Comprehensive Plan

Part II:
Data, Inventory, and Analysis

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City of Doral Comprehensive Plan

Data, Inventory, and Analysis

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INTRODUCTION

Authority for municipalities to do comprehensive planning in Florida emanates from Chapter 163, Florida Statutes. In 1985, the State Legislature amended Chapter 163 through the adoption of the Local Government Comprehensive Planning and Land Development Regulation Act. This act substantially increased the requirements for local land use plans, associated infrastructure and other plan elements, and mandated that local governments adopt land development regulations to implement the policies of the local comprehensive plan.

This report constitutes the Data, Inventory and Analysis (DIA) support document for the City of Doral Comprehensive Plan ("Plan"). The Plan is prepared in accordance with Chapter 163, Florida Statutes, as amended, and Administrative Rule 9J-5. It is organized into nine (9) Plan Elements. Each Element is composed of goals, objectives and policies contained in a separate document that is adopted by the City Council. The supporting data, inventory and analysis of each Element is contained in this support document, and includes background data and analysis, inventories of existing conditions, projections and methodologies, and other estimates of future conditions. This document is not required to be adopted by the City Council, but is a critical component of the City's Comprehensive Plan..

The goal of the data, inventory and analysis provided herein is to enable civic leaders, elected officials, businesses and residents to evaluate the development trends, and be sure that the future land use pattern and infrastructure provision are the best possible to optimize tax base growth, enhance community integrity, and provide a quality-of-life that has become expected in this vibrant, young city.

As the City of Doral was only recently incorporated (June 24, 2003), this Comprehensive Plan is the first prepared and adopted for the City. The City of Doral has changed drastically from the 2,400 acres of isolated swampland founded by Dorris and Alfred Kaskel in the late 1950s. Originally known for the Doral Hotel and Country Club, featuring the Blue, Red and Par 3 golf courses, the area remained as vacant lots and farmland until the late 1980s. Then development arrived in three distinct waves: industrial warehousing, followed by office, followed by residential. For years, the area has served as the industrial heart of international trade and shipping services for nearby Miami International Airport, including the Miami Free Zone. Today, the City is known as the largest warehouse and office submarket in the County and the fastest growing market for new single-family homes. More than 33,000 residents currently live in Doral, as well as numerous hotels being built in response to demand from business travelers. It is this unique harmony of residential, resort, commercial, and industrial communities that attracts people to Doral. And, with a properly tailored and implemented Comprehensive Plan, the City of Doral may be sure it can appropriately meet its community needs today and into the future.

STATEMENT OF LEGISLATIVE INTENT

This Statement expresses the legislative intent of the City Council of the City of Doral with regard to the Comprehensive Plan. It is applicable to the City of Doral Comprehensive Plan in its entirety and is declared to be incorporated by reference in each element thereof.

1. Nothing in this Comprehensive Plan shall be construed or applied to constitute a temporary or permanent taking of private property or the abrogation of vested rights as determined to exist under applicable law.

2. Nothing in this Comprehensive Plan shall be construed or implied to constitute an abrogation or removal of any private, regulatory, or governmental covenant or special condition in effect on any private or public property located within the City of Doral.

3. This Comprehensive Plan is intended to set general guidelines and principles concerning its purposes and contents. The Plan is not a substitute for specific implementation mechanisms that are contained in the City of Doral's Land Development Code (LDC).

4. The City Council recognizes that any application for development approval may bring into conflict and necessitate a choice between different goals, objectives, policies, priorities, and provisions of the Plan. While it is the intent of the City Council that the Future Land Use Element be afforded a high priority, other elements must be taken into consideration given the City Council's responsibility to provide for the multitude of needs of the City's growing and diverse community. Recognizing that the City Council and City agencies will be required to balance competing goals, objectives, and policies of this Plan, the primary intention of the Plan is to protect the public health, safety and welfare.

5. The terms "shall" and "will" are construed as mandatory in this Plan, subject, however, to this Statement of Legislative Intent. The term "should" is construed as directory and not mandatory. Wherever implementation responsibility is not explicitly stated within a particular objective or policy in this Plan, that responsibility lies with the City of Doral to the extent that the objective or policy specifies implementation.

6. Wherever the term "acres" is used in this Comprehensive Plan, it shall be taken to mean "gross acres", unless otherwise specified. In addition, standard practice rounding convention may be used in determining whether parcels meet the size or acreage standards contained in this Plan.

I. FUTURE LAND USE ELEMENT

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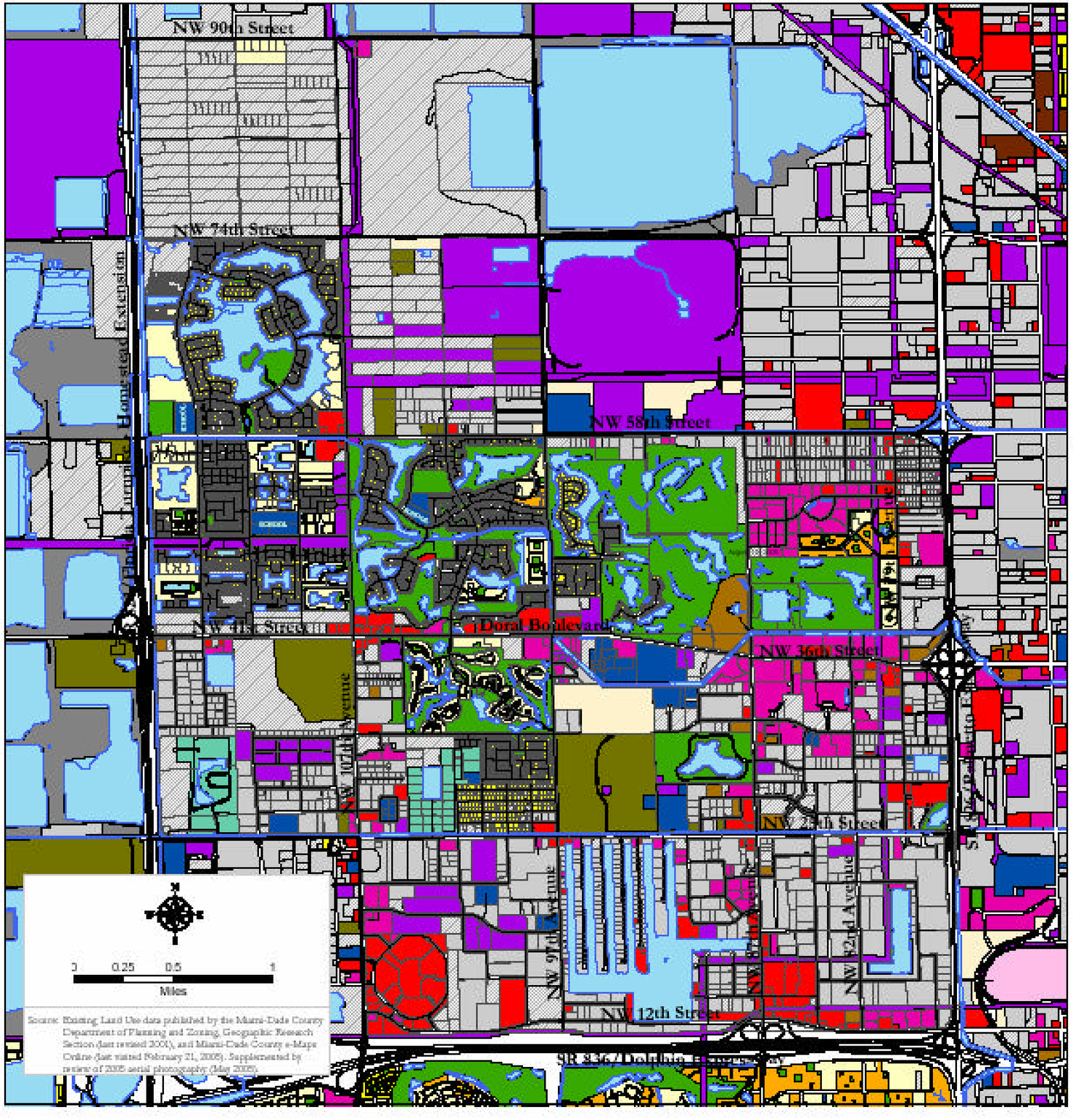
I. FUTURE LAND USE ELEMENT
DATA, INVENTORY, AND ANALYSIS

PURPOSE
This component of the City's Future Land Use Element (FLUE) is designed to provide the data and analysis showing current and projected population, existing and future land use conditions, and opportunities to improve the living environment of the City of Doral. It also forms the basis for the development of City's future land use goals, objectives and policies, to prudently and strategically guide the future growth of Doral. Because of this, the Future Land Use Element, more than any other comprehensive plan element, provides the direction and guidance to carry the community to its ultimate vision. All other plan elements and sub-elements are dependent upon the land development pattern shown on the Future Land Use Map. This element is a vital guidepost to ensure that the community envisioned is sustained and will flourish into the premiere City expected by current and future residents, businesses and community leaders. The City held five community and two Council workshops in preparing this Plan, and comments obtained from these workshops were an integral input component to this element and the entire Comprehensive Plan. Summaries of the workshop comments are contained in Appendix A to this DIA document.

EXISTING LAND USE CONDITIONS
To sufficiently address the issue of future land use patterns, a community must look at its current land use inventory and pattern as a basic building block. In developing the FLUE, an inventory of existing land use was prepared. From this inventory, the Existing Land Use Map (Map I-1) was created detailing the current land uses present in the City. Also shown on this map are vacant land, and the existing lakes and other water bodies within the Doral's boundaries.

Table 1-1 details the approximate acreage and general range of density or intensity of existing use for the gross land area included in each land use category in Doral. From the table, it is evident that the City is largely industrial with respect to its current land use pattern, comprising 14.75 % of Doral's total area. The next most prevalent existing land use is residential (9.88%) followed closely by communications and utilities (6.55%). Office uses make up 4.06% of the existing uses in the City and retail is 3.90%.

The adjacent jurisdictions to Doral are comprised of properties that have land uses also found in the City. The location of adjacent land uses is detailed in Map I-1 also. These peripheral land uses are generally compatible with their neighboring land uses inside Doral.



CITY OF DORAL

Comprehensive Plan
Existing Land Use Map

Map I-1

Legend

- Single-Family
- Low-Density Multi-Family
- High-Density Multi-Family
- Mobile Home Park
- Shopping Centers, Commercial, Stadiums, Tracks
- Office
- Hotels/Motels
- Communications , Utilities, Terminals , Plants
- Airports, Ports
- Industrial
- Industrial Extraction
- Institutional
- Parks (Including Preserves & Conservation)
- Cemeteries
- Agriculture
- Vacant, Unprotected
- Vacant, Government Owned
- Streets/Expressways
- Water Bodies
- Doral City Limit

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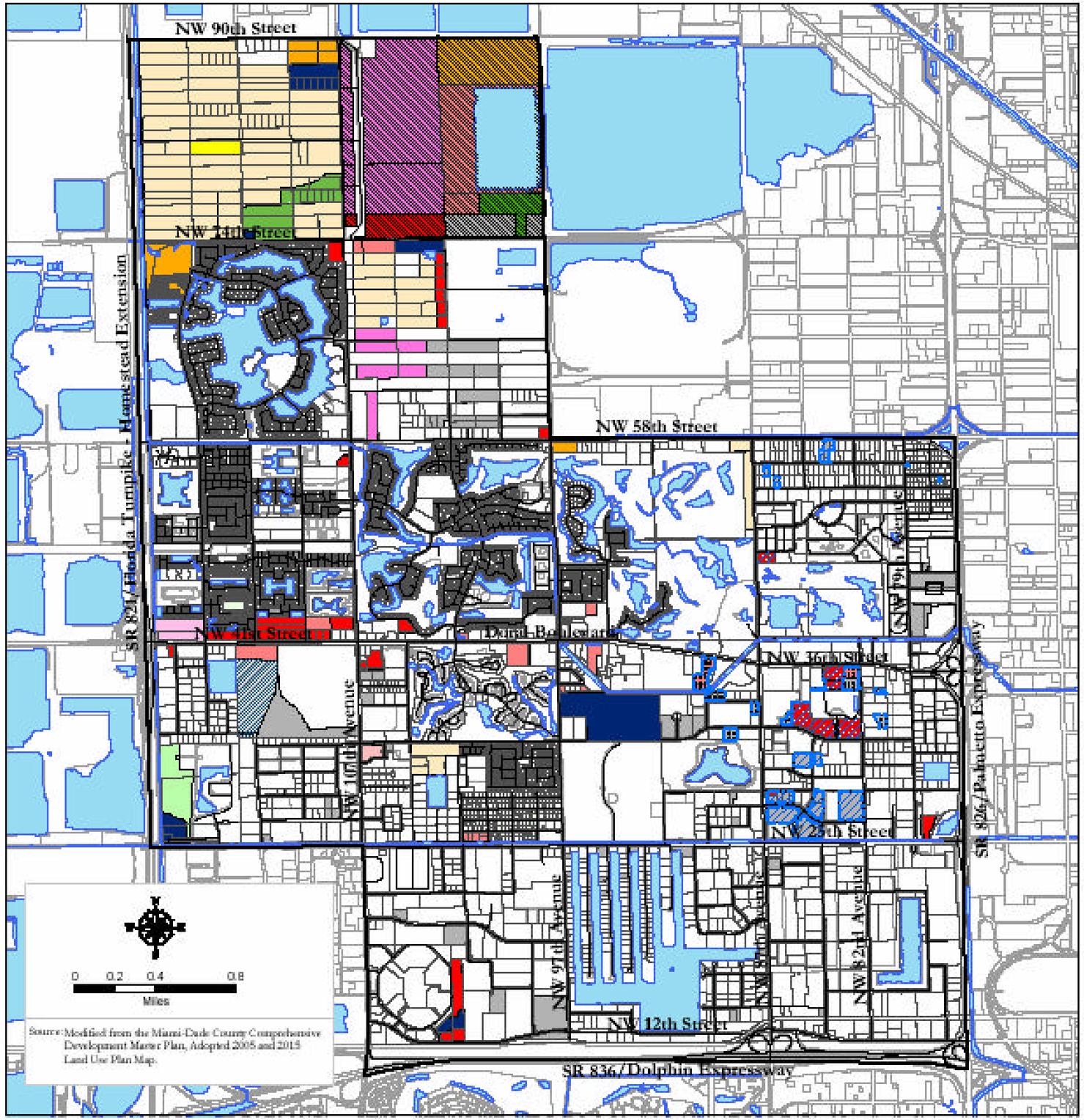
Table 1-1. City of Doral Existing Land Use Profile

Land Use	Acres	Percent
Residential		
Single-Family (up to 6 D.U./acre)	492.04	4.97%
Low-Density Multi-Family (7 to 25 D.U./acre)	447.57	4.52%
High-Density Multi-Family (greater than 25 D.U./acre)	38.30	0.39%
Sub-Total	*977.91*	*9.88%*
Other		
Shopping Centers, Commercial, Stadiums, Tracks	385.92	3.90%
Office	401.62	4.06%
Transient-Residential (Hotels/Motels)	87.26	0.88%
Communications, Utilities, Terminals, Plants	648.32	6.55%
Industrial	1,459.87	14.75%
Industrial Extraction	127.34	1.29%
Institutional	165.19	1.67%
Parks (Including Preserves & Conservation)	918.61	9.28%
Agriculture	300.64	3.04%
Cemeteries	125.53	1.27%
Vacant Unprotected	1,861.15	18.80%
Vacant, Government Owned	84.81	0.86%
Streets*	1,430.10	14.45%
Water*	923.71	9.33%
Sub-Total	*8,920.09*	*90.12%*
Total	**9,898.00**	**100.00%**

*Not a land use category
Source: Kimley-Horn and Associates, Miami-Dade County Existing Land Use Map GIS File, aerial photography (2004).
Prepared: May 23, 2005.

The location of the City's vacant lands by land use is shown on Map I-2. In addition, Table 1-2 provides an acreage breakdown of the vacant land pattern shown on the map. There are an estimated 1,946 acres of vacant or undeveloped land within the City of Doral, which comprises approximately 19.72% of the total land mass. Residential land totals 46.5% of the City's vacant land inventory with 607 acres of that being in the Low Density category. Industrial areas comprise 16.76%, while Traditional Neighborhood land uses make up an estimated 14.72% of available vacant property. The vacant Institutional and Public Facility lands in the City total 121 acres or 6.25% of the total unbuilt area, owing largely to the large federal land parcels in the center of the City which are not developed. The City has an estimated 106 acres (5.43 %) of private undeveloped Business tracts currently.



CITY OF DORAL

Comprehensive Plan Vacant Land Use Map with Future Land Uses

Map I-2

Legend

Land Use Categories

- Estate Density Residential (up to 6 D.U. per Gross Acre)
- Low Density Residential (up to 10 D.U. per Gross Acre)
- Moderate Density Residential (up to 13 D.U. per Gross Acre)
- Medium Density Residential (up to 19 D.U. per Gross Acre)
- Traditional Neighborhood Development
- Business
- Office
- Office/Residential
- Industrial
- Restricted Industrial
- Institutional and Public Facility
- Public Parks and Recreation
- Private Parks and Open Space
- Environmentally Protected Parks

Other Features

- Downtown Mixed Use Opportunity Area
- Community Mixed Use Opportunity Area
- Urban Central Business District (UCBD) designation
- Regional Activity Center (RAC) designation
- Water Bodies
- Doral City Limit

Notes:

D.U. = Dwelling Unit

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Table 1-2. City of Doral Vacant with Future Land Uses Profile

Land Use	Acres	Percent
Estate Density Residential (0 to 6 D.U. per Gross Acre)	30.20	1.55%
Low Density Residential (6 to 10 D.U. per Gross Acre)	637.97	32.78%
Moderate Density Residential (10 to 13 D.U. per Gross Acre)	15.22	0.78%
Medium Density Residential (13 to 19 D.U. per Gross Acre)	143.26	7.36%
Downtown Mixed Use	31.08	1.60%
Community Mixed Use	16.31	0.84%
Traditional Neighborhood Development	286.59	14.73%
Business and Office	100.64	5.17%
Office	5.02	0.26%
Office/Residential	134.24	6.90%
Industrial and Office	279.67	14.37%
Restricted Industrial and Office	41.03	2.11%
Institutional and Public Facility	114.02	5.86%
Public Parks and Recreation	27.43	1.41%
Private Parks and Open Space	31.26	1.61%
Environmentally Protected Parks	52.00	2.67%
Total	**1,945.95**	**100.00%**

Last modified 08/10/05

POPULATION HISTORY, TRENDS AND PROJECTIONS

The comprehensive plan must be based on well-documented population estimates and projections. Table 1-3 represents the population estimates for the City of Doral.

Table 1-3. Population Projections for City of Doral

YEAR	POPULATION
2000	21,000
2004	30,285
2005	33,633
2010	46,266
2015	59,323
2020	72,659

Sources: U.S, Census, University of Florida BEBR, Iler Planning Group (methodology), May 2005.

The following assumptions were used in developing the population projections in Table 1-3:

1. 21,000 as a base population figure (Miami-Dade County Census 2000 figure including Post Census 2000 Municipalities); 30,285 BEBR estimate for year 2004. IPG estimate for 2005.
2. Actual growth sustained during the 2000-2005 period (12,633 residents) is assumed to occur during the 2005 – 2010 period.

3. City share of countywide population growth during the 2000 – 2010 period is projected at 8.6%. City share of countywide population is projected to maintain the 8.6% rate during the 2010 – 2020 period.
4. 30 acres of vacant Estate density residential land (0 to 6 dwelling units/acre), 638 acres of vacant Low-density residential land (6 to 10 dwelling units/acre), 15 acres of Moderate-density residential land (10 to 13 dwelling units/acre), 143 acres of Medium-density residential land (13 to 19 units per acre), using maximum allowable dwelling units/acre as basis for potential dwelling units.
5. There are 134 acres of vacant Office/Residential land, with a maximum potential residential density of 16 dwelling units/acre, 31 acres of vacant Downtown Mixed Use, with a maximum potential density of 35 units/acre, 16 acres of vacant Community Mixed Use, with a maximum potential density of 25 units/acre, and 45 acres of vacant Traditional Neighborhood Development (TND), with a maximum potential density of 18 units/acre, not including the TND in Section 8 (see note #6 below). It is not likely that all (or even most) of this land will be developed as residential. Because a mix of office, commercial, and residential uses are expected, a factor of 0.5 is multiplied by the maximum allowable dwelling units/acre to estimate the potential residential impact of vacant land in this category.
6. The Section 8 land use amendments approved recently by Miami-Dade County will convert a large portion of vacant Industrial/Office land use to a mix of land uses with a proposed number of dwelling units of approximately 5,800.
7. 2.16 persons per dwelling unit for City of Doral (including vacant units, units rented and sold and not yet occupied, and units held for seasonal and occasional use (Miami-Dade County Census 2000).
8. Based upon vacant land analysis with the assumption that there will be no redevelopment and annexation, the City would reach buildout in 2019 with a population of approximately 71,447 residents. However, the City is not likely to reach a buildout population ceiling, because significant redevelopment is expected prior to 2026. In addition to normally occurring redevelopment, there are two mixed use "opportunity areas" on the Future Land Use Map. These areas are designated as Downtown Mixed Use Opportunity Areas with a maximum potential residential density of 35 units/acre, and Community Mixed Use Opportunity Areas with a maximum potential maximum residential density of 25 units/acre. Because a mix of office, commercial, and residential uses are expected, a factor of 0.5 would be multiplied by the maximum allowable dwelling units/acre to estimate the potential residential impact of vacant land in this category. These units are not calculated into the future build-out scenario, because the opportunity areas maintain their original land uses. However, it is possible that some of these opportunity areas will redevelop with residential uses sometime in the future.

Based on the vacant land analysis presented previously and the population projections presented above, it has been shown that the City of Doral has sufficient vacant residential land currently to allow growth through the year 2019. Given the mixed-use redevelopment opportunities created by the proposed City FLUM, it is expected that the future residential capacity of the City will actually be extended well beyond 2019 as controlled development proceeds.

BOUNDARY EXPANSION

The City of Doral is constrained in boundary expansion opportunities. To the east and south, many areas are already within existing cities and are therefore not available for annexation. To the west, water conservation areas exist which do not allow urban development. The one exception to this is Section 31 (T53, R40) located in the City's southwest corner which contains the Dolphin Mall. This remains an important potential opportunity for City expansion in that area in the future. However that one exception aside, the primary active opportunities to expand City boundaries lies along the north boundary. To this end, Doral has two annexation applications filed with Miami-Dade County to request annexation of Section 6 (T53, R40) and Section 15 (T53, R40).

AVAILABILITY OF SERVICES AND FACILITIES

Roads

Three (3) expressways surround Doral on three (3) sides, these are: the Palmetto Expressway, the Dolphin Expressway and the Homestead Extension of the Florida Turnpike. Other major road arterials traversing the City include NW 87th Avenue, NW 107th Avenue, NW 25th Street, NW 36th/41st Street (Doral Boulevard) and NW 58th Street. The City is currently experiencing excessive traffic congestion primarily in the eastern and southern areas; however roads in other areas of Doral such as NW 41st Street, NW 107th Avenue, and NW 58th Street can exhibit heavy congestion at peak periods of the day. Map II-7 in the Transportation Element shows the current LOS conditions on the primary roads in the City. Much of this traffic is regional in nature, either coming to Doral for daily employment, deliveries of goods and/or passing through to other destinations outside Doral. The City is a major regional employment center with over 100,000 workers coming into the City to jobs each week day. A key aspect of the City's vision is to provide more residential opportunities in Doral so that future workers can live and work in the City.

From a land use perspective, the City has changed dramatically since its formative years. Fifty years ago, the Doral area was planned by the County for industrial and office use due to its proximity to the airport. Eventual major expressway improvements made this industrial land use even more feasible. Little residential use was provided for in those earlier years. Over the 40+ years, major residential projects and the Doral golf resort (1962) have been built. However, the land use pattern remains predominantly industrial. The road system inside Doral has not been adequately maintained and improved by the State and the County over the years to accommodate the accelerating growth. Major portions of the arterial and collector system are not complete, particularly in the north areas of Doral. With incorporation, the new City of Doral is "playing catch-up" with respect to all forms of transportation, including road continuity and expansion, and transit service.

The City's land use vision calls for the creation of "Downtown Doral" in the area in the area of NW 36th Street and NW 87th Avenue, which will introduce higher density mixed use to that central area. These mixed use projects will be expected to incorporate a high level of connectivity to area parcels, including new public roads, transit, bicycle and

pedestrian improvements, thus relieving major arterials such as Doral Boulevard and providing viable nearby housing options for downtown workers.

Another very important traffic concern in the City is the significant amount of heavy truck traffic traversing Doral on a daily basis from rock mining, solid waste facilities and heavy industrial, nearby and in the City. The City is moving aggressively to reduce this problem via the preparation of a Transportation Master Plan and development of a "truck route system" including new alternative roads that can be used by trucks outside the City. The proposed construction of NW 122nd Avenue in the Schedule of Capital Improvements is part of the truck route program.

Traffic forecasted for the area in the Miami-Dade County Long Range Transportation Plan (2025) is projected to increase the amount of LOS "E" and/or "F" roadways in the Doral road system. To combat this anticipated increase in traffic, however, the City has identified several short-term transportation improvements needed, as well as several other potential short and long-term transportation projects. These improvements and potential improvements are detailed in the Transportation and Capital Improvement Elements of this document. As noted on the planned and programmed improvements, traffic in the City will be improved and an acceptable roadway level of service will be provided; However, downtown and community mixed use alternatives have been provided in the proposed Future Land Use Map to allow a workers to work and live in Doral thus reducing future work trips into and out of the City. In addition, large amounts of excess density has been removed form the future map which will reduce future traffic loads,

Transit

Currently, Metrobus provides service to Doral with seven routes as shown on Map II-5 in the Transportation Element. These routes are centered in the eastern and southern portions of the City. Doral is also in relatively close proximity to the new Metrorail Station located at NW 74th Avenue, west of the Palmetto Expressway. NW 87th Avenue extending north out of downtown Doral provides a direct route into the Metrorail Station.

Transit ridership is relatively low in the City, similar to many other town and cities on the periphery of Miami-Dade County. Transit service to the City is inadequate and needs to be extended to other parts of Doral. An exclusive transit corridor should be established on NW 87th Avenue in the future to provide direct transit access between downtown and the 74th Street Metrorail Station. The City will work with Metrobus to add additional buses on identified routes to maintain programmed frequency of service. Based on these factors and the City's coordination with Metrobus, acceptable transit levels of service will be provided. In addition, the new downtown and community mixed use areas should provide sufficient densities and intensities of development to make transit more viable and important as a transportation mode in the future.

Potable Water

The City of Doral receives water service from Miami-Dade Water and Sewer Department (WASD), and the Biscayne Aquifer is the source of potable water in Miami-Dade County. WASD is in charge of maintaining the distribution and treatment facilities that

serve the City. Because the system is owned and maintained by Miami-Dade County, no potable water improvements or projects are programmed or planned by the City in the foreseeable future. However, the programmed and funded capital improvements scheduled in the current Miami-Dade County Capital Improvement Plan for implementation in the next five years will allow the WASD water system to meet demand projections and maintain the LOS standards. Therefore, no adjustments are required in the Future Land Use Map.

Sanitary Sewer

The City of Doral does not maintain any sanitary sewer facilities within its corporate limits. The treatment, transmission and pumping facilities serving the City are provided by the Miami-Dade County Water and Sewer Department (WASD). Since the system is owned and maintained by Miami-Dade County, no sanitary sewer improvements or projects are programmed or planned by the City in the foreseeable future. The present system of sewage treatment provides an acceptable level of service; therefore, no adjustments are required in the Future Land Use Map.

Drainage Facilities

The South Florida Water Management District (SFWMD) and Miami-Dade County currently operate all stormwater management facilities and programs within the City of Doral. The City has adopted level of service (LOS) standards for redevelopment and new development regarding water quality and quantity. Based on the analysis and maintenance of the LOS standards, a 5-year Capital Improvement Plan for stormwater improvements is currently being developed by the City to prioritize and provide the financial resources necessary to plan, construct, operate and maintain the Town's stormwater management program. This capital improvement program will correct many pre-existing drainage deficiencies in Doral on a priority basis, and provide for maintenance on system wide drainage LOS standards for all existing and planned land uses. Therefore, no adjustments to the Future Land Use Map are required.

Parks and Recreation

The current level of service (LOS) standard for parks is 2.75 acres of park space per 1,000 residents; however the proposed new park LOS is 3.25 acres in 2005, ranging up to 4.25 acres by 2015. Parks were determined in the visioning process to be a primary quality-of-life issue for City residents. The City is in the process for developing master plans for each of its 3 major parks, inherited from the County, and constructing major improvements to those over the next 5 years. The community visioning also revealed a desire by most residents for more and smaller parks, such as tot lots and passive parks, distributed within walking distance of most homes. With the completion of the master plans for its 3 major parks and creation of new parks as private development occurs, the City will have adequate park space to service its residents well into the future. Therefore, no adjustments to the Future Land Use Map are required. However, the 51-acre environmental conservation site in the northwest area of Doral has been designated as "Environmentally-Protected Parks" on the proposed City FLUM.

Solid Waste

The County's large Solid Waste Resource Recovery Facility is located within Doral, including the ash disposal area for the facility. Residential solid waste in the City of Doral is collected and disposed of by Miami-Dade County. Solid waste from nonresidential and multi-family properties is collected by private haulers and disposed of at various sites in Miami-Dade and Broward County. Solid waste disposal for the City is administered by the Miami-Dade County Department of Solid Waste Management (DSWM). Since the system is entirely owned and operated by the County, no solid waste facilities or improvements are planned by the City in the foreseeable future. At the present time, the county projects remaining solid waste capacity to be well in excess of the 5-year standard. The present system of solid waste collection and disposal provides an acceptable level of service, and no adjustments are required to the Future Land Use Map.

HISTORIC AND ARCHEOLOGICAL RESOURCES

There are three historical/archaeological sites within Doral listed on the Florida Master Site File, none of which are residential structures. These archaeological sites are located in Sections 19, 20, and 34 (T53, R40) and on parcels that are now fully developed. Doral has not designated any local historically significant structures.

REDEVELOPMENT

Given that most of the structures in Doral are 15-30 years old, residential redevelopment is not expected to be a significant issue in the City's near term future. However, the City is proposing the revise its FLUM to create mixed use opportunities for redevelopment of primarily office and retail areas now existing in the new downtown located generally north and south of Doral Boulevard between NW 87th and NW 79th Avenues.

AFFORDABLE HOUSING

Analysis contained in the Housing Element indicates that in the year 2000 approximately 52% of renters and 61% of owners paid less than 30% of their gross household income for housing costs in Doral. Based on State standards, these figures show that a majority of the housing within the City is affordable to its residents. An analysis of Census data indicates that the current incidence of cost-burden is more of an issue for the City than the projected growth of very-low and low-income households. Doral's future land use and housing goals, objectives and policies should therefore be tailored principally to maintaining the condition of the City's housing stock, while allowing the private sector to provide housing to accommodate additional need generated by population growth. Based on these findings, no land use modifications are necessary to address affordable housing goals in the 10-year planning period; however, the City should develop specific guiding principles for the location of very low, low and moderate-income housing, mobile homes, manufactured homes, group homes, foster care facilities, and households with special housing needs so that if a shortfall of affordable housing is identified in the future, the City can locate the necessary affordable housing units without concentrating these units in specific areas.

ENVIRONMENTAL LAND USE ISSUES

Wetlands

Map V-3 in the Conservation Element shows the location of permitted wetland sites in the City of Doral. In addition, there are a number of other jurisdictional wetland areas such as throughout Section 8 (Township 53, Range 40). Projects within jurisdictional wetland areas are required to obtain all required Federal, State and County permits, and provide mitigation as necessary. There is a 51-acre wetland site located northwest of the intersection of NW 74th Street and NW 107th Avenue, which has been reserved as part of area development approvals. This site has been depicted as an Environmentally-Protected Park (currently shown as Industrial ~~and Office~~) on the proposed City FLUM and the City is seeking donation of the site to Doral for passive use and special educational opportunities.

Native Uplands and Other Flora

No known plant or animal studies have been completed for the area encompassed by the City of Doral. Table 5-2 in the Conservation Element identifies all of the endangered, threatened plant species of special concern native to Miami-Dade County, which may be present in the City. All development applications are required to certify that no known endangered, threatened and plant species of special concern are present on site and to obtain all required permits from environmental agencies.

Air Quality

Because of the climate and meteorological conditions in South Florida, Miami–Dade County has better air quality than most major metropolitan areas in the United States. Miami–Dade County's Department of Environmental Resource Management (DERM) has 13 active ambient air quality monitoring stations; none of which are located in the City of Doral. Overall, the Florida Department of Environmental Protection (DEP) rates the air quality throughout Miami–Dade County as good. Because of its geography and generally low density land use pattern, plus the initiatives undertaken by Miami–Dade County, the City of Doral has good air quality overall. Air pollution is generally not a significant threat to the residents of Doral.

The only identified air pollution problem in the City is localized in nature. It occurs periodically at construction and excavation sites, new and old, where non-grassed areas and soil storage mounds generate fugitive dust and dirt clouds, which can adversely impact air quality in adjacent neighborhoods and commercial areas prior to, during and after construction. In addition, the prevalence of dump trucks and similar types of trucks can also create significant dust problems along major roadways. The goals, objectives and policies in this element should address this issue to ensure that adequate regulations are contained in the City's Land Development Code (LDC) to reduce and eliminate negative impacts.

Water Quality

Surface water resources within Doral are generally the result of man-made drainage systems and rock mining. The majority of the City is located within the C-6 Drainage Basin comprised of canals, including the C-6 Canal. DERM has five surface water

monitoring sites within or near Doral, depicted on Map V-1 in the Conservation Element. No water quality violations have been recorded at any of these sites. A small portion of the City is located within the cone of influence for the County's Northwest Wellfield and thus City policies and regulations must recognize the necessary restrictions on uses and site drainage in these areas. The goals, objectives and policies in this element should address this issue to ensure that adequate regulations are contained in the City's Land Development Code (LDC) to maintain, and enhance where possible, surface and ground water quality in Doral.

Wildlife and Habitats

Doral has no known environmentally valuable wildlife habitats with the exception of the 51-acre environmental site mentioned previously. Jurisdictional wetlands exist throughout the City, and these areas may have important wildlife and native habitat features.

LAND USE CONFLICTS AND CONSTRAINTS

Airport Height and Use Restrictions

The City is in the western approach flight path of Miami International Airport, and this imposes significant height restrictions on buildings particularly in the central and southern portions of Doral. For example, building heights along eastern Doral Boulevard are limited to approximately 135'-140'. Restrictions are even more severe in the NW 25th Street area. This situation also severely impacts replacement of schools, given that State law generally prohibits school construction under airport flight paths.

Airborne Noxious Odors

Airborne, noxious odors have also plagued some residential areas of Doral particularly those in close proximity to the County's Resource Recovery Facility. The goals, objectives and policies in this element should address this issue to ensure that adequate regulations are contained in the City's Land Development Code (LDC) to reduce, and eliminate if possible, adverse odor impacts on Doral residents and visitors. In addition, the Code should discourage industrial uses that tend to generate excessive and persistent odors beyond their site boundaries.

Adjacent Landfill Expansion

The City is actively opposing the proposed expansion of the Medley Landfill located northeast of Doral. The impacts of the current landfill in terms of both odor and heavy truck traffic on Doral businesses and residents are already very negative. Expansion would only increase the adverse impacts on the City. Doral will continue its intergovernmental coordination efforts to reach an agreement with all involved parties, which will lessen adverse impacts on Doral.

PROPOSED LAND USE CHANGES

In converting the current, adopted County Land Use Map into a future land use map more appropriate for a city such as Doral, a number of land use changes were necessary both to correct inaccurate designations on the County map and to reflect the community vision voiced in the workshops during Plan preparation.

The adopted City Future Land Use Map (FLUM) contained in this element differs substantially from the adopted Miami-Dade County Comprehensive Development Master Plan (CDMP) Future Land Use Map that the City has been using since incorporation. In summary, the City has:

1.) Redefined all residential land use categories and eliminated higher density ones;
2.) Added new office only, private parks, traditional neighborhood and mixed use categories;
3.) Included height and other intensity standards in all land use categories;
4.) Removed residential use from the Industrial (I) category;
5.) Eliminated the "adjacent parcel density accelerators" contained in the County's Comprehensive Development Master Plan (CDMP) for the Office/Residential (O/R) and Business (B) categories;
6.) Removed the option for "one category" density increase for urban design beyond that shown on the FLUM;
7.) Shown all publicly-owned parcels as Institutional and Public Facility (IPF) land use;
8.) Designated two areas as "Regional Activity Centers" and another downtown area as "Urban Central Business District," pursuant to Florida Statutes.

Another distinction from the County Future Land Use Map is the City's creation of "Opportunity Areas" to help focus the application of new Downtown and Community Mixed Use land use categories. The Opportunity Areas do not represent a land use change, thus the current underlying land use for the various parcels within these areas applies. The underlying land use in the Opportunity Areas is only changed when property owners apply for land use amendments to either DMU or CMU for their property and such applications are approved by the City Council, pursuant to Chapter 163, F.S.

Justification for the Regional Activity Centers pursuant to Chapter 28-24.014(10)(b)2, Florida Administrative Code

The two sites being considered for Regional Activity Center designation are the Foreign Trade Zone (FTZ) site (the Miami Free Zone) located at the southeast corner of N.W. 25th Street and N.W. 107th Avenue and approximately 462 acres located in Section 8 (Township 53 South, Range 40 East), as depicted on the adopted FLUM. This designation is intended to provide for compact, high intensity, high density multi-use areas designated as appropriate for intensive growth by the City.

In order to qualify as a Regional Activity Center pursuant to the applicable regulations, an area must contain the following characteristics:

1. *The designated area must be a compact, high intensity, high density multi-use area designated as appropriate for intensive growth by the local government of jurisdiction.*;
The area being within Section 8 suggested for designation as a Regional Activity Center area consists of +/-462 acres, which will be developed for the following uses: residential, commercial, parks and recreation, institutional, and industrial uses. A substantial portion of this area will include a traditional neighborhood development, which designation requires a mix of residential, institutional, and commercial uses.

   The Foreign Trade Zone is currently a hub of high intensity, mixed uses that serve as the only federally designated free trade zone in Miami-Dade County. Designation of the FTZ as a Regional Activity Center area will allow the Miami Free Zone to expand without triggering thresholds for a Development of Regional Impact and will enable it to serve as the catalyst for making the City of Doral a center of international commerce.

2. *The designated area may include: retail; office; cultural, recreational and entertainment facilities; hotels and motels; or appropriate industrial activities*.
The contemplated area within Section 8 will include retail, industrial, institutional uses (including a park and potentially a school), residential uses, and such other uses as deemed appropriate.

   The Foreign Trade Zone area being suggested for designation as a Regional Activity Center consists of +/- 47 acres and the designation would permit the construction of 1.2 million square feet in addition to the existing facilities. The types of uses contemplated for the property include the following: hotel, office, retail, convention/showroom space, and warehouse.

3. *The designated area shall be consistent with the local government comprehensive plan and future land use map intensities*;
The designated areas are consistent with the comprehensive plan and future land use map intensities proposed by the City.

4. *The designated area shall routinely provide service to, or be regularly used by, a significant number of citizens of more than one county; or contain adequate existing public facilities, as identified in Chapter 9J-5, F.A.C., or committed public facilities, as identified in the capital improvements element of the local government comprehensive plan*.
With the MetroRail Station located at the Palmetto Expressway and N.W. 74th Street and the construction of a new Turnpike interchange in close proximity to the subject area within Section 8, the corridor along N.W. 107th Avenue and N.W. 74th Street is likely to become a major regional

and local corridor for transportation and commerce. Miami-Dade County is currently acquiring substantial right-of-way along N.W. 74th Street to expand the existing roadway and the owners have committed to major transportation improvements along N.W. 107th Avenue and N.W. 74th Street.

The Foreign Trade Zone area suggested for designation as a Regional Activity Area currently serves as a regional hub for the international export and import of merchandise. The current tenants of the facility process over $1 billion in inbound and outbound international transactions. The reason for this level of activity is that the free trade designation provides an exemption from having to pay re-exportation duties to U.S. Customs Service when shipping through the Miami-Free Zone. The addition of the office, retail and hotel space will enable the Miami Free Zone to provide international companies the ability to co-locate their administrative offices with their distribution area and permit the holding of conventions and meetings on the same site. In other words, the Miami Free Zone is already regularly used by citizens of more than one county (and more than one country) and the contemplated development will enable the Miami Free Zone to become a fairly self-contained international hub of trade and commerce.

5. *The designated area shall be proximate and accessible to interstate or major arterial roadways*.
The subject area within Section 8 is sandwiched between Florida's Turnpike and the Palmetto Expressway and is located at the intersection of two major arterial roadways: N.W. 107th Avenue and N.W. 74th Street. Immediately to the west of this area, an interchange from the Florida's Turnpike onto N.W. 74th Street is under construction to serve the substantial residential communities developing in the northern portion of the City.

The Foreign Trade Zone area suggested for designation as a Regional Activity Area is located at the intersection of two major arterial roadways: N.W. 107th Avenue and N.W. 25th Street and a mile north of SR 836. The property is in close proximity to the Florida's Turnpike and the Palmetto Expressway.

Justification for the Urban Central Business District pursuant to Chapter 28-24.014(10)(b)1, Florida Administrative Code

The City's core downtown area is being considered for Urban Central Business District designation. As depicted on the adopted FLUM, this area is generally described as the 120-acre Beacon City Center site located east of NW 87th Avenue between NW 54th Street and NW 48th Street, the 50-acre Ryder/Shoma site on Doral Boulevard west of NW

82nd Avenue, both designated as DMU on the FLUM, and a linear strip of land connecting the sites that is bounded by NW 36th Street, Doral Boulevard and NW 87th Avenue. This RAC designation would increase the applicable Development of Regional Impact thresholds for development within the boundaries of the district and, thus, encourage the intensification of development in one of Miami-Dade County's infill and employment areas.

In order to qualify as an Urban Central Business District pursuant to the applicable regulations, an area must contain the following characteristics:

1. *The designated area must be the single urban core area of a municipality with a population of 25,000 or greater, which is located within an urbanized area as identified by the 1990 Census.*
   The estimated population in the City of Doral in 2004 was approximately 30,285 (BEBR) residents and, based on the stated vision of the City, the subject area is "designed to provide for the horizontal and vertical integration of a diversity of urban-oriented uses at the city center." This designation serves to implement the vision of the City in establishing a well-planned urban core within the City's downtown.

2. *The designated area shall be consistent with the local government comprehensive plan and future land use map intensities*.
   The designated area is consistent with the comprehensive plan and future land use map intensities proposed by the City.

3. *The designated area shall contain mass transit service as defined in Chapter 9J-5, F.A.C.*
   The current version of Chapter 9J-5, F.A.C., does not provide a definition for "mass transit service," however, 9J-2.048, F.A.C., contains the following definition for "mass transit": **"**daily operating, fixed route and fixed schedule passenger services provided by public, private, or non-profit entities such as the following surface transit modes: computer rail, rail rapid transit, light rail transit, automated guideway transit, express bus, and local bus." Pursuant to this definition there are substantial mass transit opportunities along the Doral Boulevard corridor and along NW 87th Avenue. The location of the area is concentrated in relatively close proximity to, and on either side of, Doral Boulevard at the City's primary gateway from the Palmetto Expressway to west of NW 87th Avenue (Galloway Road).

   Transit for the subject area primarily consists of bus service provided by Miami-Dade Metrobus, a division of Miami-Dade Transit. As depicted on Map II-5 of the Transportation Data Inventory and Analysis of this Comprehensive Plan, the existing 2004 transit facilities serving the subject area include Route 87, Route 36, Route 242, Route 95, and Kroger/Tri-Rail Shuttle. Furthermore, the terminus of the MetroRail is at the multi-

modal center located approximately one and one-half miles north of the proposed Urban Central Business District. Map II-17 of the Transportation Data Inventory and Analysis of this Comprehensive Plan illustrates the 2025 proposed transit facilities. In addition to the previously mentioned routes, premium transit is proposed along SR 826 and SR 836 which will greatly enhance mass transit opportunities for the designated area.

4. *The designated area shall contain high intensity, high density multi-use development which may include any of the following: retail, office, including professional and governmental offices; cultural, recreational, and entertainment facilities; high density residential; hotels and motels; or appropriate industrial activities.*

The subject area already contains a full range of uses and the City has determined that the subject areas are the appropriate location for the type of high intensity uses contemplated by the Urban Central Business District designation. The area currently includes substantial high-density residential, retail, industrial, institutional (including a park and a potential school), residential, office, warehouses, and such other uses as deemed appropriate, including the corporate headquarters of large public corporations. Furthermore, the future land uses within this area include categories that accommodate the highest intensity and density multi-uses permitted in the City.

Land Use Changes by Section

The purpose of the following section is to summarize the land use changes by land section and estimate the overall impact on development density and intensity contained in the new, approved City FLUM compared to the currently adopted County FLUM. The City is composed of approximately 15 discrete land sections, each 640 acres in size.

Section 7 (Township (T) 53, Range (R) 40): This section is located between NW 107th Avenue and SR 821/Florida Turnpike – Homestead Extension, and NW 74th Street and NW 90th Street. All B&O and O/R future land use has been eliminated and replaced with Low Density Residential (up to 10 units per acre). A 51-acre parcel in the southeast corner has been changed to Environmentally-Protected Parks. The new high school site has been designated as IPF in the northeast corner of the section and a 20-acre site adjacent to it for Medium Density Residential (up to 19 units per acre). Approximately 550 acres in the section has been reduced in density to 10 units per acre (from 13 units per acre). The density potential of this section has been decreased from approximately 8,900 units to 6,000 units; a decrease of 2,900 units. In addition, future business and office square footage has also been removed from the County FLUM.

Section 8 (T53, R40): This land section is located between NW 107th Avenue and NW 97th Avenue, and NW 74th Street and NW 90th Street. There is an ongoing difference of opinion between Miami-Dade County and City as to which entity has planning and land use authority over this section. On the adopted County FLUM, this section is shown primarily as I&O use, with 100 acres designated as Water Body (man-made lake) and two 10-acre parcels designated as B&O. However, earlier this year (2005), the County approved two large private land use amendments covering this entire section, with the exception of 73 acres in the southeast corner which remains as I&O. The County-approved amendment changed 243 acres to O/R (including the 100-acre lake) which would allow up to 60 units per acre, 287 acres to Low–Medium Density Residential with one density increase for urban design (up to 25 units per acre), and 34 acres along NW 74th Street to B. The 2005 amendments allow up to 21,700 units to be constructed plus substantial office and retail space. Through discussions with the City of Doral, the applicants have entered into Settlement Agreements with the City and submitted voluntary restrictive covenants limiting maximum residential development to no more than 6,000 units in this section, a decrease of 73% in potential residential units granted by the County. The new City Future Land Use Map for this section shows 73 acres for Medium Density Residential, 287 acres as Traditional Neighborhood Development (TND), 35 acres of B, 80 acres as O/R, 25 acres as Public Parks and Recreation, 5 acres as IPF, 35 acres as I use, and 100 lake acres. As mentioned earlier, residential development cannot exceed 6,000 units, a reduction of 15,700 potential residential units.

Section 17 (T53, R40): This section is located between NW 107th Avenue and (theoretical) NW 97th Avenue, and NW 74th Street and NW 58th Street. Under the adopted County FLUM this section contains approximately 465 acres of I&O use, 160 acres of IPF use and 15 acres of B&O use (in 3 locations). It should be noted that 70 acres of the I&O area was previously approved by the County for TND zoning. The approved City FLUM retains 230 acres in I use, expands the IPF use to 170 acres, puts 70 acres into

TND use (prior zoning by County for TND), changes 30 acres to O/R (2 sites), creates 127 acres of Low Density Residential (up to 10 units per acre), and 13 acres of Business. The net impact of the approved land use changes on potential residential density is an increase of approximately 1,842 units.

Section 18 (T53, R40): This section is located between NW 107th Avenue and the SR 821/Florida Turnpike – Homestead Extension, and NW 74th Street and NW 58th Street. Under the adopted County FLUM this section contains approximately 575 acres of Low-Medium Density (up to 13 units per acre), 40 acres of I&O use and 25 acres of B&O use (in 3 locations). This land use pattern would allow up to 8,100 dwelling units. Under the approved City FLUM the land use intensity has been significantly reduced providing for approximately 490 acres of Estate Density (up to 6 units per acre), 60 acres of Moderate Density (up to 13 units per acre), 40 acres of Medium Density Residential (up to 19 units per acre), 30 acres of B use (2 locations), and 20 acres in school/park. Overall residential density potential has been reduced to 4,460 units, a 45% decrease from the adopted County FLUM; an overall reduction of 3,640 potential units in this section.

Section 19 (T53, R40): This section is located between NW 107th Avenue and the SR 821/Florida Turnpike – Homestead Extension, and NW 41st Street and NW 58th Street. The adopted County FLUM designates approximately 270 acres of this section for Low-Medium Density (up to 13 units per acre), 230 acres for Medium Density (up to 25 units per acre), 110 acres for O/R use, and 30 acres as B&O. Under this land use scheme, the potential residential use on the map equals an estimated 14,860 units for Section 19. The transmitted City FLUM greatly reduces that residential potential with the following land use program: 20 acres of Medium Density Residential (up to 19 units per acre), 270 acres of Moderate Density Residential (up to 13 units per acre), 80 acres of Low Density (up to 10 units per acre), 170 acres of Estate Density, 55 acres of B uses, 20 acres of Community Mixed Use (up to 19 units per acre, with incentive bonus to 25 units per acre), 5 acres of Office/Residential and 20 acres of IPF (school). This transmitted land use plan for Section 19 yields a potential residential buildout of approximately 7,035 units, a 53% (7,825 units) reduction from the adopted County FLUM.

Section 20 (T53, R40): This section is located between NW 107th Avenue and (theoretical) NW 97th Avenue, and NW 41st Street and NW 58th Street. The adopted County FLUM designates approximately 320 acres for Low-Medium Density (up to 13 units per acre), 270 acres of Parks and Recreation (private golf course), 30 acres of Office/Residential and 20 acres of B&O. This land use pattern produces a maximum of 5,600 potential units. It should also be pointed out that the County's Comprehensive Development Master Plan allows owners of private golf courses to redevelop, without a land use amendment, at a density compatible with adjacent residential areas, which in this case would be Low-Medium Density up to 13 units per acre, provided the course is not under a restrictive covenant or was used as open space for adjacent neighborhoods. This redevelop provision is not included the City's approved FLUM which serves to reduce the residential potential of this section. The approved FLUM provides for 85 acres of Medium Density (up to 19 units per acre), 25 acres of Moderate Density (up to 13 units per acre), 115 acres of Low Density (up to 10 units per acre), 95 acres of Estate Density

(up to 6 units per acre), 20 acres of B use, 10 acres of Office/Residential, 270 acres of Private Parks and Open Space (golf course) and Water Bodies, and 20 acres of IPF (park, school, fire station). The City FLUM for this section produces the maximum potential units to approximately 3,885, a 31% (1,715 units) reduction from the adopted County FLUM.

Section 21 (T53, R40): This section is located between NW 87th Avenue and (theoretical) NW 97th Avenue, and NW 41st Street and NW 58th Street. The adopted County FLUM designates approximately 80 acres for Low Density (up to 6 units per acre), 440 acres of Parks and Recreation (private golf course), 40 acres of Medium Density (up to 25 units per acre), 50 acres of I&O, 10 acres of Office/Residential and 20 acres of B&O. This land use pattern produces a maximum of approximately 2,100 potential units. The approved FLUM provides for approximately 40 acres of Medium Density (up to 19 units per acre), 30 acres of Low Density (up to 10 units per acre), 70 acres of Estate Density (up to 6 units per acre), 25 acres of B use, 15 acres of Office/Residential, 440 acres of Private Parks and Open Space (golf course) and Water Bodies, and 20 acres of IPF (park, school, fire station). The City FLUM for this section produces the maximum potential units to approximately 1,780, a 15% (320 units) reduction from the adopted County FLUM.

Section 22 (T53, R40): This section is located between NW 87th Avenue and SR 826/Palmetto Expressway, and the canal north of NW 36th Street to NW 58th Street. The adopted County FLUM designates approximately 130 acres for Medium Density (up to 25 units per acre), 470 acres of I&O use, 5 acres of B&O use, 35 acres of Water Bodies. This land use pattern produces a maximum of approximately 3,250 potential units. The approved FLUM provides for approximately 90 acres of High Density (up to 25 units per acre), 120 acres of Downtown Mixed Use (up to 25 units per acre, with incentive bonus to 35 units per acre), 280 acres of I use, 145 acres of Private Parks and Open Space (private golf course) and Water Bodies, and 5 acres of B use. This proposed land use pattern produces a maximum of 6,500 units, a 100% (3,250 units) increase compared to the County FLUM.

Section 27 (T53, R40): This section is between the SR 826/Palmetto Expressway and NW 87th Ave, and NW 25th Street and the canal north of NW 36th Street. Approximately 45 acres were changed from I&O in the adopted County FLUM to Downtown Mixed Use (up to 25 units per acre, with incentive bonus to 35 units per acre) on the approved FLUM along NW 82 Avenue in the center of this Section, which could produce a maximum increase of 1,575 residential units. An additional 75 acres have been identified as a Downtown Mixed Use Opportunity Area, wherein redesignation to DMU may be appropriate when the City, on its own initiative, or upon application from the respective property owner(s) applies for an amendment to the Future Land Use Map pursuant to Chapter 163, F.S. Approximately 205 acres have also been identified as a Community Mixed Use Opportunity Area, which again means that the properties maintain their underlying City future land use designations until such time as the City, on its own initiative, or upon application from the respective property owner(s) applies to amend the

Future Land Use Map designation to CMU pursuant to Chapter 163, F.S. The maximum increase of residential units for this section is 1,575 units.

Section 28 (T53, R40): This section is between NW 87th Avenue and NW 97th Avenue, and NW 25th Street and NW 41st Street. Approximately 240 acres were changed from I&O to IPF to accommodate the U.S. Department of Defense Southern Command facility. Approximately 50 acres were changed from O/R on the adopted County FLUM to IPF on the approved FLUM on the south side of NW 36th Street towards the center of this section. This change would reduce the potential for residential development by 650 units. Approximately 8 acres, also on the south side of NW 36th Street towards the center of this section, of O/R was changed to B&O, which would reduce the number of potential residential units by 104 units. In addition, approximately 120 acres have been designated as a Downtown Mixed Use Opportunity Area, wherein redesignation to DMU may be appropriate when the City, on its own initiative, or upon application from the respective property owner(s) applies for an amendment to the Future Land Use Map pursuant to Chapter 163, F.S. The City FLUM for this section produces a reduction in the number of potential residential units of 754 units from the adopted County FLUM.

Section 29 (T53, R40): This section is between NW 97th Avenue and NW 107th Avenue, and NW 25th Street and NW 36th Street. Approximately 30 acres were changed from I&O to Low Density Residential (up to 10 dwelling units) in the center of this section. This change would increase the potential number of residential units by 300 units. Approximately 50 acres of I&O were changed to Private Park and Open Space, which would lower potential commercial intensities significantly. Approximately 5 acres of Low Density Residential (2.5 to 6 units per acre) were changed to Moderation Density (up to 13 dwelling units per acre) along NW 41st Street in the center of this section. This change would allow an increase of 35 potential residential units. Approximately 65 acres of Low Medium Density (5 to 13 units per acre) to the south of the golf course were changed to Estate Density (up to 6 units per acre). This change would create a decrease of 455 potential residential units. Another 70 acres of Low Density (2.5 to 6 units per acre) were changed to Estate Density (up to 6 units per acre) on the north side of NW 25th Street in the southeast corner of the section, which would create no change in potential residential density. The maximum number of residential units for this section is estimated to decrease by 102 units due to the changes from the adopted County FLUM to the approved FLUM.

Section 30 (T53, R40): This section is between NW 107th Avenue and SR 821/Florida Turnpike – Homestead Extension, and NW 97th Avenue and NW 25th Street and NW 36th Street. Approximately 40 acres were changed from I&O to Restricted Industrial in the northwest area of this section. This map adjustment was based on comparing aerials to the Miami-Dade County Future Land Use Map and is not a true change of use. In the southwest area of this section, approximately 120 acres were changed from I&O and Restricted Industrial to Private Park and Open Space. Also in the southwest corner of this section, approximately 10 acres of Restricted Industrial were changed to IPF. There is no change in residential density from the adopted County FLUM to the approved City FLUM for this section.

Section 32 (T53, R40): This section is between NW 97th Avenue and NW 107th Avenue, and SR 836/Dolphin Expressway and NW 25th Street. Approximately 5 acres were changed from B&O to IPF in the southwest part of this section. Approximately 30 acres in the northwest part of this section were designated as Regional Activity Center. There is no change in residential density from the adopted County FLUM to the approved City FLUM for this section.

Section 33 (T53, R40): This section is between NW 87th Avenue and NW 97th Avenue, and SR 836/Dolphin Expressway and NW 25th Street. A Community Mixed Use Opportunity Area designation of approximately 60 acres has been added, which again maintains the same underlying City future land use designations as the County's designations until such time as a property owner applies for land use amendments to CMU for their property and such applications are approved by the City Council, pursuant to Chapter 163, F.S. There is no change in residential density from the adopted County FLUM to the approved City FLUM for this section.

Section 34 (T53, R40): This section is between the SR 826/Palmetto Expressway and NW 87th Ave, and SR 836/Dolphin Expressway and NW 25th Street. No land use changes are proposed in this Section.

Summary

The approved City FLUM has greatly reduced the development potential of the adopted Miami-Dade County Comprehensive Development Plan Future Land Use Map by a total of 26,161 units. In addition, some excess suburban density in outlying areas, especially in north and west Doral, has been transferred to the downtown area and supporting community mixed use areas. Industrial use has been reduced city-wide, while new mixed use areas and mixed use opportunity areas have been added to promote redevelopment in the more urbanized sectors of the City.

FUTURE LAND USE

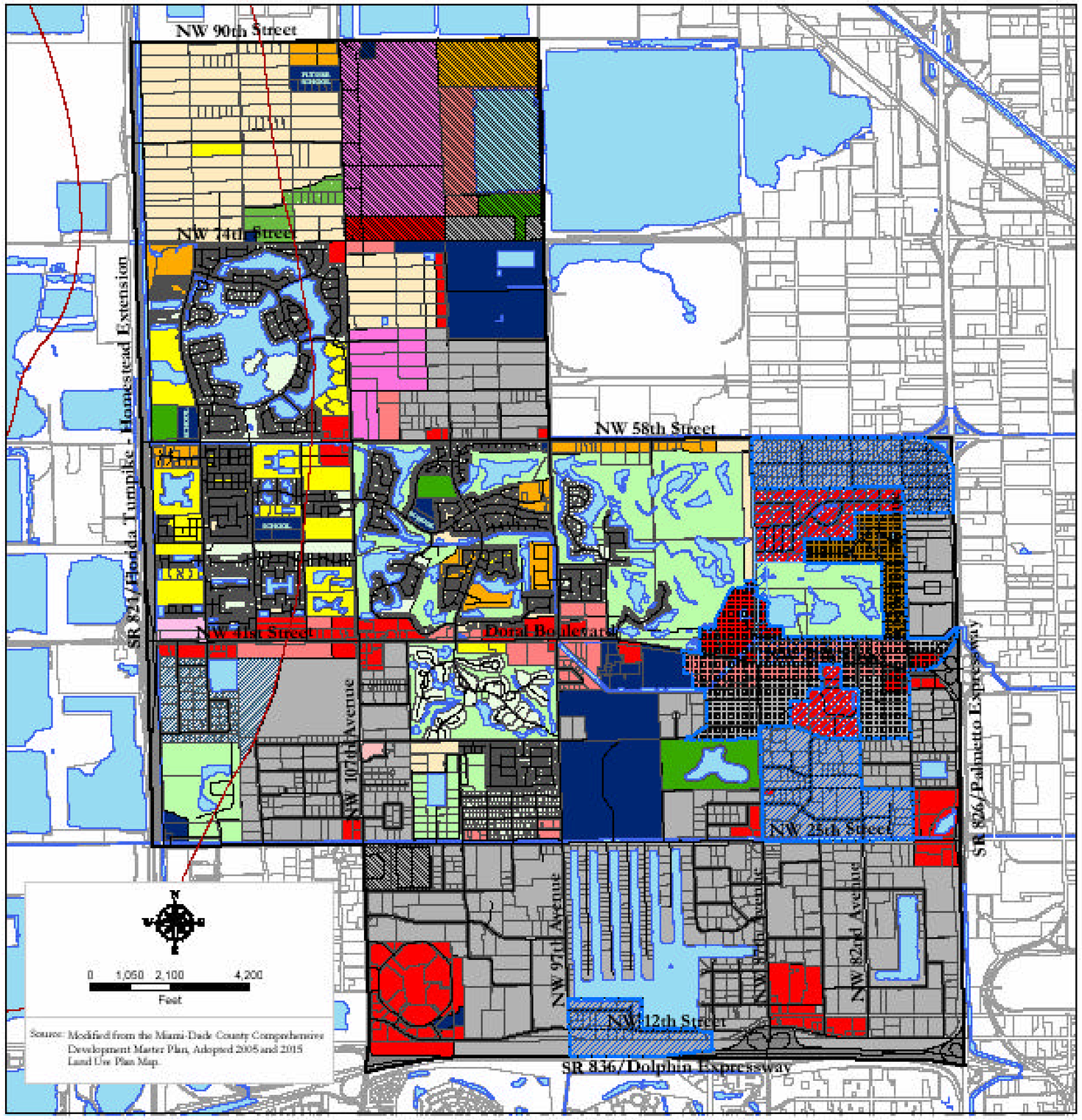
The Future Land Use Map (Map I-3) was created using the County's Future Land Use Map as a base, and revising that map to reflect Doral's vision and future land use needs. Table 1-4 provides the acreage and general range of density or intensity of the future land use for the gross land area included in each future land use category applicable to the City of Doral. The predominant land use in Doral is Industrial comprising 32.20% of the City, followed closely by the 5 residential (only) land use categories at 25.57%. Of the residentially-designated lands in the City, about 2/3 are in the Estate and Low Density categories limiting density to 6 and 10 units per acre, respectively. Business lands make up 6.30% of the City's land base, while Institutional and Public Facilities area comprise 5.40%.

Table 1-4. City of Doral Future Land Use Profile

Land Use	Acres	Percent
Estate Density Residential (0 to 6 D.U. per Gross Acre)	948.47	9.58%
Low Density Residential (6 to 10 D.U. per Gross Acre)	870.17	8.79%
Moderate Density Residential (10 to 13 D.U. per Gross Acre)	352.25	3.56%
Medium Density Residential (13 to 19 D.U. per Gross Acre)	271.28	2.74%
High Density Residential (19 to 25 D.U. per Gross Acre)	88.29	0.89%
Downtown Mixed Use	174.00	1.76%
Community Mixed Use	19.25	0.19%
Traditional Neighborhood Development	371.91	3.76%
Business	624.00	6.30%
Office	6.96	0.07%
Office/Residential	353.04	3.57%
Industrial	3,038.09	30.69%
Restricted Industrial	139.93	1.41%
Institutional and Public Facility	534.89	5.40%
Public Parks and Recreation	118.87	1.20%
Private Parks and Open Space	864.11	8.73%
Environmentally Protected Parks	52.00	0.53%
Expressway Right-of-Way*	197.57	2.00%
Water Bodies*	872.92	8.82%
Total	**9,898.00**	**100.00%**

*Not a land use category

Note: Land uses are approximate and are based on the Adopted 2005 and 2015 Land Use Plan for Miami-Dade County, Florida paper map.



Comprehensive Plan Future Land Use Map

Map I-3

Legend

Land Use Categories

- Estate Density Residential (up to 6 D.U. per Gross Acre)
- Low Density Residential (up to 10 D.U. per Gross Acre)
- Moderate Density Residential (up to 13 D.U. per Gross Acre)
- Medium Density Residential (up to 19 D.U. per Gross Acre)
- High Density Residential (up to 25 D.U. per Gross Acre)
- Downtown Mixed Use
- Community Mixed Use
- Traditional Neighborhood Development
- Business
- Office
- Office/Residential
- Industrial
- Restricted Industrial
- Institutional and Public Facility
- Public Parks and Recreation
- Private Parks and Open Space
- Environmentally Protected Parks

Other Features

- Downtown Mixed Use Opportunity Area
- Community Mixed Use Opportunity Area
- Urban Central Business District (UCBD) designation
- Regional Activity Center (RAC) designation
- Expressway Right-of-Way
- Water Bodies
- Northwest Wellfield Protection Area
- Doral City Limit

Notes:
D.U. = Dwelling Unit

Kimley-Horn and Associates, Inc.

Adopted April 26, 2006

II. TRANSPORTATION ELEMENT

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TRANSPORTATION ELEMENT
DATA, INVENTORY, AND ANALYSIS

Local governments that have all or part of their jurisdiction included within the urbanized area of a Metropolitan Planning Organization (MPO) are required to prepare and adopt a Transportation Element consistent with the provisions of Chapter 163, Part III of the Florida Statutes. The purpose of the Transportation Element is to plan for a multimodal transportation system within the City of Doral. The objective of the Transportation Element Data, Inventory, and Analysis (DIA) Report is to describe and analyze transportation resources within the City of Doral, project future conditions, and prepare a foundation for the formulation of goals, objectives, policies and implementation programs.

Data has been collected, analyzed, and portrayed in text and graphic formats including a series of transportation maps. In this analysis, the City's Comprehensive Plan horizon year is 2030. The Transportation Element DIA Report presents:

- An analysis of the existing transportation systems, including the ability of transportation facilities and services to serve existing land uses, and the adequacy of the existing and projected transportation system to provide adequate emergency evacuation routes;
- Growth trends and travel patterns, including relationships between land use and transportation systems;
- Projected transportation system levels of service;
- An analysis of local and state transportation programs;
- Establishment and maintenance of adopted level of service standards; and
- Land use policy implications of transportation management programs necessary to promote public transportation.

DEFINITIONS OF TERMS AND CONCEPTS

Classification of Major Thoroughfares. Major thoroughfares are categorized into functional classification groups according to their character of service. The four functional classification groups for urban areas are principal arterials, minor arterials, collectors, and local streets. The extent and degree of access control is a significant factor in defining the functional classification of a roadway. Regulated limitation of access is necessary on arterials to enhance their primary function of mobility, while the primary function of local streets is to provide access. Functional classifications for major thoroughfares are defined in *A Policy on Geometric Design of Highways and Streets* (American Association of State Highway and Transportation Officials, 2001).

Principal Arterials. The principal arterial system serves the major centers of activity and the highest volume traffic corridors of urbanized areas. Principal arterials typically serve longer distance trips. Although principal arterials constitute a small percentage of the total roadway network, they carry a high proportion of total urban traffic. The principal arterial system also carries most of the trips entering and leaving the urban area. Service on principal arterials is normally continuous with relatively high traffic volumes, long average trip lengths and high operating speeds. Service to abutting land is typically subordinate to the provision of travel service and major traffic movements. Typical principal arterials include interstates, freeways, and other limited access facilities.

Minor Arterials. The minor arterial system interconnects and supports the principal arterial system. It accommodates trips of moderate lengths at a lower level of mobility than provided on principal arterials. Minor arterials provide continuity among communities and may also carry local bus routes. Ideally, minor arterials do not penetrate identifiable neighborhoods. The spacing of minor arterials is typically not much greater than one mile in most urbanized areas.

Collectors. The collector street system provides vehicular access to and mobility within residential neighborhoods, commercial, and industrial areas. It differs from the arterial system in that it penetrates neighborhoods and distributes trips from arterials to their ultimate destinations. Conversely, collectors also transition vehicular traffic from local streets onto the arterial system. The collector street system may carry local bus routes. Service on collectors has relatively moderate traffic volumes, average trip lengths, and average operating speeds.

Local Streets. The local street system comprises all roadways not in one of the higher systems. It provides direct access to abutting land uses and connections to the higher order systems. It offers the lowest level of vehicular mobility and usually contains no bus routes. Service to through traffic is often discouraged on local streets. Service on local streets has relatively low average traffic volumes, short average trip length, or minimal through traffic movements and high land access for abutting property.

Level of Service. Level of Service (LOS) standards can be determined for various public facilities. Within the urbanized area, level of service measurements are maintained for the automobile, however the Miami-Dade Transportation Plan for the Year 2030 also places special emphasis on meeting the needs of those individuals who walk or bike for mobility. Therefore, the Long Range Transportation Plan conducted an inventory of existing conditions for all roads within the Metropolitan Planning Organization's (MPO) long range street network, including those in the City of Doral, to determine the bicycle and pedestrian levels of service for each segment. LOS standards for automobile, bicycle, and pedestrian travel modes are discussed below.

Automobile Level of Service. *The Traffic Engineering Handbook* (Institute of Transportation Engineers, 1999) defines level of service for roadways (based upon the motorist's perspective) as:

> *"A qualitative measure that characterizes operational conditions within a traffic stream and perception of these conditions by motorists and passengers. The descriptions of individual levels of service characterize these conditions in terms of factors such as speed and travel time, freedom to maneuver, traffic interruptions and comfort and convenience."*

This definition can be further simplified as the ratio of traffic volume to roadway capacity. The six different levels of service are described below:

- LOS A - Represents an ideal condition of primarily free-flow traffic operations at average travel speeds. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream, and delays at intersections are minimal.

- LOS B - Represents reasonably stable, unimpeded traffic flow at average travel speeds. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome.

- LOS C - Traffic flow is stable but drivers are becoming restricted in their choice of speeds and ability to maneuver. This service level is often selected as being an appropriate criterion for roadway design purposes.

- LOS D - Most motorists would consider this LOS unsatisfactory, as traffic flow is unstable. Driving speeds are tolerable for short periods but are subject to sudden variance. Time delays occur due to high volumes of traffic. The ability to maneuver and choose speed is severely restricted.

- LOS E - Traffic flow is unstable as speeds and flow rates vary. Traffic flow has either stopped or is maintained at a low speed. There is little independence in selection of speeds or ability to maneuver. Driving comfort is low and accident potential is high due to limited space between vehicles and rapidly changing speeds. The roadway may act as a storage area resulting from downstream congestion. Generally, a facility at LOS E is operating at or above capacity.

- LOS F - Traffic flow has generally come to a stopped condition, but will have slight inconsistent movement. No independence in selection of speeds or ability to maneuver exists at this level of service. Driving comfort is low and accident potential is high due to limited space between vehicles and rapidly changing speeds. The roadway is congested. Generally, a facility at LOS F is operating above capacity.

Bicycle Level of Service. Bicycle level of service measurements were performed by the Miami-Dade County MPO to assign a level of service, A through F, to all arterial and collector streets within Miami-Dade County, including the City of Doral. Level of service was calculated based on six factors including recorded traffic volumes, percent heavy vehicles, posted speed limit, pavement width and number of travel lanes, pavement condition, and presence of shoulder or bicycle lane. Each of these variables was weighted by coefficients derived by stepwise regression modeling importance. A numerical score, generally between 0.5 and 6.5, was determined using a regression equation and stratified to a level of service grade. The range of scores corresponding to the six levels of service for bicyclists is described in *Table 2-1*.

Table 2-1
Bicycle Level of Service Classifications

Level of Service	Range of Scores
A	≤ 1.5
B	> 1.5 and ≤ 2.5
C	> 2.5 and ≤ 3.5
D	> 3.5 and ≤ 4.5
E	> 4.5 and ≤ 5.5
F	> 5.5

Source: 2002 FDOT Quality/Level of Service Manual

Pedestrian Level of Service. Miami-Dade MPO assigned a pedestrian level of service, A through F, to all arterial and collector streets within Miami-Dade County, including the City of Doral. Level of service was calculated based on five factors including lateral separation between the vehicle and pedestrians, recorded traffic volumes, posted travel speed, vehicle mix, and frequency of driveways along the road. Each of these variables was weighted by coefficients derived by stepwise regression modeling importance. A numerical score, generally between 0.5 and 6.5, was determined and stratified to a level of service grade. The range of scores corresponding to the six levels of service for pedestrians is described in *Table 2-2.*

Table 2-2
Pedestrian Level of Service Classifications

Level of Service	Range of Scores
A	≤ 1.5
B	> 1.5 and ≤ 2.5
C	> 2.5 and ≤ 3.5
D	> 3.5 and ≤ 4.5
E	> 4.5 and ≤ 5.5
F	> 5.5

Source: 2002 FDOT Quality/Level of Service Manual

EXISTING TRANSPORTATION DATA REQUIREMENTS

Existing Transportation Map Series

The following series of maps represents the existing conditions for the transportation network on a multimodal basis. This includes the roadway system, public transit system and bicycle and pedestrian facilities within the City of Doral.

Map 2-1: Major Thoroughfares by Number of Lanes (2006) identifies each major thoroughfare within the city by the number of through lanes for the facility.

Map 2-2: Major Thoroughfares by Functional Classification (2006) identifies arterial and collector streets and their functional classification for each facility. The functional classification system indicates the role of each thoroughfare in meeting current travel demands, assists in defining land use relationships, and identifies the jurisdiction responsible for maintenance.

Map 2-3: Limited Access Facilities, Significant Parking Facilities (2006) delineates the location of freeways and expressways within the City of Doral. The city is bound by State Road (SR) 836 (Dolphin Expressway) on the south, SR 826 (Palmetto Expressway) on the east, and SR 821 (Florida's Turnpike) on the west. Significant parking facilities were also identified at the Miami International Mall.

Map 2-4: Major Trip Generators and Attractors (2006) identifies the location of the major traffic generators/attractors in the City of Doral. The significant traffic generators are the residential areas in the western region of the city. Among the significant traffic attractors are the Miami International Mall, the Miami International Commerce Center, and the commercial and industrial corridors in the city.

Map 2-5: Existing Transit Facilities (2006) illustrates the public transit service within the City of Doral, which is operated by the Miami-Dade County Transit (MDT) Authority. There are a total of eight MDT routes that serve the city. Bus service is limited to the southern and eastern portions of the city. Corridors served by MDT include NW 53rd Street, NW 36th/NW 41st Street, NW 25th Street, NW 79th Avenue, NW 87th Avenue and portions of NW 97th Avenue and NW 107th Avenue. The Miami International Mall is a major destination served by MDT.

Map 2-6: Existing Pedestrian Facilities (2006) delineates the existing pedestrian facilities within the City of Doral.

Map 2-7: Existing Vehicular Levels of Service (LOS) on Major Thoroughfares (2003) illustrates existing peak hour, peak direction levels of service calculated for major roadways within the City of Doral.

Map 2-8: Existing Bicycle Levels of Service (LOS) (2006) identifies the bicycle level of service calculations conducted by the Miami-Dade County MPO for major roadways within the City of Doral.

Map 2-9: Existing Pedestrian Levels of Service (LOS) (2006) illustrates the pedestrian level of service calculations conducted by the Miami-Dade County MPO for major roadways within the City of Doral.

Map 2-10: Freight/Passenger Rail Facilities (2006) illustrates one rail corridor operated by CSX Railroad within the City of Doral. The rail line runs along the southern border of the city parallel to SR 836 (Dolphin Expressway) and NW 12th Street.

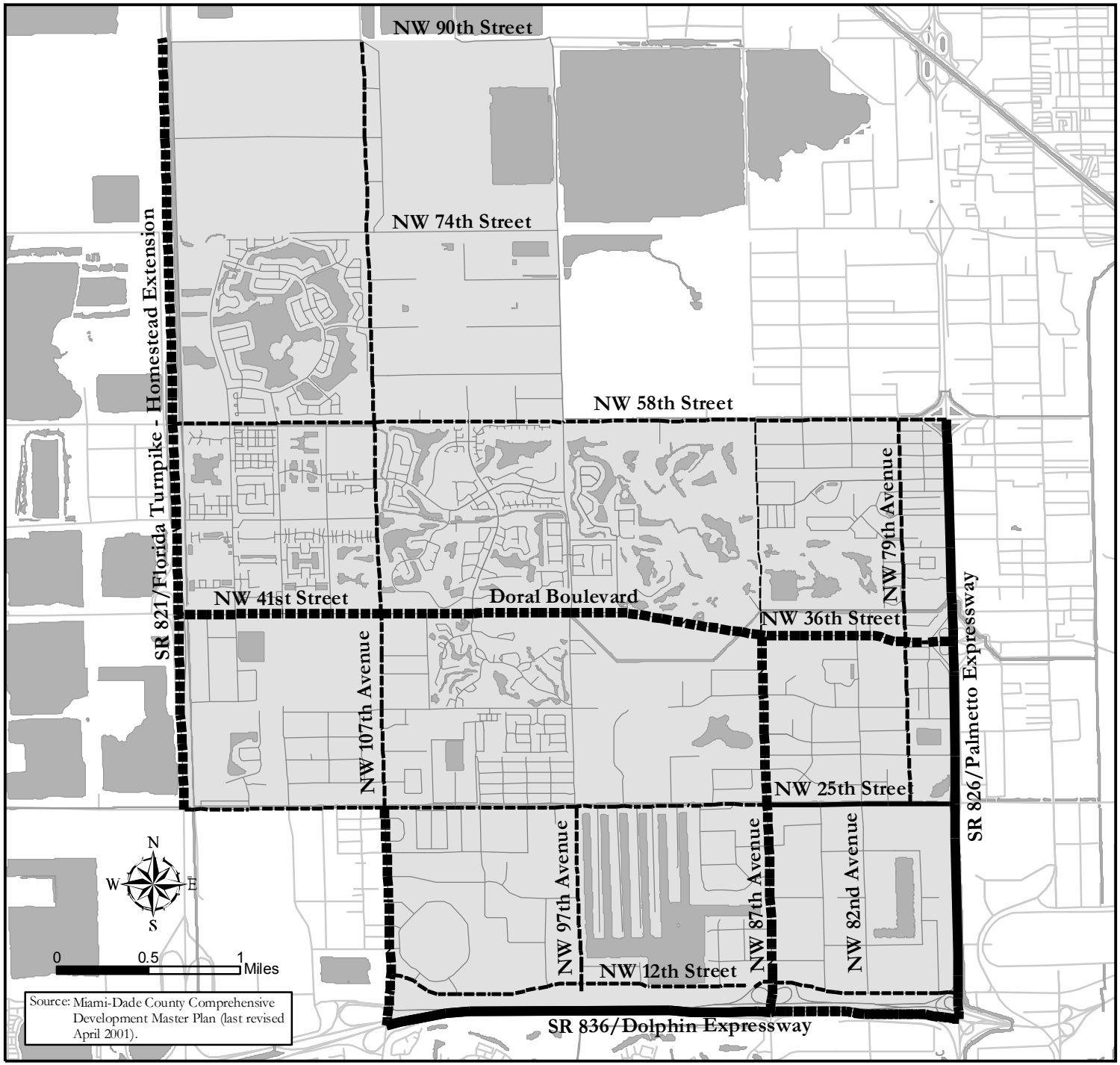
Map 2-11: Hurricane Evacuation Routes (2006) delineates the county's designated local and regional transportation facilities critical to the evacuation of the coastal population prior to an impending disaster. Major evacuation routes within the City of Doral include SR 836 (Dolphin Expressway), SR 821 (Florida Turnpike), and SR 826 (Palmetto Expressway).

Map 2-12: Airport Clear Zones (2006) delineates the Miami International Airport (MIA) runway clear zones in relation to the Doral city limits.

Existing Bicycle Facilities - There are no bicycle paths or bicycle lanes currently designated within the City of Doral. Therefore, no associated map illustrating the existing bicycle facilities is presented in the City's comprehensive plan.

Airport and Port Facilities - The City of Doral does not have any airport or seaport facilities within its municipal boundaries; therefore no associated data, analysis or maps regarding these facilities are presented in the City's comprehensive plan. However, airport service is provided nearby at the Miami International Airport, which is adjacent to Doral, east of SR 826 (Palmetto Expressway).

***Map 2-1*: Major Thoroughfares by Number of Lanes (2006)**



CITY OF DORAL

Existing Major Thoroughfares Number of Lanes (2006)

Map II-1

Legend

- 2 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes
- 8 Lanes
- Doral City Limit
- Water Bodies

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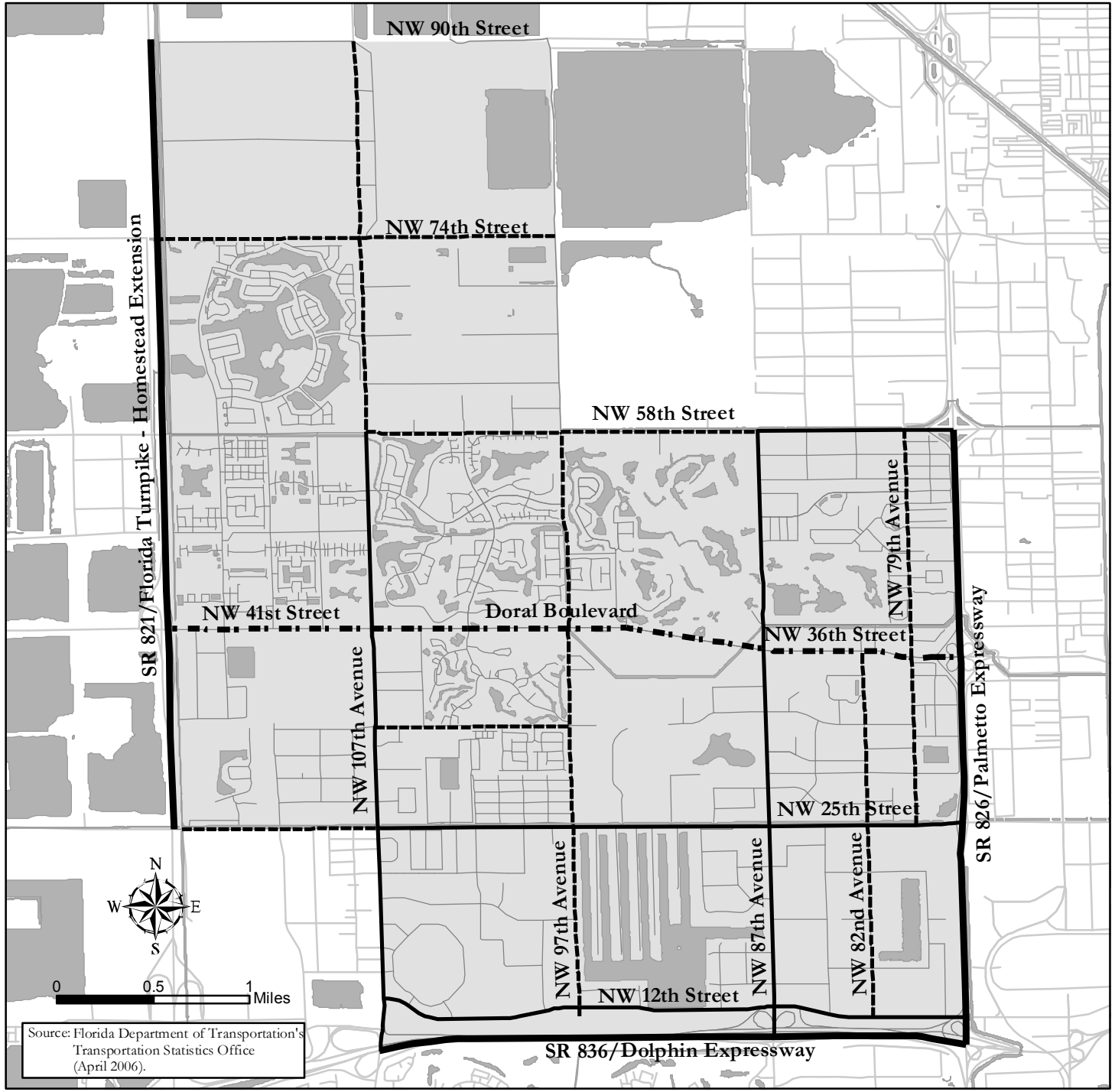
***Map 2-2*: Major Thoroughfares by Functional Classification (2006)**



CITY OF DORAL

Major Thoroughfares by Functional Classification (2006)

Map II-2

Legend

- Urban Principal Arterial-Freeways and Expressways
- Urban Principal Arterial-Other
- Urban Minor Arterial
- Urban Collector
- Doral City Limit
- Water Bodies

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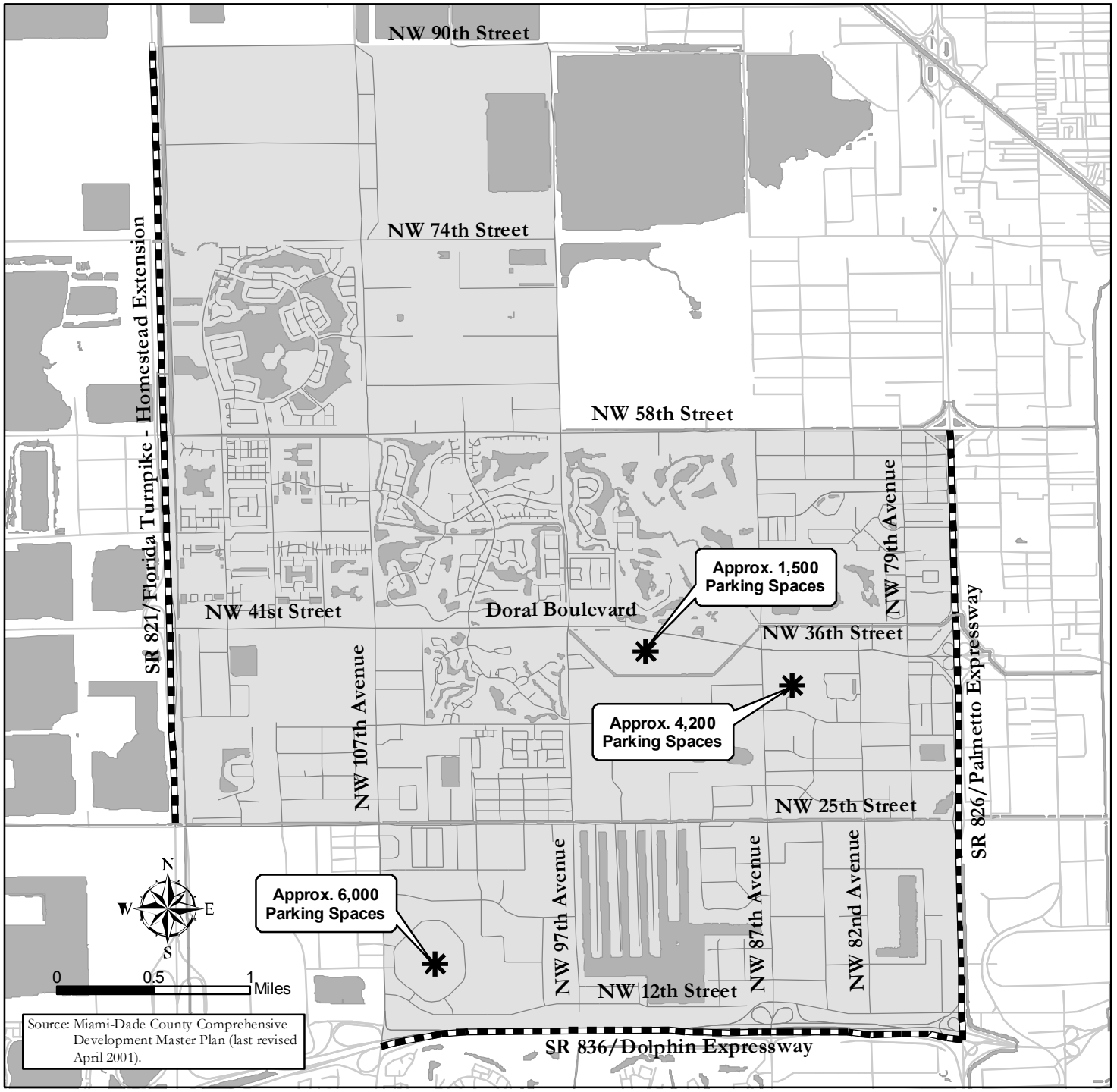
***Map 2-3*: Limited Access Facilities, Significant Parking Facilities (2006)**



Source: Miami-Dade County Comprehensive Development Master Plan (last revised April 2001).

CITY OF DORAL

Limited Access and Significant Parking Facilities (2006)

Map II-3

Legend

- Limited Access Facility
- Significant Parking Facility
- Doral City Limit
- Water Bodies

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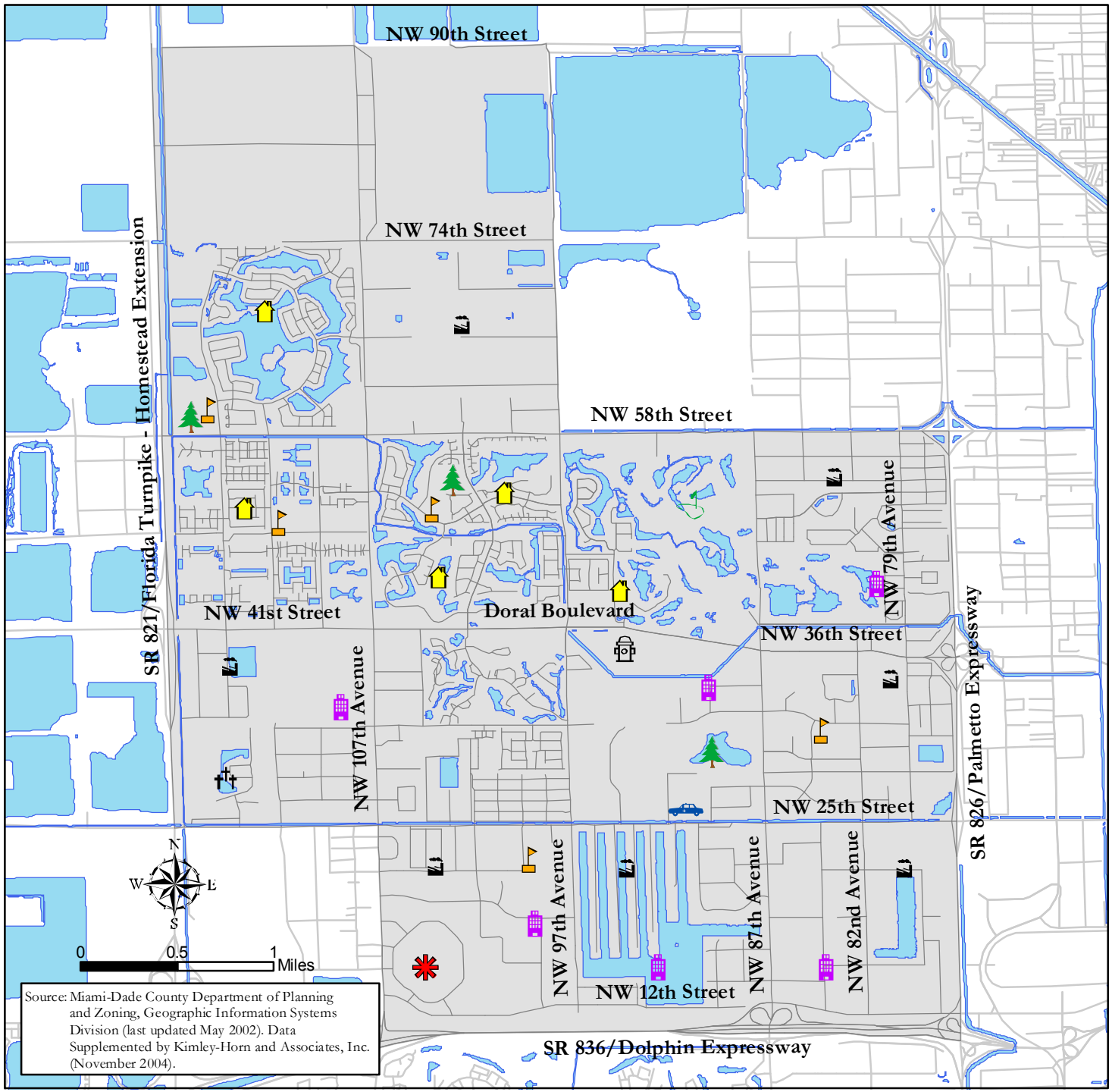
***Map 2-4*: Major Trip Generators and Attractors (2006)**



CITY OF DORAL

Major Trip Generators and Attractors (2006)

Map II-4

Legend

- Miami-Dade County Police Headquarters
- Miami-Dade County Fire Rescue Headquarters
- Employment Center
- Industrial
- Doral Resort and Spa
- Our Lady of Mercy Catholic Cemetry and Mausoleum
- Parks
- School
- Shopping Center
- Residential
- Doral City Limit
- Water Bodies

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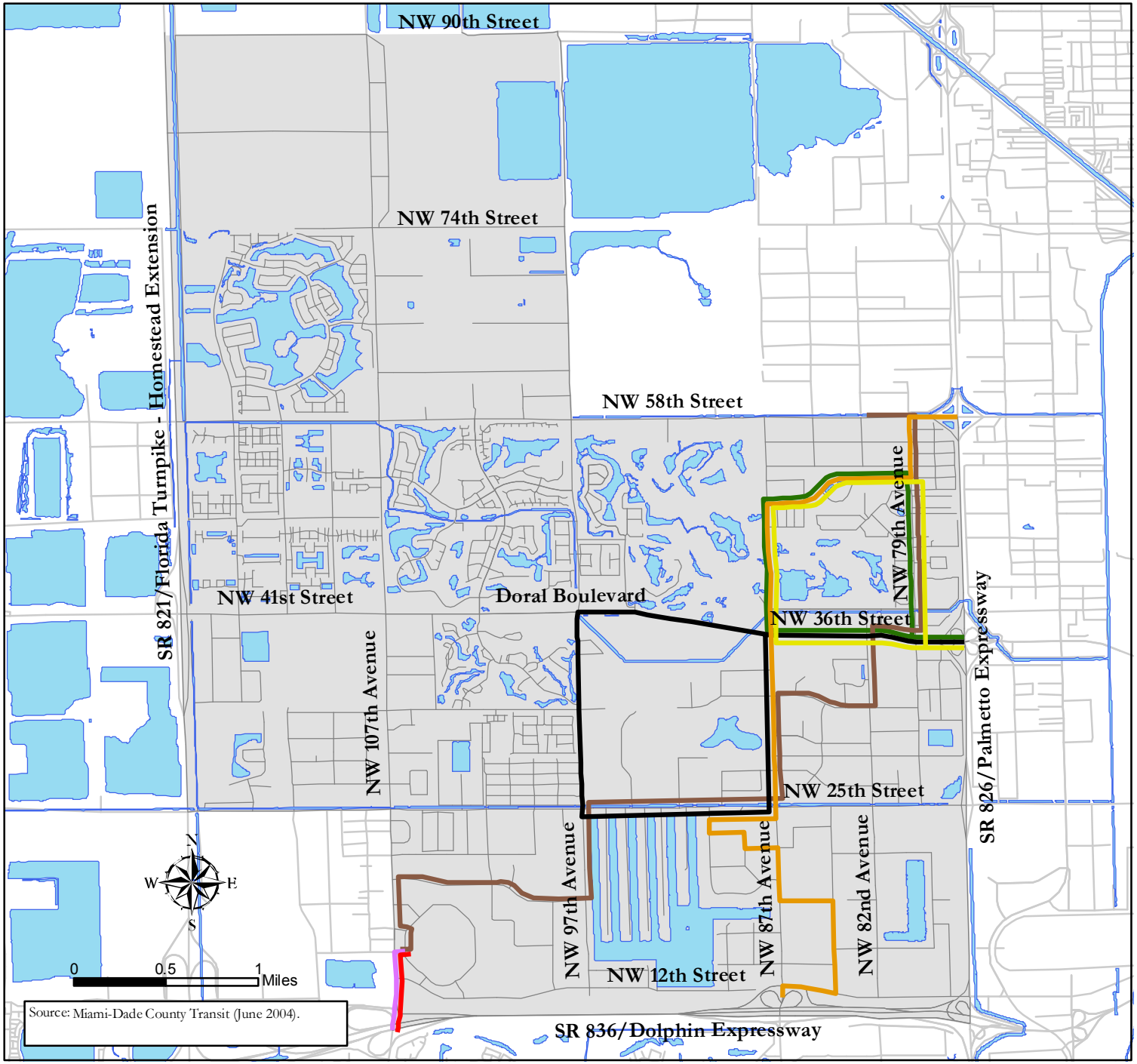
***Map 2-5*: Existing Transit Facilities (2006)**



CITY OF DORAL

Existing Transit Facilities (2006)

Map II-5

Legend

- Route 7
- Route 36
- Route 71
- Route 87
- Route 95
- Route 238 (East-West Connection)
- Route 242 (Doral Connection)
- Route 132 Koger/Tri-Rail Shuttle
- Doral City Limit
- Water Bodies

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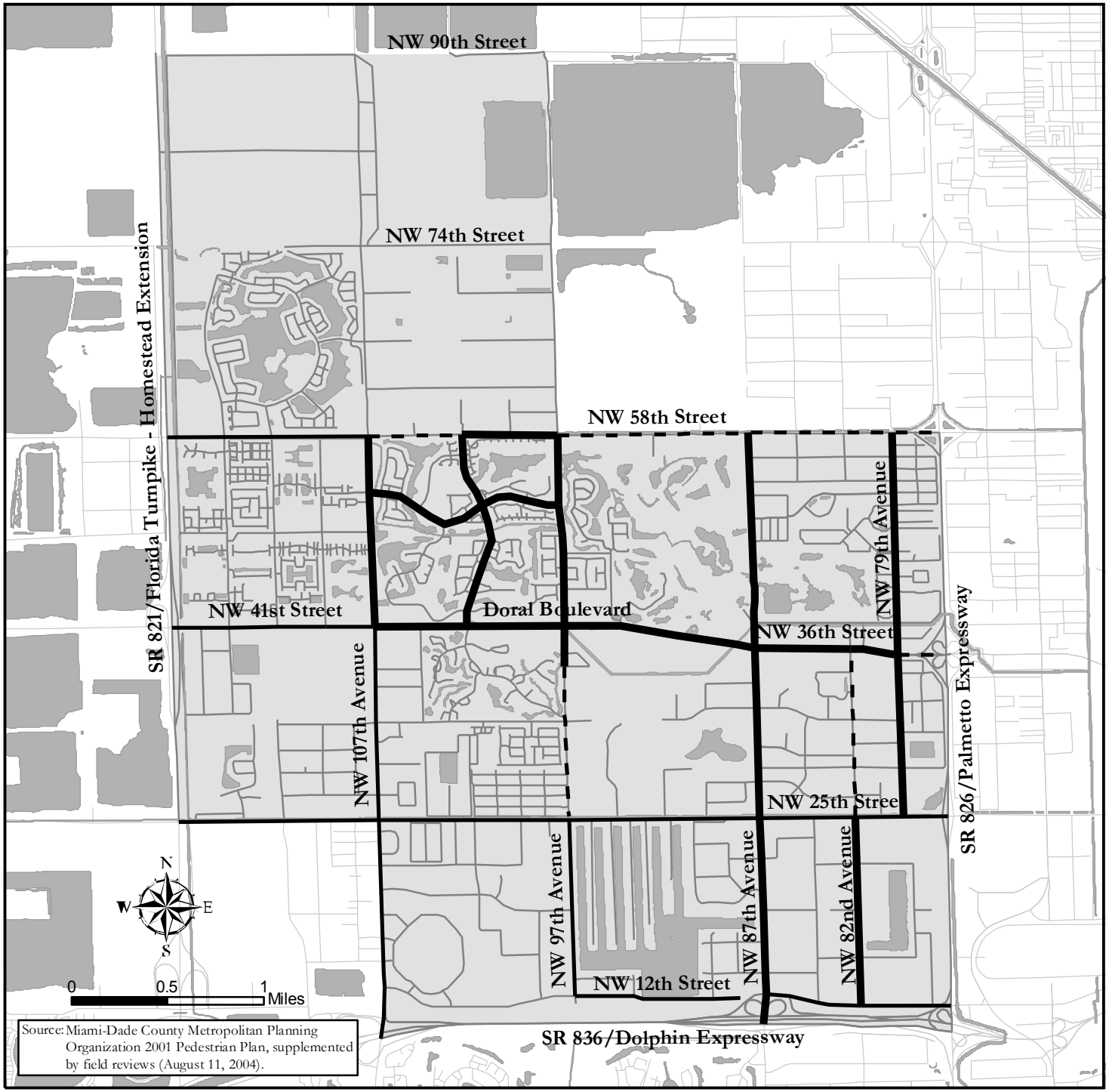
***Map 2-6*: Existing Pedestrian Facilities (2006)**



CITY OF DORAL

Major Thoroughfares Existing Pedestrian Facilities (2006)

Map II-6

Legend

- Sidewalk (One Side)
- Sidewalk (Both Sides)
- No Sidewalks
- Doral City Limit
- Water Bodies

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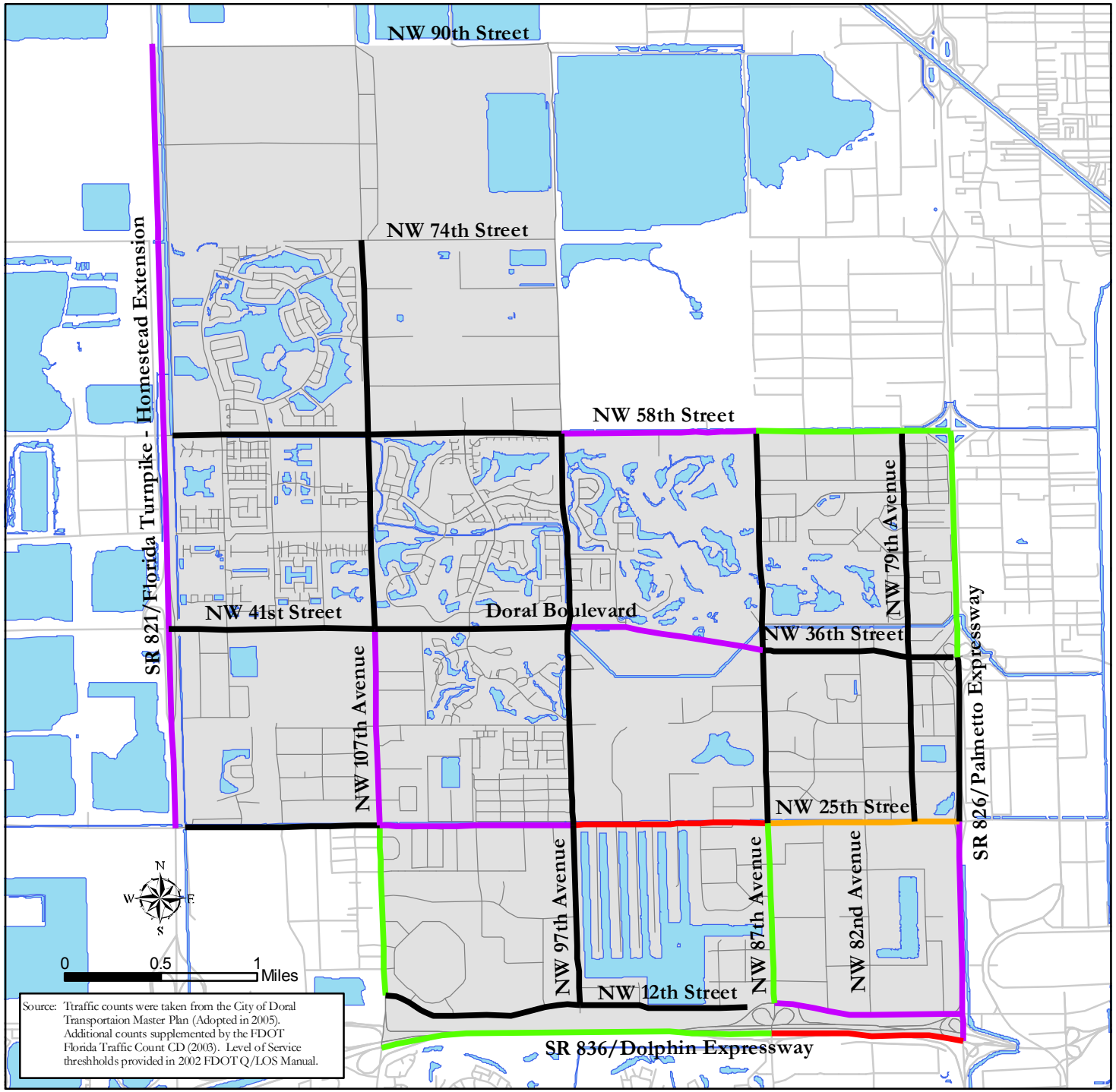
***Map 2-7*: Existing Vehicular Levels of Service (LOS) on Major Thoroughfares (2006)**



Source: Ttraffic counts were taken from the City of Doral Transportaion Master Plan (Adopted in 2005). Additional counts supplemented by the FDOT Florida Traffic Count CD (2003). Level of Service threshholds provided in 2002 FDOT Q/LOS Manual.

CITY OF DORAL

Major Thoroughfares Peak Hour/Peak Direction Vehicular Level of Service (2006)

Map II-7

Legend

- LOS "B" or Better
- LOS "C"
- LOS "D"
- LOS "E"
- LOS "F"
- Doral City Limit
- Water Bodies

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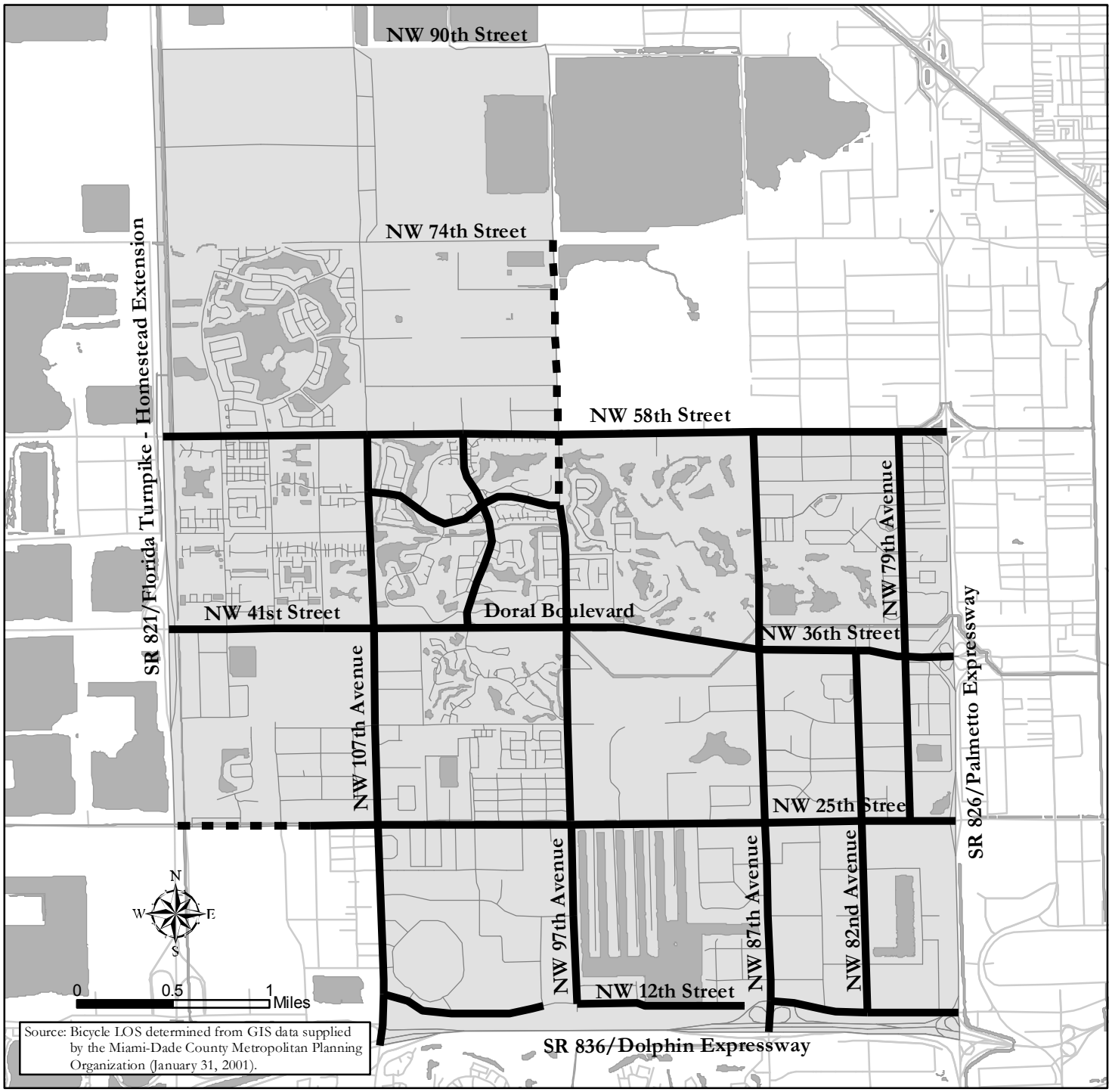
***Map 2-8*: Existing Bicycle Levels of Service (LOS) (2006)**



CITY OF DORAL

Major Thoroughfares Bicycle Level of Service (2006)

Map II-8

Legend

- LOS "A"
- LOS "B"
- LOS "C"
- LOS "D"
- LOS "E" or "F"
- Doral City Limit
- Water Bodies

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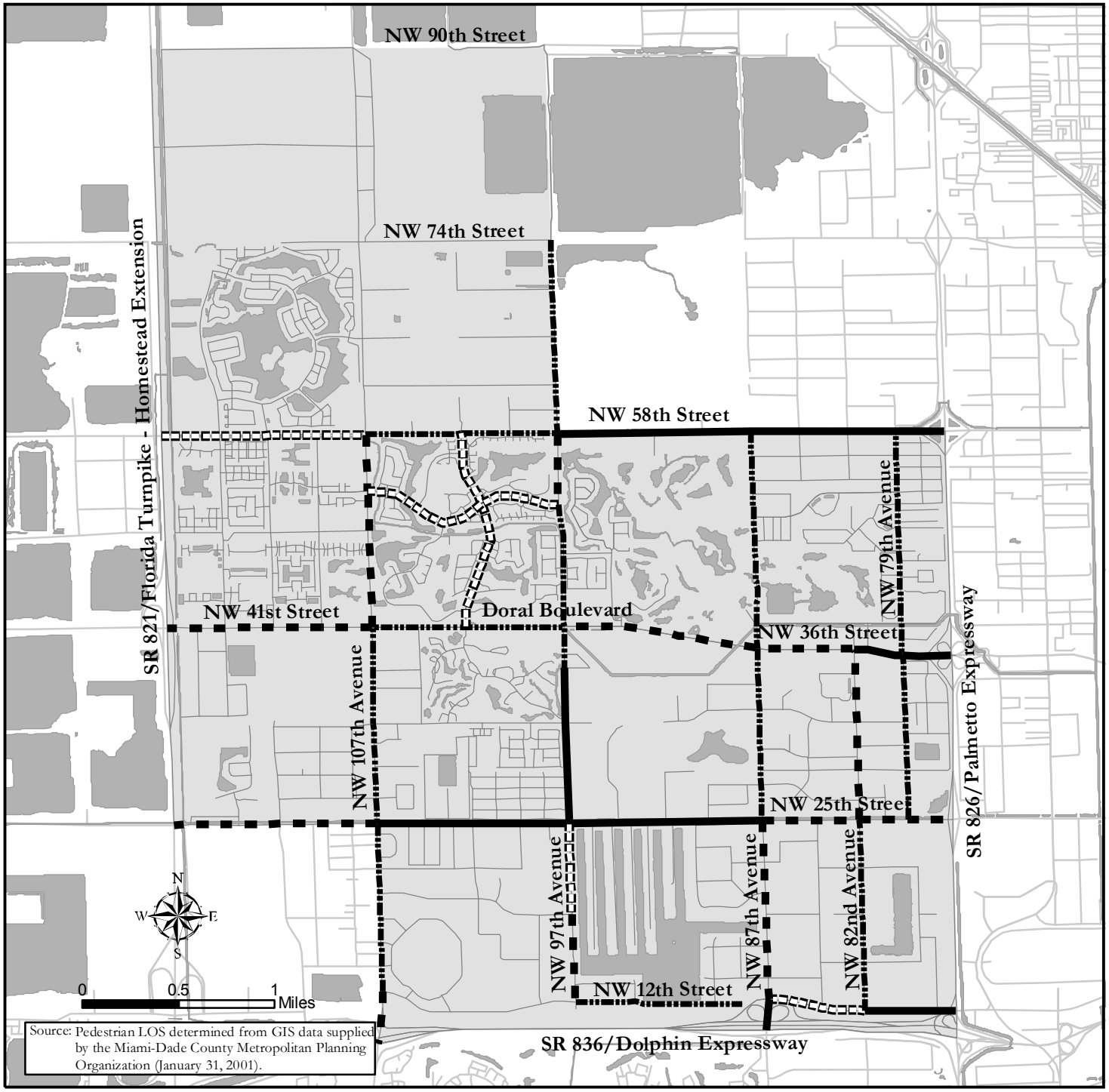
***Map 2-9*: Existing Pedestrian Levels of Service (LOS) (2006)**



CITY OF DORAL

Major Thoroughfares Pedestrian Level of Service (2006)

Map II-9

Legend

- LOS "A"
- LOS "B"
- LOS "C"
- LOS "D"
- LOS "E"
- LOS "F"
- Doral City Limit
- Water Bodies

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***Map 2-10*: Freight/Passenger Rail Facilities (2006)**

CITY OF DORAL

Freight & Passenger Rail Facilities (2006)

Map II-10

Legend

- CSX Railroad
- Doral City Limit
- Water Bodies

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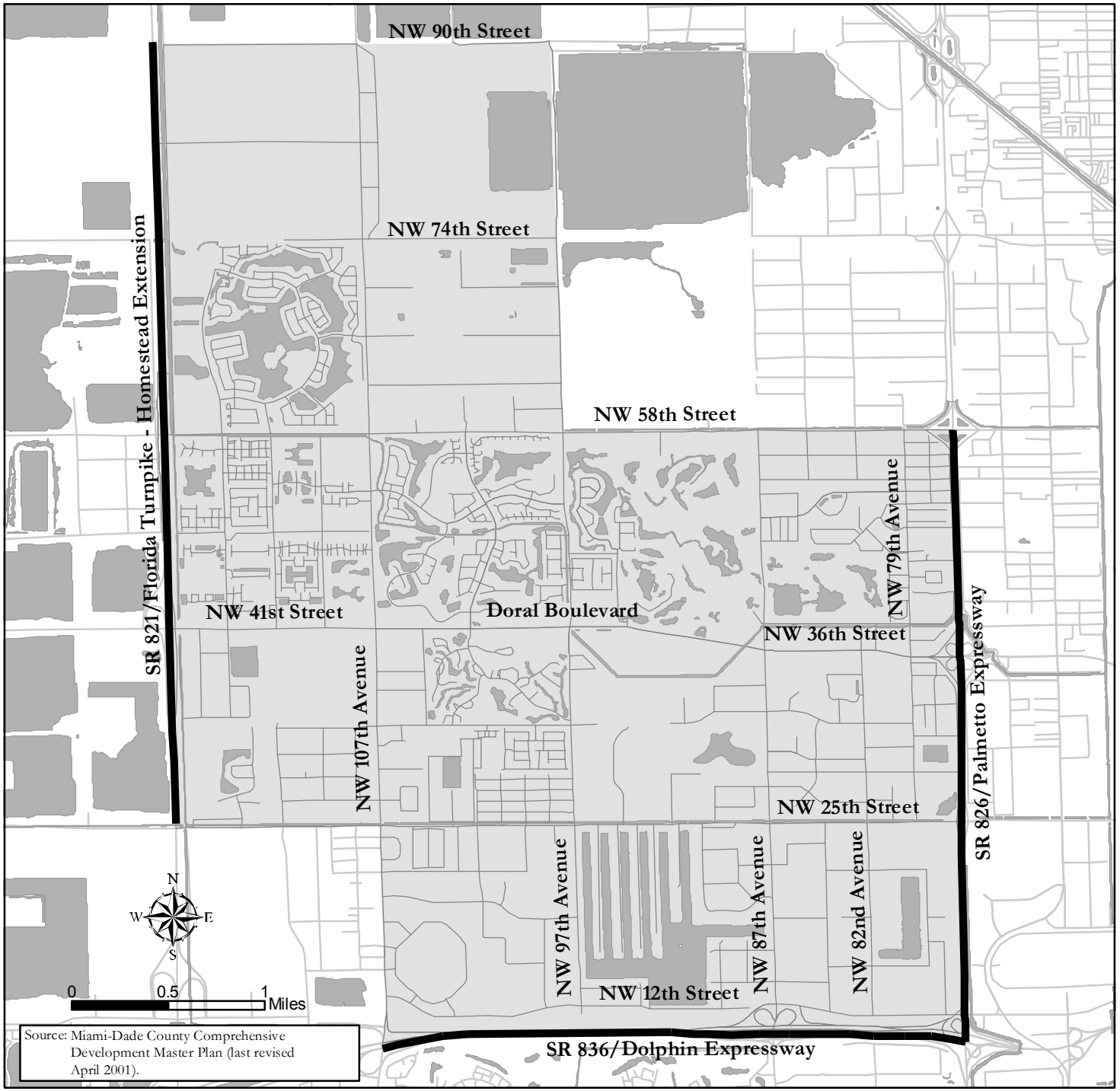
***Map 2-11*: Hurricane Evacuation Routes (2006)**



CITY OF DORAL

Evacuation Routes (2006)

Map II-11

Legend

- Evacuation Routes
- Doral City Limit
- Water Bodies

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***Map 2-12*: Airport Clear Zones (2006)**

Source: Miami International Airport Zoning Map

CITY OF DORAL

Airport Clear Zones (2006)

Map II-12

Legend

- Inner Safety Zone (ISZ)
- Outer Safety Zone (OSZ)
- Inner Land Use Zone (ILZ)
- Outer Land Use Zone (OLZ)
- Critical Area Approach Zone (CAA)
- Doral City Limit

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Analysis of Existing Transportation Systems. The Transportation Element for the City of Doral has been coordinated with the resources provided by the Miami-Dade MPO and Miami-Dade County. These resources have been used for information that addresses countywide growth trends, travel patterns, and countywide land use and transportation alternatives. The City of Doral also coordinated with the MPO and Miami-Dade County in considering issues such as: (1) existing and projected multimodal deficiencies and needs; (2) analysis of the transportation system levels of service and system needs based upon the future land use categories; and (3) analysis of how Doral will maintain adopted levels of service standards for roads and work with Miami-Dade Transit to maintain the LOS standard for transit facilities.

Average Peak Hour/Peak Direction Vehicle Trips. *Table 2-3* presents peak hour/peak direction trip volumes and level of service grades for major thoroughfares within the City of Doral.

Level of Service Calculation Methodology. Level of service for major thoroughfares within the City of Doral was measured using volume to capacity (v/c) ratios for major roadways defined in the Miami-Dade Transportation Plan to the Year 2030. The most recent annual average daily counts were obtained from the Transportation Master Plan (TMP) of the City of Doral that was adopted in December 2005. As a part of TMP process, the City had conducted three day 24-hour counts on all major roadways within the City. These counts were converted into peak hour peak direction traffic volumes by using the peak hour (K) factor and the directional (D) factor factors adopted by the Florida Department of Transportation (FDOT). For the expressways, traffic counts were obtained from the 2005 FDOT traffic counts. Roadway capacities for the LOS calculations were obtained from the FDOT 2002 Quality/Level of Service Handbook (Table 4-7). This methodology is generally accepted as a first-cut approach. Based on this analysis, the LOS measurements for each roadway reported in *Table 2-3* were determined.

Levels of Service and System Needs Based Upon Existing Design and Operating Capacity. The Metro-Miami-Dade Service Concurrency Management Program establishes adopted level of service standards for evaluating state and county roads. The City of Doral lies entirely within the County's designated Urban Development Boundary (UDB), and recognizes their level of service standards established for the UDB to evaluate transportation impacts from proposed development within city limits.

All major roadways within this area must operate at LOS D (90 percent of capacity), except state urban minor arterials (SUMA), which may operate at LOS E (100 percent of capacity). Where public transit service exists in the UDB, operating with headways of 20 minutes or less, roadways located less than one-half mile of the service may operate at LOS E (100 percent of capacity). Furthermore, on roadways parallel to exceptional transit service (i.e. commuter rail/express bus) the acceptable level of service is LOS E+20 (120 percent of capacity). Based on these parameters, all major roadways located within the City of Doral have an adopted level of service of LOS D, with the exception of NW 87th Avenue and portions of NW 79th Avenue and NW 41st Street/NW 36th Street that have an adopted level of service of LOS E based on existing regional transit service in the area.

Table 2-3
Existing Vehicular Levels of Service

Roadway Segment	Adopted LOS[1]	Functional Classification (used for capacity determination per FDOT LOS Handbook)	Number of Lanes	Peak Hour/ Peak Direction Capacity[2]	2005 Volume (Peak Hour/ Peak Direction)	V/C Ratio[5]	Current LOS
SR 836 (Dolphin Expressway)							
107th Ave. to 87th Ave.	D	Freeway (Int. Spacing < 2 mi.)	8L-D	8,380	6,259	0.75	C
87th Ave. to SR 826	D	Freeway (Int. Spacing < 2 mi.)	6L-D	6,150	7,736	1.26	F
SR 826 (Palmetto Expressway)							
SR 836 to NW 25St.	D	Freeway (Int. Spacing < 2 mi.)	8L-D	8,380	7,308	0.87	D
NW 25St. to NW 41St./ 36th St.	D	Freeway (Int. Spacing < 2 mi.)	8L-D	8,380	5,597	0.67	B or Better
NW 41st St./ 36th St. to NW 58th St.	D	Freeway (Int. Spacing < 2 mi.)	8L-D	8,380	6,256	0.75	C
SR 821 (Florida's Turnpike/)							
SR 836 to NW 41st St/ 36th St	D	Freeway (Int. Spacing > or = 2 mi.)	6L-D	6,150	5,295	0.86	D
NW 41st St/ 36th St to NW 74th St	D	Freeway (Int. Spacing > or = 2 mi.)	6L-D	6,150	5,055	0.82	D
North of NW 74th St	D	Freeway (Int. Spacing > or = 2 mi.)	6L-D	6,150	5,055	0.82	D
NW 58th Street							
NW 117th Ave. to NW 107th Ave.	D	State Two-Way Arterial Class I	4L	1,767	570	0.32	B or Better
NW 107th Ave. to NW 97th Ave.	D	State Two-Way Arterial Class I	4L	1,767	789	0.45	B or Better
NW 97th Ave. to NW 87th Ave.	D	State Two-Way Arterial Class I	4L	1,767	1,534	0.87	D
NW 87th Ave. to SR 826	D	State Two-Way Arterial Class I	4L	1,767	1,402	0.79	C
NW 41st Street/ NW 36th Street							
Heft to NW 107th Ave.	D	State Two-Way Arterial Class I	6L	2,790	1,840	0.66	B or Better
NW 107th Ave. to NW 97th Ave.	D	State Two-Way Arterial Class I	6L	2,790	1,928	0.69	B or Better
NW 97th Ave. to NW 87th Ave.	D	State Two-Way Arterial Class I	6L	2,790	2,366	0.85	D
NW 87th Ave. to SR 826	E[3]	State Two-Way Arterial Class I	6L	2,790	1,709	0.61	B or Better
NW 25th Street							
NW 117th Ave. to NW 107th Ave.	D	State Two-Way Arterial Class II	4L	1,800	701	0.39	B or Better
NW 107th Ave. to NW 97th Ave.	D	State Two-Way Arterial Class II	4L	1,800	1,534	0.85	D
NW 97th Ave. to NW 87th Ave.	D	State Two-Way Arterial Class II	4L	1,800	2,279	1.27	F
NW 87th Ave. to SR 826	D	State Two-Way Arterial Class II	5L	2,150	2,016	0.94	E
NW 12th Street							
NW 107th Ave. to NW 97th Ave.	D	State Two-Way Arterial Class II	4L	1,800	1,052	0.58	B or Better
NW 97th Ave. to NW 87nd Ave.	D	State Two-Way Arterial Class II	4L	1,800	1,139	0.63	B or Better
NW 87th Ave. to SR 826	D	State Two-Way Arterial Class II	4L	1,800	1,578	0.88	D
NW 107th Ave							
NW 12th St. to NW 25th St.	D	State Two-Way Arterial Class II	6L	2,710	2,103	0.78	C
NW 25th St. to NW 41st St.	D	State Two-Way Arterial Class II	4L	1,800	1,621	0.90	D
NW 41st St. to NW 58th St.	D	State Two-Way Arterial Class II	4L	1,800	1,096	0.61	B or Better
NW 58th St. to NW 74th St.	D	State Two-Way Arterial Class II	4L	1,800	570	0.32	B or Better
NW 97th Ave							
NW 12th St. to NW 25th St.	D	Non-Sate Roadway	4L	1,634	613	0.38	B or Better
NW 25th St. to NW 41st St.	D	Non-Sate Roadway	4L	1,634	657	0.40	B or Better
NW 41st St. to NW 58th St.	D	Non-Sate Roadway	4L	1,634	745	0.46	B or Better
NW 87th Ave							
NW 12th St. to NW 25th St.	E[4]	State Two-Way Arterial Class II	6L	2,710	2,016	0.74	C
NW 25th St. to NW 41st St/36th St.	E[4]	State Two-Way Arterial Class II	6L	2,710	1,665	0.61	B or Better
NW 41st St./36th St. to NW 58th St.	E[4]	State Two-Way Arterial Class II	4L	1,800	1,096	0.61	B or Better
NW 79th Ave							
NW 25th St. to NW 41st St/36th St.	D	Non-Sate Roadway	4L	1,634	657	0.40	B or Better
NW 41st St./36th St. to NW 58th St.	E[3]	Non-Sate Roadway	4L	1,634	613	0.38	B or Better

Source:
1. Miami-Dade County Comprehensive Development Master Plan.
2. FDOT 2002 Quality/Level of Service Handbook Table 4-7.
3. Corridors that have transit service with less than 20-minute headways have an adopted LOS of E.
4. State Urban Minor Arterials have an adopted LOS of E.
5. V/C ratio categories to determine current LOS were obtained from Miami-Dade County.

According to *Table 2-3* the majority of roadways within Doral are operating at or above the adopted level of service with the exception of the following roadway segments:

- SR 836 from NW 87th Avenue to SR 826
- NW 25th Street from NW 97th Avenue to NW 87th Avenue; and
- NW 25th Street from NW 87th Avenue to SR 826.

Existing Modal Split and Vehicle Occupancy Rates. According to journey-to-work data collected in the 2000 census, single occupant automobile trips account for approximately 80.0 percent of all trips to and from work reported by residents in Doral. Carpools account for approximately 13.2 percent, public transit for approximately 0.8 percent, bicycles for approximately 0.1 percent, and walking for approximately 1.9 percent. In addition, approximately 4.0 percent of Doral residents reported working at home. The information reported in the 2000 Census is consistent with results from the Southeast Florida Regional Travel Characteristics Study. In this study, the average vehicle occupancy for Miami-Dade County was reported to be 1.34 persons per vehicle.

Existing Public Transit Facilities and Routes. Eight Miami-Dade Transit (MDT) bus routes serve the City of Doral, including Routes 7, 36, 71, 87, 95, 132, 238, and 242. The routes directly serving the City of Doral are illustrated in *Map 2-5* and are described below:

- **Route 7** serves only a very minor portion of the city. It runs north along NW 107th Avenue and serves the Miami International Mall. Route 7 runs from 5.30 a.m. to 10:30 p.m. on the weekdays with 20-40 minute headways. On the weekends it runs from 6:30 a.m. to 10:00 p.m. with 20-40 minute headways on Saturdays and 30-60 minute headways on Sundays. Ridership from Miami-Dade County indicates an annual ridership of 15,618 in 2005.

- **Route 36** offers service to the Koger Office Park within the City of Doral. It enters the city via NW 36th Street/41st Street and runs north on NW 79th Avenue, stops at the Koger Office Park on NW 53rd Street and returns to NW 36th Street via NW 87th Avenue to exit the city. It operates seven days a week. Weekday service is from 5:00 a.m. to 10:00 p.m. with varying 10 to 60-minute headways. Saturday service is from 6:00 a.m. to 8:30 p.m. and Sunday service is from 6:30 a.m. to 8:30 p.m., both with 30 to 60-minute headways. Ridership from Miami-Dade County indicates an annual ridership of 128,188 in 2005.

- **Route 71** also runs along NW 107th Avenue and serves the Miami International Mall. Weekday service begins at 6:00 a.m. and ends at 8:30 p.m. with 30-minute headways. On Saturdays, service begins at 7:20 a.m. and ends at 6:10 p.m. with 25-minute headways. Sunday service is from 9:45 a.m. to 6:15 p.m. with 30-minute headways. Ridership from Miami-Dade County indicates an annual ridership of 15,496 in 2005.

- **Route 87** offers north-south service through the City of Doral along NW 87th Avenue and serves the Miami-Dade Police Department on NW 25th Street. It runs along some portions of NW 17th Street, NW 23rd Street, NW 53rd Street,

and NW 58th Street within the city, and on NW 74th Street just outside city limits to reach the Okeechobee Metrorail Station. Weekday service runs from 5:45 a.m. to 8:30 p.m. and weekend service from 8:45 a.m. to 7:30 p.m., both with 30-minute headways. Ridership from Miami-Dade County indicates an annual ridership of 95,196 in 2005.

- **Route 95x** - **Earlington Heights** provides rush hour service only. It runs on NW 36th Street/NW 41st Street through the Earlington Heights Metrorail Station, and serves Doral Estates and Eastern Computer Center running along NW 25th Street through NW 97th Avenue to serve the Miami-Dade Police Department. It finally joins back to NW 36th Street through NW 87th Avenue. This route operates on weekdays only from 10:00 a.m. to 9:00 p.m. Ridership from Miami-Dade County indicates an annual ridership of 27,635 in 2005.

- **Route 132 - Koger/Tri-Rail Shuttle** starts service from the Hialeah Market Tri-Rail Station. The shuttle offers service to the Koger Executive Center, Doral Country Club, and the Atrium Shopping Center. The shuttle runs from 6:00 a.m. to 7:00 p.m. on the weekdays with 20 to 60-minute headways. Ridership from Miami-Dade County indicates an annual ridership of 4,471 in 2005.

- **Route 238** - **East-West Connection** enters the City of Doral through NW 25th Street and runs south on NW 107th Street to serve the Miami International Mall and runs west on NW 14th Street to serve the Dolphin Mall. This route operates seven days a week. Weekday service begins at 5:45 a.m. and ends at 9:00 p.m. with 30-minute headways during the peak hours and 60-minute headways during the off-peak hours. Saturday and Sunday service runs from 5:45 a.m. to 8:30 p.m. with 60-minute headways. Ridership from Miami-Dade County indicates an annual ridership of 45,653 in 2005.

- **Route 242** - **Doral Connection** starts service from the Palmetto Metrorail Station, and runs along NW 82nd Avenue, NW 58th Street, NW 9th Avenue, NW 41st Street, NW 33rd Street, NW 87th Avenue, NW 25th Street, NW 97th Avenue, NW 19th Street, and NW 14th Street. It serves Ryder System, Inc. Latin America headquarters on NW 82nd Avenue, Miami-Dade Police Headquarters on NW 25th Street, NW 74th Street Connector, Koger Office Center, International Corporate Center, NW 107th Avenue, Miami International Mall, and the Dolphin Mall. This route operates only during the weekdays with service from 5:50 a.m. to 7:10 p.m. with 30-minute headways during the peak hours and 60-minute headways during the off-peak hours. Ridership from Miami-Dade County indicates an annual ridership of 16,675 in 2005.

The ridership data for the Metrobus routes within Doral were obtained from Miami-Dade Transit (MDT). *Table 2-4* presents annual ridership within Doral for January to December 2005. The ridership within the City was calculated by multiplying the ridership of the metrobus route by the percentage of the total route that lies within the City boundary. Hence the ridership information within the City is only an approximation and has been approved by Miami-Dade Transit.

Table 2-4: Annual Ridership of MDT Routes within Doral

Route Name	% of Route within Doral	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05	Annual Ridership
7	1%	1,220	1,184	1,116	1,851	1,276	1,196	1,254	1,234	1,266	1,194	1,421	1,405	**15,618**
36	14%	10,646	10,496	11,404	11,227	10,224	9,677	10,198	10,628	10,894	10,035	11,444	11,315	**128,188**
71	3%	1,428	1,371	1,527	1,264	1,188	1,139	1,133	1,266	1,465	1,207	1,246	1,263	**15,496**
87	16%	8,607	7,957	9,062	7,935	8,187	7,451	6,355	7,693	7,996	7,070	8,419	8,463	**95,196**
95X	6%	2,250	2,253	2,682	2,256	2,364	2,230	2,022	2,469	2,678	1,964	2,131	2,336	**27,635**
132/Koger/Tri-Rail Shuttle	48%	430	696	286	813	180	323	472	350	270	140	324	188	**4,471**
238/East-West Connection	23%	3,803	3,561	4,021	3,565	3,676	3,542	3,453	4,062	4,017	3,348	4,222	4,384	**45,653**
242/Doral Connection	14%	1,290	1,138	1,441	1,939	1,251	1,221	936	1,501	1,593	1,238	1,704	1,424	**16,675**

Total Annual Ridership from January 2005 to December 2005

Peak Hour Capacities and Headways. This section provides an analysis of the peak hour capacities of the transit routes along with their headways, vehicle characteristics, and ridership data. As mentioned earlier, the City of Doral is served by eight Metrobus routes. It is observed that the peak hour headways for the routes range between 15 minutes and 30 minutes, and off-peak hour headways range between 30 minutes and 60 minutes. The transit characteristics for the eight MDT routes in Doral are presented in *Table 2-5*.

Table 2-5: Transit Service Characteristics

Route	Peak Headway (min)	Off-Peak Headway (min)	Total Peak Hour Vehicles	Total Off-Peak Hour Vehicles
7	20	40	3	1
36	15	60	6	1
71	30	30	2	2
87	30	30	2	2
95X	N/A	N/A	N/A	N/A
238 (East-West Connection)	30	60	1	1
242 (Doral Connection)	30	60	2	1
Koger/Tri-Rail Shuttle	20	60	3	1

Source: Miami-Dade Transit Authority

Population Characteristics. As reported by the US Census Bureau in 2000, the City of Doral had a population of 20,438, which constitutes approximately 0.91 percent of the total Miami-Dade County population. Census 2000 also reports that 84 percent of the City of Doral population is Caucasian, 2.7 percent African American, 5.1 percent Asian, and the remaining from other races. The average household size is 2.66 persons and the median household income is $53,060. In addition, the population density is approximately 1,553 individuals per square mile.

Transportation Disadvantaged. The transportation disadvantaged includes individuals who, because of physical or mental disability, income status, or age, are unable to transport themselves or purchase transportation. As a result, these individuals are dependent upon others to obtain access to health care, employment, education, shopping, social, or other life-sustaining activities. Currently, Miami-Dade County offers transportation services to the transportation disadvantaged through the County's Community Action Agency. The Community Action Agency has a transportation unit that offers reliable transportation to disadvantaged citizens. This program benefits approximately two percent of those who are unable to commute to work using private transportation. Moreover, it assists approximately four percent of families living in poverty.

According to the 2000 US Census, 230, or approximately 3 percent, of the 7,692 households in the City of Doral are without a vehicle. The census also stated that 284 persons (2.9 percent of the total 2000 working population) used public transportation (bus, elevated, or rail) walked, or used some other measure of transportation other than car, truck, or van to travel to work. Although a small percentage of the city's population is transportation disadvantaged, Doral's public transportation system provides this segment of the population with limited access to transportation for work, shopping, and other activities. The eastern and the southern regions of Doral are very well served by transit. However, there is a significant amount of residential, commercial and industrial land uses in the northern and western regions of Doral that are not served by transit at all. The City will place special emphasis on monitoring the local needs of this population to assure that adequate service is always provided.

Existing Characteristics of Major Trip Generators and Attractors. The biggest trip generator within the City of Doral is the Miami International Mall located at the intersection of SR 836 (Dolphin Expressway) and NW 107th Avenue. Other major trip generators/attractors within the City of Doral are the Miami-Dade Police Headquarters, Miami International Commerce Center, Koger Executive Center, Doral Estates, Costa Del Sol Golf Course, Doral Park and Golf Club, Gateway Park, and the Lakeside Memorial Park.

Existing Pedestrian Facilities. The availability of pedestrian facilities and amenities plays an important role in the walkability of a community. Benefits associated with walking include the ability to ease traffic congestion, personal health/recreation, and reduced need for automobile parking facilities. In order to be considered a realistic transportation choice, however, existing conditions and facilities need to be favorable for pedestrians.

The existing pedestrian facilities within Doral are shown in *Map 2-6*. Most of the major thoroughfares have sidewalks on at least one side. NW 87th Avenue and most of NW 107th Avenue and NW36th Street/NW 41st Street have sidewalks on both sides. Sidewalk deficiencies were noted in many of the local streets within the residential areas. *Map 2-5* illustrates the pedestrian facilities that serve Doral.

Existing Bicycle Facilities. There are no designated bicycle facilities (defined as bicycle paths or bicycle lanes) within the City of Doral. The availability of bicycle facilities plays an important role in promoting bicycling as a favorable transportation mode. Benefits associated with bicycling include the ability to ease traffic congestion,

improve personal health, provide recreational opportunities, and reduce the need for automobile parking. In order to be considered a realistic transportation choice, the existing bicycle facilities need to be favorable for bicycle use by all skill levels.

Heavy Truck Traffic. Heavy truck traffic generated by businesses west of the Turnpike is forced to travel through Doral's residential areas to access the NW 41st Street Turnpike entrance ramp. The heavy trucks, predominantly dump trucks, are creating a serious problem within the northwest section of the city. The trucks contribute to increased levels of congestion in the City and also create additional hazards by leaving debris on the road. Currently NW 122nd Avenue, from NW 58th Street to NW 41st Street, is under construction. This corridor will ultimately serve as a truck route to alleviate some of the heavy truck issues on NW 41st Street. The Transportation Master Plan also contains some recommendations on separating truck traffic and the vehicular traffic within the City.

Availability of Transportation Facilities and Service to Serve Existing Land Uses. The City of Doral contains approximately 9,898 gross acres of land. The predominant developed land use in the city is industrial/utilities, which accounts for approximately 17.3 percent of the land. Vacant, undeveloped lands account for 18.4 percent, parks and recreation (including preserves and conservation areas) for 9.3 percent, residential for 9.8 percent, office for 4.1 percent, commercial for 3.9 percent, agriculture for 3.0 percent, institutional for 1.7 percent. The remaining acreage, 32.5 percent, is comprised of streets and open space, communications, other utilities, terminals and plants, water bodies, hotel, office, and cemeteries. *Table 2-6* lists the primary land uses along some of the city's significant transportation corridors.

Table 2-6
Primary Land Uses Adjacent to Major Transportation Corridors

Roadway	Facility Type	Primary Land Uses
SR 836/Dolphin Expressway	Freeway/State Arterials	Residential, Industrial, Park, Commercial, and Communications
SR 826/Palmetto Expressway	Freeway/State Arterials	Airport, Residential, Industrial, Park, Office, Commercial, and Communications
SR 821/Florida's Turnpike	Freeway/State Arterials	Residential, Industrial, Industrial Extraction, Park, Commercial, Water, Communications, and Vacant
NW 107th Avenue	County Minor Arterial	Residential, Park, Agriculture, Industrial, Commercial, and Communications
NW 97th Avenue	County Collector	Residential, Park, Agriculture, Industrial, and Communications
NW 87th Avenue	County Minor Arterial	Park, Office, Industrial, and Communications
NW 25th Street	County Minor Arterial	Residential, Agriculture, Industrial, and Cemeteries

Roadway	Facility Type	Primary Land Uses
NW 36th Street/41st Street	County Principal Arterial	Residential, Park, Agriculture, Commercial, Office, and Vacant
NW 58th Street	County Minor Arterial	Residential, Park, and Industrial
NW 12th Street	County Minor Arterial	Commercial, Office, and Industrial

Results from the level of service analysis demonstrate poor traffic operating conditions on several major arterials within the City of Doral (SR 836/Dolphin Expressway and NW 25th Street) and are projected to deteriorate in the future. These facilities play an important role in the countywide traffic circulation system and carry a high percentage of through trips. The remaining roadways within the city primarily provide access to adjacent land uses and other arterial roadways. However, as congestion worsens on the arterial roadways, cut-through traffic may increase on collector roadways thereby degrading their level of service. *Maps 2-5 and 2-6* illustrate the transit and pedestrian facilities that serve Doral.

Adequacy of Existing and Projected Evacuation Transportation System. The City of Doral is not located in a coastal evacuation area, therefore the evacuation criteria does not apply. The Miami-Dade County's Adopted Comprehensive Development Master Plan identifies the designated local and regional transportation facilities critical to the evacuation of the coastal population. In the event of a local disaster, the following routes located along the City of Doral's eastern, western and southern boundaries have been identified for evacuation:

- SR 826 (Palmetto Expressway)
- SR 821 (Florida's Turnpike)
- SR 836 (Dolphin Expressway)

FUTURE TRANSPORTATION DATA REQUIREMENTS

Future Transportation Map Series

The following series of maps represent the future conditions (2030) for the transportation network on a multi-modal basis. This includes the roadway system, public transit system, and bicycle and pedestrian facilities within the City of Doral.

Map 2-13: Major Thoroughfares by Number of Lanes (2030) illustrates the major thoroughfares in Doral by the number of through lanes for each facility anticipated in 2030.

Map 2-14: Major Thoroughfares by Functional Classification (2030) identifies the 2030 roadway network, including arterial and collector streets and their functional classification. The functional classification system indicates the role of each thoroughfare in meeting current travel demands, assists in defining land use relationships, and reveals the jurisdiction responsible for maintenance.

Map 2-15: Limited Access Facilities, Significant Parking Facilities (2030) delineates the future limited and controlled access facilities in Doral, as well as the locations of significant parking facilities.

Map 2-16: Major Trip Generators and Attractors (2030) illustrates the major trip generators and attractors within Doral that contribute to the demand on the transportation network.

Map 2-17: Future Transit Facilities (2030) indicates the proposed premium transit improvements on State Road 836 (Dolphin Expressway) and State Road 826 (Palmetto Expressway) anticipated before the Year 2030.

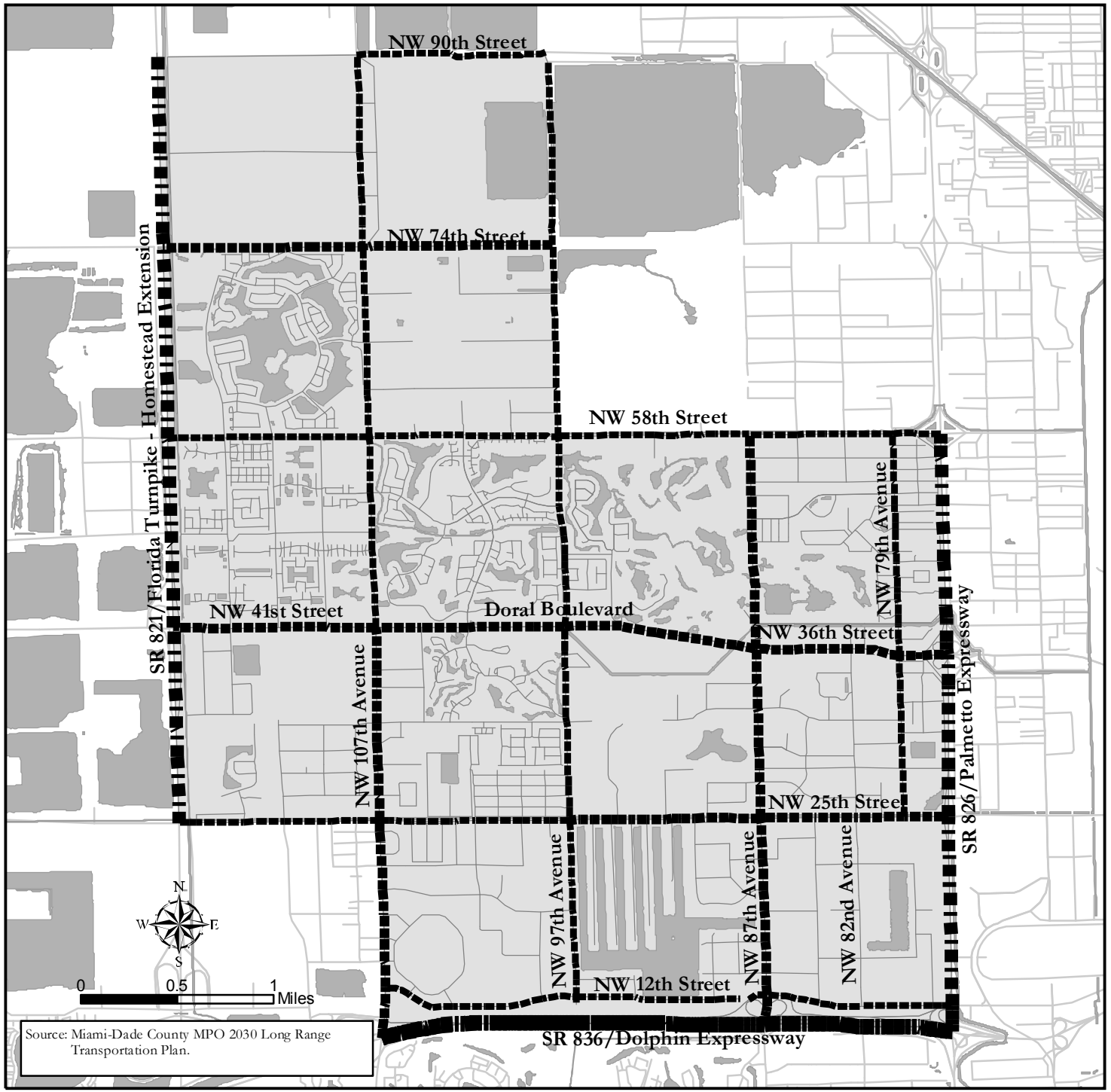
Map 2-18: Future Bicycle Facilities (2030) identifies proposed off-street bicycle facilities within the City of Doral. These improvements are not currently identified in the Miami-Dade 2030 Transportation Plan or the Miami-Dade Metropolitan Planning Organization's 2001 Bicycle Facilities Plan.

Map 2-19: Future Pedestrian Facilities (2030) identifies proposed pedestrian-related facilities within the City of Doral. These improvements are not currently identified in the Miami-Dade 2030 Transportation Plan or the Miami-Dade Metropolitan Planning Organization's 2001 Pedestrian Plan.

Map 2-20: Future Vehicular Levels of Service (LOS) on Major Thoroughfares (2030) illustrates peak hour/peak direction levels of service calculated for major roadways within the City based on build out of the existing land use pattern plus additional development potential within the City of Doral.

Map 2-21: Future Airport Clear Zones (2030) delineates the Miami International Airport (MIA) runway clear zones in relation to the Doral city limits.

***Map 2-13*: Major Thoroughfares by Number of Lanes (2030)**



CITY OF DORAL

Major Thoroughfares Number of Lanes (2030)

Map II-13

Legend

- 2 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes
- 8 Lanes
- 10 Lanes
- 12 Lanes
- Doral City Limit
- Water Bodies

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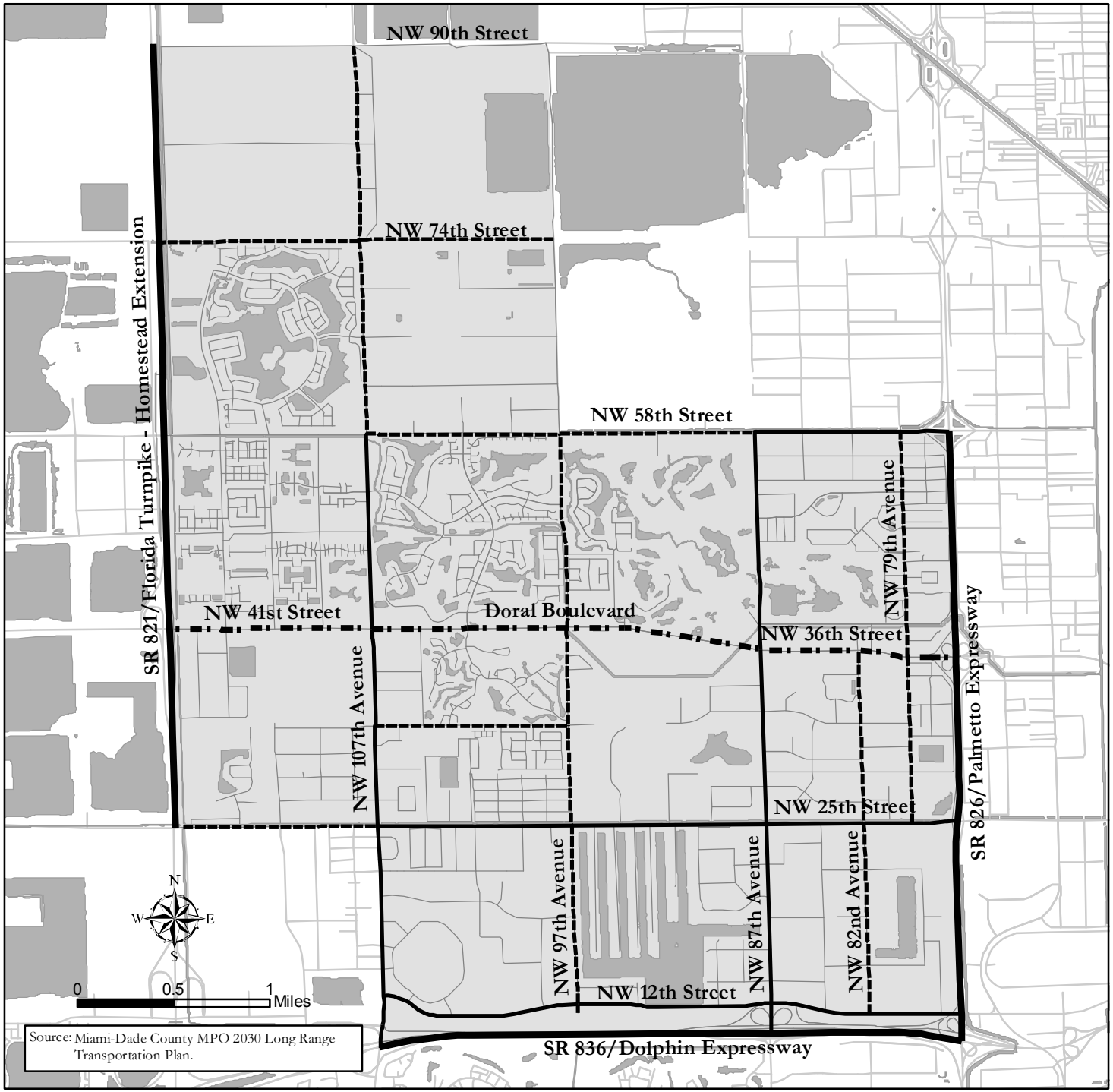
***Map 2-14*: Major Thoroughfares by Functional Classification (2030)**



CITY OF DORAL

Major Thoroughfares by Functional Classification (2030)

Map II-14

Legend

- Urban Principal Arterial-Freeways and Expressways
- Urban Principal Arterial-Other
- Urban Minor Arterial
- Urban Collector
- Doral City Limit
- Water Bodies

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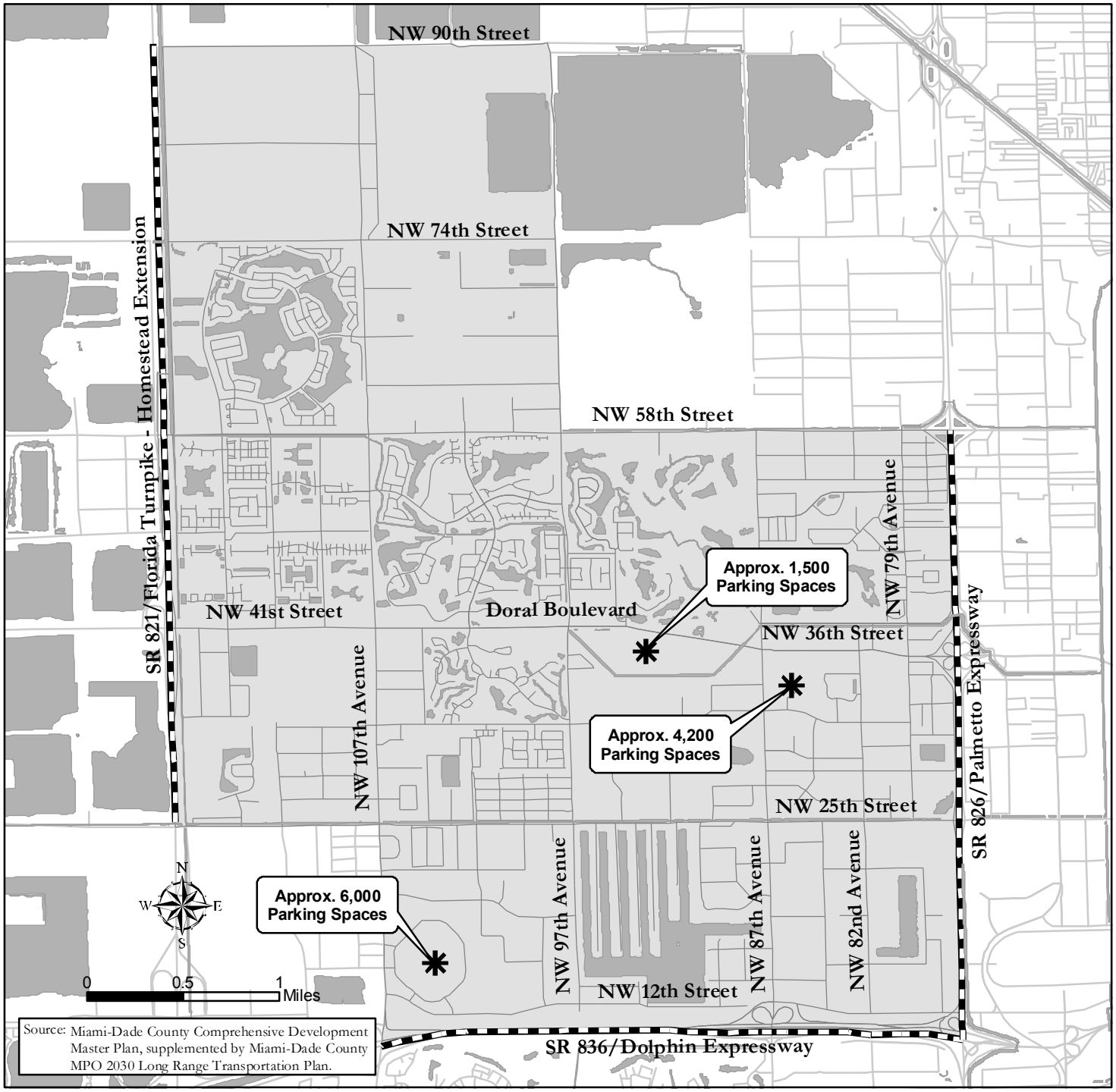
***Map 2-15*: Limited Access Facilities, Significant Parking Facilities (2030)**



Source: Miami-Dade County Comprehensive Development Master Plan, supplemented by Miami-Dade County MPO 2030 Long Range Transportation Plan.

CITY OF DORAL

Limited Access and Significant Parking Facilities (2030)

Map II-15

Legend

- Limited Access Facility
- Significant Parking Facility
- Doral City Limit
- Water Bodies

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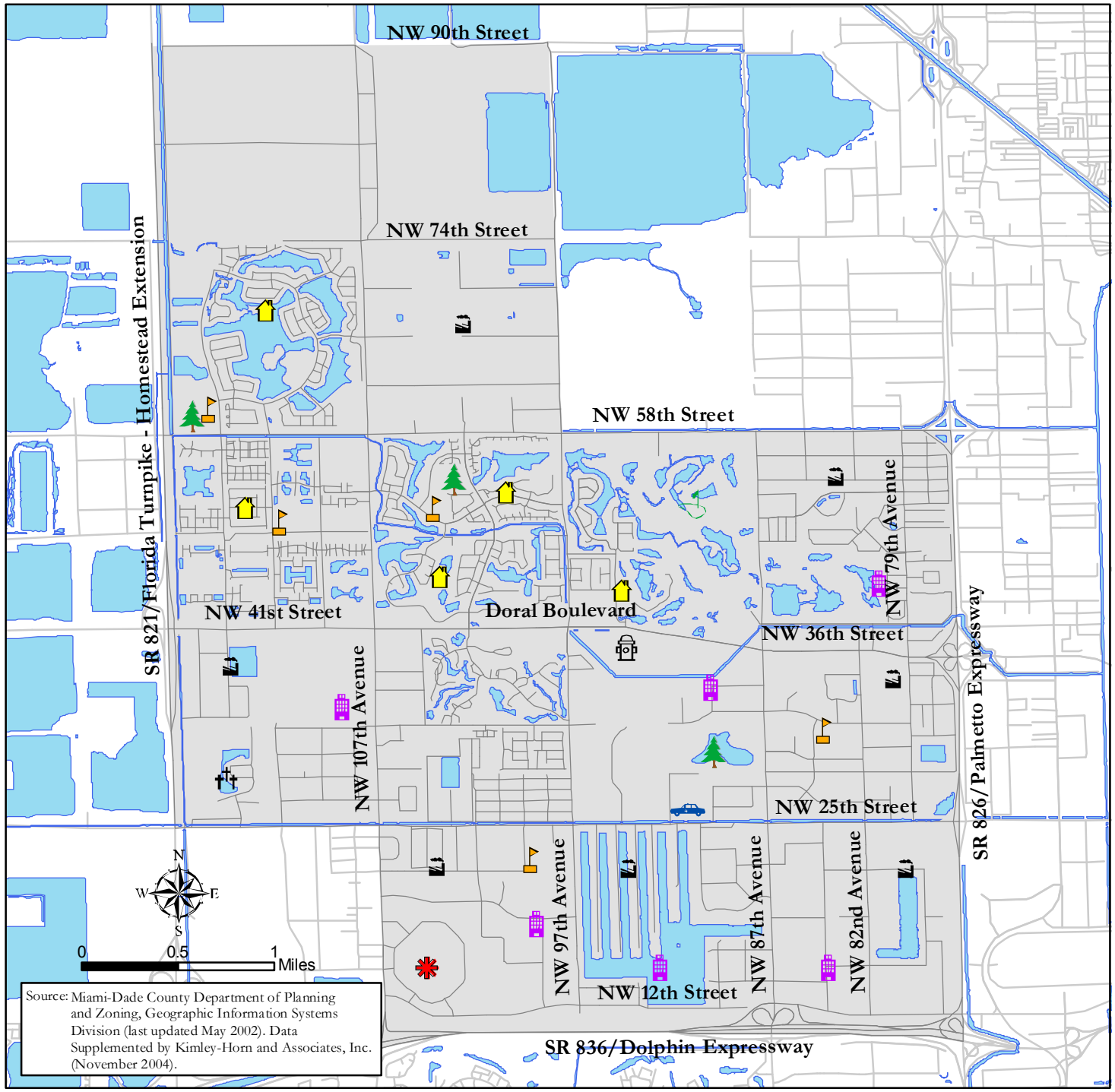
***Map 2-16*: Major Trip Generators and Attractors (2030)**



Source: Miami-Dade County Department of Planning and Zoning, Geographic Information Systems Division (last updated May 2002). Data Supplemented by Kimley-Horn and Associates, Inc. (November 2004).

CITY OF DORAL

Major Trip Generators and Attractors (2030)

Map II-16

Legend

- Miami-Dade County Police Headquarters
- Miami-Dade County Fire Rescue Headquarters
- Employment Center
- Industrial
- Doral Resort and Spa
- Our Lady of Mercy Catholic Cemetry and Mausoleum
- Parks
- School
- Shopping Center
- Residential
- Doral City Limit
- Water Bodies

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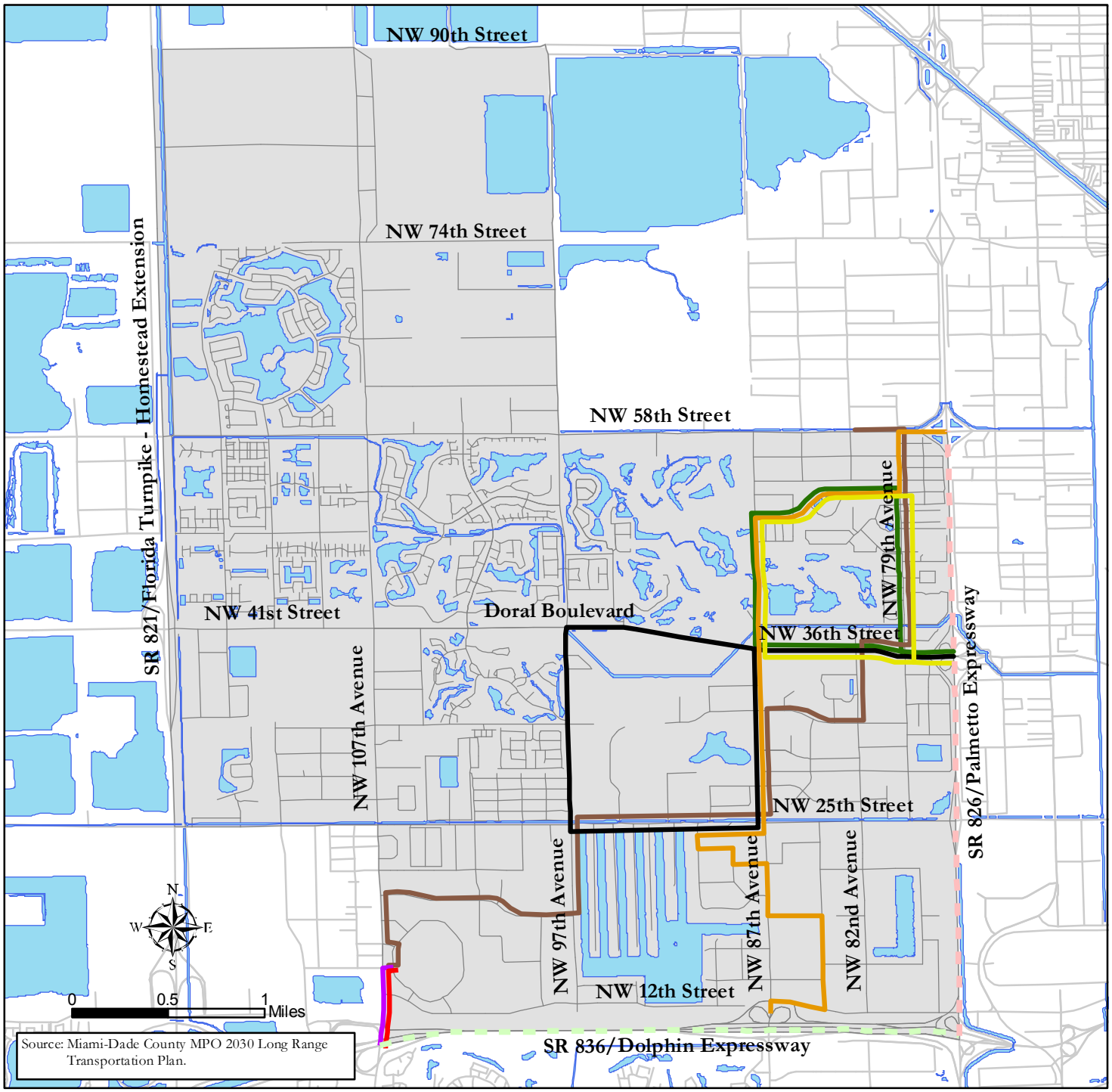
***Map 2-17*: Future Transit Facilities (2030)**



CITY OF DORAL

Transit Facilities (2030)

Map II-17

Legend

- Route 7
- Route 36
- Route 71
- Route 87
- Route 95
- Route 238 (East-West Connection)
- Route 242 (Doral Connection)
- Route 132 Koger/Tri-Rail Shuttle
- Premium Transit
- Premium Transit
- Doral City Limit
- Water Bodies

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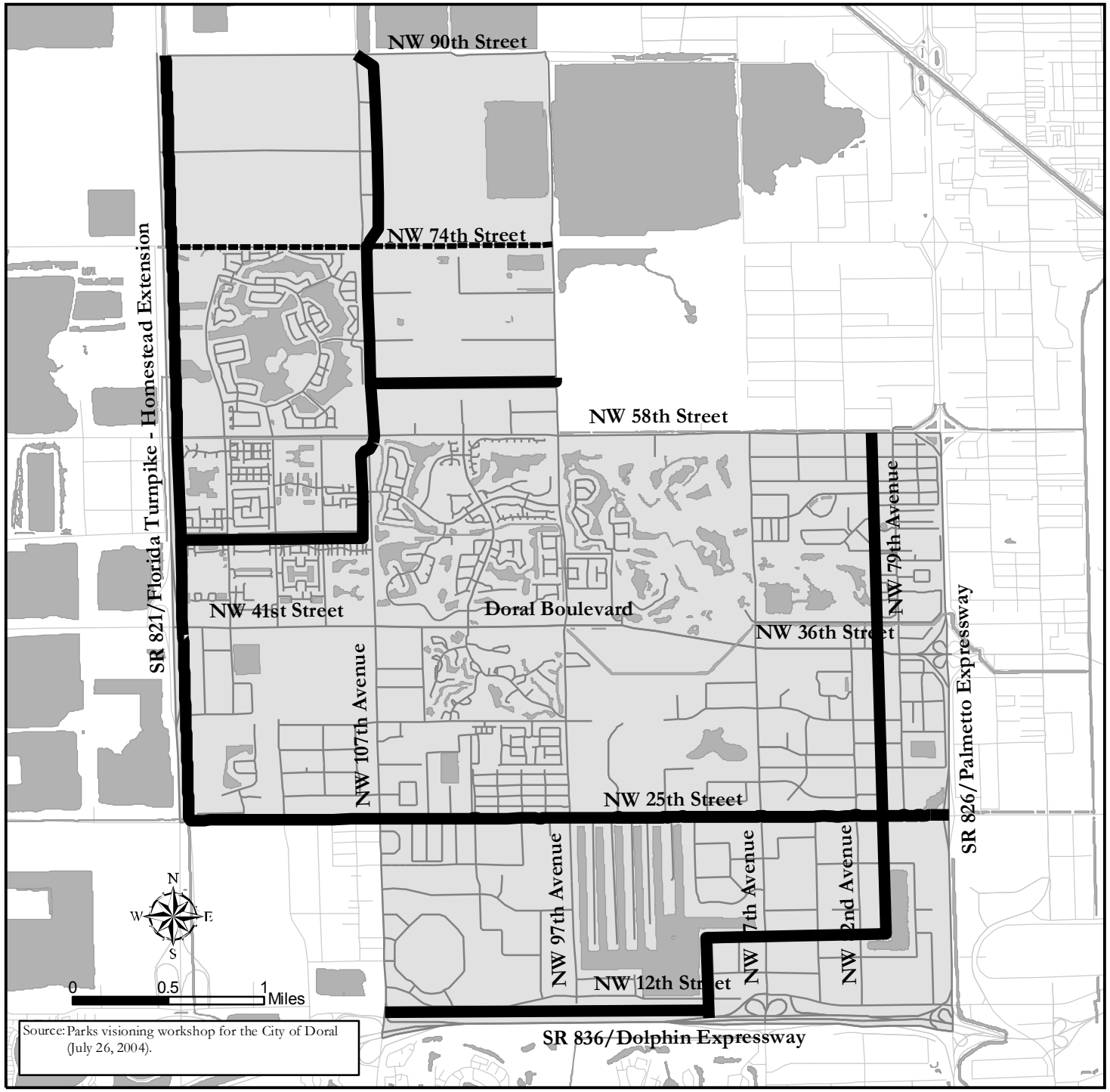
***Map 2-18*: Future Bicycle Facilities (2030)**



CITY OF DORAL

Future Bicycle Facilities (2030)

Map II-18

Legend

- Future On-Street Bicycle Lane
- Future Off-Street Shared Multi-use Path
- Doral City Limit
- Water Bodies

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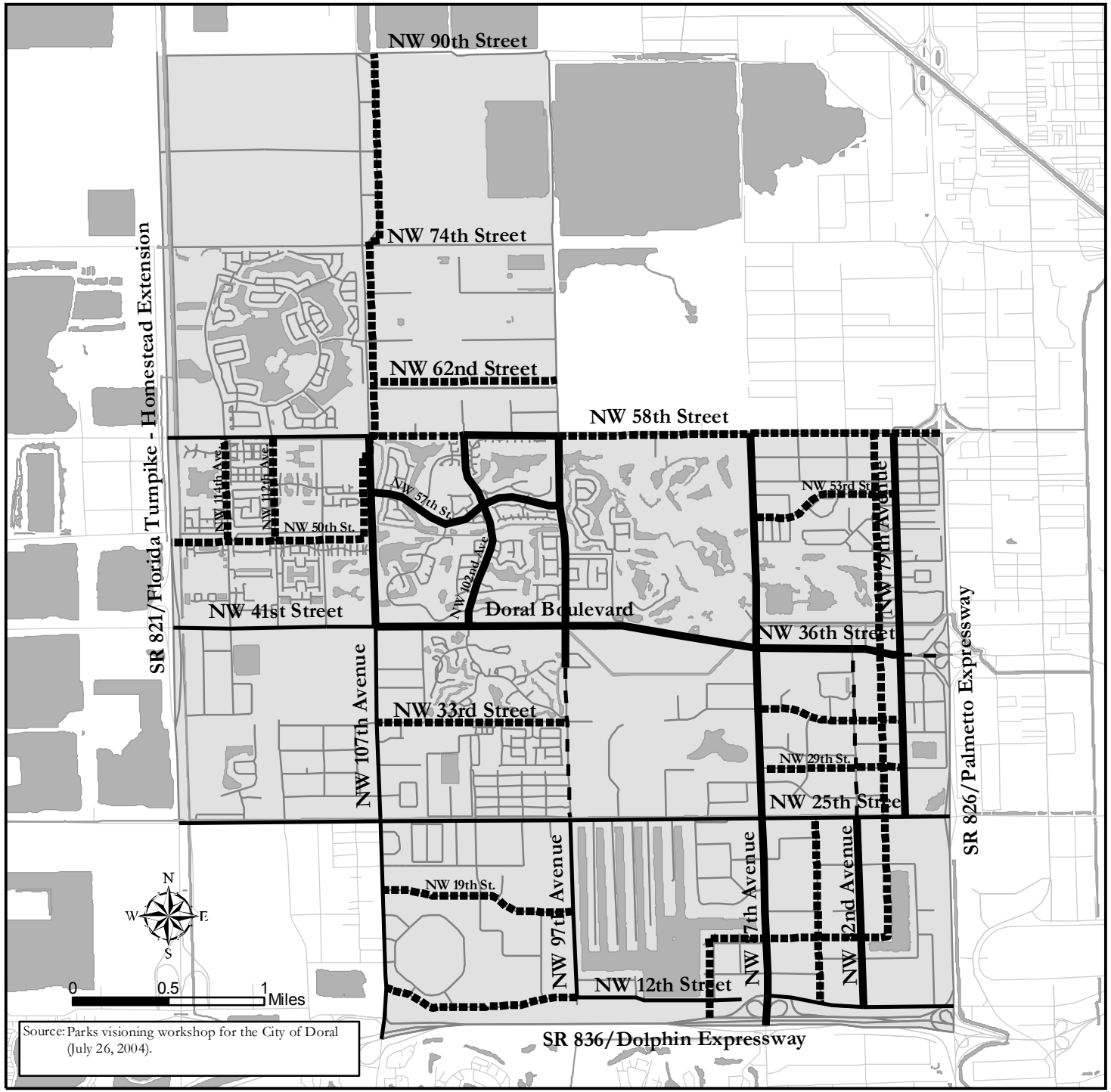
***Map 2-19*: Future Pedestrian Facilities (2030)**



CITY OF DORAL

Major Thoroughfares Future Pedestrian Facilities (2030)

Map II-19

Legend

- Sidewalk (One Side)
- Sidewalk (Both Sides)
- No Sidewalks
- Future Pedestrian Path
- Doral City Limit
- Water Bodies

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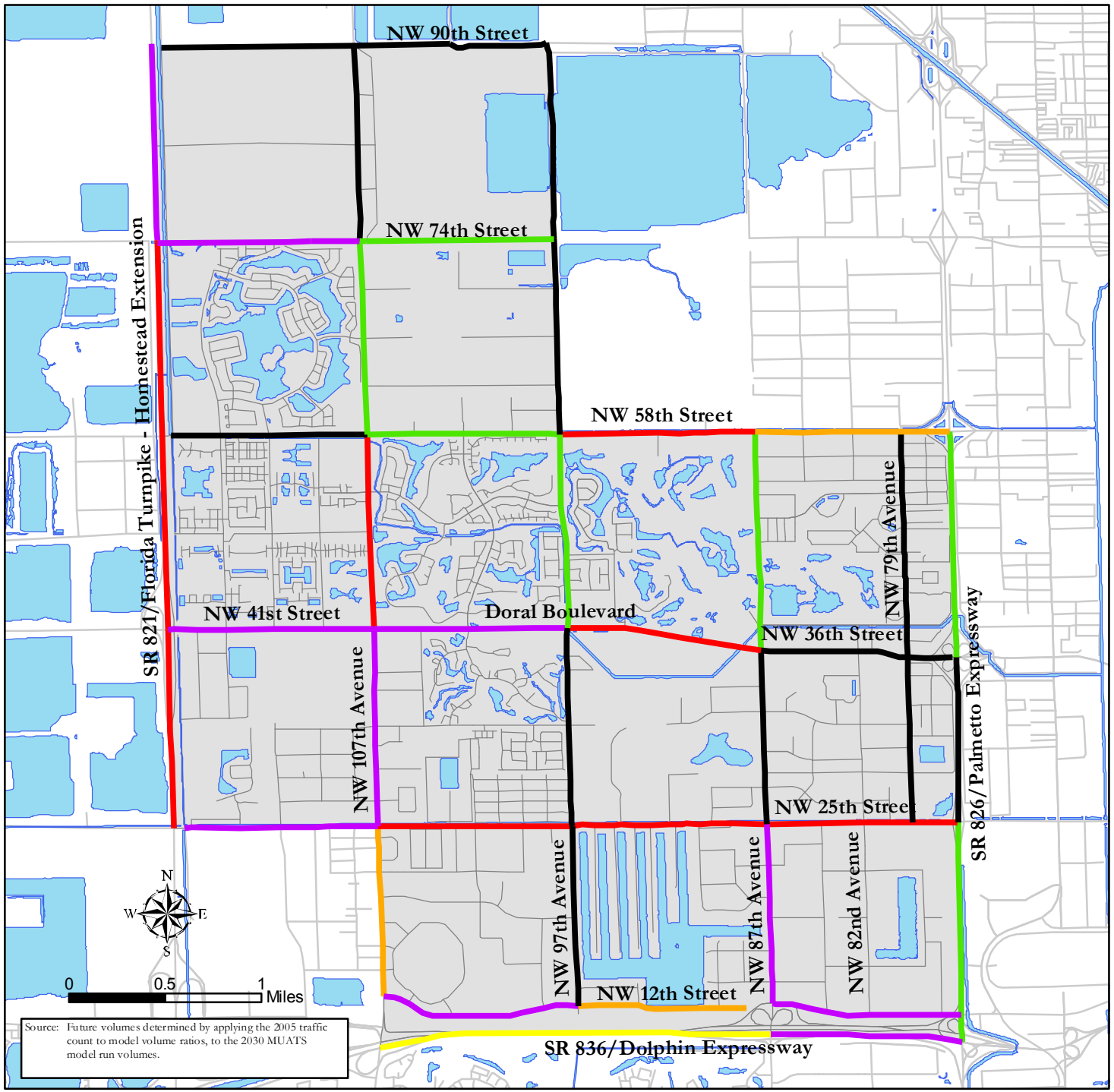
***Map 2-20*: Future Vehicular Levels of Service (LOS) on Major Thoroughfares (2030)**



CITY OF DORAL

Major Thoroughfares Peak Hour/Peak Direction Vehicular Level of Service (2030)

Map II-20

Legend

- LOS "B" or Better
- LOS "C"
- LOS "D"
- LOS "E"
- LOS "E + 20"
- LOS "F"
- Doral City Limit
- Water Bodies

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***Map 2-21*: Future Airport Clear Zones (2030)**

Source: Miami International Airport Zoning Map

CITY OF DORAL

Airport Clear Zones (2030)

Map II-21

Legend

- Inner Safety Zone (ISZ)
- Outer Safety Zone (OSZ)
- Inner Land Use Zone (ILZ)
- Outer Land Use Zone (OLZ)
- Critical Area Approach Zone (CAA)
- Doral City Limit

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April 26, 2006

Analysis of Future Transportation System

Transportation System Levels of Service and Growth Trends. The City of Doral is generally built-out with low intensity non-residential land uses; leaving approximately 18.4 percent of the land area for new development and the remaining land area for future infill development and redevelopment. The City's Future Land Use Map (FLUM) looks aggressively forward to establishing mixed-use, neighborhood centers and establishing more balance between residential and non-residential land uses citywide. This results in significant departures from the land use distribution and allowable densities/intensities memorialized in the previous Miami-Dade County Future Land Use Map, previously utilized by the City.

Map 2-7 (Vehicular Level of Service) denotes the existing level of service for the major thoroughfares traversing the City of Doral. Several departures from existing conditions are projected over the long-range planning horizon (2030) based on the assumed transportation network, projected increases in 'through' traffic for the area, and the distribution of land uses and densities/intensities identified in the City's Future Land Use Map. Anticipated development and redevelopment within the City of Doral was quantified assuming the allocation of land use based upon the FLUM, minimum ratios for a mix of land uses, and maximum densities and intensities associated with each land use category. This information was then incorporated into the financially-constrained Miami Urban Area Transportation Study (MUATS) model for the Year 2030 to forecast future year (2030) traffic volumes for the City's transportation network.

The MUATS model was developed for and accepted by the FDOT as a traffic forecasting model for Miami-Dade County and was used to forecast the traffic impacts from growth in the City of Doral through the year 2030 as defined by the FLUM.

Existing and Projected Inter-Modal Deficiencies and Needs. There are currently no dedicated or planned intermodal facilities within the City of Doral through the year 2030. Nearby intermodal facilities include the Earlington Heights, Palmetto and Okeechobee Metrorail stations. Transit connections to these facilities in Doral are provided by Metrobus routes 87, 95, and 242 - Doral Connection.

Impact of Anticipated Land Use on Transportation System Levels of Service. The anticipated land use scenario for this analysis assumes build-out of the City's FLUM. The City's FLUM departs significantly from the current Miami-Dade County FLUM previously administered for this area. The City's FLUM establishes mixed-use, neighborhood centers and creates more balance between residential and non-residential land uses citywide. Vacant, undeveloped lands in the western portions of the City are targeted for significant residential development, imploring the principles of new urbanism and more sustainable development. General intensification of land uses associated with infill development and redevelopment of existing commercial and industrial areas are also anticipated citywide. Combined the proposed residential and non-residential development anticipated in Doral will have a significant impact on level of service for roadways within the City; however, 'through traffic' is still anticipated to be a primary contributor to level of service deficiencies for several thoroughfares through 2030.

Traffic Forecasting Methodology. Future year traffic volumes for major thoroughfares within the City of Doral were developed through the Year 2030 using the Miami Urban Area Transportation Study (MUATS) model. Various changes were made to the socioeconomic data for the MPO's approved 2030 Minimum Revenue Plan to incorporate anticipated land use conditions for the City identified in the FLUM. Traffic forecasting models are only approximations of actual traffic behavior. As such, they can provide order of magnitude projections rather than accurate traffic volumes. However, it is widely accepted that the strength of these models resides in their capability to illustrate trends. For example, models are better able to forecast future year increases in traffic volumes than predict actual traffic volumes.

The trend forecasting capability of the MUATS model was used to predict future year traffic volumes by calculating individual annual compound growth rates for each major roadway segment using the 2000 validation model and the 2030 modified-cost feasible model for the area and applying these growth rates to Year 2005 traffic volumes available for the various roadway segments. The 2030 annual average daily traffic (AADT) was converted into peak hour peak direction volumes using the peak hour (K=8.22%) factor and directional (D=53.31%) factor for City roadways. Maximum service volumes for several of the roadway links under study were also adjusted to represent capacity improvements represented in the 2030 cost feasible travel demand model. Level of service measurements for 2030 rely upon the same volume-to-capacity ratios used for evaluating level of service in the existing conditions analysis (see *Table 2-3*).

Short-Term (2011) Projected Traffic Conditions. As illustrated in *Table 2-3* and *Map 2-7*, NW 25th Street from NW 97th Avenue to SR 826 are operating below their adopted LOS. In order to assess the operating LOS of roadways within the five-year timeframe, 2011 LOS was projected. The 2011 volumes were projected by applying the growth rate (calculated from the method explained above) to the 2005 traffic volumes.

The only programmed improvement within the City of Doral includes the widening of NW 25th Street from NW 87th Avenue to SR 826 from four to six lanes. According to the 2011 analysis, all roadways are projected to operate at or above the adopted LOS with the exception of the following segments:

- NW 25th Street, from NW 97th Avenue to NW 87th Avenue; and
- NW 107th Avenue, from NW 25th Street to NW 41st Street.

NW 25th Street from NW 97th Avenue to NW 87th Avenue is projected to operate at LOS F in 2011. The following actions will be taken to address the LOS deficiency on this segment:

- A corridor study will be performed to determine the operational characteristics of NW 25th Street between the HEFT and SR 826. The study will collect data on signal timings, signal synchronization and access management to develop strategies for improving operational efficiencies in the corridor.
- The segment will be programmed for widening to 6-lanes in order to maintain the adopted LOS D in 2011. The City will coordinate with Miami-Dade County MPO and FDOT to implement improvements on the segment by extending

the proposed widening project for NW 25th Street, from NW 87th Avenue to SR 826, to include this segment.

The implementation of the above-mentioned recommendations combined with the programmed improvements will help maintain the operating LOS of NW 25th Street in the short-term.

NW 107th Avenue from NW 25th Street to NW 41st Street is projected to operate at LOS E in 2011. This segment is programmed to be widened to 6-lanes under the Priority III category (2016 – 2020) according to the Miami-Dade MPO 2030 Long Range Transportation Plan. The following actions will be taken to address the LOS deficiency on this segment:

- The City will coordinate with Miami-Dade County MPO to advance the planned improvement for NW 107th Avenue from a Priority III to a Priority II (2010-2015) category. This will implement the capacity improvement to meet the projected deficiency.
- The City will also add these segments to the planned roadway improvements for 2011 in the Transportation and Capital Improvements Elements.

Table 2-7 illustrates the projected LOS in 2011 with the recommended widening of NW 25th Street from NW 97th Avenue to NW 87th Avenue and NW 107th Avenue from NW 25th Street to NW 41st Street will meet the adopted LOS.

Table 2-7
2011 Vehicular Levels of Service

Roadway Segment	Adopted LOS[1]	Number of Lanes	Peak Hour/ Peak Direction Capacity[2]	2006 AADT	Growth Rate	2011 AADT (Projected w/ Growth Rate)	2011 Volume (Peak Hour/Peak Direction)	V/C Ratio[6]	2011 LOS
SR 836 (Dolphin Expressway)									
107th Avenue to 87th Avenue	D	12L-D	12,850	146,000	1.66%	158,083	6,777	0.53	B or Better
87th Avenue to SR 826	D	10L-D	10,620	97,500	1.23%	103,498	8,211	0.77	C
SR 826 (Palmetto Expressway)									
SR 836 to NW 25Street	D	10L-D	10,620	205,000	0.57%	210,845	7,516	0.71	B or Better
NW 25th Street to NW 41st Street/ 36th Street	D	10L-D	10,620	157,000	0.64%	162,026	5,776	0.54	B or Better
NW 41st Street/ 36th Street to NW 58th Street	D	10L-D	10,620	175,500	0.88%	183,247	6,532	0.62	B or Better
SR 821 (Florida's Turnpike/)									
SR 836 to NW 41st St/ 36th St	D	6L-D	6,150	91,400	2.27%	101,761	5,896	0.96	E
NW 41st St/ 36th St to NW 74th St	D	6L-D	6,150	91,400	2.10%	100,976	5,850	0.95	E
North of NW 74th St	D	6L-D	6,150	91,400	1.73%	99,292	5,753	0.94	E
NW 58th Street									
NW 117th Avenue to NW 107th Avenue	D	4L	1,767	13,000	1.25%	13,814	605	0.34	B or Better
NW 107th Avenue to NW 97th Avenue	D	4L	1,767	18,000	1.69%	19,524	856	0.48	B or Better
NW 97th Avenue to NW 87th Avenue	D	4L	1,767	35,000	1.10%	33,988	1,489	0.84	D
NW 87th Avenue to SR 826	D	4L	1,767	32,000	0.84%	33,338	1,461	0.83	D
NW 41st Street/ NW 36th Street									
Heft to NW 107th Avenue	D	6L	2,790	42,000	0.88%	43,849	1,922	0.69	B or Better
NW 107th Avenue to NW 97th Avenue	D	6L	2,790	44,000	0.97%	46,123	2,021	0.72	C
NW 97th Avenue to NW 87th Avenue	D	6L	2,790	54,000	0.96%	56,579	2,479	0.89	D
NW 87th Avenue to SR 826	E[3]	6L	2,790	39,000	0.20%	39,398	1,726	0.62	B or Better
NW 25th Street									
NW 117th Avenue to NW 107th Avenue	D	4L	1,800	16,000	2.18%	17,742	777	0.43	B or Better
NW 107th Avenue to NW 97th Avenue	D	4L	1,800	35,000	1.04%	36,818	1,613	0.90	D
NW 97th Avenue to NW 87th Avenue	D	6L	2,710	52,000	0.94%	54,449	2,386	0.88	D
NW 87th Avenue to SR 826	D	6L[7]	2,710	46,000	1.08%	48,491	2,125	0.78	C
NW 12th Street									
NW 107th Ave. to NW 97th Avenue	D	4L	1,800	24,000	1.30%	25,561	1,120	0.62	B or Better
NW 97th Ave. to NW 87th Avenue	D	4L	1,800	26,000	1.25%	27,628	1,211	0.67	B or Better
NW 87th Avenue to SR 826	D	4L	1,800	36,000	0.12%	36,223	1,587	0.88	D
NW 107th Ave									
NW 12th Street to NW 25th Street	D	6L	2,710	48,000	0.80%	49,913	2,187	0.81	C
NW 25th Street to NW 41st Street	D	6L	2,710	37,000	1.29%	39,387	1,726	0.64	B or Better
NW 41st Street to NW 58th Street	D	4L	1,800	25,000	2.35%	27,931	1,224	0.68	B or Better
NW 58th Street to NW 74th Street	D	4L	1,800	13,000	2.35%	14,524	636	0.35	B or Better
NW 97th Ave									
NW 12th Street to NW 25th Street	D	4L	1,720	14,000	1.49%	15,040	659	0.38	B or Better
NW 25th Street to NW 41st Street	D	4L	1,720	15,000	1.73%	16,298	714	0.42	B or Better
NW 41st Street to NW 58th Street	D	4L	1,720	17,000	1.77%	18,505	811	0.47	B or Better
NW 87th Ave									
NW 12th Street to NW 25th Street	E[4]	6L	2,710	46,000	0.44%	47,018	2,060	0.76	C
NW 25th Street to NW 41st Street	E[4]	6L	2,710	38,000	0.21%	38,408	1,683	0.62	B or Better
NW 41st Street to NW 58th Street	E[4]	4L	1,800	25,000	1.89%	27,359	1,199	0.67	B or Better
NW 79th Ave									
NW 25th St. to NW 41st St/36th St.	D	4L	1,720	15,000	0.29%	15,214	667	0.39	B or Better
NW 41st St./36th St. to NW 58th St.	E[3]	4L	1,720	14,000	2.28%	15,594	683	0.40	B or Better

Source:
1. Miami-Dade County Comprehensive Development Master Plan.
2. FDOT 2002 Quality/Level of Service Handbook Table 4-7.
3. Corridors that have transit service with less than 20-minute headways have an adopted LOS of E.
4. State Urban Minor Arterials have an adopted LOS of E.
5. Premium transit proposed along these corridors in the future. Hence adopted LOS is E+20.
6. V/C ratio categories to determine current LOS were obtained from Miami-Dade County.
7. Programmed widening to 6 lanes on NW 25th St. between NW 87th Ave. and SR 826 per FDOT 2006-2010 Work Program.

Long-Term (2030) Projected Traffic Conditions. The peak hour/peak direction traffic volumes and levels of service anticipated in 2030 are summarized in *Table 2-8*.

Table 2-8
Future 2030 Roadway Levels of Service

Roadway Segment	Adopted LOS[1]	Number of Lanes	Peak Hour/ Peak Direction Capacity[2]	2006 AADT	Growth Rate	2030 AADT Projection	2030 Volume (Peak Hour/Peak Direction)	V/C Ratio[3]	2030 LOS
SR 836 (Dolphin Expressway)									
107th Avenue to 87th Avenue	E+20[5]	12L-D	12,850	146,000	2.31%	252,815	10,839	0.84	E+20
87th Avenue to SR 826	E+20[5]	12L-D	12,850	97,500	1.55%	140,937	11,182	0.87	D
SR 826 (Palmetto Expressway)									
SR 836 to NW 25Street	E+20[5]	10L-D	10,620	205,000	0.63%	238,197	8,491	0.80	C
NW 25th Street to NW 41st Street/ 36th Street	E+20[5]	10L-D	10,620	157,000	0.71%	186,213	6,638	0.63	B or Better
NW 41st Street/ 36th Street to NW 58th Street	E+20[5]	10L-D	10,620	175,500	1.03%	224,477	8,002	0.75	C
SR 821 (Florida's Turnpike/)									
SR 836 to NW 41st St/ 36th St	D	10L-D	10,480	91,400	3.87%	227,507	13,181	1.26	F
NW 41st St/ 36th St to NW 74th St	D	10L-D	10,480	91,400	3.36%	201,879	11,696	1.12	F
North of NW 74th St	D	10L-D	10,480	91,400	2.46%	163,892	9,495	0.91	D
NW 58th Street									
NW 117th Avenue to NW 107th Avenue	D	4L-D	1,767	13,000	1.58%	18,950	830	0.47	B or Better
NW 107th Avenue to NW 97th Avenue	D	4L-D	1,767	18,000	2.39%	31,739	1,391	0.79	C
NW 97th Avenue to NW 87th Avenue	D	4L-D	1,767	35,000	1.34%	48,169	2,111	1.19	F
NW 87th Avenue to SR 826	D	4L-D	1,767	32,000	0.97%	40,321	1,767	1.00	E
NW 41st Street/ NW 36th Street									
Heft to NW 107th Avenue	D	6L-D	2,790	42,000	1.03%	53,681	2,352	0.84	D
NW 107th Avenue to NW 97th Avenue	D	6L-D	2,790	44,000	1.15%	57,841	2,535	0.91	D
NW 97th Avenue to NW 87th Avenue	D	6L-D	2,790	54,000	1.13%	70,746	3,100	1.11	F
NW 87th Avenue to SR 826	E[6]	6L-D	2,790	39,000	0.21%	41,022	1,798	0.64	B or Better
NW 25th Street									
NW 117th Avenue to NW 107th Avenue	E[6]	4L-D	1,800	16,000	3.59%	37,321	1,635	0.91	D
NW 107th Avenue to NW 97th Avenue	E[6]	4L-D	1,800	35,000	1.25%	47,191	2,068	1.15	F
NW 97th Avenue to NW 87th Avenue	E[6]	6L-D	2,710	52,000	1.11%	67,825	2,972	1.10	F
NW 87th Avenue to SR 826	E[6]	6L-D	2,710	46,000	1.32%	62,990	2,760	1.02	F
NW 12th Street									
NW 107th Ave. to NW 97th Avenue	D	4L-D	1,800	24,000	1.66%	35,649	1,562	0.87	D
NW 97th Ave. to NW 87th Avenue	D	4L-D	1,800	26,000	1.58%	37,898	1,661	0.92	E
NW 87th Avenue to SR 826	D	4L-D	1,800	36,000	0.13%	37,108	1,626	0.90	D
NW 107th Ave									
NW 12th Street to NW 25th Street	E[6]	6L-D	2,710	48,000	0.91%	59,728	2,617	0.97	E
NW 25th Street to NW 41st Street	E[6]	6L-D	2,710	37,000	1.72%	55,688	2,440	0.90	D
NW 41st Street to NW 58th Street	E[6]	4L-D	1,800	25,000	4.14%	66,125	2,898	1.61	F
NW 58th Street to NW 74th Street	D	4L-D	1,800	13,000	3.53%	29,857	1,308	0.73	C
NW 74th Street to NW 90th Street	D	4L-D	1,800	(4)		24,563	1,076	0.60	B or Better
NW 97th Ave									
NW 12th Street to NW 25th Street	D	4L-D	1,800	14,000	1.99%	22,439	983	0.55	B or Better
NW 25th Street to NW 41st Street	D	4L-D	1,800	15,000	2.47%	26,952	1,181	0.66	B or Better
NW 41st Street to NW 58th Street	D	4L-D	1,800	17,000	2.56%	31,156	1,365	0.76	C
NW 58th Street to NW 74th Street	D	4L-D	1,800	(4)		28,239	1,237	0.69	B or Better
NW 74th Street to NW 90th Street	D	4L-D	1,800	(4)		26,843	1,176	0.65	B or Better
NW 87th Ave									
NW 12th Street to NW 25th Street	E[6]	6L-D	2,710	46,000	0.48%	51,555	2,259	0.83	D
NW 25th Street to NW 41st Street	E[6]	6L-D	2,710	38,000	0.22%	40,080	1,756	0.65	B or Better
NW 41st Street to NW 58th Street	E[6]	6L-D	2,710	25,000	2.82%	48,764	2,137	0.79	C
NW 79th Ave									
NW 25th Street to NW 36th Street	~~D~~ E	4L-D	1,800	15,000	0.30%	16,112	706	0.39	B or Better
NW 36th Street to NW 58th Street	E[7]	4L-D	1,800	14,000	1.38%	19,472	853	0.47	B or Better
NW 74th Street									
SR 821 to NW 107th Ave	D	6L-D	2,710	(4)		50,511	2,213	0.82	D
NW 107th Ave to NW 97th Ave	D	6L-D	2,710	(4)		48,768	2,137	0.79	C
NW 90th Street									
NW 107th Ave to NW 97th Ave	D	4L-D	1,800	(4)		6,724	295	0.16	B or Better
NW 97th Ave to NW 87th Ave	D	4L-D	1,800	(4)		17,155	752	0.42	B or Better

Source:
1. Miami-Dade County Comprehensive Development Master Plan.
2. FDOT 2002 Quality/Level of Service Handbook Table 4-7.
3. V/C ratio categories to determine current LOS was obtained from Miami-Dade County.
4. 2030 model volumes used to project 2030 peak-hour peak-direction due to unavailability of existing counts.
5. Premium transit proposed along these corridors in the future. Hence adopted LOS is E+20.
6. State Urban Minor Arterial in 2030, adopted LOS is E. For County roadways, LOS lowered to E for transit service.
7. Corridors that have transit service with less than 20-minute headways have an adopted LOS of E.

Based on the described traffic forecasting methodology, many of the major roadways within the City are projected to operate below their adopted level of service standard in 2030 as shown in *Table 2-8*.

Anticipated development and redevelopment within the City of Doral was quantified assuming the allocation of land uses based on the proposed FLUM at maximum densities and intensities associated with each land use category. The maximum densities and intensities were assumed even for the already built-out portions of the City. Hence the socio-economic data and the resulting traffic volumes were significantly (approximately 2X) higher than would be realistically anticipated with a FLUM change. Another aspect of the analysis that is overly conservative is the assumption that full build out at the maximum levels will occur in 25 years. Therefore, the projected volumes are significantly higher than realistically expected. Despite, these two factors the City is proactively establishing strategies and identifying improvements to address the projected deficiencies.

In August 2005, the City of Doral adopted a Transportation Master Plan for the community to address transportation system deficiencies and provide options for maintaining mobility within the City. The TMP focuses on all modes of transportation, including truck traffic, which greatly affects the City's roadways from nearby mining areas. The Transportation Master Plan recommends 27 different projects to address roadway LOS deficiencies within the City. Funding for these projects are anticipated from the Miami-Dade County Peoples Transportation Plan and the FDOT District VI Adopted Transportation Improvement Program. Projects specifically identified in the Transportation Master Plan are summarized in the City's Capital Improvements Element Data Inventory and Analysis Report. The Strategies recommended in the TMP to address capacity and/or deficiencies within the City are listed below:

- Obtain People's Transportation Plan (PTP) funding for roadway improvements ($700,000 per year).
- Construct Haul Road to provide a segregated route for trucks.
- Assign 25th Street as a voluntary truck route to segregate automobile and truck traffic.
- Support construction of the 25th Street Viaduct from the Miami International Airport to the Florida Turnpike (HEFT) for truck traffic.
- Develop Doral Heavy Truck Movement/Mobility Study.
- Implement a peak hour truck prohibition program.
- Complete a comprehensive signal timing study to synchronize signals to provide a better progression of traffic citywide.
- Appoint a transportation liaison to coordinate and manage transportation issues in the City by working with citizens, developers, and regional and state agencies.
- Develop a concurrency management system to track concurrency to monitor traffic and LOS impacts.
- Implement transportation demand management strategies to provide options for moving people, especially strategies offered by South Florida Commuter Services.
- Participate in LRTP Projects through proactive coordination with Miami-Dade County Metropolitan Planning Organization (MPO) and the FDOT.
- Implement level of service improvements at major intersections.
- Develop a local municipal transit/shuttle service to serve local trips and connect to the MDT regional transit service.

- Enhance pedestrian connections to transit and improve the sidewalk network.
- Develop park and ride lots within City to support transit use.
- Construct linear parks on available rights-of-way to provide facilities for bicyclists and pedestrians.
- Develop an access management plan for the City to enhance LOS on major corridors.
- Maximize capacity of Section Line, ½ section, and ¼ section roads to enable maximum vehicular mobility.
- Acquire additional right-of-way on NW 25th Street.
- Examine feasibility of implementing roundabouts along NW 41st Street at NW 97th Avenue and NW 87th Avenue.
- Implement a traffic calming program to reduce speeds in residential areas.
- Construct a Turnpike interchange at NW 25th Street to provide increased access.

The TMP and its more than 20 recommended strategies and improvements have been incorporated into the Transportation Element. The TMP strategies will improve traffic conditions on the City roadways. However, the limitation of the FSUTMS model precludes the ability to quantify the impact of a majority of these strategies. For example, the transportation demand management and transportation system management strategies have a significant impact on traffic patterns and travel behavior; but, it is not possible to accurately quantify the traffic reduction using the model.

Miami-Dade County and/or the FDOT maintain jurisdiction over the majority of roadways to operate below the adopted LOS including: the Florida Turnpike (HEFT), Palmetto Expressway, Dolphin Expressway, and other "section line" and "half section line" roads running through the City. As such, officials in Doral will need to coordinate with State and County officials to consider policy decisions and/or target capital improvements to address deficiencies on these facilities. Additional funding needed to implement future policies or projects identified by the City Council, Miami-Dade County or FDOT could be raised by assessing local impact fees on new development or with funding from the Miami-Dade County People's Transportation Plan.

In addition to the strategies recommended in the TMP, and in cooperation with other appropriate public and private agencies, the City is adopting the following strategies to address mobility:

- Work with MDT to study existing transit routes within the City and determine the feasibility of providing new service along heavily traveled corridors within Doral as shown in Table 5.
- Work with MDT to study existing transit routes within the city and determine the feasibility of improving service time (i.e. shorter headways) within Doral as shown in Table 5.
- Work with Miami-Dade County, Miami-Dade MPO, and FDOT to provide the following capacity improvements on:
    - Widen NW 58th Street from NW 97th Avenue to SR 826 to 6 lanes
    - Widen NW 41st/36th Street from NW 97th Avenue to NW 87th Avenue to 8 lanes
    - Widen NW 25th Street from NW 107th Avenue to NW 97th Avenue to 6 lanes

  - Widen NW 25th Street from NW 97th Avenue to SR 826 to 8 lanes
  - Widen NW 107th Ave from NW 41st Street to NW 58th Street to 8 lanes.
- Lower the adopted LOS on streets within Doral from D to E by increasing transit coverage and reducing the headways to less than 20-minutes.
- Formally designate a Transportation Management Initiative (TMI) to mitigate peak hour traffic impacts through demand-side strategies such as van pooling, flexible work hours, or ridesharing programs.
- Program roadway and/or intersection capacity improvements at key intersections within the City.
- Program improvements to include bicycle facilities that could encourage bicycling as a viable transportation option.
- Program improvements to include pedestrian facilities that could encourage walking as a viable transportation option.

Together, these strategies will begin to mitigate some of the transportation system deficiencies identified in the long-range planning horizon (2030) projections. *Table 2-9* indicates the 2030 LOS conditions with the above-mentioned improvements. The City will continue to monitor and address the LOS through the annual Capital Improvements Element updates and its future Evaluation and Appraisal Reports. The following policy will be added to the Goals, Objectives, and Policies of the Transportation Element:

> *Policy 2.2.11: The City will continue to monitor the LOS on segments that are projected to operate lower than their adopted LOS in 2030. By 2025, the City will program the recommended improvements into the Capital Improvements Plan through coordination with FDOT and Miami-Dade MPO.*

Improving roadway capacities by widening the congested roads has been proven to be a short-term solution and it may actually encourage additional “through traffic” to the area. Once the carrying capacity of a roadway is increased three types of convergence occurs on the improved roadway: (1) many drivers who formerly used alternative routes during peak hours switch to the improved roadway (spatial convergence); (2) many drivers who traveled just before or after the peak hours start traveling during the peak hours (time convergence); and (3) some commuters who used to take public transportation during peak hours now switch to driving, since it has become faster (mode convergence) (Anthony Downs, “Stuck in Traffic – Coping with Peak-Hour Traffic Congestion”, 1992). Hence it is recommended that the City coordinate with the regional agencies to identify other means to address LOS, including targeted physical improvements at key intersections, increasing transit service, improving bicycle and pedestrian facilities, transportation demand management strategies and, transportation system management strategies to improve traffic conditions in the future.

Table 2-9
Proposed/Planned and Recommended Improvements for Future
Impact on 2030 Roadway Levels of Service

Roadway Segment	Adopted LOS[1]	Number of Lanes	Peak Hour/ Peak Direction Capacity[2]	2006 AADT	Growth Rate	2030 AADT Projection	2030 Volume (Peak Hour/Peak Direction)	V/C Ratio[3]	2030 LOS
SR 836 (Dolphin Expressway)									
107th Avenue to 87th Avenue	E+20[5]	12L-D	12,850	146,000	2.31%	252,815	10,839	0.84	E+20
87th Avenue to SR 826	E+20[5]	12L-D	12,850	97,500	1.55%	140,937	11,182	0.87	D
SR 826 (Palmetto Expressway)									
SR 836 to NW 25Street	E+20[5]	10L-D	10,620	205,000	0.63%	238,197	8,491	0.80	C
NW 25th Street to NW 41st Street/ 36th Street	E+20[5]	10L-D	10,620	157,000	0.71%	186,213	6,638	0.63	B or Better
NW 41st Street/ 36th Street to NW 58th Street	E+20[5]	10L-D	10,620	175,500	1.03%	224,477	8,002	0.75	C
SR 821 (Florida's Turnpike/)									
SR 836 to NW 41st St/ 36th St	D	10L-D	10,480	91,400	3.87%	227,507	13,181	1.26	F
NW 41st St/ 36th St to NW 74th St	D	10L-D	10,480	91,400	3.36%	201,879	11,696	1.12	F
North of NW 74th St	D	10L-D	10,480	91,400	2.46%	163,892	9,495	0.91	D
NW 58th Street									
NW 117th Avenue to NW 107th Avenue	D	4L-D	1,767	13,000	1.58%	18,950	830	0.47	B or Better
NW 107th Avenue to NW 97th Avenue	D	4L-D	1,767	18,000	2.39%	31,739	1,391	0.79	C
NW 97th Avenue to NW 87th Avenue	~~D~~ E[9]	~~4L-D~~ 6L-D[8]	2,710	35,000	1.34%	48,169	2,111	0.78	C
NW 87th Avenue to SR 826	~~D~~ E[9]	~~4L-D~~ 6L-D[8]	2,710	32,000	0.97%	40,321	1,767	0.65	B or Better
NW 41st Street/ NW 36th Street									
Heft to NW 107th Avenue	~~D~~ E[10]	6L-D	2,790	42,000	1.03%	53,681	2,352	0.84	D
NW 107th Avenue to NW 97th Avenue	~~D~~ E[10]	6L-D	2,790	44,000	1.15%	57,841	2,535	0.91	D
NW 97th Avenue to NW 87th Avenue	~~D~~ E[10]	~~6L-D~~ 8L-D[16]	3,540	54,000	1.13%	70,746	3,100	0.88	D
NW 87th Avenue to SR 826	E[6]	6L-D	2,790	39,000	0.21%	41,022	1,798	0.64	B or Better
NW 25th Street									
NW 117th Avenue to NW 107th Avenue	E[6]	4L-D	1,800	16,000	3.59%	37,321	1,635	0.91	D
NW 107th Avenue to NW 97th Avenue	E[6]	~~4L-D~~ 6L-D[11]	2,710	35,000	1.25%	47,191	2,068	0.76	C
NW 97th Avenue to NW 87th Avenue	E[6]	~~6L-D~~ 8L-D[12]	3,500	52,000	1.11%	67,825	2,972	0.85	D
NW 87th Avenue to SR 826	E[6]	~~6L-D~~ 8L-D[12]	3,500	46,000	1.32%	62,990	2,760	0.79	C
NW 12th Street									
NW 107th Ave. to NW 97th Avenue	E[14]	4L-D	1,800	24,000	1.66%	35,649	1,562	0.87	D
NW 97th Ave. to NW 87th Avenue	E[14]	4L-D	1,800	26,000	1.58%	37,898	1,661	0.92	E
NW 87th Avenue to SR 826	E[14]	4L-D	1,800	36,000	0.13%	37,108	1,626	0.90	D
NW 107th Ave									
NW 12th Street to NW 25th Street	E[6]	6L-D	2,710	48,000	0.91%	59,728	2,617	0.97	E
NW 25th Street to NW 41st Street	E[6]	6L-D	2,710	37,000	1.72%	55,688	2,440	0.90	D
NW 41st Street to NW 58th Street	E[6]	~~4L-D~~ 8L-D[13]	3,500	25,000	4.14%	66,125	2,898	0.83	D
NW 58th Street to NW 74th Street	D	4L-D	1,800	13,000	3.53%	29,857	1,308	0.73	C
[4] NW 74th Street to NW 90th Street	D	4L-D	1,800	(4)		24,563	1,076	0.60	B or Better
NW 97th Ave									
NW 12th Street to NW 25th Street	D	4L-D	1,800	14,000	1.99%	22,439	983	0.55	B or Better
NW 25th Street to NW 41st Street	D	4L-D	1,800	15,000	2.47%	26,952	1,181	0.66	B or Better
NW 41st Street to NW 58th Street	D	4L-D	1,800	17,000	2.56%	31,156	1,365	0.76	C
[4] NW 58th Street to NW 74th Street	D	4L-D	1,800	(4)		28,239	1,237	0.69	B or Better
[4] NW 74th Street to NW 90th Street	D	4L-D	1,800	(4)		26,843	1,176	0.65	B or Better
NW 87th Ave									
NW 12th Street to NW 25th Street	E[6]	6L-D	2,710	46,000	0.48%	51,555	2,259	0.83	D
NW 25th Street to NW 41st Street	E[6]	6L-D	2,710	38,000	0.22%	40,080	1,756	0.65	B or Better
NW 41st Street to NW 58th Street	E[6]	6L-D	2,710	25,000	2.82%	48,764	2,137	0.79	C
NW 79th Ave									
NW 25th Street to NW 36th Street	~~D~~ E	4L-D	1,800	15,000	0.30%	16,112	706	0.39	B or Better
NW 36th Street to NW 58th Street	E[7]	4L-D	1,800	14,000	1.38%	19,472	853	0.47	B or Better
NW 74th Street									
SR 821 to NW 107th Ave	E[15]	6L-D	2,710	(4)		50,511	2,213	0.82	D
NW 107th Ave to NW 97th Ave	E[15]	6L-D	2,710	(4)		48,768	2,137	0.79	C
NW 90th Street									
NW 107th Ave to NW 97th Ave	D	4L-D	1,800	(4)		6,724	295	0.16	B or Better
NW 97th Ave to NW 87th Ave	D	4L-D	1,800	(4)		17,155	752	0.42	B or Better

Source:
1. Miami-Dade County Comprehensive Development Master Plan.
2. FDOT 2002 Quality/Level of Service Handbook Table 4-7.
3. V/C ratio categories to determine current LOS was obtained from Miami-Dade County.
4. 2030 model volumes used to project 2030 peak-hour peak-direction due to unavailability of existing counts.
5. Premium transit proposed along these corridors in the future. Hence adopted LOS is E+20.
6. State Urban Minor Arterial in 2030, adopted LOS is E. For County roadways, LOS lowered to E for transit service.
7. Corridors that have transit service with less than 20-minute headways have an adopted LOS of E.
8. NW 58th Street experiences high traffic volumes due to its proximity to SR 826/Palmetto Expressway. It is recommended that the roadway be widened to a six-lane facility to accommodate future traffic volumes. City officials should coordinate with Miami-Dade County, Miami-Dade MPO, and FDOT to discuss the provisions for widening this facility.
9. NW 58th Street is currently served by Miami-Dade Transit regional bus service (Routes 87 & 242) on a two block area west of the SR 826 interchange. City officials should coordinate with Miami-Dade Transit for expanding the route up to NW 117th Avenue and decreasing headways to 20 minutes or less when the current LOS standard of D is no longer maintained. Once implemented, the improved transit service would allow the acceptable LOS standard of this roadway to become E.

10. NW 41st Street/NW 36th Street is currently served by Miami-Dade Transit regional bus service (Routes36, 95, 132 & 242) on various segments between SR 826 and NW 97th Avenue. City officials should coordinate with Miami-Dade Transit for expanding some of the routes up to NW 117th Avenue and decreasing headways to 20 minutes or less when the current LOS standard of D is no longer maintained. Once implemented, the improved transit service would allow the acceptable LOS standard of this roadway to become E.
11. NW 25th Street experiences high traffic volumes due to its proximity to SR 836/Dolphin Expressway. It is recommended that the roadway be widened to a six-lane facility to accommodate future traffic volumes. City officials should coordinate with Miami-Dade County, Miami-Dade MPO, and FDOT to discuss the provisions for widening this facility. It is also recommended that the City work with MDT officials to provide transit service with less than 20-minute headways.
12. NW 25th Street between NW 97th Ave. and SR 826 is projected to operate at LOS F. The City will continue to monitor LOS on this segment and will widen to 8 lanes if needed.
13. NW 107th Avenue experiences high traffic volumes due to its proximity to SR 826/Palmetto Expressway. According to the projected volumes this segment needs to be 8-laned to operate at the adopted LOS. It is recommended that the roadway be widened to first a six-lane facility and then to an eight-lane facility if the future traffic volumes warrant the widening. City officials should coordinate with Miami-Dade County, Miami-Dade MPO, and FDOT to discuss the provisions for widening this facility.
14. NW 12th Street experiences high traffic volumes due to its proximity to SR 836/Dolphin Expressway. This segment is not served by transit. City officials should coordinate with Miami-Dade Transit for providing service on this segment with headways of 20 minutes or less.
15. NW 74th Street is projected to experience high traffic volumes and it will already be a six-lane roadway by 2030. This segment is not served by transit. City officials should coordinate with Miami-Dade Transit for providing service on this segment with headways of 20 minutes or less.
16. NW 41st Street/NW 36th Street is projected to operate at LOS F. The City will continue to monitor LOS on this segment and will widen to 8 lanes if needed.
17. NW 25th Street experiences high traffic volumes due to its proximity to SR 836/Dolphin Expressway. It is recommended that the roadway be widened to a six-lane facility to accommodate future traffic volumes. City officials should coordinate with Miami-Dade County, Miami-Dade MPO, and FDOT to discuss the provisions for widening this facility. It is also recommended that the City work with MDT officials to provide transit service with less than 20-minute headways.

People's Transportation Plan. The *People's Transportation Plan* (PTP) was introduced in 2002 and targets improvements throughout the County with funding from the half-cent sales tax referendum approved by Miami-Dade County voters. Doral currently does not receive any of the funding set aside for municipalities in Miami-Dade County from the half-cent sales tax because the City of Doral was incorporated after the PTP was introduced. In addition, because Doral is now a municipality in Miami-Dade County, it is no longer eligible to receive the share of funding designated for the unincorporated areas of Miami-Dade County either. The City of Doral should undertake the necessary steps to ensure it receives its fair share of funding for municipalities in Miami-Dade County.

Bus service improvements identified in the PTP to be implemented before 2008 include:

- Adding mid-day, Saturday and Sunday services within 30 days of approval of a dedicated funding source using existing buses;
- Providing 15-minute or better bus service during rush hour, 30-minute service or better during other periods and 24-hour service in certain major corridors; and
- Expanding the bus shelter program

The following rail project is also included and is currently being implemented in the PTP:

- East-West Multimodal Corridor: Includes a 10.5-mile segment From Florida International University (FIU) to the Miami Intermodal Center (MIC), which

runs just south of the SR 836 along the NW 7th Street corridor. Expected completion date is in FY 2014-2015.

Although this improvement is just south of the City of Doral, it will positively affect automobile congestion within the City. The City of Doral will actively work with members of MDT and the Citizens' Independent Transportation Trust to implement public transportation improvements within City limits.

Existing and Projected Integrated Transportation System. The City of Doral is served by a major thoroughfare system including SR 826 (Palmetto Expressway), SR 836 (Dolphin Expressway), and SR 821 (Florida Turnpike). In addition, eight Metrobus routes serve the area, which includes a Tri-Rail Shuttle connecting local residents with the Tri-Rail system for trips between Doral and destinations in Miami, Broward and Palm Beach Counties.

Looking to the future, the Transportation Master Plan recommendations will be completed for the City of Doral, providing mobility improvements. As such, improvements targeted for bicycle, pedestrian, and transit facilities within Doral have been identified to provide more balance to the existing transportation system.

The City of Doral has no airports, seaports, passenger rail lines, or dedicated inter-modal facilities within its municipal boundaries. However, Doral is directly west of the Miami International Airport and is approximately 14 miles west of the Port of Miami.

Concurrency Management. The City of Doral is in an area requiring concurrency management as mandated by the Miami-Dade County Comprehensive Plan and Section 163.3180 F.S. An essential requirement of the State's local government comprehensive planning law has termed the service "concurrency" requirement. Paraphrasing section 163.3202 of the Florida Statutes, each county and municipality must amend its land development code to incorporate specific and detailed provisions, which shall provide that public facilities and services meet or exceed the LOS standards established in the Capital Improvements Element, and are available when needed for the development, or that the development orders or permits are conditioned on the availability of these public facilities and services necessary to serve the proposed development. The term "development order" is defined in Chapter 163.3164 of the Florida Statutes to include any zoning action, subdivision approval, certification, permit, or any other official action of local government having the effect of permitting the development of land.

The City of Doral may issue many different types of development orders. These include zoning district boundary changes, variances, conditional uses, site plan approvals, environmental permits, and certificates of use and occupancy. At progressive stages in the development planning and approval process, concurrency determinations should be made with greater certainty.

Transportation Projects Planned by Other Jurisdictions.

Florida Department of Transportation Projects. The projects within the City of Doral that are included in the FDOT Adopted Transportation Improvement Program are shown in *Table 2-10*.

Table 2-10
Florida Department of Transportation Projects

Area		Project or Facility	Limits		Project Description	Years
			From	To		
Highway	Miami-Dade	NW 25 Street	NW 89 Court	SR 826	Add lanes & Reconstruct	N/A
	Miami-Dade	SR 826 & SR 836 Interchange	NW 87 Avenue	NW 57 Avenue	Interchange (Major)	N/A
	Miami-Dade	SR 826/Palmetto Expressway	I-75 South	SR 836	ITS Surveillance System	N/A
	Miami-Dade	SR 826/Palmetto Expressway	North of NW 25 St.	NW 47 Street	Add Lanes & Reconstruct	N/A
	Miami-Dade	SR 826/Palmetto Expressway	NW 62 Street	North of FEC Railroad	Add Lanes & Reconstruct	N/A
Turnpike	Miami-Dade	HEFT Trailblazing Upgrade	--	--	Signing/Pavement Markings	N/A
	Miami-Dade	HEFT Widening	SR 836	Okeechobee Plaza	Add Lanes & Rehabilitate Pavement	N/A
	Miami-Dade	HEFT/Turnpike Interchange	--	--		N/A
	Miami-Dade	NW 74 ST Interchange	--	--		N/A

Metropolitan Planning Organization (MPO) Long-Range Transportation Projects. Fourteen projects within the City of Doral are currently included in the Miami-Dade Transportation Plan for the Year 2030. These projects are listed in *Table 2-11*.

Table 2-11
MPO Long Range Transportation Plan Projects

Area		Project or Facility	Limits		Project Description	Priority Level
			From	To		
Highway and Transit Projects	Central, Northwest, West	SR 826 & SR 836 Intersection	NW 87th Avenue	NW 57th Avenue	Widen Interchange to 10 Lanes	Priority I
	Northwest	SR 826	NW 25th Street	NW 47th Street	Add Lanes & Reconstruct (8 to 10 Lanes)	Priority I
	Northwest	NW 97th Avenue	NW 41st Street	NW 25th Street	2 to 4 Lanes	Priority I
	Northwest	NW 74th Street	HEFT	NW 82nd Avenue	New 3-Lane	Priority I
	Northwest	NW 58th Street	NW 107th Avenue	NW 102nd Avenue	2 to 4 Lanes	Priority I
	West, Northwest	NW 97th Avenue	--	--	Construct 4 Lane Bridge over SR 836	Priority I
	West, Northwest	SR 836 Extension	NW 111th Avenue	NW 87th Avenue	Improvements including a new bi-directional mainline toll plaza	Priority I
	Central, Northwest, West	SR 836 Express Lanes	HEFT	SR 826/836	4 Lane Divided Express Lanes in Median of SR 836	Priority I
	Beach/CBD, Northwest, West	NW 58th Street / NW 74th Street	HEFT	A1A	ITS (includes CCTV, Roadway Sensors, Arterial DMS, Wireless Communications)	Priority II
	Northwest	NW 87th Avenue	NW 36th Street	NW 58th Street	4 to 6 Lanes	Priority II
	Northwest	NW 97th Avenue	NW 58th Street	NW 74th Street	2 to 4 Lanes	Priority III
	Northwest	HEFT	At NW 74th Street		Interchange (Major)	Priority III
	Northwest	NW 107th Avenue	NW 41st Street	NW 25th Street	4 to 6 Lanes	Priority III

Miami Dade County MPO Transportation Improvement Program (FY '04 to '08). The projects within the City of Doral that are included in Miami-Dade County's adopted Transportation Improvement Program are shown in *Table 2-12*.

Table 2-12
MPO Transportation Improvement Program Projects

	Project or Facility	Limits		Project Description	Years
		From	To		
Highway	SR 826 & SR 836 Interchange	NW 87 Avenue	NW 57 Avenue	Interchange (Major) Widen to 10 Lanes	2004-2007
Highway	SR 826/Palmetto Expressway	North of NW 25 Street	NW 47 Street	Add Lanes & Reconstruct 8 to 10 Lanes	2004-2006
Highway	SR 826/Palmetto Expressway	SR 836	SR 93 / I-75	ITS Surveillance System	2005-2008
	HEFT	NW 74 St.	--	Interchange (Major)	2004-2007
MDX	SR 836 Express Lanes	HEFT	NW 37 Avenue	Provide 4-Lane Divided Express Lanes in the Median of SR 836 Connecting MIC, MIA, HEFT (South)	2004-2008
MDX	SR 836 Extension - Toll Plaza	NW 111 Avenue	NW 87 Avenue	Provide Improvements from NW 107 Ave. to NW 87 Avenue, Including New Bi-Directional Mainline Toll Plaza	2004-2008
MDX	SR 836 Westbound	SR 826	NW 57 Avenue	Add Auxiliary Lane in Westbound Direction	2004-2006
MDX	SR 836 Communications and Incident Mgmt./Surveillance	HEFT	I-95	Install Communication System, Integrating FDOT with the MDX System	2004-2005

Adopted Levels of Service Standards for State and County Roads. Policy makers set the level of service standards for specific roadways as a means of maintaining a level of comfort and convenience for drivers. The South Florida Regional Planning Council and the FDOT recommend maintaining LOS D as the standard for roadways within the urbanized area of South Florida. However, the Metro-Miami-Dade Service Concurrency Management Program establishes different adopted level of service standards for portions of the County. The City of Doral recognizes the County's program for evaluating the traffic impacts to State and County roads that are associated with development applications inside City limits.

Multi-Agency Review of Development to Ensure Maintenance of Integrated Multimodal Transportation System, including LOS Standards. The City of Doral, through its Development Review Committee, will establish and maintain a continuing technical review and coordination mechanism involving the Miami-Dade County MPO, FDOT and adjacent municipalities to further the objectives, policies, and programs related to the maintenance of an integrated multimodal regional transportation system that is consistent with adopted level of service standards.

Internal Consistency within the Comprehensive Plan. This element was developed in concert with the other elements of the City of Doral Comprehensive Plan, particularly the Future Land Use Element. As noted throughout this element, the analysis of the future transportation system was based upon the vision of the City as expressed within the goals, objectives, and polices of the Comprehensive Plan and the distribution and intensity of land uses reflected on the Future Land Use Map (FLUM).

III. HOUSING ELEMENT

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III. HOUSING ELEMENT
DATA, INVENTORY, AND ANALYSIS

PURPOSE

Local governments are required to prepare and adopt a Housing Element consistent with the provisions of Chapter 163, Part III of the Florida Statutes. This Element presents an overview of the existing and projected future conditions pertinent to the preparation of the housing goal, objectives and policies for the City's Comprehensive Plan. The best available data are provided by the Census and the Shimberg Affordable Housing Institute, supplemented by local research.

Since the City was incorporated in 2002, historical Census data are not available. However, the City's current incorporated area closely parallels that of the Doral Census Designated Place (CDP). The Miami-Dade County Planning Department, using block-level data, estimated the City's population at 21,000 residents in 2000, whereas the 2000 Census population for the Doral CDP was 20,513 residents. Year 2000 CDP data are used in the following analysis to define the current housing and household characteristics of the City.

EXISTING HOUSING DATA REQUIREMENTS

Housing and Household Characteristics

Housing and Household characteristics of the City of Doral are summarized using 2000 Census data for the Doral CDP, as aggregated in Tables 3-1 through 3-6.

Housing and Residential Development

Per Table 3-1, it is estimated at there were a total of 9,389 housing units in Doral in 2000, consisting of 5,392 single-family and 3,997 multiple-family units. Single-family attached and detached homes constituted approximately 57% of the total.

Doral has collected building permit data since April of 2002. Prior to that time, data was included with Miami–Dade County unincorporated area totals. As a result, historical building permit data is not available to assist in determining the current number of dwelling units in the City. However, assuming the maintenance of the population/dwelling unit ratio (i.e. 2.18 residents per unit) that existed in 2000, and based upon the University of Florida population estimate (i.e. 30,285 residents in 2004) it is estimated that there were 13,892 dwelling units in the City as of 2004.

Housing stock within Doral constitutes a small share of the countywide total; approximately 1.1% of the 852,278 year-round units reported by the Census in 2000. It should be noted that total units includes all year-round housing units, including occupied and vacant units, and those held for occasional use.

The City's housing stock, by age of structure, is summarized in Table 3-2. Approximately 76% of the housing stock was built during period between 1980 and 1998.

Table 3-1. Units in Structure – Year 2000

Units in Structure	Total Units	Percent
One Attached	3,282	35.0
One Detached	2,110	22.5
Two	126	1.3
Three or Four	398	4.2
Five to Nine	770	8.2
Ten to Nineteen	382	4.1
Twenty to Forty-Nine	759	8.1
Fifty or More	1,552	16.5
Mobile Home	10	0.1
Totals	9,389	100.0

Source: U.S. Bureau of the Census, 2000: SF 3; ILER Planning Group, 2/05

Table 3-2. Housing Units by Age

Year Structure Built	Number of Units	Percentage of Total
1999–3/2000	912	9.7
1995–1998	2,848	30.3
1990–1994	2,030	21.6
1980–1989	2,211	23.6
1970–1979	958	10.2
1960–1969	345	3.7
1950–1959	64	0.7
1940–1949	9	0.1
1939 or earlier	12	0.1
Total Units	9,389	100.0

Source: U.S. Bureau of the Census, 2000: SF 3; ILER Planning Group, 2/05

Household Characteristics

Characteristics of housing within the City, including type, tenure, rent, value, monthly cost and cost-to-income ratio are examined in this section and compared to those characteristics exhibited countywide. The most current statistics available for an inventory and analysis of this type are presented in the 2000 Census.

Comparative tenure statistics are presented in Table 3-3. Of the 9,389 housing units reported in 2000 by the U.S. Census, 4,382 units, or 46.7%, were owner-occupied, while 3,382 units, or 36.0%, were renter-occupied. The balance (1,625 units, or 17.3% of the total) was classified as vacant. Owner-occupied plus renter-occupied units represent year-round occupancy, while the remainder of the units is vacant or held for seasonal or occasional use. The City has a relatively large proportion (12.8%) of its housing stock used for seasonal purposes or held for occasional use.

Table 3-3. 2000 Housing Tenure Characteristics

	Doral		Miami-Dade County	
	Units	Percent	Units	Percent
Year-round housing units	9,389	100.0	852,278	100.0
Occupied housing units	7,764	82.7	776,774	91.1
Owner-occupied units	4,382	46.7	449,325	52.3
Renter-occupied units	3,382	36.0	327,449	38.4
Vacant housing units	1,625	17.3	75,504	8.9
Vacant for sale	101	1.1	9,855	1.2
Homeowner vacancy rate	2.3%			2.1
Vacant for rent	183	2.0	19,866	2.3
Renter vacancy rate	5.1%			5.7
Held for seasonal or occasional use	1,199	12.8	29,587	3.5
Other vacant	104	0.1	16,196	1.9

Source: U.S. Bureau of the Census, 2000: SF 1, 3; ILER Planning Group, 2/05

In relation to total housing stock, the City (82.7%) has a year-round housing unit occupancy rate lower than that of Dade County (91.1%) as a whole. Further, the City (46.7%) has a lower rate of owner-occupancy than Dade County (52.3%).

In 2000, the City experienced an overall housing vacancy rate (i.e. 17.3%) substantially higher than the countywide rate of 8.9%. Due to the fact that Doral remains a tourist and seasonal destination, it is concluded that this rate has remained constant to date.

Comparative monthly gross rent data for Dade County and Doral are presented in Table 3-4. The median monthly rent for renter-occupied units in Doral was $968 per month in 2000, compared to $647 per month for Dade County. Approximately 53% of all rents within the City were $900 per month or more.

Comparative housing value data for Dade County and Doral are presented in Table 3-5. The median value of specified owner-occupied units reported in 2000 was $164,200 in the City compared to $124,000 for Dade County. Approximately 70% of owner-occupied within the City were valued at $150,000 or more.

Comparative monthly owner cost data for Dade County and Doral are presented in Table 3-6. The 2000 Census reported a median cost of owner-occupied housing in Doral of $1,666 per month for those units with a mortgage, and a median cost of $630 per month for those units not mortgaged.

Table 3-4. 2000 Monthly Gross Rent of Specified Renter-Occupied Units

Gross Monthly Rent Range	Doral		Miami-Dade County	
	Units	Percent	Units	Percent
Less than $200	0	0.0	19,076	5.8
$200–$299	10	0.3	11,302	3.5
$300–$399	0	0.0	18,717	5.7
$400–$499	8	0.2	35,164	10.8
$500–$649	31	0.9	76,163	23.3
$650–$899	1,350	40.2	99,546	30.4
$900–$999	284	8.5	19,266	5.9
$1,000 and more	1,499	44.6	38,456	11.8
No cash rent	176	5.3	9,143	2.8
Totals	3,358	100.0	326,833	100.0
Median rent per month	$968		$647	

Source: U.S. Bureau of the Census, 2000: SF 3; ILER Planning Group, 2/05

Table 3-5. 2000 Value of Specified Owner-Occupied Housing Units

Value Range	Doral		Dade County	
	Units	Percent	Units	Percent
Less than $50,000	9	0.3	8,856	2.6
$50,000–$99,000	69	2.0	105,435	31.4
$100,000–$149,999	925	27.3	109,962	32.8
$150,000–$199,999	1,000	29.6	53,514	15.9
$200,000–$299,999	904	26.7	30,475	9.1
$300,000 and more	476	14.1	27,573	8.2
Totals	3,383	100.0	335,815	100.0
Median value	$164,200		$124,000	

Source: U.S. Bureau of the Census, 2000: SF 3; ILER Planning Group, 2/05

Table 3-6. 2000 Monthly Owner Costs of Owner-Occupied Units

Mortgage Status and Selected Monthly Owner Costs	Doral		Miami-Dade County	
	Units	Percent	Units	Percent
A. Mortgaged Units				
Less than $500	15	0.6	5,892	2.3
$500–$699	17	0.6	18,269	7.1
$700–$999	142	5.1	58,953	22.9
$1,000–$1,249	353	12.7	55,726	21.6
$1,250–$1,499	466	16.7	41,866	16.2
$1,500–$1,999	1,000	35.9	43,669	16.9
$2,000 and more	791	28.4	33,627	13.0
Totals	2,784	100.0	258,002	100.0
Median per month	$1,666		$796	
B. Units Without a Mortgage				
Less than $200	0	0.0	3,924	5.1
$200–$349	51	8.5	21,104	27.1
$350–$499	143	23.9	25,634	32.9
$500–$699	227	37.9	15,650	20.1
$700 and more	178	29.7	11,501	14.8
Totals	599	100.0	77,813	100.0
Median per month	$630		$580	

Source: U.S. Bureau of the Census, 2000: SF 3; ILER Planning Group, 2/05

The Florida Department of Community Affairs has concluded that affordable gross housing costs should fall below 30% of a family's income. As a result, a gross housing cost-to-income ratio of more than 30% is indicative of an excessive household expenditure (i.e. termed "cost burden") for housing costs, while a ratio of more than 50% is termed "severe cost burden."

From Table 3-7, 1,763 households, or 52.5% of the total renters in 2000, paid less than 30% of household income for gross housing costs. Further, 1,715 owner households, or 61.6% of the total owners with a mortgage in 2000, paid less than 30% of household income for gross housing costs. Based upon the Department of Community Affairs standard, these figures indicate that a majority of the housing within the City is affordable to its residents.

Table 3-7. 2000 Comparative Cost Burden Characteristics (Specified Units)

A. Gross Rent as a Percentage of Household Income	Doral		Dade County	
	Units	Percent	Units	Percent
Less than 20%	886	26.4	75,786	23.2
20%–29%	877	26.1	73,417	22.5
30%–39%	467	13.9	46,795	14.3
40%–49%	234	7.0	27,548	8.4
50% and more	596	17.7	79,723	24.4
Not computed	298	8.9	23,564	7.2
Totals	3,358	100.0	326,833	100.0
B. Selected Monthly Owner Costs as a Percentage of Household Income (units with a mortgage)				
Less than 20%	957	34.4	78,877	30.6
20%–29%	758	27.2	70,447	27.3
30%–39%	235	8.4	39,792	15.4
40%–49%	224	8.1	21,477	8.3
50% and more	515	18.5	45,189	17.5
Not computed	95	3.4	2,220	0.9
Totals	2,784	100.0	258,002	100.0

Source: U.S. Bureau of the Census, 2000: SF 3; ILER Planning Group, 2/05

Household Income Characteristics and Groups

Household income distribution data for 2000 are presented in Table 3-8. From this table, the median household income in Doral was $53,000 per year in 2000, as opposed to $35,966 countywide. Approximately 45% of the households in Doral earned in excess of $60,000 per year in 2000.

Table 3-8. Annual Household Income Distribution

Income Range	Doral		Dade County	
	Households	Percent	Households	Percent
Less than $15,000	799	10.3	166,310	21.4
$15,000–$24,999	676	8.7	111,649	14.4
$25,000–$34,999	822	10.6	100,833	13.0
$35,000–$44,999	903	11.7	87,282	11.2
$45,000–$59,999	1,030	13.3	96,224	12.4
$60,000–$74,999	997	12.9	67,807	8.7
$75,000–$99,999	870	11.2	63,132	8.1
$100,000–$124,999	538	7.0	32,258	4.1
$125,000 and more	1,103	14.3	51,883	6.7
Totals	7,738	100.0	777,378	100.0
Median	$53,060		$35,966	

Source: U.S. Bureau of the Census, 2000: SF 3; ILER Planning Group, 2/05

Data prepared by the Shimberg Affordable Housing Institute, University of Florida, was used to estimate the 2002 (i.e. base year) distribution of households in Doral, by tenure, among very-low, low and moderate income groups, as measured against the Dade County median income level.

The following definitions are used:

- Very-low income = 0 to 50% of the median income;
- Low income = 51% to 80% of the median income; and
- Moderate income = 81% to 120% of the median income.

Estimates, using the Shimberg data, are presented in Table 3-9. Data generated from 2000 Census statistics for the Doral Designated Place (CDP) was used for the purposes of the affordable housing assessment performed herein.

*Table 3-9. 2002 Distribution of Households by Income Group**

Renter Households**	Very-Low	Low	Moderate	Total
1 and 2 Persons	675	435	476	1,586
3 and 4 Persons	440	290	281	1,011
5 and more Persons	119	69	66	254
Subtotal Renter Households	**1,234**	**794**	**823**	**2,851**
Owner Households**	**Very-Low**	**Low**	**Moderate**	**Total**
1 and 2 Persons	323	273	418	1,014
3 and 4 Persons	168	211	373	752
5 and more Persons	54	83	115	252
Subtotal Owners	**545**	**567**	**906**	**2,018**
Total - All Households	**1,779**	**1,361**	**1,729**	**4,869**

* Very-Low Income—0.50% of median; Low Income—51% to 80% of median; Moderate Income—81% to 120% of Median Income. Median Income is the figure for Dade County

** Small = 1 and 2 persons; Medium = 3 and 4 persons; and Large = 5 and more persons.

Source: Shimberg Affordable Housing Institute, University of Florida, 2/05

A summary of income group data from Table 3-9, supplemented by Shimberg data for the "Above Moderate" income group, results in the following estimate of the relative 2002 distribution of households in Doral, by tenure and income-group:

	Households (%)		
Income Group	**Renters**	**Owners**	**Total**
Very-Low	1,234	545	1,779
Low	794	567	1,361
Moderate	823	906	1,729
Above Moderate	1,091	3,218	4,309
Total	**3,942**	**5,236**	**9,178**

Housing and Living Conditions

There are several measures that can be used to evaluate housing stock and living conditions within the City – including age of structure, over-crowding, lack of certain necessary facilities, structural integrity, and *Florida Building Code* requirements. Specific indicators of substandard housing or living conditions for each of the above measures are as follows:

- **Age of Structure**—A housing unit constructed prior to 1950, which is valued at less than $25,000.

- **Lacking Facilities**—A housing unit lacking complete plumbing facilities, heating and cooking facilities and/or complete kitchen facilities.

- **Over-Crowding**—1.01 persons per room or more within a dwelling unit.

- **External Housing Conditions**—A housing unit categorized as either of the following by the City of Doral:

  Deteriorated: Meaning in need of some relatively minor exterior repair, which is indicative of a lack of maintenance. Examples include housing that requires painting, fascias and soffits showing signs of deterioration, cracked and broken windows, and even severely overgrown yards, which is generally accompanied by a lack of structural maintenance.

  Dilapidated: Meaning in need of substantial rehabilitation. The unit may be considered to be unfit for human habitation or rapidly approaching that condition. This category of substandard housing needs to be addressed immediately, through either rehabilitation or demolition, as the health and safety of the inhabitants may be endangered.

- **Code Violations**—The City has adopted the Florida Building Code (Dade & Broward Edition) that incorporates the following definition for an unsafe structure:

  (1) A building deemed a fire hazard, as a result of debris or other combustible material, creates a hazard, vacant and unguarded; or

  (2) A building deemed structurally unsafe by design or deterioration, partially destroyed, unsafe or lack of adequate plumbing, inadequate or unsafe electrical, inadequate waste disposal system or lack of a building permit.

The following discussion outlines the rationale used for preparing definitions of *standard* and *substandard* living and conditions in terms of the five measures listed and discussed above. From Table 3-2, it is observed that there are 21 units (0.2% of the housing stock) within the City that were constructed prior to 1950. Further, from Table 3-5, there were only 9 specified owner-occupied units (0.3% of the total) in Doral valued at less than $50,000 in 2000. It is therefore concluded that "age of structure" and "value," in combination, do not raise any issues regarding overall substandard living and housing conditions within the City. However, age and value of the housing stock could become a concern in the future if the City does not implement adequate conservation and preservation measures.

An over-crowded condition is normally defined to occur when there are more than 1.01 persons per room in a dwelling unit (Note: excluding bathrooms, open porches, utility rooms, unfinished attics, etc.; rooms not used for "living" purposes). According to the Census, in the year 2000 there were 1,185 households, or 15.3% of the total, reporting occupancy of more than 1.0 person per room in Doral. This rate is less than the countywide rate of 20.0%. Due to the relatively normal rate, it is concluded that over-crowding is not an issue to be addressed regarding overall substandard living and housing conditions within the City.

The 2000 Census reported that high percentages of the year-round housing stock had complete plumbing facilities (99.8%) and complete kitchen facilities (99.6%). Due to the high level of availability, it is concluded that "lack of facilities" does not, in itself, raise any issues regarding overall substandard living and housing conditions within the City.

City staff completed a general windshield survey oriented to evaluating external housing conditions. The results of the survey indicate that the City's housing can be classified as standard—acceptable. On this basis, "External Housing Conditions" does not, in itself, raise any issues regarding overall substandard living and housing conditions within the City.

The City has adopted the *Florida Building Code (Dade & Broward Edition)*. According to the Building Department, there are no housing units within the City that are currently the subject of repairs resulting from *Florida Building Code* citations.

Doral, by contract, has recently assumed responsibility for issuing code violation citations; however, the Dade County Unsafe Structures Board is responsible for Code implementation within the City.

Although substandard living and housing conditions are not a significant issue within the City at this time, appropriate definitions should be incorporated within in the Comprehensive Plan. The application of these definitions will allow the institution of appropriate implementation mechanisms oriented to preserving and enhancing the current quality of living and housing conditions within Doral.

Subsidized Housing

There are currently no renter-occupied housing developments within the City using federal, state or local subsidy programs.

Conventional Rental Housing

Conventional rental housing communities located in Doral are listed in Table 3-10. From Table 3-10, there are 13 licensed rental communities containing a total of 4,228 apartment units in the City.

Table 3-10. Inventory of Licensed Rental Apartment Complexes

Name	Address	Units
Greens At Doral	4630 NW 97th Court	440
The Enclave at Doral	4300 NW 1107th Avenue	258
Summit Doral	4790 NW 107th Avenue	260
The Palms of Doral	5611 NW 112th Avenue	384
Cove at Landings	5400 NW 114th Avenue	388
Doral Terrace	10825 NW 50th Street	256
Palm Garden Apartments	7310 NW 114th Avenue	356
Archstone Doral Park	10000 NW 45th Terrace	310
Summit Doral Villas	4600 NW 114th Avenue	232
480 Property	3550 NW 33rd Street	7
Champions at Doral	4920 NW 79th Avenue	368
Fairways at Doral	8290 Lake Drive	523
Fairways at Doral	8303 Lake Drive	446
Total Units		**4,228**

Source: Florida Department of Business and Professional Regulation, Division of Hotels and Restaurants: Master Listing of Accounts; City of Doral; ILER Planning Group, 2 /05

Group Facilities and Homes

The Florida Department of Health and Rehabilitative Services (FDHRS) licenses group homes through three of its divisions: Aging and Adult Services (Adult Congregate Living Facilities); Division of Developmental Services (Long-Term Residential Care Facilities and Centers for Independent Living); and Children, Youth and Families (Family Group Home and Family Foster Home facilities).

FDHRS also provides licensing to individuals or businesses that provide homes to individuals who are developmentally delayed. The individuals placed in homes are typically adults; however, a disability had to have occurred prior to the age of 18 to be eligible. Licensed homes with capacities of less than 3 are considered foster homes, while those with capacities of 4 to 8 are termed group homes. There are no group home facilities in Doral (see Table 3-11).

Table 3-11. Inventory of Group Homes

Facility	Address	Capacity
NA - Reserved	NA	NA
Total		

Source: Florida Department of Health and Rehabilitative Services, District 11 Office (Miami, FL); ILER Planning Group, 2/05

In addition to group homes licensed by DHRS, the Agency for Health Care Administration licenses assisted living facilities (ALFs). There is currently one licensed ALF in the City, with a licensed capacity of 6 beds (see Table 3-12). Finally, there are no skilled nursing facilities within the City.

Table 3-12. Inventory of Assisted Living Facilities

Assisted Living Facility	Address	Capacity
San Lazaro Retirement Home	9795 NW 27th Terrace	6
Total Beds		**6**

Source: Agency for Health Care Administration, Division of Health Quality Assurance; ILER Planning Group, 2/05

Group home facilities are permitted under City codes at present. However, population projections do not indicate that the City should incorporate special policies to encourage large-scale facilities to accommodate the unique needs of the elderly population within the indicated planning periods. However, policies to incorporate small-scale affordable elderly rental facilities within existing residential neighborhoods should be encouraged.

Mobile Home and Recreational Vehicle Parks

There are no mobile home or recreational vehicle parks located in Doral.

Neighborhood Redevelopment and Urban Infill

The City currently has no redevelopment or urban infill areas and/or programs. Generally, the current character and quality of development and remaining new development potential indicates that these programs are not necessary at this time.

City Housing Programs

Doral currently has no municipal housing programs available for City residents.

Historic Preservation

There are four historical/archaeological sites within Doral listed on the Florida Master Site File, none of which are residential structures. An inventory of listed residential structures (none at this time) is presented in Table 3-13. Doral has not designated any local historically-significant structures. However, the City may decide to adopt a Historic Preservation Ordinance and conduct a historic preservation program in order to protect and preserve designated locally significant structures in the future. Funding sources available to assist in this effort are State Historic Preservation funds, the Florida Small Cities CDBG Program and private donations.

Table 3-13. Inventory of Historical Structures

Name or Designation	Address	Type
NA - Reserved	NA	NA
Total		

* - Site listed on National Register of Historic Places

Source: Florida Master Site File, Florida Department of State; ILER Planning Group, 7/04

HOUSING ANALYSIS

Housing Projections. Miami-Dade County using various Census geographies estimated the population of Doral at 21,000 residents in 2000. Projections prepared in the Future

Land Use Element indicate that the City's population will increase to approximately 46,266 residents in 2010 and to 72,695 residents by 2020.

Permanent, non-seasonal housing needs projections during the 2000-2020 period accounting for resident household growth, as well as a reasonable vacancy rate, are summarized in Table 3-14.

Table 3-14. Housing Need Projections (2000-2020)

	2000	2005	2010	2015	2020
Housing Units	9,612	15,394	21,176	27,153	33,272
Households	7,949	12,731	17,511	22,453	27,514

Source: Iler Planning Group; 5/05

From the above table, it is projected that 23,660 units will be required during the 2000–2020 period to accommodate the City's buildout housing needs. Residential acreage required to accommodate projected housing needs is summarized in the Future Land Use Element.

Resident household growth projections, based upon the assumption that the historical renter versus owner split is maintained, are presented in Table 3-15.

Table 3-15. Resident Household Growth Projections

	Resident Household Growth	
Growth Period	**Rented Units**	**Owned Units**
2000–2005	2,083	2,699
2005-2010	2,84	2,696
2010–2015	2,155	2,787
2015-2020	2,206	2,855
Total Growth 2000–2020	**8,528**	**11,037**

Source: ILER Planning Group, 5/05

The above projections are based upon the assumption that the bulk of residential and mixed-use land will be developed by the year 2020. Table 3-16 presents total housing stock projections, by residential type.

Table 3-16. Total Housing Stock Projections (2000-2020)

Residential Density	Projected Housing Units by Year		
	2000	2010	2020
Single-Family (1)	3,652	8,047	12,643
Multiple-Family (2)	5,960	13,129	20,629
Total Units	**9,612**	**21,176**	**33,272**

(1) Growth consists of Estate and Low Density residential land use categories.
(2) Growth consists of Moderate and Medium Density residential land use categories and expected residential components of mixed-use categories.
Source: ILER Planning Group, 5/05

These projections include the assumption of an adequate number of vacant units to meet the rate defined by the 2000 Census.

Household Characteristics Projections

Using Census data compiled by Miami-Dade County, it is estimated that there were 7,949 resident households in the City in 2000 (i.e., 82.6% of the year-round housing units). Projections of household growth, based upon dwelling unit projections and the assumption of maintenance of the current household occupancy rate, are presented as follows: 2010 – 17,511 households, and 2020 – 33,272 households.

Household estimates and projections, by tenure and household size, are presented in Table 3-17. Projections prepared in Table 3-17 are based upon the assumption that tenure and household size distributions, per the 2000 Census, will be maintained through the year 2020. From Table 3-17, the following observations are made:

- Of the total growth (9,562 households) during the 2000–2010 period, 5,395 households (56.4% of the total) are projected to be owners as opposed to renters.
- Renters will increase by 4,167 households during the 2000–2010 period.
- Family households (i.e., 3 persons or more per household) will constitute 46% of the total growth in the City during the 2000–2010 period.

Table 3-17. 2000–2015 Projections of Household Growth by Tenure and Household Size

A. Owner-Occupied Housing			
Household Size	**2000**	**2010**	**2015**
1	722	1,590	2,499
2	1,476	3,249	5,106
3	929	2,044	3,212
4	915	2,015	3,166
5	314	692	1,086
6	112	248	389
7+	18	38	60
Subtotals	**4,486**	**9.876**	**15,518**
B. Renter-Occupied Housing			
Household Size	**2000**	**2010**	**2015**
1	1,011	2,299	3,502
2	1,115	2,459	3,863
3	572	1,260	1,979
4	405	893	1,404
5	260	573	900
6	90	198	311
7+	10	23	37
Subtotals	**3,463**	**7,635**	**11,996**
C. Total-Occupied Housing			
Household Size	**2000**	**2010**	**2015**
1	1,733	3,819	6,001
2	2,591	5,708	8,969
3	1,501	3,304	5,191
4	1,320	2,908	4,570
5	574	1,265	1,986
6	202	446	700
7+	28	61	97
Totals	**7,949**	**17,511**	**27,514**

Source: U.S. Bureau of the Census, 2000: SF 3; ILER Planning Group, 5/05

Population projections, by age group, are presented in Table 3-18. Projections prepared in Table 3-18 are based upon the assumption that the age-distribution within the City, per the 2000 Census, will be maintained through the year 2010. From Table 3-18, the following observations are significant:

- Prime school-age groups (i.e., 5–19 years of age) are projected to increase by 4,397 residents (or 17% of the total projected growth) during the 2000-2010 period.

- Of the total growth (25,753 residents) during the 2000–2010 period, 15,785 residents (61% of the total) are projected to be prime working age-groups (i.e., 20–54 years of age).

- Growth in the retirement age-group (i.e., 65 years and older) is projected to constitute 4% of the total. Further, the age-group approaching retirement (i.e., 55–64 years of age) is projected to constitute approximately 8% of the total.

Table 3-18. 2000–2010 Population Projections by Age Group Distribution

Age	Year (population)			Growth
Group (years)	2000	2005	2010*	2000–2010
0–4	1,978	3,243	4,461	2,483
5–9	1,705	2,796	3,846	2,141
10–14	923	1,513	1,082	1,159
15–19	874	1,433	1,971	1,097
20–24	1,197	1,963	2,700	1,503
25–34	4,661	7,642	10,513	5,852
35–44	4,384	7,188	9,888	5,504
45–54	2,331	3,822	5,257	2,926
55–64	1,556	2,551	3,509	1,953
65–74	657	1,077	1,482	825
75+	247	405	557	310
Totals	**20,513**	**33,633**	**46,266**	**25,753**

* - Assumes buildout in 2008.
Source: U.S. Bureau of the Census, 2000: SF 3; ILER Planning Group, 5/05

Housing Delivery Process

Housing stock in the City has historically been constructed by the private sector. It is concluded that the private sector will continue to provide housing to accommodate projected population growth throughout the planning periods.

Further, due to the fact that approximately 5% of the current housing stock will be at least 40 years old by the year 2010, maintenance and rehabilitation efforts by property owners will likely suffice.

An analysis of vacant residential land, provided in the FLUE, leads to the conclusion that adequate vacant residential land remains to accommodate projected population growth. Future residential development will consist primarily of the buildout of new residential and mixed-use developments.

It is anticipated that private sector developers will meet additional rental housing demand in the City.

The City's role in the housing delivery process will be based primarily upon the provision of services, either directly or by contract, necessary to facilitate private sector

construction activity. However, it is anticipated that the City's role in code enforcement and housing rehabilitation activities will increase as the housing stock ages.

Alternative Housing Issues

An analysis of the base year 2002 income group data from Table 3-9 leads to the following conclusions:

- Approximately 38% of the very-low income households in Doral are 1 and 2-person renter households, while an additional 25% are 3 and 4-person renter households;

- Approximately 32% of the low income households in Doral are 1 and 2-person renter households, while an additional 21% are 3 and 4-person renter households;

- In total, approximately 54% of the very-low and low income households are 1- and 2-person households, according to the following mix: renters—35%; and owners—19%.

The rental unit vacancy rate from Table 3-3 (i.e., 5.1%) indicates that overall supply is meeting demand (note: a 5% vacancy rate is indicative of an equilibrium situation where supply meets demand, accounting for a normal turnover of tenants).

There is a relatively low incidence of cost burden among renters in the City (i.e., 39% versus a countywide rate of 47% from Table 3-7). However, the above analysis indicates that small renter households (i.e., 1 and 2 person) are having the most difficulty finding affordable rents in the City. In addition, it is projected that renters will account for 44% of the household growth during the 2000 – 2010 period.

It is therefore recommended that the City encourage the development of rental housing alternatives for small households. Inclusionary zoning and zoning to permit single-room occupancy and accessory apartments are some alternatives to consider.

Availability of Services

Doral has sufficient infrastructure in place, either provided directly by the City or through interlocal agreement, to accommodate current development demands. Also, plans are in place to accommodate future growth needs.

At this time, Doral has sufficient capacity to provide the potable water and wastewater demand of existing development. Further, roadways in the City are operating at an acceptable level-of-service.

Sufficient solid waste capacity is available at the County's facilities for the disposal of both processable and non-processable solid waste. A contractual agreement exists between Doral and a contracted hauler for the collection and transport of all solid waste to the County facilities.

Doral has sufficient acres in local and community parks to serve its residents.

AFFORDABLE HOUSING ASSESSMENT

Florida Statutes, Chapter 9J-5.010(2)(b) requires that an affordable housing assessment be performed using a methodology established by the Florida Department of Community Affairs.

Data for the Affordable Housing Assessment for Doral was provided by the Shimberg Affordable Housing Institute (i.e., "Shimberg") at the University of Florida. As a result, the following assessment is completed using the best available data. Shimberg data may be used to perform the affordable housing assessment; or, alternatively, a locally prepared assessment may also be prepared if Shimberg numbers are not appropriate. Using Shimberg data, which are based upon locally-prepared population projections, household growth projections, by income group, are presented in Table 3-19. Shimberg household projections presented in Tables 3-19 through 3-23 vary from locally-prepared household growth projections presented in Tables 3-14 and 3-17. Locally-prepared projections assume the maintenance of the City's average household size, per the 2000 Census, while Shimberg numbers are based upon the assumption that the average household size will increase during the planning period. As a result of the larger household size assumption, Shimberg projects less household growth during the planning period.

Table 3-19. Shimberg Household Projections, by Income Group 2002—2020 (Households)

A. Owner-Occupied Households					
Year	**Very-Low**	**Low**	**Moderate**	**Moderate+**	**Total**
2002	545	567	906	3,218	5,236
2005	731	750	1,203	4,256	6,940
2010	994	1,021	1,627	5,682	9,324
2020	1,485	1,518	2,455	8,432	13,890
B. Renter-Occupied Households					
Year	**Very-Low**	**Low**	**Moderate**	**Moderate+**	**Total**
2002	1,234	794	823	1,091	3,942
2005	1,649	1,057	1,083	1,417	5,206
2010	2,244	1,428	1,465	1,901	7,038
2020	3,464	2,184	2,305	3,039	10,992

Source: Shimberg Affordable Housing Institute, University of Florida, 5/05

Tables 3-19 to 3-23 present the very-low, low and moderate income housing needs estimates and projections using Shimberg-produced data. An affordable home, by definition, is one where a household pays less than 30% of its annual income for gross housing costs. A household which pays 30% or more of its annual income for gross

housing costs is therefore experiencing "cost burden" (i.e. paying too high a percentage of its income for gross housing costs).

Table 3-20. 2002 Deficit of Affordable Housing (occupied units) Derived from Shimberg Data

A. Owner-Occupied Housing		
Income Group	**At 30% or More Cost Burden***	**At 50% or More Cost Burden****
Very-Low	404	313
Low	333	139
Moderate	349	54
Subtotal Owner	**1,086**	**506**
B. Renter-Occupied Housing		
Income Group	**At 30% or More Cost Burden***	**At 50% or More Cost Burden****
Very-Low	994	724
Low	510	77
Moderate	214	8
Subtotal Renter	**1,718**	**809**

* Deficit = Households paying 30% or more of gross income for gross housing costs = Cost burden.
** Deficit = Households paying 50% or more of gross income for gross housing costs = Severe cost burden.

Source: Shimberg Affordable Housing Institute, University of Florida; ILER Planning Group, 5/05

Table 3-21. Growth Driven Need* for Affordable Owner-Occupied Units

Income Group	**Growth Period**		
	2002–2005	**2005–2010**	**2010–2020**
Very-Low	186	263	491
Low	183	271	497
Moderate	297	424	828

Source: Shimberg Affordable Housing Institute, University of Florida; ILER Planning Group, 5/05

Table 3-22. Growth Driven Need for Affordable Renter-Occupied Units*

Income Group	Growth Period		
	2002–2005	2005–2010	2010–2020
Very-Low	415	595	1,220
Low	263	371	756
Moderate	260	642	840

Source: Shimberg Affordable Housing Institute, University of Florida; ILER Planning Group, 5/05

Table 3-23. Cumulative Deficit (Surplus) of Affordable Occupied Units*

Income Group	Owner-Occupied Units			Renter-Occupied Units		
	2005	2010	2020	2005	2010	2020
Very-Low	590	853	1,344	1,409	2,004	3,224
Low	516	787	1,284	773	1,144	1,900
Moderate	646	1,070	1,898	474	1,116	1,956

* Households paying greater than 30% of income for gross housing costs (year 2002, From Table 3-20) + household growth during the 2002–2005, 2005–2010, and 2010-2015 periods which are projected to pay greater than 30% of income for gross housing costs (From Tables 3-21 and 3-22).

Source: Shimberg Affordable Housing Institute, University of Florida; ILER Planning Group, 5/05

From Table 3-20, there are currently (2002) 1,086 owner households and 1,718 renter households in a position of cost-burden. Cost burden becomes more of an issue as the percentage of household income paid for gross housing costs increases, particularly in the lower income groups when the percentage is in excess of 50% (i.e. "severe" cost burden). For comparative purposes, the numbers of owner and renter households in Doral paying 50% or more for gross housing costs are also presented in Table 3-20, as well.

Due primarily to the City's remaining growth potential, demand for additional very-low, low and moderate income housing is projected to be substantial during the projection period. Doral's housing goals, objectives and policies should therefore be tailored to both maintaining the condition of the City's housing stock and accommodating additional need generated by population growth.

SUMMARY

The support documentation of the Housing Element presents an overview of the existing and projected future conditions pertinent to the preparation of the housing goal, objectives and policies.

Data used to describe the City's existing housing conditions are derived primarily from the Census. Since the City was incorporated in 2002, historical Census data are not available. However, the City's current incorporated area closely parallels that of the Doral Census Designated Place (CDP). Year 2000 CDP data are used as the principal source to define the current housing and household characteristics of the City. The following are pertinent observations regarding the housing and household characteristics of Doral:

- It is estimated at there were a total of 9,389 housing units in Doral in 2000, consisting of 5,392 single-family and 3,997 multiple-family units.

- Of the housing units reported by the U.S. Census, 46.7%, were owner-occupied, while 36.0%, were renter-occupied. The balance (17.3% of the total) was classified as vacant.

- The median monthly gross rent for renter-occupied units in Doral in 2000 was $968 per month. Approximately 93% of all rents were $650 per month or more in the City.

- The median value of specified owner-occupied units reported in 2000 was $164,200 in Doral.

- Approximately 52% of the total renters in 2000, paid less than 30% of household income for gross housing costs. Further approximately 62% of the total owners with a mortgage in 2000, paid less than 30% of household income for gross housing costs. Based upon the Department of Community Affairs standard, these figures indicate that a majority of the housing within the City is affordable to its residents.

  Data prepared by the Shimberg Affordable Housing Institute, University of Florida, are used to estimate the 2002 distribution of households in Doral, by tenure (i.e. renters and owners), among very-low, low and moderate income groups, according to the following distribution:

Very Low Income Renters	13%
Low Income Renters	9%
Moderate Income Renters	9%
Above Moderate Income Renters	12%
Very Low Income Owners	6%
Low Income Owners	6%
Moderate Income Owners	10%
Above Moderate Income Owners	35%
Total	100%

- Analysis of Census data and building code violations, coupled with a windshield survey indicates that the City's housing stock can be classified as standard and acceptable.

- Although substandard living and housing conditions are not a significant issue within the City at this time, appropriate definitions should be incorporated within in the Comprehensive Plan. The application of these definitions will allow the institution of appropriate implementation

mechanisms oriented to preserving and enhancing the current quality of living and housing conditions within the City.

- Doral currently has no municipal housing programs available for City residents. An available program the City may decide to investigate is the Florida Small Cities Community Development Block Grant (CDBG) Program. Funds may be used for rehabilitation of residential structures, historic preservation, planning activities and acquisition in support of other activities. Further, when the City's population attains a level of 50,000 residents, application should be made to be designated an "entitlement" municipality for direct receipt of Community Development Block Grant funds.

- The City of Doral has not designated any historically-significant structures. However, the City may decide to adopt an Historic Preservation Ordinance and conduct an historic preservation program in order to promote its unique character.

- The Miami-Dade County Planning Department estimated the population of Doral at 21,000 residents in 2000. Projections indicate that the City's population will increase to 46,266 residents in 2010 and to 72,695 residents by 2020. Of the total growth approximately 61% are projected to be of prime working age, while prime school-age children are projected to account for approximately 17%. Growth in the retirement age-group is projected to constitute a fairly small share (approximately 4% of the total).

- It is projected that 11,564 units will be required during the 2000–2010 period to accommodate the City's housing needs, while an additional 12,096 units will be required to accommodate needs during the 2010–2020 period, during which buildout is projected to occur.

- Of the total growth (9,562 households) during the 2000–2010 period, 5,395 households (56% of the total) are projected to be owners as opposed to renters. Renters will increase by 4,167 households during the 2000–2010 period. Family households (i.e., 3 persons or more per household) will constitute approximately 46% of the total growth in the City during the 2000–2017 period.

- Housing stock in the City has historically been constructed by the private sector. It is concluded that the private sector will continue as the primary provider of housing to accommodate projected population growth throughout the 2000- to 2015 period. The City's role in the new housing delivery process will be based primarily upon the provision of services necessary to facilitate housing delivery by the private sector. However, to provide for projected growth in very-low and low income households, the City should consider enacting supportive mechanisms such as inclusionary zoning to encourage

rental housing for small households in future mixed-use developments, density bonuses for the provision of affordable housing, and zoning amendments to permit single-room occupancy of residential units. Future, it is anticipated that the City's role in code enforcement and housing rehabilitation activities will increase as the housing stock ages. In this regard, the City should investigate the availability of funding for enhanced code enforcement activity through County and State Community Development Block Grant Programs.

- Doral has sufficient infrastructure in place, either provided directly by the City or through interlocal agreement, to accommodate current development demands. Also, plans are in place to accommodate future growth needs.

- Due primarily to the City's large remaining growth potential it is not likely that Doral will reach buildout until after the 2020–2025 period. It is concluded that growth-related demand for additional very-low, low and moderate income housing will be substantial. An analysis of Census and growth projections data indicates that growth-related demand for very-low and low income households is more of an issue for the City than the current incidence of cost-burden. Doral's housing goals, objectives and policies should therefore be tailored principally to the provision of growth-driven affordable housing. However, maintaining the current standard condition of the City's housing stock should also be assigned a high priority.

IV. INFRASTRUCTURE ELEMENT

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IV. INFRASTRUCTURE ELEMENT
DATA, INVENTORY, AND ANALYSIS

PURPOSE

The purpose of the Infrastructure Element is to identify and ensure provision of adequate public facilities and services to support the future population and development projected within the Future Land Use Element of the City of Doral Comprehensive Development Master Plan (CDMP). The objective of the Infrastructure Element Data, Inventory, and Analysis (DIA) Report is to inventory and evaluate existing sanitary sewer, solid waste, natural groundwater aquifer recharge, potable water, and drainage resources within the City of Doral. In addition, the DIA Report determines the projected demands on these facilities and resources given future service demands and facility levels of service to adequately serve the projected demand. Within the Infrastructure Element, each of the public facilities and/or resources mentioned above is treated as separate sub-elements in the document. Together, this information serves as the foundation for goals, objectives, and policies of the Infrastructure Element. Data and analysis for each of the five sub-elements contained within the Infrastructure Element DIA is provided in the following order:

- Sanitary sewer;
- Solid waste, natural groundwater aquifer recharge areas;
- Potable water; and
- Drainage.

SANITARY SEWER SUBELEMENT

Sanitary sewer facilities are defined as structures or systems designed for the collection, transmission, treatment, or disposal of sewage and may include trunk mains, interceptors, treatment facilities, and disposal systems.

Inventory of Existing Conditions

Treatment System and Geographic Service Area

The City of Doral does not maintain sanitary sewer facilities within its jurisdictional boundaries. Instead, the Miami-Dade County Water and Sewer Department (WASD) serves as the governing authority responsible for the collection, transmission, primary and secondary treatment, and pumping facilities in Doral. Although WASD provides sanitary sewer service for a majority of the City of Doral, portions of the city's sewer service areas remain isolated from WASD collection, transmission, and treatment systems. The parcels in this area are predominantly residential located on large lots. The sanitary sewage from these areas is presumed to be serviced by localized septic tanks. The majority of the City of Doral is located within the northwestern section of the WASD Central District Service Area and is served by the Central District Wastewater Treatment Plant (WWTP). Map IV-1 illustrates the areas served by the Central District WWTP and Map IV-2 illustrates the location of areas in the city currently served by septic tanks.

The Central District WWTP is located at 3989 Rickenbacker Causeway, in the Virginia Key District, of the City of Miami, Florida. The facility was constructed in 1955 and handles demand generated by commercial, business, and the majority of the residential properties in the Central District of Miami-Dade County (including the City of Doral). Treated effluent is disposed through a series of deep injection wells and an outfall into the Atlantic Ocean; a percentage of the treated effluent is used onsite for landscaping of green areas and wash-down of buildings. The Central District WWTP has a design flow capacity of 143 million gallons per day (MGD) and is currently operating at 80 percent of capacity.

Service Areas

The Miami-Dade WASD serves the area within the City of Doral, between NW 90th Street to the north, State Road 836 to the south, State Road 826 to the west, and the Florida Turnpike to east. Most of the residential land use areas and a majority of commercial and office land use areas within the City of Doral are served by WASD. However, the portion of wastewater that is generated by single family residential and commercial land use in the western portion of the City of Doral is served by septic tanks.

Regional Facility Capacity

The Central District WWTP currently operates below its permitted capacity. The Average Annual Design Flow Capacity (AADFC) for the treatment plant is 114 MGD and the permitted design capacity for the treatment plant is 143 MGD. In addition, the 3 WASD wastewater treatment districts are combined into one distribution and collection system that serves Miami-Dade County residents and businesses. Therefore, the LOS reported by WASD is measured for the entire system. Table 4-1 summarizes the average daily flow and capacity for all 3 Miami-Dade Regional Wastewater Treatment Plants.

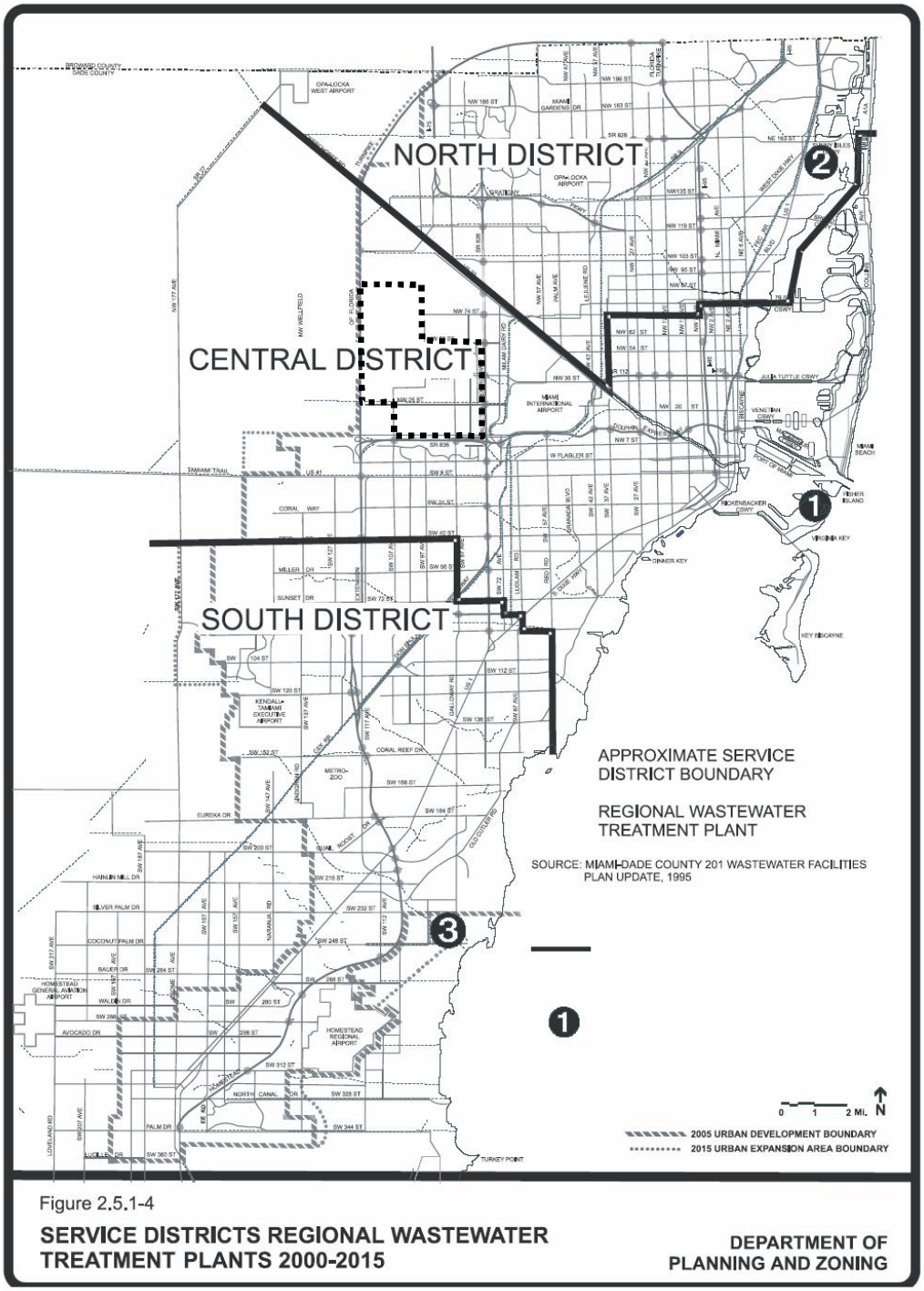

Figure 2.5.1-4

SERVICE DISTRICTS REGIONAL WASTEWATER TREATMENT PLANTS 2000-2015

DEPARTMENT OF PLANNING AND ZONING

CITY OF DORAL

Central District Wastewater Treatment Plant (WWTP) Service Area

Map IV-1

Legend

Doral City Limit

N
W E
S

Not to Scale

Source: Miami-Dade County Evaluation and Appraisal Report (adopted October 28, 2003).

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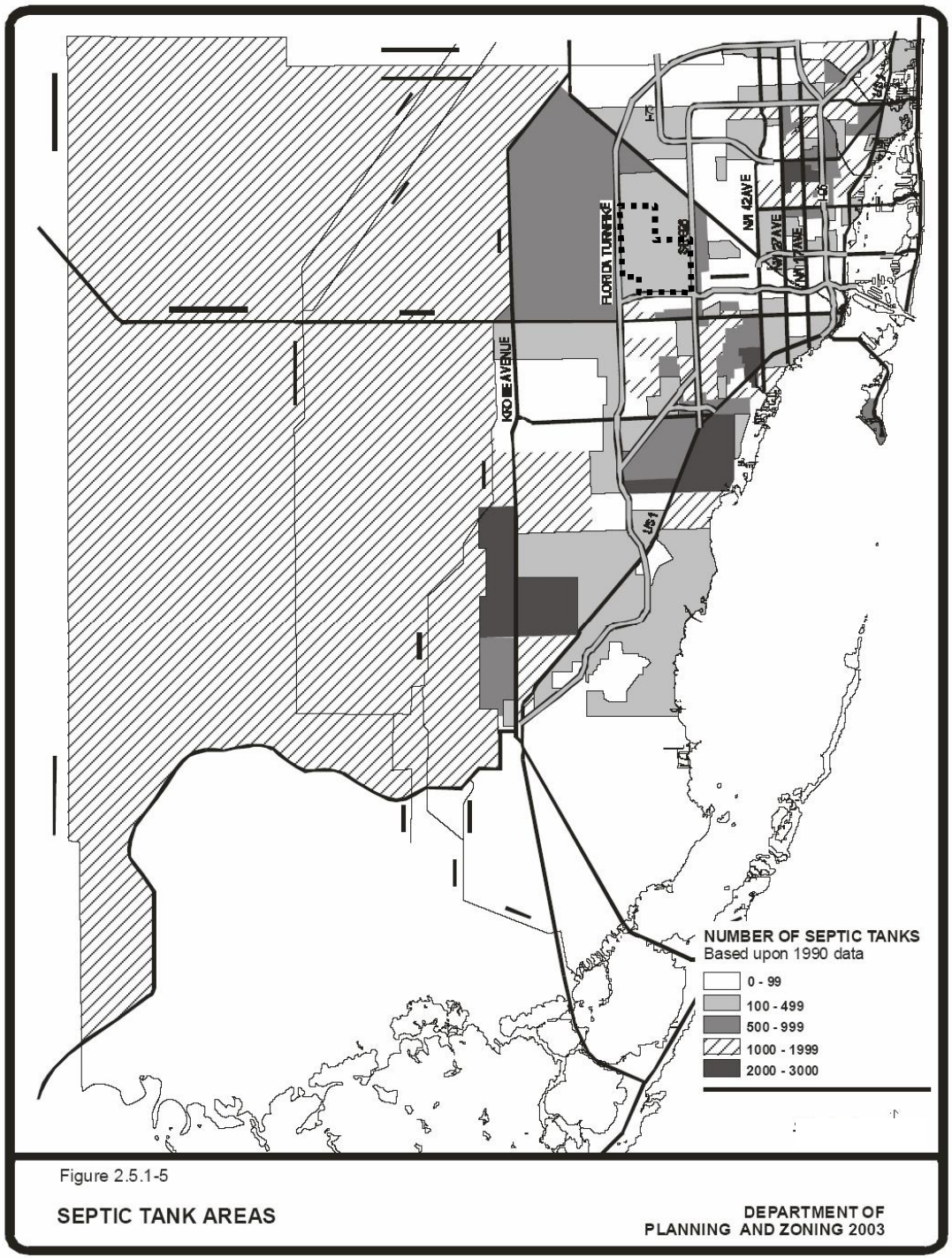

Figure 2.5.1-5

SEPTIC TANK AREAS

DEPARTMENT OF PLANNING AND ZONING 2003

CITY OF DORAL

Septic Tank Areas

Map IV-2

Legend

Doral City Limit

N

W E

S

Not to Scale

Source: Miami-Dade County Evaluation and Appraisal Report (adopted October 28, 2003).

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Table 4-1. Miami-Dade County Wastewater Plant Flows and Capacities (2002)

Treatment Plant	12-Month Average Flow (MGD)	Average Flow Design Capacity – Permitted (MGD)	Planned Capacity (MGD)
Central District	114[1]	143.0	143.0
North District	88.5	112.5	135.0
South District	90.9	97.0	131.3
Total	293.4	352.5	409.3

Source: Miami-Dade County Water and Sewer Department, 2002
Note:[1]Central District Wastewater Treatment Plant, 2003

There has been a significant reduction in average flow into the regional system as a result of extensive infiltration and inflow (groundwater and rainwater) prevention projects conducted by WASD in recent years. Infiltration and inflow within the sewer system should be kept at a minimum to avoid hydraulic overload to the receiving treatment plant. It is pertinent for an operation and maintenance plan to be part of the county's sanitary sewer system. As a result, the regional wastewater treatment plant's operating capacity can remain in compliance with Miami-Dade County WASD and Florida Department of Environmental Protection (FDEP) standards.

Current Facility Demand

Current demand on the WASD system within City of Doral is relatively moderate even though the majority of the City of Doral is connected to the county facilities. The majority of the properties within the county's service area are built out; therefore demand met by the current WASD system is expected to remain relatively constant into the near future. Additional demand for capacity may increase in areas where new residential and commercial development is anticipated pursuant to current subdivision regulations and/or in areas where the city enters into an agreement with the Miami-Dade County WASD to abandon existing septic tanks and to connect to the county collection system.

Sanitary Sewer Level-of-Service (LOS)

The majority of the land area within the City of Doral is connected to WASD's sanitary sewer system for wastewater treatment. Sanitary sewer facilities maintained by the Miami-Dade County WASD are subject to the level-of-service standards established in the Miami-Dade County Comprehensive Development Master Plan (CDMP):

System LOS The regional wastewater treatment and disposal system shall operate with a design capacity of two percent above Annual Average Daily Flow (AADF) for the proceeding year.

User LOS The system shall maintain the capacity to collect and dispose of 100 gallons of sewage per capita per day.

The Miami-Dade County WASD wastewater treatment system had trouble meeting both level of service standards established in the county's CDMP before 1994. Since that time, the system level of service standard has been maintained through a series of treatment plant expansions, re-ratings, and aggressive maintenance procedures to reduce water infiltration and inflow into the sewage treatment system. The county's water

infiltration and inflow program is expected to keep sewage treatment system demands within current projections into the future.

Septic Tanks

Septic tanks serve as a form of sanitary sewer collection, treatment, and disposal for some commercial and single family residential land uses within the City of Doral. Miami-Dade County discourages the use of septic tanks for sanitary sewer disposal. The county cites the vulnerability of the shallow Biscayne Aquifer to contamination from bacteria found in wastewater effluent infiltrating into groundwater as a result of aging and faulty septic tanks and the proximity of the water table as the primary reasons.

Miami-Dade County has been restricting septic tanks countywide since 1972. Furthermore, the use of septic tanks as a means for the disposal of domestic liquid waste is restricted within wellfield protection areas, as well as density restrictions for development on septic tanks and sewers are in effect within the Basic Protection Area west of the HEFT. Most of the land uses within wellfield protection areas are served by the sanitary sewer system, and land without such service are generally designated residential estate to try to maintain low densities to minimize potential harm to the aquifer.

The City of Doral currently does not have any wellfields identified within its jurisdictional boundaries. However, the western limits of the City of Doral lie within a wellfield protection zone. Therefore, septic tanks are not prohibited under the county's criteria, although there is considerable potential for contamination in the city, given the age of the existing septic tanks serving the area. Additional septic tanks should not be permitted for the disposal or discharge of industrial or other non-domestic waste, nor should they be permitted where a seasonally high water table will impair proper functioning. The city should coordinate with WASD to obtain an accurate account of all permitted septic tanks within its jurisdictional boundaries to evaluate the feasibility of eliminating active tanks in areas where connection to WASD's sanitary sewer system is practical. The first step in this process is for the city to enter into an agreement with Miami-Dade County WASD as discussed in the Intergovernmental Coordination Element. The process established through the interlocal agreement has continued to achieve the objective of limiting new septic tank permits that are issued and encourage septic tank abandonment within Miami-Dade County.

Sanitary System Analysis

The majority of the City of Doral utilizes the county's wastewater treatment system. The first measurement under the county's level of service standard requires that the "system" component of the wastewater facility operate below 102 percent of the previous year's average daily flow. A comparison of the projected treatment capacity to the 102 percent of the previous year's average annual daily flow (AADF) requirement, from 1995 to 2020, is presented in Table 4-2. According to the best available data, the capacity of the WASD sanitary sewer system will continue to exceed the 102 percent requirement through 2020.

Table 4-2. Wastewater System Capacity and Demand Comparison, 1995 – 2020

Year	Treatment Capacity (MGD)	102% of Previous Year's Average Daily Flow (MGD)
1995	427.60	396.78
2000	454.77	399.13
2005	495.03	451.55
2010	520.03	487.36
2015	563.03	517.34
2020	563.03	547.74

Source: Miami-Dade County Adopted 2003 Evaluation and Appraisal Report, Water, Sewer, and Solid Waste Element

The "user" portion of the county's adopted level of service standard is 100 gallons per capita per day. Based on 2000 Census data, Doral's current population of 20,438 generates approximately 2.04 MGD in wastewater impacts, or 0.45 percent of the countywide treatment capacity reported for the Year 2000.

Future Projects, Programs, and Policies

As mentioned earlier, the county's level of service standard will be maintained in the portions of the City of Doral served by the WASD wastewater collection system through the long range planning horizon based on the current system. To date, there are no sanitary sewer improvement projects programmed or planned by the City of Doral. However, based on the current system this could change if the city should enter into an agreement with WASD for replacing septic tanks.

The City of Doral relies heavily on the county to administer sanitary sewer services. The city's Infrastructure Element should include goals, objectives, and policies that emphasize the need to effectively coordinate with Miami-Dade County to ensure efficient provision of wastewater treatment for existing and future development within the City of Doral at adopted level of service standards.

Conservation Measures

Although discouraged, if areas in the city perform collection, transmission, and disposal of wastewater through the use of septic tanks, it is imperative that the action is in compliance with county, state, and federal policies. Generally, residential development in the city served by septic tanks ranges from one dwelling unit per acre (i.e., residential estate) to three dwelling units per acre (i.e., single family). The soil types evident throughout the single-family residential areas are classified as Peats and Mucks, Sands, and man-made lands. According to the Miami-Dade County Health Department, these soil types are deemed suitable for urban development, including the use of septic tanks.

Although the use of septic tanks in residential areas of the City of Doral does not appear to pose an immediate threat to public health, the city should adopt goals, objectives, and policies for reducing the proportion of residences and commercial establishments within

the city using private wastewater treatment facilities. The primary concern associated with septic tanks is the possibility of surficial groundwater contamination from mishandling or structural deterioration of individual tanks. The City of Doral should coordinate with WASD and regional permitting agencies to develop long range plans that abandon the use of septic tanks over time and provide WASD sanitary sewer service to the entire city.

The city should implement wastewater system improvements pledged in agreements made between Miami-Dade County, FDEP, and the United States Environmental Protection Agency (EPA). The city should maintain a regular, ongoing inspection and repair program for existing sewers, and schedule substandard collector systems for rehabilitation or replacement.

In providing improvements for the sanitary sewer collection system, the following additional criteria shall be considered:

1. Location within a public water supply wellfield protection zone.
2. Potential for the disposal of waste, other than domestic waste.
3. Designation of areas of the land use plan map for a use more intense than residential estate.
4. Potential for impacts on existing private wells.
5. Areas with low land elevation in conjunction with a high water table.
6. Proximity to existing sewer mains.
7. Existing moratoriums.

The City of Doral is encouraged to coordinate with the Miami-Dade County Wastewater Facilities Plan. The Plan is updated on a regular basis. The county maintains procedures to ensure that any facility deficiencies are corrected and that adequate capacity will be available to meet future demands.

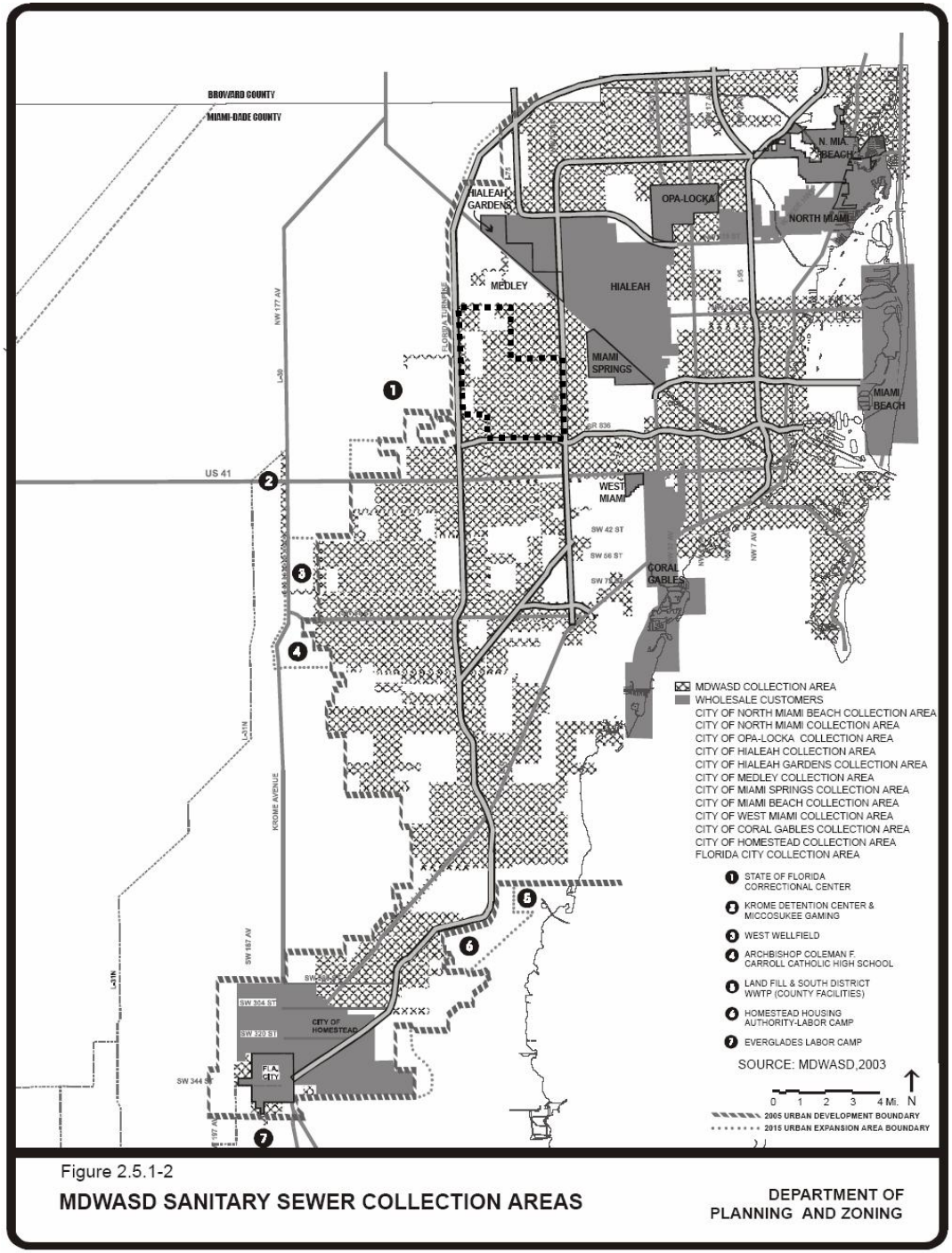

Figure 2.5.1-2

MDWASD SANITARY SEWER COLLECTION AREAS

DEPARTMENT OF PLANNING AND ZONING

CITY OF DORAL

MDWASD System

Map IV-3

Legend

Doral City Limit

N
W E
S

Not to Scale

Source: Miami-Dade County Evaluation and Appraisal Report (adopted October 28, 2003).

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SOLID WASTE SUBELEMENT

The Solid Waste section of the Infrastructure Element was established based upon the 2003 Evaluation and Appraisal Report (EAR) for the Water, Sewer and Solid Waste Element of the Miami-Dade County CDMP. As a result, most of the information described below is new and baseline data was not always available. The best original data available was compared to current data in the evaluation.

Inventory of Existing Conditions

The Miami-Dade County Department of Solid Waste Management (DSWM) is responsible for the collection and disposal of commercial and single family residential solid waste generated within City of Doral. The county also provides curbside recycling service to its residential customers. Solid waste from non-residential and multifamily residential properties is collected by private waste haulers and disposed at one of many sites within Miami-Dade County contracted to receive these materials.

Geographic Service Area

The Miami-Dade County DSWM collects residential waste from unincorporated areas and all cities incorporated after February 1996, including the City of Doral. The county also maintains standards for the operation of private waste collection within its jurisdiction that serves primarily commercial and multifamily waste needs. There are five permitted facilities that generate a moderate amount of solid waste in the city, see Map IV-6. These sites generate a variety of solid waste materials that are disposed at the sites described below.

Solid Waste Disposal System

The Miami-Dade County DSWM currently operates three disposal sites, two transfer stations, and 14 neighborhood and trash recycle centers. The solid waste generated within the City of Doral is taken to either the Resource Recovery Facility (RRF), located between NW 74th Street and NW 58th Street, or the Miami-Dade County private disposal facility, located northeast of the RRF. Map IV-4 illustrates the components of the Miami-Dade County solid waste disposal system. The City of Doral should continue to coordinate with Miami-Dade County to ensure adequate collection and disposal of solid waste to the appropriate facilities.

The RRF is owned by Miami-Dade County and operated under a management agreement by Montenay-Dade, Ltd., an affiliate of the Montenay Power Corporation. The RRF converts garbage and trash into refuse-derived fuel that is burned in boilers to produce steam that turns two turbine generators for making electricity. Energy produced from burning the fuel is enough to power the plant and supply the average power needs of 40,000 households per year. The Ash Landfill, located within the RRF facility, is the final disposal site for ashes produced by the RRF as well as ashes produced by a co-generation facility in Palm Beach County.

The most current information provided by DSWM indicates that on an average approximately 1.6 million tons of solid waste is generated within Miami-Dade County each year. The RRF is expected to receive 1.2 million tons of this waste with the

remaining waste transferred to appropriate landfills. In addition to Miami-Dade County facilities, DSWM maintains disposal service contracts with two private disposal facilities in Broward County; Waste Management (up to 500,000 tons per year for 20 years) and Wheelabrator (up to 100,000 tons per year for 7 years). These supplemental arrangements allow for waste delivery flexibility, permitting Miami-Dade County the ability to maintain adequate capacity and meet concurrency requirements even as demand varies into the future.

In order to serve those areas where growth is encouraged and to discourage urban sprawl, the CDMP states that the county shall plan and provide for solid waste disposal services on a countywide basis projected in this element in conformance with the Future Land Use Element. In addition, the City of Doral and Miami-Dade County will need to continue implementing procedures to ensure that existing solid waste facility deficiencies are corrected and that adequate capacity will be available to meet future demands. The achievement of the adopted LOS standards will serve as their own monitoring measures. To meet this objective, the following measures are recommended:

- The annual amount of waste processed at each county disposal facility.
- The annual amount of waste disposed of at each county transfer facility.
- The amount of waste processed at private disposal facilities or exported out of the county.

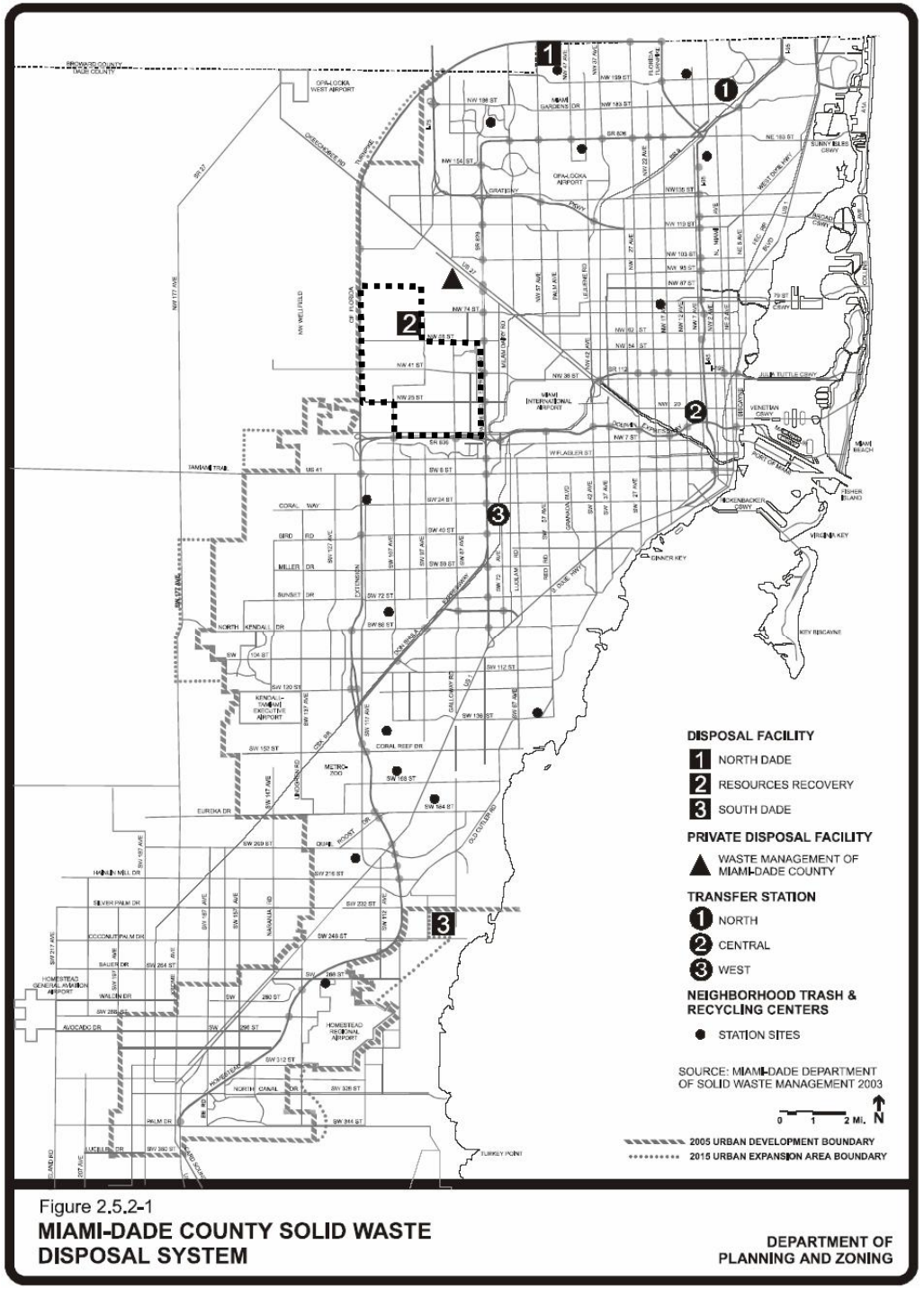

Figure 2.5.2-1
MIAMI-DADE COUNTY SOLID WASTE DISPOSAL SYSTEM

DEPARTMENT OF PLANNING AND ZONING

CITY OF DORAL

Miami-Dade County Solid Waste Disposal System

Map IV-4

Legend

Doral City Limit

N
W E
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Not to Scale

Source: Miami-Dade County Evaluation and Appraisal Report (adopted October 28, 2003).

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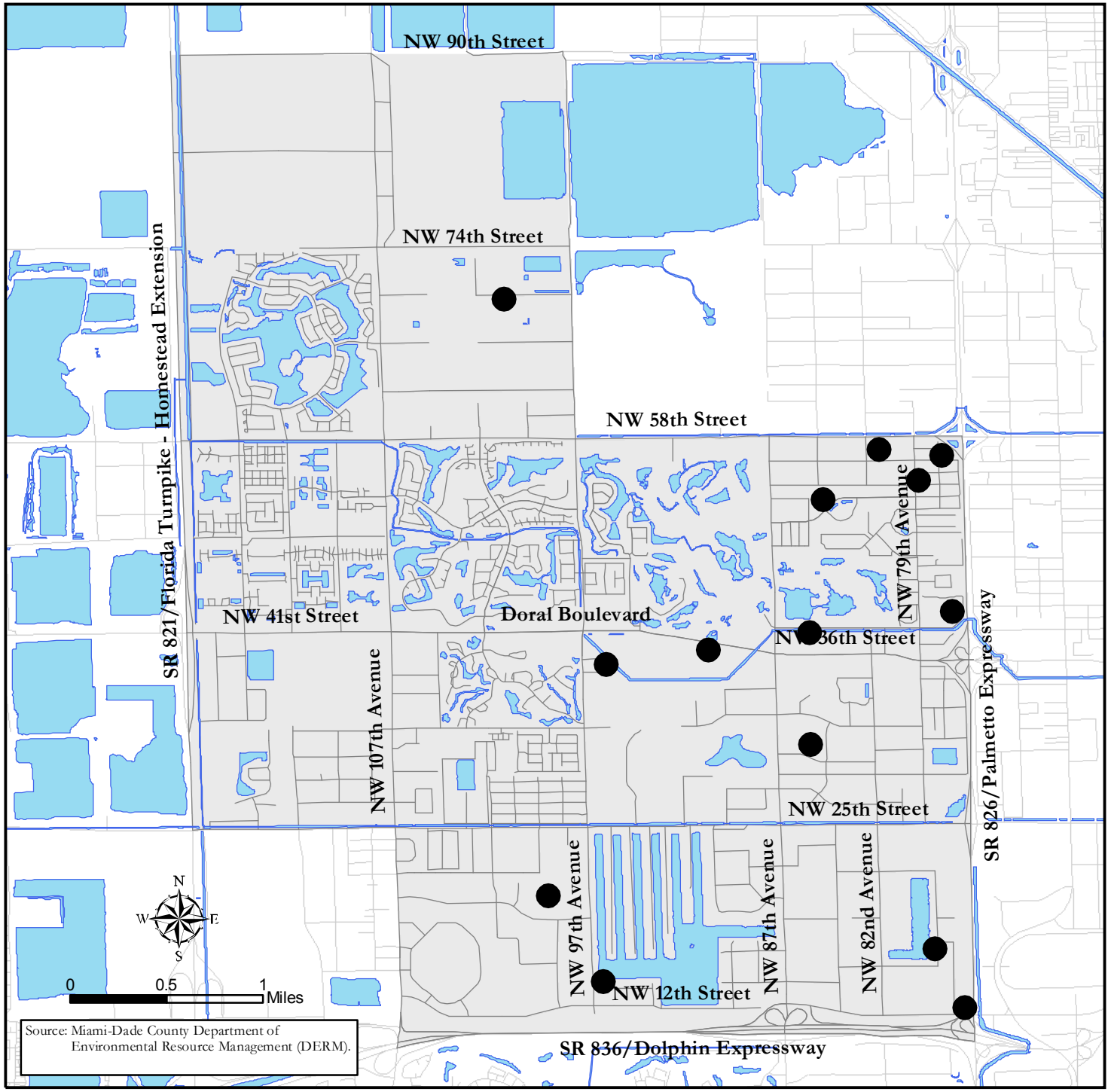

CITY OF DORAL

DERM Industrial Waste Permitted SItes

Map IV-5

Legend

- Permitted Sites
- Doral City Limit
- Water Bodies

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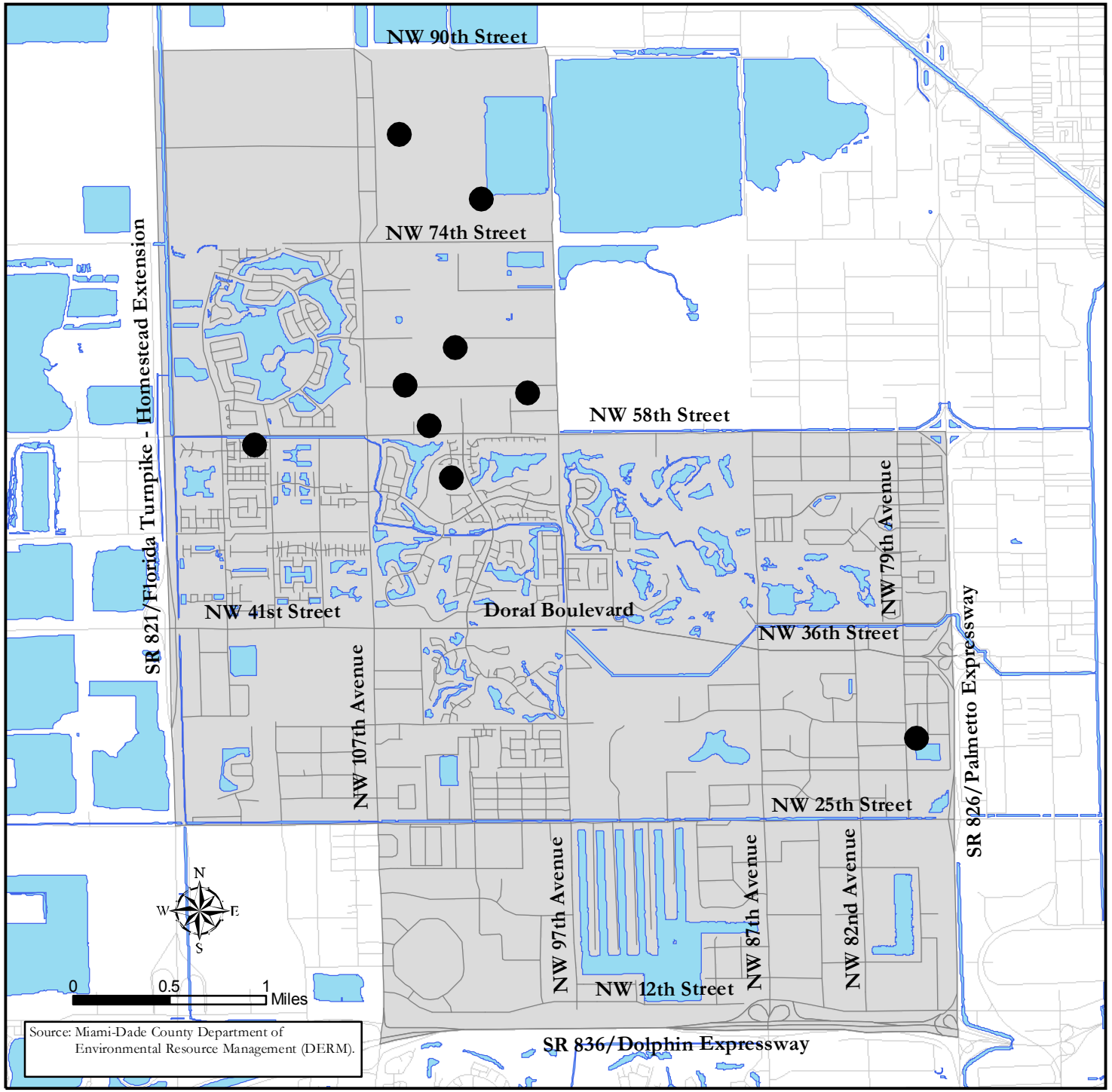

CITY OF DORAL

DERM Solid Waste Permitted Sites

Map IV-6

Legend

- Solid Waste Sites
- Doral City Limit
- Water Bodies

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Design Capacity of Disposal Facilities

The 2003 Miami-Dade County EAR documents the base design capacity and estimates the total number of years remaining for disposal facilities within Miami-Dade County, under the county's currently adopted level of service standard for solid waste service. Based on this information, the RRF is designed to process 23,192 tons of solid waste each week, or 1.206 million tons per year. The supporting ash landfill has a capacity of over 3.15 million tons and an estimated remaining lifespan of 18 years (as of 2003). The South Dade Landfill has capacity of 9.148 million tons and an estimated remaining lifespan of 29 years (as of 2003).

Current Demand on Solid Waste System

The Miami-Dade County DSWM estimates that approximately 2.9 million tons of waste was disposed during Fiscal Year 2002, including an estimated 538,924 tons disposed at non-Miami-Dade County facilities. In that same period, DSWM reports that 293,185 active residential accounts were maintained in Miami-Dade County. The current per capita waste generation rate for estimating demand on the solid waste system is 9.4 pounds per capita per day (FDEP). The 2004 population for the City of Doral represents approximately 30,031 tons of the annual solid waste generated in Miami-Dade County. This accounts for only 1.04 percent of the 2.9 million tons of waste generated in all of Miami-Dade County for Fiscal Year 2002.

Solid Waste Level of Service

Miami-Dade County's current level of service standard for solid waste facilities is to maintain solid waste disposal capacity sufficient to accommodate waste flows committed to the system through long-term agreements or service contracts with local municipalities as well as anticipated non-committed waste flows for a period of five years. Consistent with the county's level of service standard, the City of Doral will have to adopt a policy consistent with the minimum five year capacity standard as well as use the local generation rate from FDEP for estimating solid waste impacts.

In order to serve those areas where growth is encouraged and to discourage urban sprawl, the CDMP states that the county shall plan and provide for solid waste disposal services on a countywide basis projected in this element in conformance with the Future Land Use Element. In addition, the City of Doral and Miami-Dade County will need to continue implementing procedures to ensure that existing solid waste facility deficiencies are corrected and that adequate capacity will be available to meet future demands. The achievement of the adopted LOS standards will serve as their own monitoring measures. To meet this objective, the following measures are recommended:

- The annual amount of waste processed at each county disposal facility.
- The annual amount of waste disposed of at each county transfer facility.
- The amount of waste processed at private disposal facilities or exported out of the county.

Recycling Efforts

Under the DSWM contract, residents within City of Doral participate in the county's curbside recycling program that was introduced in 1990. The program accepts newspaper, corrugated cardboard, aluminum, ferrous metals, glass containers, aseptic packages, plastic, household batteries, and telephone books. The program currently serves an estimated 317,000 households in the unincorporated areas and selected municipalities, including the City of Doral. Also, since 1992, commercial and multifamily establishments within Miami-Dade County are required to provide on-site recycling programs. The DSWM has been active in the education and enforcement aspects for implementing the recycle program. Through these and other programs, the county is moving forward with achieving compliance with the state's recycling goals. In 2001, the countywide recycling rate was reported at 20.3 percent. However, this is still below the minimum requirement of 30 percent set forth in Section 403.706(4)(a) of the Florida Statutes and enforced by FDEP.

Home Chemical Collection Program

The county operates a program to assist residents in disposing household hazardous wastes, such as pesticides, solvents, oil-based paints, auto fluids, and other home chemical materials. Home chemicals can be dropped off at the Permanent Home Chemical Collection Center located at 8831 NW 58th Street.

Projected Capacity and Demand

The projected solid waste generation in Miami-Dade County for the years 2000 through 2015 is reported in Table 4-3. This is the best available data from DSWM. In their projections, the DSWM estimates constant demand over the 15-year planning horizon at approximately 1.61 million tons of solid waste per year. This represents anticipated waste generated each year through contracts with municipalities and private haulers who have committed their waste flows to the system through agreements or long term contracts plus anticipated non-committed waste flows in accordance with the county's adopted level of service standard. This determination is contingent upon the continued ability of the county and its disposal service contract providers to obtain and renew disposal facility operating permits from applicable federal, state, and local agencies.

Table 4-3. Solid Waste Generation, 2000-2015

YEAR	Countywide Generation	Amount to Ashfill	Remaining Capacity
2000	1,610,000	163,000	2,848,000
2005	1,610,000	163,000	2,033,000
2010	1,610,000	163,000	1,218,000
2015	1,610,000	163,000	403,000

Note: All figures are in tons per year.
Source: Miami-Dade County Department of Solid Waste Management, 1996

Using the county's level of service standard, capacity for the ash fill site should be sufficient to meet demand until 2013 with actual capacity not being reached until 2018. At the time the ash fill site is deemed full, DSWM has committed to transport ashes to the South Dade or North Dade Landfill for cover material.

Future Projects, Programs, and Policies

The county's solid waste level of service will be maintained through the planning period with operation of the countywide solid waste management system in Miami-Dade County. The ability of that system to meet future solid waste needs at the adopted LOS has been shown in this DIA Report. Since the system is entirely owned and operated by the county, no solid waste facilities or improvements are planned by the City of Doral. However, the city will need to coordinate with Miami-Dade County to educate its residents and businesses to encourage their active participation in the waste recycling and chemical collection programs.

NATURAL GROUNDWATER AQUIFER RECHARGE AREAS SUBELEMENT

The management of surface water and groundwater resources is an important issue to the long-term environmental quality within the City of Doral. It is generally recognized that many water management issues are addressed and regulated by either regional water management districts or other state and federal agencies. However, land use decisions made by the local government have the potential to impact natural resources, both positively and negatively, as vacant land is developed and the impacts to the environment are mitigated. As such, the City of Doral should regulate new development within its borders in conformance with best management practices that conserve natural groundwater aquifer recharge areas.

Identification of Prime Recharge Areas

The South Florida Water Management District (SFWMD) has not identified any areas within the City of Doral as prime groundwater recharge areas for the Biscayne Aquifer. However, the relatively low-density residential development pattern and vacant land does make portions of the City of Doral favorable to natural groundwater recharge. The city should coordinate with representatives of the Miami-Dade County Department of Environmental Resource Management (DERM) and SFWMD to determine whether any areas of the city could be considered as potential groundwater recharge areas.

Surficial Aquifer

The top of the surficial aquifer within the City of Doral is generally located between three and five feet below ground surface, but may be much closer depending upon the amount of rainfall. Rainfall generally recharges the surficial aquifer, and as such, the water table depth fluctuates with the amount and intensity of the rainfall in the area.

Major Natural Drainage Features

Major natural drainage features are typically defined as those that occur naturally in areas that accommodate the flow of stormwater, including streams, rivers, lakes, and wetlands. There are no significant natural drainage features located within the City of Doral. Most of the water resources within Doral are generally the result of man-made drainage systems, including the C-6 Drainage Basin.

The man-made drainage features within the City of Doral have been inventoried in the Drainage section of the Infrastructure Element and the Conservation Element. The City of Doral follows the stormwater management requirements set forth by both Miami-Dade County DERM and SFWMD, as they apply to the canal system. Generally, SFWMD is responsible for maintaining the larger canals while smaller tributaries within the drainage system are the responsibility of DERM. Typically, the drainage system is such that the smaller canals move runoff from the surrounding land area to SFWMD regional canals. Therefore, the likelihood for flooding is reduced when each new development is required to retain a portion of new run-off on site. This also increases the available capacity for local and regional canals.

Existing Natural Drainage and Recharge Area Regulations and Programs.

Additional federal, state, county, and local regulations or programs impacting development and/or resource conservation within the City of Doral are discussed in the following sections.

Federal Regulations

Section 208 of the Federal Water Pollution Control Act (PL92-500, 1972) serves as the directing federal law with respect to water pollution abatement. In implementing the Act, the US EPA identified pollutants carried in stormwater runoff as a major source of water contamination. To achieve the pollution abatement goals of the Act, the EPA provided assistance to state and local governments for developing Area Wide Water Quality Management Plans, or "208 Plans" as they are commonly known. These 208 Plans study a broad range of potential water pollution sources, including stormwater, and focus on identifying pollutant sources and abatement needs as well as development of regulatory programs to ensure implementation.

The City of Doral is not currently in the process of submitting an application to the US EPA for certification under the National Pollutant Discharge Elimination System (NPDES). For information purposes, the application generally consists of:

- An inventory of stormwater facilities.
- A dry weather (non-stormwater) sampling program.
- Discharge characterization that includes stormwater flow sampling to document water quality parameters; pollutant load estimation; and long-term monitoring plans.
- A proposed management program that includes a description of structural and source control measures to reduce stormwater runoff pollutant loads; description of a program for best management practices at construction sites; and an assessment of the potential effectiveness of these programs to reduce the pollutant load.

The information required for the application should be prepared as part of a stormwater master plan for the City of Doral. Once the city is awarded responsibility for development review and stormwater infrastructure, it should pursue becoming a part of Miami-Dade County's Application to the US EPA's NPDES Stormwater Permitting Program.

State Regulations

The FDEP has adopted a Stormwater Rule (Chapter 62-25, Florida Administrative Code (F.A.C.)) to fulfill part of the state's responsibilities under Section 208 of the Federal Water Pollution Control Act. The objective of the rule is to achieve 80 to 95 percent removal of stormwater pollutants before discharging it to receiving waters. Implementation of the stormwater rule is achieved through the permitting process. FDEP has delegated permitting responsibility to SFWMD and Miami-Dade County DERM. This rule requires treatment of the first one inch of runoff for sites less than 100 acres in size and the first 0.5 inch of runoff for sites over 100 acres in size. Treatment is generally

accomplished through retention or detention with filtration. Retention requires the diversion of the required volume of runoff to an impoundment area with no subsequent direct discharge to surface waters. Pollutants are removed by settling and by percolation of stormwater through soil. Detention facilities are typically within the line of flow for the drainage system. Stormwater from a site passes through the detention facility and is filtered to remove pollutants prior to discharge to a surface water body.

County Regulations

Miami-Dade County has an adopted 208 Plan that is administered by DERM. Implementation of the plan is accomplished through the county's stormwater management permitting process.

Subdivision Regulations

These regulations establish standards for subdivision design that encourage and lead to the development of healthy environments.

Zoning Regulations

Zoning regulations, a flood damage prevention ordinance, and subdivision regulations accomplish an adequate degree of protection for natural drainage and groundwater recharge areas. These regulations define the type of development that may occur on a given site and provide performance standards governing the scale and design of development options. The zoning regulations also mandate minimum standards for preservation of open space as well as standards for maximum building coverage.

POTABLE WATER SUBELEMENT

This section evaluates the current potable water system serving the City of Doral and regional treatment facilities that serve the city. Potable water facilities typically include a system of structures designed to collect, treat, or distribute potable water and may include water wells, treatment plants, reservoirs, and distribution mains.

Inventory of Existing Conditions

Potable water facilities are defined in Rule 9J-5.003, F.A.C. as "a system of structures designed to collect, treat, or distribute potable water, and includes water wells, treatment plants, reservoirs and distribution mains."

Geographic Service Area

The City of Doral receives water service from Miami-Dade County WASD. The Biscayne Aquifer is the source of potable water in Miami-Dade County. The City of Doral is primarily served by the Hialeah-Preston Treatment Plant. WASD is responsible for maintaining the distribution and treatment facilities that serve the City of Doral. The city receives its potable water from WASD's water supply system, but a small percentage of residential properties may obtain potable water for irrigation purposes via private wells. Wellfield protection areas are designated by the Miami-Dade County Department of Environmental Resources Management to protect groundwater that serves as the source of drinking water. Private wells are not included in wellfield protection areas.

Service Areas

The Miami-Dade County WASD serves the area within the City of Doral, between NW 90th Street to the north, State Road 836 to the south, State Road 826 to the east, and the Florida Turnpike to the west, comprised mostly of residential land uses. The majority of commercial and office land use areas within the City of Doral are also served by the WASD system.

Potable Water Level of Service

The adopted Miami-Dade County CDMP establishes a level of service standard for potable water that contains four components as follows:

Regional Treatment: The regional treatment system shall operate with a rated capacity no less than two percent above the maximum daily flow for the preceding year.
User LOS: The system shall maintain the capacity to produce and deliver 200 gallons per capita per day.
Water Quality: Water quality shall meet all federal, state, and county primary standards for potable water.
Countywide Storage Capacity: Storage capacity for finished water shall equal no less than 15 percent of the countywide average daily demand.

Regional Design Capacity

Potable water distributed by Miami-Dade County WASD to the City of Doral is treated using the lime-softening method. Information on potable water capacity from WASD is only available as it relates to the entire Miami-Dade County system. In 2002, system wide water treatment plant capacity was 454.8 MGD, and peak water demand was 391.3 MGD. According to the latest Miami-Dade County EAR, the capacity of the WASD potable water system has met the county's LOS requirements for the last five years.

Regional Storage Capacity

Finished or treated water in the county is generally stored in ground reservoirs or elevated tanks, and storage systems are usually equipped with pumps and valves for operation. Finished water storage allows the system to meet domestic, industrial, and fire demands. WASD uses the finished water storage system to provide water during source or pump failures, as well. According to WASD, the finished water storage capacity standard of 15 percent has been met continuously since 1995. Finished water storage capacity of 93.8 million gallons was available at the Hialeah-Preston and Alexander Orr Water Treatment Plants in 2002, almost double the 15 percent specified in the LOS standard.

Minimum Fire Flows

Miami-Dade County requires water pressure between 20 and 100 pounds per square inch (psi) to be delivered to users, with a schedule of minimum fire flows based upon land uses served. Table 4-4 illustrates the minimum fire flows for various land uses. These fire flows are maintained by WASD on a system wide basis.

Table 4-4. Minimum Fire Flows LOS

Land Use	Minimum Fire Flow (gal/min)
Single Family Residential/Estate	500
Single Family, Duplex, and Residential on minimum lots of 7,500 square feet	750
Multifamily Residential; and Semiprofessional Offices	1,500
Hospitals; Schools	2,000
Business; Industry	3,000

Source: Miami-Dade County, 2002

Existing and Projected Potable Water Demand

Based on the current population, expected population growth, and an average demand of 200 gallons per capita per day, the average demand for the City of Doral is calculated as shown in Table 4-5. The city should coordinate with WASD to ensure that the city's potable water demand is included in WASD's Water Supply Plan.

Table 4-5. Existing and Projected Potable Water Demand for the City of Doral

YEAR	POPULATION	POPULATION SERVED	GALLONS/CAPITA/DAY	AVERAGE DEMAND (MGD)
2000	21,000	21,000	200	4.20
2004	30,285	30,285	200	6.06
2005	33,633	33,633	200	6.73
2010	46,266	46,266	200	9.25
2015	59,323	59,323	200	11.7
2020	72,659	72,659	200	14.5

Source: Kimley-Horn & Associates, Inc., 2004

Existing and Projected Agricultural Water Demands

The City of Doral has limited agricultural uses; therefore, the existing and projected agricultural water demand is not a relevant issue regarding potable water demand.

Existing and Projected Commercial and Industrial Water Demands

Given the limited vacant land for expansion of commercial land uses, the City of Doral is not anticipating any substantial increase in water demands for commercial or industrial uses.

DRAINAGE SUBELEMENT

Inventory of Existing Conditions

Drainage facilities are defined in Rule 9J-5.003, F.A.C., as "a system of man-made structures designed to collect, convey, hold, divert, or discharge stormwater, and includes stormwater sewers, detention structures, and retention structures."

In 1987, the United States Congress established the Clean Water Act. Section 402(p) of that document mandated that the US EPA formulate a stormwater-permitting program. Under this mandate, the EPA promulgated stormwater regulations in 1990, establishing the NPDES. In the state of Florida, the DEP is the agency responsible for implementing the NPDES program. Under the NPDES program, FDEP requires each county in Florida to apply for, and meet the requirements of the Municipal Separate Storm Sewer System (MS4) Permit. These MS4 permits include municipalities, the Florida Department of Transportation, and Tribal Governments as co-permittees responsible for meeting permit requirements.

The City of Doral was incorporated in 2002. SFWMD and Miami-Dade County currently regulate and/or operate all stormwater management facilities and programs within the city's boundaries. The City of Doral has not yet become a co-permittee under the Miami-Dade County MS4 permit. However, the City of Doral is encouraged to prepare a stormwater master plan and evaluate taking control of this stormwater infrastructure. In preparation for assuming responsibility for stormwater infrastructure, the City of Doral will be required to become a co-permittee on the Miami-Dade County MS4 permit.

Drainage System Geographic Service Area

The City of Doral is located in the C-6 Canal Basin within Miami-Dade County. The boundaries of the C-6 Canal Basin have been delineated by the Miami-Dade County DERM and SFWMD. As part of the Miami-Dade County Stormwater Master Plan process, DERM divided the C-6 Basin into drainage sub-basins based on topography, land use, and drainage characteristics.

Types of Land Uses Served

The Future Land Use Element describes existing and projected land use, including a tabular profile and maps of existing and future land use. According to the existing land use map, the City of Doral is not completely built out and has potential for increased stormwater runoff and drainage problems with future development. The primary objective for the City of Doral's future stormwater master plan is to inventory the existing system and develop a plan to correct existing deficiencies.

Field Analysis

This section addresses runoff from residential and commercial areas, industrial sites, construction sites, and includes a program to eliminate illicit discharges and improper disposal of wastes into the storm sewer system. An assessment of the stormwater management system within the City of Doral shall be conducted in two phases.

- **1st Phase**. This assessment will include a review of drainage complaints filed with Miami-Dade County DERM, Miami-Dade County Public Works, and the City of Doral.
- **2nd Phase**. This assessment will include an evaluation of drainage structures within the City of Doral. Geographic Information System (GIS) data provided by DERM will be used to locate and map the majority of the drainage structures which mostly consist of catch basins and exfiltration systems (i.e., french drains, trench drains). Approximately 200 of these structures will be chosen for field evaluation.

Potential Causes for Roadway Flooding

Some of the potential causes of roadway flooding that may be discovered during the drainage structure inventory are described below:

- **Low areas without adequate infrastructure.** Areas in the City of Doral where ponding within the roadway is typical may consist of low areas with inadequate drainage infrastructure to convey water away from the roadway. This situation occurs most frequently at residential intersections, but there are some areas along the roadways where positive drainage does not exist.
- **Clogged inlets and pipes.** The situation occurs when leaves and other debris accumulate on the surface of the drainage inlet covers, restricting the flow of water into the catch basin. Even when the asphalt apron and top of grate does not have debris on it, the bottom of the structure could be filled with leaves, dirt, and various forms of debris. Another potential problem is exfiltration trenches not permeating water through the structure efficiently due to excessive roots and debris within the trench.
- **No baffles in exfiltration trench.** Grease and oil accumulation reduces the drainage effectiveness and lifespan of the exfiltration trench. The City of Doral shall ensure that any new storm basin installed will contain pollution retardant baffles to prevent the accumulation of grease and oil within the exfiltration trench.
- **Future Development.** The intensity of future development (impervious areas) in the City of Doral is the primary measure to monitor the current level of service of the existing drainage system. Additional drainage structures and conveyance methods are vital to the overall stormwater management system that serves Doral.

Drainage System Analysis

Level-of-Service Standards

The City of Doral should adopt the following system wide drainage level-of-service standards for redevelopment and new development:

- **Water Quality Standard.** Stormwater facilities shall be designed to meet the design and performance standards established in Chapter 62-25, Rule 25.025, F.A.C., with treatment of the runoff from the first one inch of rainfall onsite to meet the water quality standards required by Chapter 62-302, Rule 862-302.500, F.A.C. Where two or more standards impact a specific development, the most restrictive standard shall apply:

- Post-development runoff shall not exceed the pre-development runoff rate for a 25-year storm event, up to and including an event with 24-hour duration.
- Treatment of the runoff from the first one inch of rainfall onsite or the first 0.5 inch of runoff from impervious areas, whichever is greater.
-

Basin Evaluations

As part of the stormwater master plan process, sub-basins will be selected as a priority for more detailed analysis. The development of the priority sub-basins will be based on several factors including:

1. Magnitude of observed flooding
2. Flood complaint records
3. City input
4. Condition of existing roadways
5. Proximity to other priority sub-basins
6. Relative traffic volumes on the affected roadways
7. Maintenance of system wide LOS standards

Based on the review of the drainage deficiencies identified during field analysis, the City of Doral will select several priority drainage sub-basins for more detailed analysis. The drainage sub-basins will be evaluated based on system wide LOS standards and the following performance goals:

Water Quality Treatment Performance Goals

The drainage basins that discharge into lakes should have water quality pretreatment equal to the volume of the first ½-inch of runoff. Drainage basins which discharge into the C-6 Canal should have water quality pretreatment equal to the greater volume of the first ½-inch of runoff or 2.5 times the percent impervious. This goal ensures that the drainage improvements meet federal, state, and county water quality pretreatment standards.

Water Quality Performance Goals

During the five-year return design storm event, the roadway local and collector travel lanes flooding should not exceed the crown of the road. This goal is consistent with the SFWMD basis of design criteria; but it is a higher standard than the Miami-Dade County requirement that collector and local streets be passable during the five-year storm event.

During the 10-year return design storm event, flooding of minor arterials should be below the crown of the roadway. This is a higher standard than the Miami-Dade County requirement that minor arterials (four-lane roads) be passable during the 10-year storm event. According to Miami-Dade County standards, the term "passable" means the depth of flooding should not exceed eight inches above the crown of road. During the 100-year return storm event, the flooding should be below the building finish floor elevations. This standard is the same as the current Miami-Dade County standard.

The calculations utilized to evaluate the performance goals will be based on the readily available information, which provides an overview of each area. The overview identifies if the areas have water quality pretreatment which meet current standards and if the area has a positive outfall of sufficient size to meet the hydraulic flooding performance goals. This analysis assumes that the runoff from each area has sufficient roadway slopes or storm drainage infrastructure to convey the stormwater runoff to the existing outfall structure. Because of the general nature of the study and the limited availability of survey information, the Master Plan will not provide a computer analysis of the effectiveness of stormwater conveyance within each drainage sub-basin or sub-basin area. The stormwater conveyance deficiencies within each sub-basin will be typically identified by the onsite observations made during significant storm events and the complaints of the area.

Future Projects, Programs and Policies

Based on the foregoing analysis and maintenance of LOS standards, a five-year capital improvement plan for stormwater improvements will be developed to prioritize and provide the financial resources necessary to plan, construct, operate and maintain the city's stormwater management program. The proposed five-year capital improvement plan will be based on the findings of the assessment of existing drainage conditions within the City of Doral, and the detailed analysis of the sub-basins which were identified as priority basins. Funding for the proposed plan as an option can be generated from establishment of a City of Doral stormwater utility and subsequent enactment of a stormwater management fee citywide.

The capital improvement plan related to stormwater drainage is divided into two components: operation and maintenance and capital improvements.

Operation and Maintenance Plan

The intent of the operation and maintenance plan is to maintain the integrity of the stormwater system. This is accomplished by maintaining the existing stormwater system to provide the level-of-service as it was originally designed. To achieve this goal, periodic observations, routine maintenance and general improvements are required. This section is intended to provide some of the key components and allow sufficient budget to implement these items.

Street Sweeping. This procedure cleans intake structures, reduces debris deposition within the pipe network and contributes to the appearance of the City of Doral. Primarily, street sweeping is a positive maintenance activity that provides measurable benefits. Pollutants such as compounds found in herbicides, pesticides, the harmful by-products of gasoline combustion are adhesive to dirt particles, removing this dirt from the street system will minimize the discharge of pollutants into storm inlets located in system.

Catch basin Maintenance. Catch basin maintenance is a two-step process. This task includes cleaning the external grate to permit stormwater to enter the system and removing sand, silt and debris from the sedimentation chamber of the intake structure.

The catch basins will be cleaned using mechanical and manual methods. In most situations, the catch basins will be cleaned and maintained in response to observations following significant rain events. Deficiencies will need to be immediately addressed to avoid continuous drainage problems after a significant rain event. Under normal conditions, catch basin maintenance is recommended every 12 months. However, because of the potential for foliage and other debris to enter the system, the City of Doral should consider conducting catch basin maintenance more frequently in some areas.

Pipe Flushing. Pipe flushing is typically performed in conjunction with catch basin cleaning and the work needed to perform this task is usually contracted out on an as-need basis. During this procedure, a high-pressure water hose is inserted into the pipe network of concern, which ultimately flushes debris into the downstream catch basin where it can then be removed. Pipe flushing is recommended to be performed every five years.

Swale Mowing. Grassed swales and landscaped medians play an important role in stormwater drainage. Consistent mowing of such features promotes stormwater retention and efficient percolation. The City of Doral should maintain swales and medians within public roadways and parking lots. Individual business owners and residents are mandated through local codes to maintain their facilities. This activity should continue on a scheduled basis.

Minor Repairs and Improvements. The final task conducted to maintain the stormwater collection system is routine improvements and repairs. This task covers activities ranging from the repair of collapsed pipes and manholes to the replacements of catch basin grates. Maintenance activities are performed in response to an immediate problem using the best methods available.

Capital Improvements

The capital improvement component will be based on analysis of the priority sub-basins. Recommended improvements to achieve the stated performance goals will be identified for each priority sub-basin. The recommended improvements will be quantified based on the available data. Preliminary opinions of probable costs will be prepared for each sub-basin. Based on the preliminary budgets, the priority sub-basin improvements will be grouped and phased to provide the proposed five-year capital improvement program. The capital improvement program proposed in this element will correct many pre-existing drainage deficiencies in the City of Doral on a priority basis, and provide for maintenance on system wide drainage LOS standards for all existing and planned land uses.

V. CONSERVATION ELEMENT

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V. CONSERVATION ELEMENT
DATA, INVENTORY, AND ANALYSIS

PURPOSE

The purpose of the Conservation Element is to promote the conservation, conscientious use, and protection of natural resources within the City of Doral. The objective of the Conservation Element Data, Inventory, and Analysis (DIA) Report is to document the conditions for various natural resources found within the city and identify key community priorities for conservation guidelines. The DIA Report also examines the current and projected water needs for the community over the 10-year planning horizon to ensure adequate water supply is available to support future demands consistent with the Infrastructure Element. Together, this information serves as the foundation for goals, objectives, and policies prepared to guide future development within the City of Doral.

IDENTIFICATION & ANALYSIS OF NATURAL RESOURCES

Rule 9-J5.013(1)(a) of the Florida Administrative Code (F.A.C.) requires that a local government inventory and analyze all natural resources found within its jurisdiction. Natural resources may include air, water, wetlands, uplands, groundwater, surface water bodies, floodplains, minerals, soil erosion, wildlife, and vegetative resources. These items are addressed in the following paragraphs.

Climatic Conditions

The most significant environmental element for the City of Doral and the entire south Florida region is the warm, sub-tropical climate. The climatic conditions in Doral and surrounding areas play an important role in the overall environmental system of the area due to their effect on air and water resources. The subtropical marine climate is characterized by warm weather, usually abundant rainfall, and light but persistent winds. Another distinguishing attribute is the length of the rainy season, which in the sub-tropical marine climate lasts for five or six months.

- **Precipitation.** Water resources of south Florida are dependent mostly upon the rainfall in that region. The water needs for the City of Doral and all of Miami-Dade County are almost solely dependent upon the rainfall amount occurring in the identified area. This precipitation supplies regional water resources and adequately recharges the Biscayne Aquifer. Annual rainfall in Miami-Dade County averages nearly 60 inches per year, with approximately 45 inches occurring during the summer months.

- **Temperature.** Seasonal temperature variations play an important role in the ecosystem by directly affecting the loss of water to the atmosphere through evaporation and transpiration. The yearly average temperature range is approximately 20 degrees Fahrenheit, from the high 60's during the winter to the mid 80's in the summer. Temperatures in the area of the City of Doral are generally moderated by trade winds.

- **Winds.** Winds play a significant role in the region's hydrologic process due to their influence on the rate of evaporation from surface waters, soils, and vegetation. Trade winds stabilize the temperature and humidity, allowing drier air to blow off the Atlantic Ocean from east to west. Area wind velocities in the City of Doral are generally characterized by light gusts, although high wind speeds occur with passing storms and frontal systems. Extreme high winds are associated with tropical storms and hurricanes. The annual hurricane season begins June 1 and lasts until November 30. During the summer and fall months, prevailing winds are usually from the east, with varying wind patterns during the remainder of the year.

Surface Water Quality

Water resources within the City of Doral are generally the result of man-made drainage systems. The majority of the city is located within the C-6 Drainage Basin comprised of canals, including the C-6 Canal (see Map V-1). These canals serve three primary functions:

- To provide drainage and flood protection for the C-6 Drainage Basin.
- To supply water to the drainage basin for irrigation.
- To maintain a groundwater table elevation near the lower reach of the C-6 Canal adequate to prevent saltwater intrusion to local groundwater.

In times of low natural flow, water is supplied to the C-6 Canal through the opening of weir structures upstream and closing of downstream weir structures.

Water quality data of the abovementioned canal is available through the Miami-Dade County Department of Environmental Resource Management (DERM). DERM has five surface water monitoring sites located within or near the City of Doral, depicted in Map V-1. Surface water monitoring for the loads and concentrations of the 12 different indicator pollutants are measured at all five locations. These pollutants are identified under the United States Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) regulations and DERM's Planning Criteria and Procedures. The Water Quality Level of Service (WQLOS) component of the standard shall be met when the annual average for each of the following 12 priority indicator pollutants does not exceed the following target criteria.

Table 5-1. Water Quality Level of Service Priority Indicator Pollutants

Pollutant	Target Criteria	Units
5-day Biochemical Oxygen Demand (BOD5)	9	milligrams/liter (mg/l)
Chemical Oxygen Demand (COD)	65	mg/l
Total Suspended Solids (TSS)	40	mg/l
Total Dissolved Solids (TDS)	1000	mg/l
Nitrate-Nitrite (Nox-N)	0.68	mg/l

Pollutant	Target Criteria	Units
Ammonia Nitrogen (NH3-N) & Total Kjeldahl Nitrogen (TKN)	0.5	mg/l
Total Phosphorus (TP)	0.33	mg/l
Orthophosphate, also known as Soluble or Dissolved Phosphorus (DP)	Not Available	mg/l
Total Cadmium (Cd)	0.0023	mg/l
Total Copper (Cu)	0.0258	mg/l
Total Lead (Pb)	0.0102	mg/l
Total Zinc (Zn)	0.231	mg/l

Data collected at the sampling locations is analyzed by DERM and compared to load concentration standards for each pollutant maintained by the federal and county agencies to ensure that the C-6 Canal has not exceeded safe levels. The most recent data collected by DERM includes hydrologic and hydraulic modeling and pollutant loading estimates for existing and future conditions of the C-6 Drainage Basin. Management uses this information as part of its stormwater master plan for the C-6 Drainage Basin to rank and prioritize stormwater problem areas that directly relate to the water quality level of service and flood protection level of service for the C-6 Drainage Basin. DERM is currently finalizing a Stormwater Master Plan for the C-6 Drainage Basin.

The ranking and prioritization of stormwater problem areas that will be identified in the DERM report will help the municipalities within the C-6 Drainage Basin, including the City of Doral, target stormwater capital improvement projects. The intent of these projects is to maintain minimum water quality and flood protection level of service standards for the drainage basin. With proper stormwater management, the City of Doral will help protect its natural resources by ensuring water quality standards are met and lowering the risk for potential flooding into preservation and conservation areas.

The prioritization of problem areas within the C-6 Drainage Basin is based on the overall scores and rankings for water quality and flooding problem areas. The top water quality problem areas documented in the DERM report have relatively high WQLOS measurements, whereas flooding during the 100-year storm and lesser events is significant. Therefore, the top flooding problem areas will be the primary focus for Miami-Dade County to target improvements. The City of Doral may consider preparing its own stormwater master plan to identify additional priority stormwater problem areas and adopt mitigation methods to correct observed deficiencies.

Air Quality

Due to prevailing climate and meteorological conditions, Miami-Dade County traditionally experiences better air quality than most other metropolitan areas in the nation. This is primarily due to the prevailing atmospheric conditions, trade winds, and convective wind activity common to south Florida that mix and diffuse air pollutants. Such favorable atmospheric conditions have a direct relationship with the good air quality enjoyed in the City of Doral. Nonetheless, adverse meteorological conditions, including

limited vertical mixing and slow air-mass movement, do contribute to occasional buildup of emissions at ground level which have resulted in infrequent exceedances of the National Ambient Air Quality Standards (NAAQS) for Miami-Dade County.

Between 1980 and 1988, there were 36 exceedances of NAAQS for ozone particulate matter recorded in Miami-Dade County, including 28 exceedances for ozone and eight exceedances for particulate matter. In addition, carbon monoxide violations ranged from a high of 71 recorded in 1981 on Flagler Street in Downtown Miami to one recorded in 1986. The majority of air pollution in the City of Doral emanates from the burning of coal, oil, and gasoline that result in emissions of carbon monoxide, nitrogen dioxide, and sulfur dioxide in the atmosphere. If combustion is not complete, hydrocarbons result ultimately contributing to failed atmospheric protection from the sun's ultraviolet rays. There were no recorded exceedances of NAAQS near the City of Doral reported in the 2003 Miami-Dade County Evaluation and Appraisal Report (EAR).

Miami-Dade, Broward, and Palm Beach Counties were designated by the US EPA as a moderate non-attainment area for ozone with a deadline of 1996 to conform to federal standards. This requirement lead to Miami-Dade County participating in Stratospheric Ozone Protection, which is a stationary source reduction and vapor recovery program aimed at controlling ozone precursors. As a result, Miami-Dade County has had only one ozone exceedance since 1988 and it was reported in northwest Miami-Dade County (1990). In addition, state and local agencies in south Florida initiated several new pollution control programs to meet the EPA's deadline. With validated air monitoring data available for the local airshed, the tri-county agencies demonstrated conformance with NAAQS and were in a position to qualify and apply for redesignation to ozone attainment/maintenance status. The tri-county area redesignation request was submitted to the US EPA through the Florida Department of Environmental Protection (FDEP) in November 1993. The EPA subsequently approved the redesignation request on April 27, 1995.

The Miami-Dade County DERM currently maintains 12 air quality monitoring locations. Map V-2 illustrates the location of these stations. The City of Doral has no air monitoring stations within its boundaries. The closest station is the West Airport site, located on the southeast corner of Milan Dairy Road and NW 41st Street, nearly within the city's limits. This site monitors ozone and carbon monoxide gases. Dosage levels can routinely fluctuate due to presence of the nearby Miami International Airport and surrounding industrial complexes. The City of Doral is encouraged to coordinate with Miami-Dade County to perform air pollutant tests of the identified area if signs of air pollution are evident.

Floodplains

he majority of land within the City of Doral is located within an area subject to flooding from a 100-year and 500-year storm. A minute area within the western portion of Doral is Zoned (X), which identifies that area outside of the 100-year floodplain. Observations are based on flood maps maintained for the National Flood Insurance Program (NFIP)

administered by the Federal Emergency Management Agency (FEMA). Specifically, the city lies within the following FEMA flood zones:

Special Flood Hazard Areas Inundated by 100-year Flood

- Zone AE – Base flood elevations determined

Other Flood Areas

- Zone X – Areas of 500-year flood; areas of 100-year flood with average depths of less than one foot or with drainage areas less than one square mile; and areas protected by levees from 100-year flood

Other Areas

- Zone X – Areas determined to be outside 500-year floodplain

The City of Doral encompasses approximately 9,874 acres in total area and approximately 9,380 acres (95%) of this land area is identified as being located within one of the three flood zone categories identified above. As such, Doral should monitor construction activity within floodplain areas and, where necessary, regulate new construction to reduce future flood risk. In addition, the City of Doral should take measures to regulate development within an identified floodplain by passing a floodplain ordinance and joining the NFIP.

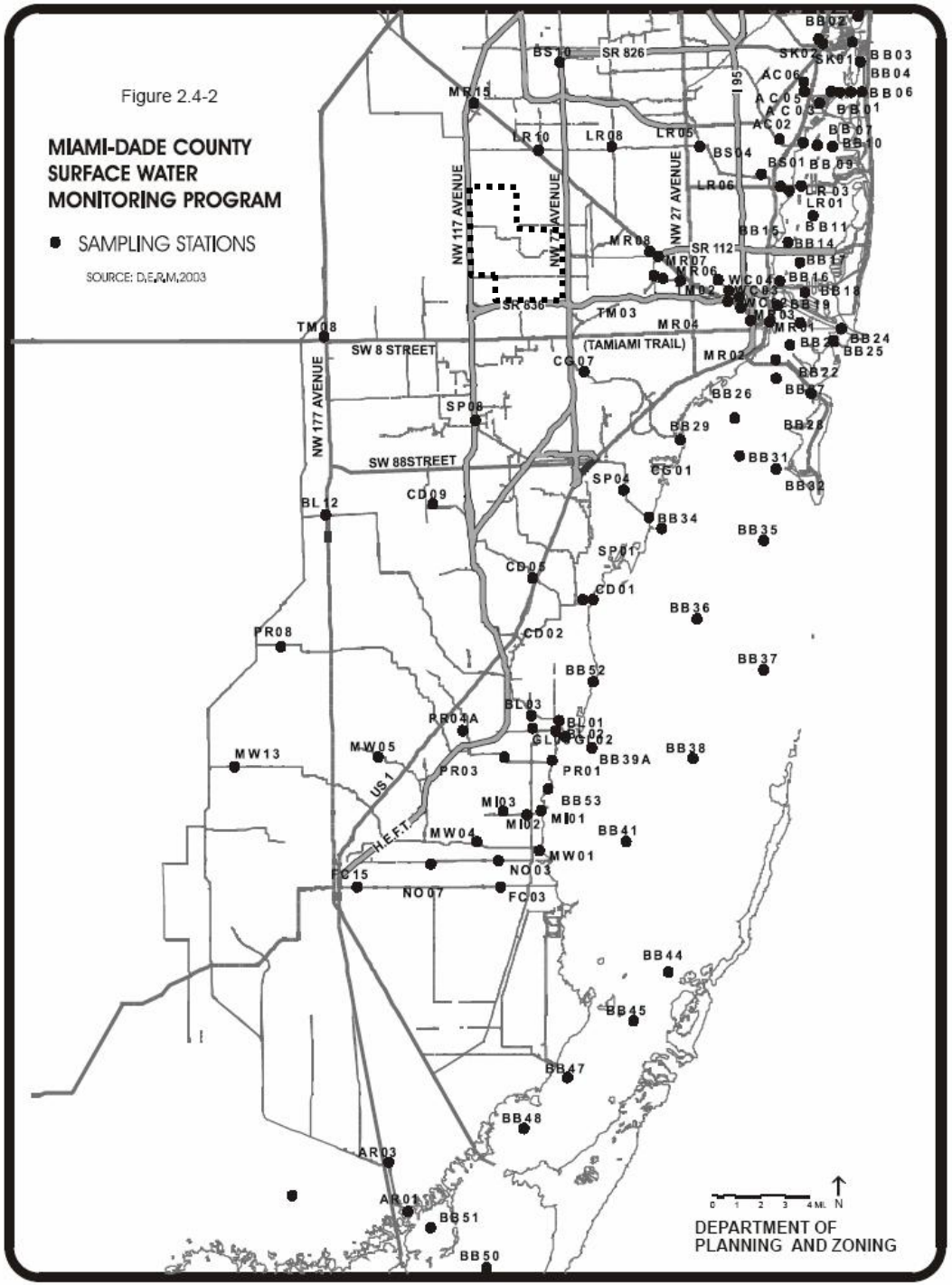
Soil Erosion

Due to the area's relatively flat topography, dry land within Miami-Dade County, including the City of Doral, is not threatened with significant soil erosion potential. The highest potential for soil erosion within Doral occurs near construction areas and adjacent to canal banks. Soil erosion along canal banks can be limited by the use of littoral zones and plantings. Soil erosion in construction areas from wind and heavy rain can be limited by reducing the time between clearing a site and beginning construction and using silt fences as a form of stormwater pollution prevention for downstream receiving waters.

There is also some potential for soil erosion within the City of Doral during boat traffic and increased water circulation, which triggers erosion of these dredged banks and informal channels. Marine patrol enforcement of speed limits is the principal mitigation for this type of erosion.

Ecological Communities

No known plant (Flora) or animal (Fauna) studies have been completed for the City of Doral specifically. Table 6-2 identifies all of the endangered, threatened, and species of special concern for plants and animals native to Miami-Dade County which may be present in the City of Doral.



CITY OF DORAL

Miami-Dade County Surface Water Sampling Stations

Map V-1

Legend

Doral City Limit

N
W E
S

Not to Scale

Source: Miami-Dade County Evaluation and Appraisal Report (adopted October 28, 2003).

Kimley-Horn and Associates, Inc.

ILER PLANNING GROUP

April 26, 2006

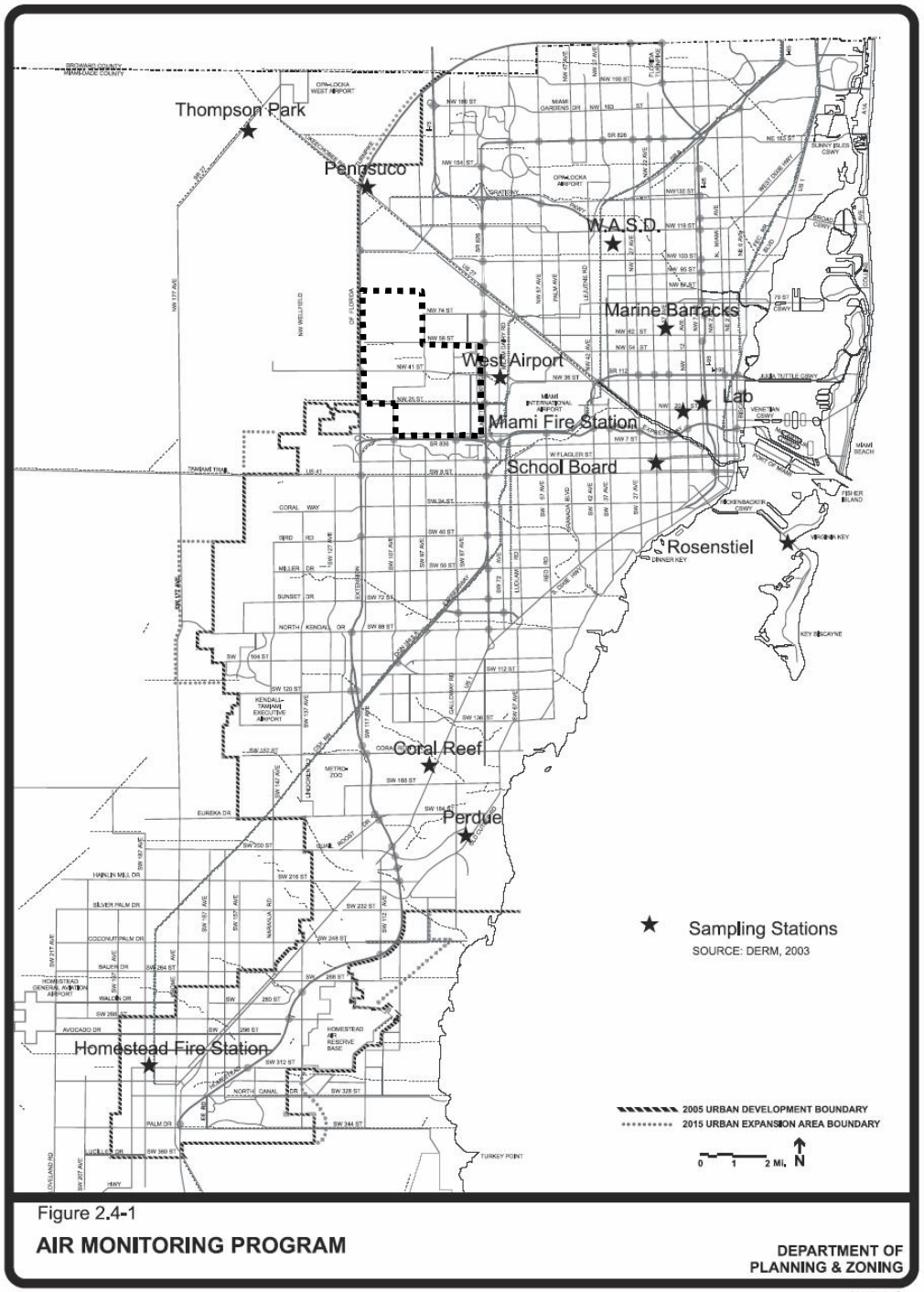


Figure 2.4-1

AIR MONITORING PROGRAM

DEPARTMENT OF PLANNING & ZONING

CITY OF DORAL

Miami-Dade County Air Monitoring Stations

Map V-2

Legend

Doral City Limit

N W E S

Not to Scale

Source: Miami-Dade County Evaluation and Appraisal Report (adopted October 28, 2003).

Kimley-Horn and Associates, Inc.

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April 26, 2006

Table 5-2. Flora and Fauna Found in Miami-Dade County which are Considered Endangered, Threatened, or Species of Special Concern

Scientific Name	Common Name	State Status (GFC)	Federal Status (FWS)
Fish			
Ammocrypta	Crystal darter	T	C2
Centropomus	Common snook	SSC	SSC
Cyprinodon variegates hubbsi	Lake Eustis pupfish		
Etheostoma histrio	Harlequin darter	SSC SSC	SSC SSC
Etheostoma olmstedi maculaticeps	Southern tessellated darter; tessellated johnny darter	NL	NL
Micropterus n. sp. Cf coosae	Shoal bass; Chipola bass	NL	NL
Rivulus marmoratus	Mangrove rivulus; rivulus	NL	NL
Amphibians and Reptiles			
Alligator mississippiensis	American alligator	SSC	T (S/A)
Caretta caretta	Atlantic loggerhead turtle	T	T
Chelonmia mydas mydas	Atlantic green turtle	E	E
Crocodylus acutus	American crocodile	E	E
Dermochelys coriacea	Leatherback (=leathery) turtle	E	E
Drymarchon corais couperi	Eastern indigo snake	T	T
Elaphe guttata guttata	Red rat snake; corn snake	SSC	T
Eretmochelys imbricate imbricate	Atlantic hawksbill turtle	E	E
Gopherus polyphemus	Gopher turtle	SSC	C2
Kinosternon bauri	Striped mud turtle	E	
Lepidochelys kempi	Atlantic ridley turtle	E	E
Ophisaurus compressus	Island glass lizard	NL	C2
Pituopjis melanoleucus mugitus	Florida pine snake	SSC	C2
Pseudobranchus striatus lustricolus	Gulf hammock dwarf siren	NL	C2
Rana capito (=areolata) aesopus	Florida gopher (=crewfish) frog	SSC	C2

Scientific Name	Common Name	State Status (GFC)	Federal Status (FWS)
Sceloporus woodi	Florida scrub lizard	NL	C2
Storeria dekayi victa	Florida brown snake	T	
Tantilla oolitica	Miami black-headed; rimrock crowned snake	T	C2
Birds			
Ajala ajaja	Roseate spoonbill	SSC	
Ammodramus maritimus	Cape Sable seaside sparrow	E	E
Ammodramus savannarum floridanus	Florida grasshopper sparrow	E	E
Aphelocoma coerulescenes coerulesc	Florida scrub jay	T	T
Aramus guarauna	Limpkin	SSC	
Campephilus principalis	Ivory-billed woodpecker	E	E
Charadrius melodus	Piping plover	NL	NL
Circus cyaneus	Marsh hawk; northern harrier	NL	NL
Columba leucocephala	White-crowned pigeon	T	
Dendroica kirtlandii	Kirtland's warbler	E	E
Egretta caerulea	Little blue heron	SSC	NL
Egretta rufescens	Reddish egret	SSC	NL
Egretta thula	Snowy egret	SSC	NL
Egretta tricolor	Tricolored (=Louisiana) heron	SSC	NL
Eudocimus albus	White ibis	SSC	NL
Falco columbarius	Pigeon hawk or merlin	NL	NL
Falco sparverius paulus	Southeastern American kestrel	T	NL
Haliaeetus leucocephalus	Bald eagle	T	T
Lanius ludoviciamus	Loggerhead shrike	C2	NL
Mycteria americana	Wood stork	E	E
Pandion haliaetus	Osprey	SSC	NL
Pelecanus occidentalis	Brown pelican	SSC	NL

Scientific Name	Common Name	State Status (GFC)	Federal Status (FWS)
Rallus longirostris insularum	Mangrove clapper tail	NL	C2
Rostrhamus sociabilis	Snail kite	E	E
Rynchops niger	Black skimmer	SSC	NL
Speotyto cunicularia	Burrowing owl	SSC	NL
Sterna antillarum	Least tern	T	NL
Vermivora bachmanii	Bachman's warbler	E	E
Mammals			
Felis concolor coryi	Florida panther	E	E
Magaptera novaengliae	Humpback whale	E	E
Mustela vison evergladensis	Everglades mink	T	
Neofiber alleni	Round tailed muskrat	NL	C2
Odocoileus virginianus clavium	Key deer; toy deer	E	E
Peromyscus polionotus niveiventrus	Southeastern beach mouse	T	T
Physeter catodon	Sperm whale; cachalot	E	E
Plecotus rafinesquil	Southeastern big eared bat		C2
Podomys floridanus	Florida mouse	SSC	C2
Sciurus niger avicennia	Big Cypress fox squirrel	SSC	C2
Trichechus manatus	West Indian/Florida manatee	E	E
Ursus americanus flordanus	Florida black bear	T	NL
Anaea troglodyte floridalis	Florida leafwing butterfly	C2	NL
Aphodisu troglodytes	Aphodius tortoise commensal scarab beetle	NL	C2
Atrytone arogos arogos	Eastern beard grass skipper	NL	C2
Ceracoclea floridana	Florida ceraclean longhorn caddisfly	NL	C2

Scientific Name	Common Name	State Status (GFC)	Federal Status (FWS)
Cyclocephala miamiensis	Miami roundhead sacrab beetle	NL	C2
Eumaeus atala florida	Florida atala butterfly	NL	C2
Micronaspsis floridana	Florida intertidal firefly	NL	C2
Mixogaster delongi	Delong's mixogaster flowerfly	NL	C2
Mycotrupes pedester	Scrub Isle burrowing scarab beetle	NL	C2
Onthopheagus polyphemi	Tortoise Commensal scarab	NL	C2
Oxyethira florida	Florida oxyethiran micro-caddisfly	NL	C2
Photuris brunnipennis floridana	Everglades brownwing firefly	NL	C2
Strymon acis bartrami	Bartram's hairstreak butterfly	NL	C2
Crustaceans			
Crangonyx gradimanus	Florida cave amphipod	C2	NL
Crangonyx hobbsi	Hobb's cave amphipod	C2	NL
Molluscs			
Liguus fasciatus	Florida tree snail	SSC	NL
Plants			
Acrostichum aureum	Golden leather fern	E	NL
Adiantum melanoleucum	Fragrant maidenhair fern	E	NL
Adiatum tenerum	Maidenhair fern (unnamed)	T	NL
Adiantum tetraphyllum	Not listed	T	NL
Amorpha crenulata	Crenulata lead plant	E	E
Argythamnia blodgettii	Blodgett's wild-mercury	E	C2
Asplenium dentatum	Slender spleenwort	E	NL
Asplenium serratum	Bird's nest spleenwort, wild birdnest fern	E	NL
Bourreria cassinifolia	Little strongback	E	NL

Scientific Name	Common Name	State Status (GFC)	Federal Status (FWS)
Brassia caudata	Long-tailed spider orchid	T	NL
Brickellia eupatoriodes	Florida brickeel-bush Florida boneset	E	C2
Byrsonima lucida DC	Not listed	E	NL
Calyptranthes zuzygium	Not listed	E	NL
Campylonerum angustifolium	Narrow strap fern	E	NL
Canella winterana	Not listed	E	NL
Cassia keyensis	Big Pine Partridge pea; Florida Keys senna	T	NL
Catopsis berteroniana	Powdery catopsis	E	NL
Centrogenium setaceum	Spurred neottia	E	NL
Cereus gracilis	Aboriginal prickly apple	E	C2
Cereus gracilis var. simpsonii	Simpson's prickly apple	E	C2
Cereus pentagonus	Dildoe cactus	T	NL
Chamaesyce deltoidea	Wedge spurge	E	E
Chamaesyce garberi	Garber's spurge	E	T
Chamaesyce porteriana	Porter's hairy-podded spurge	E	C2
Chamaesyce porteriana var. scoparia	Porter's broon spurge	E	C2
Cheilanthes microphylla	Southern lip fern	E	NL
Chrysophyllum oliviforme	Satinleaf	E	NL
Coccothrinax argentata	Silver palm	CE	NL
Culubrina cubensis	Not listed	E	NL
Conradina grandiflora	Large-flowered rosemary	E	C2
Cordia sebestena	Geiger tree	E	NL
Crossopetalum ilicifolium	Quailberry	E	NL
Crossopetalum	Rhacoma	E	NL

Scientific Name	Common Name	State Status (GFC)	Federal Status (FWS)
rhacoma			
Cucurbita okeechobeensis	Okeechobee gourd; Indian pumpkin	E	E
Cyrtopodium punctatum	Cowhorn orchid	E	NL
Digitaria pauciflora	Two spiked finger	NL	C2
Elytraria carolinensis var. angustiflora	Narrow leaved Carolina scalystem	NL	C2
Encyclia boothiana var. erythroniodes	Dollar (dogtooth) orchid	E	NL
Eriochloa michauxii var. simpsonii	Longleaf (=Simpson's) cup grass	T	C2
Ernodia littoralis	Beach creeper	T	NL
Eugenia confusa	Redberry ironwood	T	NL
Eugenia rhombea	Red stopper	E	NL
Forestiera segregate var. pinetorum	Pinewood (narrow-leaf Florida) privet	NL	C2
Galactia pinetorum	Narrow-leaf milkpea	NL	C2
Galactia smallii	Small's milkpea	E	E
Gossypium hirsutum	Wild cotton	E	NL
Guaiacum sanctum	Lignum-vitae tree	E	NL
Guzmania monostachia	Fuch's bromeliad	E	NL
Halophila johnonii	Johnson's seagrass	T	NL
Helianthus debilis ssp. Vestitus	Hairy cucumber-leaf sunflower; hairy beach sunflower	NL	C2
Hippomane mancinella	Manchineel	T	NL
Ionopsis utricullariodes	Delicate ionopsis; violet orchid	E	NL
Ipomoea microdactyla	Wild potato morning glory	E	NL
Ipomoea tenuissima	Rocklands morning glory	E	NL
Jacquemontia curtissii	Pineland clustervine	E	E
Jacquemontia reclinata	Beach clustervine	E	E
Jacquinia keyensis	Joewood	T	NL
Lantana depressa	Pineland Lantana	NL	C2
Lechea divaricata	Pine pinweed	E	C2

Scientific Name	Common Name	State Status (GFC)	Federal Status (FWS)
Licaria triandra	Licaria	E	NL
Linum arenicola	Sand flax	E	C2
Linum carteri var. carteri	Miami (=Carter's small-flowered) flax	E	C2
Linum carteri var. smallii	South Florida (=Carter's large-flowered) flax	E	C2
Lomariopsis kunseana	Holly fern	T	NL
Lythrum flagellear	Lowland loosestrife	NL	C2
Mallotonia gnaphalodes	Sea lavender	E	NL
Melanthera parvifolia	Small-leaved (S. FL.) cat tongue	NL	C2
Microgramma heterophylla	Polypody fern (unnamed)	T	NL
Myrcianthes fragrans var. simpsonii	Simpson's stopper; twinberry	NL	C2
Okenia hypogaea	Burrowing four o'clock	E	NL
Ophioglossum plamatum	Hand adder's tongue fern	T	NL
Peperomia humilis	Peperomia (unnamed)	E	NL
Peperomia magnoliifolia	Magnolia-leaved peperomia	E	NL
Phoradendron rubrum	Mahogany mistletoe	E	NL
Peperomia obtusifolia	Florida peperomia	E	NL
Polygala smallii	Tiny (=Small's) milkwort	E	E
Polyrrhiza lindenii	Ghost orchid; palm polly	E	NL
Pseudophoenix sargentii	Buccaneer (=Sargent's cherry) palm	E	NL
Pteris longifolia	Ladder brake fern	T	NL
Pteroglossapis	Wild coco; false coco (Eulphia) ecristata	T	C2
Remirea maritime	Beach star	E	NL
Rhipsalis baccifera	Mistleoe cactus	E	NL

Scientific Name	Common Name	State Status (GFC)	Federal Status (FWS)
Rhynochosia cinerea	Not listed	E	NL
Roystonea elata	Flordia royal palm	E	NL
Sabal miamiensis	Not listed	E	NL
Sachsia bahamensis	Bahama sachsia	E	NL
Schizaea gemanii	Ray (=tropical curly-grass) fern	E	NL
Spiranthes polyantha	Florida Keys (=Fort George; =green) ladies' tresses	E	C2
Stillingia sylvatica ssp. Tenuis	Slender queen's delight	NL	C2
Surian maritime	Bay cedar	E	NL
Swietenia mahogany	West Indian mahogany	T	NL
Tectaria coriandrifolia	Hairy (Hattie Bauer) Halberd fern	NL	C2
Tectaria xamesiana	Not listed	T	NL
Tephrosia angustissima	Narrow-leaved (=coastal) hoary pea	E	C2
Tetrazygia bicolor	Tetrazygia	T	NL
Trichomanes krausii	Filmy fern (unnamed)	T	NL
Trichomanes punctatum	Filmy fern (unnamed)	T	NL
Tripsacum floridanum	Gama grass	NL	C2
Tropidia polystachya	Young-palm orchid	E	NL
Vanilla barbellata	Worm-vine orchid; link vine	E	NL
Vanilla mexicana	Vanilla (unnamed)	E	NL
Verbena (=Glandularia) maritime	Coastal vervain	E	C2
Verbena (=Glandularia) tampensis	Tampa vervain	E	C2
Warea carteri	Carter's mustard	E	E
Zamia floridana	Florida coontie	CE	NL
Zamia umbrosa	East coast coontie	CE	NL
Zanthoxylum coriaceus	Wild prickly ash	E	NL

Table Key

GFC = Florida Game and Fresh Water Fish Commission
FDA = Florida Department of Agriculture and Consumer Services
FWS = United States Fish and Wildlife Services
CITES = Convention on International Trade in Endangered Species of Wild Fauna and Flora
C = Commercially Exploited
E = Endangered Species
SSC = Species of Special Concern
T = Threatened Species
T(S/A) = Threatened/Similarity of Appearance
C1 = Candidate Species, Category 1
C2 = Candidate Species, Category 2
NL = Not Listed

Ground Water

The Biscayne Aquifer is a deep water aquifer located under the majority of Miami-Dade, Broward, and southern Palm Beach Counties that serves as the main source of potable water for all of these areas. The South Florida Water Management District (SFWMD) establishes conservation policies for the regional water supply and the City of Doral should coordinate with the SFWMD to ensure conservation of this vital natural resource. The biggest threat to the water supply is generally the potential for saltwater intrusion; thus the primary concern of the SFWMD is to reasonably limit groundwater extraction from the water supply and to balance the needs between development and conservation.

The City of Doral should continue to work with Miami-Dade County DERM to encourage aquifer recharge and storage capacity for the Biscayne Aquifer through stormwater management permitting. Under this initiative, stormwater runoff generated from a five-year storm for any new development within the city would be retained on-site through the use of swales, exfiltration systems, and drainage wells. By keeping water on-site, these systems allow water to infiltrate into the aquifer and thereby recharge groundwater. They also provide water quality treatment as runoff must percolate through the soil before entering the groundwater system.

Wetlands

Wetlands are generally classified as areas where the water table is near or above the surface except during extended dry periods. Wetlands are typically adjacent to natural water bodies and man-made lakes, and in low-lying depressions, and have poorly drained, level, organic, or marl soils. Wetlands provide needed habitat for aquatic and land species, including migrating birds. Wetlands also provide storage areas for stormwater and a "natural filtration system" to cleanse the water. Currently, there are several permitted wetland areas in the City of Doral. The wetland areas were designated as privately owned and were not in public acquisition programs in 1995, but these areas possess wetland qualities and functions. The wetlands could warrant public acquisition as part of ecosystem or water supply protection, restoration and management programs. See Map V-3 for illustration of DERM permitted privately owned wetlands. Wetland

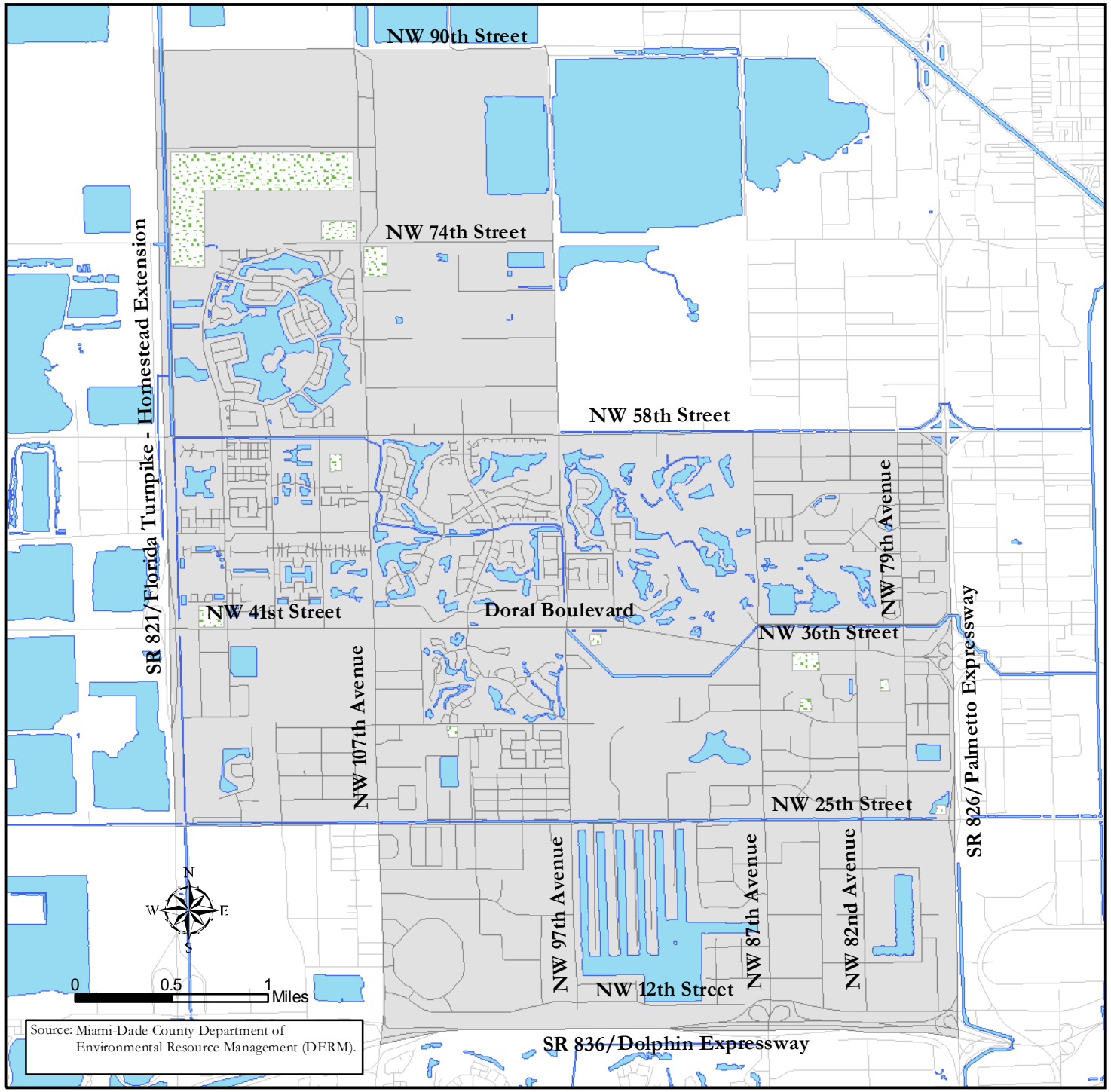
management is measured by the acreage of wetlands that were acquired and managed through SFWMD Save Our Rivers Program (SORP), the Miami-Dade County Environmentally Endangered Lands (EEL) Program or other public land acquisition and management program to preserve their wetland values.

Uplands

Uplands are primarily made up of pine flatwoods and oak hammocks that provide habitat for many species of animals to nest and forge (particularly mammals). In Miami-Dade County, including the City of Doral, upland protection and restoration will be measured by the acreage of hammocks and pinelands, retained in public ownership or acquired by public land acquisition programs. Additional measures will include the number of sites where management plans have been, or are being implemented, the number of Endangered Lands Covenants and the number of sites and acreage retained in Natural Forest Communities. Doral should coordinate with DERM to determine if any lands within the city are potentially deemed endangered; and whether those areas are considered for future acquisition for preservation purposes.

Hazardous Waste Management

The Miami-Dade County DERM regulates the hazardous waste monitoring program for all of Miami-Dade County. Currently, there are eight formally designated sites for Hazardous Waste Remediation. These sites potentially consist of abandoned gas stations, small chemical packaging plants, and other sites acquiescent to remediation. See Map V-4 for description and illustration.



CITY OF DORAL

DERM Permitted Privately Owned Wetlands

Map V-3

Legend

- Wetland Sites
- Doral City Limit
- Water Bodies

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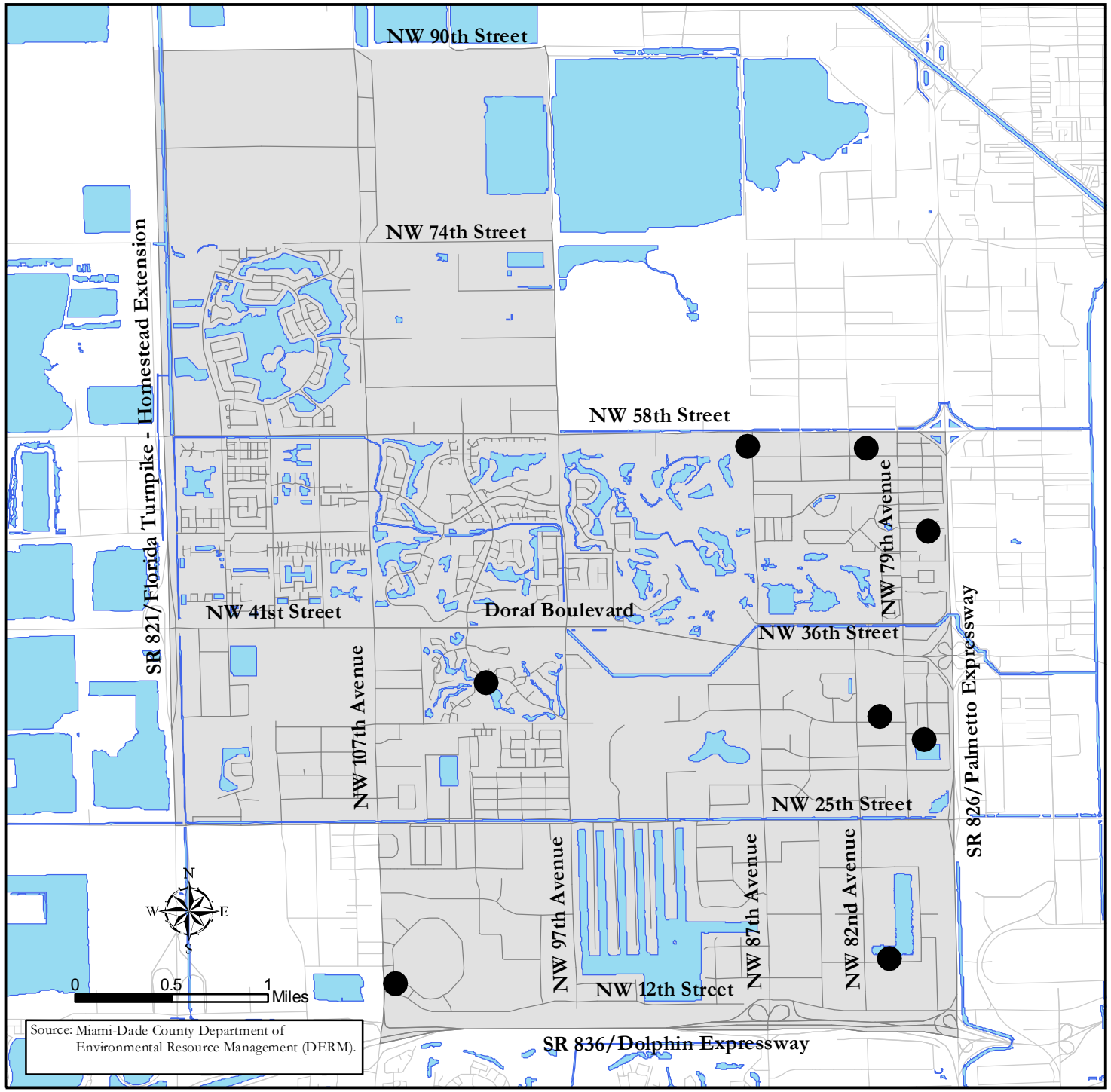

CITY OF DORAL

DERM Hazardous Waste Remediation Sites

Map V-4

Legend

- Remediation Sites
- Doral City Limit
- Water Bodies

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EXISTING AND POTENTIAL CONSERVATION AND USE OF NATURAL RESOURCES

Rule 9-J5.013(1)(b) requires that a local government inventory and analyze all natural resources found within its jurisdiction in terms of commercial use, recreational use, conservation use, and pollution problems. These items are addressed in the following paragraphs.

Existing and Potential Use of Natural Resources

None of the natural resources identified within the City of Doral are currently being used explicitly for commercial purposes, nor is it anticipated that they will in the future. Most of the surface water bodies, wetlands, and uplands identified in the area are protected for conservation use as part of the local canal drainage system. Other community parks and preserves located within the City of Doral serve as transition between the built and natural environments allowing residents to connect with nature while protecting certain areas for local plant and animal habitat. The FDEP considers air quality good and soil erosion is not a primary concern.

Furthermore, actions to ensure the continuation of recreation and conservation areas in Miami-Dade County, including the City of Doral are summarized below:

Protection of Air Quality

The primary goal is improved air quality in the county to meet all standards set by the US EPA as of 1994 and meet all future EPA air quality standards and their respective deadlines to reduce human exposure to air pollution. The following are recommendations that will mitigate the consequences of air pollution within the incorporated municipalities of Miami-Dade County:

- Monitor existing and future emissions of fumes and vapors from hazardous waste facilities, and compliance of Lowest Achievable Emission Rates.
- Require vapor control systems to reduce hydrocarbon emissions from vehicles being filled at gas stations.
- Treat buildings with unacceptable levels of friable asbestos pursuant to state and federal regulations to prevent further exposure and threat to human health.
- Implement the Miami-Dade County CO_2 Plan recommendations to reduce carbon dioxide levels by the year 2005.
- Expand Miami-Dade County air monitoring networks in order to better evaluate air quality throughout the county.
- Prevent future development of residential and other high occupancy land uses from being located in areas that may be adversely impacted by stationary sources of air pollutants.

Miami-Dade County generally has good air quality throughout the year as a result of mitigation completed in the early 1990's. The City of Doral is encouraged to work with Miami-Dade County DERM, US EPA, FDEP, and the Miami International Airport to

institute policies and projects aimed at maintaining current air quality levels in conformance with NAAQS.

Protection of Ground Water

The City of Doral must protect ground water resources from degradation, provide for effective surveillance for pollution and clean up polluted areas to meet all applicable federal, state, and county ground and surface water quality standards**.**

This objective will be met in the primary C-6 Drainage Basin within the City of Doral, or individual sub-basins within the primary basin, when the ambient five-year average value for each of the 12 NPDES priority pollutants in that basin or sub-basin does not exceed the target criteria. This objective can be achieved through continual monitoring of the NPDES groundwater and surface water pollutants.

Although the deep aquifer beneath the City of Doral is not used as a source of potable water, shallower aquifers do exist as groundwater extraction sources for irrigation and should be monitored and protected.

Regulations within wellfield protection areas shall be strictly enforced. The recommendations of the Northwest Wellfield Protection Plan shall continue to be fully implemented as are recommendations that evolve from the West Wellfield planning process.

The western portion of the City of Doral lies within the Northwest Wellfield Protection Zone, with an ambient groundwater sampling station just east of NW 177th Avenue and north of Tamiami Trail. See Map V-5 for a general location of the wellfield zone sampling locations. The following policies shall be recommended for action regarding the existing Northwest Wellfield Protection Plan:

- No new facilities that use, handle, generate, transport, or dispose of hazardous wastes shall be permitted within the Northwest Wellfield Protection Area, and all existing facilities that use, handle, generate, transport or dispose of more than the maximum allowable quantity of hazardous wastes within the Northwest Wellfield Protection Area shall be required to take substantial measures such as secondary containment and improved operating procedures to ensure environmentally safe operations.
- The water management systems that recharge the Northwest Wellfield Area shall be protected and enhanced.
- The ambient groundwater monitoring program shall be expanded to include all wellfield protection areas to serve as an "early warning system" for monitoring high-risk land uses and point sources.
- The City of Doral should coordinate with Miami-Dade County DERM to identify facilities that handle, use or generate hazardous wastes in wellfield protection areas and address the feasibility of removing the grandfathering provision for facilities that have been determined to be significant sources of pollution within wellfield protection areas.

- County-owned and operated facilities that use hazardous materials or generate hazardous wastes shall be moved to locations that are outside and down gradient of wellfield protection areas whenever such facilities need to be expanded by more than 50 percent.
- Provide interconnected sanitary/storm sewer systems, seek to abandon existing septic tanks and discourage future use.
- Provide stormwater management systems within wellfield protection areas.

Protection of Surface Waters

The City of Doral contains a portion of the C-6 drainage canal and small lakes. Surface water drainage is the primary contributor to pollution in these canals. The City of Doral and Miami-Dade County DERM should continue to monitor water quality levels in the C-6 Drainage Basin and target improvements, where necessary, to maintain minimum level of service standards.

The following policies are recommended to correct existing system deficiencies and problems that contribute to groundwater and surface water quality degradation, and to guide future development:

- Provide stormwater management systems in industrial and heavy commercial areas, and in areas with large concentrations of small hazardous waste generators.
- Mitigate basins and sub-basins that fail to meet the target criteria for the 12 NPDES priority pollutants listed under "Surface Water Quality."
- Identify and monitor industries and businesses which generate and/or handle more than 50 gallons of hazardous and industrial wastes per year. Coordination among agencies that require reporting of hazardous wastes is pertinent.
- Utilize the "Best Management Practices" established by Miami-Dade County for potential sources of water pollution such as packing houses that discharge wastewater to the ground, and shall also be established for golf courses, pesticide mix-loading facilities, and handlers of hazardous materials to reduce environmental risk.

Protection of Vegetative Communities and Wildlife Habitats

The overwhelming majority of vegetative and wildlife habitat in the City of Doral lies within man-made wetlands, forests, and canals. Within the built environment, large lots and low density development patterns serve as secondary habitats for small animals and some plant life. Additional areas to serve as small vegetative communities for local wildlife could be maintained on private property within the City of Doral through initiation of a preservation landscape ordinance and/or requiring more landscaping on lots when natural habitat is not available. The City of Doral should identify future land areas to secure for conservation land use.

Protection of Mineral Resources

Some areas in the City of Doral are formally designated for conservation and/or protection of natural resources to guard against encroachment from development and pollution. Most of Miami-Dade County is underlain by limestone. The "lake belt" region in northwestern portion of the county, north of Tamiami Trail, west of the Turnpike extension, including the Northwest Wellfield Area, is expected to continue to be the area of greatest mineral extraction activity in the county through the year 2015.

Protection of Floodplain Areas

Development in the floodplain should be regulated through the enforcement of a floodplain management ordinance. In addition, the City of Doral should join FEMA's NFIP.

Protection of Soils

Areas in the City of Doral having soils with good potential for agricultural use without additional drainage of wetlands shall be protected from premature urban encroachment. Also, sites having soils which cannot properly support proposed structures shall have their soils excavated and replaced with suitable fill material to ensure the structural integrity for the life of the proposed development.

Protection of Natural Areas as Recreational Uses

Some of the natural resources within the City of Doral could be maintained as low impact park and recreation facilities; supportive of bicycle and pedestrian paths, canal walkways, natural reserves, or passive park opportunities. Currently, there are park and recreation areas in low density residential communities within the City of Doral.

CURRENT AND PROJECTED POTABLE WATER NEEDS

Rule 9-J5.013(1)(c) requires that a local government determine its current and projected water needs for the 10-year planning horizon and identify new water supply sources to serve future demand. This section of the Conservation Element DIA Report provides an inventory of the current and projected water needs and potential sources to the year 2015. The projections will be based on present water consumption demands placed on the Miami-Dade County WASD and population projections derived from the Future Land Use Element.

Existing Potable Water Sources

The City of Doral receives water service from the Miami-Dade County WASD. The Biscayne Aquifer is the current source of potable water for all of Miami-Dade County. The City of Doral is primarily served by the Hialeah Preston Water Treatment Plant, however potable water may be provided to the City of Doral through a WASD interconnect system that links several county potable water plants together to serve concurrently during periods of heavy demand. Doral will also need to coordinate with WASD to determine whether or not to abandon private wells established for irrigation purposes and ultimately whether a plan for using reclaimed water provided by Miami-Dade County's Central District Regional Wastewater Treatment Plant for irrigation within the county, including Doral, is feasible and cost efficient.

Existing and Projected Potable Water Capacity and Demand

The majority of the potable water is distributed throughout the county by WASD, with wholesale service from the Medley Service Area; see Map V-5. In 2002, the potable water plant capacity for the entire system was 225.0 MGD with a peak water demand reported at 189.9 MGD. The county's level of service standard for potable water service is to maintain a maximum daily capacity for the system no less than two percent above the maximum peak demand for the previous year plus each of the five preceding years. Using these criteria, WASD is currently meeting their level of service standard for potable water.

Miami-Dade County WSAD maintains a generation rate of 200 gallons per person per day for determining maximum peak demand for potable water. Therefore, the 2000 population for the City of Doral generates an average daily demand of 4.09 MGD (20,438 x 200 gal/capita/day = 4.09 MGD). Table 6-4 provides potable water projections for the City of Doral over the 10-year planning horizon.

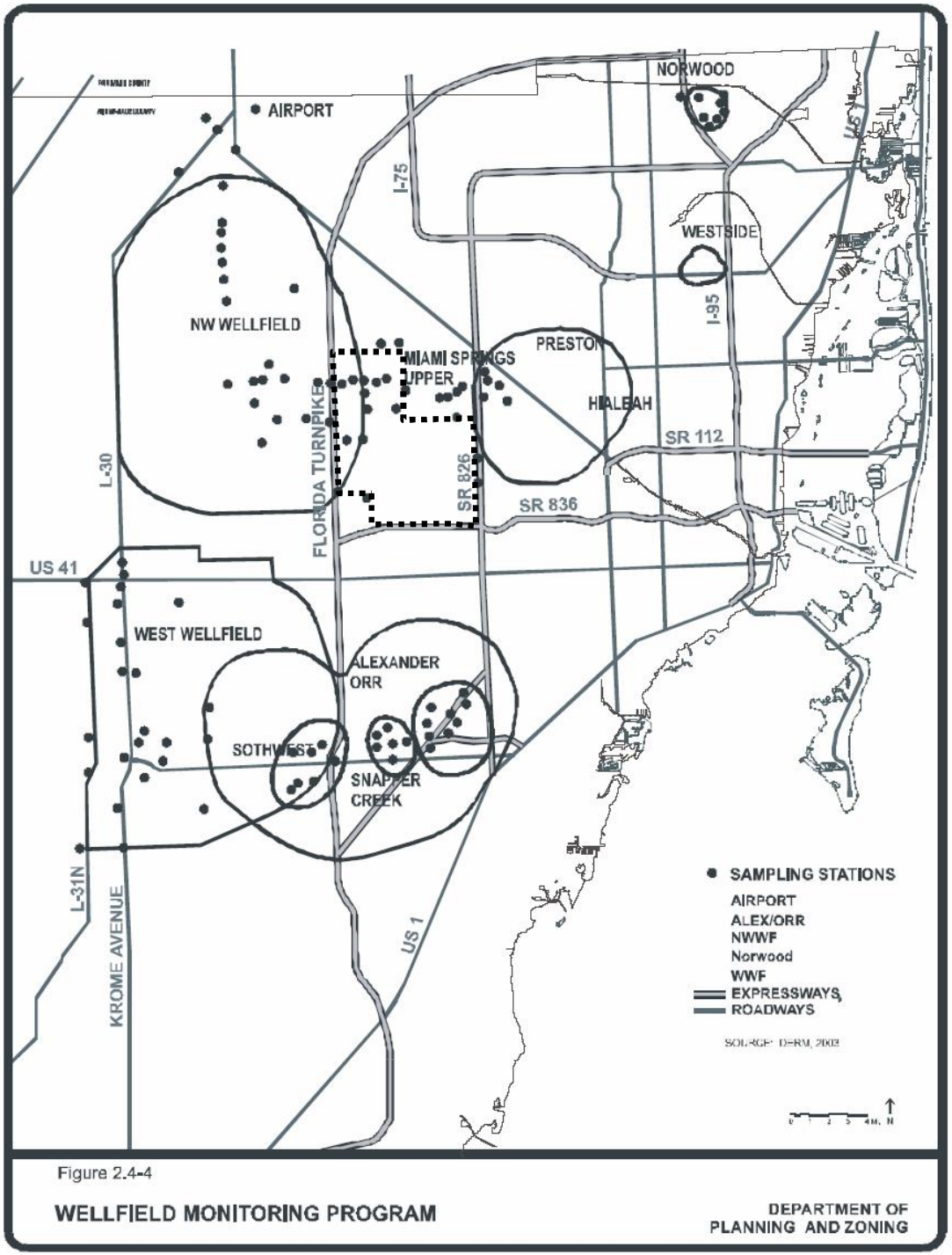

Figure 2.4-4

WELLFIELD MONITORING PROGRAM

DEPARTMENT OF PLANNING AND ZONING

CITY OF DORAL

Miami-Dade County Wellfield Sampling Stations

Map V-5

Legend

Doral City Limit

N

W E

S

Not to Scale

Source: Miami-Dade County Evaluation and Appraisal Report (adopted October 28, 2003).

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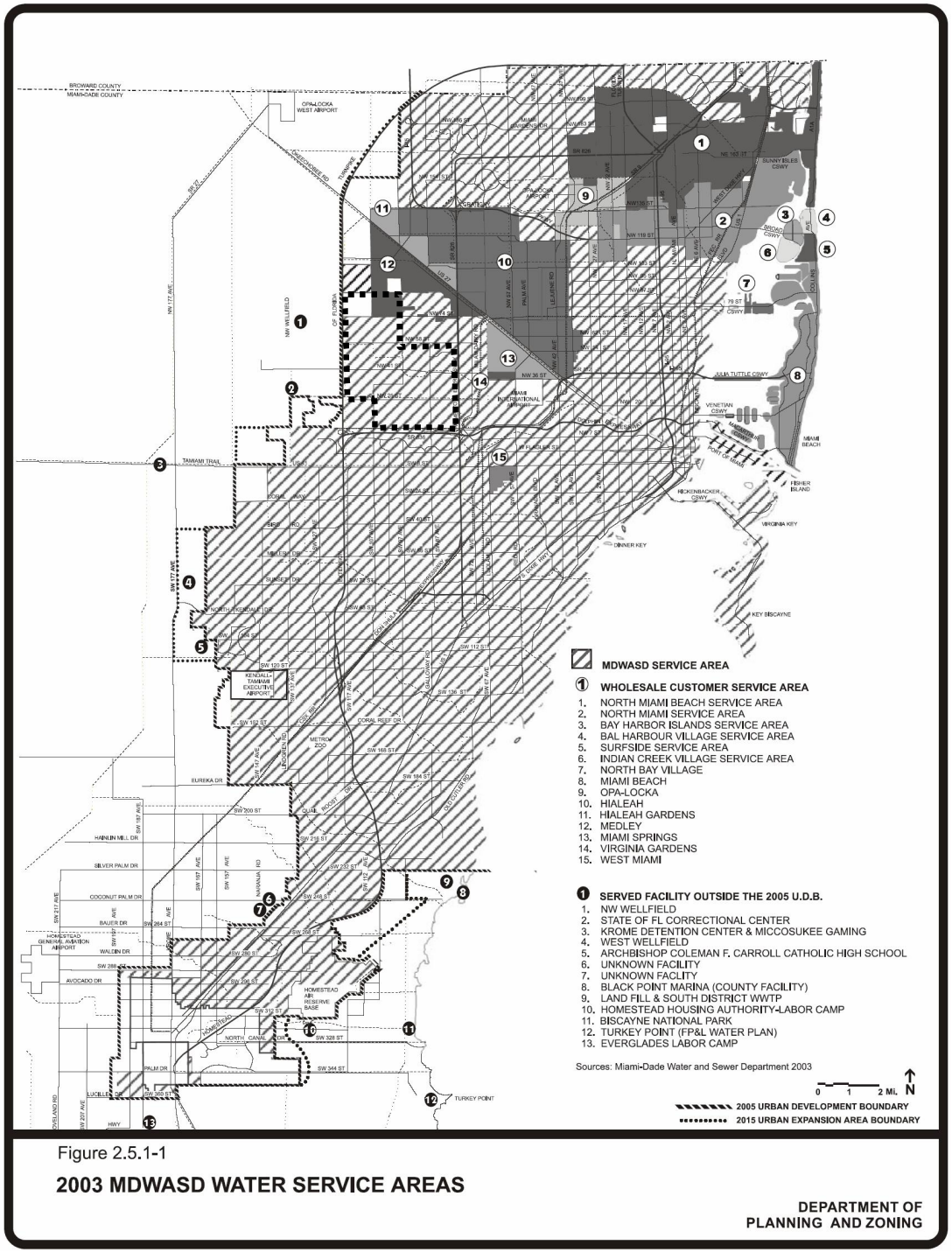

Figure 2.5.1-1

2003 MDWASD WATER SERVICE AREAS

DEPARTMENT OF PLANNING AND ZONING

CITY OF DORAL

Miami-Dade County WASD Water Service Areas

Map V-6

Legend

Doral City Limit

N
W E
S

Not to Scale

Source: Miami-Dade County Evaluation and Appraisal Report (adopted October 28, 2003).

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Table 5-3. Existing and Projected Potable Water Demand for the City of Doral

Year	Doral Population	Population Served	Generation Rate	Average Demand (MGD)
2000	23,925	23,925	200 gal/capita/day	4.79
2003	24,177	24,177	200 gal/capita/day	4.84
2004	24,431	24,431	200 gal/capita/day	4.89
2005	24,686	24,686	200 gal/capita/day	4.94
2006	24,943	24,943	200 gal/capita/day	4.99
2007	25,203	25,203	200 gal/capita/day	5.04
2008	25,466	25,466	200 gal/capita/day	5.09
2009	25,731	25,731	200 gal/capita/day	5.15
2010	25,999	25,999	200 gal/capita/day	5.20
2011	26,270	26,270	200 gal/capita/day	5.25
2012	26,544	26,544	200 gal/capita/day	5.31
2013	26,821	26,821	200 gal/capita/day	5.36
2014	27,100	27,100	200 gal/capita/day	5.42

Source: Kimley-Horn & Associates, Inc., 2004

Existing and Projected Agricultural Water Demands

The Existing Land Use Map for the City of Doral identifies 300 acres of existing agricultural uses within the city's limits. Using an average irrigation demand of 3,600 gal/ acre /day, the existing agricultural water use demand is 1.08 MGD. The Future Land Use Map for the City of Doral does not show any agricultural land uses. Therefore, agricultural water demand is expected to decline over the next ten years as agricultural land is developed and converted to other land uses.

Existing and Projected Park and Recreation Water Demands

The Existing Land Use Map for the City of Doral identifies 919 acres of existing park and recreation uses within the city's limits. Using an average irrigation demand of 3,600 gal/ acre /day, the existing park and recreation water use demand is 3.31 MGD. The Future Land Use Map for the City of Doral shows 990 acres of park and recreation land uses. Therefore, park and recreation water demand is expected to increase to 3.56 MGD over the next ten years.

Existing and Projected Commercial/Industrial Water Demands

As the population increases, the City of Doral will experience growth in commercial and industrial land uses. The water use rate of 200 gal/ capita/ day in Table 6-4 is anticipated to include this commercial and industrial growth as well as residential growth.

The City of Doral should communicate the projected water demands for potable water, future agriculture use, and industrial use to the Miami-Dade County WASD to ensure that long term demand is reflected in WASD's reports and licenses with the SFWMD and other Federal and State agencies.

VI. PARKS AND RECREATION ELEMENT

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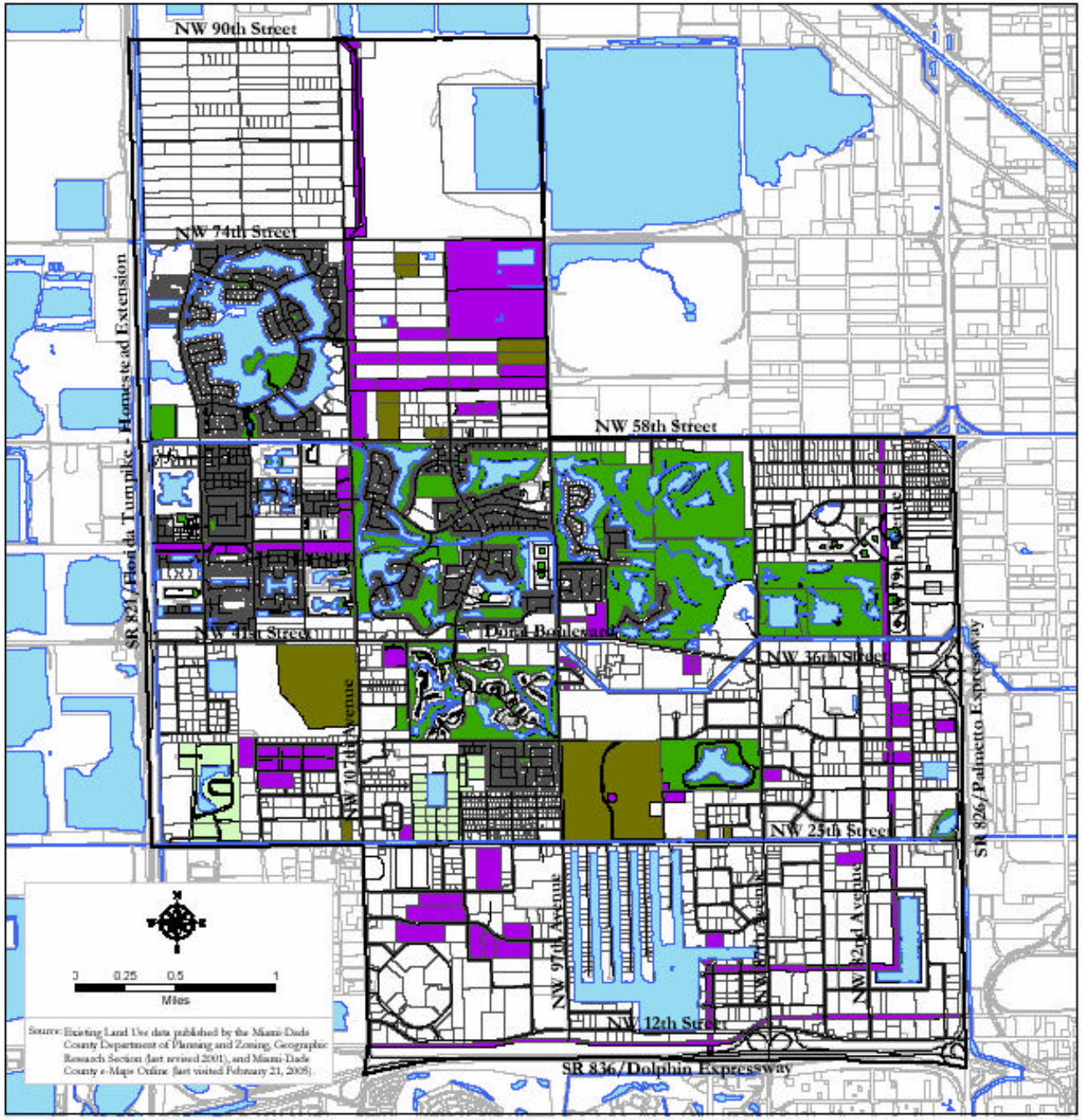
DATA, INVENTORY, AND ANALYSIS

PURPOSE

State growth management rules provide for the preparation of a parks and recreation space element as an *optional* element of a comprehensive plan. The City has elected to complete a parks and recreation element for inclusion in its comprehensive plan. This element catalogs the existing public and private recreation and open space facilities within the City of Doral, analyzes the inventory of recreation and open space to project an appropriate level of service standard, formulates goals, objectives, and policies to protect and preserve existing recreational areas, and provides guidelines for acquiring additional recreation and open space within the City to maintain a minimum level of service for the community.

There are three parks within the City. The City currently controls two parks: Doral Park and Miami West Park. Miami-Dade County manages Doral Meadows Park, which is expected to be transferred to the City by the middle of 2005. These three parks are shown on the map in Map VI-1. Another 51-acre environmental park may be contributed to the City by a developer. A linear greenway and a new 26-acre park in Section 8 of the City may also be added to the inventory of park and open space in the near future.



CITY OF DORAL

Recreation and Open Space

Map VI-1

Legend

- Communications , Utilities, Terminals , Plants
- Parks (Including Preserves & Conservation)
- Cemeteries
- Agriculture
- Water Bodies
- Doral City Limit

Kimley-Horn and Associates, Inc.

IPG

DEFINITIONS

The following is a list of recreational definitions that are referenced throughout this element, and are based on *Outdoor Recreation in Florida-2000: Florida's Statewide Recreation Plan* produced by the Florida Department of Environmental Protection Division of Recreation and Parks:

1. Urban Open Space. Urban open space areas are landscaped or natural open areas, located in built environments, and are typically between one-tenth and one acre in size. These areas can serve a one to two block area, or the entire City depending on their location. Examples of urban open space areas include pocket parks, boulevard medians, plazas, courthouse squares, and promenades. Their typical function is to add relief to congested areas. Because of their size they are typically limited in terms of amenities, but may include such items as benches, commemorative structures, trails and pathways.

2. Equipped Play Area or "Tot Lot". Equipped play areas "Tot Lots" are open areas that generally include some or all of the following: play structures, benches, picnic tables, landscaping, and open space. Tot Lots are a minimum of one acre in size; however they can be as small as ¼ of an acre if they are adjacent to an existing recreation facility or elementary school. These parks serve neighborhoods of between 500 and 2,500 people.

3. Neighborhood Park. Neighborhood parks are a minimum of five acres in size; however, they may be as little as two acres if adjacent to a school. These parks are typically accessed by pedestrians and bicyclists, and are generally located on streets with sidewalks and bike lanes that limit encounters with vehicular traffic. These parks are usually between five and ten acres in size, provide service for up to 5,000 people, and are designed for intense and diverse recreational activities. Amenities may include, but are not limited to, play structures, recreation buildings, multipurpose courts, sports fields, picnic areas, and free play areas.

4. Community Park. Community parks are typically accessed by motor vehicles, are located near major streets, and are designed to provide service for up to six neighborhoods (25,00 people). A minimum of 20 acres is recommended for a community park; however, the recommended acreage can be reduced to five acres if the park is adjacent to a junior or senior high school. Typical facilities for a community park may include, but are not limited to, swimming pools, ball fields, tennis courts, play areas, picnic areas, multipurpose courts, recreation buildings, and sports fields. Landscaping and passive recreation activity areas are crucial amenities of a community park.

5. Urban-District Park. An urban-district park is designed to serve several communities, a city or a county, and should serve an average population of 50,000. Typical facilities may include natural areas, campgrounds, and play structures. This park must be a minimum of 50 acres in size; however, the optimal size would be 75 or more acres.

6. Regional Park. Regional parks are large areas designed to serve two or more communities or counties, and should serve a minimum of 100,000 people. The size of

these parks range from a minimum of 250 acres to several thousand acres. Facilities provided at regional parks typically include water-based recreation areas, camping areas, hiking/nature trails, and picnic areas.

7. Passive Park. A passive park is a recreational area that encourages activities that do not necessarily raise the heart rate significantly above the normal resting rate; however, these parks do provide the user with enjoyment through the visual aesthetics of a natural environment. Typical amenities for these types of parks may include picnic tables, observation areas, botanical gardens, historical or archaeological sites, and benches. These types of parks include open spaces such as fields, walking/nature trails, and scenic vistas.

8. Active Park. An active park is a recreational area that encourages active participation involving physical exertion that raises the heart rate significantly above the normal resting rate. Typical activities for these types of parks may include, such group activities as football, baseball, soccer, basketball, tennis, and shuffleboard, as well as individual activities such as jogging, bicycling, hiking, swimming, and playground activity. The typical amenities for these parks promote the aforementioned activities, and may also include passive park amenities such as picnic tables and open space.

Table 6-1 provides the guidelines established by the State for outdoor recreation found in "*Outdoor Recreation in Florida – 2000: Florida's Statewide Comprehensive Outdoor Recreation Plan.*"

Table 6-1. Site Guidelines for Community Outdoor Recreation Resources/Facilities

Park Facility	Location	Population Served	Area Per 1000 Population	Park Size if Next to School	Size as a Separate Park	Facilities
Urban Open Space	Urban Areas	0.25 - 0.5 mile	1 acre	n/a	Min. of 0.1 acre	Resource-based recreation area
Equipped Play and Tot Lot	<0.25 mile in residential setting	2,500 max.	.5 acre	Min. of 0.25 acre	Min. of 1 acre	Play structures, benches, picnic areas, open spaces, landscaping
Neighborhood Park	Neighborhood Area: 0.25 – 0.5 mile distance	5,000 max.	2 acres	Min. of 2 acres	Min. of 5 acres	Play structures, recreation buildings, court games, hard courts, tennis courts, internal trails, shuffleboard, volleyball courts, picnic areas, open area, landscaping
Community Park	Usually serves two or more neighborhoods and 0.5 to 3 miles distance	5,000 max.	2 acres	Min. of 5 acres	Min. of 20 acres; optimal is 20 -50 acres	All of the facilities found in a neighborhood park plus informal ball fields, swimming pools, archery ranges, golf areas, ornamental gardens, open space and facilities for cultural activities
Urban District Park	In large urban area or periphery within 30-40 minute drive	One park per 50,000	5 acres	n/a	Min. of 50 acres; optimal is 75+ acres	Play structures, restrooms, trails, nature center, boating, swimming, picnic areas, sports fields
Regional Park	Periphery of an urban area 30-60 minute dive	>100,000	20 acres	n/a	250 acres to several thousand acres	Camping, nature and bridle paths, picnicking, and other facilities non-intensive development

Source: Florida Department of Environmental Protection, Division of Recreation and Parks, *Outdoor Recreation in Florida-2000: Florida's Statewide Recreation Plan.*

EXISTING CONDITIONS

The inventory of recreation and open space areas indicates that the City of Doral contains approximately 109 acres of parks and open space at three locations. This total does not include private open space such as golf courses and county club/resort areas. Table 6-2 provides a detailed inventory of the three park and open areas, including name and address, park class, park size, park type, and amenities.

Table 6-2. Park and Open Space Facilities in the City of Doral

Park Name/ Address	Park Class	Park Size	Park Type	Amenities
Doral Park NW 53rd Street and NW 102nd Avenue	Community Park	14 acres	Active	Tennis courts Play structures Pathway
Miami West Park 3000 NW 87th Avenue	Urban District Park	81 acres	Active	Pathway Freshwater lake Play structure
Doral Meadow Park	Community Park	14 acres	Active	Soccer fields Pathway

Doral Park and Miami West Park are both maintained by the City. Miami Dade County will continue to maintain Doral Meadow Park until it is transferred to the City in the middle of 2005.

Doral Park lies south of NW 58th Street between NW 107th Avenue and NW 97th Avenue and consists of 14 acres of park space. It is adjacent to Doral Middle School It is an active park with tennis courts, play structures, and a pathway. The 2005 budget allocates $100,000 for a master plan for Doral Park. New amenities considered are a lighted vita course/jogging path, irrigation and lighting of the existing open field, two new soccer/multipurpose fields, renovation of concession building, picnic facilities, two new lighted basketball courts, park furniture, and parking. The Five Year Schedule of Capital Improvements- FY 2006-2010 shows plans for investing $2 million and $1.9 million in FY06 and FY07 respectively for design, engineering and improvements.

Miami West Park lies along NW 87th Avenue between NW 25th Street and NW 41st Street. This 81-acre park has a pathway, freshwater lake, and play structure. A lighted baseball complex and picnic facilities are expected to be completed in 2005. The City will seek design services for a master plan for Miami West Park for future improvements. $6.1 million has been allocated through a Miami-Dade County General Obligation Bond, a grant through the Safe Neighborhoods Parks Bond Program, and the Florida

Development Assistance Program. According to the Five Year Schedule of Capital Improvements- FY 2006-2010, $15 million is planned for Phase I improvements.

Doral Meadows Park is located at the corner of NW 58th Street and NW 117th Avenue adjacent to Eugenia Thomas Elementary School. This 14-acre park has soccer fields and a pathway. Work on Doral Meadows Park will occur in two phases. Phase I, which began in 2004, include improvements funded with $1.5 million from the Miami-Dade County Quality Improvement Program and $300,000 from the City of Doral. Phase I improvements include a recreation center, restrooms, concession area, field lights for the soccer fields, and parking lot lighting. Phase II improvements will be funded by $1 million has been allocated in the City's 2005 budget, $600,000 from the Safe Neighborhood Parks Bond Program, and $400,000 from the Florida Recreation Development Assistance Program. Phase II Improvements include a lighted vita course, picnic shelter, recreation building aesthetic improvements, and a new tot lot. Phase II improvements are expected to total $3 million through 2010.

A developer may contribute a 51-acre parcel for use as a passive park with facilities for environmental education. The Five Year Schedule of Capital Improvements- FY 2006-2010 shows $500,000 allocated for this park in FY09 and FY10.

Two other potential park projects include a Linear Greenway and a Community Park in the Section 8 of the City costing $750,000 and $15 million respectively.

PARK AND RECREATION ANALYSIS

There are 109 acres of public park land in the City. With a 2005 population of 33,633, Doral has a Level of Service of 3.24 acres per 1,000 residents. While this figure surpasses Miami-Dade County's requirement, of 2.7 acres per 1,000 residents, City residents expressed an interest in increasing park space, particularly small neighborhood parks and park facilities.

The City is currently seeking improvements to existing parks. Doral Park is expected to receive a lighted vita course/jogging path, multipurpose fields, basketball courts, park furniture and signs. Miami West Park is expected to receive a baseball complex, picnic facilities, and a master plan for optimum use of the land for recreational purposes. The Doral Meadow Park is expected to receive baseball fields, play structures, vita course/jogging path, and landscaping.

The City received input from a Parks and Recreation Committee and through a number of public workshops on the Parks and Recreation Element of the comprehensive plan. This grass-roots effort and extensive public participation can provide the basis for Park and Recreation Element policies. The results of the Committee's report and survey and public workshops are discussed here.

Committee on Parks and Recreation Report

The Committee of Parks and Recreation consisted of five members including a City Council Liaison. Their February 2004 report "Recommendations to the City of Doral from the Committee of Parks and Recreation" included suggestions on park personnel, park space, maintenance, revenues, and results of a resident survey.

The Committee suggested the parks director should have skills in recreational activities and park development. Hiring part-time employees, outsourcing or delegating maintenance to the Public Works Department are all potential resources for maintenance personnel. Above all, the method of providing personnel for maintenance should be cost-efficient.

The Committee felt adding to existing park space was essential. Existing open spaces not designated as park such as utility and canal easements could be used for linear parks and neighborhood playgrounds. Also, land acquisition by the City and developers' contributions of park space should also be considered. A Public Land Trust Fund should be established for acquisition and development. Interlocal agreements with the Miami-Dade School Board for use of school property for programs, activities, and parking should also be investigated to expand park and recreational activities.

Public safety in parks was also a concern of the Committee. Lighting and security should be made a high priority in parks and related parking lots for City residents and visitors. Regular police patrol, securing buildings and bathrooms in the evening, and enforcement of park hours would enhance public safety. Parks should be accessible for seniors and the physically challenged.

Revenue generation is important for maintaining existing parks and for acquiring and developing new parks. Committee members suggested collecting fees from rental facilities such as pavilions and amphitheaters. An interactive water park might also produce funds for the City. Grants from various agencies should be pursued and membership in the Florida Recreation and Parks Association might increase access to grant information. Reasonable, yet revenue-generating fees for City park and recreation programs should be charged. However, program costs for low-income seniors should be subsidized.

The Committee also suggested that a Parks Master Plan should guide the City's parks and plans. A Parks Master Plan would drive future park development and specify appropriate facilities.

The Committee also conducted a survey to determine concerns regarding the City's parks. The results are listed in Table 6-3 below:

Table 6-3. Committee of Parks and Recreation Park Survey Results

Age of Survey Respondents:		***Park Used Most Often:***		***Days and Times Park Most Used:***	
18-30	43%	Doral Park	89%	Morning	6%
31-45	38%	Doral Meadows Park	7%	Weekdays	25%
46-65	13%	Miami West Park	4%	Afternoon	85%
65+	6%			Weekend	75%
				Evening	9%
Activities Enjoyed in the Park:		***Primary Concerns for Existing Parks:***		***Ideas to be Considered:***	
Walking	17%	Parking	5%	Barbecue/picnic shelters	14%
Running	14%	Lighting	33%	More Seating	7%
Swimming	4%	Safety/Security	8%	Interactive Water Playground	25%
Organized sports	30%	Pathways	2%	Swimming Pool	11%
Basket ball	5%	Improved access	1%	Skating Areas	8%
Tennis	9 %	Shelter building	2%	Stage or Performance Area	4%
Playground	9%	Landscaping	2%	Party Rentals	7%
Picnic	4%	Restrooms	12%	Temporary Restrooms	10%
Reading/relaxing	5%	Basketball/Tennis Court Conditions	11%	After school/summer programs	13%
Walking the Dog	1%	Playing field Conditions	22%	Other	1%
Other	2%	Natural Resources	2%		

Source: Committee on Parks and Recreation, 2004.

Workshop Summary

Four community visioning workshops were held in 2004 for development of the City's comprehensive plan. Details of the workshops can be found in the Appendix. The July 26, 2004 workshop focused on Parks and Recreation. Discussion at the workshop covered a wide array of parks issues including funding, location of new parks and facilities; desired park facilities; park amenities and programs and level of service standards. A summary of each issue is provided below:

Funding

It was agreed at the workshop that additional/alternative funding sources to add new parks, facility improvements, and programs were needed. Also, new development should pay its fair share for the parks system. Methods of funding included:

- Maximizing grant/legislative opportunities
- Approaching State for park funding assistance
- Negotiating with State and Federal governments for more land for parks
- New developments contributing to the park system
- Encouraging private contributions for park improvements including a "Adopt-a-Park" program
- Creating Land bank for future parks needs

Location

Discussion about park locations focused on finding a good location for a community center and spreading a number of smaller parks throughout the community. Workshop suggest included:

- Finding location for Community Center
- Locating small parks near/in neighborhoods
- Creating passive linear park opportunities
- Developing parks in commercial for employees to have lunch in
- Filling in a portion of lakes to provide additional park land at NW 12th Street location and Miami West Park
- Identifying potential properties in good locations for future parks and consider the use land banking to purchase property for future parks

Type of Parks Facilities

Workshop participants stated that more facilities for all parks activities were needed. Ideas generated at the workshop included:

- Adding more active park facilities and passive parks
- Focusing on small parks (e.g., pocket parks of less than 1 acre), closer to neighborhoods and employment centers
- Developing park facilities and programs needed for all ages and abilities
- Using linear parks to fill some of the passive park need.
- Increasing connectivity through safe routes and FPL easements

Park Amenities/Park Programs

The participants discussed a number of specific active and passive park improvements and programs including the following:

- Amenities
  - Shelters/gazebos
  - Interpretive landscape demonstration areas for native plants
  - Arboretum
  - Amphitheater
  - Dog parks
- Programs
  - Programmed activities needed
  - Public art program
  - Community festivals
  - Green markets
  - Art festivals/"Art in the Park"

Level of Service

Miami-Dade County has a Parks Level of Service (LOS) standard of 2.75 acres of park land per 1000 population. There were discussions at the July 2004 workshop as to whether this LOS should be maintained for the City of Doral or revised. Participants agreed that a high park level of service should be set and that 4.25 acres of park land per 1000 population would be appropriate.

LEVEL OF SERVICE (LOS) STANDARDS

While the City has three large, community parks, there are few public parks and open spaces within neighborhoods or within commercial areas. Based upon input from City leaders and residents, the City should consider a Level of Service for community parks and neighborhood parks to encourage the availability of park space throughout the City.

Miami-Dade County's parks and recreation Level of Service (LOS) standard is 2.75 acres of park area for every 1000 residents. While gathering the parks and recreational data for this element, the parks and recreation LOS standards established for other cities were also collected for comparative purposes. These include a Level of Service standard of 2.9 for Pinecrest, 6.2 for Coral Gables, 3.7 for South Miami and 4.63 for Miami Lakes. These higher service levels are considered more in keeping with what the City of Doral envisions as the standard for its parks and recreation system. It has been determined that the City currently has a 3.24 actual LOS. During a community visioning workshop, residents suggested the overall Level of Service should be set at 4.25 acres in order for the City to achieve and maintain ample park and open space in the City. It may be reasonable to increase the Level of Service incrementally over the twenty year planning horizon.

Table 6-4. Future Recreation and Open Space Need

Year	Park Level of Service	Population	Park Space Needed Based Upon LOS (Acres)	Additional Park Space Needed to Maintain LOS (Acres)
2005	3.00	33,633	101	None
2010	3.25	46,266	150	41
2015	4.25	59,323	252	243
2020	4.25	72,659	309	200

Considering population projections, the City would need to acquire 252 acres of park land by 2015 to achieve the 4.25 acre level of service. Already the City foresees increasing existing park space through the future acquisition of a 51-acre environmental passive park, a linear greenway, and a new 26-acre park in Section 8 of the City.

The City could overcome future deficiencies by securing the use of additional lands that lend themselves for park use, such as the Florida Power and Light easements, developer contributions, recreation fees, other public lands. The City may also consider adding a portion of existing private open space (864 acres) in its level of service calculations. The new parks, existing private open space, and other methods of park and open space acquisition will allow the City to maintain and keep a Level of Service of 4.25 from the year 2015.

VII. EDUCATIONAL FACILITIES ELEMENT

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DATA, INVENTORY, AND ANALYSIS

PURPOSE

Section 163.31777 of the Florida Statutes (F.S.) requires local governments and school boards to enter into interlocal agreements that address schools in the community. Specifically, the interlocal agreements address school siting, enrollment forecasting, school capacity, infrastructure, and sharing of school board and local government facilities. The City of Doral approved and signed Resolution #04-107 to enter into a public schools facilities interlocal agreement with Miami-Dade County School Board on November 10, 2004. The School Board signed the agreement on March 4, 2005. The resolution and "The Interlocal Agreement for Public School Facility Planning in Miami-Dade County" are included as "Attachment A" to this element.

In addition to the state-mandated school facilities interlocal agreement, a municipality may also include an optional Educational Facilities Element as part of its comprehensive plan. By including an Educational Facilities Element in the comprehensive plan, the City of Doral will document the existing situation and identify strategies for improving educational facilities in the City in the future. There are two components to the City's Educational Facilities Element. This component provides data and analysis of existing and projected school conditions in the City of Doral to assist the City and School Board to adequately provide for the current and future students of the City. The other component of the City's Educational Facilities Element, the Goals, Objectives, and Policies (GOPs), is a separate document that is formally adopted by the City Council. This component, the Data, Inventory, & Analysis (DIA) report is not formally adopted by the City Council, but serves as a support document to the GOPs.

The Educational Facilities Element is important as new residential construction and redevelopment occurs in the City of Doral. New residential development and redevelopment affects the physical capacity of the school system to meet the needs of the County's student population. New residential development and redevelopment attracts new residents with school-aged children, which impacts the surrounding schools that will need to serve the additional students. Approving new development or changes in the density and/or intensity of residential land can negatively affect the level of service provided by the public school system; therefore, these impacts must always be taken into consideration when the local jurisdiction reviews and approves development applications. In addition to meeting the ongoing school facilities needs of a growing population, the County must also meet the 2002 state minimum classroom size amendment requirements (explained in further detail below). By providing an optional Educational Facilities Element, the City of Doral will be better prepared to meet the future educational needs of its residents and their children.

EXISTING CONDITIONS

According to the Miami-Dade County School Board's Proposed Five-Year Capital Plan for Fiscal Years 2005/09, the District had 332,907 students enrolled as of October 2004. As of October 2004, the District-wide percentage of students per student station (without portables), adjusted for class size requirements is 131%. District-wide this translates to a deficiency of 77,500 seats. Over the last two years, the District-wide student population in traditional public schools has actually declined somewhat, which seems to be partially caused by an increase in student absorption in charter schools. Prior to this, there had been a fairly steady increase in student population since at least 1994/95. While overall District enrollment decreased over the last two years and is projected to remain fairly flat (333,010 students in 2009; 346,338 in 20214), significant student population growth will occur in various pockets (new growth and redevelopment areas) of the County. It is in these pockets, including the City of Doral, that overcrowding remains a primary concern.

The School Board has divided Miami-Dade County into six (6) public school regions. The City of Doral is situated in Region III. The percentage of students per student station (without portables), adjusted for class size requirements in Region III is 118%. Total October 2004 enrollment in Region III is 46,538, and the class size permanent capacity is 39,280, giving a current deficit of 7,258. This percentage is within the County's enhanced program capacity goal of less than 125% for 2005. According to the Miami-Dade County Evaluation and Appraisal Report, this numeric objective is a guideline for school facility planning and shall not be used as a strict level of service (LOS) standard or a basis for denial of development orders.

Class Size Reduction

In 2002, a constitutional amendment was passed by State of Florida voters, to reduce class size to meet the following:

- Maximum 18 students per teacher for Pre-Kindergarten to third grade;
- Maximum 22 students per teacher for fourth through eighth grades; and
- Maximum 25 students per teacher for ninth through twelfth grades.

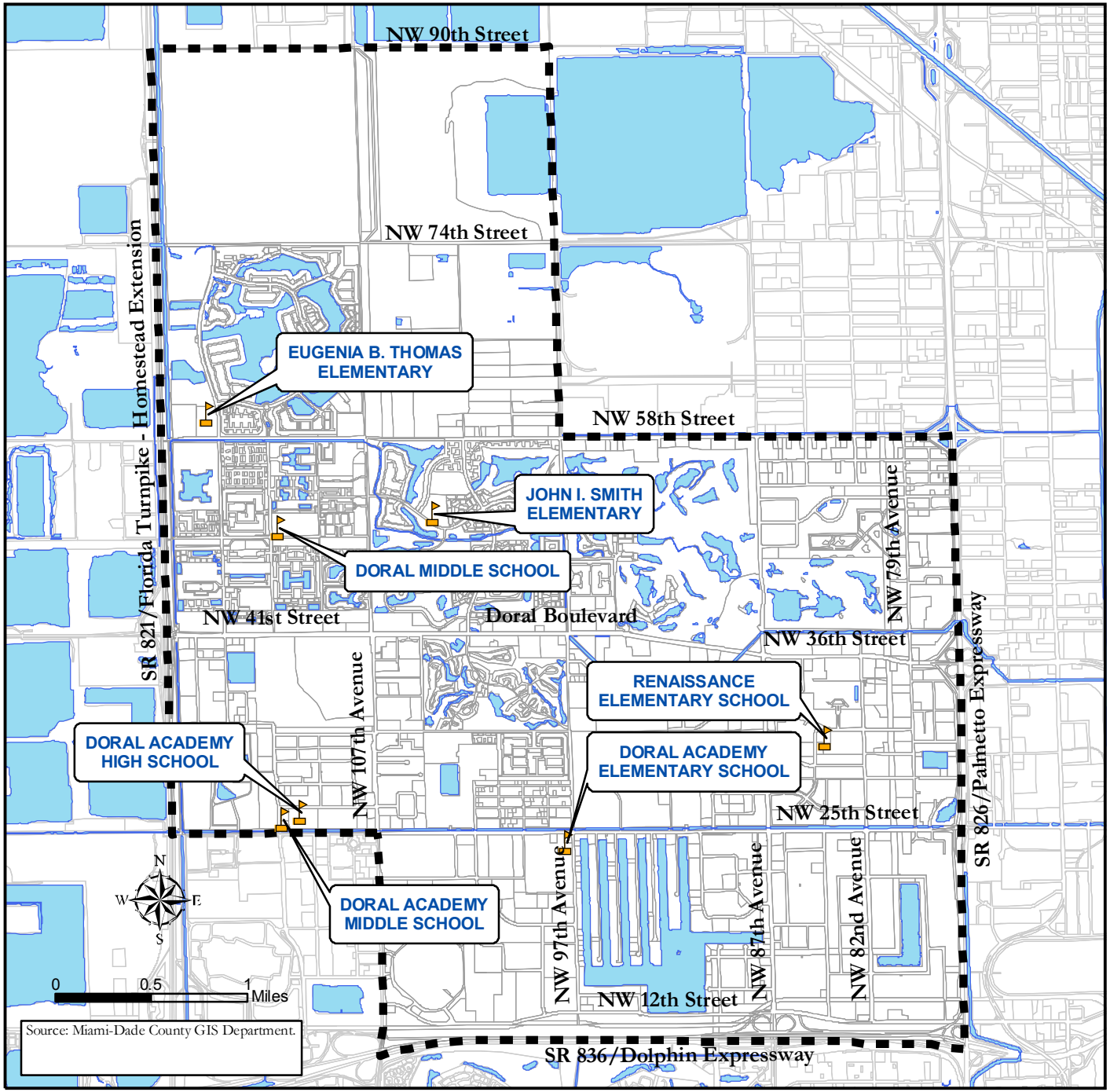
The legislature prescribed the following timeframes in which to meet the required student/teacher ratios:

- Compliance at District level by 2005/06;
- Compliance at school level by 2007/08; and
- Compliance at classroom level by 2009/10.

According to the Miami-Dade County School Board, if the class size reduction was put into effect immediately and all portables were eliminated, it would have the impact of reducing the District's total capacity by 77,618 seats. Under the above legislative requirement the transition to the required classroom size will be more gradual. In addition to meeting the class size requirements, it is the County's goal to eliminate portables by 2011. Both of these issues impact upon the need for additional facility capacity in the form of new school facilities.

Three traditional public schools (John I. Smith Elementary School, Eugenia B. Thomas Elementary School, Doral Middle School) are located within the City of Doral. The locations of the public school sites within the City of Doral are shown on the following map (Figure 7 – 1). Miami Springs Senior High School, which is not located within the City's boundaries, is the public school that currently serves all City of Doral high school aged children. Enrollment and capacity information regarding each of these traditional public schools is provided below. Table 7-1 summarizes this information. The Florida Inventory of School Houses (FISH) capacity for the following schools has been adjusted to account of the classroom size reduction amendment requirements.

There are also four existing non-traditional schools (i.e., charter schools) located within the City of Doral: Renaissance Elementary, and three Doral Academy schools (Doral Academy Elementary, Doral Academy Charter Middle School, and Doral Academy High School). The three Doral Academy schools provide continuous service to students who decide to attend from elementary through high school. Enrollment and capacity information regarding each of these non-traditional schools is also provided below.



CITY OF DORAL

Public/Charter Schools

Map VII-1

Legend

- School
- Water Bodies
- Doral City Limit

Kimley-Horn and Associates, Inc.

ILER PLANNING GROUP

April 26, 2006

Elementary Schools

Two elementary schools are located within the City of Doral, John I. Smith and Eugenia B. Thomas. Both serve primarily City of Doral residents.

John I. Smith Elementary

According to the Miami–Dade County School Board, as of October 2004, John I. Smith Elementary School had 1,276 students. The permanent FISH Design Capacity of this school is 901 students, meaning the current enrollment is 142% of the Permanent FISH Design Capacity. There are no portable stations at the school.

Eugenia B. Thomas Elementary

Eugenia B. Thomas Elementary School had 1,553 students as of October 2004. The permanent FISH Design Capacity for this school is 725 students. This would be 214% of the Permanent FISH Design Capacity. However, there are 176 portable stations at the school; therefore, the school has a total of 901 permanent and non-permanent student stations, which gives an adjusted FISH Design Capacity of 172%.

Eugenia B. Thomas Elementary is in the planning and design phase to convert to a K-8 facility. 532 student stations will be added for the middle school component, which is planned to open in the Spring of 2007.

Doral Middle School

According to the Miami–Dade County School Board, as of October 2004, Doral Middle School had 1,234 students. The Permanent FISH Design Capacity for the school is 1,031 students, meaning the current enrollment is 120% of the Permanent FISH Design Capacity. There are no portable stations at the school. Currently, all middle school students in Doral would be within the service boundaries of Doral Middle School.

Miami Springs Senior High School

Miami Springs Senior High School, which is not located within the City borders, currently serves all Doral high school aged students. According to the Miami–Dade County School Board, as of October 2004, Miami Springs Senior High School had 3,489 students. The school is currently operating double sessions. The Permanent FISH Design Capacity for the school is 2,011 students, meaning the current enrollment is 173% of the Permanent FISH Design Capacity. There are 546 portable stations at the school; therefore, the school has a total of 2,557 permanent and non-permanent student stations, which is 136% of the adjusted FISH Design Capacity. However, the opening of new high school "FFF" (Doral High School), projected to open in 2006, and "WWW" a reliever school for Miami Springs Senior High School on the School District's funded list, will help improve the situation. According to the School Board, the enrollment capacity of "FFF" will be set at 2,000 students.

Non-traditional/Charter Schools

Charter schools are flexible and have freedom to set their own rules on such issues as curriculum, teaching style, personnel, and discipline. An application for a new charter school can be made by an individual, teachers, parents, a group of individuals, a

municipality, or a legal entity. An application for a conversion of a school into a charter school can be made by the school board, the principal, teachers, parents, and/or the school advisory council; however, the public school must have been in existence for at least 2 years, and have the support of 50% of the teachers and parents. Charter schools are operated by parents, teachers, administrators and citizens, and offer a student-directed learning environment and alternative programs that meet the needs of students. Funding for charter schools comes from the state, with a portion of the money allotted per student by the Florida Legislature, by district; this is called the Full Time Equivalent (FTE). Students must satisfy state requirements and pass statewide exams; in return, charter schools offer students higher standards and a more "hands-on" environment for teaching and learning.

The charter schools program began in Florida in 1996, and according to the 2002/03 Florida Charter School Annual Accountability Report, there are more than 220 charter schools serving approximately 50,000 students. The Doral Academy, which is comprised of three charter schools – one elementary, one middle, and one high school, and the Renaissance Elementary School are located in the City of Doral.

Doral Academy (Charter Schools)

The three Doral Academy schools provide service primarily to children of people who live or work in Doral. However, no requirement or preference is given to Doral residents or employees working within the City. Admission is lottery-based, with exceptions given only for siblings of registered students. Doral Academy Charter Middle School currently has 850 students. Doral Academy (Charter Elementary School) currently has 760 students. There are no plans at this time to expand either of these facilities. Doral Academy High School has 987 students. According to the School Board, the projected 2008/09 maximum enrollment for Doral Academy High School will be 2,200.

Renaissance Elementary Charter School

The Renaissance Elementary Charter School is housed in a 30,000 square foot facility located adjacent to the Ryder System Headquarters building in Doral. Although most of the students are children of people who live or work in the City of Doral, no preference is given to Doral residents or employees working within the City. Admission is by lottery, and preference is only given to siblings of registered students and military personnel. The school currently has 500 students. While there are currently no plans to expand the elementary school, a middle school is in the plans for 2007.

Table 7-1. Facility Capacity Data (October 2004)

Name of School	Enrollment	FISH Design Capacity Permanent[1]	% Utilization Fish Design Capacity Permanent	Number of Portable Student Stations	Capacity with Permanent & Non-Permanent Student Stations
John I. Smith Elementary	1,276	901	142%	0	142%
Eugenia B. Thomas Elementary[2]	1,553	725	214%	176	172%
Doral Middle	1,234	1,031	120%	0	120%
Miami Springs HS	3,489*	2,011	173%	546	136%

[1]Adjusted for classroom size reduction requirements
[2]Eugenia B. Thomas Elementary is in the planning and design phase to convert to a K-8 facility. 532 student stations will be added for the middle school component, which is planned to open in the Spring of 2007.
*Double sessions

FUTURE SCHOOLS

As mentioned above, a new high school "FFF" (Doral High School), located north of NW 74th St, west of NW 107th Ave, and east of the Florida Turnpike, is under construction and projected to open in 2006, with a projected enrollment capacity of 2,000. In addition, new high school "WWW," a second reliever high school for the Doral area with a projected enrollment capacity of 2,858 is funded ($74,190,080) for 2008-09. No land has been purchased yet, but according to the School Board it will likely be located southwest of Doral city limits near Turnpike.

In addition to the planned conversion of Eugenia B. Thomas to a K-8 facility, a new K-8 facility "HH1" is planned to relieve John I. Smith and Eugenia B. Thomas elementary schools and Doral Middle School. Enrollment capacity is planned for 1,624 students. Funding ($30,647,832) will be available for 2006/07, however no land has been located yet. Another K-8 facility "WW1," planned to relieve the same schools and designed for the same capacity as HH1, will be funded ($31,705,056) for 2008/09.

Also, as previously mentioned, the Renaissance Charter School is planning a middle school for 2007.

PROJECTED ENROLLMENT

The population of the City of Doral in 2000 was 21,000 (2000 U.S. Census). In 2020, the City is projected to have approximately 72,659 total residents. This is an increase of 51,659 people, or 346%. The 2000 U.S. Census lists the number of school-aged children in the City of Doral (children older than 5 but less than 18 years old, or Kindergarten through 12th grade) as 3,203, which comprises approximately 15.7% of the total population. If this percent of school-aged children remained constant, then in 2005

approximately 5,280 (or 2,077 additional) school-aged children would currently live in Doral. In 2020, assuming this same 15.7% of the population to be school-aged children, the result would be approximately 11,407 (or an increase of 8,110) school-aged children. Therefore, to meet the established enhanced program capacity goal of less than 125%, a minimum of 6,488 student stations will have to exist for these additional students. The total capacity of the future schools listed above is sufficient to meet this projection. However, it is unknown how many students from areas outside the City of Doral will also attend these new schools.

The U.S. Census reported that in 2000, the City of Doral had 715 high school students, which is approximately 22.3% of the total number of school-aged children (Kindergarten through 12th grade). Therefore, the remaining 2,488 school-aged children (or 77.7%) are elementary and middle school students. If these proportions remain constant, then 22.3% of the 8,110 future school-aged children will be high school students, and 77.7% will be elementary and middle school students. Based on these assumptions, teachers and school space will have to be provided for an additional 1,809 high school students, and 6,301 elementary and middle school students. To project elementary and middle school students (for the purpose of projecting capital costs for elementary and middle schools below), 3/8 of the non-high school aged students will be assumed to middle school aged (2,363) and 5/8 to be elementary aged (3,938).

PROJECTED COSTS

According to the Financial Affairs section of the Miami–Dade County Public Schools, the average operating cost for a Kindergarten to 12th grade student is $5,833. With approximately 8,110 additional students estimated in the year 2020, the increase in the operating costs will be approximately $47,305,630. The construction costs for these additional 8,110 students are estimated as follows:

Table 7-2. Projected Capital Costs

Type of School	Number of Students	Projected Cost per Student	Total Cost
Elementary	3,938	$13,437	$52,914,906
Middle	2,363	$15,406	$36,404,378
Senior	1,809	$20,387	$36,880,083
Total	8,110	—	$126,199,367

These estimated capital costs are based on the State's October 2004 student station cost factors and do not include land costs.

INTERLOCAL AGREEMENT

State law (Section 163.31777 F.S.) requires local governments and school boards to enter into interlocal agreements to address school facility needs in the community. An interlocal agreement for school facility planning, executed in March 2003, is in place between Miami–Dade County and the municipalities within the County. In March 2005,

the City of Doral was added to this agreement. The City's Resolution approving the agreement and a signed copy of "The Interlocal Agreement for Public School Facility Planning in Miami-Dade County" are attached at the end of this element (Attachment "A").

The school facility planning interlocal agreement addresses a number of issues pertinent to planning for current and future schools, including: school siting, enrollment forecasting, school capacity, infrastructure, and sharing of school board and local government facilities. It also includes a number of requirements for the sharing of data and participation by the School Board and the municipalities in various planning and development efforts that impact upon each other.

SHARING AND COLLACATION OF FACILITIES

One requirement of the Interlocal Agreement for Public School Facility Planning in Miami–Dade County is to look for opportunities to collocate and share use of school facilities and civic facilities. In particular, the collocation and sharing of libraries, parks, recreation facilities, community centers, auditoriums, learning centers, museums, performing arts centers, and stadiums are all strongly encouraged. Currently, the City of Doral and Miami–Dade County Public Schools do not have any collocation agreements. However, a collocation agreement is planned for the new high school "FFF."

ATTACHMENT "A":

THE INTERLOCAL AGREEMENT FOR PUBLIC SCHOOL FACILITY PLANNING IN MIAMI-DADE COUNTY

VIII. INTERGOVERNMENTAL COORDINATION ELEMENT

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VIII. INTERGOVERNMENTAL COORDINATION ELEMENT
DATA, INVENTORY, AND ANALYSIS

PURPOSE

The purpose of the Intergovernmental Coordination Element is to coordinate goals, policies, and objectives and development with related governmental entities and agencies. Ultimately, the Intergovernmental Coordination Element should reduce growth and development conflict and increase cooperation among governmental entities.

INTERGOVERNMENTAL COORDINATION INVENTORY

This subsection presents an inventory of existing intergovernmental coordination processes and mechanisms involving Doral. This includes governmental entities, which have formal or informal intergovernmental relationships with the City of Doral. The inventory provides a brief description of the coordination mechanisms, subject area, and the office with primary responsibility of coordination. Table 8-1 summarizes entities involved in the City of Doral intergovernmental coordination.

Table 8-1. Inventory of Intergovernmental Coordination Responsibilities

Governmental Entity	Relationship	Major Subjects of Mutual Interest
Town of Medley	The Town of Medley abuts the City	1. Planning and development 2. Traffic flow from one jurisdiction to the next 3. Annexation issues 4. Emergency management
Miami–Dade County: • Planning, Building and Zoning Dept. • Water and Sewer Dept. • Environmental Resources Mgmt. Dept. • Parks and Recreation Dept. • Solid Waste Mgmt. Dept. • Public Works Dept. • Fire Rescue Dept. • Emergency Mgmt. Dept. • Police Dept. • Historic Preservation Div. • Finance Dept. • Information Technology Dept. • Transit Dept.	County in which Doral is located.	1. Planning and development of Doral including annexation area Section 8. 2. County road system improvements 3. Water and sewer issues 4. Resource Recovery Facility 5. Annexation issues 6. Funding for municipal services 7. Web portal services for the City 8. Funding for transportation services 9. Transferring of seized property to the City for park use 10. Other services: fire & police protection, parks and recreation, and drainage

Table 8-1. Inventory of Intergovernmental Coordination Responsibilities

Governmental Entity	Relationship	Major Subjects of Mutual Interest
Miami–Dade County School Board	School Board facilities are located within Doral	1. Coordination of recreation facilities/programs (shared use) 2. Coordination of school facilities planning programs 3. Procedures for communication and input 4. Ingress and egress to schools
South Florida Water Management District	District includes City of Doral within jurisdiction.	1. Stormwater drainage 2. Wetlands protection 3. Consumptive use permits 4. Grant funding to perform stormwater evaluations and improvements
South Florida Regional Planning Council	Council includes City of Doral within jurisdiction.	1. Comprehensive Regional Policy Plan 2. Socio-economic data projections 3. Intergovernmental review 4. Development of Regional Impact issues
Florida Department of Community Affairs	DCA is the state land planning agency and administers grant programs.	1. City's Comprehensive Plan must meet both statutory and administrative requirements with review by DCA 2. Coordinating resource conservation and growth management issues 3. Funding assistance for local comprehensive planning activities, and emergency aid and assistance
Florida Department of Children and Family Services	DCFS administers programs that provide housing or shelter for people with special needs.	1. Regulates community residential homes, mobile homes, foster care homes, and homes for special children
Florida Department of Health	DOH administers all health related issues formerly under HRS.	1. Well and septic tank permits.
Florida Department of Environmental Protection	DEP has statewide jurisdiction for protecting and conserving Florida's natural resources, managing State owned lands/aquatic preserves, and regulating impacts on the environment.	1. Monitoring/reporting on quality of drinking water supply and wastewater treatment 2. Air quality monitoring/reporting 3. Hazardous and solid waste disposal 4. Alteration to environmentally sensitive areas 5. Wetlands 6. Acquisition and development of parks and recreation
Florida Department of Transportation	FDOT has jurisdiction over all state roads.	1. Improvements to State roads (planning/construction) 2. Installation of traffic control devices
Florida Department of State Division of Historic Resources	Historic Survey Grants; Review of any project with Federal and/or State Involvement	1. There are four historical/archaeological sites within Doral listed on the Florida Master Site File. The City has not designated any historically significant structures.
Environmental Protection Agency	EPA has jurisdiction over all environmental issues of federal concern.	1. Minimum federal standards for wastewater, drinking water, and air quality 2. Funding of wastewater facilities

Table 8-1. Inventory of Intergovernmental Coordination Responsibilities

Governmental Entity	Relationship	Major Subjects of Mutual Interest
Federal Emergency Management Agency, Flood Insurance Administration	FEMA has responsibility for all 100-year flood zone mapping.	1. Compliance with federal flooding regulations.
US Department of Agriculture, Natural Resources Conservation Service	NRCS has responsibility in conjunction with Miami–Dade County for mapping soil types and describing their suitability for agricultural and urban uses.	1. Ensuring land use activities occur consistent with specific soil properties.
US Department of Defense	US agency in charge of military forces (air force, army, marines and navy.)	1. Rights-of-way issue related to the Southern Command.
Federal Aviation Administration	Responsible for formulating and enforcing federal aviation regulations,	2. Flight paths and noise abatement. 3. Local airport traffic.
Florida Power and Light Company	Provides the City with electricity.	1. Generation and distribution of adequate and dependable supply of electricity. 2. Franchise fees and utility taxes.
Local gas company	Natural gas	1. Generation and distribution of adequate and dependable supply of natural gas 2. Franchise fees and utility taxes.
Local telephone company	Provides phone service	1. Franchise fees

Sources: City of Doral, 2005
Prepared by: Iler Planning Group (IPG), 2005.

Local Agencies

Town of Medley

Because of their proximity to each other, the City of Doral coordinates with the Town of Medley as needed. Issues include planning and development, traffic, solid waste facilities and annexation.

Miami–Dade County

The City of Doral coordinates with Miami–Dade County on numerous issues regarding managing community development, traffic and infrastructure, and service delivery systems. Major components of the County's service delivery system includes:

- Drainage and NPDES permitting
- Traffic control issues: signage/signalization
- Transit
- Social Services and public health services
- Water and sewer services
- Annexation issues

- Planning and zoning
- Construction and maintenance of County roads
- Emergency management, including disaster preparedness and hurricane evacuation
- County recreation and open space
- Web portal services for the City

Miami–Dade County School Board

Miami–Dade County School Board consists of five members and a superintendent who are elected at-large. The board is charged with formulating policy governing the administration and operation of public schools, including the following facilities in Doral:

- John I. Smith Elementary School
- Eugenia Thomas Elementary School
- Renaissance Elementary Charter School
- Doral Middle School
- Doral Academy Charter Middle School
- Doral Academy
- Doral Academy High School

The City coordinates with the School Board on issues such as the impact of these schools on Doral's transportation system. The City Manager is the principal contact for the City in matters relating to the School Board.

Regional Agencies

South Florida Water Management District

The South Florida Water Management District (SFWMD), an agency created by the State pursuant to Chapter 25270, is a multi-county independent special district responsible for flood-control and water conservation within the South Florida Region. As one of Florida's five regional water management districts, SFWMD issues permits for the consumptive use of water, well construction, surface water management, and artificial recharge. Besides its permitting activities, the district is authorized to:

- Construct and operate water control works
- Engage in water resource planning
- Participate in technical investigations of water resources
- Gather water resource data
- Monitor discharges into SFWMD canals from City canals

The staff of each district is administered by an executive director appointed by a citizen Board. The Board renders decisions on policy matters based upon staff recommendations and public testimony received at Board meetings and public hearings. The South Florida Water Management District office is located in West Palm Beach.

South Florida Regional Planning Council

The South Florida Regional Planning Council (SFRPC), located in Hollywood, is one of Florida's 11 regional planning councils. The SFRPC provides technical assistance to local government. In addition, the SFRPC has the responsibility for reviewing comprehensive plans or portions thereof in order to ensure consistency with the Strategic Regional Policy Plan goals, objectives, and policies. The City also coordinates with SFRPC on matters involving review and evaluation of developments of regional impact (DRI), which are, projects generating regionally significant impacts.

The South Florida Regional Planning Council may also submit recommendations to the State requesting modification of local plans. The City Council maintains responsibility for managing City issues that impact or are impacted by regional planning activities. The SFRPC is administered by an executive director who reports to a Board. The Board is made up of elected officials from local government belonging to the Council and Governor appointees. The South Florida Regional Planning Council includes the counties of Miami–Dade, Monroe and Broward.

State Agencies

Department of Community Affairs

The Florida Department of Community Affairs (DCA) is headquartered in Tallahassee. The Department is administered by a Secretary appointed by the Governor. DCA provides technical assistance to local governments in the areas of:

- housing
- resource planning and management
- community services
- community development
- land and water management
- public safety
- post-disaster recovery
- emergency management preparedness

DCA administers a variety of grant programs designed to assist local governments in improving growth management resources, community infrastructure, and service delivery systems. The City of Doral has been coordinating with DCA in developing its first comprehensive plan pursuant to Chapter 163, Florida Statutes. The City Director of Community Development is the project director for comprehensive planning issues and is the principal liaison with DCA on this activity.

Department of Environmental Protection

The Department of Environmental Protection (DEP) is the state administrative agency in charge of environmental issues and natural resource protection. It's primary duties are:

Protecting and conserving Florida's natural resources, managing State owned lands/aquatic preserves, and
Regulating industrial waste, air pollution emission, hazardous wastes, potable water usages, solid waste disposal, dredge and fill activities, and alteration to environmentally sensitive areas.

DEP also issues national pollution discharge elimination system (NPDES) water qualities certifications and serves as an umbrella agency for Florida's five regional water management districts. DEP is headquartered in Tallahassee. A Secretary appointed by the Governor administers the Department. Doral coordinates with FDEP on environmental resource issues involving public projects and private development.

Department of Transportation

The Florida Department of Transportation (FDOT) directs planning functions and coordinates maintenance and development of Florida's transportation system. FDOT has authority to direct the design, construction, maintenance, and related activities of the Florida Highway System. FDOT is responsible for the maintenance of State Road (SR) 836 (Dolphin Expressway), SR 826 (Palmetto Expressway), and SR 821 (Florida's Turnpike) within the City of Doral. FDOT has limited regulatory authority over the use of land along State roads including design standards for curb cuts on the State's major highway system. In addition, FDOT is responsible for determining the functional classification of roads within Doral. The FDOT District 6 office is responsible for coordinating most FDOT issues with the City of Doral.

Department of Agriculture and Consumer Affairs

The Florida Department of Agriculture and Consumer Affairs (DACA) coordinates with the City of Doral through its Division of Forestry. The Department also operates an agricultural agent extension service within the Miami–Dade County governmental center. The City staff and residents receive technical assistance, consumer related services, and publications, which address a broad range of special services.

Department of State

The Florida Department of State (DOS) coordinates with the City of Doral on issues related to State archives and records as well as issues related to the historic sites and properties within the City of Doral. The City works with the Division of Historical Resources, Bureau of Historic Preservation, in addressing comprehensive planning issues surrounding historic and archaeological sites of significance. The Department of State is also the City's primary source for obtaining rules and regulations promulgated by State agencies.

Department of Health

The Florida Department of Health (DOH) coordinates with the City of Doral on issues related to public health and environmental control. The City principally coordinates through the Miami–Dade County Department of Environment Resource Management (DERM). DERM incorporates not only conventional public health functions but also environmental health programs. The latter entity is charged with managing a broad range

of environmental issues, including septic tank regulation, water quality, and pollution control.

Department of Children and Family Services

The Florida Department of Children and Family Services (DCFS) coordinates with the City of Doral on issues surrounding delivery of rehabilitative, social and medical services for children, youth, family and elderly, including services directed toward special needs.

Florida Game and Freshwater Fish Commission

The Florida Game and Freshwater Fish Commission coordinates with the City of Doral primarily through the review of projects that may have potential impacts on local fish and wildlife habitat or which may intrude on and disturb habitats of endangered species. The City coordinates its comprehensive planning activities with the Florida Game and Freshwater Fish Commission in order to achieve professional fish and wildlife management perspectives on issues potentially impacting fish and wildlife habitat, particularly habits of endangered and threatened species. The City also coordinates with DERM on these issues.

Federal Agencies

Environmental Protection Agency

The Environmental Protection Agency (EPA) is the federal agency responsible for protection of the environment. The EPA administers a variety of programs ranging from air and water quality protection to noise abatement. EPA exerts authority through the issuance of grant monies and through its power to fine violators. The agency establishes national drinking water and air quality standards with which all local agencies must comply. EPA standards are generally administered at the local level through the Florida Department of Environmental Protection and DERM. On irregular occasions, the Fire Department also coordinates with the EPA when assistance is needed on clean up of hazardous waste spills. The EPA will coordinate clean-up efforts and advise the Department about safety measures for handling unusual materials.

The Environmental Protection Agency (EPA) issues National Pollution Discharge Elimination System permits and reviews permits issued by DEP for the treatment, disposal, and storage of hazardous waste. EPA may also prohibit or otherwise restrict the discharge of dredge and fill material. The Southeast Regional Office of the EPA is located in Atlanta. The EPA does not have a Florida office. All EPA permits for facilities constructed or operated in Florida are issued from the Atlanta regional office.

Department of Agricultural, Natural Resource Conservation Services

The Natural Resources Conservation Service has responsibility for mapping soils according to type, including soils that define wetlands, and this information is used to assist in locating areas that deserve special attention. In addition, the educational and informative information concerning prevention of soil erosion is disseminated to the public, development industries, and agricultural operations.

Department of Defense
The Department of Defense is the primary agency for U.S. military services including the Air Force, Army, Marines, and the Navy.

Miami–Dade Soil and Water Conservation District
The Miami–Dade Soil and Water Conservation District is a sub-agency of the Department of Agriculture. The District staff provides technical assistance in Miami–Dade County and Doral on large-scale development impacts.

Federal Aviation Administration
The Federal Aviation Administration (FAA) is responsible for formulating and enforcing federal aviation regulations, air travel safety programs, aviation licensing, and general airport operations. The FAA is the coordinating agency with the City for aviation related issues including flight paths, local airport traffic and noise abatement.

Federal Emergency Management Agency
Although not specifically related to the issue of environmental conservation, the 100-year flood zone mapping effort carried out by the Federal Emergency Management Agency Flood Insurance Administration often tends to be useful in defining sensitive areas. If an area is both flood prone and environmentally unique, the flood protection policies tend to provide additional reinforcement to the other City policies created for protection of the area.

Franchise Agreements and Related Services

Electric Service
Miami-Dade County maintains a franchise agreement with the Florida Power and Light Company (FP&L) for the provision of electricity within its corporate limits. The City Manager is the principal contact for the City in matters relating to Florida Power and Light, and revenues collected from FP&L make up 62% of the City's Utility Taxes.

Telephone Service
Miami-Dade County maintains a franchise agreement for the provision of telephone service within its corporate limits. The City Manager is the principal contact for the City in matters relating to telephone franchise service agreements.

Television Cable Service
Miami-Dade County maintains a franchise agreement with cable television companies to provide cable television service within the corporate limits of the City. Doral does not receive revenue from cable television franchise agreements.

Solid Waste Collection
The City of Doral is part of the Miami–Dade County Solid Waste District. The County collects all residential solid waste and recycling.

Gas Service
Gas revenues make up 1.1% of the utility tax. Citigas provides natural gas service for customers in Doral.

INTERGOVERNMENTAL COORDINATION ANALYSIS

This section provides an analysis of the Intergovernmental Coordination mechanisms, problems, and needs within the City of Doral.

Effectiveness of Existing Coordination Mechanisms

This subsection provides an analysis of the effectiveness of the existing intergovernmental coordination mechanisms. This analysis has been separated by the individual mechanism to ensure proper coverage of the coordination mechanisms that are utilized within the City of Doral.

Interlocal Agreements
The City of Doral has adopted several interlocal, intergovernmental, and joint resolutions. The interlocal agreements that the City has entered into are identified below:

County Transition Agreement
When the City of Doral was incorporated in 2003, the City and the County entered into an interlocal transition agreement. The transition agreement identified responsibilities for the provision of necessary public services between the City and the County, and the financial arrangements necessary to implement the allocation of services.

School Board
Pursuant to recent amendments to the State Growth Management requirements, the City was required to enter into an Interlocal Agreement with the Miami–Dade County School Board to address issues such as attendance boundaries, planning, zoning and site plan coordination, special educational programs, over-crowding, and new school location. This agreement was adopted by the City Council on November 10, 2004 and signed by the School Board on March 4, 2005.

Potential Intergovernmental Coordination Improvements

The City of Doral has identified a number of intergovernmental issues, which are currently the subjects of discussion between the City of Doral and respective public agencies.

Recreation Resources
The City of Doral should continue to coordinate with the Miami–Dade County Parks and Recreation Department and the Miami–Dade County School Board in order to ensure that County parks, and school sites and facilities are available for use as parks and recreation sites. The City is also finalizing agreement with Miami-Dade County to transfer Doral Meadows Park. Specific actions recommended to address issues related to recreation resources include:

Use of Existing School Facilities

The City should continue to work with the School Board in order to promote wider application of the joint-use recreation concept. Mutual issues, such as avoiding conflicts in activity schedules and organize play rules, should continue to be coordinated.

Funding and Maintenance of New and Existing Facilities

The City should work with the Miami–Dade County Parks and Recreation Department to ensure that park facilities in the regional service area, which includes Doral, are kept at or above the adopted County level-of-service for each facility type, to help ensure that City facilities are not over-burdened by unincorporated residents.

Affordable Housing

As discussed in the Land Use and Housing Elements, affordable housing is an issue within Miami–Dade County. The affordable housing needs, identified in the Housing Element, are being met by the City's housing supply system. Nevertheless, the City understands that affordable housing is a regional issue and needs to be addressed on a regional basis. Miami–Dade County has established a Housing Affordability Task Force to address this issue on a countywide basis. Specific actions recommended to address affordable housing issues in Doral include:

- **Coordination with Miami–Dade County's Task Force**. The City of Doral should proactively work with Miami–Dade County's Affordable Housing Task Force to ensure that northwest Miami-Dade affordable housing initiatives are implemented concurrent with needs.

- **Coordination with Regional Agencies**. The City of Doral shall participate in the South Florida Regional Planning Council's affordable housing committees as requested by the SFRPC.

- **Coordination with Appropriate Agencies**. Where appropriate, the City shall coordinate planning efforts with the Miami–Dade County's Housing Authority as well as appropriate federal and State agencies.

- **Coordination with State Departments**. The City shall coordinate siting and permitting activities impacting group home facilities with the State Departments of Health and Children and Family Services.

Transportation

The City can increase its coordination with Miami–Dade County and FDOT relating to regional traffic utilizing State Road 826, State Road 836 and State Road 821. Additional transit service to the City should also be addressed more intensively. Specific actions recommended addressing transportation issues include:

- **Coordination with Miami–Dade County Long-Range Plan for Transportation**. The City of Doral shall participate in Miami–Dade County's transportation planning

initiatives that integrate the transportation plans of Miami–Dade County with plan of all incorporated areas.

- **Coordinate with FDOT, MPO, DCA, SFRPC, and Other State and Regional Agencies**. The City of Doral shall coordinate on a continuing basis with FDOT and the Miami–Dade County Metropolitan Planning Organization (MPO), particularly with regards to planned improvements to State roads, updates to the MPO's five-year improvement plan, and the State long-range plan for State roadway improvements impacting the City of Doral. The City shall also coordinate with FDOT, DCA, SFRPC, and other state and regional agencies concerned with assessing traffic impacts of proposed development. This coordination shall be achieved through an agreement requiring these agencies to notify the City of any potential action, which may directly or indirectly impact within the City of Doral' transportation system.

Hurricane Evacuation and Disaster Preparedness

The Miami–Dade County Office of Emergency Management maintains a countywide disaster preparedness program. The Office of Emergency Management has divided the County into operation areas. Hurricane evacuation plans, shelter space allocations, and post-disaster recovery management plans should continue to be closely coordinated among the County and nearby municipalities within Miami–Dade County. Specific actions recommended to address disaster preparedness should include:

- **Coordinate with Miami-Dade Count in Emergency Preparedness.** Coordinate with the Miami-Dade County OEM to ensure consistency with the County's Comprehensive Emergency Management Plan (CEMP) and the Miami-Dade Local Mitigation Strategy (LMS) currently under development and in updating hurricane evacuation shelter assignments. This update shall enable Miami-Dade County and the incorporated municipalities to plan for future population densities, which will neither adversely impact the efficiency of the evacuation plan nor increase evacuation times.

- **Implement a Local Hazard Mitigation.** The City shall adopt the County-wide Local Mitigation Strategy for hazard mitigation. Within two years of the effective date of the Plan the City shall evaluate and adopt a Post Disaster Redevelopment Plan to increase public safety and reduce damages and public expenditures.

Conflict Mediation

The City, pursuant to Chapter 163, Part II, F.S. and Chapter 9J-5, F.A.C., shall develop a program for conflict resolution. The following are specific actions recommended to address issues related to conflict mediation:

- **Informal Mediation Process**. The City of Doral shall work within Miami–Dade County's established informal mediation process for solving intergovernmental coordination problems among local governments and other units of local governments providing services but not having regulatory authority over the use of land. The City

of Doral shall use this informal mediation process to assist resolution of intergovernmental coordination problems.

- **South Florida Regional Planning Council's Mediation Process**. Where the City is unable to resolve intergovernmental conflicts through the Miami–Dade County structure, the City Council shall use informal mediation processes provided by the South Florida Regional Planning Council.

REGIONAL PLANNING IMPLICATIONS

This Element has presented an inventory and analysis of entities with which the City of Doral coordinates multi-jurisdictional issues surrounding growth, development, and resource conservation. In addition, the Comprehensive Plan: Data Inventory and Analysis for each functional element of the Plan identifies and analyzes issues having multi-jurisdictional impacts. Finally, the Comprehensive Plan: Goals, Objectives and Policies for each functional element of the Plan shall provide a pro-active approach for guiding the governmental coordination process in order to promote and further the resolution of intergovernmental coordination issues and/or conflicts.

The intergovernmental coordination issues involving land use, transportation, housing, public facilities, and resource conservation shall be coordinated with Miami–Dade County and the City of Doral. In addition, intergovernmental coordination policy issues shall also be reviewed for consistency with the State of Florida Plan and South Florida Regional Planning Council Strategic Policy Plan.

INTERGOVERNMENTAL COORDINATION WITHIN AREAS OF CRITICAL CONCERN

No Areas of Critical State Concern are located within the City of Doral.

IX. CAPITAL IMPROVEMENTS ELEMENT

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IX. CAPITAL IMPROVEMENTS ELEMENT
DATA, INVENTORY, AND ANALYSIS

PURPOSE

The Capital Improvement Element, consisting of the Goals, Objectives, and Policies and the Supporting Data, Inventory, and Analysis Report, has a critical role within the City's comprehensive planning process. It provides a general overview and discussion of the City's financial situation and sets the overall economic framework that evaluates the combined fiscal impact of all improvements specified in the Plan. The purpose of the CIE is threefold: to evaluate the need for future capital improvements for each type of public facility identified in the other elements of the Comprehensive Plan in order to maintain the adopted public facility levels-of-service (LOS) pursuant to State law; to provide for funding for such improvements by estimating the costs for which the City has fiscal responsibility, assessing the City's fiscal capability to finance and construct improvements, and adopting financial policies to guide the funding of improvements; and to schedule the funding and construction of improvements in a manner which ensures that public facilities are provided, as necessary, based upon the deficiencies identified in this Plan.

The CIE also has a key relationship to the Future Land Use Element through concurrency, which stipulates that facilities and services must be available at their adopted service standard concurrent with the impacts of development. Therefore, decisions concerning the planning of capital improvements and land use are directly correlated with each other. The CIE specifies guidelines for the future implementation of the City's Concurrency Management System (CMS) to be included in the Land Development Code.

CAPITAL IMPROVEMENTS DATA REQUIREMENTS

This subsection presents an inventory of the public facility needs, existing revenue sources and funding mechanisms as they apply to the City of Doral.

Public Facility Needs

A listing of the public facilities and infrastructure needed to correct deficiencies or maintain LOS as identified in the Transportation, Infrastructure and Recreation and Open Space Elements of this Comprehensive Plan and other capital projects that are not measured by LOS standards but still fulfill certain City needs, are presented in Table 9-1. The table also indicates whether the required capital improvement is needed to correct an existing deficiency or to prevent a projected problem as well as the fiscal year(s) in which the capital expenditure will be made.

Table 9-1. Existing and Projected Deficiencies Requiring Capital Improvements

No.	Facility	Existing Deficiency / Projected Need (ED/PN)	Fiscal Year(s)
Recreation & Open Space			
1.	Doral Park – Design Engineering	PN	2005-2007
2.	Doral Meadows Park – Phase Two improvements	PN	2005-2006
3.	Miami West Park – Phase One improvements	PN	2005-2009
4.	Linear Greenway Park Development	PN	2008-2009
5.	Environmental Passive Park at NW 107 Av and 74th St	PN	2009-2010
6.	Section 8 Community Park	PN	2006; 2009-2010
Civic and Public Buildings			
7.	New City Hall Complex	PN	2006; 2008-2010
Transportation			
8.	Transportation Master Plan	ED	2005
9.	NW 122nd Avenue Construction	ED	2005
10.	NW 41st Street Beautification	PN	2006-2010
11.	NW 58th Street Median Improvement – 107th Av to NW 102nd Av	PN	2006
12.	NW 87th Av Streetscape	PN	2008
13.	NW 107th Av Streetscape	PN	2008
Drainage			
14.	Citywide Stormwater Master Plan	ED	2005
15.	Stormwater Improvement Projects (To be delineated in SMP)	ED	2006-2010

Sources: City of Doral and Data, Inventory and Analysis Reports of the Comprehensive Plan.

Public Health and Education Systems

Medical Facilities

No major health care facilities are located within the City. The closest hospital is the Pan American Hospital, approximately 2 miles southeast of the City. Table 9-2 details the seven hospitals located outside the City but within a 3-mile radius. There are several minor health care facilities in Doral that are available to the public. These state-licensed health care facilities are indicated in Table 9-3.

Table 9-2. Miami Dade County Hospitals within 3 miles of the City of Doral

No.	Name	Address	City	Beds
1	PALMETTO GENERAL HOSPITAL	2001 W 68TH ST	HIALEAH	360
2	SOUTHERN WINDS HOSPITAL	4225 W 20TH AV	HIALEAH	72
3	LARKIN COMMUNITY HOSPITAL	5190 SW 8TH ST	CORAL GABLES	122
4	PAN AMERICAN HOSPITAL	5959 NW 7TH ST	MIAMI	146
5	WESTCHESTER GENERAL HOSPITAL	2500 SW 75TH AV	MIAMI	100
6	PALM SPRINGS GENERAL HOSPITAL	1475 W 49TH ST	HIALEAH	247
7	WEST GABLES REHABILITATION HOSPITAL	2525 SW 75TH AVE	MIAMI	60

Source: Miami Dade County, E-Maps Online, 2003.

Table 9-3. Florida Licensed Health Care Facilities in the City of Doral

No.	Name	Address	Type
1	AMERICAN ELDERCARE, INC.	8260 NW 27TH STREET, STE 410	HOME HEALTH AGENCY
2	LIFELINE HOME HEALTHCARE PROVIDERS INC	1425 NW 82ND AVENUE	HOME HEALTH AGENCY
3	OASIS CMHC, INC.	3900 N.W. 79 AVE	HEALTH CARE CLINICS
4	SUNSHINE REHAB & MEDICAL, INC.	8180 NW 36TH STREET	HEALTH CARE CLINICS
5	V & H MEDICAL CENTER	3900 NW 79 AVE	HEALTH CARE CLINICS

Source: State of Florida, HealthStat.com, 2004.

Schools

There are currently three public education facilities located within the City of Doral that are operated by the Miami-Dade County School System:

1. **John I. Smith Elementary School**. This school accommodates grades K-5 and is located at 10415 NW 52nd Street. The John I. Smith Elementary School services those Doral students residing east of NW 107th Avenue.
2. **Eugenia B. Thomas Elementary.** This school accommodates grades K-5 and is located at 5950 NW 114th Avenue. The Eugenia B. Elementary School services those Doral students residing west of NW 107th Avenue. The County School Board is currently in the planning and design phase to convert this facility to grades K-8 by Spring 2007.
3. **Doral Middle School**. This school accommodates grades 6-8 and is located at 5005 NW 112th Avenue. The Doral Middle School services all middle school students residing in Doral.

The high school currently servicing the Doral students in grades 9-12 is Miami Springs Senior High School, located at 751 Dove Avenue in the City of Miami Springs. The Miami Dade School Board is currently constructing School Site FFF (Doral Senior High School), a 2,000-student station high school located at the southwest corner of NW 90th Street and WN 107th Avenue in the City of Doral, to relieve the overcapacity of Miami Springs Senior High School. This school is project to open in 2006.

According to the Miami-Dade County's Proposed Five-Year Capital Plan, Fiscal Years 2005-2009, two new K-8 schools (S/S HH1 and S/S WW1) and a new high school (New Senior) have been allocated funding for construction in future fiscal years to partially relieve capacity at Doral Middle School and Doral Senior High School. At this time the location for these sites has not been determined, therefore it is unclear whether or not they will be located within the corporate limits of Doral.

Charter Schools, fully recognized as public schools by the State of Florida, are funded in part by the Florida Department of Education in the same manner as public schools with additional funding obtained through grants and private donations. Enrollment is open to any student residing in the school district in which the charter school is located. There are currently four charter schools located within the City of Doral that are operated by, or organized as, nonprofit organizations:

1. **Renaissance Elementary Charter School**. This school accommodates grades K-5 and is located at 8360 NW 33rd Street.
2. **Doral Academy**. This school accommodates grades K-5 and is located at 2450 NW 97th Avenue.
3. **Doral Academy Charter Middle School**. This school accommodates grades 6-8 and is located at 2601 NW 112th Avenue.
4. **Doral Academy High School**. This school accommodates grades 9-12 and is located at 11100 NW 27th Street.

Existing Revenue Sources and Funding Mechanisms

The City of Doral utilizes a diversified and stable revenue system to implement the financing administration, operations, and capital improvements required to efficiently maintain City functions. This section describes the revenue sources and funding mechanisms currently used by the City. The City of Doral's budget presently consists of four funds: General Fund, Stormwater Fund, Transportation Fund and Capital Projects Fund. Table 9-4 shows the City of Doral's Fund Balances in Fiscal Year (FY) 2005.

Table 9-4. City of Doral Fund Balance for FY 2003-2005

CLASSIFICATION	FY 2003 ACTUAL	FY 2004 BUDGET	FY 2004 12 MO EST	FY 2005 MGR REC	FY 2005 COUNCIL ADOPT
GENERAL FUND					
Beginning Balance	$ 0	$ 0	$ 1,444,985	$ 2,212,503	$ 2,212,503
Revenues	5,211,295	23,015,244	20,021,367	33,229,972	33,229,972
Less Expenditures	3,766,310	21,739,306	18,893,849	23,282,556	23,282,556
Less Interfund Transfers Out	0	360,000	360,000	8,216,280	8,216,280
GENERAL FUND BALANCE	**$ 1,444,985**	**$ 915,938**	**$ 2,212,503**	**$ 3,943,639**	**$ 3,943,639**
STORMWATER UTILITY FUND					
Beginning Balance	$ 0	$ 0	$ 0	$ 150,000	$ 150,000
Revenues	0	0	0	500,000	500,000
Interfund Tranfers In	0	150,000	150,000	0	0
Less Expenditures	0	150,000	0	650,000	650,000
STORMWATER UTILITY FUND BALANCE	**$ 0**	**$ 0**	**$ 150,000**	**$ 0**	**$ 0**
TRANSPORTATION FUND					
Beginning Balance	$ 0	$ 0	$ 0	$ 542,100	$ 542,100
Revenues	0	432,100	432,100	511,577	511,577
Interfund Transfers In	0	110,000	110,000	1,000,000	1,000,000
Less Expenditures	0	110,000	0	1,000,000	1,000,000
TRANSPORTATION FUND BALANCE	**$ 0**	**$ 432,100**	**$ 542,100**	**$ 1,053,677**	**$ 1,053,677**
CAPITAL PROJECTS FUND					
Beginning Balance	$ 0	$ 0	$ 0	$ 100,000	$ 100,000
Revenues	0	0	0	0	0
Interfund Transfers In	0	100,000	100,000	7,216,280[1]	7,216,280[1]
Less Expenditures	0	100,000	0	7,316,280	7,316,280
CAPITAL PROJECTS FUND BALANCE	**$ 0**	**$ 0**	**$ 100,000**	**$ 0**	**$ 0**
TOTAL FUND BALANCE	**$1,444,985**	**$ 1,348,038**	**$ 3,004,603**	**$ 4,997,316**	**$ 4,997,316**

[1] This expenditure amount is attributable to appropriations connected directed to the receipt of revenues from several grants. Failure to receive the corresponding grants would result in a corresponding reduction of this line item expenditure.

Source: City of Doral 2005 Annual Budget.

General Fund Revenues

The General Fund is used to account for revenues that are not allocated to specific purposes and serve as the general operating fund of the City. General Fund revenue sources include ad valorem property taxes, franchise fees, utility taxes, license and permit fees, intergovernmental revenues, service charges, fines and forfeitures and miscellaneous other revenues. Table 9-5 shows the City's General Fund Summary for FY 2005.

Ad Valorem Taxes – Real and Personal Property. These are taxes on non-exempt real property assessed according to a millage rate that is applied to the taxable value of the property equal to $1.00 for each $1,000.00 of assessed property value provided by the Miami-Dade Property Appraiser's Office. The ad valorem millage rate levied by the City

of Doral in Fiscal Year (FY) 2005 is 2.447, the same millage rate since the City's inception in 2003 and the third lowest municipal millage in the County. In June 2004, the Estimated Certified Taxable Value of property in the City was $6,487,084,909, a 25% increase from the previous year. This tax base value is expected to produce FY 2005 ad valorem revenues of approximately $15,080,202, representing 45.4% of the total General Fund Revenues, budgeted at a 95% collection rate.

Intergovernmental Revenue. This includes a portion of the Occupational License fees collected by the County; proceeds of a County-wide General Obligation Bond, which sets aside a total of $4,607,000 for development of municipal parks; and other grants, which are anticipated for FY 2005. Florida Statute 205.0536 directs the County to remit the City's share of occupational license tax revenues collected by the County, anticipated to total $70,000. In FY 2005, Intergovernmental Revenues are expected to produce approximately $6,486,280, representing 19.5% of the total General Fund Revenue. Because this revenue source involves one time and annual grants, it cannot be relied upon to represent a stable revenue trend.

Utility Taxes. These are levied on consumer consumption of electricity, water, gas, and communications services utilities provided in the City and are calculated as a percentage of gross receipts. In FY 2005, the City expects to receive approximately $3,718,426 in utility taxes, representing 11.2% of the total General Fund Revenue.

Licenses and Permits. These include annual fees to businesses, professionals, or occupations located in the City for Occupational Licenses, Building Permits, Other Licenses and Permits, Zoning Hearing Fees, Zoning Plan Revenue Fees, Certificates of Occupancy and Alarm Permits. Licenses and Permits are expected to produce approximately $2,974,000, representing 8.9% of the total General Fund Revenue. Traditionally, these types of revenues display a fairly constant trend and are impacted by the rate of growth and development in the City.

State Shared Revenues. These funds are distributed to the City pursuant to State statute through three separate sources. In FY 2005, the City expects to receive approximately $2,325,751 in state shared revenues, representing 7.0% of the total General Fund Revenue. Because two of the three funds are calculated based upon population, revenue trends should increase with population growth.

- State Revenue Sharing – provided to the City by the State on a predetermined allocation methodology.
- Local Government Half Cent Sales Tax – allows unrestricted use of these tax revenues with levy, distribution and use restrictions subject to Section 82-154F.S.
- Alcoholic Beverage Licenses – allows unrestricted use of these tax revenues with levy, distribution and use restrictions subject to Section 561.568F.S.

Franchise Fees. These are levied on public service franchises for an exclusive/nonexclusive right to operate within the City and are calculated as a percentage of gross receipts. In FY 2005, the City expects to receive approximately $2,300,000 in franchise fees, representing 6.9% of the total General Fund Revenue.

Charges for Services. These include impact fees collected from development projects for infrastructure impacts on police and parks to fund capital improvements necessary due to increased usage; school crossing guard revenues; judgments and fines; and lien search fees. In FY 2005, Charges for Services are expected to produce approximately $237,620, representing 0.7% of the total General Fund Revenue. Impact fees for police and parks are affected by the rate of growth and development while fines, lien search fees and judgments vary yearly.

Additionally, the County assesses impact fees on new development for fire-rescue and roads and the Miami–Dade County School Board assesses a school impact fee. County road fees help fund the MPO's 5-year Transportation Improvement Program and the City may receive funds from the MPO Program on a project-by-project basis.

Other Revenue. This includes interest/investment income and other income such as lobbyist registration fees, public document copying fees, etc. In FY 2005, Other Revenue is expected to produce approximately $107,694, representing 0.3% of the total General Fund Revenue.

Table 9-5. City of Doral General Fund Summary for FY 2003-2005

CLASSIFICATION	FY 2003 ACTUAL	FY 2004 BUDGET	FY 2004 12 MO EST	FY 2005 MGR REC	FY 2005 COUNCIL ADOPT
BEGINNING BALANCE	**$ 0**	**$ 0**	**$1,444,985**	**$ 2,212,503**	**$ 2,212,503**
REVENUES:					
Ad Valorem (Property) Taxes	3,205,654	12,606,500	12,606,500	15,080,202	15,080,202
Franchise Fees	347,261	2,144,112	2,144,112	2,300,000	2,300,000
Utility Taxes	815,997	6,129,409	2,949,152	3,718,426	3,718,426
State Shared Revneus	332,933	1,624,771	1,753,167	2,325,751	2,325,751
Licenses and Permits	214,302	0	41,379	2,974,000	2,974,000
Intergovernmental Revenue	0	0	0	6,486,280	6,486,280
Charges for Services	282,463	510,072	510,072	237,620	237,620
Other Revenue	12,685	380	16,985	107,694	107,694
TOTAL REVENUES:	**$ 5,211,295**	**$23,015,244**	**$20,021,367**	**$33,229,972**	**$33,229,972**
TOTAL AVAILABLE RESOURCES	**$ 5,211,295**	**$23,015,244**	**$21,466,352**	**$35,437,475**	**$35,437,475**
EXPENDITURES BY DEPARTMENT:					
Mayor and Council	7,227	335,087	290,150	416,102	416,102
City Manager's Office	16,000	449,090	236,691	433,870	433,870
City Clerk's Office	76,305	236,605	189,159	262,813	262,813
City Attorney's Office	45,656	303,000	189,530	306,000	306,000
General Government / Administrative Services	19,585	964,250	1,429,070	985,444	985,444
Finance Department	9,500	121,710	121,500	134,500	134,500
Police Department	1,212,410	7,413,301	7,286,272	8,883,404	8,883,404
Community Development Department	206,438	1,883,109	530,242	1,530,992	1,530,992
Public Works Department	43,208	1,074,090	343,979	779,594	779,594
Parks and Recreation Department	81,143	1,136,119	454,311	1,211,149	1,211,149
Mitigation - QNIP	2,048,839	7,822,945	7,822,945	8,337,478	8,337,478
TOTAL EXPENDITURES:	**$ 3,766,310**	**$21,739,306**	**$18,893,849**	**$23,281,346**	**$23,281,346**
INTERFUND TRANSFERS OUT	**$ 0**	**$ 360,000**	**$ 360,000**	**$ 8,216,280**	**$ 8,216,280**
TOTAL GENERAL FUND EXPENDITURES	**$ 3,766,310**	**$22,099,306**	**$19,253,849**	**$31,497,626**	**$31,497,626**
TOTAL GENERAL FUND BALANCE	**$ 1,444,985**	**$ 915,938**	**$ 2,212,503**	**$ 3,944,849**	**$ 3,944,849**

Source: City of Doral 2005 Annual Budget.

Stormwater Utility Fund Revenues

Both Federal and State law mandate that local governments develop regulations for the permitting of stormwater discharge ("Clean Water Act") and establish stormwater management programs ("Florida Air and Water Pollution Control Act"). In June 1991, Miami-Dade County enacted a countywide stormwater utility ordinance (91-66) to fund the management, maintenance and improvement of the public stormwater system. The County will continue to assess and collect the Stormwater Utility Free pursuant to Sections 24-61 through 24-61.5 of the County Code until such time as Doral adopts its own ordinance.

The City of Doral's Stormwater Fund is a user-fee-supported Enterprise Fund intended to develop a Stormwater Master Plan for the City and construct stormwater facilities as needed throughout the City. In FY 2005, these revenues included $500,000 from Legislative Appropriation and $150,000 from General Fund Operating Transfers.

Transportation Fund Revenues

The Transportation Fund functions as a Special Revenue Fund because it is used to account for revenues earmarked for a specified purpose. It is comprised of the local option gas tax revenues and 35% of State Revenue Sharing revenues, which must be utilized for transportation. In FY 2005,

"Six Cent" and "Three Cent" Local Option Gas Tax. These taxes are combined in the City's budget as the "Local Option Gas Tax". The "six cent" tax is levied on motor and diesel fuel and distributed to the City by the State based upon a predetermined formula that includes weighted population ratios and centerline miles. Proceeds of this tax must be used on transportation expenditures including public transportation operations and maintenance, roadway and right-of-way maintenance, roadway and right-of-way drainage, street lighting, traffic signals and signs, bridge maintenance and operation, and debt service for transportation capital projects.

The "three cent" tax is also levied on motor and diesel fuel and distributed to the City by the State. Proceeds of this tax must be used on transportation expenditures needed to meet the requirements of the capital improvements element of the Comprehensive Plan.

In FY2005, the City expects approximately $511,577 from the Local Option Gas Tax.

Capital Projects Fund Revenues

The Capital Projects Fund, supported by General Fund Operating Transfers, is used to account for all resources used towards the acquisition or construction of major capital facilities, excluding infrastructure financed by special assessment or enterprise funds. It is established for those Capital Improvement Projects that are funded through transactions such as debt issuance, bond anticipation notes, special assessments or grant proceeds.

The City of Doral is projecting approximately $2,509,280.00 in grants for Capital Improvements in FY 2005. These include:

- A Safe Neighborhood Parks Bond Program (SNP) grant in the amount of $300,000 with a $300,000 match for Phase II Improvements to Doral Meadows Park;
- A Safe Neighborhood Parks Bond Program (SNP) grant in the amount of $1,109,280 for improvements to Miami West Park;
- A Florida Recreation Development Assistance Program (FRDAP) grant in the amount of $200,000 with a $200,000 match for development of Miami West Park; and
- A Florida Recreation Development Assistance Program (FRDAP) grant in the amount of $200,000 with a $200,000 match for the Phase II Improvements to Doral Meadows Park.

Table 9-6 provides a list of potential federal grant sources that could be accessed by the City of Doral. Additional grants are administered by the State of Florida with State

executive departments acting as "pass-through agencies" for federally-funded project grants. The U.S. Department of Transportation's "TEA-21" Transportation Program is a good example of a multi-level funding program which is available on a competitive/need basis. These funds are passed through the Florida Department of Transportation and administered by the County's MPO Program, which the City can access through formal application.

Table 9-6A: Federal Grants and Programs Available to City of Doral

ADMINISTERING FEDERAL AGENCIES	PROGRAM TITLES
Department of Commerce and Economic Development Administration	• EDA Public Works Program • Planning Programs for State and Urban Areas • Local Technical Assistance Program
Department of Health and Human Services	• Community Initiative Programs • Community Health Centers
Department of Housing and Urban Development	• Youthbuild • Family Investment Centers
Department of Justice	• Byrne Discretionary Grant Program • Community Policing Discretionary Programs • Discretionary Grant Program
Department of the Interior	• Urban Park and Recreation Recovery Program
Department of Transportation	• Intermodal Surface Transportation Efficiency Act (ISTEA)
Environmental Protection Agency	• Environmental Equity Grants • National Pollution Discharge Eliminate System • Eco-Industrial Parks and Environmental Technology Initiatives
Small Business Administration	• One Stop Capital Shop

Source: "Catalog of Federal Domestic Assistance," 2001 Government Printing Office, Washington, DC

Other Potential Revenue Sources

Special District Assessments. Special assessments may be levied against those who directly benefit from a new service or facility. Funds collected from such assessments are used to finance the service or facility benefiting a special group, need or area.

Bonds. City has the ability to issue bonds in order to finance capital improvements within the municipality, however the City has not issued any to date. Although the City currently has no bond debts, it does have an obligation to the County for any bonds that Miami-Dade County has issued for projects in the Doral area prior to the City's incorporation in 2003. In FY 2005, the City is obligated to pay its share of the Quality Neighborhood Improvement Bond (QNIP) in the amount of $454,000. Bonds that are available for the City's consideration include:

- General Obligation Bonds. These bonds are backed by the full faith and credit of a local government and are required to be approved by voter referendum. General obligation bonds offer lower interest rates than other bonds since they are secured by the taxing power of the government. Revenues collected from ad valorem taxes are generally used to service the government's debt.

- Special Revenue Bonds. Revenue bonds, unlike general obligation bonds, are financed by those directly benefiting from the capital improvement. Revenue obtained from the issuance of these bonds is used to finance publicly-owned facilities, such as stormwater projects. Charges collected from the users of these facilities are used, in turn, to retire the bond obligations. In this respect, the capital project is self-supporting. Interest rates tend to be higher than for general obligation bonds, and issuance of the bonds may be approved by the City Council without voter referendum. User fees collected are retained in a special fund to repay debt service. Similarly, the borrowed funds are maintained in a separate fund earmarked for the specific improvements for which the funds were borrowed.

- Industrial Revenue Bonds. This type of bond is issued by a local government, but is actually assumed by companies or industries that use the revenue for construction of plants or facilities. The attractiveness of these bonds to industry is that they carry comparatively low interest rates due to their tax-exempt status. The advantage to the local government is that the private sector is responsible for retirement of the debt and that new employment opportunities are created in the community.

Policies regarding debt management are essential to effective financial management. One typical policy that is used to manage debt is to limit the government's total debt service expenditures to a specific percentage of its total revenue. This ratio measures the relative burden that total debt service costs bear to the General Fund expenditures as a whole. Research of other municipalities with policies limiting the ratio of total debt service to total revenue shows that ratios of between 5% and 30% are used. The credit rating industry generally considers net debt service exceeding 20 percent of operating expenditures a potential problem.

Another typical policy that is used to manage debt is to limit the maximum ratio of outstanding capital indebtedness to property tax base. Research of other municipalities with policies limiting the ratio of outstanding capital indebtedness to property tax base shows that ratios of between 2½% and 20% are used; however, ratios in the range of 3% to 5% are considered acceptable.

Revenue Projections and Financial Feasibility

Having just incorporated in June 2003, the City of Doral does not have a long revenue history, making it difficult to use financial trends as a determining factor in revenue projections. Table 9-6C illustrates revenue projections for the planning period. When a historical trend could be established, the average annual percent increase was used to calculate the projected revenues. If no trend could be established, projections were based on a 2.0% annual increase. It is expected that the recent construction trend will continue through the planning period due to the vast amount of developable vacant land and submitted and approved development applications particularly in Sections 7 and 8.

Table 9-6B: Revenue/Expenditure History

Year	Revenues	Expenditures	General Fund Balance
FY 2003	$5,211,295	$3,766,310	$1,444,985
FY2004	$20,021,367	$18,893,849	$2,212,503
FY2005	$33,229,972	$23,281,346	$3,944,849

Source: 2005 Annual Budget, City of Doral.

Considering that the City has consistently had a General Fund surplus (Table -6B) and according to Table 9-6D, Forecast of Fund Balances, plans for expenditures equal to less than its revenues, the City is maintaining financial feasibility. The City should be able to complete all capital improvement projects considering its current financial status. An analysis of the relationship between revenues and expenditures for each of the categories demonstrates that sufficient financial resources are available for the projected capital projects.

Table 9-6C: Revenue Projections

Revenue Type	Annual % Increase	Base Year FY05 (Adopted)	Projected Fiscal Year FY06 (Proposed)	FY07	FY08	FY09	FY10
General Fund							
Taxes[1]	15%	$15,080,202	$17,362,280	$19,966,622	$22,961,615	$26,405,857	$30,366,736
Licenses & Permits	2.0%	2,974,000	3,007,000	3,067,140	3,128,483	3,191,053	3,254,874
Intergovernmental Revenue	2.0%	6,486,280	5,851,280	5,968,306	6,087,672	6,209,425	6,333,614
Utility Taxes	2.0%	3,718,426	4,842,886	4,939,744	5,038,539	5,139,310	5,242,096
State Shared Revenues	12.5%	2,325,751	2,594,189	2,983,317	3,430,815	3,945,437	4,537,253
Franchise Fees	3.0%	2,300,000	2,375,000	2,446,250	2,519,638	2,595,227	2,673,084
Charge for Services	2.0%	237,620	1,640,000	1,672,800	1,706,256	1,740,381	1,775,189
Miscellaneous Revenues	2.0%	107,694	126,000	128,520	131,090	133,712	136,386
General Fund Total:	$22,097,407	$33,229,973	$37,798,635	$41,172,699	$45,004,108	$49,360,402	$54,319,232
Special Revenue Funds							
Stormwater Utility Fund	0%	500,000	500,000	500,000	500,000	500,000	500,000
Local Option Gas Tax	2.0%	511,577	593,237	605,102	617,204	629,548	642,139
Roadway Beautification Impact Fees	0%	0	750,000	750,000	750,000	750,000	750,000
TOTAL:	$22,610,177	$34,241,550	$39,641,872	$43,027,801	$46,871,312	$51,239,950	$56,211,371

Source: City of Doral Finance Department; Iler Planning Group

[1] ***Budgeted at a 95% collection rate.***

Table 9-6D: Forecast of Fund Balances

Description	Base Year	Projected Fiscal Year				
	FY05 (Estimated)	FY06 (Proposed)	FY07	FY08	FY09	FY10
General Fund						
Beginning Fund Balance	$3,664,019	$9,665,155	$11,804,309	$12,944,511	$18,050,147	$23,268,623
Revenues	28,869,473	37,798,635	41,172,699	45,004,108	49,360,402	54,319,232
Less: Expenditures	21,561,785	29,643,201	30,532,497	31,448,472	32,391,926	33,363,684
Less: Transfers Out – Special Revenue Fund	1,246,500	6,016,280	10,500,000	9,450,000	12,750,000	8,750,000
General Fund Balance:	$9,725,207	$11,804,309	$11,944,511	$17,050,147	$22,268,623	$35,474,171
Special Revenue Fund (CIE)						
Beginning Fund Balance	$915,980	$2,233,382	$34,412	$1,889,514	$3,756,718	$5,636,266
Revenues	1,077,393	23,240,327	1,855,102	1,867,204	1,879,548	1,892,139
Transfers In – General Fund	1,246,500	6,016,280	9,500,000	8,450,000	11,750,000	7,750,000
Less: Expenditures	1,006,491	31,455,577	9,500,000	8,450,000	11,750,000	7,750,000
Special Fund Balance:	$2,233,382	$34,412	$1,889,514	$3,756,718	$5,636,266	$7,528,405
Surplus (Deficient) Funding – All Funds	**$11,958,589**	**$11,838,721**	**$13,834,025**	**$20,806,865**	**$27,904,889**	**$43,002,576**

CAPITAL IMPROVEMENT ANALYSIS REQUIREMENTS

This subsection presents an analysis of the fiscal implications of the identified capital improvement needs within the City of Doral. A summary of local practices to guide the timing and location of construction and/or extension of public facilities and services needed to keep pace with new development are also included. These capital improvements are identified to continue to meet minimum level of service standards.

Current Local Practices That Guide Capital Improvements

Current local practices that guide the timing and location of construction, extension or increases in capacity of each public facility system are detailed below.

Level of Service Standards

Level of Service (LOS) is a performance measurement used to evaluate the extent to which a public facility or service satisfies the demands placed on that system. LOS indicates the capacity per unit of demand of each public facility. They are, in short, a summary of existing or desired public facility conditions.

A level of service "standard" sets the minimum expectations for performance of a particular public facility or service that is maintained by a governmental agency. The State of Florida typically monitors level of service for potable water, sanitary sewer, stormwater drainage, solid waste, recreation and open space, transportation, and public schools as addressed in local government comprehensive plans. These standards become the criteria used to evaluate and the adequacy of new development applications and determine the appropriateness of issuing development orders or permits to ensure that adequate facility capacity will be maintained and available for future development. LOS standards affect the timing and location of development by encouraging development in areas where facilities have excess capacity, and not permitting development unless needed facilities and services are provided. Such provision and development may occur in a phased sequence over time.

Table 9-7 provides a summary of the level of service standards recommended in other elements of the Comprehensive Plan.

Table 9-7. Recommended Level of Service (LOS) Standards for the City of Doral

Public Facility	Level of Service Standard
Potable Water [a]	*Regional Treatment* - The regional treatment system shall operate with a rated capacity no less than two percent above the maximum daily flow for the preceding year. *User LOS* - The system shall maintain the capacity to produce and deliver 200 gallons per capita per day. *Water Quality* - Water quality shall meet all federal, state, and county standards for potable water. *Water Flow* - Water supply and distribution mains must assure adequate flow for Miami-Dade County Fire/Rescue and consumer needs. Miami-Dade County requires water pressure between 20 and 100 pounds per square inch (psi) to be delivered to users, with a schedule of minimum fire flows based upon land uses served.
Sanitary Sewer[a]	100 gallons/capita/day
Stormwater Drainage	*Water Quality Standard* - Stormwater facilities shall meet the design and performance standards established in Chapter 62-25, Rule 25.025, Florida Administration Code (FAC), with treatment of the runoff from the first one inch of rainfall onsite to meet the

Public Facility	Level of Service Standard
	water quality standards required by Chapter 62-302, Rule 862-302.500, FAC. *Water Quantity Standard* - Where two or more standards impact a specific development, the most restrictive standard shall apply: • Post-development runoff shall not exceed the pre-development runoff rate for a 25-year storm event, up to and including an event with 24-hour duration. • Treatment of the runoff from the first one inch of rainfall onsite or the first 0.5 inch of runoff from impervious areas, whichever is greater. *Flooding Standard* - During the 10-year return design storm event, flooding of minor arterials should be below the crown of the roadway.
Solid Waste[a.]	9.4 pounds/capita/day and maintain solid waste disposal capacity sufficient to accommodate waste flows committed to the system through long-term interlocal agreements or contracts along with anticipated non-committed waste flows for a period of Five-Years.
Recreation/Open Space	The City shall maintain and enhance (over a 15-year period) its park level-of-service standard as follows: • 2006-2008: 3.00 acres of developed park land per 1,000 residents. • 2009-2011: 3.25 acres of developed park land per 1,000 residents. • 2012-2014: 3.75 acres of developed park land per 1,000 residents. • 2015-2020: 4.25 acres of developed park land per 1,000 residents.
Transportation: FIHS Roadways	All Florida Intrastate Highway System (FIHS) roadways must operate at LOS D or better (at peak hour), except where 1) exclusive through lanes exist, roadways may operate at LOS E (at peak hour), or 2) such roadways are parallel to exclusive transit facilities or are located inside designated transportation concurrency management areas (TCMA's), roadways may operate at LOS E (at peak hour). Constrained or backlogged limited and controlled access FIHS roadways operating below the foregoing minimums must be managed to not cause significant deterioration.
Transportation: County Roadways within the Urban Development Boundary (UDB), but Outside the Urban Infill Area (UIA)	All major County roadways must operate at LOS D or better, expect where mass transit service having headways of 20 minutes or less is provided within ½ mile distance, then a roadway shall operate at or above LOS E at peak hour. When extraordinary transit service such as commuter rail or express bus service exists, parallel roads within ½ mile shall operate at no greater than 120% of their capacity at peak hour.
Transportation: City Streets	The minimum acceptable average daily and peak period operating level of service for all City streets within the City of Doral shall be Level of Service D.
Public Schools [b.]	The ratio of students per student station shall not exceed 1.25 for public schools (excluding Pre-kindergarten).

Notes:

a. These public facilities and services are provided by Miami-Dade County and are subject to the level of service standards established in the Miami-Dade County Comprehensive Development Master Plan (CDMP). The City of Doral will adopt these same level of service standards to be consistent with the CDMP, as amended.

b. The level of service standard for public schools is established by the Miami-Dade County Public School District.

Capital Improvement Program

A capital improvement program (CIP) is a schedule for capital expenditures to be incurred each year over a fixed period of years (usually 5 years) to meet anticipated capital needs. The CIP is revised annually and adopted by the City Council typically with the first year converting into the annual capital budget. The mechanism for implementing the CIP is the Five-Year Schedule of Capital Improvements (SCI).

The CIP must be consistent with the Capital Improvements Element of the Comprehensive Plan and addresses the projects required to maintain and improve, where applicable, at a minimum the adopted Level of Service standards in accordance with the

provisions of Rule 9J-5, F.A.C. Furthermore, the CIP must reflect the goals, objectives and policies of this Comprehensive Plan and its implementation strategies. The CIP is generally more inclusive than the SCI as it contains small scale recurring projects (less than $25,000) that do not require multi-year financing as well as those public facilities not addressed in the Comprehensive Plan.

Impact Fees

Impact fees are imposed by many local governments on new development to offset the costs of new capital facilities necessitated by that development. Local governments may use this financing technique as one strategy for implementing the Capital Improvements Element. Chapter 163, F.S., which includes impact fees as an innovative technique that may be integrated into the land development regulations. Currently Miami–Dade County assesses impact fees on private projects in the City of Doral for roads and fire-rescue services, and the School Board assesses a School Impact Fee within the City. Doral charges impacts fees to help offset the impacts of new development on parks and police facilities.

Concurrency Management

A Concurrency Management System (CMS) insures the availability and sufficiency of public facilities and services at the time that the impacts of development occur and provides a program to prevent a reduction in the levels of service (LOS) below the adopted LOS standards. Furthermore it assures the proper timing, location and design of supportive urban service systems concurrent with the impacts of new development. The following benefits may also be realized with the adoption of a CMS:

- Support consistency of the Capital Improvements Element with the Future Land Use Element;
- Provide for the orderly and cost-effective expansion of public facilities;
- Supplement capital improvements expenditures and taxing structures for capital improvements; and
- Reduce the possibility of damage to the environment from the use of overburdened facilities.

Concurrency is typically applied during the development review process wherein approval is conditioned on demonstrated compliance with the local concurrency ordinance. Concurrency may also function at the building permit stage where it controls development in areas that are already approved but not yet built out, such as pre-platted lands. The City has adopted the Miami–Dade County Concurrency Management System, which is in effect in Doral through its Land Development Code process.

Other Public Facility Timing and Location Practices

There are several other local practices for controlling the timing and location of construction, extension or increases in capacity of each public facility system that are either not currently in use or minimally used by the City of Doral. These are described below.

User Charges and Connection Fees. User charges are designed to recoup the costs of public facilities or services by charging those who benefit from them. They are employed in many areas of local government service. The technique may be applied to potable water usage, sanitary sewer fees, solid waste services, recreation and parking.

As a tool for affecting the pace and pattern of development, user charges may be designed to vary for the quantity and location of the service provided. Thus, charges could be greater for providing services further distances from urban areas. The City of Doral currently charges use fees for the use of tables and ballfields by residents, nonresidents and private groups.

Mandatory Dedications of Fees in Lieu of. The City may require, as a condition to plat approval, subdivision developers dedicate a certain portion of the land in the development to be used for public purposes, such as roads, parks and schools. Dedication may be made to the governing body or to a private group, such as a homeowners association.

When a subdivision is too small or topographical conditions exist such that a land dedication cannot reasonably be required, the City may require the developer to pay a fee in lieu of dedication that is equivalent to the amount of land that would otherwise have been dedicated by the developer. The fee may be deposited into a separate account for future use toward provision of such facility.

As a result of the public facility provision, the adjacent area benefiting from the initiative would likely become more attractive to development. The acquired service potential may be used to encourage growth in desired areas.

Moratoria. A moratorium, or stop-gap ordinance, may temporarily halt or freeze development for a specified period of time on an emergency basis. It may be imposed on building permits, development approvals or governmental services, such as potable water connection, sanitary sewer extensions or hook-ups. Moratoria may generally be imposed for a "reasonable time" to allow for necessary planning activities pending comprehensive plan preparation, adoption or amendment. Florida courts have found development moratoria to be a valid measure of last resort for the protection of local public health, safety and welfare when adopted in accordance with applicable procedures. Additional considerations in adopting a moratorium include:

- Determining the legal status of existing permit applications and approvals to determine the extent of "vested rights" for developments approved prior to ordinance adoption;
- Specifying the geographic extent of the moratorium (whether it will be jurisdiction-wide or limited to specific hazard areas or areas with existing service insufficiencies); and
- Specifying the time frame and conditions under which the moratorium will be imposed moratoria.

General Fiscal Implications of Existing Deficiencies and Future Needs

Table 9-8, Five-Year Schedule of Capital Improvements (SCI), lists those capital facilities identified to help address existing deficiencies and projected needs for which the City has operation and maintenance responsibility. Areas of service that are outside the City's responsibility are not addressed here. The SCI projects, plus improvements by other governmental entities charged with operation and maintenance of certain infrastructure within the City, should maintain the minimum level of services standards set forth in this Comprehensive Plan to support the land uses and densities/intensities set forth in the Future Land Use Element.

[NOTE: The following table (Table 9-8) is superseded by the Updated Five-Year Schedule of Capital Improvements (Table 9.2) in the Capital Improvement Element of the Goals, Objectives, and Policies document.]

Table 9-8. Five-Year Schedule of Capital Improvements, City of Doral

Project	FY05 (Estimated)	FY06 (Budgeted)	FY07	FY08	FY09	FY10	Total 5-Year Cost (FY06 -FY10)	Funding Source
Recreation & Open Space								
Doral Park – Eng. & Design Build Services	$46,737	$8,380,972	----	----	----	----	$8,380,972	SRB, impact fees, SNP, FRDAP, General Fund
Doral Meadows Park – Phase Two improvements	$116,500	$3,399,000	----	----	----	----	$3,399,000	SRB, impact fees, SNP, FRDAP, General Fund, developer contributions
Miami West Park – Phase One improvements	$90,000	$5,716,280	$3,000,000	$3,000,000	$3,000,000	----	$14,716,280	SRB, impact fees, SNP, developer contributions, FRDAP, General Fund
Linear Greenway Park Development	----	$150,000	----	$250,000	$500,000	----	$900,000	SRB, FRDAP developer contributions, impact fees,
Environmental Passive Park at NW 107 Av and 74th St	----	----	----	----	$250,000	$250,000	$500,000	Developer contributions, FRDAP, General Fund
Section 8 Community Park	----	$9,000,000	----	----	$3,000,000	$3,000,000	$15,000,000	SRB, impact fees, SNP, developer contributions, FRDAP, General Fund
Civic & Public Buildings								
New City Hall Complex	----	----	$5,000,000	$3,500,000	$3,500,000	$3,000,000	$15,000,000	Grants, SRB, General Fund
Charter School Recreational Facilities Buildout	----	$610,355	----	----	----	----	$610,355	Grants, SRB, General Fund
Transportation								
Transportation Master Plan	$150,000	----	----	----	----	----	----	Transportation Fund
Transportation Master Plan Implementation	----	----	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	Transportation Fund
Transit Improvements	$90,000	----	----	----	----	----	----	Transportation Fund
NW 122nd Avenue Construction	$100,000	----	----	----	----	----	----	Transportation Fund
NW 41st Street Beautification	$243,254	$2,183,970	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$6,183,970	Transportation Fund
NW 58th Street Medians– 107th Av to NW 102nd Av	----	$500,000	----	----	----	----	$500,000	Transportation Fund
Milling Overlay/Striping of 79th Av - 51st St & street signs	----	$535,000	----	----	----	----	$535,000	Transportation Fund
NW 87th Av Streetscape Master	----	----	----	$100,000	----	----	$100,000	Transportation Fund

Project	FY05 (Estimated)	FY06 (Budgeted)	FY07	FY08	FY09	FY10	Total 5-Year Cost (FY06 -FY10)	Funding Source
Plan								
NW 107th Av Streetscape Master Plan	----	----	----	$100,000	----	----	$100,000	Transportation Fund
NW 25th St Viaduct construction – NW 82nd Av to 68th Av	----	----	----	----	----	----	----	MPO TIP project FY2006, FY2010 Responsible: FDOT
NW 25th St add lanes/reconstruct – NW 89th Ct to SR 826	----	----	----	----	----	----	----	MPO TIP project FY2006, FY2010 Responsible: FDOT
NW 25th St add lanes/reconstruct –SR 826 to NW 67th Av	----	----	----	----	----	----	----	MPO TIP project FY2006, FY2010 Responsible: FDOT
SR 826 & 836 Interchange – NW 87th Av to NW 57th Av	----	----	----	----	----	----	----	MPO TIP project FY2006-2008 Responsible: FDOT
SR 826 widening - north of NW 25th St to NW 47th St	----	----	----	----	----	----	----	MPO TIP project FY2006 Responsible: FDOT
SR 826 ITS surveillance - SR 836 to I-75	----	----	----	----	----	----	----	MPO TIP project FY2007-2008 Responsible: FDOT
NW 74th St PD&E/EMO Study – HEFT to SR 826	----	----	----	----	----	----	----	MPO TIP project FY2008 Responsible: FDOT
NW 87th Av resurfacing – W Flagler St to NW 12th St	----	----	----	----	----	----	----	MPO TIP project FY2009 Responsible: FDOT
HEFT Interchange – NW 74th St	----	----	----	----	----	----	----	MPO TIP project FY2007 Responsible: Turnpike
NW 58th St 2 to 4 lanes – NW 107th Av to NW 102nd Av	----	----	----	----	----	----	----	MPO TIP project Responsible: Miami-Dade Public Works/ private sector
NW 74th St new 4 lanes – HEFT to NW 82nd Av	----	----	----	----	----	----	----	MPO TIP project FY2006 Responsible: Miami Dade Public Works

Project	FY05 (Estimated)	FY06 (Budgeted)	FY07	FY08	FY09	FY10	Total 5-Year Cost (FY06 -FY10)	Funding Source
NW 97th Av 2 to 4 lanes – NW 25th St to NW 41st St	----	----	----	----	----	----	----	MPO TIP project FY2007 Responsible: Miami Dade Public Works
NW 82nd Av roadway reconstruct (Midway Drainage Project) – NW 7th St to NW 10th St	----	----	----	----	----	----	----	MPO TIP project Responsible: Miami Dade Public Works
NW 8th St roadway reconstruct (Midway Drainage Project) – NW 87th Av to NW 79th Av	----	----	----	----	----	----	----	MPO TIP project Responsible: Miami Dade Public Works
NW 97th Av bridge over SR 836	----	----	----	----	----	----	----	MPO TIP project FY2006-2010 Responsible: Miami Dade Public Works
SR 112 Master Plan – HEFT to SR 826	----	----	----	----	----	----	----	MPO TIP project FY2008 Responsible: MDX
SR 836 /Interconnector – SR 836 to NW 28th St	----	----	----	----	----	----	----	MPO TIP project FY2006-2009 Responsible: MDX
SR 836 / Turnpike Connection reconstruct – HEFT to NW 107th Av	----	----	----	----	----	----	----	MPO TIP project FY2006 Responsible: MDX
SR 836 Express Lanes – HEFT to SR 826/836 interchange	----	----	----	----	----	----	----	MPO TIP project FY2006-2009 Responsible: MDX
SR 836 Extension – Toll plaza & improvements from NW 111th Av to NW 87th Av	----	----	----	----	----	----	----	MPO TIP project FY2006-2008 Responsible: MDX
SR 836 Landscaping – NW 137th Av to NW 87th Av	----	----	----	----	----	----	----	MPO TIP project FY2007-2009 Responsible: MDX
NW 90th St construction – NW 114th Av to NW 112 Av	----	----	----	----	----	----	----	MPO TIP project Responsible: private sector
NW 82nd St construction – NW 114th Av to NW 115th Av	----	----	----	----	----	----	----	MPO TIP project Responsible: private sector

Project	FY05 (Estimated)	FY06 (Budgeted)	FY07	FY08	FY09	FY10	Total 5-Year Cost (FY06 -FY10)	Funding Source
(south side)								
NW 112th Av construction – NW 84th St to NW 85th St	----	----	----	----	----	----	----	MPO TIP project Responsible: private sector
NW 82nd St construction – NW 113th Av to NW 117th Av	----	----	----	----	----	----	----	MPO TIP project Responsible: private sector
NW 33rd St (south side) match existing - NW 102nd Av to NW 104th Av	----	----	----	----	----	----	----	MPO TIP project Responsible: private sector, pending final plat
NW 107th Av 2 lanes of 4 divided - NW 58th St to NW 67th St	----	----	----	----	----	----	----	MPO TIP project Responsible: private sector, pending final plat
NW 66th St full imp. - NW 102nd Av to NW 107th Av	----	----	----	----	----	----	----	MPO TIP project Responsible: private sector, pending final plat
NW 102nd Av (west side) 2 lanes & ½ turn - NW 62nd St to NW 67th St	----	----	----	----	----	----	----	MPO TIP project Responsible: private sector, pending final plat
Drainage								
Citywide Stormwater Master Plan	$170,000	----	----	----	----	----	----	Stormwater Fund
Stormwater Improvement Projects (Delineated in SMP)	----	$980,000	$500,000	$500,000	$500,000	$500,000	$2,980,000	Stormwater Fund
Total Yearly Capital Cost	**$1,006,491**	**$31,455,577**	**$10,500,000**	**$9,450,000**	**$12,750,000**	**$8,750,000**	**$72,905,577**	

Notes: SNP = Safe Neighborhood Parks Bond Program
FRDAP = Florida Recreation Development Assistance Program
GOB = General Obligation Bond

Prioritization

Transportation. The City has obtained jurisdiction of all the local and collector rights-of-way within its municipal boundaries from Miami-Dade County with the exception of all section line roads; NW 79th Avenue between NW 25th Street and NW 58th Street; NW 12th Street; NW 82nd Avenue between NW 12th Street and NW 36th Street; and NW 33rd Street between NW 97th Avenue and NW 107th Avenue. All major roadways located within the City of Doral have an adopted level of service of LOS D, with the exception of NW 87th Avenue and portions of NW 79th Avenue and NW 41st Street/NW 36th Street that have an adopted level of service of LOS E based on existing regional transit service in the area.

Although the City of Doral is very well served by major transportation facilities and the majority of roadways within Doral are operating at or above the adopted level of service, certain segments of the arterial and major collector network currently fail to meet LOS standards. These deficiencies occur during peak hours on the SR 826 (Palmetto Expressway), NW 41st Street between NW 87th Avenue and NW 97th Avenue, NW 58th Street between SR 826 and NW 97th Avenue, NW 25th Street between NW 107th Avenue and SR 826, NW 12th Street between NW 87th Avenue and SR 826, and NW 107th Avenue between NW 41st Street and NW 25th Street.

Table 9-8, the Five-Year Schedule of Capital Improvements (SCI), summarizes the timing, cost estimates and potential revenue sources for the transportation projects being proposed by the City of Doral, as well as the identifies the adopted MPO Transportation Improvement Program projects (2006-2010).

The City initiated projects include streetscape/beautification initiatives for NW 41st Street and NW 87th Avenue, and portions of NW 58th Street and NW 79th Avenue; as well as the construction of NW 122nd Avenue, a new truck route to alleviate congestion in the northwest section of the City. An annual allotment of funding is also specified for implementation of the Transportation Master Plan recommendations. As previously mentioned, future capital projects will be added to the SCI once the Transportation Master Plan recommendations are better developed and the Bikeway Network Plan recommendations are complete.

The MPO Long Range Transportation Plan projects and FDOT projects are detailed in the Transportation Element. These include widening and improvements to SR 826, SR 836, the HEFT, NW 25th Street, NW 107th Avenue, NW 97th Avenue, NW 87th Avenue, NW 74th Avenue, and NW 58th Avenue. NW 41st Street will become an Express Street with ITS and grade separation, however, this project remained unfunded and unscheduled by the MPO. The City of Doral will work closely with the responsible agencies to ensure timely and efficient implementation of these projects.

Many projects within the MPO's adopted Transportation Improvement Program have been funded to improve roadway conditions in the City of Doral and these have been included in Table 9-8, the Five-Year Schedule of Capital Improvements (SCI). The most significant improvements include lane reconstruction and widening and the installation of

intelligent surveillance systems along SR 826; the construction of a major interchange at the HEFT (Homestead Extension of the Florida Turnpike) and NW 74th Street; and lane widening, addition of express lanes, toll plazas, construction of an auxiliary lane and a communications system along SR 836. There are also a number of private sector initiated roadway improvements for the northwest portion of the City. The City of Doral will work closely with the responsible agencies to ensure timely and efficient implementation of these projects.

In December 2005, the City of Doral adopted a Transportation Master Plan for the community to address transportation system deficiencies and provide options for maintaining mobility within the City. The Transportation Master Plan recommends 27 different projects to address roadway LOS deficiencies within the City. Funding for these projects are anticipated from the Miami-Dade County Peoples Transportation Plan and the FDOT District VI Adopted Transportation Improvement Program. Projects specifically identified in the Transportation Master Plan are summarized in the City's Capital Improvements Element Data Inventory and Analysis Report. The Strategies recommended in the TMP to address capacity and/or deficiencies within the City are detailed in the Transportation Element Data, Inventory, and Analysis report. In addition, the City is in the process of hiring a consultant to prepare a Bikeway Network Plan for the City, which should result in recommended projects to be included in the Five-Year Capital Improvements Program.

As indicated in the Transportation Element, many of the major roadways within the City are projected to operate below their adopted level of service standard in 2030. In many cases, roadway expansion will not be feasible and other alternatives such as transit improvements must be considered. Miami-Dade County and/or the FDOT maintain jurisdiction over the majority of roadways to operate below the adopted LOS including: the Florida Turnpike (HEFT), Palmetto Expressway, Dolphin Expressway, and other "section line" and "half section line" roads running through the City. As such, officials in Doral will need to coordinate with State and County officials to consider policy decisions and/or target capital improvements to address deficiencies on these facilities. Additional funding needed to implement future policies or projects identified by the City Council, Miami-Dade County or FDOT could be raised by assessing local impact fees on new development or with funding from the Miami-Dade County People's Transportation Plan.

In addition to the strategies recommended in the Transportation Master Plan, and in cooperation with other appropriate public and private agencies, the City may consider one or more of the following strategies to address mobility.

- Work with MDT to study existing transit routes within the City and determine the feasibility of providing new service along heavily traveled corridors within Doral. Specifically, it is recommended that new transit service with headways of 20 minutes or less be added on:
    - NW 58th Street between NW 117th Avenue and SR 826/Palmetto Expressway,

  - NW 41st Street/NW 36th Street between NW 117th Avenue and NW 97th Avenue,
  - NW 25th Street between NW 117th Avenue and NW 107th Avenue,
  - NW 12th Street between NW 107th Avenue and SR 826/Palmetto Expressway,
  - NW 107th Avenue between NW 25th Street and NW 74th Street,
  - NW 97th Avenue between NW 41st Street/NW 36th Street and NW 74th Street,
  - NW 87th Avenue between NW 41st Street/NW 36th Street and NW 74th Street,
- Work with MDT to study existing transit routes within the city and determine the feasibility of improving service time (i.e. shorter headways) within Doral. Specifically, it is recommended that transit service routes with headways of 20 minutes or less be added on:
  - NW 25th Street between SR 826/Palmetto Expressway and NW 107th Avenue,
  - NW 41st Street/NW 36th Street between NW 97th Avenue and NW 87th Avenue,
  - NW 107th Avenue between SR 836/Dolphin Expressway and NW 25th Street,
  - NW 97th Avenue between NW 25th Street and NW 41st Street/NW 36th Street, and
  - NW 87th Avenue between SR 836/Dolphin Expressway and NW 41st Street/NW 36th Street
- Work with Miami-Dade County, Miami-Dade MPO, and FDOT to provide the following capacity improvements on:
  - NW 12th Street between NW 72nd Avenue and NW 107th Avenue. Widen to 6 lanes
  - NW 97th Ave between NW 25th Street and NW 41st Street/NW 36th Street. Widen to 6 lanes.
- Consider lowering the level of service standard on streets within Doral. This could be achieved by increasing transit coverage on major roadways. Reducing the headways to less than 20-minutes will lower the adopted LOS to E.
- Formally designate a Transportation Management Initiative (TMI) to mitigate peak hour traffic impacts through demand-side strategies such as van pooling, flexible work hours, or ridesharing programs.
- Program roadway and/or intersection capacity improvements at key intersections within the City.
- Program improvements to include bicycle facilities that could encourage bicycling as a viable transportation option.
- Program improvements to include pedestrian facilities that could encourage walking as a viable transportation option.

Because it was incorporated after the Peoples Transportation Plan (PTP) was introduced in 2002, the City is not entitled to receive any funding from the Miami-Dade County half-cent sales tax nor is it eligible to receive the share of funding designated for the

unincorporated areas of Miami-Dade County. Funding for transportation projects is available through gas taxes and the General Fund. The City of Doral should undertake the necessary steps to ensure it receives its fair share of funding for municipalities in Miami-Dade County.

Together, these strategies will begin to mitigate some of the transportation system deficiencies identified in the long-range planning horizon (2030) projections. However, since improving roadway capacities by widening the congested roads has been proven to be a short-term solution and it may actually encourage additional "through traffic" to the area roadway widening, it is recommended that the City coordinate with the regional agencies to identify other means to address LOS, including targeted physical improvements at key intersections, increasing transit service, improving bicycle and pedestrian facilities, transportation demand management strategies and, transportation system management strategies to improve traffic conditions in the future.

Recreation. As identified within the Recreation and Open Space Element of this Comprehensive Plan, the City is currently meeting its Level of Service. Another 252 acres of additional park land is needed to achieve and maintain the adopted LOS of 4.25 acres per 1,000 people by 2015. Three new proposed parks (a 51-acre passive environmental park partially acquired through a developer's contribution, a linear greenway, and a new 26-acre community park) are already planned for development and acquisition in the near future. The City would like to acquire additional public park and open space, however, if necessary, a proportion of existing private open space areas (a total of 864 acres) could be considered in calculating the Level of Service.

Park improvements and investment in new parks are summarized in Table 9-8, including the timing, cost estimates and potential revenue sources. Funding sources earmarked for supporting these projects come from City impact fees, developer contributions, grants, and the General Fund. Together these funding sources provide for a financially feasible parks and recreation action plan for acquisition and improvement.

Stormwater Drainage. The South Florida Water Management District (SFWMD) and Miami-Dade County currently regulate and/or operate all stormwater management facilities and programs within the City's boundaries, however the City of Doral is evaluating the feasibility of taking control of this stormwater infrastructure. Before this can be considered, the City must prepare a Stormwater Master Plan that includes an assessment of the current stormwater management system with its boundaries. The primary objective for the City of Doral's future stormwater master plan is to inventory the existing system and develop a plan to correct existing deficiencies. Stormwater facility improvement recommendations will be developed based upon the ability of the existing drainage facilities' to maintain the adopted LOS standards within the City of Doral and a detailed analysis of specific priority drainage sub-basins of the C-6 Canal Basin ability to achieve stated performance goals. These recommendations will be included in the Five-Year Capital Improvement Program, which will detail the financial

resources necessary to plan, construct, operate and maintain the City's stormwater management program. The Capital Improvement Program will correct many pre-existing drainage deficiencies in the City of Doral on a priority basis, and provide for maintenance on system wide drainage LOS standards for all existing and planned land uses.

Funding for the Stormwater Master Plan has been earmarked in the FY 2005 Annual Budget in the amount of $150,000 from the General Fund and up to $500,000 from legislative appropriation. Capital projects proposed in the Master Plan may be funded from the establishment of a City of Doral stormwater utility and subsequent enactment of a citywide stormwater management fee.

Potable Water. The Miami-Dade County Water and Sewer Department (WASD) operates and maintains the potable water system, with a small percentage of residential properties obtaining potable water for irrigation purposes via private wells. No improvements are planned by the City of Doral.

Sanitary Sewer. The Miami-Dade County Water and Sewer Department (WASD) serves as the governing authority responsible for the collection, transmission, primary and secondary treatment, and pumping facilities in Doral. The majority of land area within the City of Doral is connected to WASD's sanitary sewer system for wastewater treatment; however some commercial and single family residential land uses within the City of Doral are still utilizing septic tanks for sanitary sewer collection, treatment, and disposal. There are no sanitary sewer improvement projects programmed or planned by the City of Doral; however, this could change if the city should enter into an agreement with WASD for replacing septic tanks.

Solid Waste. The Miami-Dade County Department of Solid Waste Management (DSWM) is responsible for the collection and disposal of commercial and single family residential solid waste generated within City of Doral. The county also provides curbside recycling service to its residential customers. Solid waste from non-residential and multifamily residential properties is collected by private waste haulers and disposed at one of many sites within Miami-Dade County contracted to receive these materials. No improvements are planned by the City of Doral, however, to ensure LOS standards are met in the future, the City will need to take a more active role in coordinating with Miami-Dade County to educate its residents and businesses on the importance of their active participation in the waste recycling and chemical collection programs.

Cost Analysis of Capital Improvements and Basis of Cost Estimates

All cost estimates shown in Table 9-8 are based on 2005 dollars. Due to inflationary factors associated with national and state economies, these costs are likely to increase over the extent of the planning period. The City should update project costs on an annual basis to reflect more accurate project costs.

The method employed to reach cost estimates for each proposed capital improvement varies according to its respective public facility. The basis for these cost estimates is summarized as follows:

Parks & Recreation and Public Buildings. Costs to provide those proposed recreational facilities and City Hall Complex were obtained through the City Manager's Office.

Transportation Improvements. Cost estimates for transportation improvements deemed necessary to support the Future Land Use Map will be determined within this study, which should be completed by the conclusion of the short-range planning period. Cost estimates for the street beautification projects outlined in the Five-Year Schedule of Capital Improvements were obtained through the City Manager's Office.

Drainage Improvements. Cost estimates for drainage improvements will be available upon the completion of a Stormwater Management Plan for Doral and its associated drainage basins. The cost to complete the study was obtained through the City Manager's Office.

Impact of Proposed School or Medical System Facilities on Public Facilities

A hospital or other major public health facility has not established a presence within the City's corporate limits. As of May 2005, no medical corporation has contacted the City to indicate an interest to locate with the City; however, the City would be open to such dialogue, if approached. Any improvements to the closest area hospitals will not have a direct impact on the City of Doral.

Pursuant to the Interlocal Agreement for Public School Facility Planning that the City of Doral entered into with Miami-Dade County on March 4, 2005, the City will coordinate land use and public school facilities planning with all affected parties of the Agreement. As detailed in the Public School Facilities Element, the Miami–Dade County School Board has proposed three new school facilities for the Doral area. Any impacts that these schools will place on Doral's public facilities will be addressed on a case-by-case basis after development sites have been acquired. It is anticipated that these improvements will not have any significant effect on current or proposed levels of service for short- and long-range planning periods.

Timing and Location of Capital Improvements in Accordance with the FLUM

The City's Comprehensive Plan has incorporated management concepts that require the efficient location and timing of supportive urban infrastructure to service existing and anticipated future development. Existing and anticipated future land use patterns are included in the Land Use Element Data, Inventory and Analysis Report. The Future Land Use Map (FLUM) is adopted as part of the Comprehensive Plan Goals, Objectives and Policies.

Management techniques, which have been applied in order to control the location, timing and design of public facilities, are summarized below. Application of the following techniques has been mandated through goals, objectives and policies within the Land

Use, Transportation, Infrastructure and Capital Improvement Elements. This section primarily emphasizes techniques applicable to the location, timing and design of potable water and wastewater systems as well as traffic circulation improvements since these facilities most significantly impact the location and timing of future development and redevelopment. These techniques are as follows:

a. Minimum level of service standards have been adopted for potable water, sanitary sewer, solid waste, drainage, recreation and open space and the transportation system.

b. A concurrency management system (CMS) is incorporated in the Land Use Element and Capital Improvements Element. The CMS shall assure the proper timing, location and design of supportive urban service systems concurrent with the impacts of new development. This management program stipulates that no new development will be approved unless the applicant has presented plans demonstrating that the new development shall:

   - Be serviced with all requisite public facilities concurrent with the impacts of development;
   - Provide LOS for all requisite facilities which is compliant with the City's adopted LOS standards; and
   - Shall not cause a reduction of levels of service for existing infrastructure below minimum adopted thresholds.

c. A Schedule of Capital Improvements (SCI) has been established within the Capital Improvements Element. The SCI provides a process for inventorying and evaluating needed public improvements that require City participation. The capital improvement programming process is a continuing process, which includes annual evaluations and updates of the SCI and CIP. Each year a capital improvement schedule is adopted which describes capital improvement expenditures programmed for the current fiscal year as well as a schedule of anticipated capital improvements that are programmed over the following five-year period. Major factors explained in the capital improvement program include the following:

   - The nature of the respective projects, including location and brief project descriptions;
   - Estimated cost of respective projects;
   - Scheduled phasing and/or timing of respective projects;
   - Sources of funding for respective projects; and
   - Identification of other governmental or private entities responsible for assisting in the execution of capital improvements.

   This consideration incorporates intergovernmental coordination concepts which link local interests with those of Miami–Dade County, State and regional agencies and special purpose districts.

d. The Transportation, Infrastructure, and Capital Improvements Elements include stipulations that commit the City to continued enforcement of performance standards within the City's land development code. These standards address the location, timing and design of on-and off-site facilities required to alleviate anticipated impacts of proposed new development. They apply to traffic impact analysis, availability of water and wastewater systems, surface water management improvements and recreation.

e. Finally, the City of Doral has adopted intergovernmental coordination policies for purposes of assuring continued coordination with local, State and regional agencies that are responsible for major components of urban infrastructure.

Comprehensive Plan Goals, Objectives and Policies, which address preservation of natural resources, also impact the location of development within the City of Doral. These policies have a major bearing on locations within the City where development shall not occur. Therefore, these policies work in conjunction with the above-described public facility policies in controlling the location, timing and quality of new development.