LOS with parenthesis



## 6.1.5 Crash Analysis

Doral regularly evaluates its Police Department intersection crash data. The rankings of intersections by crashes for April 2012 - April 2014 are shown in the map below. Crash rates have declined, from approximately 63 to 50 crashes per month. Intersections with high levels of crashes are a priority for remedial action. To define these priorities data were collected at 21 intersections.

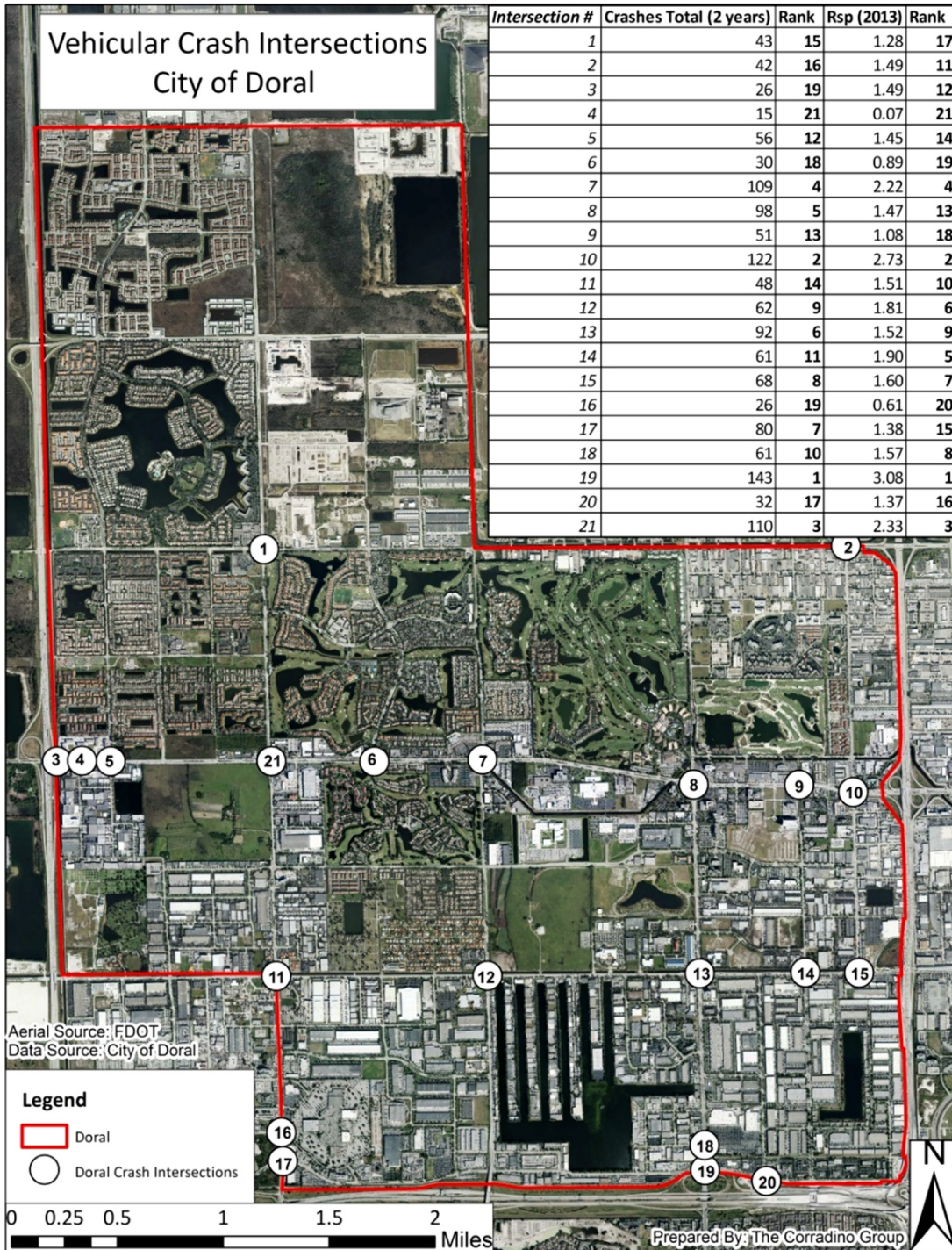
In cases where intersection redesign is required, the City should consider taking a holistic approach which involves the inclusion of pedestrian and bicycling oriented designs.

Spot accident rates (Rsp) compare the number of accidents with the number of vehicles at the location. Based on spot accident rates, Doral should further evaluate the following five intersections which have the highest levels of crashes:

| Rank | Intersection  | Crash Total (2 yrs) | Rsp  |
|------|---|---------------------|------|
| 1    | NW 12 <sup>th</sup> Street/NW 87 <sup>th</sup> Avenue   | 143                 | 3.08 |
| 2    | NW 36 <sup>th</sup> Street/NW 79 <sup>th</sup> Avenue   | 122                 | 2.73 |
| 3    | NW 41 <sup>st</sup> Street/ NW 107 <sup>th</sup> Avenue | 110                 | 2.33 |
| 4    | NW 41 <sup>st</sup> Street/NW 97 <sup>th</sup> Avenue   | 109                 | 2.22 |
| 5    | NW 25 <sup>th</sup> Street/NW 82 <sup>nd</sup> Avenue   | 61                  | 1.90 |



# City of Doral TRANSPORTATION MASTER PLAN





## Bicycle/Pedestrian Network

### 6.2.1 Pedestrian Level of Service

The following standards—based on sidewalk conditions, supporting amenities, and the overall pedestrian environment quality were developed:

- **LOS A:** Highly pedestrian-oriented and attractive for pedestrian trips, with sidewalks, pedestrian-friendly intersection design, low-vehicular traffic volume, and ample pedestrian amenities.
- **LOS B:** Similar to A, but with fewer amenities and low- to-moderate levels of interaction with motor vehicles.
- **LOS C:** Adequate for pedestrians, some deficiencies in intersection design, moderate interactions with motor vehicles.
- **LOS D:** Adequate for pedestrians but with deficiencies in intersection design and pedestrian safety and comfort features, may be some gaps in the sidewalk system, moderate to high interactions with motor vehicles.
- **LOS E:** Deficient pedestrian facilities, high interactions with motor vehicles.
- **LOS F:** No pedestrian facilities, high interactions with motor vehicles.

The following chart provides a ranking of all segments of the Pedestrian Network for the City of Doral. More specific observations were also made about the specific elements of the Pedestrian Network.

**Table 7: Pedestrian Level-of-Service**

|    | Road                            | From           | To             | LOS |
|----|---------------------------------|----------------|----------------|-----|
| 1  | NW 117th Avenue                 | NW 25th Street | NW 36th Street | C   |
| 2  |                                 | NW 41st Street | NW 58th Street | B   |
| 3  | NW 114th Avenue                 | NW 41st Street | NW 58th Street | C   |
| 4  |                                 | NW 58th Street | NW 74th Street | C   |
| 5  | NW 114th Avenue/NW 112th Avenue | NW 74th Street | NW 90th Street | C   |
| 6  | NW 107th Avenue                 | NW 12th Street | NW 25th Street | C   |
| 7  |                                 | NW 25th Street | NW 41st Street | C   |
| 8  |                                 | NW 41st Street | NW 58th Street | C   |
| 9  |                                 | NW 58th Street | NW 74th Street | B   |
| 10 |                                 | NW 74th Street | NW 90th Street | C   |
| 11 | NW 102nd Avenue                 | NW 58th Street | NW 41st Street | C   |
| 12 | NW 97th Avenue                  | NW 12th Street | NW 25th Street | D   |
| 13 |                                 | NW 25th Street | NW 41st Street | D   |
| 14 |                                 | NW 41st Street | NW 58th Street | D   |
| 15 |                                 | NW 58th Street | NW 74th Street | F   |
| 16 | NW 87th Avenue                  | NW 12th Street | NW 25th Street | C   |
| 17 | NW 87th Avenue                  | NW 25th Street | NW 36th Street | C   |





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|    |                               |                 |                 |   |
|----|-------------------------------|-----------------|-----------------|---|
| 18 |                               | NW 36th Street  | NW 58th Street  | C |
| 19 | NW 82nd Avenue                | NW 41st Street  | NW 25th Street  | F |
| 20 |                               | NW 25th Street  | NW 12th Street  | C |
| 21 | NW 79th Avenue                | NW 25th Street  | NW 36th Street  | C |
| 22 |                               | NW 36th Street  | NW 58th Street  | C |
| 23 | NW 12th Street                | NW 107th Avenue | NW 97th Avenue  | C |
| 24 |                               | NW 97th Avenue  | NW 87th Avenue  | C |
| 25 |                               | NW 87th Avenue  | NW 79th Avenue  | C |
| 26 | NW 12th Street                | NW 79th Avenue  | SR-826          | C |
| 27 | NW 25th Street                | NW 117th Avenue | NW 107th Avenue | D |
| 28 |                               | NW 107th Avenue | NW 97th Avenue  | C |
| 29 |                               | NW 97th Avenue  | NW 87th Avenue  | E |
| 30 |                               | NW 87th Avenue  | NW 79th Avenue  | D |
| 31 | NW 34th Street/NW 33rd Street | NW 117th Avenue | NW 107th Avenue | E |
| 32 | NW 33rd Street                | NW 107th Avenue | NW 97th Avenue  | C |
| 33 |                               | NW 97th Avenue  | NW 87th Avenue  | C |
| 34 |                               | NW 87th Avenue  | NW 79th Avenue  | F |
| 35 | NW 36th Street                | NW 87th Avenue  | NW 79th Avenue  | C |
| 36 |                               | NW 79th Avenue  | SR-826          | C |
| 37 | NW 41st Street/NW 36th Street | NW 97th Avenue  | NW 87th Avenue  | D |
| 38 | NW 41st Street                | NW 117th Avenue | NW 107th Avenue | D |
| 39 |                               | NW 107th Avenue | NW 97th Avenue  | D |
| 40 |                               | NW 87th Avenue  | SR-826          | D |
| 41 | NW 50th Street                | NW 117th Avenue | NW 107th Avenue | B |
| 42 | NW 52nd Street                | NW 107th Avenue | NW 97th Avenue  | C |
| 43 | NW 53rd Street                | NW 87th Avenue  | NW 79th Avenue  | A |
| 44 | NW 54th Street                | NW 87th Avenue  | NW 79th Avenue  | F |
| 45 | NW 58th Street                | NW 117th Avenue | NW 107th Avenue | B |
| 46 |                               | NW 107th Avenue | NW 102nd Avenue | D |
| 47 |                               | NW 102nd Avenue | NW 97th Avenue  | C |
| 48 |                               | NW 97th Avenue  | NW 87th Avenue  | F |
| 49 |                               | NW 87th Avenue  | NW 79th Avenue  | E |
| 50 | NW 74th Street                | NW 114th Avenue | NW 107th Avenue | C |
| 51 |                               | NW 107th Avenue | NW 97th Avenue  | C |
| 52 | NW 90th Street                | NW 114th Avenue | NW 107th Avenue | B |

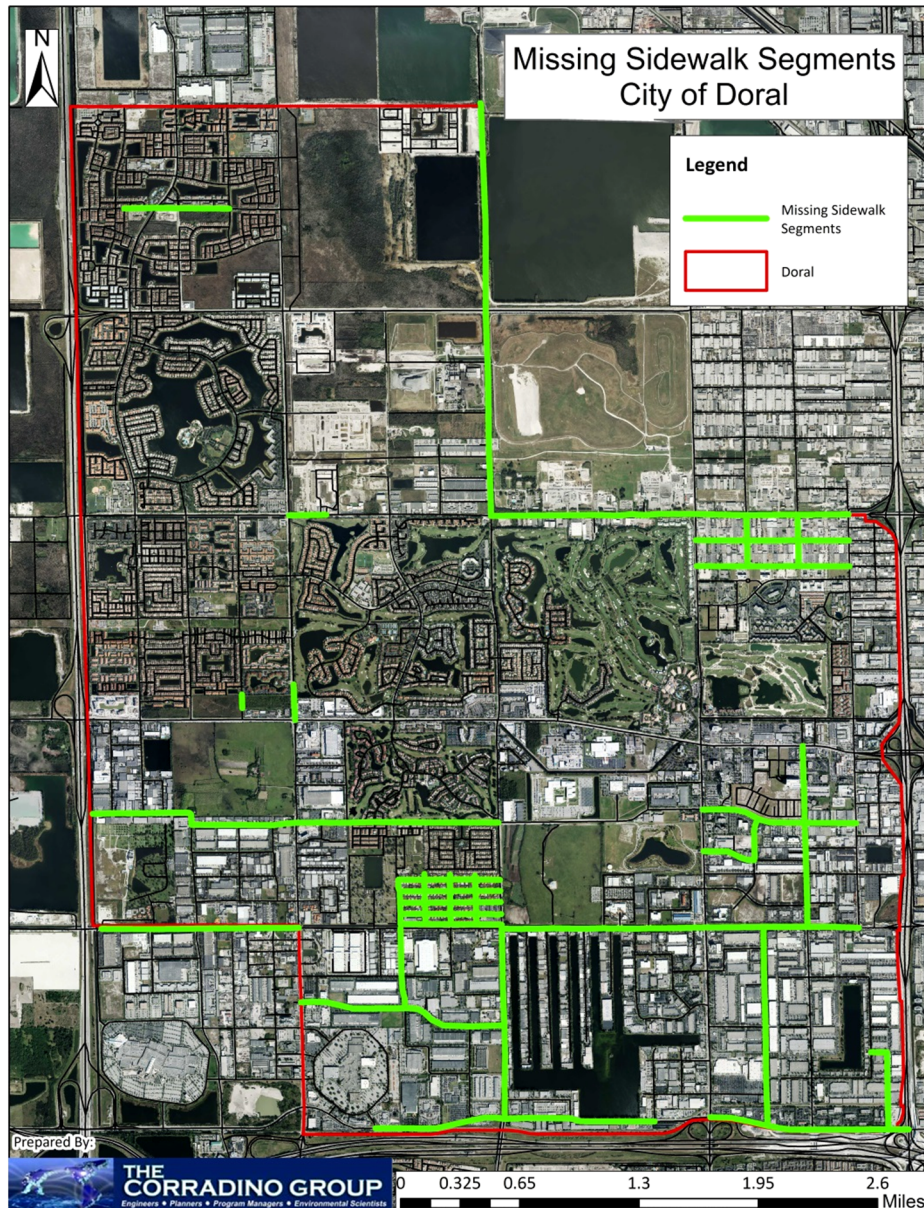


## 6.2.2 Missing Sidewalks

Sidewalk conditions, such as cracks, weeds, uneven segments, and similar issues, vary throughout the City and may be related to jurisdiction. In areas primarily under City jurisdiction, the sidewalks are generally well maintained. However, along NW 36<sup>th</sup> Street/NW 41<sup>st</sup> Street, NW 107<sup>th</sup> Avenue, and other County roads, cracked and uneven sidewalks pose serious issues which hinder multi-modal development and potentially expose the City or County to litigation. Some sidewalks were observed to be blocked or affected by adjacent construction or utilities work. Entrances to an active construction site on NW 25<sup>th</sup> Street were observed to create pedestrian/vehicle conflicts.

Average sidewalk width within Doral ranges between 5' and 6' which is acceptable and allows for bi-directional traffic or for two pedestrians to walk side-by-side. However, this minimum width is constrained in many locations by signs and other obstacles which require pedestrians to walk in a zigzag pattern and is a major problem for disabled pedestrians. The City has taken note of this issue through its Transit Mobility Plan, adopted in 2015. Field visits to NW 107<sup>th</sup> Avenue and NW 58<sup>th</sup> Avenue indicate that previously noted sidewalk gaps and cracks on these roads, among others, have been addressed by the City.

Some areas of the City are missing sidewalk segments as shown in Figure 8. Sidewalks are generally necessary for residential and commercial areas related to retail and services, but not needed for certain areas, such as businesses areas far removed from residential areas where the only traffic is heavy trucks making deliveries. Sidewalks in these areas are expected to receive little use and should be a lower priority than in other areas. However, sidewalks in mixed-use, commercial, and higher-density areas, like NW 82<sup>nd</sup> Avenue, are a requirement.





## 6.2.3 Sidewalk Obstructions

Fire hydrants, benches, signs, power poles, guy-wires, red-light cameras and similar obstructions are pervasive, particularly along NW 41<sup>st</sup>/NW 36<sup>th</sup> Streets. While these items are often placed in technical compliance with the minimum 32 -36 inch clearance requirements, the visual and physical interference are a major impediment to sidewalk use. Red-light cameras installed on the sidewalk at the corners of NW 41<sup>st</sup> and NW 97<sup>th</sup> Streets, NW 97<sup>th</sup> Avenue and NW 41<sup>st</sup> Street, and NW 87<sup>th</sup> Avenue and NW 36<sup>th</sup> Street all could have been placed off the sidewalk. While red light cameras can increase pedestrian crossing safety, they should not be installed at the expense of the use of the sidewalk itself. The extra cost of placing these items off the sidewalk is negligible compared to the negative impact on sidewalk use. Furthermore, in the case of red-light cameras, pedestrian safety would be more effectively increased by marking and signaling crosswalks.



## 6.2.4 Crosswalks

Intersection crosswalks are a critical part of the Pedestrian Network. Intersections should be adequately striped with on-demand pedestrian signalization. Many of Doral's intersections are lacking proper markings and signalization added, which is a major disincentive to walking and a potential safety issue.

Crosswalk lines generally need to be repainted and defined with more visible markings. Two parallel lines are not sufficient; there need to be numerous solid cross bars in keeping with basic crosswalk marking designs. Crosswalk designs may even have a decorative element which enhances the identity and urban design of the City. At many major intersections, there is a need to install crosswalk signalization. In other areas, crosswalks are non-existent and a new intersection design will have to be implemented. Some intersections should have a pedestrian refuge in the median to provide a safe mid-point for those who can't make it across the intersection in the time provided by the signal.

In order for a Pedestrian Network to be minimally responsive, crosswalks need to be close enough so that people can get across the street without having to walk too far to an intersection crosswalk and back on the other side. Crosswalks in Doral are generally spaced a mile apart at the major intersections which is far too long a distance to expect a pedestrian to walk. This distance should be at most 0.5 miles (and optimally, 0.25 miles, or less) from significant points on entry onto that segment of the sidewalk system such as schools, parks, bus stops, minor intersections, and commercial centers. This lack of adequately-spaced crosswalks is a major cause of jaywalking, which is a pervasive problem in the City. Jaywalking may be curtailed by the use of policing, but such an approach doesn't improve pedestrian connectivity. Mid-block crossings spaced between intersection crossings are required to address this serious impediment to walking.



## 6.2.5 Building Connections

Connections to building entrances from the sidewalks along the street are another important Pedestrian Network element. Most buildings in Doral are separated from the sidewalk at the street by a large parking lot or landscaped area. Traveling across these requires following an indirect, unmarked route that poses conflicts with vehicles. Some newer developments have incorporated marked, dedicated pedestrian connections directly across parking lots to building entrances. Some of the developments on NW 41<sup>st</sup> Street have incorporated striping and/or additional sidewalks from the road to the entrance of the establishment. While pedestrian injuries from vehicular conflicts in parking lots are less problematic than those on high-speed streets, it is still critical that these connections be provided to create an environment that not just allows, but encourages, walking.



## 6.2.6 Pedestrian Amenities

Plazas, pocket parks, public art and similar elements can also encourage walking. Doral’s pedestrian network is almost completely devoid of these additional walkability elements. Sidewalks are set back from the curb in few locations on high-speed roads, and there are very few areas where trees or awnings provide shade. Almost no areas exist where buildings are constructed to a build-to line to create an inviting activity edge for pedestrians.

## 6.3 Bike Network



Shared off-road bicycle paths in the City are typically 10-foot wide and bi-directional. On-road bike lanes in the City vary from sharing the whole width of the road on specific roads, such as portions of NW 114<sup>th</sup> Avenue, to a designated 4 to 6 feet at the same grade as the roadway. Bicycle lanes on the roadway are grade-separated from the sidewalk next to it. Sidewalks are utilized by bicyclists at times which is not acceptable; sidewalks should be for pedestrians only. When bicyclists use sidewalks because the street is unsafe, this only perpetuates unsafe conditions and a reliance on vehicular transportation.

General conditions of existing bicycle paths indicate a system with regular maintenance, with some exceptions, including gravel debris along NW 117<sup>th</sup> Avenue. Paths are generally free of cracks and have clear striping. However, several maintenance problems, including gravel runoff and foliage were noted along the bicycle path along NW 117<sup>th</sup> Avenue. Shade for bicycle paths is provided by foliage and tree cover in some places but this must be tempered by the recognition that clearance height for persons on bicycles is generally higher than pedestrians.

For a bicycle network to be effective, there need to be numerous safe, accessible places to lock bikes. Bicycles around the City were found to be chained to permanent features like fences, due to the scarcity



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of bike racks which were generally found at the parks. Other bicycle racks were found at LA Fitness, the bicycle store at the shopping plaza at NW 107<sup>th</sup> Avenue and NW 41<sup>st</sup> Street, and at the International Mall which was heavily utilized. Existing racks are inadequate and the City needs significant numbers of additional bike racks at building entrances. A bike rack that holds eight (8) bicycles can be installed in lieu of one parking space.

A maintenance program for the trimming of trees is needed to avoid collisions with branches. In addition, given the location of paths along canals, runoff issues exist on the path; in one instance, a portion of the path was covered with gravel. There were no rest areas or water fountains along the current bicycle trails. People who wish to stop at certain points could stand to the side but more often would end up blocking the path. No cleaning or showering facilities exist along the route.

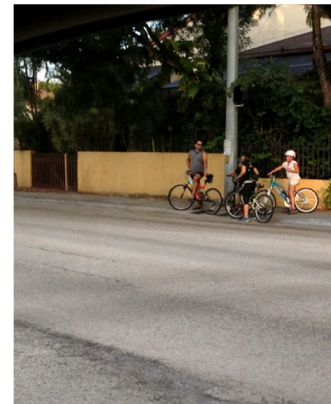
Lighting of bicycle and shared off-road paths is generally inadequate; bicycle lanes on streets are generally better lit. No riders are expected on the shared paths past sunset, as the trails are considered closed after dusk and are not lit. Lighting is required for bicycle networks used for transportation purposes.

## 6.3.1 Bicycle Intersection and Mid-Block Crossings

Currently, bicyclists can either ride through an intersection in the same manner as vehicles, or stop and walk with pedestrians. Many bicyclists were observed doing the latter, indicating a potentially negative perception of safety. However, bicyclists using crosswalks would encounter the same issues as pedestrians, crosswalks are often missing either signalization or striping. Intersections with inadequate crosswalks—those missing at least one feature such as striping or crossing signals—were noted by participants during the public workshops and included NW 107<sup>th</sup> Avenue/NW 41<sup>st</sup> Street and NW 97<sup>th</sup> Avenue and NW 41<sup>st</sup> Street.

On roads with bicycle lanes, such as NW 114<sup>th</sup> Avenue, the bike lane is on the right side of the road; bicyclists must shift to the left-most lane to make a left-hand turn. Midblock crossings are difficult for bicyclists. Where a bicyclist needs to cross a road to reach their destination, the preferred pathway is a direct route; however, this may run across traffic. Thus, many cyclists will generally dismount and walk their bicycle to their destination. Others may wait at a crosswalk signal and ride across when the opportunity presents itself.

Intermodal connectivity for bicycling is limited by the lack of bicycle routes to intermodal centers and the lack of on-site bicycle parking.



## 6.3.2 Bike Network Analysis

The existing bicycle network is more oriented to recreation than transportation. Recreational bicycling is particularly prevalent in the residential northwest area of Doral on streets with no marked bike paths. While a good recreational biking network is desirable for a city, it does not significantly advance multi-modal transportation goals which require a bike network in the central high traffic areas of the City.

Bicycle LOS was evaluated for specific road segments within Doral. This rating considered the location and type of bicycle path as well as vehicular traffic in cases of bicycle lanes. Sidewalks were not evaluated as



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appropriate for bicycling under this study due to the potential for injury from conflicts with pedestrians and with low height signs installed on the sidewalk. Bicycling LOS is inherently more qualitative than quantitative because of the disproportionate effect of perceptions of safety. Bicycle LOS evaluation involves determining if there is separation of traffic, the level of traffic, the width of a bike lane or path, if there are gaps in the system and how well a bicyclist can manage these gaps, as well as intersection issues. The following definitions serves as the basis for the assignment of LOS grades for the bicycle network in Doral as shown Table 8.

**Table 8: Bicycle Level of Service**

|    | Road                            | From            | To              | LOS |
|----|---------------------------------|-----------------|-----------------|-----|
| 1  | NW 117th Avenue                 | NW 25th Street  | NW 36th Street  | A   |
| 2  |                                 | NW 41st Street  | NW 58th Street  | A   |
| 3  | NW 114th Avenue                 | NW 41st Street  | NW 58th Street  | C   |
| 4  |                                 | NW 58th Street  | NW 74th Street  | B   |
| 5  | NW 114th Avenue/NW 112th Avenue | NW 74th Street  | NW 90th Street  | B   |
| 6  | NW 107th Avenue                 | NW 12th Street  | NW 25th Street  | D   |
| 7  |                                 | NW 25th Street  | NW 41st Street  | D   |
| 8  |                                 | NW 41st Street  | NW 58th Street  | C   |
| 9  |                                 | NW 58th Street  | NW 74th Street  | C   |
| 10 |                                 | NW 74th Street  | NW 90th Street  | C   |
| 11 | NW 102nd Avenue                 | NW 58th Street  | NW 41st Street  | C   |
| 12 | NW 97th Avenue                  | NW 12th Street  | NW 25th Street  | E   |
| 13 |                                 | NW 25th Street  | NW 41st Street  | E   |
| 14 |                                 | NW 41st Street  | NW 58th Street  | D   |
| 15 |                                 | NW 58th Street  | NW 74th Street  | E   |
| 16 | NW 87th Avenue                  | NW 12th Street  | NW 25th Street  | D   |
| 17 |                                 | NW 25th Street  | NW 36th Street  | D   |
| 18 |                                 | NW 36th Street  | NW 58th Street  | C   |
| 19 | NW 82nd Avenue                  | NW 41st Street  | NW 25th Street  | D   |
| 20 |                                 | NW 25th Street  | NW 12th Street  | D   |
| 21 | NW 79th Avenue                  | NW 25th Street  | NW 36th Street  | D   |
| 22 |                                 | NW 36th Street  | NW 58th Street  | D   |
| 23 | NW 12th Street                  | NW 107th Avenue | NW 97th Avenue  | E   |
| 24 |                                 | NW 97th Avenue  | NW 87th Avenue  | E   |
| 25 |                                 | NW 87th Avenue  | NW 79th Avenue  | E   |
| 26 | NW 12th Street                  | NW 79th Avenue  | SR-826          | E   |
| 27 | NW 25th Street                  | NW 117th Avenue | NW 107th Avenue | E   |
| 28 |                                 | NW 107th Avenue | NW 97th Avenue  | C   |
| 29 |                                 | NW 97th Avenue  | NW 87th Avenue  | E   |
| 30 |                                 | NW 87th Avenue  | NW 79th Avenue  | E   |



# City of Doral TRANSPORTATION MASTER PLAN



|    |                                      |                 |                 |   |
|----|--------------------------------------|-----------------|-----------------|---|
| 31 | <b>NW 34th Street/NW 33rd Street</b> | NW 117th Avenue | NW 107th Avenue | C |
| 32 | <b>NW 33rd Street</b>                | NW 107th Avenue | NW 97th Avenue  | D |
| 33 |                                      | NW 97th Avenue  | NW 87th Avenue  | C |
| 34 |                                      | NW 87th Avenue  | NW 79th Avenue  | D |
| 35 | <b>NW 36th Street</b>                | NW 87th Avenue  | NW 79th Avenue  | F |
| 36 |                                      | NW 79th Avenue  | SR-826          | F |
| 37 | <b>NW 41st Street/NW 36th Street</b> | NW 97th Avenue  | NW 87th Avenue  | F |
| 38 | <b>NW 41st Street</b>                | NW 117th Avenue | NW 107th Avenue | F |
| 39 |                                      | NW 107th Avenue | NW 97th Avenue  | F |
| 40 |                                      | NW 87th Avenue  | SR-826          | F |
| 41 | <b>NW 50th Street</b>                | NW 117th Avenue | NW 107th Avenue | A |
| 42 | <b>NW 52nd Street</b>                | NW 107th Avenue | NW 97th Avenue  | C |
| 43 | <b>NW 53rd Street</b>                | NW 87th Avenue  | NW 79th Avenue  | B |
| 44 | <b>NW 54th Street</b>                | NW 87th Avenue  | NW 79th Avenue  | D |
| 45 | <b>NW 58th Street</b>                | NW 117th Avenue | NW 107th Avenue | A |
| 46 |                                      | NW 107th Avenue | NW 102nd Avenue | C |
| 47 |                                      | NW 102nd Avenue | NW 97th Avenue  | C |
| 48 |                                      | NW 97th Avenue  | NW 87th Avenue  | D |
| 49 |                                      | NW 87th Avenue  | NW 79th Avenue  | E |
| 50 | <b>NW 74th Street</b>                | NW 114th Avenue | NW 107th Avenue | C |
| 51 |                                      | NW 107th Avenue | NW 97th Avenue  | D |
| 52 | <b>NW 90th Street</b>                | NW 114th Avenue | NW 107th Avenue | C |

Based on the bicycle LOS and the map of the existing network, it is evident that the adequacy of Doral’s bicycle network is very limited. There are some short segments on NW 25<sup>th</sup> Street and just off of NW 33<sup>rd</sup> Street which require further development to become part of a larger system as they provide little use in their current state.

Bicycling connectivity is generally good in a north-south direction in the western portion of Doral, but east-west connectivity is almost non-existent. East-west connections, as envisioned in the City’s development plans, would result in bicyclists traveling in either areas with high trucking activity, high vehicular activity, or both.

Future bicycle connections to and from Downtown Doral are likely, and some paths through the neighborhood have already been planned and partially implemented. The regional bicycle network is relatively underdeveloped. To the south, bike lanes extend along SW 8<sup>th</sup> Street between the Turnpike and the Palmetto Expressway, and the Coral Way Sidewalk provides an east-west trail between Florida International University and Coral Terrace. To the east, the Miami Springs Greenway connects to Miami Springs, and with further planned development, to Virginia Gardens, Hialeah, and the City of Miami.



## 7. Plan Development

This chapter introduces the projects, each of which are listed in the accompanying Project Bank with a stated purpose, need, description of the project, and an estimated cost. This plan identifies multimodal transportation and mobility issues across the community by engaging Doral citizens and analyzing transit and roadway data and existing pedestrian and bicycling facilities. A set of multimodal projects were developed based on both analyses, focused on identifying the major facilities or the movement of people.

### 7.1 Identification and Prioritization of Projects

Projects are listed in the following categories:

- Multimodal
- Transit
- Roadway

As part of this process, the issues presented in the previous chapters were organized, streamlined and defined as projects. First, the projects were evaluated based on cost, benefits, needs, and community desires in the creation of an overall Project Bank from which items were either used, consolidated or eliminated because they would not have a significant impact in addressing a need.

Some projects fell into the same category and were consolidated to create a more easily read report, but have individual components which may be implemented separately, such as the infill of specific gaps in the sidewalk system, or addressing of crosswalk issues at intersections. Projects that approached a similar problem in different ways were also consolidated after evaluation.

A simplified scoring system was developed to measure how well the projects meet seven criteria:

- Ease of Implementation;
- Efficiency;
- Effectiveness;
- Promotes Safety;
- Promotes Casual Flow;
- Maintains/Enhances City Character; and,
- Reduces Traffic Intrusion.

Each category was scored on a scale of 1 (negative effect on criterion) to 5 (positive effect on criterion), with 3 representing “neutral effect.” Utilizing this system, the various projects have been placed in one of several lists, by category and by tier (See chapter 10 for Prioritization list). These lists are intended to guide project implementation. They also provide a basis upon which an Impact Fee/Mobility Fee system can be established. It is anticipated these lists will be used in the City’s annual budgeting process. They should be revisited each year to match projects with changing needs of the community and, particularly, funding resources which may become available. The project prioritization table is included as Appendix C to this report.





## 7.1.1 Multimodal Projects

**Project Name:** Pedestrian Safety Improvements at Intersections

**Purpose:** The purpose of these projects is to implement safety improvements at intersections across the City. Improvements include adjusted vehicular turning radii; revised signalization, including pedestrian phases; high visibility cross walks; curb extensions; and, other interventions.

**Need:** Doral’s rights-of-way are wide; however, traffic volumes are high. Pedestrian activity can also be high at certain locations, and should be encouraged with more safe conditions. This is accomplished by providing clearly marked crossing points, particularly at intersections, as well as crosswalk signals, many of which are conspicuously missing in Doral, leading pedestrians into a guessing game as to timing their crossing in relation to oncoming traffic.

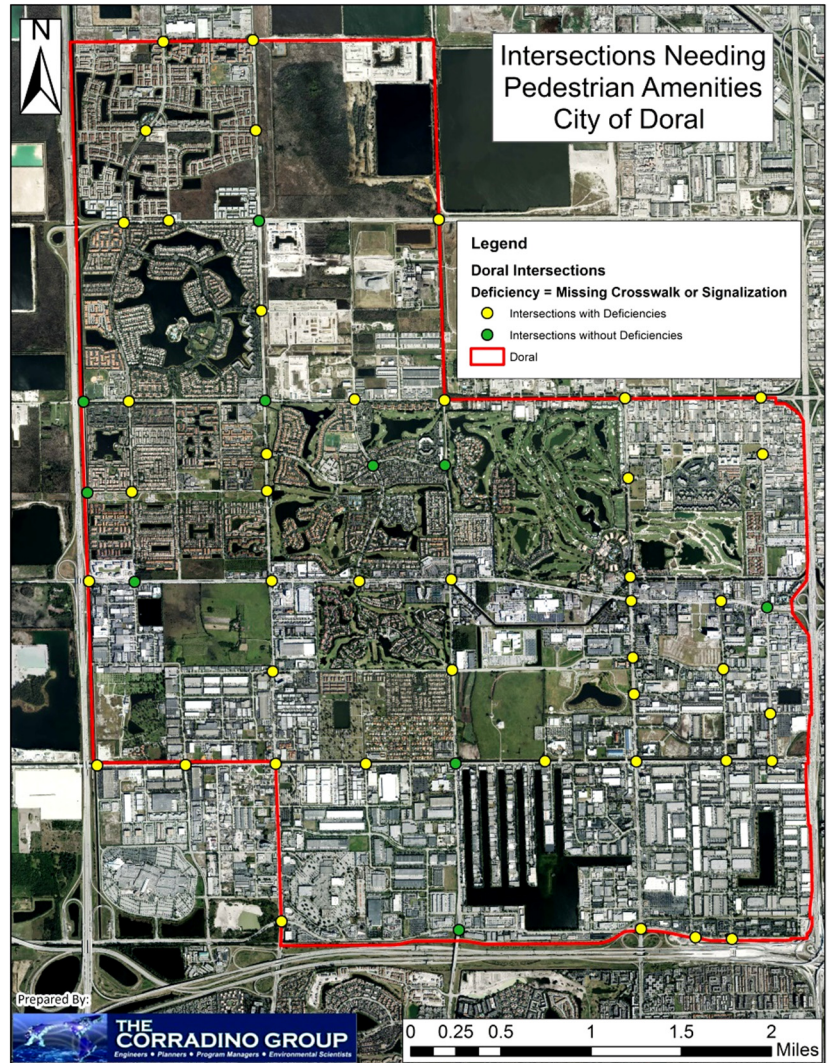
**Description:** 44 locations have been noted with need for improvement (Figure 9). Each intersection should undergo an individual pedestrian safety evaluation to explore the number of crashes, operational characteristics, signal timing, geometry, etc. This is necessary to make specific recommendations for each location. Work should be conducted in coordination with the Miami-Dade County Public Works Department in moving to design and construction.

**Cost:**

*Planning:* \$ 293,000

*Design:* \$ 880,000

*Construction:* TBD (Due to differences in need for each intersection)



**Project Name:** Sidewalk Infrastructure Gap Infill



# City of Doral TRANSPORTATION MASTER PLAN



**Purpose:** The purpose of this project is to fill in the gaps in the sidewalk infrastructure to provide increased mobility. The ability to walk unobstructed is inherent in every trip taken, and gaps in the sidewalk system significantly hamper this ability.

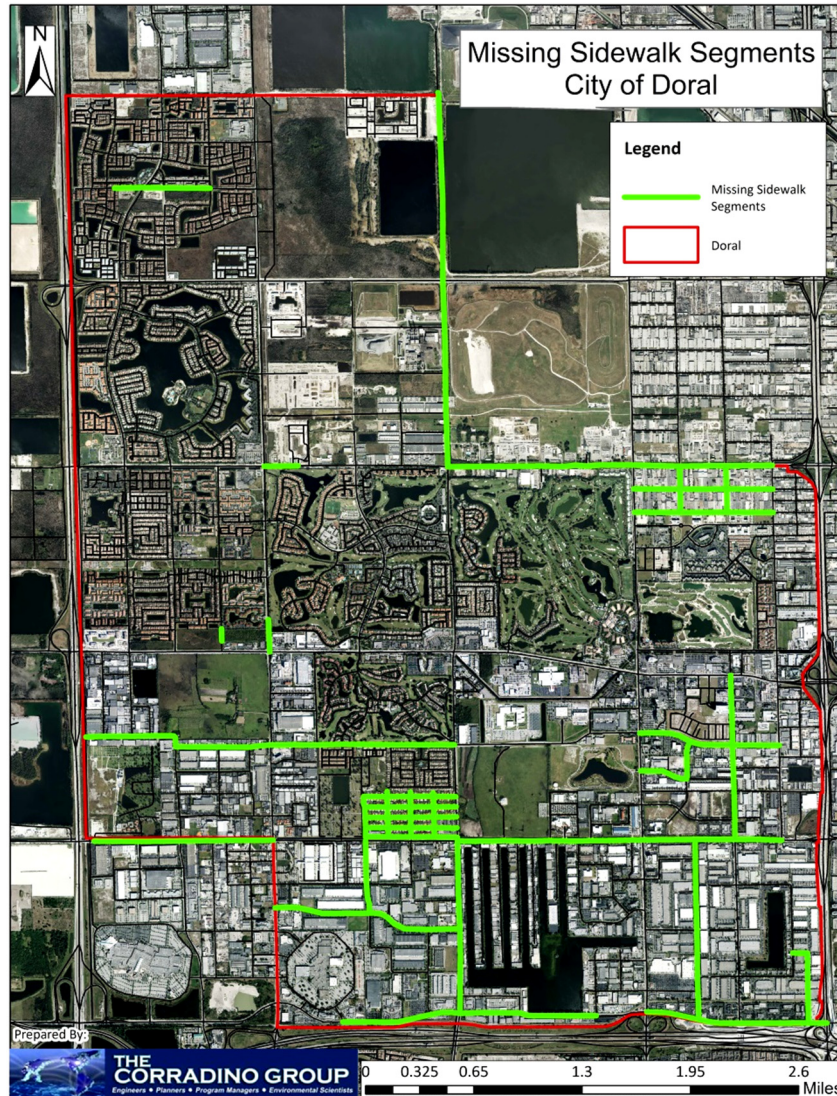
**Need:** Analysis indicates significant gaps in the sidewalk system totaling approximately 182,000 linear feet (as of April 2014). These gaps hinder pedestrian and multimodal transit mobility in Doral by creating more circuitous walking paths, creating non-ADA compliant bus stops due to a lack of sidewalk connectivity to these stops, and in some instances creating situations where the only alternative for pedestrians is to walk on a non-separated grassy area or in the roadway.

**Description:** Locations of missing gaps are noted in the map. Prioritization of these sidewalk

improvements should be based on proximity to residential areas, schools, parks, and bus or trolley stops, and then to existing businesses. Primarily, the purpose is to create a cohesive, connected walking network; thus, in some cases, the need for sidewalks can be bundled with a bicycle path to develop a shared use off-road path.

**Cost:**

- Planning:* Completed
- Design:* \$ 131,000
- Construction:* \$2,180,000



**Project Name:** Americans with Disabilities Act (ADA) Master Plan



# City of Doral TRANSPORTATION MASTER PLAN



**Purpose:** The purpose of this project is to assure that City infrastructure is compliant with ADA rules and regulations.

**Need:** There are multiple locations in the City where fire hydrants and other public infrastructure (e.g., benches, shelters, traffic cameras, signage, and utility poles) present obstacles in pedestrian paths and transit riders. In some cases, these obstacles present issues for disabled persons in wheelchairs, as well as families with children in strollers and casual cyclists.

**Description:** Work with Miami-Dade County to determine which of these locations can have the fire hydrants or obstacles located out of the pedestrian paths. Develop a comprehensive inventory of all transit stops, buses, and all transit facilities noting any missing boarding and alighting connectivity. Once these locations have been confirmed, coordination with the owner will allow the obstacle to be removed and new infrastructure constructed to complete the network and bring the City into full compliance.

**Cost:**

Planning: \$75,000  
Design: N/A  
Construction N/A

**Project Name:** Sidewalk Repair

**Purpose:** The purpose of this project is to repair or replace damaged, uneven, or cracked sidewalks.

**Need:** Data and analysis shows that about 1,750 ft. of sidewalks on NW 97<sup>th</sup> Avenue, NW 33<sup>rd</sup> Street, NW 25<sup>th</sup> Street, NW 41<sup>st</sup> Street/NW 36<sup>th</sup> Street, and NW 58<sup>th</sup> Street are in need of repair.

**Description:** Sidewalk locations will be prioritized then repaired. During the repair and replacement process, planning and design should be reviewed in regards to materials to be used, as well as areas where existing tree roots impact the sidewalk.



**Cost:**

Planning: \$6,000  
Design: \$9,000  
Construction: \$150,000

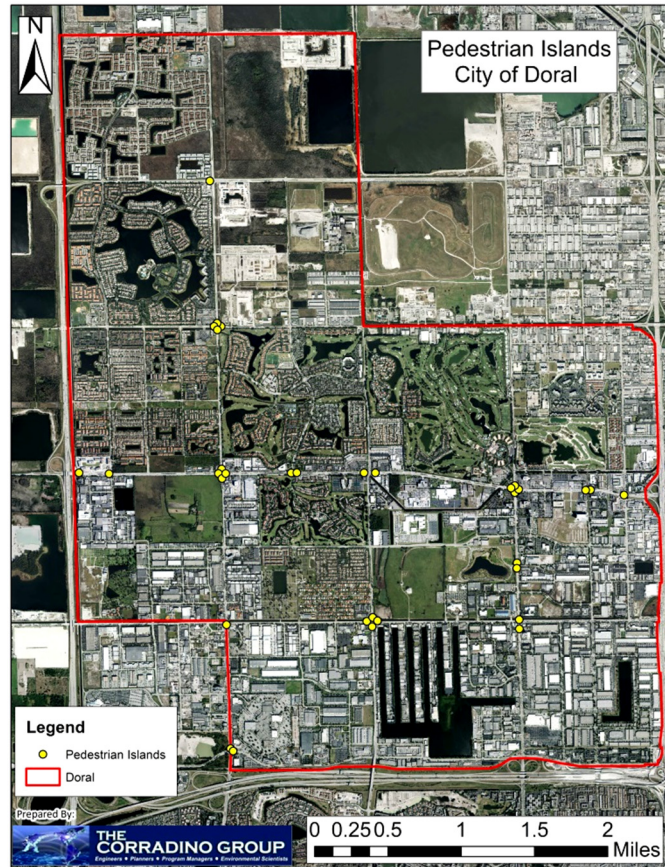


**Project Name:** Pedestrian Islands at Intersections

**Purpose:** The purpose of this project is to select the locations for pedestrian safety islands at various intersections throughout the City.

**Need:** The public wants safer pedestrian access to and from various locations. From site reconnaissance it was noticed that pedestrian street crossings are difficult, with pedestrians not having appropriate time to cross at intersections, poorly marked intersections or pedestrians J-Walking at mid-block. A primary solution is to provide pedestrian islands in the middle of the typically wide rights-of-way in the City.

**Description:** Thirty-one locations should see immediate consideration for construction of pedestrian islands. All locations currently have medians. Some intersections may require additional pedestrian islands at specific crossings, but would need median work, and thus were excluded. Work should be coordinated with Public Works and MDCPW to confirm high-access locations in order to prioritize crossings for approval, design, and construction.



**Cost:**

*Planning: \$ 2,000*

*Design: \$ 7,000*

*Construction: \$ 112,000*

**Project Name:** Mid-block crosswalks

**Purpose:** Provide safe pedestrian mid-block crossings along major corridors.

**Need:** The City is built on a grid of super blocks at the 1 mile and the ½ mile scale. The typical ROW of a major corridor is between 74' and 86', consisting of roads between 4 and 6 lanes. Pedestrian crossings are typically inadequate, and only located at intersections, which means that pedestrians wishing to semi-safely cross the streets need to walk up to a mile to reach a destination.



# City of Doral TRANSPORTATION MASTER PLAN



Often the land-use patterns place origins (office uses) and destinations (restaurants) on opposite sides of the street. The implementation of mid-block crossings up to every 1/4 mile would provide pedestrians safe access to cross streets at five locations per block. The fact that there are so few safe crossings discourages walking, and encourages auto trips. This project will encourage pedestrianism and help incrementally manage congestion, particularly during mid-day periods.

**Description:** Locate areas where origins and destination land uses are on opposite sides of the street. Evaluate crossing volumes and accessibility. Design appropriate crossings as necessary to include high visibility striping, reflectors, signage, pedestrian islands, countdown pedestrian signals, etc. Work with property owners and connect via pedestrian paths on private property.

**Cost:**

*Planning:* \$20, 000

*Design:* TBD

*Construction:* TBD



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**Project Name:** Complete Streets Design Guidelines

**Purpose:** The purpose of this project is to create specific and consistent guidelines for streets in order to provide adequate capacity for all modes of travel to the fullest extent possible.

**Need:** Many roads in Doral predominantly prioritize automobiles. A set of Complete Streets Design Guidelines would foster the design and redevelopment of all streets to improve mobility.

**Description:** Complete Streets represent an incremental approach to enhancing the safety of the street network. A handbook of design guidelines for Complete Streets should be developed, which would provide measurements for sidewalks, bike lanes, street furniture, landscaping and transit infrastructure to be applied to Doral’s streets. These design guidelines should be codified in the City’s Land Development Code. Segments which may be completed include NW 87<sup>th</sup> Avenue, NW 102<sup>nd</sup> Avenue, NW 33<sup>rd</sup> Street and NW 50<sup>th</sup> Street. An example of Complete Streets can be found on NW 114<sup>th</sup> Avenue between NW 58<sup>th</sup> Street and NW 74<sup>th</sup> Street. Future projects can utilize these concepts to integrate critical infrastructure.

**Cost:**



# City of Doral TRANSPORTATION MASTER PLAN



*Planning: \$50,000*  
*Design: NA*  
*Construction: NA*

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**Project Name:** Streetscape Improvements

**Purpose:** The purpose of this project is to enhance the pedestrian environment within Doral.

**Need:** Shading for pedestrians to be accomplished by adding trees along walkways and shared-use paths. The pedestrian environment can be improved through the addition of visually appealing infrastructure.

**Description:** The implementation of shading and rest areas along pedestrian paths is essential toward improving walkability. Sidewalks should be set back from the street by a 6' strip with tree plantings, as part of a Complete Streets system. The City can begin to implement the addition of shade by adopting specific sidewalk design standards which includes streetscape elements. Additional streetscape improvements to increase the appeal of walking include the creation of pocket parks, plazas, public art, and similar elements.

**Cost:**

*Planning: \$35,000*  
*Design: TBD*  
*Construction: TBD*

---

**Project Name:** Bicycling Safety and Education Programs

**Purpose:** The purpose of this project is to assure that cyclists and motorists alike are practicing safe and courteous behavior to minimize accidents and encourage more people to cycle.

**Need:** South Florida is one of the most dangerous places in the nation to ride a bicycle, in large part for lack of bicycle facilities and the spatial and operational characteristics. Educating cyclists how to properly ride on streets, as well as educating motorist to be aware of and treat cyclists will assist in making roads safer.

**Description:** Develop a bicycle/driver educational pamphlet, work to educate the public on bicycle and driver safety.

**Cost:**

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# City of Doral TRANSPORTATION MASTER PLAN



*Planning: \$5,000*  
*Design: \$10,000*  
*Construction: N/A*

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**Project Name:** Complete Bicycling Network

**Purpose:** The purpose of this project is to complete the planned bicycle route system in Doral.

**Need:** In 2006, the City approved a bicycle master plan with approximately 21 miles of off-road facilities and approximately 12 miles of on-road bike lanes. To date, 8.8 miles have been implemented. Various gaps within the current proposed bicycle system have also been identified. Additional routes are necessary to provide for adequate east-west connections, or connections to the City’s boundaries in areas where they can then be connected to a future Miami-Dade network. These pathways would require at least an additional 14 miles to be implemented.

**Description:** Work to implement the remaining facilities, through ROW acquisition, design and construction.

**Cost:**

*Planning: \$27,000*  
*Design: \$ 80,000*  
*Construction: \$ 12,300,000*



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**Project Name:** Bicycle Racks and Lockers Installation

**Purpose:** The purpose of this project is to increase bicycling mobility by installing bicycle racks and lockers throughout the City.

**Need:** Bicycle parking is scarce in Doral. Bicycles have been observed attached to chain-link fences. The lack of available parking places at many major commercial areas discourages bicycling.

**Description:** Bicycle rack locations need to be determined based on proximity of bicycling facilities and potential usage. Initial installation of bicycle racks should be at schools, transit-hub transfer areas, and at shopping centers such as the strip malls at NW 97<sup>th</sup> Avenue and NW 41<sup>st</sup> Street, the Publix shopping area at NW 58<sup>th</sup> Street and NW 107<sup>th</sup> Avenue, the retail area at NW 107<sup>th</sup> Avenue and NW 41<sup>st</sup> Street, and the strip mall at NW 87<sup>th</sup> Avenue and NW 25<sup>th</sup> Street. Further implementation in other areas would occur as



funding becomes available. In some instances, the installation of bicycle racks must undergo coordination with a private property owner.

**Cost:**

*Planning: \$10,000*

*Design: TBD based on planning study*

*Construction: TBD based on planning study*

**Project Name:** Eastern Connection to Miami International Mall

**Purpose:** The purpose of this project is to provide a more direct connection for bicyclists and pedestrians to the Miami International Mall.

**Need:** This path will provide a less-circuitous route to the Mall, and a viable alternative when driving to the mall. Currently, residents ride their bicycles to the Miami International Mall, which has bicycle racks in its parking area.

**Description:** Acquisition of a small amount of right-of-way will be needed to develop this path. In addition, landscaping a pedestrian walkway and additional bicycle racks would make this an attractive option which would be closer to existing bicycling-network segments already constructed in Doral. Roadway construction could also be considered as part of this project, and would alleviate some traffic caused by circuitous vehicular routes to reach the mall.

Depending on the path of the trolley, a stop or bus hub could be effected near this entrance, thereby avoiding the need to route the trolley through roadways with higher congestion. Efforts need coordination with the Miami International Mall and surrounding businesses and property owners.



**Cost:**

*Planning: \$3,000*

*Design: \$9,000*

*Construction: \$150,000*

**Project Name:** Bicycle Rental Program

**Purpose:** The purpose of this project is to provide bicycle rentals in Doral.

**Need:** Increased bicycle access may lead to increased bicycling and increased mobility.

**Description:** Bicycle rental/sharing systems are a major component of a more sustainable and intermodal transportation system. Bikes sharing provides an additional affordable means of transportation. The City should identify specific locations for implementation of bicycle rental racks. This will be based on proximity to destinations in the City, the needed capacity for bicycle parking in the area, and the ability to regularly maintain the system through manual repositioning of bicycles as necessary. Then the City should contact several bikeshare system providers to assess the feasibility of creating a system in Doral. If the City decided to pursue a system, vendors will be selected through a bid process.





**Cost:**

*Planning: \$35,000*  
*Design: TBD based on provider*  
*Construction: TBD based on provider*

**Project Name:** NW 74<sup>th</sup> Street Bike Lane Conversion

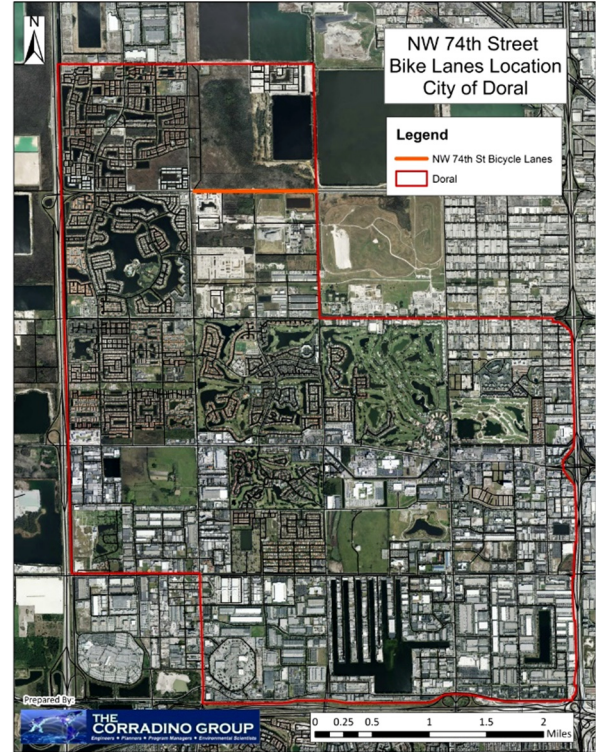
**Purpose:** The purpose of this project is to convert the current bicycle lane on NW 74<sup>th</sup> Street between NW 97<sup>th</sup> Avenue and NW 107<sup>th</sup> Avenue to a multi-use path.

**Need:** The current bicycle lane on NW 74<sup>th</sup> St would route bicyclists on the same road with heavy trucking and no separation, and poses a safety concern. Observed behavior on NW 74<sup>th</sup> St. Bicycle Lanes show runners in the bicycle lanes, and bicycles on the adjacent sidewalks.

**Description:** Develop a conceptual plan, scope design and bid plan, bidding the design, and construction of a shared-use, off-road bike/ped path on NW 74<sup>th</sup> St. at +/- 5200 ft. for the corridor.

**Cost:**

*Planning: \$ 10,000*  
*Design: \$ 25,000*  
*Construction: \$ 400,000*



**Project Name:** Bicycle Signalization Program

**Purpose:** The purpose of this project is to promote bicycling safety at intersections.

**Need:** Public response during workshops indicated concerns for safety at intersections, which were noted to be difficult for the average rider to navigate, especially at intersections with high vehicular traffic. Miami-Dade County is requiring special signal phasing where bicycle paths intersect with signalized intersections.

**Description:** Bicycle signalization separates the bicyclist from vehicular traffic, allows them to pass or turn safely in an intersection, and reduces the level of vehicular-bicycle conflict in a manner similar to left-turn lane signalization. Signals are also differentiated through the usage of colored bicycle icons. Implementation will create a separate signalization system; thus traffic timing for the intersection will



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have to be reviewed and adjusted. In addition, signalization may require the addition of dedicated rights-of-way for bicyclists, and should be applied to intersections with existing bicycle lanes or shared paths.

**Cost:**

*Planning: \$50,000*

*Design: NA*

*Construction: NA*

**Project Name:** Bicycle Connections to Miami-Dade System

**Purpose:** The purpose of this project is to promote bicycling mobility by connecting Doral’s bicycling network to the Miami-Dade regional system.

**Need:** Workshops indicated the public’s desire to have connections to the existing regional bicycle system.

**Description:** The City should determine which routes to connect to, and prioritize building of bicycle-network lanes to the City’s perimeter at points conducive to continued pathway development to existing bicycle lanes and shared-use paths. The City should also continuously work with the County and neighboring municipalities to ensure continuous connections to regional pathways to the south, east, and north of the City.

**Cost:**

*Planning: \$45,000*

*Design: TBD based on planning study*

*Construction: TBD based on planning study*

**Project Name:** Off-road Bicycle Path Maintenance and Rest Area Development

**Purpose:** The purpose of this project is to enhance bicycle network and mobility.



# City of Doral TRANSPORTATION MASTER PLAN



**Need:** Few rest areas exist along current bicycle paths or shared-use paths. On some paths, the existence of a rest area will provide necessary shade now lacking. Water facilities, such as bathrooms or drinking fountains, do not exist, causing individuals to haul their own water for the duration of the trip. Path maintenance is also necessary in order to remove rubble.

**Description:** Rest areas should be developed along existing shared-use, off-road paths at approximately every 0.5 miles. These areas should be off of the path, and provide seating, shade, and water fountains. There should be a shaded area with water facilities incorporated into the site, along with bicycle racks in cases where there are public facilities, such as parks, along the route. Planning of future routes should also incorporate these items into the design of the bikeways.

**Cost:**

- Planning:* \$10,000
- Design:* TBD
- Construction:* \$100,000



**Project Name:** One Stop Personal Mobility Information Center

**Purpose:** Provide a portable or website app for use by the general public for multimodal trip timing and planning purposes.

**Need:** The development of this application will fulfill an objective in the City’s Comprehensive Plan to provide for a "one-stop" information center for Doral residents and visitors on "Personal Mobility," which should offer access to public transit information, ride-sharing and carpooling, and bicycling and pedestrian routes. The easy availability of such information should allow for better trip planning, which will encourage utilization of alternative modes of transportation.

Procurement of real-time bicycling data is possible through user-generated GPS data, and will allow the City to respond faster to the needs of bicycling in the community. It will aid its positioning of bicycle rental stations and future-path development and prioritization. Data collection for bicycling data is costly. This would potentially provide a more budget-friendly snapshot of evolving usage.

**Description:** Develop a mobile application and incorporate the specifications of personal mobility, such as pathways, and travel and transfer time estimates. Applications such as “Cycletracks” and “Stava Metro” can be used by bicyclists to record their paths by utilizing their phone’s GPS. Theoretically, these apps could also be tied into bicycle route planning applications, thereby providing an additional benefit and incentive for usage by a bicyclist.

**Cost:**



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*Planning:* \$100,000

*Design:* NA

*Implementation:* NA

**Project Name:** Pedestrian Bridge over NW 41<sup>st</sup> Street along NW 117<sup>th</sup> Avenue

**Purpose:** Construct a pedestrian bridge over NW 41<sup>st</sup> Street along NW 117<sup>th</sup> Avenue

**Need:** Pedestrian bridge would connect north and south segments of the City’s shared use path along canal on the west of the City. Currently, a gap exists, and while a roundabout route is suggested, field observations indicate jaywalking is a frequent problem at this junction.

**Description:** Design and construction of a pedestrian bridge over NW 41<sup>st</sup> Street by NW 117<sup>th</sup> Avenue. Project will include any need for ROW acquisition, and must account for the entrance to the HEFT in the final design.

**Cost:**

*Planning:* Completed

*Design:* TBD

*Construction:* \$3,800,000



**Project Name:** Revisit the City’s Bicycle Master Plan

**Purpose:** Revise the City’s Bicycle Master Plan in light of the plan’s age and need to account for new bicycle network needs.



# City of Doral TRANSPORTATION MASTER PLAN



**Need:** The City’s Bicycle Master Plan was written in 2007. During study creating the Transit Mobility Plan and in consideration of the overall transportation master plan, it was noted that the proposed routes are recreational in nature, and that a phase 2 should be explored as the City begins to build its routes to provide for increased access to local neighborhoods. In addition, since the development of the plan, the City has gone through rapid growth – a revisit of the report will allow the City to take this into consideration.

**Description:** Study to assess existing and proposed bicycle facilities, with recommendations. The City should explore existing County and FDOT grant programs, including the TAP grant and the Miami-Dade TPO’s Municipal Grant.

**Cost:**

- Planning:* \$80,000
  - Design:* N/A
  - Construction:* N/A
- 

**Project Name:** Perform a City-wide On-Street Parking Study

**Purpose:** Conduct assessment of on available on-street parking and associated policies in the City of Doral.

**Need:** Street parking serves to provide visitors and residents with an additional parking. Lack of parking in an area or close to destinations may result in additional vehicular circling in an area, adding to local VMT and congestion. In some areas, the addition of on-street parking may have a calming effect.

**Description:** The study should provide the City with a detailed, block-by-block inventory of available on-street parking. It should also determine policies for the City for the future development of street parking, if any, and designate the appropriate areas of the City. This study must also take into account the City’s total parking supply and potential needs in each neighborhood.

**Cost:**

- Planning:* \$ 120,000
  - Design:* N/A
  - Construction:* N/A
- 

**Project Name:** Bluetooth and Connected Vehicle Technology Along Major Corridors

**Purpose:** Provide for the installation of Bluetooth receptors and Connected Vehicle signal technology along the major corridors, including intersections as needed.

**Need:** Bluetooth and other technology which can “ping” cell phone usage may be utilized to collect traffic data on a regular basis, and allow for arterial travel time determination. This can then be used by the City as a monitoring tool to determine and react to transportation needs within the city as they occur in real-time. Connected vehicle signal technology should also be explored as well.

**Description:** The City should install Bluetooth and connected vehicle technology to create a “Smart” city and take advantage of future technology, such as driverless vehicles. Distance between the Bluetooth



device’s placement will vary, though may be on the lower end of the scale on the more busy corridors. Installation of devices will generally include the Bluetooth receiver, and GPS systems. Additional study is needed to determine the locations to be emplaced; in addition, the City should explore co-location of the devices with lighting.

Connected vehicle technology may be helpful for not only future transit operations, but also in aiding drivers through traffic. Existing systems are already being tested in Florida, and the connected technology has been implemented in various cars. Further, it is important to note that smart, driverless vehicle technology currently being tested in Florida, including a driverless shuttle in Tampa, require these Connected Vehicle Technology as a prerequisite infrastructure for implementation.

**Cost:**

*Planning:* \$40,000

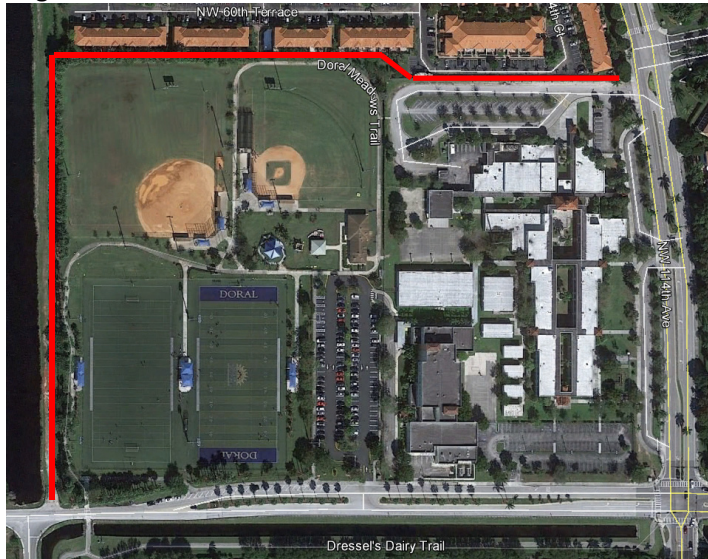
*Design:* TBD based on planning study

*Construction:* TBD based on planning study

## 7.1.2 Roadway Projects

**Project Name:** Extend NW 117<sup>th</sup> Avenue between NW 58<sup>th</sup> Street to NW 60<sup>th</sup> Street

**Purpose:** The purpose of this project is to provide a perimeter road around Doral Meadows Park and Eugenia B. Thomas K-8 Center



**Need:** This project would fill gaps on NW 117<sup>th</sup> Avenue at NW 74<sup>th</sup> Street and NW 12<sup>th</sup> Street, providing for a complete connection. This consists of new roadway between NW 74<sup>th</sup> Street and NW 58<sup>th</sup> Street as well as crossings at NW 58<sup>th</sup> St. and NW 41<sup>st</sup> Street. This would add capacity to the roadway network and mitigate congestion.

**Description:** This project will involve bidding the Project Development and Environment, preliminary engineering/final design and construction of the roadway.

**Cost:**



# City of Doral TRANSPORTATION MASTER PLAN

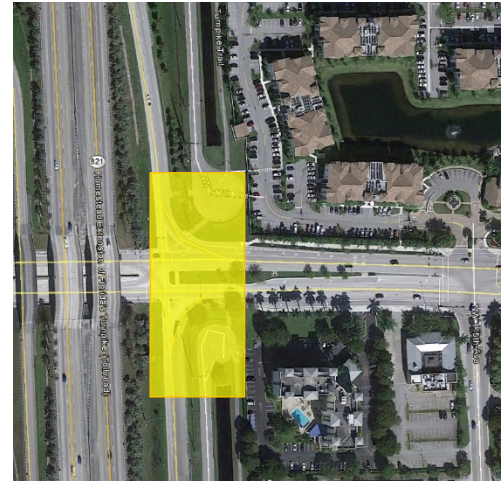


*Planning:* \$ 45,000  
*Design:* \$135,000  
*Construction:* \$ 2,250,000

**Project Name:** Flyover ramp to HEFT over NW 41<sup>st</sup> Street to connect NW 25<sup>th</sup> Street viaduct truck traffic

**Purpose:** Build a flyover ramp from Northwest 117th Avenue to the northbound side of the Florida Turnpike, giving heavy trucks direct access to the Turnpike.

**Need:** By providing a direct access to the Turnpike, truck traffic is reduced along three main avenues.



**Description:** This project provides for a flyover ramp from NW 117th Avenue to the northbound side of the Florida Turnpike, giving heavy trucks direct access to the Turnpike. As planned, slip ramp will be utilized for regular traffic. This priority 1 project has already been approved by council, with an agreement with the Florida Turnpike Enterprise.

**Cost:**

*Planning:* Complete  
*Design:* TBD  
*Construction:* \$3,860,000

**Project Name:** Northbound connection of NW 117<sup>th</sup> Avenue over NW 41<sup>st</sup> Street

**Purpose:** Create a new north-south connection at NW 117<sup>th</sup> Avenue and NW 41<sup>st</sup> Street

**Need:** This route may hold potential as a truck bypass route, and provides an alternative route for other vehicles within the City.

**Description:** A new connection at NW 41<sup>st</sup> Street and NW 117<sup>th</sup> Avenue would require that the current north-south gap at NW 41<sup>st</sup> Street, where NW 117<sup>th</sup> Avenue is currently two separate cul-de-sacs, be eliminated. Project will include any need for ROW acquisition, and must account for the entrance to the HEFT in the final design.

**Cost:**

*Planning:* \$26,000  
*Design:* \$130,000  
*Construction:* \$1,300,000



# City of Doral TRANSPORTATION MASTER PLAN



**Project Name:** Connection of NW 112<sup>th</sup> Avenue between NW 36<sup>th</sup> Street and NW 33<sup>rd</sup> Street

**Purpose:** Construct roadway to infill missing link within Doral’s roadway network.

**Need:** The City of Doral should infill missing connections within the network to provide for a complete roadway grid. A complete grid will provide relief for the major arterials.

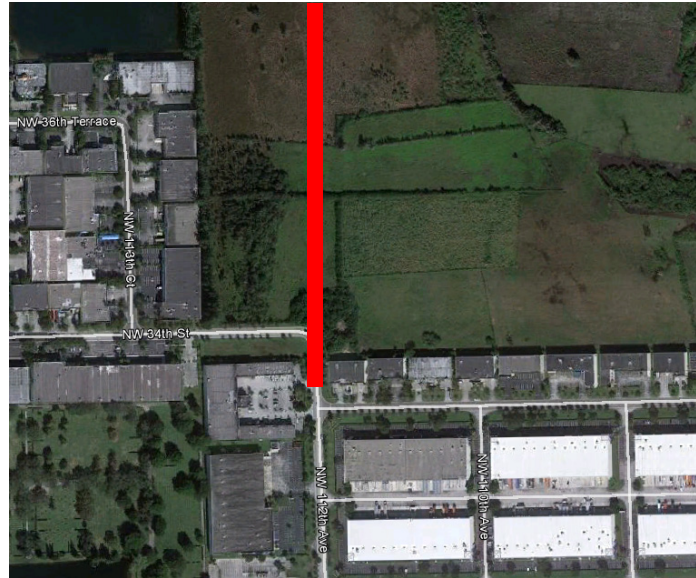
**Description:** Construction of approximately 0.15 miles of a 2-lane roadway. This should then be connected with a hypothetical roadway extension of NW 33<sup>rd</sup> Street from NW 107<sup>th</sup> Avenue.

**Cost:**

*Planning: \$15,000*

*Design: \$72,000*

*Construction: \$720,000*

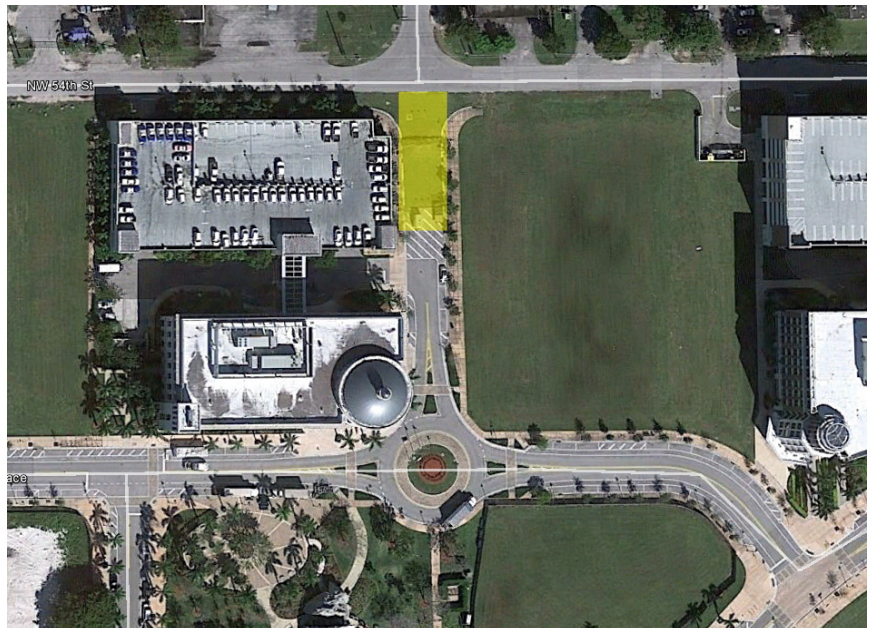


**Project Name:** Connection of NW 84<sup>th</sup> Avenue between NW 54<sup>th</sup> Street and NW 53<sup>rd</sup> Terrace

**Purpose:** Construct roadway to infill missing link within Doral’s roadway network.

**Need:** The City of Doral should infill missing connections within the network to provide for a complete roadway grid. A complete grid will provide relief for the major arterials.

**Description:** Construct approximately 0.02 miles of a 2-lane roadway by City Hall.







# City of Doral TRANSPORTATION MASTER PLAN



**Cost:**

*Planning: \$2,000*

*Design: \$10,000*

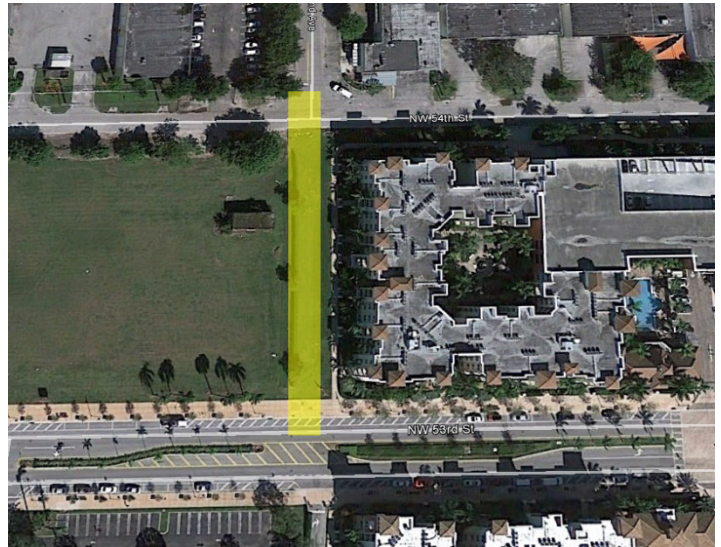
*Construction: \$100,000*

**Project Name:** Connection of NW 82<sup>nd</sup> Avenue between NW 54<sup>th</sup> Street and NW 53<sup>rd</sup> Terrace

**Purpose:** Construct roadway to infill missing link within Doral’s roadway network.

**Need:** The City of Doral should infill missing connections within the network to provide for a complete roadway grid. A complete grid will provide relief for the major arterials.

**Description:** Construct approximately 0.06 miles of 2-lane roadway in Downtown Doral to extend NW 82<sup>nd</sup> Avenue.



**Cost:**

*Planning: \$6,000*

*Design: \$30,000*

*Construction: \$300,000*

**Project Name:** Connection of NW 14<sup>th</sup> Street between NW 84<sup>th</sup> Avenue and NW 82<sup>nd</sup> Avenue

**Purpose:** Construct roadway to infill missing link within Doral’s roadway network.

**Need:** The City of Doral should infill missing connections within the network to provide for a complete roadway grid. A complete grid will provide relief for the major arterials. Currently the location is mostly paved, except for a small segment; construction to fill the gap will allow for better mobility and accessibility for the surrounding properties.

**Description:** Construction and repavement of an approximately 0.01 mile segment of roadway on NW 14<sup>th</sup> Street





# City of Doral TRANSPORTATION MASTER PLAN



between NW 84<sup>th</sup> Avenue and NW 82<sup>nd</sup> Avenue.

**Cost:**

- Planning: \$1,000*
  - Design: \$5,000*
  - Construction: \$50,000*
- 

**Project Name:** Connection of NW 17<sup>th</sup> Street between NW 84<sup>th</sup> Avenue and NW 82<sup>nd</sup> Avenue

**Purpose:** Construct roadway to infill missing link within Doral’s roadway network.

**Need:** The City of Doral should infill missing connections within the network to provide for a complete roadway grid. A complete grid will provide relief for the major arterials. Currently the location is mostly paved, except for a small segment; construction to fill the gap will allow for better mobility and accessibility for the surrounding properties.

**Description:** Construction and repavement of an approximately 0.01 mile segment of roadway on NW 17<sup>th</sup> Street between NW 84<sup>th</sup> Avenue and NW 82<sup>nd</sup> Avenue.



**Cost:**

- Planning: \$1,000*
  - Design: \$5,000*
  - Construction: \$500,000*
-



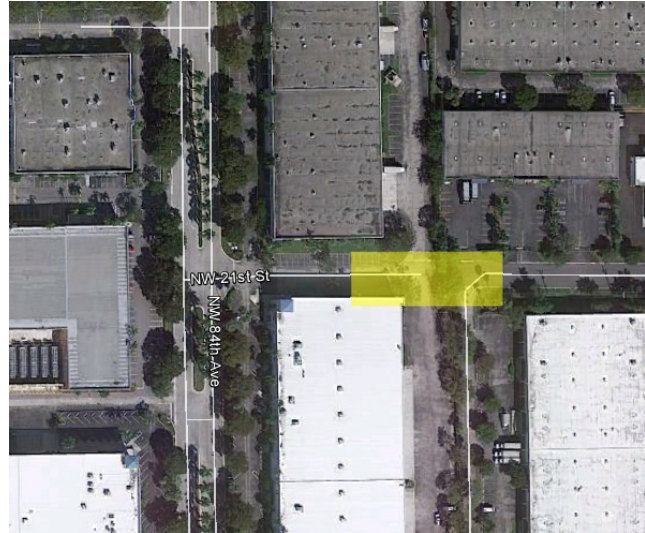
# City of Doral TRANSPORTATION MASTER PLAN



**Project Name:** Connection of NW 21<sup>st</sup> Street between NW 84<sup>th</sup> Avenue and NW 82<sup>nd</sup> Avenue

**Purpose:** Construct roadway to infill missing link within Doral’s roadway network.

**Need:** The City of Doral should infill missing connections within the network to provide for a complete roadway grid. A complete grid will provide relief for the major arterials. Currently the location is mostly paved, with the exception of a small segment; construction to fill the gap will allow for better mobility and accessibility for the surrounding properties.



**Description:** Construction and repavement of an approximately 0.02 mile segment of roadway on NW 21<sup>th</sup> Street between NW 84<sup>th</sup> Avenue and NW 82<sup>nd</sup> Avenue.

**Cost:**

- Planning:* \$2,000
- Design:* \$10,000
- Construction:* \$100,000

**Project Name:** Connection of NW 14<sup>th</sup> Street between NW 98<sup>th</sup> Court and NW 97<sup>th</sup> Avenue

**Purpose:** Construct roadway to infill missing link within Doral’s roadway network.

**Need:** The City of Doral should infill missing connections within the network to provide for a complete roadway grid. A complete grid will provide relief for the major arterials.



**Description:** Construction of an approximately 0.17 mile segment of roadway on NW 14<sup>th</sup> Street between NW 98<sup>th</sup> Court and NW 97<sup>th</sup> Avenue.

**Cost:**

- Planning:* \$16,000
- Design:* \$82,000
- Construction:* \$820,000



**Project Name:** Widen NW 90<sup>th</sup> Street between NW 107<sup>th</sup> Avenue and NW 97<sup>th</sup> Avenue

**Purpose:** Widen NW 90<sup>th</sup> Street between NW 107<sup>th</sup> Avenue and NW 97<sup>th</sup> Avenue to 4 lanes.

**Need:** Currently, the roadways services residential properties in the north of Doral. South of these properties are land which are expected to be developed into new mixed-use developments, which will result in a need for additional capacity of NW 90<sup>th</sup> Street.

**Description:** Widen the existing NW 90<sup>th</sup> Street from 2 to 4 lanes between NW 107<sup>th</sup> Avenue and NW 97<sup>th</sup> Avenue. This project will require coordination with the City of Medley in order to procure room for the expansion, and may, depending on the project’s needs, merge with Medley’s NW 102<sup>nd</sup> Avenue.



**Cost:**

- Planning: \$95,000*
- Design: \$470,000*
- Construction: \$4,700,000*

**Project Name:** Construct new roadways for “White Course” development

**Purpose:** Future redevelopment of the golf course located between NW 41st Street, NW 48<sup>th</sup> Street, NW 87<sup>th</sup> Avenue and NW 79<sup>th</sup> Avenue will necessitate new roadways for internal circulation.

**Need:** To accommodate future growth and development within the City.

**Description:** Construction of six new local roadways for internal circulations within the new development, “White Course”. New roadways will include the following, however the actual layout of the roadways will depend on the final plat.



- NW 48<sup>th</sup> Street Between NW 87<sup>th</sup> Avenue and NW 79<sup>th</sup> Avenue
- NW 82<sup>nd</sup> Avenue Between NW 41<sup>st</sup> Street and Geneva Court

**Cost:**

*Planning:* \$140,000  
*Design:* \$680,000  
*Construction:* \$6,800,000



**Project Name:** Turbolane at the intersection of NW 41<sup>st</sup> Street/NW 109<sup>th</sup> Avenue

**Purpose:** Install Turbolane at the intersection of NW 41<sup>st</sup> Street/NW 109<sup>th</sup> Avenue

**Need:** Flow-through traffic on NW 41<sup>st</sup> Street will be enhanced at this intersection.

**Description:** This project will install a turbolane on the intersection to facilitate flow-through traffic. Currently, left turns onto NW 109<sup>th</sup> Avenue is in a dedicated lane, but left turns out of NW 109<sup>th</sup> Avenue does not have this option. This left turn should be addressed as part of the change. Signalization of the intersection, as well as synchronization with the lights at NW 107<sup>th</sup> Avenue and NW 112<sup>th</sup> Avenue and NW 114<sup>th</sup> Avenue, needs to be studied and implemented as part of the changes.

**Cost:** *Planning:* \$6,000  
*Design:* \$30,000  
*Construction:* \$300,000

**Project Name:** Construct new roadways for future growth and development particularly in the north, Sections 08 & 17

**Purpose:** Future development in the north of the City will necessitate new roadways to complete the grid.

**Need:** To accommodate future growth and development within the City.

**Description:** Construction of new main roadways for access and circulation within the new developments. New roadways will include the following:



# City of Doral TRANSPORTATION MASTER PLAN



|    | Roadway         | From                        | To              | Improvement         | Notes    | Threshold addressed |
|----|-----------------|-----------------------------|-----------------|---------------------|----------|---------------------|
| 1  | NW 102nd Avenue | NW 58th Street              | NW 90th Street  | New 4 lane facility | Class I  | Complete Grid       |
| 2  | NW 66th Street  | NW 97th Avenue              | NW 107th Avenue | New 2 lane facility | Class II | Complete Grid       |
| 3  | NW 62nd Street  | NW 99th Avenue              | NW 107th Avenue | New 2 lane facility | Class II | Complete Grid       |
| 4  | NW 104th Avenue | NW 58th Street              | NW 62nd Street  | New 2 lane facility | Class II | Complete Grid       |
| 5  | NW 104th Avenue | NW 66th Street              | NW 82nd Street  | New 2 lane facility | Class II | Complete Grid       |
| 6  | NW 99th Avenue  | NW 58th Street              | NW 66th Street  | New 2 lane facility | Class II | Complete Grid       |
| 7  | NW 78th Terrace | NW 97th Avenue              | NW 107th Avenue | New 2 lane facility | Class II | Complete Grid       |
| 8  | NW 82nd Street  | NW 104th Avenue             | NW 107th Avenue | New 2 lane facility | Class II | Complete Grid       |
| 9  | NW 88th Street  | NW 102nd Avenue             | NW 107th Avenue | New 2 lane facility | Class II | Complete Grid       |
| 10 | NW 80th Avenue  | NW 48th Street/Geneva Court | NW 41st Street  | New 2 lane facility | Class II | Complete Grid       |

**Cost: Section 8 Roadways**

Planning: \$150,000

Design: \$740,000

Construction: \$7,400,000

**Section 17 Roadways**

Planning: \$220,000

Design: \$1,100,000

Construction: \$ 11,000,000

**Project Name:** Roadway widening and operational improvements

**Purpose:** Remedy future roadway level of service deficiencies with road widening and operational improvements.

**Need:** An analysis of various roadways and future growth within the City indicated unacceptable levels of service along specific segments.

**Description:** Operational and road widening improvements to various roadway segments as determined by this study.



# City of Doral TRANSPORTATION MASTER PLAN



|    | Roadway                       | From            | To              | Improvement                                 | Notes  | Threshold address |
|----|-------------------------------|-----------------|-----------------|---|--|-------------------|
| 1  | NW 25th Street                | NW 79th Avenue  | NW 97th Avenue  | Widen from 4 to 6 lanes                     | Class I  | 2025              |
| 2  | NW 36th Street                | NW 79th Avenue  | NW 97th Avenue  | Widen from 6 to 8 lanes                     | Class I, also addresses deficiency in 2040   | 2025              |
| 3  | NW 107th Avenue               | NW 25th Street  | NW 33rd Street  | Widen from 4 to 6 lanes                     | Class I  | 2025              |
| 4  | NW 114th Avenue               | NW 34th Street  | NW 50th Street  | Widen from 2 to 4 lanes                     | Class II, can change speed limit but reclassifying does not address LOS F in this case | 2025              |
| 5  | NW 12th Street                | NW 87th Avenue  | NW 79th Avenue  | Widen from 4 to 6 lanes                     | Class I  | 2025              |
| 6  | NW 12th Street                | NW 97th Avenue  | NW 107th Avenue | Widen from 4 to 6 lanes                     | Class I, also addresses deficiency in 2040   | 2025              |
| 7  | NW 33rd Street                | NW 107th Avenue | NW 112th Avenue | Raise speed limit to 40, reclass to Class I | Class II, alternatively, can retain class II but expand by 2 lanes                     | 2025              |
| 8  | NW 34th Street                | NW 112th Avenue | NW 117th Avenue | Raise speed limit to 40, reclass to Class I | Class II, alternatively, can retain class II but expand by 2 lanes                     | 2025              |
| 9  | NW 36th Street/NW 41st Street | NW 87th Avenue  | NW 87th Avenue  | Expand from 6 to 8 lanes                    | Class I  | 2025              |
| 10 | NW 97th Avenue                | NW 12th Street  | NW 25th Street  | Expand from 4 to 6 lanes                    | Class I  | 2025              |
| 11 | NW 117th Avenue               | NW 34th Street  | NW 25th Street  | Raise speed limit to 40, reclass to Class I | Class II, alternatively, can retain class II but expand by 2 lanes                     | 2025              |
| 12 | NW 12th Street                | NW 87th Avenue  | NW 107th Avenue | Widen from 4 to 6 lanes                     | Class I  | 2040              |
| 13 | NW 25th Street                | NW 97th Avenue  | NW 107th Avenue | Widen from 4 to 6 lanes                     | Class I  | 2040              |
| 14 | NW 33rd Street                | NW 97th Avenue  | NW 107th Avenue | Raise speed limit to 40, reclass to Class I | Class II, alternatively, can retain class II but expand by 2 lanes                     | 2040              |
| 15 | NW 36th Street                | NW 97th Avenue  | NW 107th Avenue | Widen from 6 to 8 lanes                     | Class I  | 2040              |
| 16 | NW 58th Street                | NW 87th Avenue  | NW 97th Avenue  | Widen from 4 to 6 lanes                     | Class I  | 2040              |
| 17 | NW 33rd Street                | NW 79th Avenue  | NW 87th Avenue  | Raise speed limit to 40, reclass to Class I | Class II, alternatively, can retain class II but expand by 2 lanes                     | 2040              |

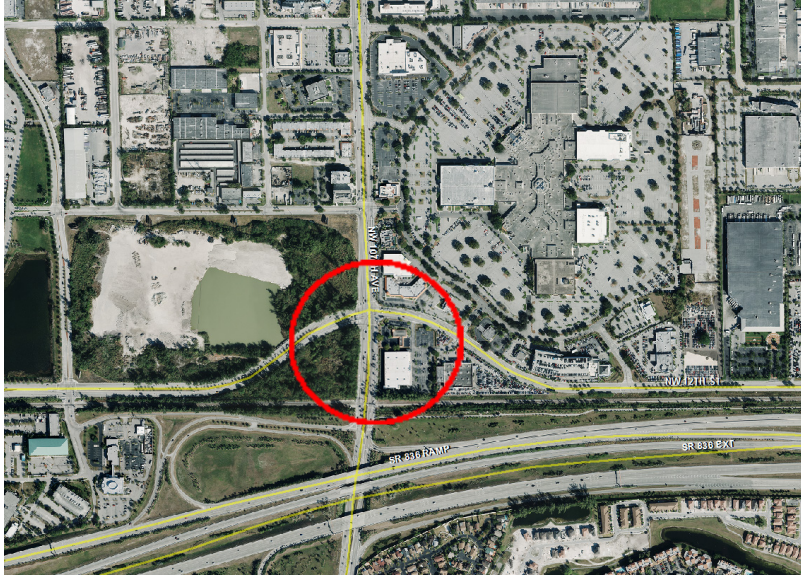
**Cost:** *Planning:* TBD  
*Design:* TBD  
*Construction:* TBD

**Project Name:** Intersection/Traffic Improvement at NW 12<sup>th</sup> Street & NW 107<sup>th</sup> Avenue

**Purpose:** Improve the intersection for traffic flow.

**Need:** Intersection has an AM LOS of E and PM LOS of F at the eastbound and westbound lanes.

**Description:** Add westbound right turn lane and signal optimization.



**Cost:**

*Planning: \$8,000*

*Design: \$38,000*

*Construction: \$380,000*

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**Project Name:** Intersection/Traffic Improvement at NW 12<sup>th</sup> Street & NW 87<sup>th</sup> Avenue

**Purpose:** Improve the intersection for traffic flow.

**Need:** Intersection has an AM LOS of F at the eastbound lane and a PM LOS of F at the eastbound lane and East the westbound lane.

**Description:** Add northbound left turn lane, add southbound right turn lane and signal optimization.





# City of Doral TRANSPORTATION MASTER PLAN



**Cost:**

*Planning: \$14,000*

*Design: \$68,000*

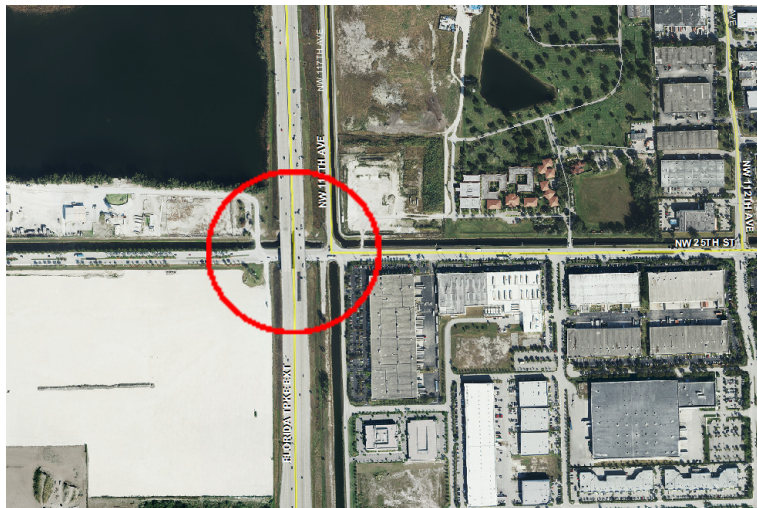
*Construction: \$680,000*

**Project Name:** Intersection/Traffic Improvement at NW 25<sup>th</sup> Street & NW 117<sup>th</sup> Avenue

**Purpose:** Improve the intersection for traffic flow.

**Need:** Intersection has an AM LOS of E at the northbound lane and F at the southbound lane, and a PM LOS of F in both the northbound and southbound lanes.

**Description:** Split phase removal/realignment and signal optimization.



**Cost:**

*Planning: \$4,000*

*Design: \$20,000*



# City of Doral TRANSPORTATION MASTER PLAN



Construction: \$200,000

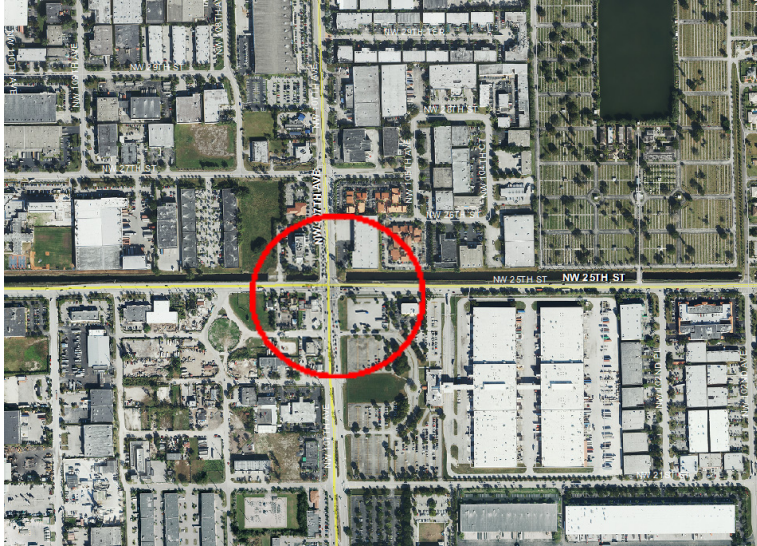
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**Project Name:** Intersection/Traffic Improvement at NW 25<sup>th</sup> Street & NW 107<sup>th</sup> Avenue

**Purpose:** Improve the intersection for traffic flow.

**Need:** Intersection has an AM LOS of E at the northbound and eastbound lanes, and a PM LOS of E at the northbound, southbound, eastbound and westbound lanes.

**Description:** Add southbound right turn lane and signal optimization.



**Cost:**

*Planning:* \$8,000

*Design:* \$38,000

*Construction:* \$380,000

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**Project Name:** Intersection/Traffic Improvement at NW 25<sup>th</sup> Street & NW 97<sup>th</sup> Avenue

**Purpose:** Improve the intersection for traffic flow.

**Need:** Intersection has a PM LOS of E at both the southbound and eastbound lanes.

**Description:** Add northbound, southbound, eastbound and westbound right turn lanes.



# City of Doral TRANSPORTATION MASTER PLAN



**Cost:**

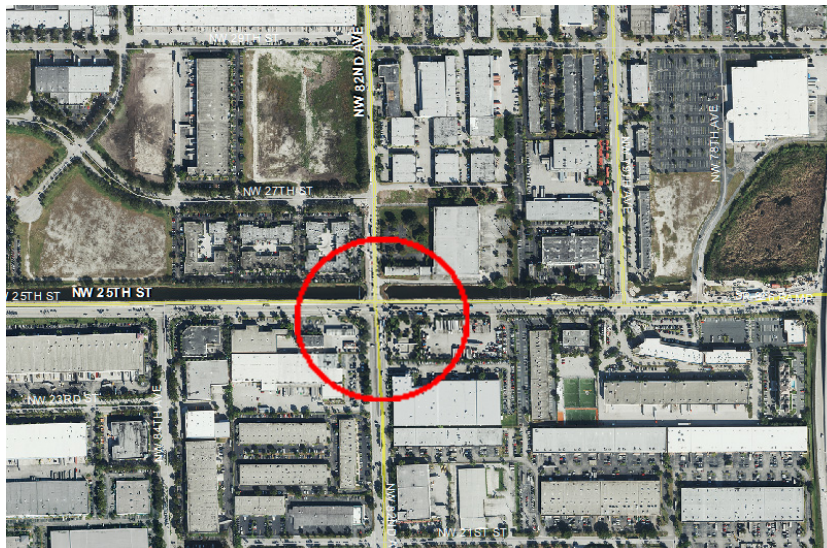
*Planning: \$30,000  
Design: \$152,000  
Construction: \$1,520,000*

**Project Name:** Intersection/Traffic Improvement at NW 25<sup>th</sup> Street & NW 82<sup>nd</sup> Avenue

**Purpose:** Improve the intersection for traffic flow and safety.

**Need:** Intersection has AM LOS of E at the northbound and westbound lanes and F at the southbound lane, and a PM LOS of E at the northbound and southbound lanes. This intersection is also experiencing high crash rates.

**Description:** Add southbound, eastbound and westbound turn lanes; signal optimization.



**Cost:**



# City of Doral TRANSPORTATION MASTER PLAN



Planning: \$23,000  
Design: \$114,000  
Construction: \$1,140,000

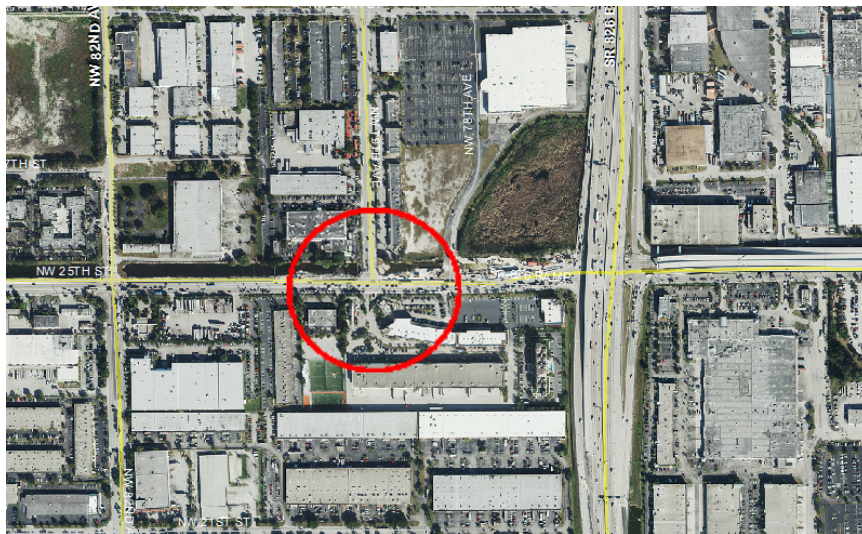
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**Project Name:** Intersection/Traffic Improvement at NW 25<sup>th</sup> Street & NW 79<sup>th</sup> Avenue

**Purpose:** Improve the intersection for traffic flow.

**Need:** Intersection has an AM LOS of E at the northbound and southbound lanes, and a PL LOS of F at the southbound lane.

**Description:** Remove split phase by changing the southbound approach to two lefts, one thru and one right turn lane. Add eastbound turn lane, and signal optimization.



**Cost:**  
Planning: \$24,000  
Design: \$118,000  
Construction: \$1,180,000

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**Project Name:** Intersection/Traffic Improvement at NW 33<sup>rd</sup> Street & NW 107<sup>th</sup> Avenue

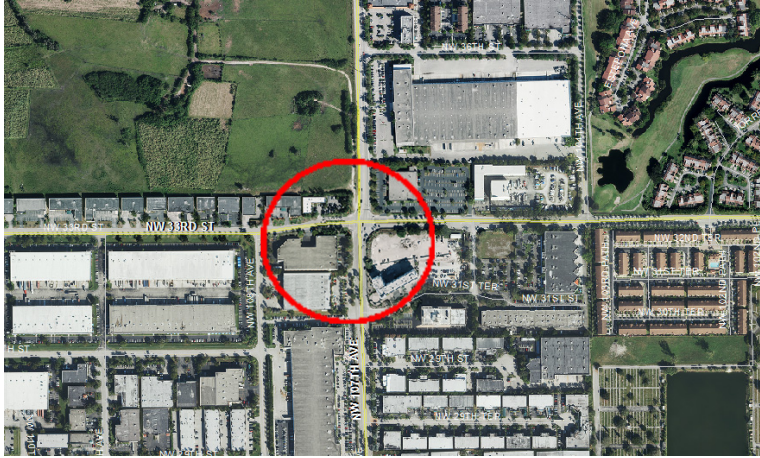
**Purpose:** Improve the intersection for traffic flow.

**Need:** Intersection has an AM LOS of E at the northbound lane and F at the southbound and eastbound lanes, and a PM LOS of F at the eastbound lane and E at the westbound lane,

**Description:** Remove split phase eastbound/westbound; signal optimization.



# City of Doral TRANSPORTATION MASTER PLAN



**Cost:**

*Planning: \$2,000*

*Design: \$10,000*

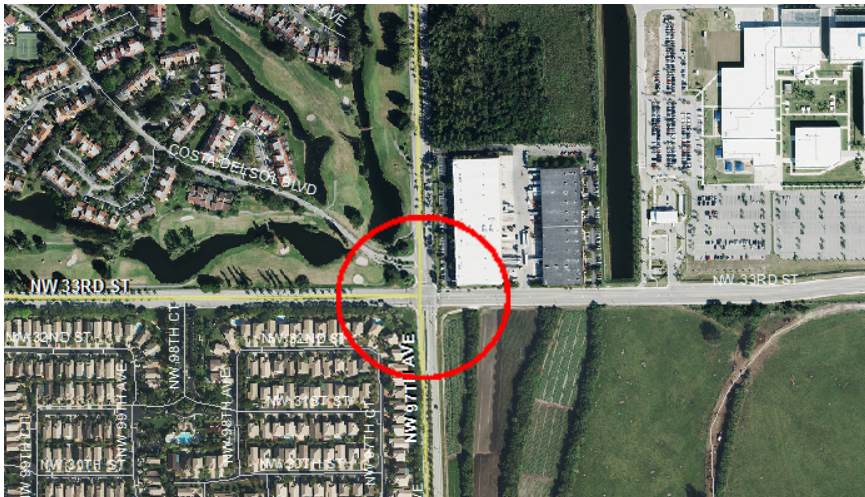
*Construction: \$100,000*

**Project Name:** Intersection/Traffic Improvement at NW 33<sup>rd</sup> Street & NW 97<sup>th</sup> Avenue

**Purpose:** Improve the intersection for traffic flow.

**Need:** Intersection has an AM LOS of E at the southbound and westbound lanes and F at the eastbound lanes, and a PM LOS of F at the westbound lane.

**Description:** Add northbound right turn lane; signal optimization.



**Cost:**

*Planning: \$8,000*

*Design: \$38,000*

*Construction: \$380,000*



# City of Doral TRANSPORTATION MASTER PLAN

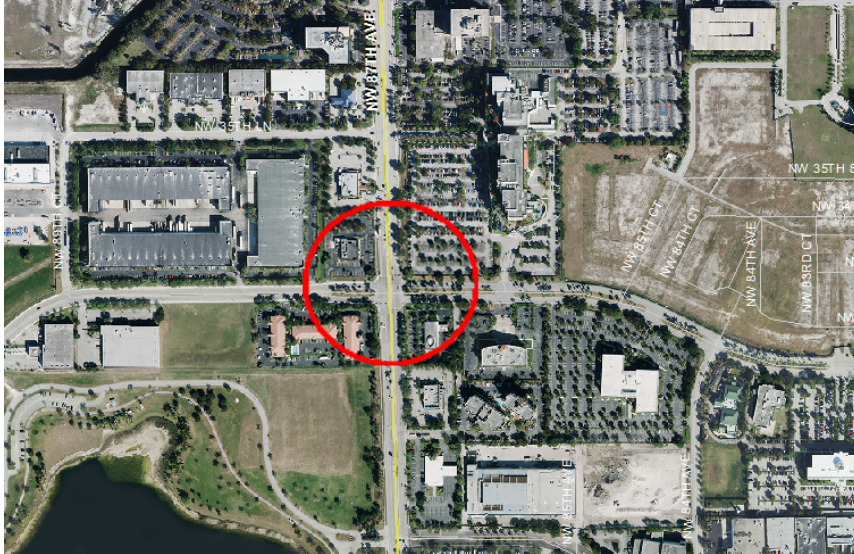


**Project Name:** Intersection/Traffic Improvement at NW 33<sup>rd</sup> Street & NW 87<sup>th</sup> Avenue

**Purpose:** Improve the intersection for traffic flow.

**Need:** Intersection has an AM LOS of F at the eastbound lane and E at the westbound lane and a PM LOS of E at the eastbound lane and F at the westbound lane.

**Description:** Add eastbound and westbound right turn lanes; signal optimization.



**Cost:**

*Planning: \$15,000*

*Design: \$76,000*

*Construction: \$760,000*

**Project Name:** Intersection/Traffic Improvement at NW 41<sup>st</sup> Street & NW 115<sup>th</sup> Avenue

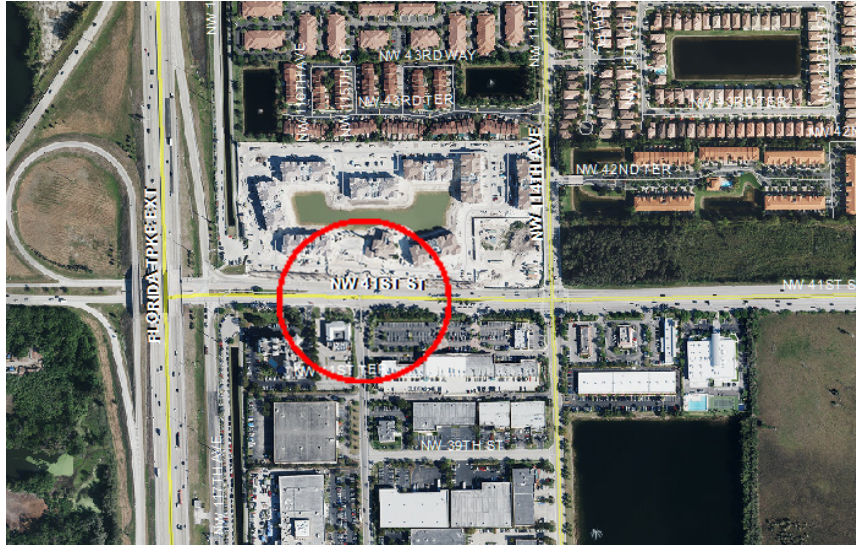
**Purpose:** Improve the intersection for traffic flow.

**Need:** Intersection has an AM LOS of E at the southbound lane and a PM LOS of E at the northbound lane.

**Description:** Add dual left northbound turn lanes, signal optimization.



# City of Doral TRANSPORTATION MASTER PLAN



**Cost:**

*Planning: \$6,000*

*Design: \$30,000*

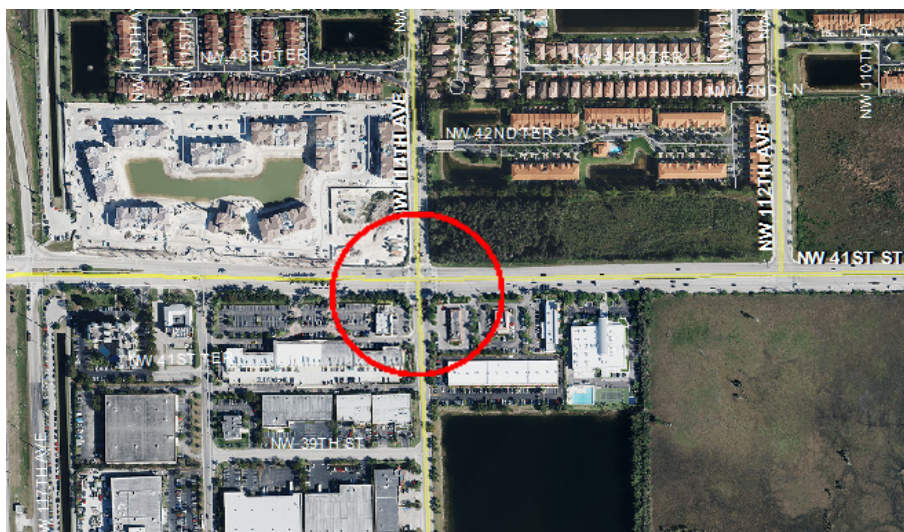
*Construction: \$300,000*

**Project Name:** Intersection/Traffic Improvement at NW 41<sup>st</sup> Street & NW 114<sup>th</sup> Avenue

**Purpose:** Improve the intersection for traffic flow.

**Need:** Intersection has an AM LOS of E at the northbound and eastbound lanes and F at the southbound lane, and a PM LOS of F at the northbound and southbound lanes.

**Description:** Add eastbound and westbound right turn lanes; signal optimization.





**Cost:**

*Planning: \$15,000  
Design: \$76,000  
Construction: \$760,000*

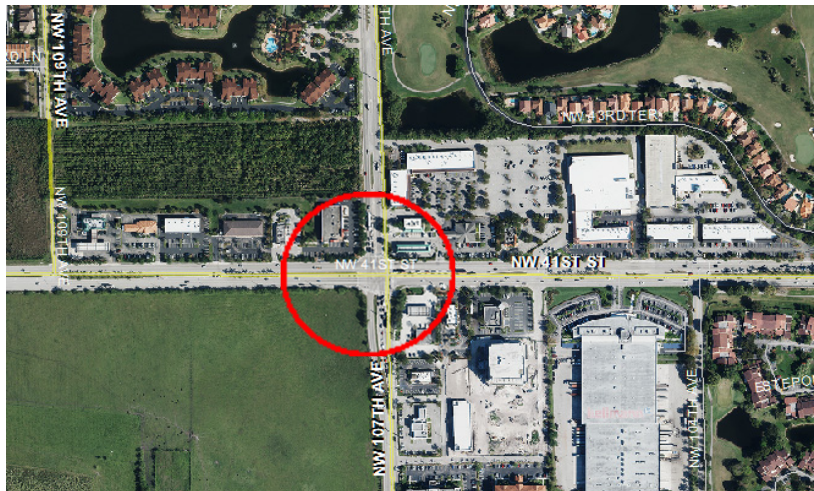
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**Project Name:** Intersection/Traffic Improvement at NW 41<sup>st</sup> Street & NW 107<sup>th</sup> Avenue

**Purpose:** Improve the intersection for traffic flow.

**Need:** Intersection has an AM LOS of F at the northbound, southbound and westbound lanes, and a E at the eastbound lane. Intersection’s PM LOS is of E at the northbound and eastbound lanes and F at the southbound and westbound lanes.

**Description:** Remove split phase; signal optimization.



**Cost:**

*Planning: \$2,000  
Design: \$10,000  
Construction: \$100,000*

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**Project Name:** Intersection/Traffic Improvement at NW 41<sup>st</sup> Street & NW 102<sup>nd</sup> Avenue

**Purpose:** Improve the intersection for traffic flow.

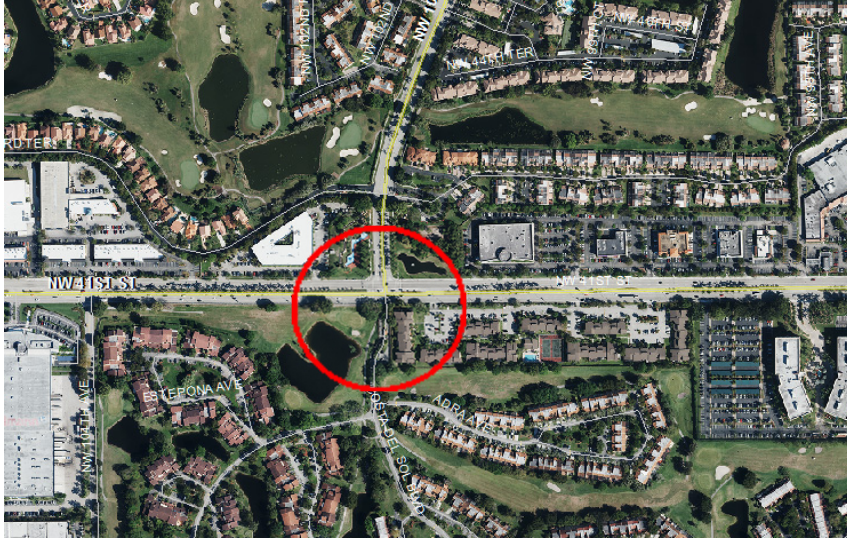
**Need:** Intersection has an AM LOS of F at the northbound lane and E at the southbound lane and a PM LOS of E at the northbound and southbound lanes.

**Description:** Remove split phase; signal optimization.





# City of Doral TRANSPORTATION MASTER PLAN



**Cost:**

*Planning: \$2,000*

*Design: \$10,000*

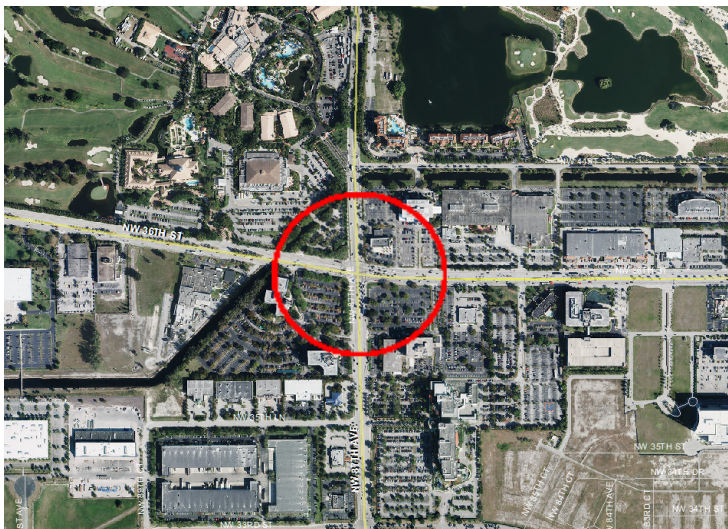
*Construction: \$100,000*

**Project Name:** Intersection/Traffic Improvement at NW 36<sup>th</sup> Street & NW 87<sup>th</sup> Avenue

**Purpose:** Improve the intersection for traffic flow.

**Need:** Intersection has an AM LOS of E at the southbound and westbound lanes and F at the eastbound lanes, and a PM LOS of E at the northbound, eastbound and westbound lanes and F at the southbound intersection.

**Description:** Add southbound and westbound turn lanes; signal optimization.





**Cost:**

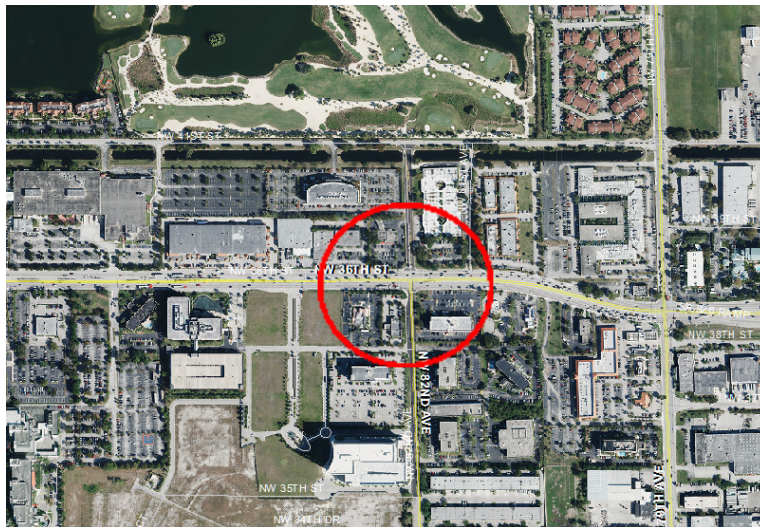
*Planning: \$15,000  
Design: \$76,000  
Construction: \$760,000*

**Project Name:** Intersection/Traffic Improvement at NW 36<sup>th</sup> Street & NW 82<sup>nd</sup> Avenue

**Purpose:** Improve the intersection for traffic flow.

**Need:** Intersection has a PM and AM LOS of F at the northbound and southbound lanes.

**Description:** Add southbound, northbound, eastbound and westbound right turn lanes; signal optimization.



**Cost:**

*Planning: \$30,000  
Design: \$152,000  
Construction: \$1,520,000*

**Project Name:** Intersection/Traffic Improvement at NW 36<sup>th</sup> Street & NW 79<sup>th</sup> Avenue

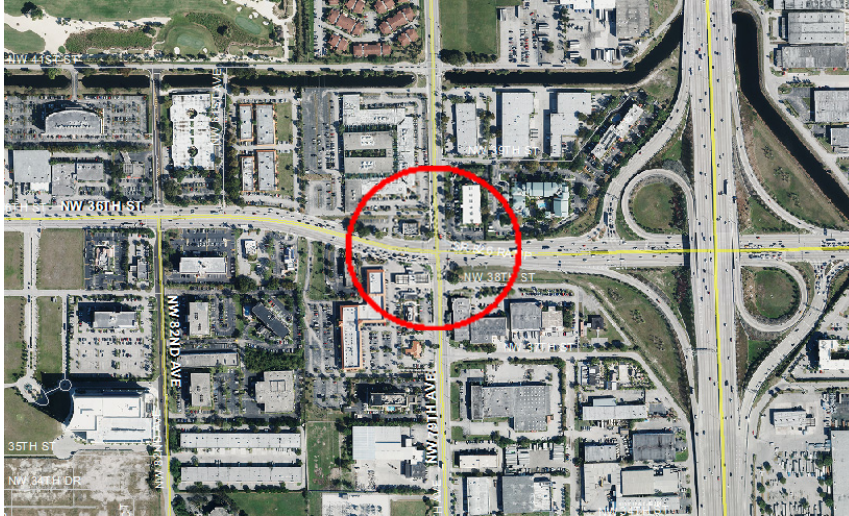
**Purpose:** Improve the intersection for traffic flow.

**Need:** Intersection has a PM and AM LOS of F at the northbound and southbound lanes and AM LOS of E at the westbound lane, and a PM LOS of E at both eastbound and westbound lanes.

**Description:** Split phase removal, add eastbound thru lane, add southbound and westbound right turn lanes; signal optimization.



# City of Doral TRANSPORTATION MASTER PLAN



**Cost:**

*Planning: \$17,000*

*Design: \$86,000*

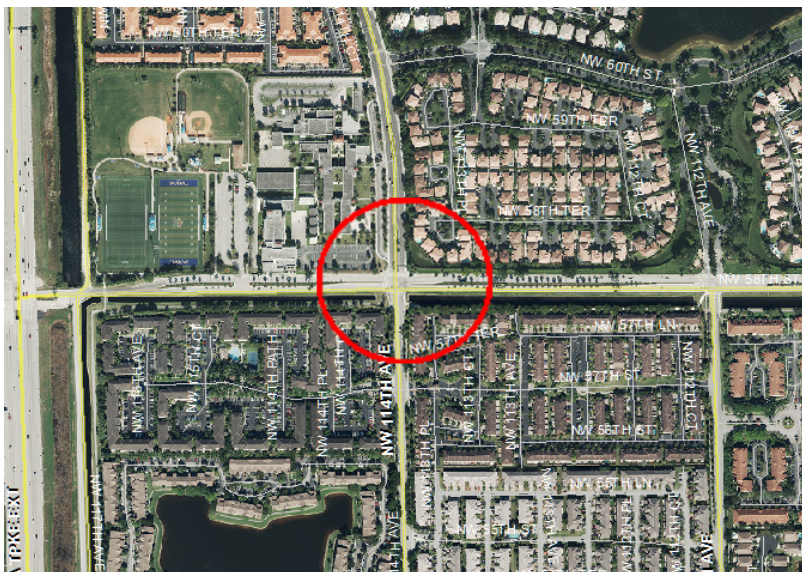
*Construction: \$860,000*

**Project Name:** Intersection/Traffic Improvement at NW 58<sup>th</sup> Street & NW 114<sup>th</sup> Avenue

**Purpose:** Improve the intersection for traffic flow.

**Need:** Intersection has an AM LOS of E at the eastbound lane and F at the westbound lane.

**Description:** Add eastbound and westbound right turn lanes.





**Cost:**

*Planning: \$15,000*  
*Design: \$76,000*  
*Construction: \$760,000*

---

**Project Name:** Intersection/Traffic Improvement at NW 58<sup>th</sup> Street & NW 107<sup>th</sup> Avenue

**Project Purpose:** Improve the intersection for traffic flow.

**Need:** Intersection has an AM LOS of F at the northbound lane and E at the eastbound and westbound lanes. Intersection’s PM LOS is F at the northbound lane and E at the southbound and westbound lanes.

**Description:** Add southbound, northbound, eastbound and westbound right turn lanes; signal optimization.



**Cost:**

*Planning: \$30,000*  
*Design: \$152,000*  
*Construction: \$1,520,000*

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**Project Name:** Intersection/Traffic Improvement at NW 58<sup>th</sup> Street & NW 97<sup>th</sup> Avenue

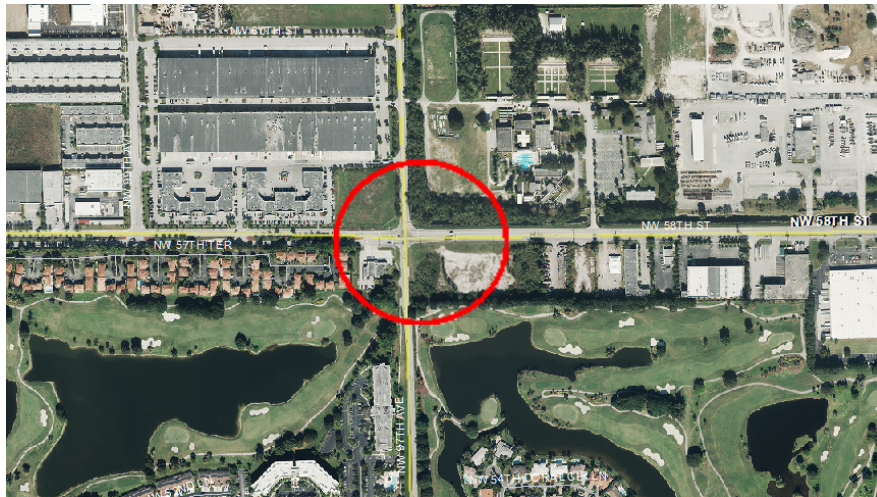
**Purpose:** Improve the intersection for traffic flow.

**Need:** Intersection has an AM LOS of F at both northbound and southbound lanes, and a PM LOS of F at the southbound lane and E at the westbound lane.

**Description:** Remove split phase, add northbound, southbound, westbound and eastbound right turn lanes; signal optimization.



# City of Doral TRANSPORTATION MASTER PLAN



**Cost:**

*Planning: \$30,000*

*Design: \$152,000*

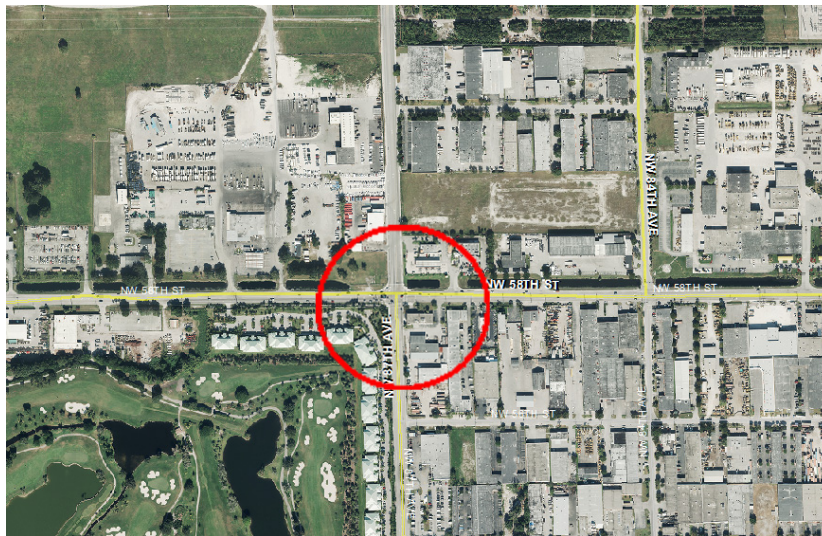
*Construction: \$1,520,000*

**Project Name:** Intersection/Traffic Improvement at NW 58<sup>th</sup> Street & NW 87<sup>th</sup> Avenue

**Purpose:** Improve the intersection for traffic flow.

**Need:** Intersection has a PM and AM LOS of F at both the northbound and southbound lanes.

**Description:** Add northbound, westbound and eastbound right turn lanes; signal optimization.



**Cost:**

*Planning: \$23,000*

*Design: \$114,000*



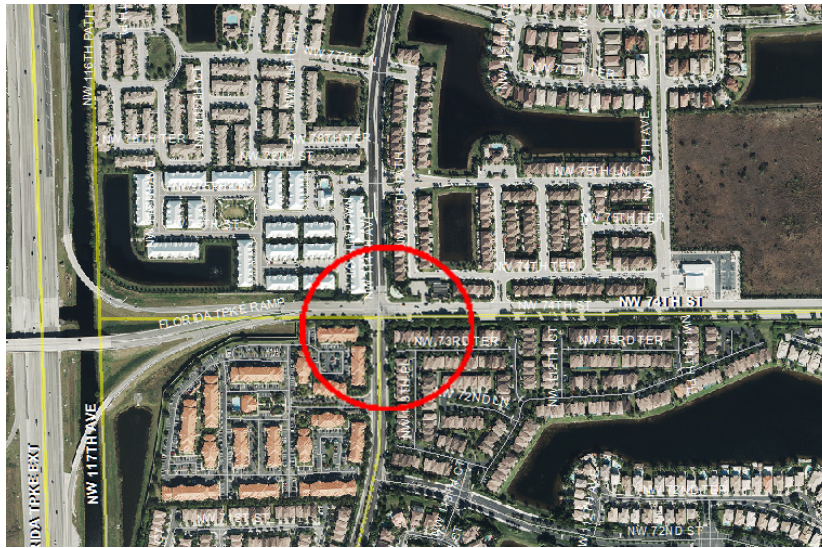
Construction: \$1,140,000

**Project Name:** Intersection/Traffic Improvement at NW 74<sup>th</sup> Street & NW 114<sup>th</sup> Avenue

**Purpose:** Improve the intersection for traffic flow.

**Project Need:** Intersection has a PM and AM LOS of F at both the northbound and southbound lanes, and a PM LOS of E at the westbound lane.

**Description:** Add northbound right turn lane, add southbound right turn lane, add eastbound right turn lane and add westbound right turn lane.



**Cost:**

*Planning: \$30,000*

*Design: \$152,000*

*Construction: \$1,520,000*

**Project Name:** Intersection/Traffic Improvement at NW 74<sup>th</sup> Street & NW 107<sup>th</sup> Avenue

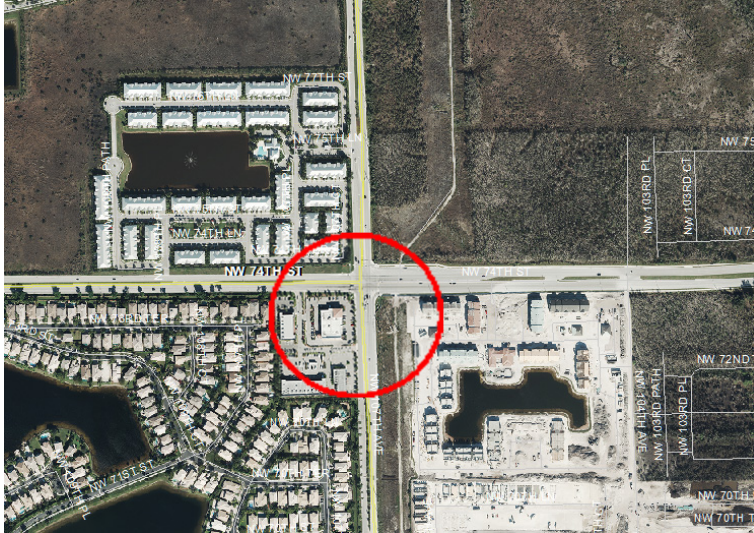
**Purpose:** Improve the intersection for traffic flow.

**Need:** Intersection has an AM LOS of F at both southbound and eastbound lanes, and a PM LOS of F at the westbound lane.

**Description:** Add southbound, eastbound and westbound right turn lanes; signal optimization.



# City of Doral TRANSPORTATION MASTER PLAN



**Cost:**

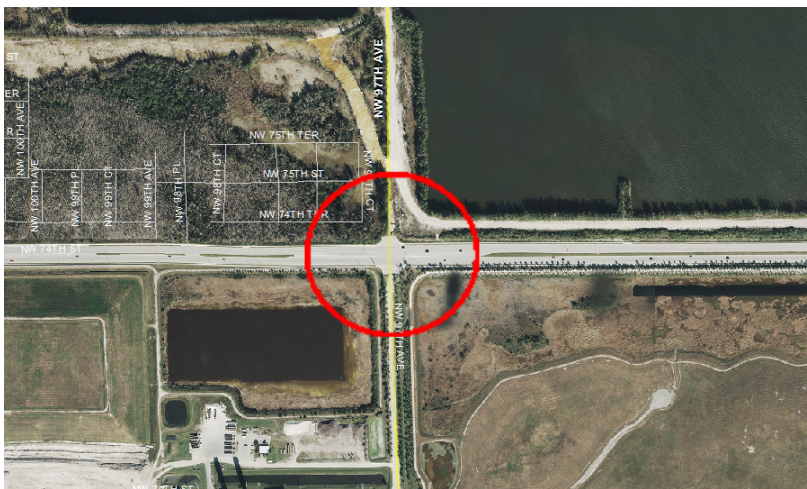
*Planning: \$15,000  
Design: \$76,000  
Construction: \$760,000*

**Project Name:** Intersection/Traffic Improvement at NW 74<sup>th</sup> Street & NW 97<sup>th</sup> Avenue

**Purpose:** Improve the intersection for traffic flow.

**Need:** Intersection has an AM LOS of F at both northbound and westbound lanes, and a PM LOS of F at the northbound.

**Description:** Signalize intersection.



**Cost:**

*Planning: \$4,000*



# City of Doral TRANSPORTATION MASTER PLAN



*Design: \$20,000*  
*Construction: \$200,000*

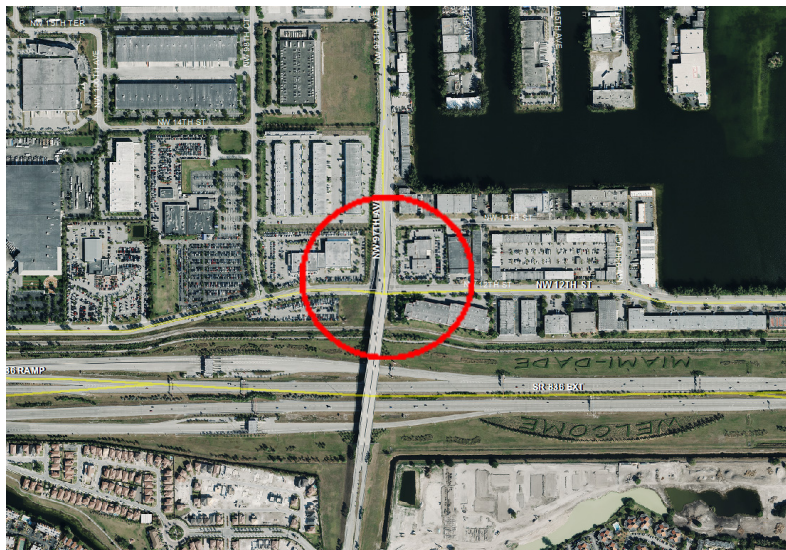
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**Project Name:** Intersection/Traffic Improvement at NW 12<sup>th</sup> Street & NW 97<sup>th</sup> Avenue (Off/On Ramps)

**Purpose:** Improve the intersection for traffic flow.

**Need:** LOS D observed

**Description:** Add westbound and northbound right turn lanes and provide access to southbound 97<sup>th</sup> Avenue from 12<sup>th</sup> Street.



**Cost:**

*Planning: \$15,000*  
*Design: \$76,000*  
*Construction: \$760,000*

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**Project Name:** One-Way Pair Conversion to NW 112<sup>th</sup> Avenue and NW 114<sup>th</sup> Avenue

**Purpose:** To relieve congestion and traffic in this area of the City.

**Need:** These roadways are currently experiencing failing LOS at peak periods. There are several vacant lots on Doral Boulevard that are expected to develop in the near future and increase the congestion in the area.

**Description:** Implementation will involve restriping and signing each roadway to create one-way roads which are currently two-way. NW 112<sup>th</sup> Avenue and NW 114<sup>th</sup> Avenue between Doral Boulevard and NW 58<sup>th</sup> Street will be one-way streets in opposite directions. The project will increase capacity for both





vehicles and bikes by including a protected bike lane on each roadway. Intersection improvements will include changing turn movements and signalization optimization.

**Cost:**

*Planning:* \$ 30,000

*Design:* TBD based on alternatives analysis

*Implementation:* TBD based on alternatives analysis

**Project Name: Install “Do not Block the Box” at Intersections**

**Purpose:** Install “Do Not Block the Box” signage and intersection markings at the following intersections.

- NW 87<sup>th</sup> Avenue/NW 13<sup>th</sup> Terrace
- NW 87<sup>th</sup> Avenue/NW 14<sup>th</sup> Terrace
- NW 87<sup>th</sup> Avenue/NW 17<sup>th</sup> Street
- NW 87<sup>th</sup> Avenue/NW 27<sup>th</sup> Street
- NW 87<sup>th</sup> Avenue/NW 58<sup>th</sup> Street
- NW 84<sup>th</sup> Avenue/NW 12<sup>th</sup> Street
- NW 84<sup>th</sup> Avenue/NW 36<sup>th</sup> Street
- NW 82<sup>nd</sup> Avenue/NW 12<sup>th</sup> Street
- NW 82<sup>nd</sup> Avenue/NW 36<sup>th</sup> Street
- NW 107<sup>th</sup> Avenue/NW 14<sup>th</sup> Street
- NW 107<sup>th</sup> Avenue/NW 17<sup>th</sup> Street
- NW 107<sup>th</sup> Avenue/NW 27<sup>th</sup> Street
- NW 79<sup>th</sup> Avenue/NW 41<sup>st</sup> Street

**Need:** City police, staff, and field reviews during the development of the transportation master plan have all indicated that vehicular blocking of various intersections within the City have hindered traffic and exacerbated congestion issues. In addition, blocking the box at intersection crosswalks hinders safe crossings by pedestrians and bicyclists.

**Description:** Designation of program at specific intersections, with the addition of signage and roadway marking to denote effort to avoid vehicles blocking the box. This must also be conducted in conjunction with an education program for the public.





**Cost:**

*Planning: \$1,000*

*Design: \$4,000*

*Construction: \$40,000*

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**Project Name:** Doral Boulevard Corridor Safety Study (Between NW 97<sup>th</sup> Avenue and NW 87<sup>th</sup> Avenue)

**Purpose:** The purpose of this project is to evaluate safety on the NW 36<sup>th</sup>/NW 41<sup>st</sup> Streets corridor between NW 87<sup>th</sup> Avenue and NW 97<sup>th</sup> Avenue for both vehicles and pedestrians crossing the road.

**Need:** For the period March 2013 to March, 2014, the Doral Police Department has 171 traffic crash case numbers reported on the NW 36<sup>th</sup>/ NW 41<sup>st</sup> Street corridor between NW 87<sup>th</sup> Avenue and NW 97<sup>th</sup> Avenue. This equates to a crash approximately once every 2 days. Potentially, pedestrians are crossing the roadway in order to reach a bus stop.

**Description:** A preliminary safety study should be conducted on this corridor to determine the cause of crashes and possible remediating actions which can be undertaken. Additionally, this study should examine the safety and feasibility of mid-block pedestrian crossings, especially by the bus stops. In particular, the bus stop across from Univision should be evaluated, along with those at the NW 97<sup>th</sup> Avenue/NW 41<sup>st</sup> Street and NW 87<sup>th</sup> Avenue/NW 36<sup>th</sup> Street intersections.

**Cost:**

*Planning: \$25,000*

*Design: NA*

*Construction: NA*

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# City of Doral TRANSPORTATION MASTER PLAN



## Project Name: Intersection Safety Studies

**Purpose:** The purpose of this project is to provide for safety analyses at five intersections to adjust at important locations.

**Need:** Crash Data at these intersections show a high number of crashes, based on the spot rate, which are crashes per AADT per million vehicles.

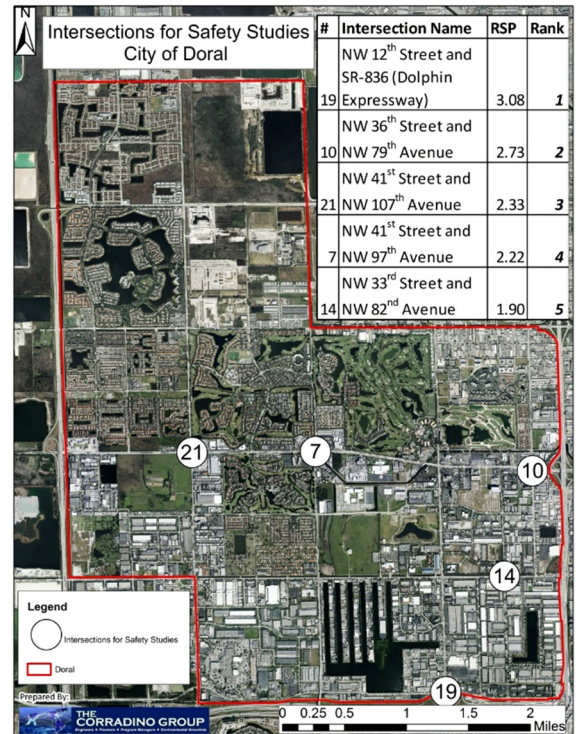
**Description:** Safety Studies are necessary at each of these intersections to determine changes that may be needed. Should the intersection merit further review, additional study and implementation of corrective measures should be undertaken.

### Intersections:

1. NW 12<sup>th</sup> Street and SR-836 (Dolphin Expressway)
2. NW 36<sup>th</sup> Street and NW 79<sup>th</sup> Avenue
3. NW 41<sup>st</sup> Street and NW 107<sup>th</sup> Avenue
4. NW 41<sup>st</sup> Street and NW 97<sup>th</sup> Avenue
5. NW 33<sup>rd</sup> Street and NW 82<sup>nd</sup> Avenue

### Cost:

- Planning:* \$125,000
- Design:* TDB
- Construction:* TDB



## 7.1.3 Transit Projects

### Project Name: Bus Stop Amenities Improvements

**Purpose:** The purpose of this project is to make transit more attractive to potential riders by providing more amenities.

**Need:** The future of transit will be the traveler who has a choice. Bus-stop amenities are a critical component. Shelter, shade from the sun, protection from the rain, safety, seating, , and real-time travel information are all critical components of the system.

**Description:** Determine the location, cost and feasibility of implementing amenities at transit stops in Doral. At least 38 shelters and 25 benches are needed. In addition, bicycle racks should be installed at major hubs, including bicycle rental stations. Prioritizing improvements should be based on existing and future ridership.

The City can also explore installing real-time information signs at all bus stops including updatable electronic signs linked to the current real-time system utilized by the City’s website and app. Initial locations for implementation of real-time bus information display systems should be at transfer hub



# City of Doral TRANSPORTATION MASTER PLAN



locations, such as NW 87<sup>th</sup> Avenue and NW 36<sup>th</sup> Street, NW 58<sup>th</sup> Street and NW 107<sup>th</sup> Avenue, Miami International Mall, and NW 97<sup>th</sup> Avenue and NW 41<sup>st</sup> Street.

**Cost:**

*Planning: \$7,000*

*Design: TBD*

*Construction: TBD*

**Project Name:** Extend the Metrorail to/from Palmetto Station and Downtown Doral

**Purpose:** The purpose of this project is to increase mobility by connecting the center of Doral directly to the Metrorail.

**Need:** Extending the Metrorail would increase mobility and provide alternatives for those entering and exiting the City on a daily basis. By implementing this project, Doral’s citizens will have easier access to the locations that Metrorail serves.

**Description:** Evaluate routing options for ridership, cost, operations and maintenance, capital, and timing, and select preferred option. Work with Miami-Dade Transit to have approved. Develop a timeline for implementation. A potential route may be along NW 79<sup>th</sup> Avenue; this would allow for a regional route to South Dade/Kendall areas.

**Cost:**

*Planning: \$250,000*

*Design: 280,000,000*

*Construction: 2.8 billion*

**Project Name:** Signal Priority for Buses/Trolleys

**Purpose:** Implement a system by which buses and trolleys receive priority signals in order to improve on-time performance and transit reliability.

**Need:** On-time transit reliability and in-transit time are both factors for riders. Signal prioritization may allow for better transit-time performance for transit in Doral by reducing dwell time at intersections.

**Description:** Conduct a study to evaluate on-time performance, ridership, and rider in-transit time. Improvement options include installing technology at traffic signals and transponders on the buses/trolleys. Impact to traffic flow should be examined as part of the evaluation. Coordination with MDCPW and MDT is important. Potential intersections include:

- NW 41<sup>st</sup> Street and NW 97<sup>th</sup> Avenue
- NW 36<sup>th</sup> Street and NW 87<sup>th</sup> Avenue
- NW 25<sup>th</sup> Street and NW 87<sup>th</sup> Avenue
- NW 25<sup>th</sup> Street and NW 97<sup>th</sup> Avenue
- NW 12<sup>th</sup> Street and NW 107<sup>th</sup> Avenue



# City of Doral TRANSPORTATION MASTER PLAN



**Cost:** \$13,500 per intersection, \$75 per transponder per bus  
*Planning:* \$ 30,000  
*Design:* NA  
*Implementation:* TBD

**Project Name:** FIU Trolley Route Expansion

**Purpose:** Implement a system by which buses and trolleys receive priority signals in order to improve on-time performance and transit reliability.

**Need:** The success of the current trolley service could be enhanced by reaching more potential riders needing additional options to reach the university.

**Description:** Three conceptual routes are being studied to determine the preferred alternative to connect the university with the Metrorail stations and other key destinations within the City. The route would service both the engineering campus and the main campus. Implementation would include purchasing 3 additional trolleys.

**Cost:**  
*Planning:* \$ 30,000  
*Design:* NA  
*Implementation:* \$600,000

**Project Name:** Transit Development Plan

**Purpose:** The purpose of this project is to ensure the efficiency and effectiveness of the Doral Trolley by establishing new routes in response to future growth of the City.

**Need:** It is customary for transit systems to re-evaluate their routes on a periodic basis. This helps provide responsiveness to shifts in ridership and rider characteristics, and to determine whether capital investments are necessary. Typically, the increase of frequency would increase ridership, further shifting the mode split towards transit, and reducing automobile trips. In addition to headway frequency, new routes may be needed. The plan would include a potential new route between FIU and downtown Doral.

**Description:** Using available data, and possibly, collecting new data on headways, ridership, boardings and alightings by route and stop, as well as public involvement through ridership surveys or workshops, evaluate the performance of the current routes and stops. Recommendations can then be made for changes, with provided costs for the needed capital, operations and maintenance of the changes. Proposed recommendations should note the transit access areas, based on a ¼ mile walking distance from a trolley stop with headways of at least 30 minutes or less, and should streamline the operations of the trolley in coordination with MDT bus lines.

**Cost:**  
*Planning:* \$150,000  
*Design:* NA  
*Implementation:* TBD



**Project Name:** Doral Trolley Sunday Service

**Purpose:** Extending trolley service to Sundays

**Need:** The public involvement portion of this study showed a desire for more adequate Sunday transit service.

**Description:** Develop Sunday service route options. Evaluate the capital, operations and maintenance costs. Evaluate headways, buses needed, and potential ridership. Select the service to be provided and test it for a period of 3 months. Then decide on the service’s adequacy, and reconfigure route as necessary. Based on current ridership and transit coverage areas, Route 1 is currently serving as the pilot route for Sunday service and could be expanded to cover places of worship. This route currently serves most of the City, including the northwestern quadrant which currently has no MDT bus service.

**Cost:**

*Planning:* \$ 5,000 (or as part of COA).

*Design:* N/A

*Implementation:* TBD

**Project Name:** Express Route to Miami International Airport/Miami Intermodal Center

**Purpose:** The purpose of this project is to increase the mobility of Doral’s citizens to the current Miami-Dade County regional hub.

**Need:** For transit to be attractive, when compared with other modes of transportation, particularly the automobile, it needs to be competitive in travel time, cost, and amenities. Transit has to be convenient with easy transfers for mid-and long-distance trips to be competitive.

**Description:** Coordinate with MDT if this provision is acceptable to it; evaluate the capital, operations, and maintenance costs.

**Cost:**

*Planning:* \$6,000 (or as part of COA)

*Design:* NA

*Implementation:* TBD

**Project Name:** Trolley Lunch Route Pilot Program

**Purpose:** Increase mobility by extending trolley service hours by providing service during lunch hours for the Doral trolley.

**Need:** The public involvement portion of this study showed a desire for more lunch transit service. Increased lunch service will aid in reducing vehicular traffic.



# City of Doral TRANSPORTATION MASTER PLAN



**Description:** Develop a lunch service alternative for the trolley. Identify generators, evaluate the capital, operations and maintenance costs. Evaluation of headways, buses needed, and potential ridership are necessary to selecting a service option. The route should run from 11:30 AM to 1:30 PM. Service Routes should have short headways (7 minutes) in order to adequately service the lunch hour, and could run the following routes:

- NW 41<sup>st</sup>/NW 36<sup>th</sup> Street between NW 87<sup>th</sup> Avenue and NW 114<sup>th</sup> Avenue
- NW 87<sup>th</sup> Avenue between NW 36<sup>th</sup> Street and NW 25<sup>th</sup> Street

Post evaluation, the chosen service option should be tested for a period of 3 months. Then a determination on the service’s adequacy and a reconfiguration of the route, as necessary, should be made.

**Cost:**

*Planning:* (As part of COA)  
*Design:* NA  
*Implementation:* TBD

**Project Name:** Doral Trolley Passport Program

**Purpose:** Incentivizing fare reductions, either in parking costs or through lower boarding fares to provide cost advantages versus private automobile usage.

**Need:** Transit must be competitive with the automobile in travel time and cost to become a viable alternative for the choice riders. Public involvement during this study indicated a partial aversion to transit due to fares for frequent riders.

**Description:** Various means exist to present transit as a more financially viable method of transportation. People typically tend to treat parking prices in a disproportionate manner, as an extra surcharge to the transit fare; providing free parking in riding transit provides an incentive, especially if the driver would have had to pay for parking at their destination.

Additionally, many transit fare programs exist through MDT, but are not necessarily known by people who qualify or by businesses, and additional outreach may aid enrollment in these programs. The City may also elect to create its own incentive program through partnerships with local businesses, either through the creation of promotional rewards programs for riding public transit or through recognition of businesses within Doral which makes conscious, green efforts in reducing vehicular use.



**Cost:**

*Planning:* NA  
*Design:* NA  
*Implementation:* TBD



**Project Name:** Support City-Edge Park-and-Ride Facilities

**Purpose:** The purpose of this project is to increase mobility, decrease traffic congestion within the City, and provide multimodal access to commuters to and from Doral.

**Need:** Doral contains one of Miami-Dade County’s leading business districts attracting people from throughout the region. Roadway congestion can be severe, thereby lowering the quality of life. Utilization of Park and Ride lots may help alleviate traffic congestion in Doral by intercepting vehicle trips at the City’s perimeter and distributing people via transit to their destinations.

**Description:** Explore options for providing park-and-ride lots, intermodal transfer centers at the edges of the city. Synergy can be gained by linking with the Managed Lanes concepts and projects where Bus Rapid Transit and Variable Tolling are combined on expressway lanes. At the termini of these routes there may be a need to either park a car to utilize transit or transfer to another mode of transit to get from the managed lane to the final destination. Estimate the cost to acquire land, build, design, construct, operate and maintain each parking facility.

**Potential locations include:**

- Dolphin Mall
- Miami International Mall
- Palmetto MetroRail Station
- Southwest corner of NW 107<sup>th</sup> Avenue and NW 41<sup>st</sup> Street
- Current White Course area
- Future transit hub sites within/near Doral’s City boundaries

**Cost:**

*Planning:* \$50,000

*Design:* TBD

*Construction:* TBD

**Project Name:** Support MDT Palmetto Station Redevelopment/Development of Palmetto Intermodal Center

**Purpose:** The purpose of this project is to increase the attractiveness of the Palmetto Metrorail Station as a viable launching or landing point for a transit trip or a mode transfer.

**Need:** For transit to be attractive when compared with other modes of transportation (particularly the automobile), it needs to be competitive in travel time, cost, and amenities. The fact is that automobile use, particularly among the young, has been decreasing since 2005. Automakers are responding by developing driverless cars. Transit proponents need to respond with the upgrades in attractions.

**Description:** Work with MDT to lend support either politically or financially to such an effort.





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**Cost:**

*Planning: NA*  
*Design: NA*  
*Construction: NA*

**Project Name:** Support MDT Development of Dolphin Mall Station Park and Ride/Transit Hub

**Purpose:** The purpose of this project is to encourage MDT to advance the evaluation of the proposed Dolphin Mall Station Park and Ride.

**Need:** MDT is evaluating the feasibility of a Park and Ride location in the area of 12<sup>th</sup> St and the Florida Turnpike. This would be part of the future East/West BRT line running along the Dolphin Expressway. There are multiple planned transit corridors in the county, all vying for funding. The faster components of this corridor advances the more likely the project gets funded and congestion is mitigated by transit.

**Description:** Work with MDT to lend support either politically or financially to such an effort.

**Cost:**

*Planning: NA*  
*Design: NA*  
*Construction: NA*

**Project Name:** MDT Operational Analysis

**Purpose:** The purpose of this project is to align the location of MDT stops with ridership trends.

**Need:** It is customary for transit agencies to reevaluate their systems on a periodic basis. This project would encourage MDT to evaluate boarding's and alighting's in the City of Doral, coordinate with the Doral Trolley and potentially locate its stops in more advantageous positions.

**Description:** Encourage MDT to conduct an operational analysis and gain efficiency in its system. In particular, a movement to a linear/grid oriented system will help Doral by allowing for highly predicable travel routes in the City, given that Doral operates on a mile section grid system.

**Cost:**

*Planning: NA*  
*Design: NA*  
*Construction: NA*



## 8. Exponential Growth and Transportation Hubs

### 8.1 Introduction

Throughout its history, Doral's transportation system's growth has been predicated and shaped by the constant migration of employment in Miami-Dade County and its proximity to the airport. From the city's agricultural origins, to its industrial center revolution, Doral growth has been so rapid that it has come to house Fortune 100 corporations and thousands of small companies in a time frame of fewer than twenty years.

The demands placed on Doral's transportation system are both enormous and varied, ranging from personal travel to the movement of goods. The vehicular network is stressed. Since its foundation in 2003, automotive ownership has increased by 42%, with only 8.4% of the population carpooling and another 8% using public transit.

Even with Level-of-Service standards and concurrency requirement, there are limited opportunities to physically expand roadway capacity. Therefore, the City's ability to relieve its transportation needs lends itself to a new way of thinking about mobility and land use interconnection. To do so, transit hubs around the city need to be selected. Transit hubs are multimodal places of interconnectivity between transit, roads, bike and pedestrian networks; locations that are close to greater population densities and trip generators. Transit hubs are a key element of a Transit Oriented Development (TOD) strategy for investment in mixed-use, high-intensity assets which spur economic development and, in turn, contribute to sustainable growth of the City.

The transit, pedestrian and bike network projects in the project bank provide opportunities to emphasize TOD development in these strategic hub locations. Planning studies within the project bank will focus on these hub locations for TOD emphasized investments into the infrastructure.

### 8.2 Criteria for Doral

Certain criteria need to be present within a quarter mile radius of a proposed transit hub. The following items were analyzed for each proposed transit hub.

1. Concentration of employment
2. Concentration of population
3. Located in the area of a major trip generator
4. Located at the converging stop of more than one transit route
5. Land use supporting the use of transit
  - a. Appropriate mix of uses
  - b. Supportive densities
6. Potential of land development and/or redevelopment
7. Existing transportation infrastructure



- a. Interconnected streets
- b. Pedestrian, bicycle and transit-friendly design
- c. Access and proximity to transit

The transit hubs which were identified are categorized in three different types: Regional Centers, Community Centers, and Neighborhood Centers based on the characteristics of each hub.

## 8.2.1 Regional Centers

Regional Centers are of economic and cultural significance, usually located in downtown area central business districts, which serve a regional travel market and are served by transit types such as high speed rail, heavy or commuter rail, bus rapid transit, and local service. Regional centers are the largest of the three transit hubs and tend to contain more than one transit station and multiple bus stops.

## 8.2.2 Community Centers

Community Centers function as a sub-regional economic and community activity focus, and include urban and town centers served by one or more transit types. Residential densities in community Centers are typically lower than residential densities in Regional Centers, but the mix of uses in them is more balanced between residential and employment uses. More intense or dense development in Community Centers tend to be concentrated within walking distance of the transit station/stop. The pattern of development tends to range from urban to suburban.

## 8.2.3 Neighborhood Centers

Neighborhood Centers are mostly residential in use and are served by some type of premium transit. Commercial uses in them are usually local retail and personal services. Residential densities tend to be lower than in Community centers and at their highest within walking distance of the transit station/stop. This center is usually found in older urban areas and newer suburban developments.

Below is a table establishing the employment density thresholds for each transit hub and how they associate with transit types.



**Table 9: Transit Hubs**

| Community type      | Transit Type        | Gross Employment Density (Jobs/Acre) |
|---------------------|---------------------|--------------------------------------|
| Regional Center     | Heavy Rail          | 200-250                              |
|                     | Light Rail/Commuter | 100-200                              |
|                     | Bus Service/BRT     | 50-125                               |
| Community Center    | Heavy Rail          | 65-90                                |
|                     | Light Rail/Commuter | 45-60                                |
|                     | Bus Service/BRT     | 20-45                                |
|                     | Heavy Rail          | 20-30                                |
| Neighborhood Center | Light Rail/Commuter | 15-20                                |
|                     | Bus Service/BRT     | 10-15                                |

## 8.3 Potential Transit Hubs in Doral

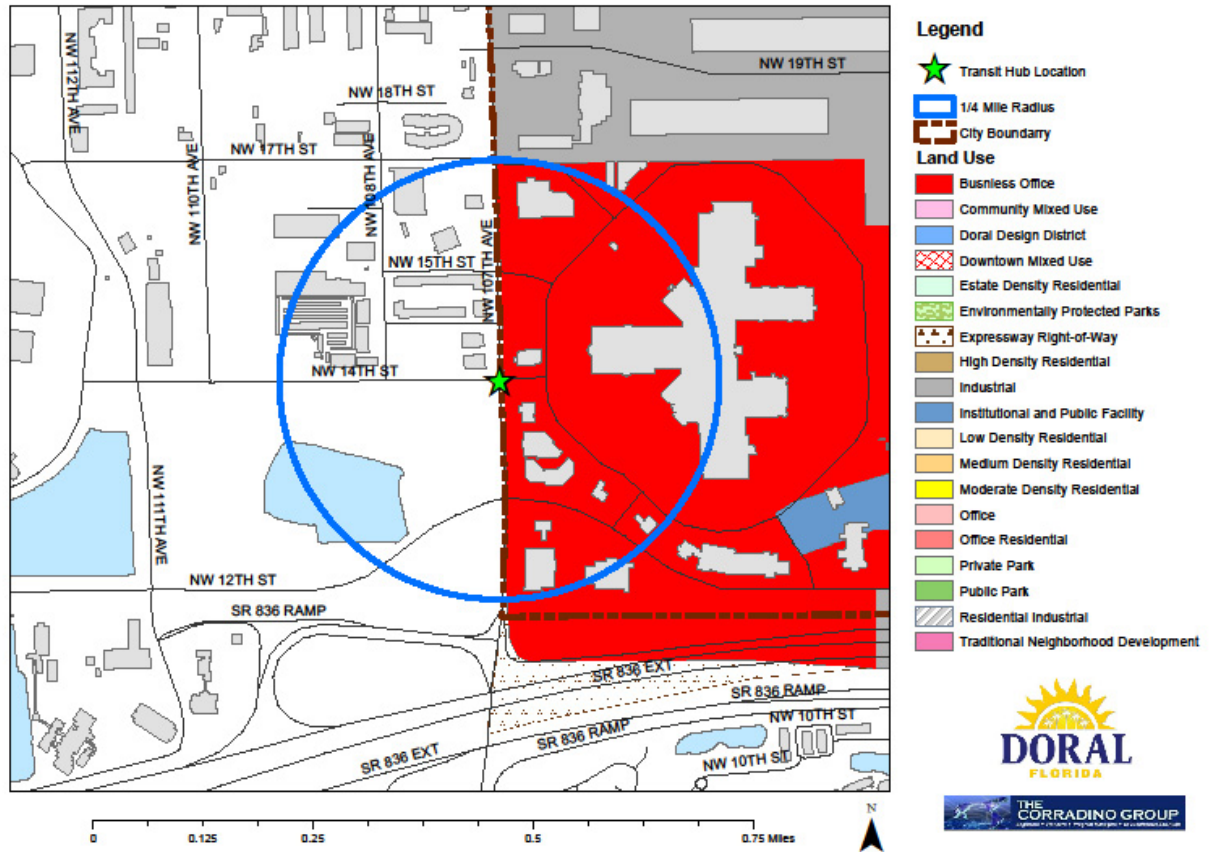
Below are the potential transit hubs locations identified within the City of Doral.

### 8.3.1 NW 107th Avenue & NW 14th Street (Miami-International Mall)

The potential Regional Center at Miami-International mall is a desired regional transit hub due to its tremendous redevelopment potential and current transit connectivity. This location offers limited pedestrian-friendly environment due to lack of sidewalks. Although much of the surrounding area consists of warehouses and commercial, future redevelopment at this location could be mixed-use to incorporate residential in this area of the City.



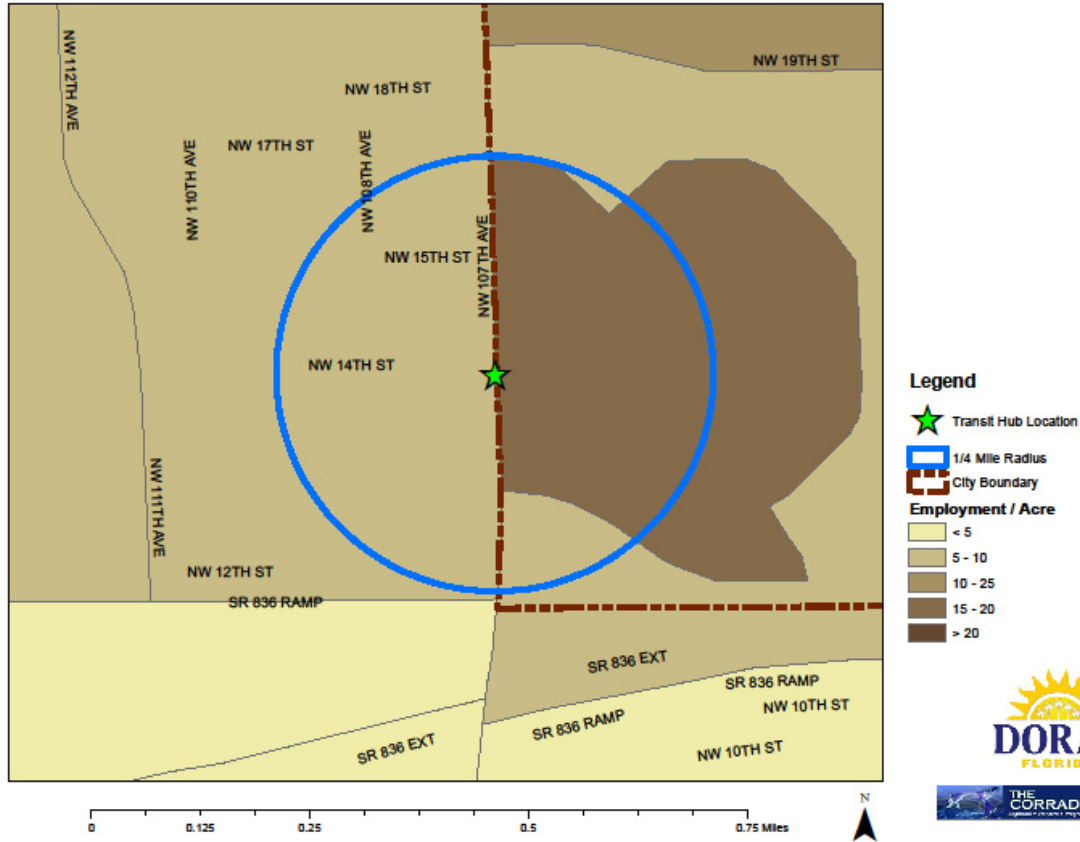
## NW 107 Ave & NW 14 St Transit Hub 1/4 Mile Buffer Radius



Land Use Map of area ¼ of a mile radius



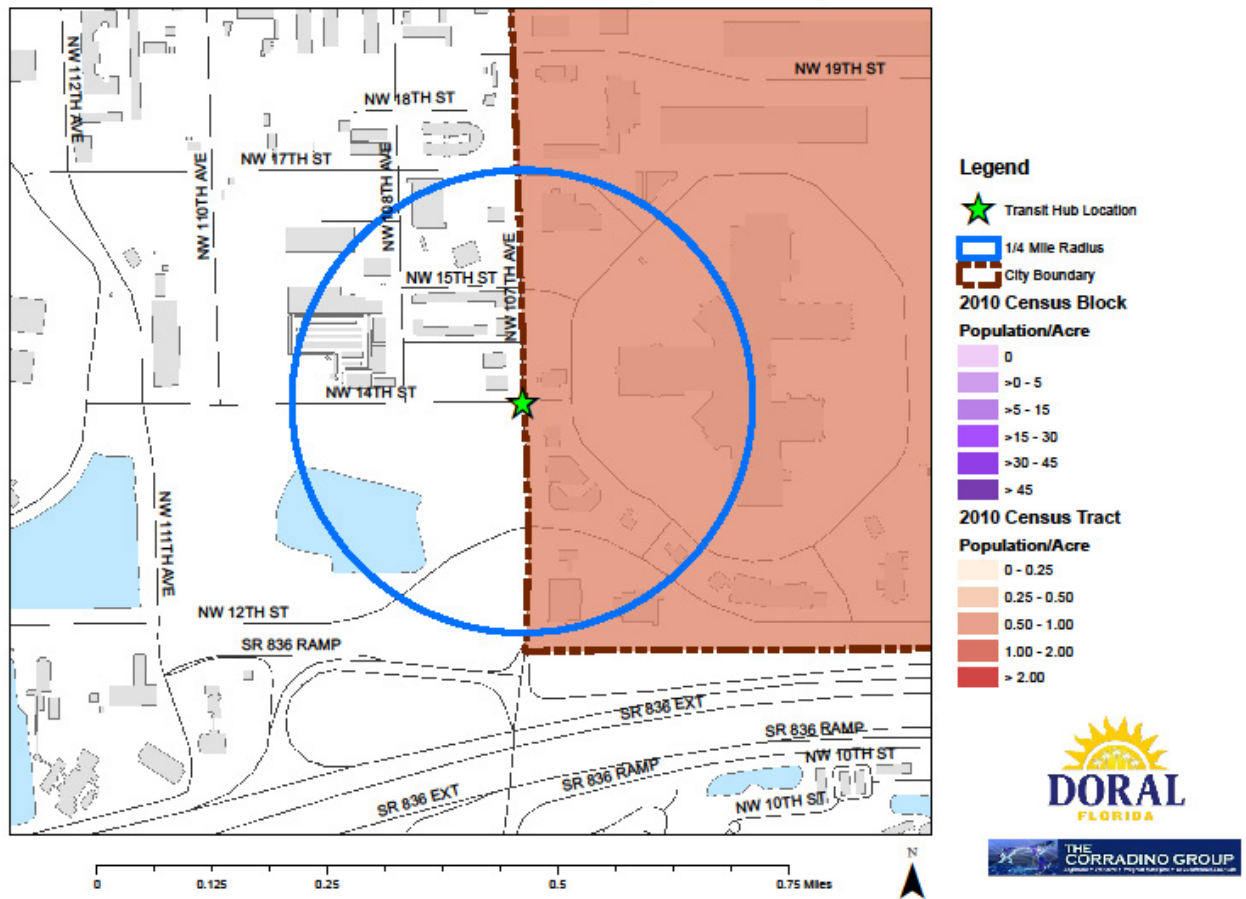
## NW 107 Ave & NW 14 St Transit Hub 2010 Employment Per Acre (TAZ)



Density map on employment/acre



## NW 107 Ave & NW 14 St Transit Hub Population Per Acre (2010 Census)

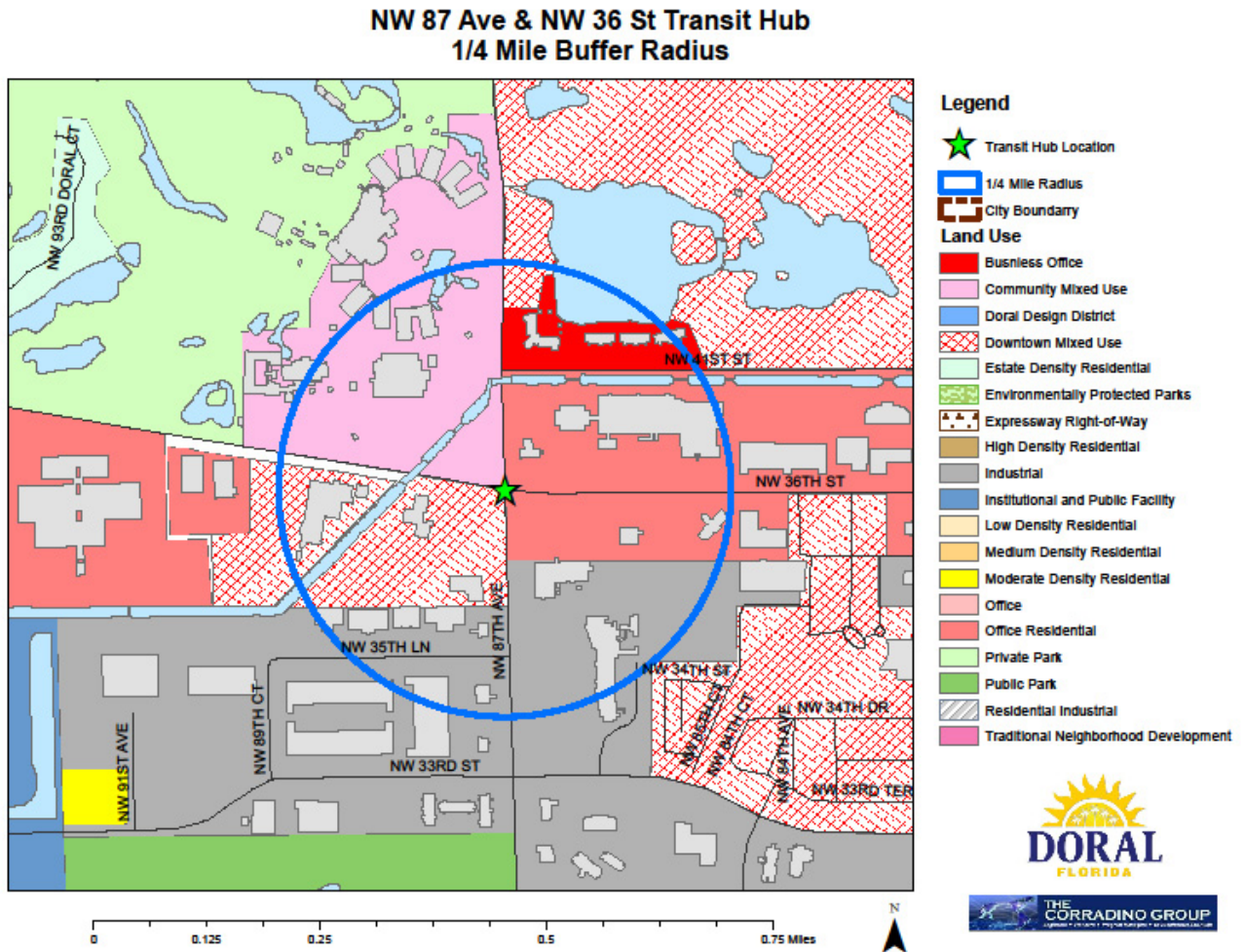


Density map on population/acre



## 8.3.2 NW 87th Avenue & NW 36th Street

A potential Community Center transit hub at this location also shows redevelopment potential and current transit connectivity. This location is anchored on the NW corner by Trump International Golf Resort. The current land use designation allows for mixed-use to incorporate additional residential to balance the current predominate business and office land uses.

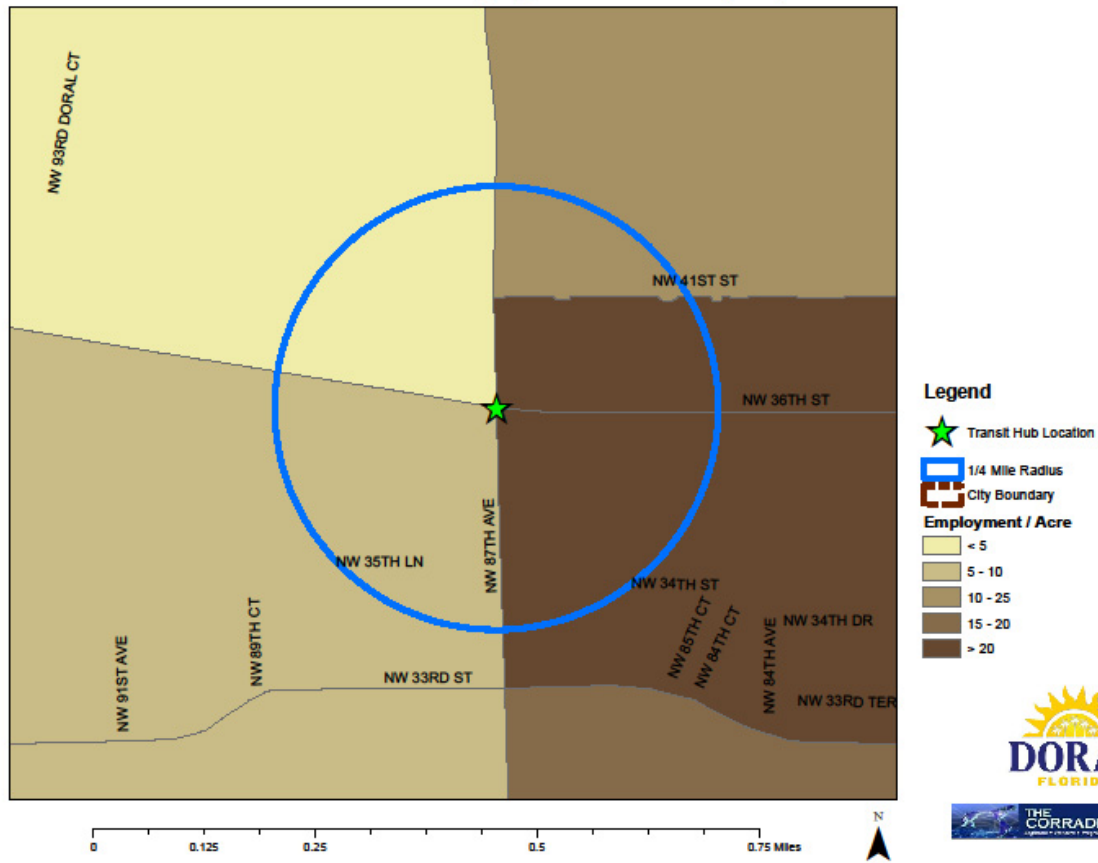


Land Use Map of area ¼ of a mile radius





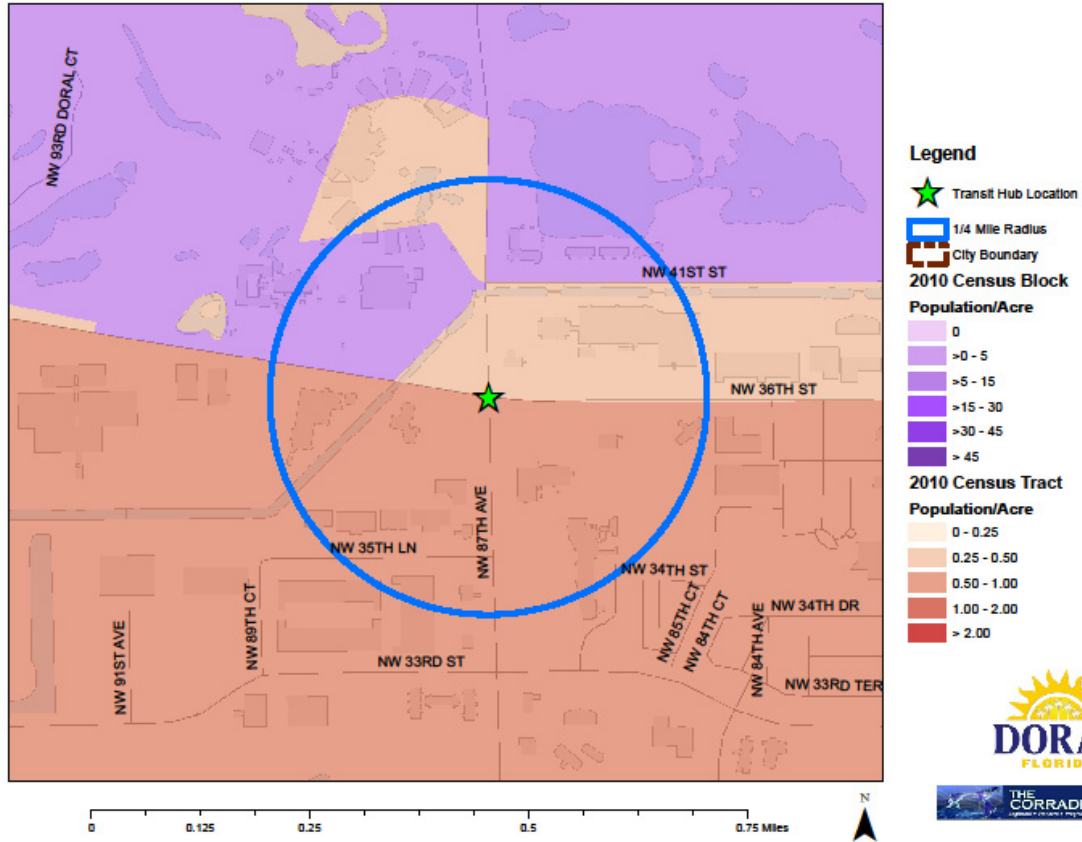
## NW 87 Ave & NW 36 St Transit Hub 2010 Employment Per Acre (TAZ)



Density map on employment/acre



## NW 87 Ave & NW 36 St Transit Hub Population Per Acre (2010 Census)



Density map on population/acre

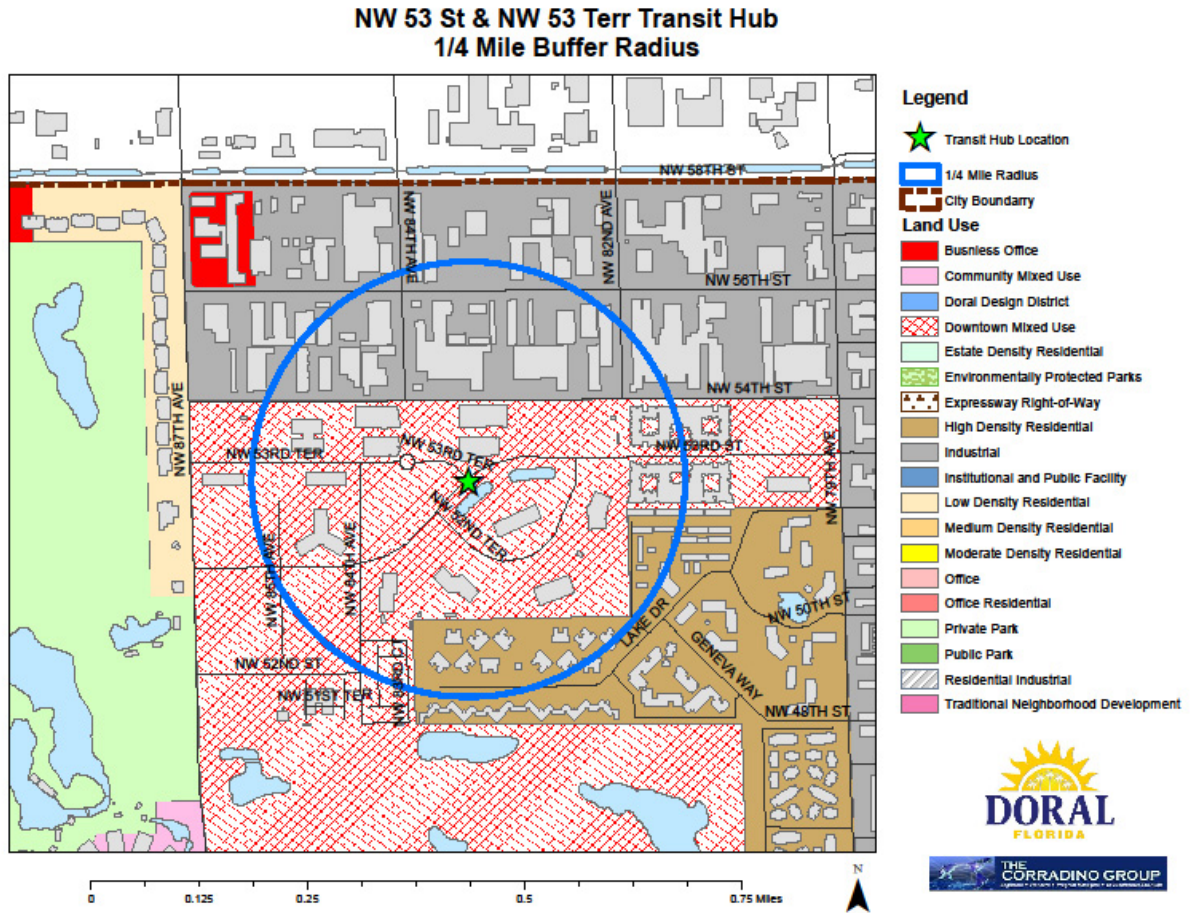


# City of Doral TRANSPORTATION MASTER PLAN



## 8.3.3 NW 53 Street & NW 53 Terrace (Doral Government Center/Downtown Doral)

A site at the center of Downtown Doral would be an ideal location for a Community Center transit hub. This location is well on its way to becoming a true mixed-use destination. Major employers exist at this location, including the Doral Government Center.

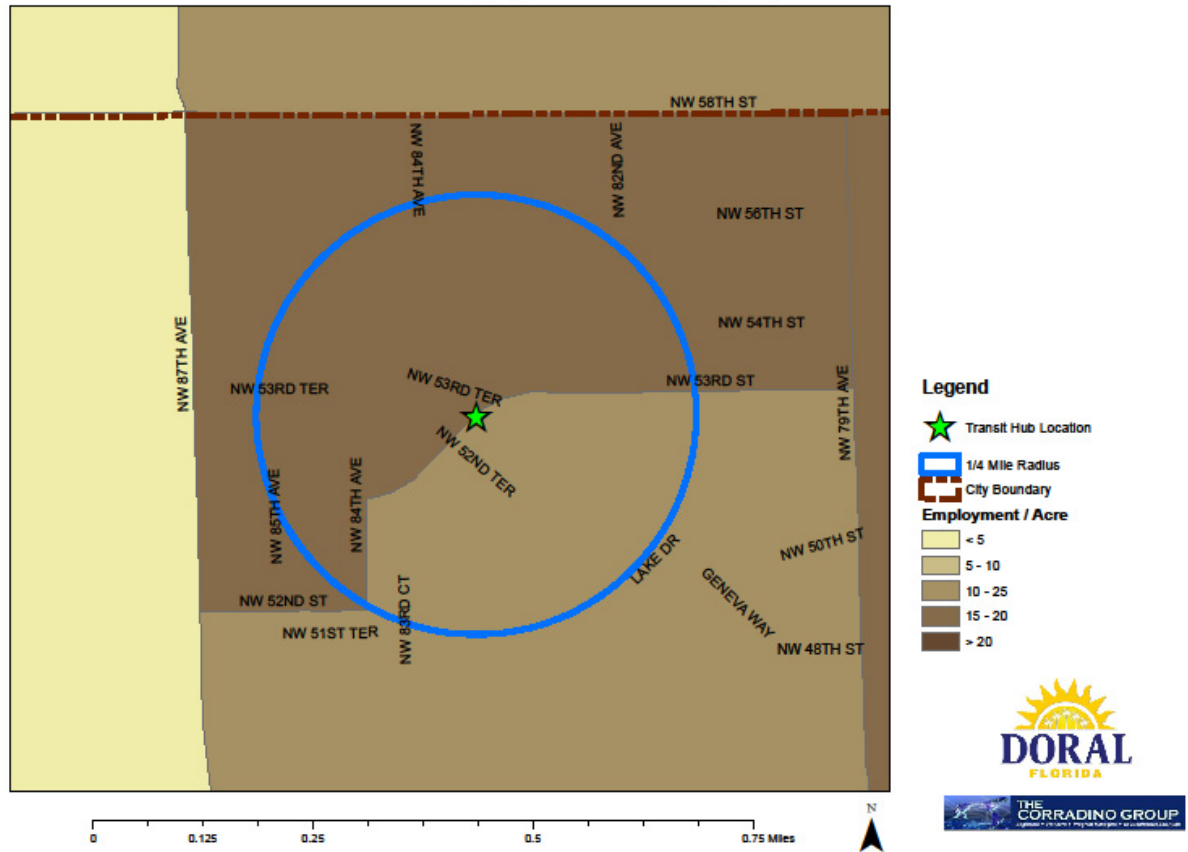


Land Use Map of area 1/4 of a mile radius





## NW 53 St & NW 53 Terr Transit Hub 2010 Employment Per Acre (TAZ)



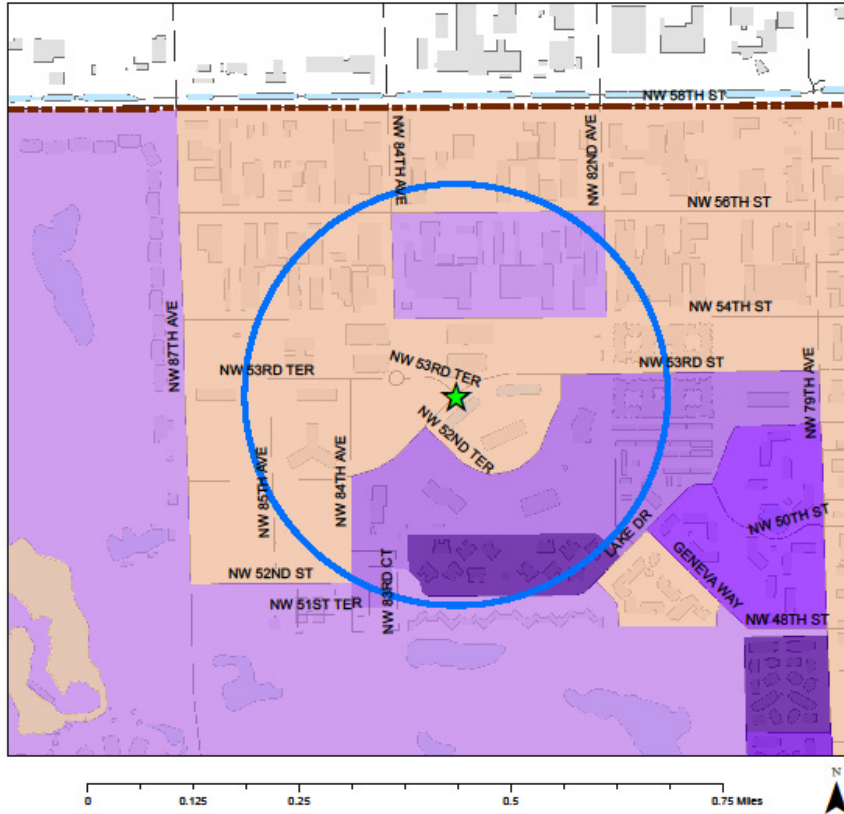
Density map on employment/acre



# City of Doral TRANSPORTATION MASTER PLAN



## NW 53 St & NW 53 Terr Transit Hub 1/4 Mile Buffer Radius



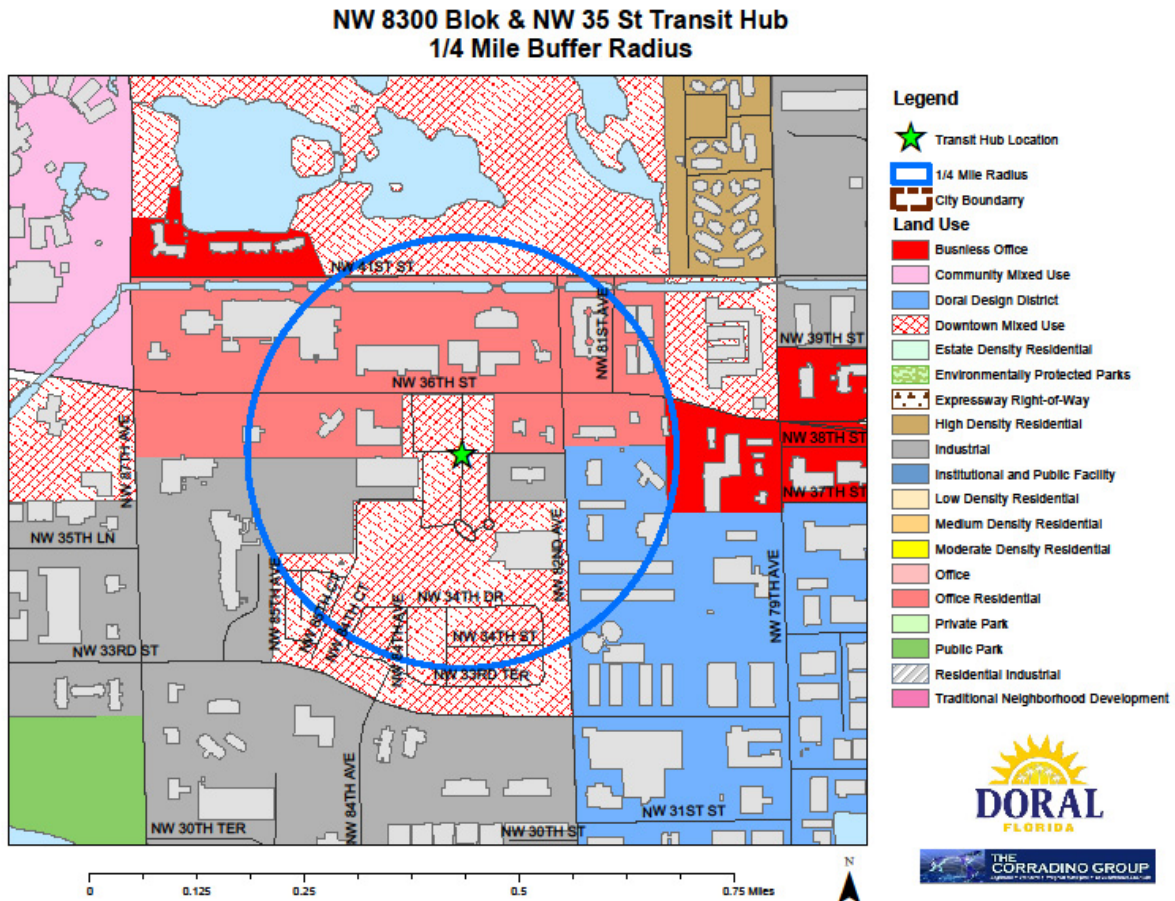
Density map on population/acre





## 8.3.4 NW 8300 Block & NW 35th Street (City Place)

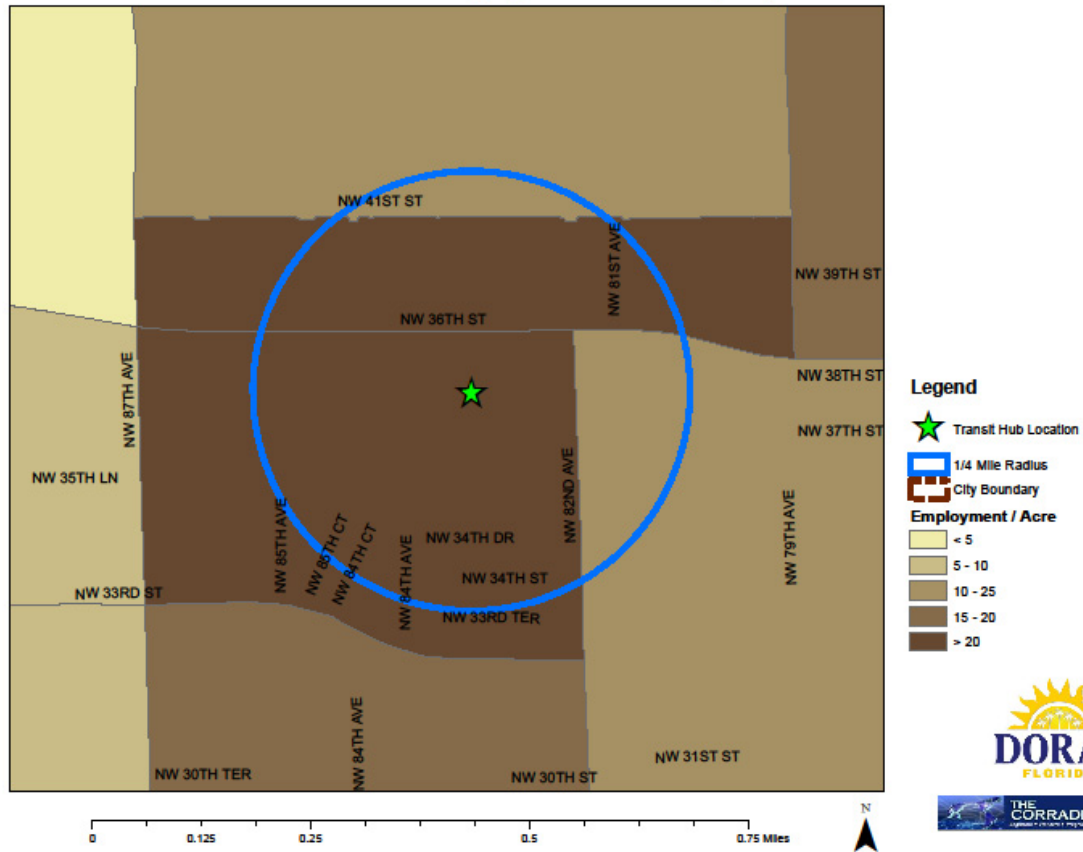
Similar to Downtown Doral, a Community Center transit hub at City Place is a natural fit. This location is well on its way to becoming a true mixed-use destination. The site is surrounded by mixed-use land use designations and will continue to develop.



Land Use Map of area ¼ of a mile radius



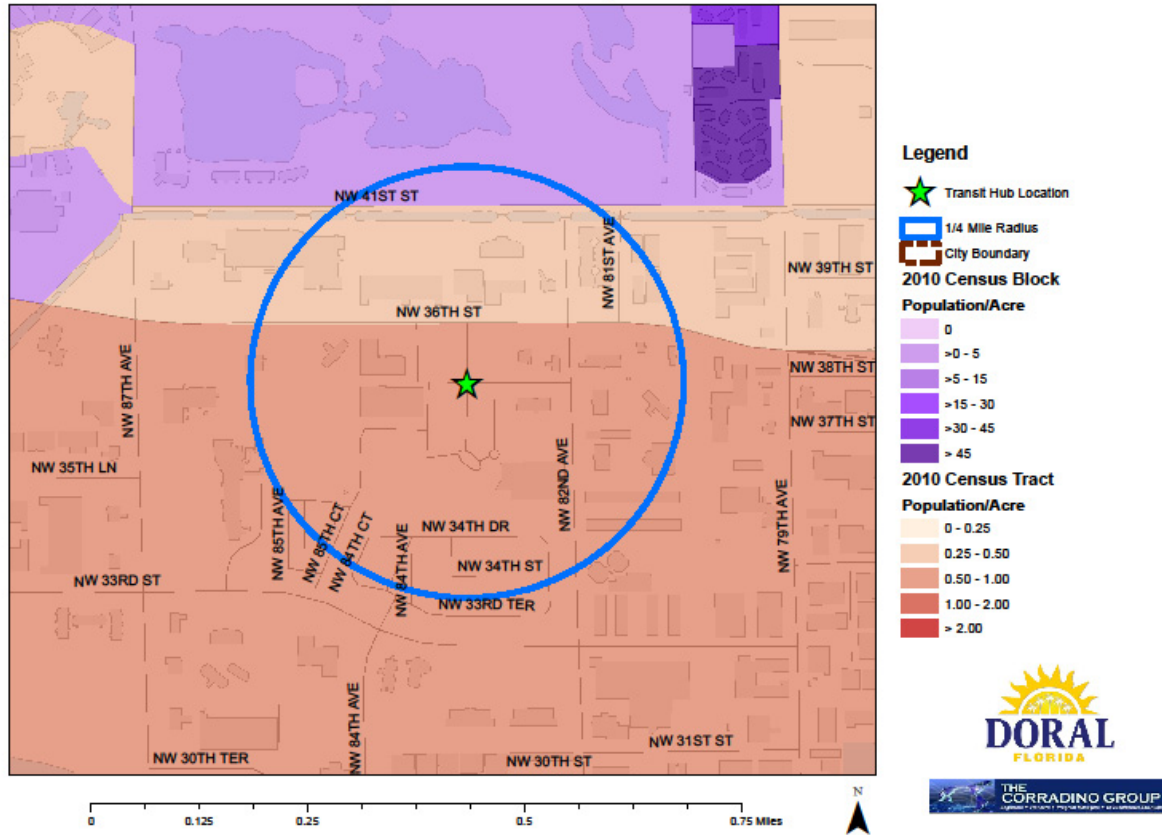
## NW 8300 Blok & NW 35 St Transit Hub 2010 Employment Per Acre (TAZ)



Density map on employment/acre



## NW 8300 Blok & NW 35 St Transit Hub Population Per Acre (2010 Census)



Density map on population/acre



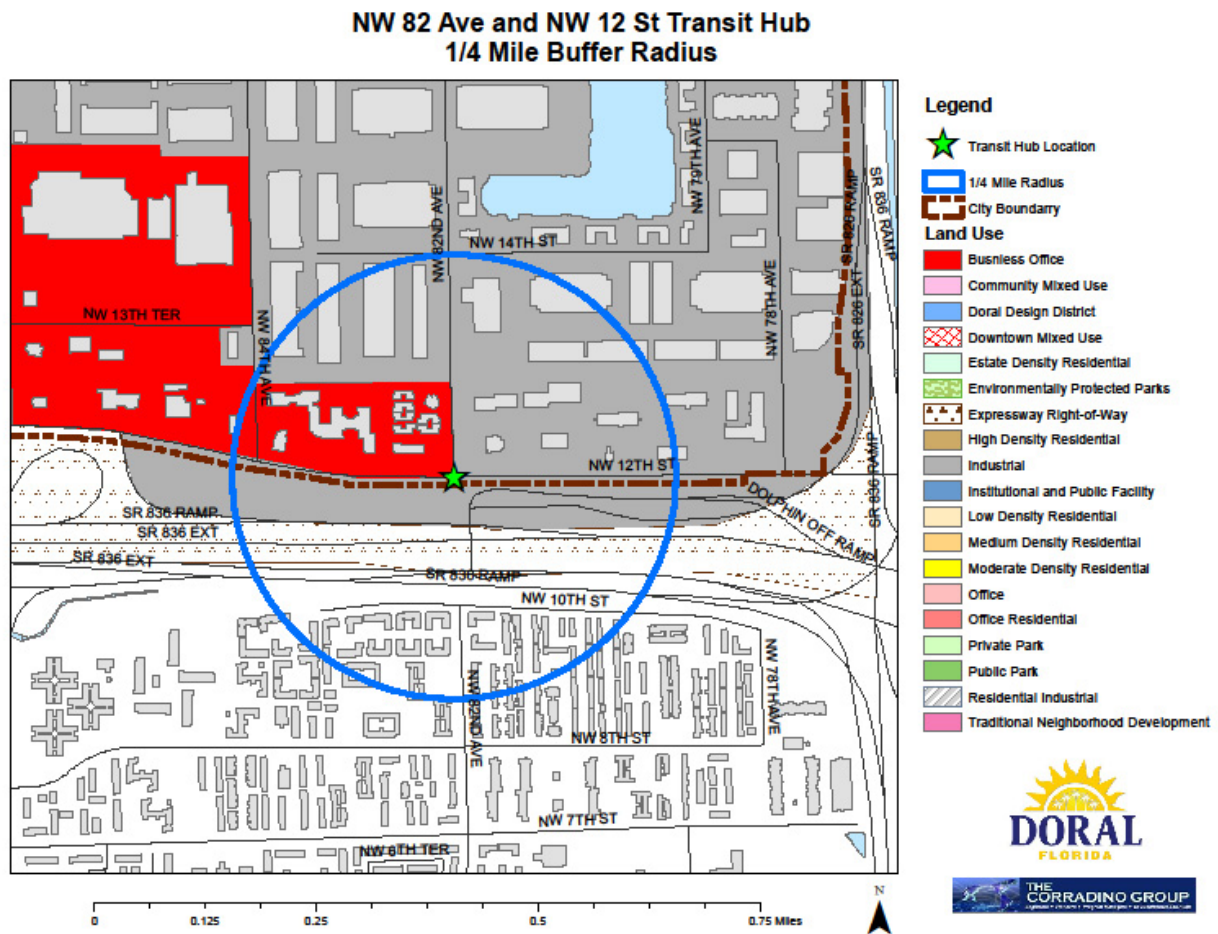


# City of Doral TRANSPORTATION MASTER PLAN



## 8.3.5 NW 82nd Avenue and NW 12th Street (Future CSX East-West Rail Station)

Depending on future passenger rail on the CSX line, this area has potential for being a Community Center. This location is the best-equipped to sustain TOD in the short term (five years). This location offers a pedestrian-friendly environment, with a large, sun-shading tree canopy a landscaped median and sidewalks on both sides of 82nd Avenue. Although much of the surrounding area consists of warehouses, several have been adapted to retail uses, including restaurants, and a specialty food market across from the proposed station location.



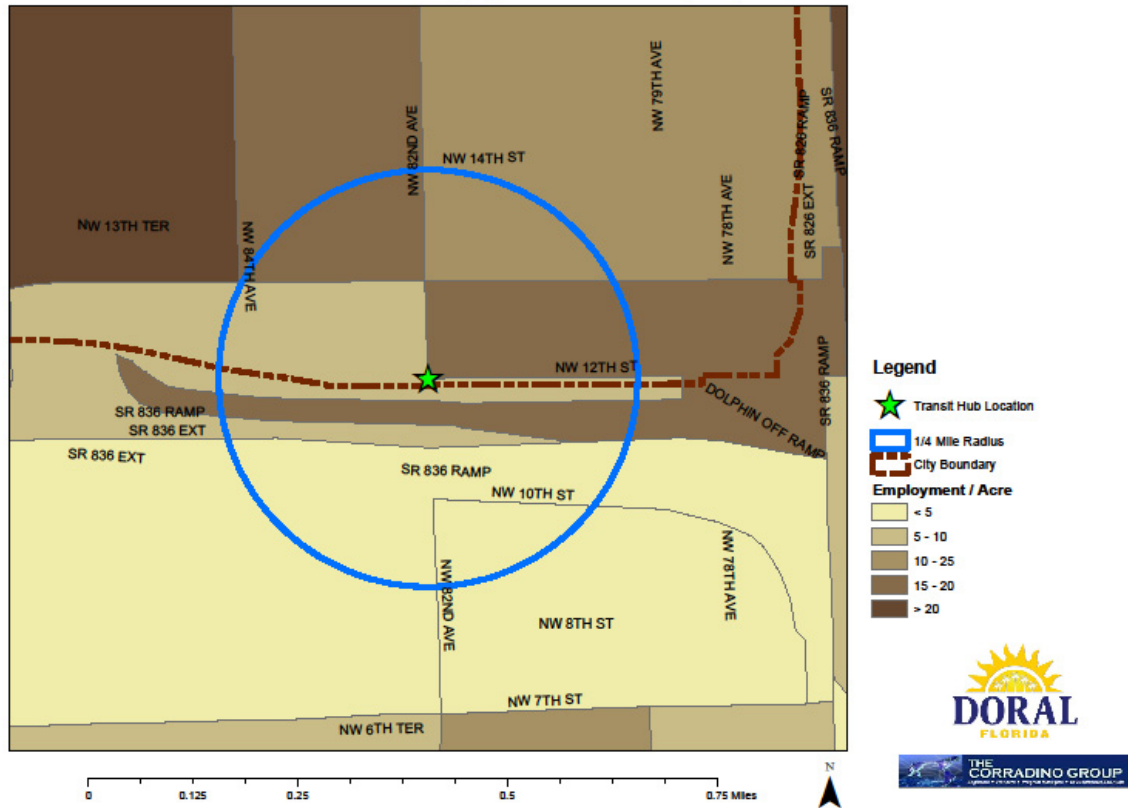
Land Use Map of area ¼ of a mile radius



# City of Doral TRANSPORTATION MASTER PLAN



## NW 82 Ave and NW 12 St Transit Hub 2010 Employment Per Acre (TAZ)



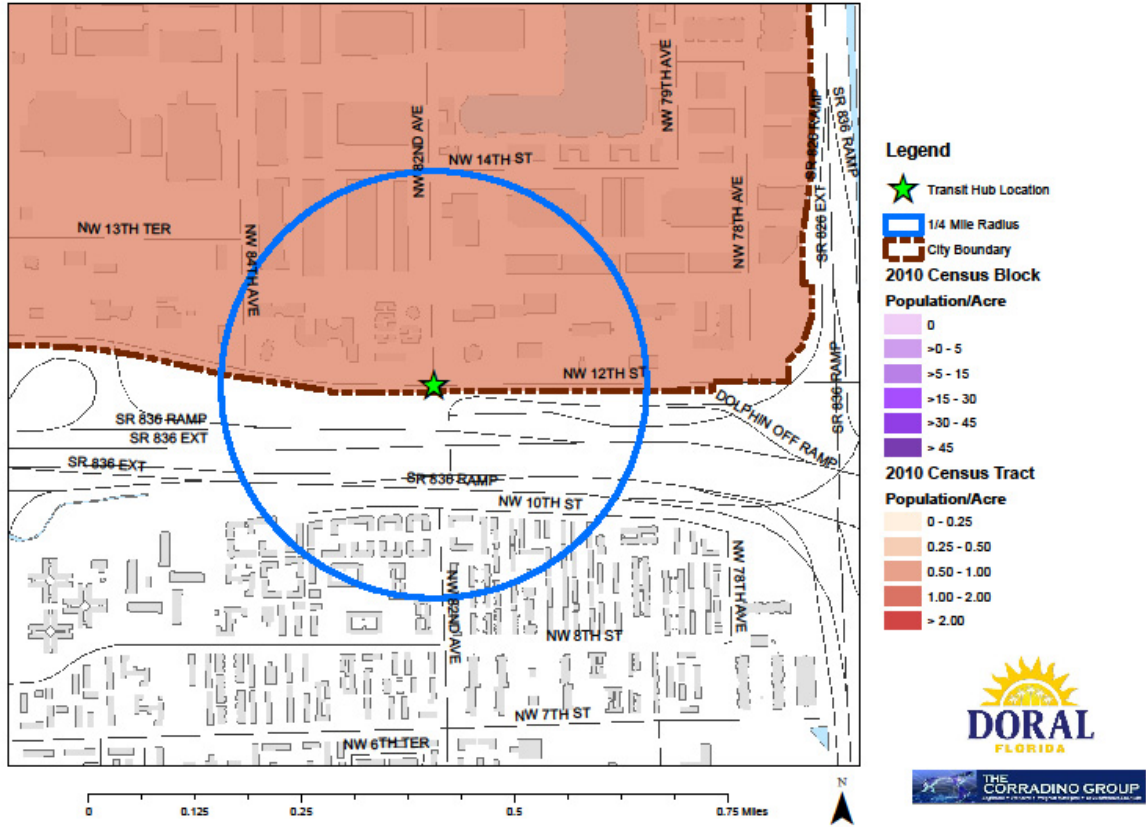
Density map on employment/acre



# City of Doral TRANSPORTATION MASTER PLAN



## NW 82 Ave and NW 12 St Transit Hub Population Per Acre (2010 Census)



Density map on population/acre



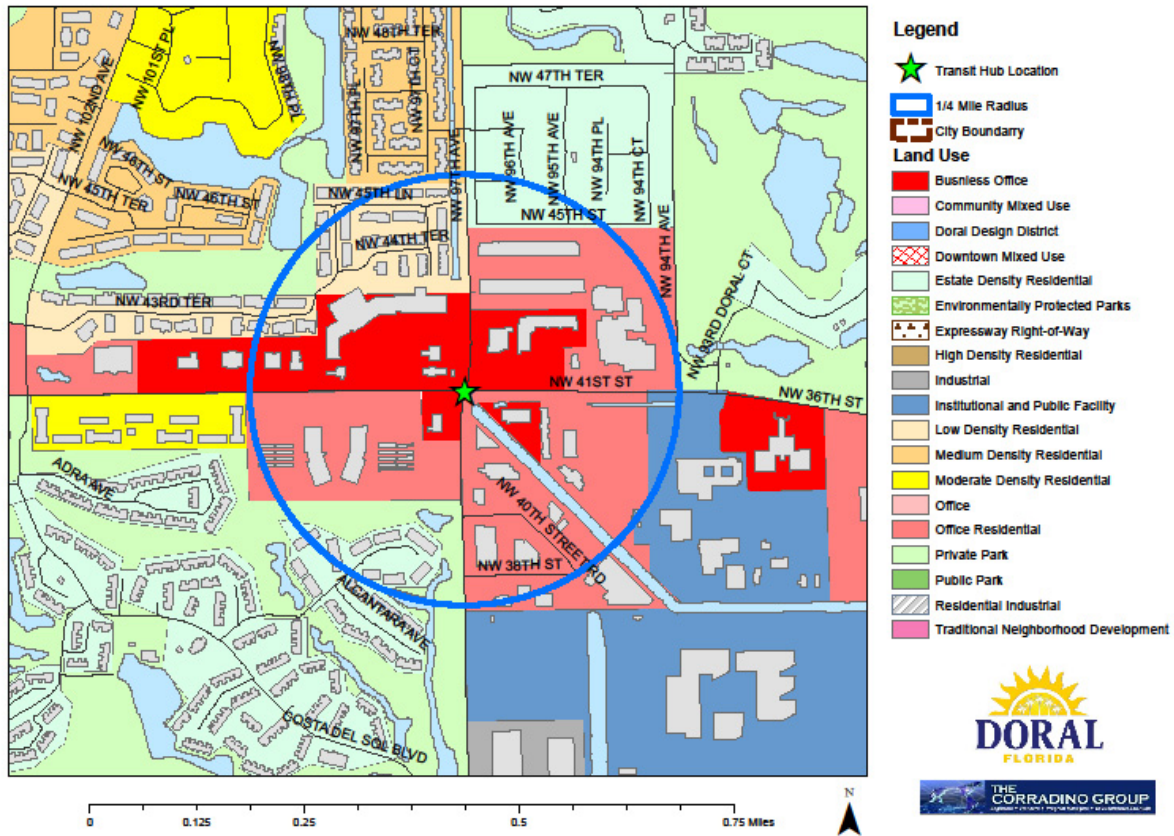
# City of Doral TRANSPORTATION MASTER PLAN



## 8.3.6 NW 97th Avenue and NW 41st Street

Geographically located in the center of the City, this hub area is currently developed with businesses including office and commercial. Potential for redevelopment exists in this area where large parking lots provide opportunity for more intense development in the future.

**NW 97 Ave and NW 41 St Transit Hub  
1/4 Mile Buffer Radius**



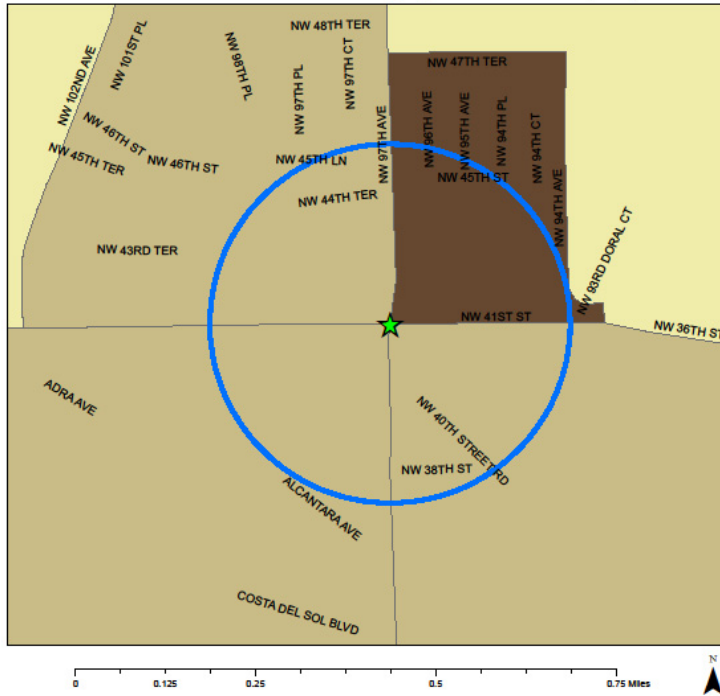
Land Use Map of area ¼ of a mile radius



# City of Doral TRANSPORTATION MASTER PLAN



## NW 97 Ave and NW 41 St Transit Hub 2010 Employment Per Acre (TAZ)



### Legend

- Transit Hub Location
- 1/4 Mile Radius
- City Boundary
- Employment / Acre**
- < 5
- 5 - 10
- 10 - 25
- 15 - 20
- > 20



Density map on employment/acre

## NW 97 Ave and NW 41 St Transit Hub Population Per Acre (2010 Census)



### Legend

- Transit Hub Location
- 1/4 Mile Radius
- City Boundary
- 2010 Census Block**
- Population/Acre**
- 0
- >0 - 5
- >5 - 15
- >15 - 30
- >30 - 45
- > 45
- 2010 Census Tract**
- Population/Acre**
- 0 - 0.25
- 0.25 - 0.50
- 0.50 - 1.00
- 1.00 - 2.00
- > 2.00

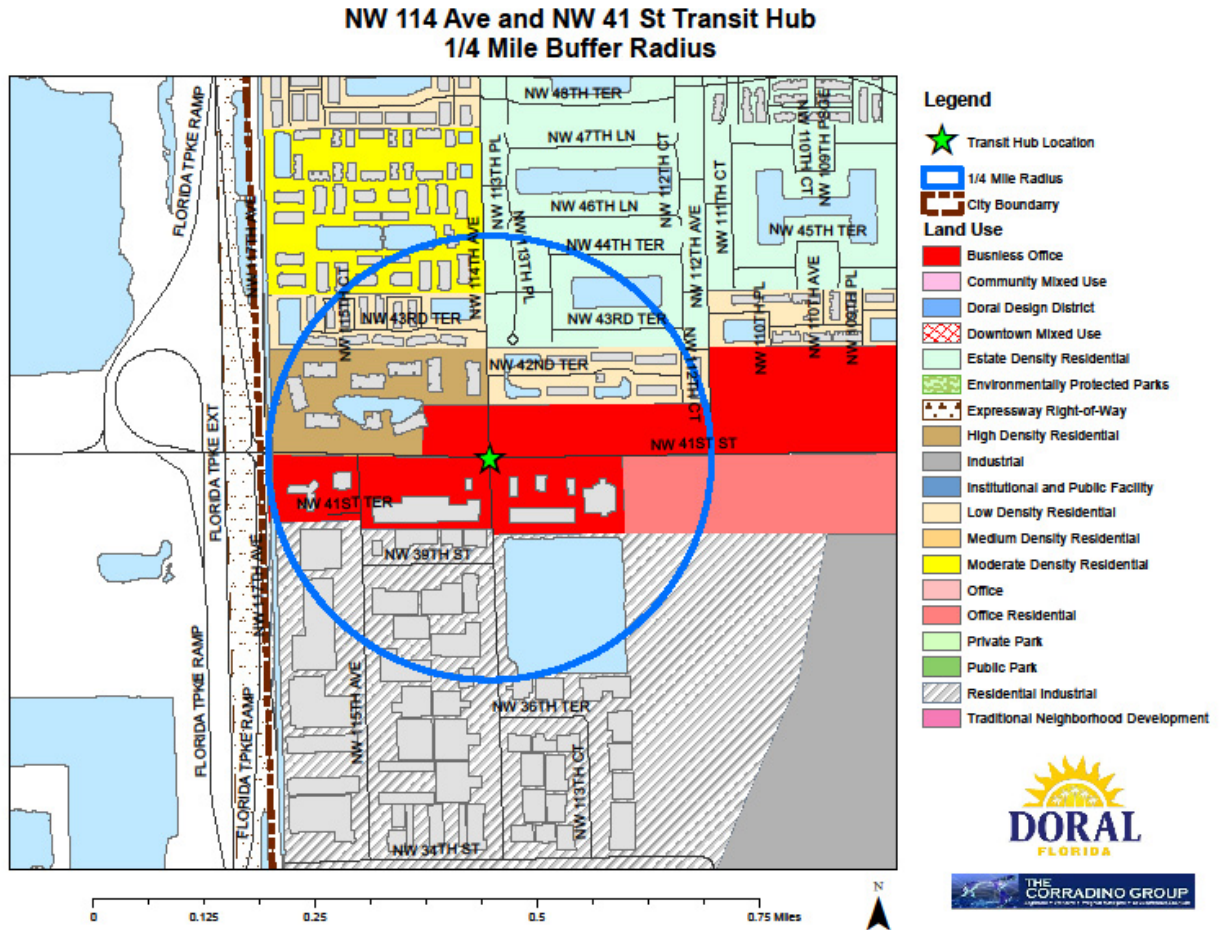


Density map on population/acre



## 8.3.7 NW 41st Street and NW 114th Avenue

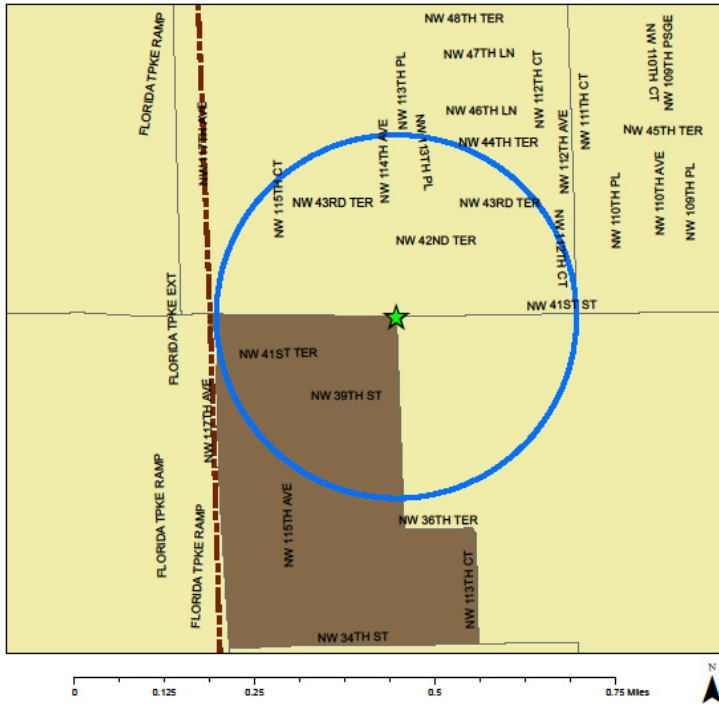
At this site, there remains potential for future development as a Community Center where vacant land is still available. The primary land use in this area is Miami-Dade College West campus. Due to the proximity to the HEFT, a Park & Ride and transit facility would be ideal at this location.



Land Use Map of area ¼ of a mile radius



### NW 114 Ave and NW 41 St Transit Hub 2010 Employment Per Acre (TAZ)



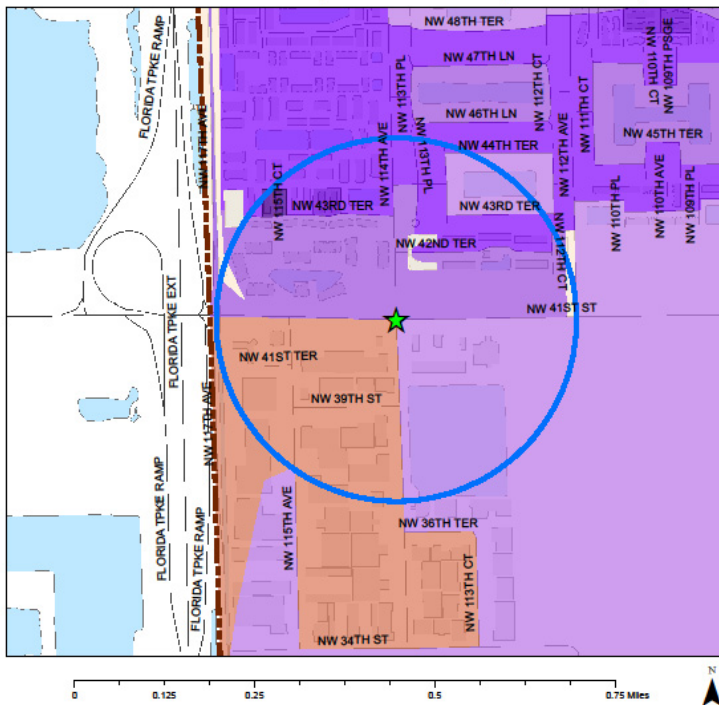
**Legend**

- ★ Transit Hub Location
- 1/4 Mile Radius
- ▭ City Boundary
- Employment / Acre**
- < 5
- 5 - 10
- 10 - 25
- 15 - 20
- > 20



Density map on employment/acre

### NW 114 Ave and NW 41 St Transit Hub Population Per Acre (2010 Census)



**Legend**

- ★ Transit Hub Location
- 1/4 Mile Radius
- ▭ City Boundary
- 2010 Census Block  
Population/Acre**
- 0
- > 0 - 5
- > 5 - 15
- > 15 - 30
- > 30 - 45
- > 45
- 2010 Census Tract  
Population/Acre**
- 0 - 0.25
- 0.25 - 0.50
- 0.50 - 1.00
- 1.00 - 2.00
- > 2.00

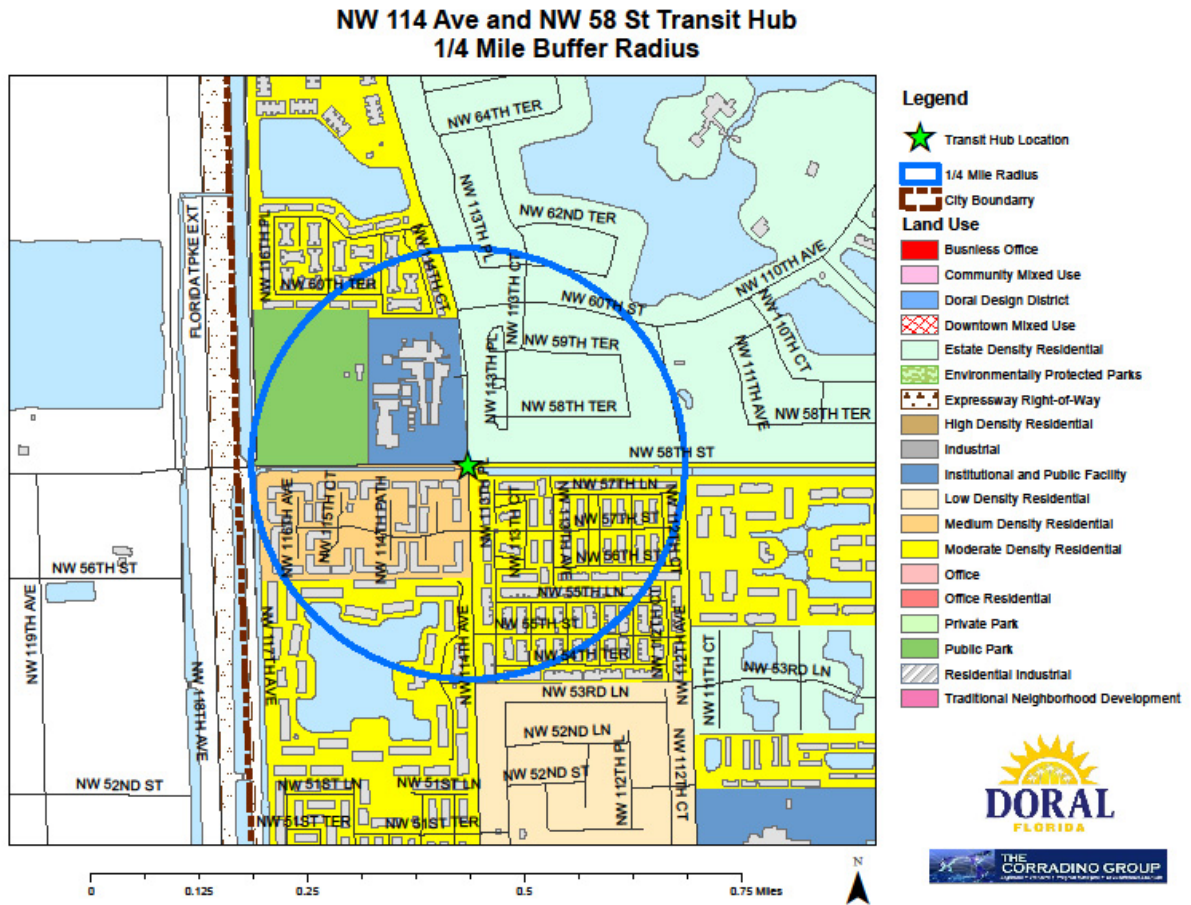


Density map on population/acre



## 8.3.8 NW 114th Avenue and NW 58th Street

Due to the low-density, residential character of this hub area, it would be suitable as a Neighborhood Center. Neighborhood destinations in the area include a local park and K-8 educational center. The Doral trolley already services this area and experiences high ridership due to the convergence of two trolley routes.



Land Use Map of area 1/4 of a mile radius

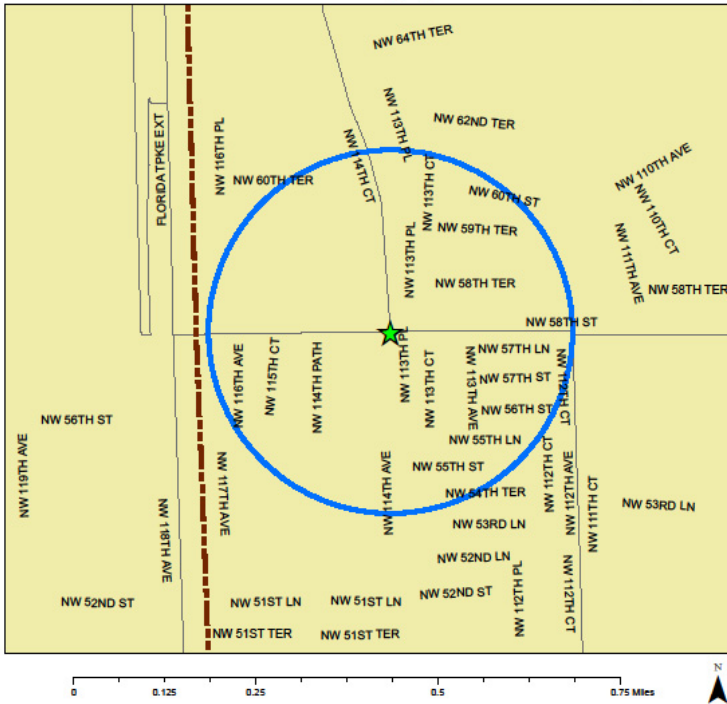




# City of Doral TRANSPORTATION MASTER PLAN

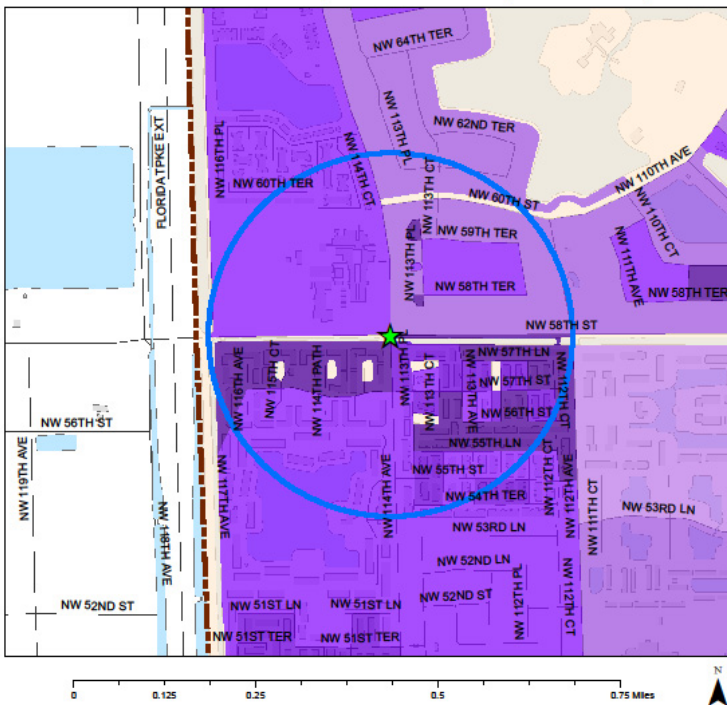


## NW 114 Ave and NW 58 St Transit Hub 2010 Employment Per Acre (TAZ)



Density map on employment/acre

## NW 114 Ave and NW 58 St Transit Hub Population Per Acre (2010 Census)

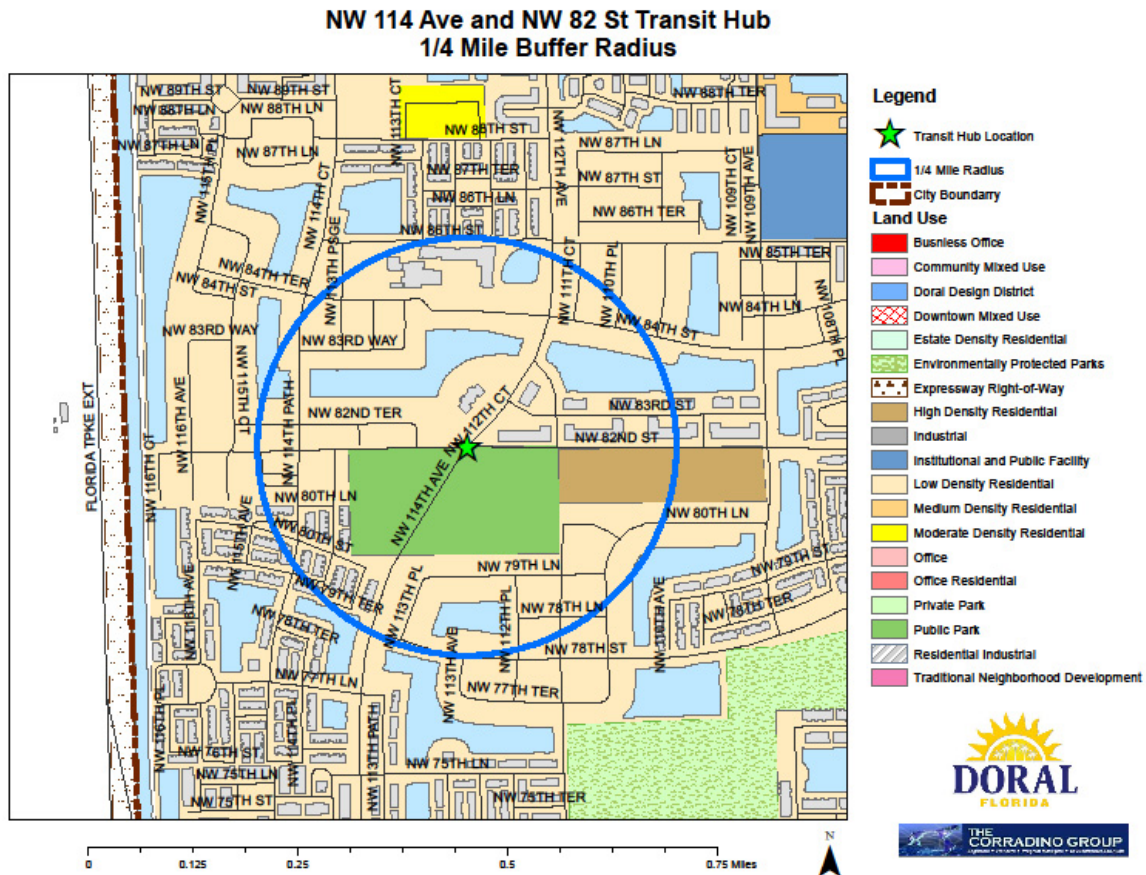


Density map on population/acre



## 8.3.9 NW 114th Avenue and NW 82nd Street (Future Doral Park)

As a predominantly residential area, this location could be a second Neighborhood Center hub. Important destinations surrounding this hub include a future regional park. The Doral trolley already services this area and experiences high ridership due to the convergence of two trolley routes. Undeveloped land in this area would be suitable for a future park-and-ride due to its proximity to the HEFT.



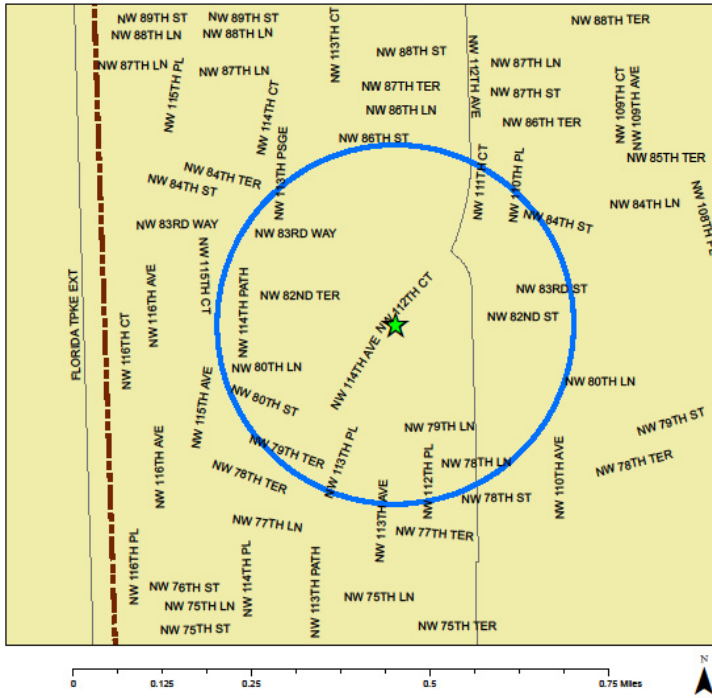
Land Use Map of area ¼ of a mile radius



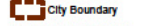
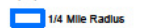
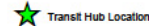
# City of Doral TRANSPORTATION MASTER PLAN



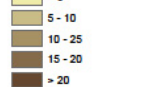
## NW 114 Ave and NW 82 St Transit Hub 2010 Employment Per Acre (TAZ)



### Legend

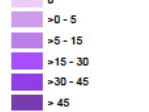


### Employment / Acre



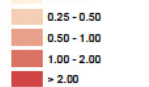
### 2010 Census Block

#### Population/Acre



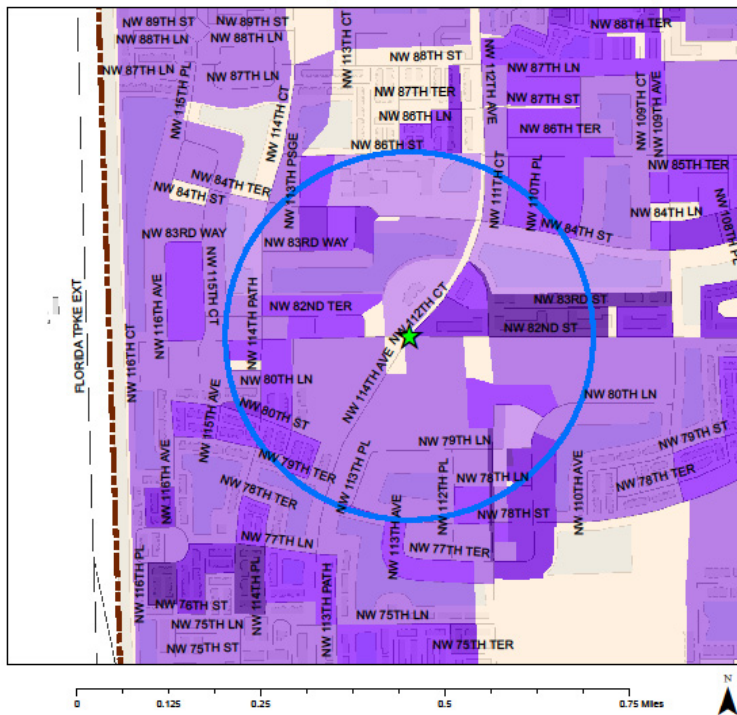
### 2010 Census Tract

#### Population/Acre

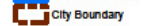
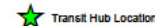


Density map on employment/acre

## NW 114 Ave and NW 82 St Transit Hub Population Per Acre (2010 Census)

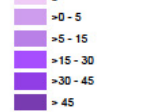


### Legend



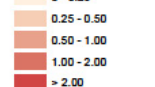
### 2010 Census Block

#### Population/Acre



### 2010 Census Tract

#### Population/Acre



Density map on population/acre



## 9. Recommendations and Special Programs

### 9.1 CSX East-West Corridor Transit Oriented Development

Past studies of the CSX East-West Corridor have sought to connect Metrorail to the west side of the County along the Dolphin Expressway (SR 836). In early 2016, the Miami-Dade Transportation Planning Organization (TPO) completed the East-West CSX Rail Feasibility Study that identified station stop locations while evaluating the feasibility of commuter rail service. This study was a continuation of previous technical efforts to implement passenger rail service between the Miami Intermodal Center (MIC) and extending to the western limits of Miami-Dade County.

In October of 2016, the Miami-Dade TPO commissioned a study to evaluate Transit Oriented Development (TOD) opportunities along the CSX East-West corridor. The purpose of the study is to identify the land use measures necessary to promote TOD at identified station areas located on the Lehigh spur of the corridor.

The CSX East-West Corridor spans three jurisdictions – Miami-Dade County, the City of Doral and the City of Sweetwater. Transit service on the corridor would provide another link to jobs throughout the area. Potential station areas within Doral included in the evaluation are NW 82<sup>nd</sup> Avenue, NW 107<sup>th</sup> Avenue and NW 97<sup>th</sup> Avenue.

#### 9.1.1. NW 82nd Avenue

The possible 82nd Avenue Station is the best-equipped location to sustain TOD in the short term (five years). This location offers a pedestrian-friendly environment, with a large, sun-shading tree canopy a landscaped median and sidewalks on both sides of 82nd Avenue. Although much of the surrounding area consists of warehouses, several have been adapted to retail uses, including restaurants, and a specialty food market across from the proposed station location.

Like the other stations on the corridor, residential parcels are limited to the south side of the Dolphin Expressway. Although NW 82nd Avenue does not currently connect to the neighborhoods on the other side of the expressway, the County is securing funding to construct an at-grade connection that would provide direct access within the next 10 years.

A station at NW 82nd Avenue was proposed over NW 87th Avenue due to the reconfiguration of the Dolphin Expressway Ramps at NW 87th Avenue. The station site is located within a half-mile of the Doral Wal-Mart on NW 87nd Avenue. In 2014, this Wal-Mart was reported by local news stations to be the highest-grossing store in the United States. The store's location – in the County's geographic center and its close proximity to the airport are reasons cited for its success.



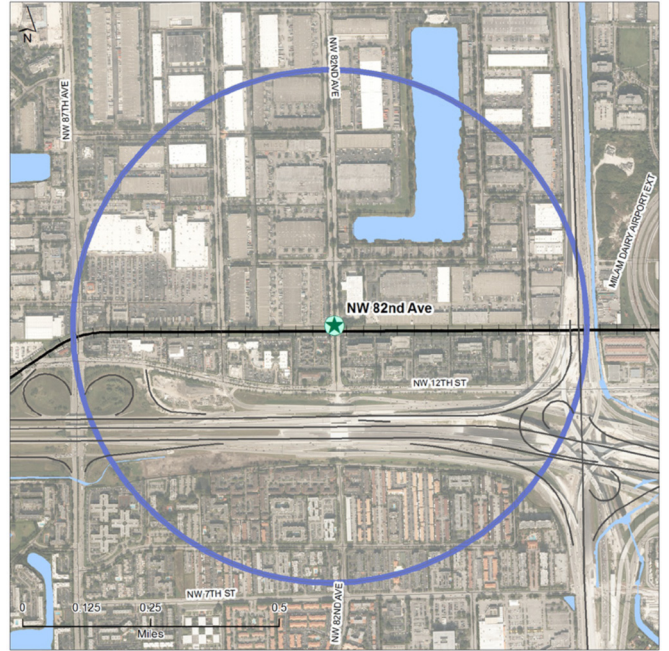
# City of Doral TRANSPORTATION MASTER PLAN



## 9.1.2 NW 107th Avenue

NW 107th Avenue also presents significant TOD development opportunities. Its proximity to two (2) significant regional attractors – Dolphin Mall and International Mall, combined with over 40 acres of vacant land adjacent to the proposed station location and immediately to its northwest are indicative of a location that has both short- and long-term development potential.

Despite the challenges facing this station area, for instance, the existing urban form is currently auto-oriented, consisting of strip malls, and wide intersections (the north-south approach of the NW 107th Avenue and NW 12th Street intersection is 10 lanes wide), the possible station area makes TOD viable because it is situated fewer than 1.5 miles from FIU’s Engineering and Modesto A. Maidique campuses; within the walkshed of two (2) shopping malls; and, is two (2) miles south of Doral’s largest residential neighborhoods.

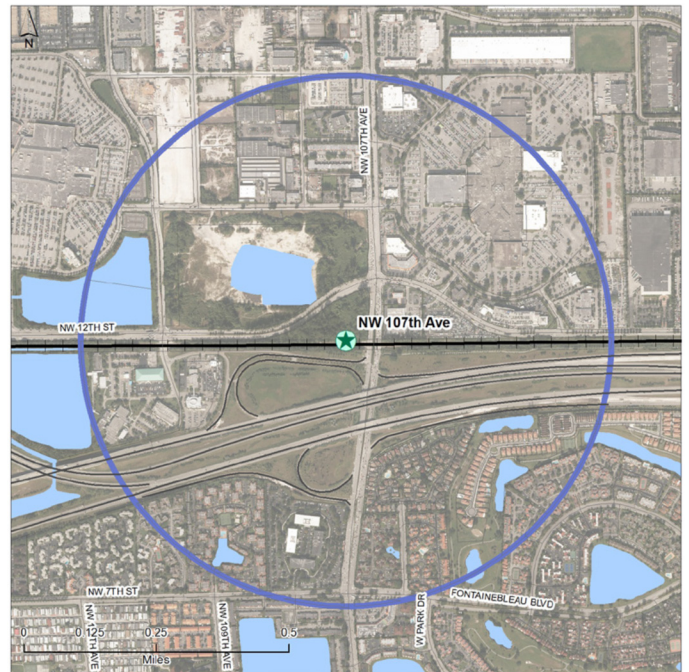


## 9.1.3 NW 97th Avenue (Secondary Station, no graphic in the TPO Study)

This station area proposed has a similar land mix to NW 82nd Avenue with a few key differences. NW 97th Avenue has an above-grade connection over the Dolphin Expressway. This distinction means that access to the proposed station is limited to approaches from NW 12th Avenue. MDX has proposed a layover stop for express bus service on the Dolphin Expressway at the site of an abandoned toll plaza just to the west of the station. Access from the toll plaza over the expressway to the 97th Avenue station would have to be built.

Commercial land north of the station primarily consists of large-lot car dealerships. The dealership properties are dominated by large surface parking lots that are used for vehicle storage, which results in little employment relative to the size of the parcels. Other commercial property northeast or near the station location has its accessibility limited by a large retention pond.

The lack of active, pedestrian-oriented uses, and barriers that limit access to the proposed station location suggest that it is not prime for TOD at this time. The station should be considered for infill service in a second phase implementation.





## 9.2 Vision Zero

**Vision Zero** is a multi-national road traffic safety project that aims to achieve a highway system with no fatalities or serious injuries. A core principle of the vision is that human life and health can never be exchanged for mobility. It acknowledges that even one serious injury or traffic death “is one too many”. A value is placed on life and health, then that value is used to determine how much money needs to be spent on a road network to decrease the potential for life-threatening traffic crashes. Vision Zero has an aggressive, but critical goal, which relies on a partnership between government, community groups, and individuals. Vision Zero first originated in Sweden in 1997 when the Parliament introduced “Vision Zero” as its official road policy. Vision Zero places the core responsibility for crashes on overall system design, vehicle technology, and enforcement. Sweden aims to reduce all fatalities and serious injuries to zero by 2020. Vision Zero has been adopted by multiple countries and is picking up speed in the United States as well, as more and more cities are adopting this concept.

### 9.2.1 How Doral Can Implement Vision Zero

Creating a successful Vision Zero network, involves five core elements: **Political Commitment** of local officials to make commitments to achieve zero traffic fatalities and severe injuries among all road users within a set timeframe. A **Multi-Disciplinary Leadership team to create and lead the planning effort.** Within one year of initial commitment, **this team should develop an action plan to achieve the goals set forth.** The Action Plan must be implemented with clear strategies, “owners” of each strategy, interim targets, timelines, and performance measures. While developing the action plan, the team should commit to both an equitable approach, as well as, equitable outcomes by ensuring measurable benchmarks to provide safe transportation options for all road users in all parts of the city. The action plan should also encourage meaningful cooperation and collaboration among relevant governmental agencies and community stakeholders to establish shared goals and focus on coordination and accountability. **The plan should** focus on the built environment, systems, and policies that influence behavior. It should be **data-driven to ensure the needed information is gathered**, analyzed, utilized, and share data to understand traffic safety issues and prioritize resources based on evidence of the greatest needs and impact. You also need **community engagement in order for Vision Zero to be successful.** Meaningful Community Engagement through public meetings or workshops, online surveys, and other feedback opportunities so that the program is transparent. This can be achieved by having regular updates on the progress on the Action Plan and performance measures, and a yearly report to the City Council.

## 9.3 Doral Comprehensive Plan Review

### 9.3.1 Recommended Revisions

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 were reviewed and the recommendations below were made.

The Transportation Element consists of eight objectives designed to guide the development of the Doral towards the goal providing a “safe, convenient, effective, and energy efficient multimodal transportation



# City of Doral TRANSPORTATION MASTER PLAN



system”. It is developed in coordination with the Future Land Use Element to aid in planning for impacts on the transportation systems as the City develops.

### **Objective 3.1: Coordination with Future Land Use Element**

#### Existing Policies

*Parking and on-site traffic flow in Doral are addressed by Policies 3.1.3 and 3.1.8 of the Plan. Doral will, through amendment of Land Development Regulations (LDRs) and the development review process, ensure safe and convenient on-site traffic flow, which considers needed motorized and non-motorized vehicle parking (3.1.3), and provides parking strategies for development, including: reduced parking requirements between mixed-use developments or proximal comparable uses; preferential parking for carpooling; customized parking ratio requirements to reflect local conditions; and utilization of payment-in-lieu of required parking programs, with funds going towards a municipal public parking program or transit fund (3.1.8).*

#### Recommendations

In addition to the existing parking incentives, the City could create a maximum parking regulation and extend the preferential parking to EV and alternative fuel cars. Parking requirements for electric vehicle charging stations could also be incorporated. The parking in-lieu fees could be extended to be used for future planned park-and-ride facilities considered as part of potential transit hubs.

### **Objective 3.2: Roadway Level of Service**

*Objective 3.2 provides Doral with the Level of Service (LOS) standards which the city must operate at or above. As roads within Doral are split across State, County, and Local jurisdictions, Doral must coordinate across multiple agencies (Miami-Dade County, the Miami-Dade TPO, and the FDOT) to ensure adopted roadway level of service standards in the City are maintained. Success in achieving this objective is measured by the level of maintenance of roadway LOS.*

#### Recommendations

In support of a truly multi-modal transportation system, the City should modify Objective 3.2 to include level-of-service standards for alternative modes, in addition to roadways.

#### Existing Policies

*Doral will regularly monitor and ensure adherence to the LOS standards, and will base their decision on development and redevelopment orders on the ability of public facilities to provide accepted LOS, pursuant to the Concurrency Management System (3.2.10). Doral will monitor LOS on segments that are expected to operate lower than their LOS in 2030, and by 2025 will program recommended improvements into the Five-Year Capital Improvements Program through coordination with FDOT and Miami-Dade TPO (3.2.11).*

#### Recommendations

The City should consider revising the current Concurrency Management System to include a mobility impact fee tied to measuring LOS for alternative modes, including pedestrian, bike facilities and transit.

### **Objective 3.5: Enhance Bicycle Environment**

*Objective 3.5 for Doral is to provide a safe, convenient, continuous and comfortable bicycle environment as part of the transportation system that is conducive to all skill levels of bicycling. To achieve this objective,*



*Doral will complete a city-wide bicycle facilities study to determine: the feasibility of providing an interconnected bicycle system (3.5.1) as well as identify all street segments without bicycle trail or on-street facilities (3.5.2), encourage private development to include trails into residential subdivision plans (3.5.2), and provide bike lanes which are grade-separated when possible from adjacent roadways.*

*Success in implementing this objective is measured by the development of a bicycle facilities-network plan, and the increase in bicycle lanes, routes, and paths. In addition, Doral currently has a low trend of bicycle usage, and will work to increase bicycle trips by 1%, to 1.07%, of all work trips (3.5.4).*

Recommendations

The City should consider increasing the modal shift of trips made by bike, and also expand beyond work trips.

Existing Policies

*Doral has the goal of increasing to 2% public transit as a percentage of all commuters, and recognizes that the viability of public transit will affect the transit modal split and annual transit trips per capita (3.6.8). This viability will be affected by coordination efforts with MDT and Miami-Dade TPO to establish measures for the acquisition and preservation of existing and future public transit rights-of-way and any appropriate exclusive public transit corridors in Doral (3.6.7).*

Recommendations

The City should consider increasing the modal shift of trips made by transit, and also expand beyond commuter trips.

## 9.4 Doral Passport Program

The City of Doral has become a well-established employment hub. Due to Doral’s strategic location, west of Miami International Airport, the 12<sup>th</sup> busiest airport in the U.S. Doral also benefits from excellent access to the South Florida region through three major highways (SR-821/Homestead Extension of Florida Turnpike, SR-836/Dolphin Expressway and SR-826/Palmetto Expressway), Doral is the center of over 100 multinational companies. As a major employment hub, with growth comes traffic congestion, and a nagging issue, but it’s also a testament to the importance of the area.

The City has been on the forefront of innovative ideas for dealing with traffic issues. Implementation of the Doral Trolley has helped with circulation and reducing the dependency on the automobile for mobility in the City. Now, Doral Passport Program has come forward as an incentive for regional commuters to take transit into the City rather than drive, as a means to reduce congestion. The incentive is to offer commuters traveling into Doral on transit a free or discounted rate.

Doral currently has eight Miami-Dade Transit (MDT) routes providing service within the City, of which three routes provide a greater service footprint within the City and the Palmetto Metrorail station just north, which in turn, connects to Amtrak and Tri-Rail. In the future, MDT is to provide more regional express routes into the City through the future Dolphin Mall Station and the Palmetto Metrorail Station. These regional routes would provide substantial improvement in transit access to the City.





## 9.4.1 Implementation of the Doral Passport Program

In order to establish a program MTD will be consulted and a pilot project implemented for up to a year. The goal is to confirm the cost per rider and to test potential strategies, eliminating those that are not performing and making modifications as needed. After the test period, the City could fully implement the program. The pilot period would be used to test options for funding, sponsors, advertising and track user needs. Early adopters would likely be programs which serve tourists who don't want the added expense of a car rental or perhaps are not familiar with the area and fear getting lost. Others that would be targeted in a pilot program would be students at Miami-Dade College and employees at the largest businesses (including the malls) and the elderly.

MDT would be the entity through which the incentive would be reimbursed. Based on guidance from the county, the Doral Passport Program could use the County's EASY Card to determine if a rider is commuting into and/or within the City. In that instance, the rider's EASY Card would not be charged, or if charged, it would be at a discounted rate for that trip. During the pilot period, the City would determine the type of incentive to adopt, a full transit fare or a percentage discount, and the criteria for which the City believes the trip is a benefit to its system.

A public outreach campaign would need to be conducted to create awareness of the program. Outreach would need to be done to all the major employers located within the City of Doral, the Miami International Airport, Miami-Dade College, and the malls. There is the potential to utilize gamification to reach potential riders creating interest in the program. Scores could be tied to discounts on fares, games could be designed to encourage other alternative modes of transportation, or actual prize money could be awarded (added to the EASY Card) as an incentive to a potential commuter.

Additionally, Doral employers could contribute to the program as a sponsor. Interest in the program from the business community would be determined during the pilot project. Employers may benefit by the reduced need of parking, more productive employee time spent commuting to the office (MDT buses are equipped with free WiFi), and more relaxed employees arriving fresh for work. A reduced need for employee parking can free valuable land for more productive uses. Sponsors would also gain added exposure to the public through promotions of the program. A passport program could even involve a coupon book for Doral-based businesses, given to those who purchase the pass. Alternative versions of this could be developed as well, to provide for FIU students and others who may ride the proposed new Doral Trolley to the malls.

## 9.5 Miami-Dade Transit Discount Programs

Currently, MDT provides four discount programs summarized here. These programs are beneficial to Doral residents and could be combined with the Doral Passport Program.

### A. Corporate Discount Program

The Corporate Discount Program (CDP) engages employers to provide pre-tax savings by obtaining monthly public transportation through a tax deduction under IRS Code 132(f). The CDP provides a one-month transit pass on the MDT EASY Card, good for a month of unlimited rides on Metrobus and Metrorail. Public and private companies, government agencies and non-profit organization are all eligible to participate in three:



1. The employee pays for the entire cost of monthly transit with pre-tax/set-aside dollars of their salary.
2. The employer pays for the entire cost of monthly transit through a tax-deductible subsidy.
3. The employer and employee share the cost of monthly transit, both paying for it with pre-tax dollars.

## B. College Discount Program

This program allows for full-time students at local colleges, universities, technical and vocational schools to purchase the College EASY Ticket for \$56.25, half of the price of the original monthly pass (\$112.50). The college discount program is bought through the participating local college.

## C. K-12 Discount Program

The K-12 discount program provides both registered public and private school students attending classes in Miami-Dade County to ride Metrobus and Metrorail for half the regular fare (inclusion of a daily, weekly or monthly pass). For the cost of two dollars, a student can register to obtain a K-12 EASY Card providing the reduced rate until the student graduates from high school.

## D. County Employee Discount Pass

County employees receive a discount of \$95.65 for a monthly pass with pre-tax savings. The employees transit expense is deducted from their paycheck before taxes and an EASY Card is automatically reloaded every month as long as the employee is in the program.

## E. Golden Passport (for those 65 years of age or Over)

Senior citizen 65 years and over who are permanent Miami-Dade residents, are eligible to ride transit free with a Golden Passport EASY Card. Upon successful application, Seniors will receive a Golden Passport EASY Card that is valid for twenty years. In addition, Social Security beneficiaries who are permanent Miami-Dade residents are eligible to ride transit free with a Golden Passport EASY Card to be renewed on an annual basis.

## F. Patriot Passport:

Disabled veterans who are permanent residents of Miami-Dade are eligible to apply for a Patriot Passport EASY Card. Veterans who are permanent residents of Miami-Dade and whose annual income is \$27,994 or less **may** eligible to ride transit free with the Patriot Passport EASY Card based on their military discharge category.

The Patriot Passport expires annually.

Applicants can apply by mail, by fax, or in person at several locations in Miami-Dade: Government Center, Little Haiti, or Little Havana. One option to help Doral residents is to arrange with the County to host an in-person application center in Doral on certain days.



# 10. Funding and Financial Analysis

## 10.1 Introduction

Task 4 consists of the Funding and Financial Analysis of the Transportation Master Plan. By evaluating the City’s Capital Improvement Element and annual budget, a baseline of expected funds can be set. When measured against updated project costs, the need for additional funding can be determined. A three-year financial plan has been developed including re-examining impact fees to cover the costs of the planned infrastructure, where possible. The resulting new Capital Improvements Element must be financially feasible. Therefore cost estimates of projects in the existing CIP has been re-examined. Funding opportunities such as, grants, and local, state and federal partnerships are summarized and opportunities are recommended.

## 10.2 Capital Improvements Element

### 10.2.1 Current Budget

The following are excerpts of the 2016 annual update to the Capital Improvements Element (CIE) of the City of Doral Comprehensive Plan adopted by Ordinance No. 2015-34. Pursuant to Subsection 163.3177(3) (b) 1, Florida Statutes, local governments are required to review the CIE on an annual basis and modify it as necessary, to maintain a financially feasible 5-Year Schedule of Capital Improvements (SCI).

The CIE Update includes all capital projects for which the City has fiscal responsibility, including stormwater management, parks and recreation, and transportation. The Update also includes capital improvement projects which are the responsibility of other government agencies and entities, including water supply, sanitary sewer, solid waste, public school facilities and transportation facilities. These “non-Doral” projects are funded by Miami-Dade County, Miami-Dade Public School Board, Miami-Dade Transportation Planning Organization (TPO) and the Florida Department of Transportation (FDOT).

The data and analysis presented in this report shows level of service (LOS) needs in transportation, parks and recreation, and Stormwater management which were reviewed by Council on August 23<sup>rd</sup>, 2016. The Schedule of Capital Improvements (SCI) is intended to address the maintenance and improvement of public facilities.

Table 10: Projected Revenues for Capacity-Related Projects by Funding Source

| FUNDING SOURCES             | FY 2016/17          | FY 2017/18          | FY 2018/19          | FY 2019/2020        | FY 2020/2021        | 5 YEAR TOTAL FY 2017-2021 |
|-----------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------------|
| <b>City Funded Projects</b> |                     |                     |                     |                     |                     |                           |
| Parks & Recreation/ GF      | \$12,390,000        | \$500,000           | \$12,350,000        | \$6,563,000         | \$9,240,000         | <b>\$41,043,000</b>       |
| Stormwater Fund             | \$2,176,000         | \$2,170,000         | \$1,456,000         | \$1,468,000         | \$1,008,000         | <b>\$8,278,000</b>        |
| Park Impact Fee Fund        | \$1,200,000         | \$1,200,000         | \$1,200,000         | 1,200,000           | \$1,200,000         | <b>\$6,000,000</b>        |
| Transportation Fund         | \$8,126,229         | \$10,137,000        | \$5,350,000         | \$4,457,000         | \$4,615,000         | <b>\$36,685,229</b>       |
| <b>TOTAL</b>                | <b>\$23,892,229</b> | <b>\$14,007,000</b> | <b>\$20,356,000</b> | <b>\$13,688,000</b> | <b>\$16,063,000</b> | <b>\$92,006,229</b>       |

Source: City of Doral; Iler Planning 2016



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Table 11: Projected 5-Year Expenditures for Capital Improvements by Type

| Project Type                    | FY2016/17           | FY2017/18           | FY2018/19           | FY2019/2020         | FY2020/2021         | 5-YEAR<br>TOTAL<br>FY 2017-21 |
|---------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-------------------------------|
| <b>City-Funded<br/>Projects</b> |                     |                     |                     |                     |                     |                               |
| Parks                           | \$13,000,000        | \$500,000           | \$13,000,000        | \$7,450,000         | \$10,000,000        | \$43,950,000                  |
| Drainage                        | \$2,072,000         | \$2,067,000         | \$1,387,000         | \$1,399,000         | \$960,000           | \$7,885,000                   |
| Transportation                  | \$8,126,229         | \$9,655,000         | \$5,095,000         | \$4,245,000         | \$4,395,000         | \$35,171,229                  |
| <b>Total</b>                    | <b>\$23,198,229</b> | <b>\$12,222,000</b> | <b>\$19,482,000</b> | <b>\$13,094,000</b> | <b>\$15,355,000</b> | <b>\$87,006,229</b>           |

Source: City of Doral; 2016

Revenue projections for capital projects to be funded by Doral are based on the City’s adopted 2015- 2016 budget and information provided by the City’s departments. City revenues for capital improvements by type are also identified in Table 18. For example, the Stormwater Fund is used for drainage improvements, the Park Impact Fee Fund is used to finance park improvements, and the Transportation Fund is used for roadway, transit and pedestrian projects. The Capital Improvements Fund is comprised of revenue transfers from the General Fund, and recovery of grant funds from prior years. An analysis of the projected revenues and planned capital expenditures indicate that the City will maintain financial feasibility through the 5-year planning period (Table \_\_).

Table 12: 2016/17-2020/21 Schedule of Capital Improvements

| PROJECT / LOCATION  | FY 2016-17  | FY 2017-18  | FY 2018-19  | FY 2019-20  | FY 2020-21  | TOTAL COST FY<br>2017-21 | FUNDING<br>SOURCE |
|---|-------------|-------------|-------------|-------------|-------------|--------------------------|-------------------|
|   |             |             |             |             |             |                          |                   |
| TRANSPORTATION PROJECTS   |             |             |             |             |             |                          |                   |
| Citywide- Transit Circulator/ Trolley Fleet                         | \$1,960,000 | \$2,900,000 | \$2,700,000 | \$2,500,000 | \$2,700,000 | \$12,760,000             | TF, PTP           |
| Citywide- Transit/ Mobility & Infrastructure                        | \$175,000   | \$250,000   | \$250,000   | \$250,000   | \$250,000   | \$1,175,000              | TF                |
| Citywide- Bikeways  | \$2,250,000 | \$2,000,000 | \$0         | \$0         | \$0         | \$4,250,000              | SWF,SG            |
| Citywide- Bicycle   | \$0         | \$150,000   | \$0         | \$150,000   | \$0         | \$300,000                | TF                |
| Citywide Sidewalk   | \$0         | \$1,640,000 | \$0         | \$0         | \$0         | \$1,640,000              | TF                |
| Turnpike Trail Bridge over Doral Blvd                               | \$3,860,000 | \$0         | \$0         | \$0         | \$0         | \$3,860,000              | GF                |
| NW 102 <sup>nd</sup> Ave (NW 66 <sup>th</sup> -74 <sup>th</sup> St) | \$1,900,000 | \$0         | \$0         | \$0         | \$0         | \$1,900,000              | TF                |



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|   |             |             |             |     |     |             |         |
|---|-------------|-------------|-------------|-----|-----|-------------|---------|
| NW 54 <sup>th</sup> St. (79 <sup>th</sup> ave-87 <sup>th</sup> ave) | \$850,000   | \$0         | \$0         | \$0 | \$0 | \$850,000   | GF      |
| NW 92 <sup>nd</sup> Ave (NW 28 <sup>th</sup> - 33 <sup>rd</sup> st) | \$250,000   | \$0         | \$0         | \$0 | \$0 | \$250,000   | SW      |
| NW 82 <sup>nd</sup> Av. (NW 27 <sup>th</sup> - 33 <sup>rd</sup> St) | \$0         | \$2,000,000 | \$0         | \$0 | \$0 | \$2,000,000 | TF      |
| NW 99 <sup>th</sup> ave (NW 64 <sup>th</sup> -66 <sup>th</sup> st)  | \$0         | \$0         | \$800,000   | \$0 | \$0 | \$800,000   | TF      |
| NW 41 st (NW 79 <sup>th</sup> - 87 <sup>th</sup> ave)               | \$2,650,000 | \$0         | \$0         | \$0 | \$0 | \$2,650,000 | TF, SWF |
| NW 102th ave & 62 <sup>nd</sup> st                                  | \$0         | \$0         | \$700,000   | \$0 | \$0 | \$700,000   | TF      |
| NW 112 Av. & 114 Av. (41 St. - 58 St.)                              | \$0         | \$0         | \$2,000,000 | \$0 | \$0 | \$2,000,000 | TF      |

| PROJECT / LOCATION                              | FY 2016-17          | FY 2017-18          | FY 2018-19         | FY 2019-20         | FY 2020-21         | TOTAL COST<br>FY 2017-21 | FUNDING<br>SOURCE |
|---|---------------------|---------------------|--------------------|--------------------|--------------------|--------------------------|-------------------|
|   |                     |                     |                    |                    |                    |                          |                   |
| NW 114 Av. (34 St - 39 St)                      | \$0                 | \$0                 | \$0                | \$2,000,000        | \$0                | \$2,000,000              | TF                |
| NW 34 St. (117 Av - 112 Av)                     | \$0                 | \$0                 | \$0                | \$0                | \$2,000,000        | \$2,000,000              | TF                |
| NW 112 Av. (25 St - 34 St)                      | \$0                 | \$2,000,000         | \$0                | \$0                | \$0                | \$2,000,000              | TF                |
| NW 117 Av. ( NW 58 St - North)                  | \$0                 | \$0                 | \$0                | \$800,000          | \$0                | \$800,000                | TF                |
| NW 114 <sup>th</sup> ave & 58 <sup>th</sup> St. | \$0                 | \$0                 | \$120,000          | \$0                | \$0                | \$120,000                | TF                |
| Citywide – Roads                                | \$1,200,000         | \$1,200,000         | \$1,200,000        | \$1,200,000        | \$1,200,000        | \$6,000,000              | TF, PTP           |
| Traffic Monitoring                              | \$50,000            | \$50,000            | \$50,000           | \$0                | \$0                | \$150,000                | TF                |
| Traffic Calming                                 | \$175,000           | \$250,000           | \$250,000          | \$250,000          | \$250,000          | \$1,175,000              | TF, GF            |
| <b>5 Year Transportation Cost Sub Total</b>     | <b>\$15,320,000</b> | <b>\$12,440,000</b> | <b>\$8,070,000</b> | <b>\$7,150,000</b> | <b>\$6,400,000</b> | <b>\$49,305,000</b>      |                   |

Source: City of Doral Public Works Dept., 2016

## 10.2.2 New Project Analysis

The projects identified and described in Chapter 7 were cross referenced with current cost estimates and prioritized using seven evaluation factors. The seven factors include 1) Ease of Implementation; 2) Efficiency; 3) Effectiveness; 4) Promotes Safety; 5) Promotes Flow; 6) Maintains/Enhances City Character; and 7) Reduces Traffic Intrusion. The following Table presents the prioritized projects and categorizes each project into one of four Tiers. The purpose of ranking by Tiers is to establish a schedule, Tier I projects



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are phased in the short-term (3 to 5 years); Tier II projects are further out, but still in the near future (5 to 10 years); Tier III looks to the mid-term timeframe (10 to 15 years); and Tier IV projects are the long-term (15 to 20 years). The project priorities are subject to change if additional funding come available. This could be in the form of grants, private funding or impact fees. If additional funds are to become available, the City should consider re-prioritizing projects.

| No.           | Project   | Location        | From            | To              | Description  |
|---------------|---|-----------------|-----------------|-----------------|--|
| <b>Tier I</b> |   |                 |                 |                 |  |
| 1             | Repair Sidewalks                                | Various         | Various         | Various         | Repair or replace damaged, uneven or cracked sidewalks   |
| 2             | One Stop Personal Mobility Information Center   | N/A             | N/A             | N/A             | Develop a mobile app to offer access to public transit information, ride-sharing and carpooling, and bicycling and pedestrian routes.  |
| 3             | Infill Sidewalks                                | Various         | Various         | Various         | Prioritization of these sidewalk improvements should be based on proximity to residential areas, schools, parks, and bus or trolley stops, and then to existing businesses. Primarily, the purpose is to create a cohesive, connected walking network; thus, in some cases, the need for sidewalks can be bundled with a bicycle path to develop a shared use off-road path. |
| 4             | Complete Streets Design Guidelines              | N/A             | N/A             | N/A             | Develop new City regulations for implementing complete streets concepts that will foster design and redevelopment of all streets to improve mobility for all users.  |
| 5             | Multiple Intersection Safety Studies            | Various         | Various         | Various         | Safety Studies are necessary at intersections with high crash rates to determine changes that may be needed  |
| 6             | Doral Boulevard Corridor Safety Study           | Doral Boulevard | NW 97th Avenue  | NW 87th Avenue  | The purpose of this project is to evaluate safety on the NW 36 <sup>th</sup> /NW 41 <sup>st</sup> Streets corridor between NW 87 <sup>th</sup> Avenue and NW 97 <sup>th</sup> Avenue for both vehicles and pedestrians crossing the road.  |
| 7             | Complete Bicycling Network                      | Various         | Various         | Various         | Work to implement the remaining facilities, through ROW acquisition, design and construction.  |
| 8             | Update City of Doral Bicycle Master Plan        | N/A             | N/A             | N/A             | Revise the City's Bicycle Master Plan in light of the plan's age and need to account for new bicycle network needs.  |
| 9             | Transit Development Plan                        | N/A             | N/A             | N/A             | Ensure the efficiency and effectiveness of the Doral Trolley by establishing new routes in response to future growth of the City.  |
| 10            | Pedestrian Safety Improvements at Intersections | Various         | Various         | Various         | 44 locations have been noted with need for improvement. Each intersection should undergo an individual pedestrian safety evaluation to explore the number of crashes, operational characteristics, signal timing, geometry, etc. .   |
| 11            | Pedestrian Bridge at NW 41st Street             | NW 41st Street  | NW 117th Avenue | N/A             | Construct a pedestrian bridge over NW 41st Street to connect the multi-use path where it is currently bi-sected by the roadway   |
| 12            | Bicycling Safety and Education Programs         | N/A             | N/A             | N/A             | Develop a bicycle/driver educational pamphlet, work to educate the public on bicycle and driver safety.  |
| 13            | NW 74th Street Bike Lane Conversion             | NW 74th Street  | NW 97th Avenue  | NW 107th Avenue | Convert the current bike lane to a multi-use path.   |
| 14            | Doral Boulevard Safety Study                    | Doral Boulevard | NW 97th Avenue  | NW 987th Avenue | A safety study should be conducted on this corridor to determine the cause of crashes and possible remediating actions which can be undertaken   |
| 15            | Flyover Ramp to HEFT                            | HEFT            | NW 41st Street  | NW 25th Street  | To connect the existing NW 25th Street viaduct to NW 41st Street   |



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|    |   |                          |                 |                |  |
|----|---|--------------------------|-----------------|----------------|--|
| 16 | Extend NW 117th Avenue over NW 41st Street  | NW 117th Avenue          | NW 41st Street  | N/A            | Northbound connection of NW 117th Street above-grade fly-over crossing NW 41st Street  |
| 17 | Intersection Operational Improvements   | Various                  | Various         | Various        | An analysis of various intersections within the City indicated unacceptable levels of service for specific intersections.              |
| 18 | Bus Stop Amenities Improvements   | Various                  | Various         | Various        | 38 shelters and 25 benches are needed. In addition, bicycle racks should be installed at major hubs, including bicycle rental stations |
| 19 | Pedestrian Islands  | Various                  | Various         | Various        | Provide pedestrian safety islands at 31 identified locations   |
| 20 | Convert Streets to One-Way Pair   | NW 112th & 114th Avenues | Doral Boulevard | NW 58th Street | Convert NW 112th and NW 114th from two-way streets to a one-way pairing to improve traffic flow.                                       |
| 21 | Support MDT Palmetto Station Redevelopment/ Development of Palmetto Intermodal Center | Palmetto Station         | N/A             | N/A            | Work with MDT to lend support either politically or financially to such an effort.   |
| 22 | Support MDT Development of Dolphin Mall Station Park and Ride/Transit Hub             | Dolphin Mall             | N/A             | N/A            | Work with MDT to lend support either politically or financially to such an effort.   |
| 23 | Intersection Improvements   | NW 12th Street           | NW 107th Avenue | N/A            | Add westbound right turn lane and signal optimization.   |
| 24 | Intersection Improvements   | NW 25th Street           | NW 82nd Avenue  | N/A            | Add southbound, eastbound and westbound turn lanes; signal optimization.   |
| 25 | Intersection Improvements   | NW 41st Street           | NW 114th Avenue | N/A            | Add eastbound and westbound right turn lanes; signal optimization.   |
| 26 | Intersection Improvements   | NW 41st Street           | NW 107th Avenue | N/A            | Remove split phase; signal optimization  |
| 27 | Intersection Improvements   | NW 36th Street           | NW 79th Avenue  | N/A            | Split phase removal, ad eastbound thru lane, add southbound and westbound right turn lanes; signal optimization.                       |
| 28 | Intersection Improvements   | NW 58th Street           | NW 107th Avenue | N/A            | Add southbound, eastbound, northbound and westbound right turn lanes; signal optimization.   |
| 29 | Intersection Improvements   | NW 74th Street           | NW 114th Avenue | N/A            | Add northbound right turn lane, add southbound right turn lane, add eastbound right turn lane and add westbound right turn lane.       |



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|    | Tier II                                   |                 |                 |                 |   |
|----|---|-----------------|-----------------|-----------------|---|
| 1  | Bicycle Connections to Miami-Dade System  | Various         | Various         | Various         | work with the County and neighboring municipalities to ensure continuous connections to regional pathways to the south, east, and north of the City.  |
| 2  | Pedestrian Mid-Block Crossings            | Various         | Various         | Various         | Construct safe and convenient crossings at high volume mid-block locations  |
| 3  | Fill In Gaps in Network                   | NW 14th Street  | NW 84th Avenue  | NW 82nd Avenue  | Fill gaps in the existing roadway infrastructure to complete the network  |
| 4  | Fill In Gaps in Network                   | NW 17th Street  | NW 84th Avenue  | NW 82nd Avenue  | Fill gaps in the existing roadway infrastructure to complete the network  |
| 5  | Fill In Gaps in Network                   | NW 21st Street  | NW 84th Avenue  | NW 82nd Avenue  | Fill gaps in the existing roadway infrastructure to complete the network  |
| 6  | Fill In Gaps in Network                   | NW 14th Street  | NW 98th Court   | NW 97th Avenue  | Fill gaps in the existing roadway infrastructure to complete the network  |
| 7  | MDT Operational Analysis                  | N/A             | N/A             | N/A             | Encourage MDT to conduct an operational analysis and gain efficiency in its system.   |
| 8  | Streetscape Improvements                  | Various         | Various         | Various         | The implementation of shading and rest areas along pedestrian paths is essential toward improving walkability.  |
| 9  | Bicycle Signalization Program             | Various         | Various         | Various         | Bicycle signalization separates the bicyclist from vehicular traffic, allows them to pass or turn safely in an intersection, and reduces the level of vehicular-bicycle conflict in a manner similar to left-turn lane signalization. |
| 10 | Extend NW 117th Avenue                    | NW 117th Avenue | NW 74th Street  | NW 58th Street  | Fill gaps in the existing roadway infrastructure to connect the westernmost north/south corridor.   |
| 11 | Fill In Gaps in Network                   | NW 84th Avenue  | NW 54th Street  | NW 53rd Terrace | Fill gaps in the existing roadway infrastructure to complete the network  |
| 12 | Fill In Gaps in Network                   | NW 82nd Avenue  | NW 54th Street  | NW 53 Terrace   | Fill gaps in the existing roadway infrastructure to complete the network  |
| 13 | Extend Metrorail to/from Palmetto Station | N/A             | N/A             | N/A             | Evaluate metrorail routing options for ridership, cost, operations and maintenance, capital, and timing, and select preferred option.   |
| 14 | Trolley Lunch Route Pilot Program         | N/A             | N/A             | N/A             | Increase trolley service frequency during the workweek lunch hour   |
| 15 | Trolley Route Extension to FIU            | N/A             | N/A             | N/A             | Increase trolley service to FIU campus  |
| 16 | Intersection Improvements                 | NW 25th Street  | NW 117th Avenue | N/A             | Split phase removal/realignment and signal optimization.  |
| 17 | Intersection Improvements                 | NW 25th Street  | NW 107th Avenue | N/A             | Add southbound right turn lane and signal optimization.   |
| 18 | Intersection Improvements                 | NW 25th Street  | NW 79th Avenue  | N/A             | Remove split phase by changing the southbound approach to two lefts, one thru and one right turn lane. Add eastbound turn lane and signal optimization.   |
| 19 | Intersection Improvements                 | NW 33rd Street  | NW 107th Avenue | N/A             | Remove split phase eastbound/westbound and signal optimization.   |
| 20 | Intersection Improvements                 | NW 33rd Street  | NW 97th Avenue  | N/A             | Add northbound right turn lane and signal optimization  |
| 21 | Intersection Improvements                 | NW 33rd Street  | NW 87th Avenue  | N/A             | Add eastbound and westbound right turn lanes; signal optimization.  |
| 22 | Intersection Improvements                 | NW 36th Street  | NW 87th Avenue  | N/A             | Add southbound and westbound turn lanes and signal optimization   |
| 23 | Intersection Improvements                 | NW 58th Street  | NW 97th Avenue  | N/A             | Remove split phase, add northbound, southbound, westbound, and eastbound right turn lanes, and signal optimization  |
| 24 | Intersection Improvements                 | NW 74th Street  | NW 107th Avenue | N/A             | Add southbound, eastbound and westbound turn lanes; signal optimization.  |





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| Tier III |  |                 |                    |                |   |
|----------|--|-----------------|--------------------|----------------|---|
| 1        | Bicycle Rental Program   | Various         | Various            | Various        | Contact several bikeshare system providers to assess the feasibility of creating a system in Doral  |
| 2        | Bluetooth and Connected Vehicle Technology                           | Various         | Various            | Various        | Provide for the installation of Bluetooth receptors and Connected Vehicle signal technology along the major corridors, including intersections as needed.   |
| 3        | Construct a Turbolane  | NW 41st Street  | at NW 109th Avenue | N/A            | This project will install a turbolane on the intersection to facilitate flow-through traffic.   |
| 4        | Install "Do No Block the Box" signs at Intersections                 | Various         | Various            | Various        | Designation of program at specific intersections, with the addition of signage and roadway marking to denote effort to avoid vehicles blocking the box.   |
| 5        | Doral Trolley Sunday Service   | N/A             | N/A                | N/A            | Develop Sunday service route options. Evaluate the capital, operations and maintenance costs. Evaluate headways, buses needed, and potential ridership. Select the service to be provided and test it for a period of 3 months. |
| 6        | Express Route to Miami International Airport/Miami Intermodal Center | N/A             | N/A                | N/A            | Increase the mobility to the current Miami-Dade County regional hub.  |
| 7        | Support City-Edge Park-and-Ride Facilities                           | TBD             | TBD                | TBD            | Explore options for providing park-and-ride lots, intermodal transfer centers at the edges of the city.   |
| 8        | Eastern Connection to Miami International Mall                       | NW 19th Street  | NW 102 Avenue      | N/A            | Create a path to provide a less-circuitous route to the Mall, and a viable alternative when driving to the mall.  |
| 9        | Fill In Gaps in Network  | NW 112th Avenue | NW 41st Street     | NW 33rd Street | Fill gaps in the existing roadway infrastructure to complete the network  |
| 10       | Install Bicycle Racks & Lockers                                      | Various         | Various            | Various        | Locations are to be determined based on proximity of bicycling facilities and ptential usage  |
| 11       | Intersection Improvements  | NW 12th Street  | NW 87th Avenue     | N/A            | Add northbound left turn lane, add southbound right turn lane and signal optimization.  |
| 12       | Intersection Improvements  | NW 12th Street  | NW 82nd Avenue     | N/A            | Connect to southbound 82nd Avenue   |
| 13       | Intersection Improvements  | NW 25th Street  | NW 97th Avenue     | N/A            | Add northbound, southbound, eastbound and westbound right turn lanes.   |
| 14       | Intersection Improvements  | NW 41st Street  | NW 115th Avenue    | N/A            | Add dual left northbound turn lanes and signal optimization.  |
| 15       | Intersection Improvements  | NW 41st Street  | NW 102nd Avenue    | N/A            | Remove split phase and signal optimization.   |
| 16       | Intersection Improvements  | NW 36th Street  | NW 82nd Avenue     | N/A            | Add southbound, northbound, eastbound and westbound right turn lanes and signal optimization.   |
| 17       | Intersection Improvements  | NW 58th Street  | NW 114th Avenue    | N/A            | Add eastbound and westbound right turn lanes; signal optimization.  |
| 18       | Intersection Improvements  | NW 58th Street  | NW 87th Avenue     | N/A            | Add northbound, eastbound and westbound right turn lanes and signal optimization.   |



|    | Tier IV   |                |                |                |   |
|----|---|----------------|----------------|----------------|---|
| 1  | New roadways for "White Course" development                 | NW 41st Street | NW 87th Avenue | NW 79th Avenue | Future redevelopment of the golf course located between NW 41st Street, NW 48 <sup>th</sup> Street, NW 87 <sup>th</sup> Avenue and NW 79 <sup>th</sup> Avenue will necessitate new roadways for internal circulation. |
| 2  | Complete the grid for Sections 17 & 8                       | Section 17 & 8 | N/A            | N/A            | Future development in the north of the City will necessitate new roadways to complete the grid.   |
| 3  | Signal Priority for Buses/Trolleys                          | Various        | Various        | Various        | Conduct a study to evaluate on-time performance, ridership, and rider in-transit time. Improvement options include installing technology at traffic signals and transponders on the buses/trolleys.                   |
| 4  | Traffic Monitoring Control Center                           | TBD            | TBD            | TBD            | Construct a traffic monitoring control center to monitor city roads   |
| 5  | Off-road Bicycle Path Maintenance and Rest Area Development | Various        | Various        | Various        | Rest areas should be developed along existing shared-use, off-road paths at approximately every 0.5 miles.  |
| 6  | Citywide On-Street Parking Study                            | N/A            | N/A            | N/A            | Conduct assessment of on available on-street parking and associated policies in the City of Doral.  |
| 7  | Doral Trolley Passport Program                              | N/A            | N/A            | N/A            | Incentivize fare reductions, either in parking costs or through lower boarding fares  |
| 8  | Roadway widening improvements                               | Various        | Various        | Various        | An analysis of various roadways and future growth within the City indicated unacceptable levels of service for specific segments.   |
| 9  | Widen NW 90th Street  | NW 90th Street | NW107th Avenue | NW 97th Avenue | Widen an existing roadway to support future growth and development along this roadway   |
| 10 | Intersection Improvements                                   | NW 12th Street | NW 97th Avenue | Off Ramp       | Add westbound and northbound right turn lanes and also provide access to southbound 97th Avenue from 12th Street.   |
| 11 | Intersection Improvements                                   | NW 12th Street | NW 97th Avenue | On Ramp        | Add westbound and northbound right turn lanes and also provide access to southbound 97th Avenue from 12th Street.   |
| 12 | Intersection Improvements                                   | NW 7th Street  | NW 97th Avenue | N/A            | Signalize intersection.   |

## 10.3 Funding Sources

Funding for transportation projects comes from three primary sources: Local, State and Federal. Each year funding is more difficult to come by. Cities and counties, face the dilemma of rising costs of transportation projects, increasing traffic volumes and limitations on the ability to generate revenue. The cost of construction and materials increased by 44 percent between 2000 and 2013, more than the 35 percent rise in the overall rate of inflation. Fast changing economic environments put pressure on local governments to keep up with growth and congestion. At the same time, most states limit counties' ability to raise revenue.

Faced with rapidly increasing construction costs and traffic volumes local governments are finding new funding and financing solutions for transportation. Often, these solutions involve partnerships with other jurisdictions, the private sector and, most of all, county residents. Unfortunately, Florida is a donor state, giving more into the federal system than it gets back. Most monies for large projects are collected locally, provided to the Federal Government, and then reallocated to the states to be administered to agencies, like FDOT. The next pages contain a description of relevant funding opportunities at all levels.

### 10.3.1 Local Funding

Local funding is generated from within a city or county, generally relying on property taxes or other funds. Many communities have concurrency fees or impact fees, which can be applied to local infrastructure projects. In high-growth communities, like Doral, it is advised that they consider these



in the form of mobility fees, which require that developments fund their fair share of the infrastructure needed to support their development.

### 10.3.2 Miami-Dade Municipal Grant Program

The Municipal Grant Program (MGP) was developed to allow municipalities within Miami-Dade County to submit transportation planning proposals to the Transportation Planning Organization (TPO) to receive funding on a competitive basis. Participation in the program requires a minimum 20% funding commitment from the municipality. The latest grants, which run on a biennial basis, were awarded in 2016, with the next funding cycle to occur in 2018. Doral has been the recipient of funding from this program in the past.

Selection criteria include:

- Level of Service (LOS) benefits of the proposed project
- Impact of mobility/traffic circulation gains
- Intermodal nature of proposal
- Support of the approved countywide activities of the Unified Planning Work Program
- Consistency with the applicant's local comprehensive plans

### 10.3.3 Miami-Dade County's People's Transportation Plan, 1/2 Penny Sales Tax

Miami Dade County's People Transportation Plan (PTP), half-penny transportation surtax was approved by Miami- Dade County voters in November 2002 and included \$476 million for public works projects. The PTP funds to be provided were for major highway and road improvements totaling \$309 million, and for neighborhood improvements totaling \$167 million. Twenty percent of the total funding is provided to municipalities, based on their population. Each city must spend at least 20% of their funds on transit projects. Importantly, this source of funds can be used for a local match to federal funding. An advantage many local areas do not have.

### 10.3.4 Local Option Fuel Taxes

County governments are authorized to levy up to 12 cents of local option fuel taxes in three separate levies on fuel sold within the county. The funds are used for transportation expenditures.

- The ninth-cent fuel tax is a tax of 1 cent on every net gallon of motor and diesel fuel sold within a county.
- A tax of 1 to 6 cents on every net gallon of motor and diesel fuel sold within a county.
- A tax of 1 to 5 cents on every net gallon of motor fuel sold within a county. Diesel fuel is not subject to this tax. The funds may also be used to meet the requirements of the capital improvements element of an adopted local government comprehensive plan.

### 10.3.5 State Funding

The State of Florida has several funding sources that primarily come from FDOT.

The Governor's newly proposed FY 2016/2017 transportation budget makes the following investments:

- \$3.3 billion for construction of highway projects to keep Florida's transportation



infrastructure among the best in the country.

- \$153.9 million in seaport infrastructure improvements to keep Florida first in the world for ocean cruise passengers and a major U.S. cargo gateway.
- \$237.6 million for aviation improvements to keep Florida first in airport infrastructure investments.
- \$731.9 million for scheduled repair of 48 bridges and replacement of 21 bridges to keep Florida's bridges among the best structures in the country.
- \$963.4 million for maintenance and operation to keep Florida's infrastructure among the best maintained in the country.
- \$574 million for public transit development grants to keep Florida's growth in transit ridership over the last five years among the best in the country.
- \$159 million for safety initiatives to continue to improve the safety of families and visitors on our roads.
- \$46.6 million for bike and pedestrian trails to keep Florida's trail development among the best in the country.

### 10.3.6 FDOT Safety Office Programs

The Florida Department of Transportation Safety Office (FDOT) funds subgrants that address traffic safety priority areas including:

- Aging Road Users
- Community Traffic Safety
- Impaired Driving
- Motorcycle Safety
- Occupant Protection and Child Passenger Safety
- Pedestrian and Bicycle Safety
- Police Traffic Services
- Speed and Aggressive Driving
- Teen Driver Safety
- Traffic Records
- Traffic Record Coordinating Committee (TRCC)

Awards to state and local safety-related agencies are used as "seed" money to assist in developing and implementing programs that address traffic safety deficiencies or expand ongoing safety programs activities. Funding for these grants are apportioned to states annually from the National Highway Traffic Safety Administration (NHTSA) according to a formula based on population and road mileage. Funding may be available for projects in other program areas if there is documented evidence of need.

Through public rule making processes conducted in 1982, 1988, 1995 and 1998, it has been determined that certain highway safety program areas have proven to be more effective than others in reducing traffic crashes, injuries, and fatalities. These programs, designated as National Priority Program Areas are: Impaired Driving, Police Traffic Services, Speed Control, Occupant Protection/Child Passenger Safety, Pedestrian and Bicycle Safety, Motorcycle Safety, Traffic Records, and Community Traffic Safety.



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It is expected that programs funded through these grants will become self-sufficient and continue when grant funding terminates. To promote self-sufficiency, agencies are expected to provide a local funding match when personnel costs are included in second and third year projects. The local match is normally 25% of eligible costs for second year projects and 50% for third year projects.

Government agencies, political "subdivisions" of the state, local city and county government agencies, state colleges, universities, school districts, fire departments, public emergency services providers, and certain qualified non-profit organizations are eligible to receive traffic safety grant funding.

These grants are awarded on a Federal fiscal year basis, and can be funded for a maximum of three consecutive years in each priority area.

## 10.3.7 Economic Development Transportation Fund

The Economic Development Transportation Fund, commonly referred to as the "Road Fund," is an incentive tool designed to alleviate transportation problems that adversely impact a specific company's location or expansion decision. The award amount is based on the number of new and retained jobs and the eligible transportation project costs, up to \$3 million. The award is made to the local government on behalf of a specific business for transportation improvements.

## 10.3.8 City of Doral Impact Fees and Concurrency

The City is poised to continue to be one of the County's premiere business and residential centers in coming years. The issue relative to transportation continue to be the lack of roadway capacity to maintain an adequate level of service at peak periods. One way to solve this problem is by using alternative modes of transportation to add capacity to the system. The consequences of continued growth without supporting multimodal mobility are significant. As the economy rebounds and businesses are seeking greater efficiencies, having employees spend hours of their day in a commute is wasteful and is an economic drain to the region as a whole. The following maps show planned residential and commercial development in the City.

To ensure new development pays its fair share to mitigate for impacts to the system, the City has established a Concurrency Management System (CMS) that ensures the availability and sufficiency of public facilities and services at the time the impacts of development occur. The CMS ensures that development approval is contingent on the City's ability to provided facilities and services or requires the developer provide those facilities in order to maintain adopted roadway LOS standards. The current system requires developers to pay a transportation impact fee based on vehicle trip generation rates, currently \$190.00 per trip (City of Doral Code, Chapter 65, Article IV). While it is important for the City to continue to collect fees for vehicle trips, the CMS could be revised to encompass all forms of mobility.

Recent legislation allows for flexibility for how impact fees are collected. It allows the pooling of multiple fees to fund a single, regionally significant system. However, fees cannot be utilized to fund operations and maintenance. State statutes also require that the collection of fees must be based on the most recent local data. The levels of service that communities desire to live up to must be reasonable.

Under these current rules, local governments are allowed to repeal transportation concurrency. In doing so, these governments may elect to have an alternative mobility funding system. The benefit of this is to



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allow for alternative methodologies that rely solely on vehicle trips in a specific area, and limitations resulting from assessing fees based on concurrency. These issues

However, this funding system “may not be used to deny, time, or phase an application for site plan approval, plat approval, final subdivision approval, building permits or the functional equivalent of such approvals provided that the developer agrees to pay for the development’s identified transportation impacts via the funding mechanism implemented by the local government.” In addition, a “mobility fee-based funding system must comply with the dual rational nexus test applicable to impact fees.” (Florida State Statutes – 163.3180).

Under alternative systems, a bank of multimodal projects and the cost of their implementation will be arrived at by projecting needs across all modes into the future, based on anticipated development as defined on the City’s Future Land Use Map. Facilities whose level of service fall below those thresholds placed in the Comprehensive Plan can then be brought into compliance. The cost of those projects will be divided by the number of trips anticipated to result from the development over the planning horizon, as specified in the Comprehensive Plan, Land Development Code and Future Land Use Map, and a cost per trip will be arrived at.

As part of a proportionate fair-share system, developers will be required to contribute a certain dollar amount based on the number of trips they ultimately generate. The City will implement its master plan with these funds. Developers will have the opportunity to gain credits which will enable them to lessen the amount paid, by implement one or more multimodal oriented urban design aspects, or policy initiatives at their development site.

Money generated by an impact fee program are required to go into a dedicated fund, which will be used to implement the projects. How a “mobility fee” takes shape, however, can be in one of many ways. Some examples are below:

1. “Conditional” Concurrency :

An attempt to achieve mode split standards. Under this option, concurrency would be under a roadway and multimodal system, resulting in a somewhat indirect approach to funding multimodal projects. Difficult to execute.

2. Mobility Impact Fee (Standards – Consumption Based):

Based on “person trips”. Each development charged the incremental value of the facilities needed to service it. Difficult to estimate.

3. Mobility Impact Fee (Plans - Based):

Based on adopted plans allowing for specific projects derived from local need, analysis and professional standards. Each infrastructure has its own capacity, and level of service standard to be achieved. Fee based on cost of implementing plans in order to accommodate future growth. Meets the Dual Rational Nexus test.

4. Multimodal Concurrency Fee:



Concurrency expanded for multimodal LOS, based on a weighted average of each mode, adding up to 100%. Allows more freedom in the funding scheme. Perpetuates predominant mode of travel. Costly to implement.

5. Multimodal Impact Fee and Roadway Impact Fee Hybrid:

Combings two methodologies. Total trips estimated for a development, impact then projected and fees assed per mode. Each fee can be different. Trip transfer credits can be purchased by developer based on policies. Potential for underfunding. Easy to implement.

A sixth option is to do nothing, but in the absence of action, funding a shift towards multimodality in the transportation system will result in needs for increases in *ad valorem* taxes or grants – which are not always readily available, or a combination of both. This option naturally does not achieve the long-range goals envisioned by the City. Further study and a policy decision is needed to move the City towards a multimodal system. Impact fees should be updated yearly based on the contents of the CIP and the master plan.

### 10.3.9 The Transportation Regional Incentive Program (TRIP)

The TRIP fund was created as part of major Growth Management legislation enacted in 2005 (SB 360). The purpose of the program is to encourage regional planning by providing state matching funds for improvements to regionally-significant transportation facilities identified and prioritized by regional partners. Eligible partners are shown in the chart on the right. These partners must form a regional transportation area, pursuant to an interlocal agreement, and develop a regional transportation plan that identifies and prioritizes regionally significant facilities. To qualify, partners must sign an interlocal agreement that:

- Includes development of the regional transportation plan.
- Delineates the boundaries of the regional transportation area.
- Provides the duration of the agreement and how it may be changed.
- Describes the planning process, and defines a dispute resolution process.

TRIP funds are to be used to match local or regional funds up to 50% of the total project costs for public transportation projects. In-kind matches such as right-of-way donations and private funds made available to the regional partners are also allowed. Federal funds attributable to urbanized areas over 200,000 in population may also be used for the local/regional match.

### 10.3.10 Federal Programs

Federal programs make up the bulk of the funding for large projects. Florida is a “donor” state, which means it receives less than it contributes to Federal transportation programs each year. The US Department of Transportation helps communities fund transportation projects by issuing grants to eligible recipients for planning, vehicle purchases, facility construction, operations, and other



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purposes. The USDOT administers this financial assistance according to federal transportation authorization, Fixing America’s Surface Transportation (FAST) Act.

On December 4, 2015, the [Fixing America’s Surface Transportation \(FAST\) Act](#) (Pub. L. No. 114-94) became law—the first federal law in over a decade to provide long-term funding certainty for surface transportation infrastructure planning and investment. The FAST Act authorizes \$305 billion over fiscal years 2016 through 2020. The FAST Act maintains a focus on safety, keeps intact the established structure of the various highway-related programs, continues efforts to streamline project delivery and, for the first time, provides a dedicated source of federal dollars for freight projects.

Surface Transportation. The bill expands the existing Surface Transportation Program (STP) into a “Surface Transportation Block Grant Program (STBGP)”. The bill rewrites and simplifies the list of uses eligible for program funds and increases the ways that STP funds can be used for local roads and rural minor collectors.

Highway Safety Improvement Program (HSIP). The legislation ends the ability of states to shift funds designated for infrastructure safety projects to behavioral or educational activities, ensuring resources remain in construction-related programs

Transportation Alternatives. MAP-21 combined the Transportation Enhancement Program, Safe Routes to School and the Recreational Trails Program into a comprehensive Transportation Alternatives Program. Doral’s planning for its transportation infrastructure should carefully monitor availability of grants for this fund, as this funding’s allocation structure is expected to change as administered by the Florida Department of Transportation.

The FAST Act’s two new initiatives are:

National Freight Program. The FAST Act transforms the National Freight Policy provisions of MAP-21 into a new program that funds freight-related highway improvements. It authorizes a five-year total of \$6.2 billion for the program. Funds are apportioned among the states by formula, but states must establish a freight advisory committee and develop a state freight investment plan before obligating any funds. Under the proposal, the Secretary of Transportation and the states will designate a national freight network comprised of the Interstate highways and other roads, both urban and rural, that are critical to the safe and efficient shipment of freight. The national and state networks will be updated every five years. Program funds will be directed under national and state strategic plans to projects that improve highway freight transportation. Under the FAST Act, it is expected that the FASTTRACK program will provide funding for passenger and freight rail opportunities. Both of these are important, given the existing CSX rail in the south of Doral which may be repurposed for commuter rail service and transit oriented development, and the significance of freight and warehousing to Doral’s economy.

Nationally Significant Freight and Highway Projects Program. This program will provide an average of \$900 million per year in grants of at least \$25 million for highway, bridge, rail-grade crossing, intermodal and freight rail projects costing more than \$100 million that improve movement of both freight and people, increase competitiveness, reduce bottlenecks, and improve intermodal connectivity. Projects will be awarded competitively by the Secretary of Transportation based on criteria listed in the bill. At least 25 percent of the funds must be spent in rural areas, and the federal share of project costs will be 60 percent. While the program allows HTF resources to be diverted to





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freight rail projects, it will impose a \$500 million limitation on the total amount that can be awarded over the next five years to freight and intermodal projects. It also reserves 10 percent of the annual grant awards for projects that do not meet the program's cost threshold. The Secretary of Transportation must report all grant awards to Congress, which will have 60 days to reject a project by joint resolution.

## 10.3.11 Transportation Alternative Set Asides

The Transportation Alternative Set Asides, formerly known as the Transportation Alternative Program, was developed as a result of the Moving Ahead for Progress in the 21st Century (originated in MAP- 21). Eligible activities for funding include: 1. Construction, planning and design of on and off road facilities for bicyclists, pedestrians, and other forms of non-motorized transportation; 2. Construction, planning and design of infrastructure related projects/systems to provide safe routes for non-drivers; 3. Conversion and use of abandoned railroad corridors for non-motorized use; 4. Construction of turnouts, overlooks, and viewing areas under community improvement activities; 5. Inventory, control or removal of outdoor advertising; 6. Historic preservation and rehabilitation of historic transportation facilities; 7. Vegetation management practices in transportation rights of way; 8. Archeological activities related to impacts from transportation projects eligible under Title 23; and 9. Environmental mitigation activities.

In addition, the Safe Routes to School (SRTS) Program and Recreational Trails Program (RTP) were both consolidated within the nine (9) activities under the TAP. The planning, designing, and constructing of boulevards and other roadways largely in the right of way of former Interstate System routes or other divided highways are also eligible as well.

